

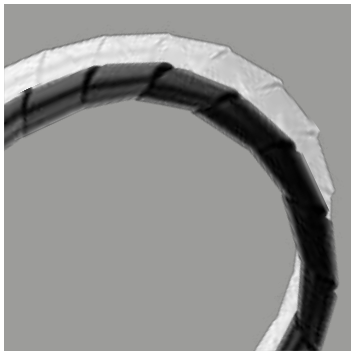


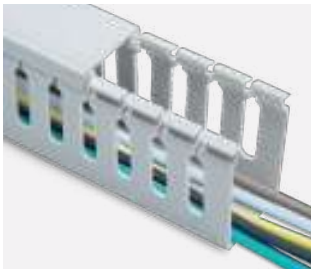




INDUSTRIAL ELECTRICAL EXPERT 2022























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Brand	Product Group	Product Category	Page
TEND	PUSH BUTTON & PILOT LAMP	Push Button Switch / Illuminated Push Button Switch / Selector Switch / Pilot Lamp / Buzzer and Buzzer Pilot Lamp สวิตช์กด / สวิตช์กดมีแลมป์ / สวิตช์ลูกศร / ไพล็อตแลมป์ / ออดไฟฟ้า และออดชนิดมีแลมป์ รุ่น TS2 Ø22 / Ø25	1-4
		Series Control Components / Push Button Switch / Illuminated Push Button Switch / Selector Switch / Illuminated Selector / Switch / Pilot Lamp / Joy Stick / Insulated Enclosure / Control Station / Name Plate / Accessories สวิตช์กด / สวิตช์กดมีแลมป์ / สวิตช์ลูกศร / สวิตช์ลูกศรมีแลมป์ / ไพล็อตแลมป์ / สวิตช์เกียร์โยก / บ๊อกพลาสติก / กล่องคอนโทรล / ป้ายชื่อ / อุปกรณ์เสริม รุ่น TN2, TN3, TPP, TBP Ø22 / Ø25 / Ø30	5-29
		Push Button Switch / Illuminated Push Button Switch / Selector Switch / Key Switch / Illuminated Selector Switch / Pilot Lamp / Key Operated Push Button Switch / Insulated Enclosure/ Control Station / Name Plate สวิตช์กด / สวิตช์กดมีแลมป์ / สวิตช์ลูกศร / สวิตช์กุญแจ / สวิตช์ลูกศรมีแลมป์ / ไพล็อตแลมป์ / สวิตช์กดมีกุญแจ / บ๊อกพลาสติก / กล่องคอนโทรล / ป้ายชื่อ รุ่น TC, T2, T3, TPS, B1, B2, TBP Ø22 / Ø25 / Ø30	30-48
		Push Button Switch / Selector Switch / Key Switch / Pilot Lamp / Flash Lamp / Illuminated Push Button Switch สวิตช์กด / สวิตช์ลูกศร / สวิตช์กุญแจ / ไพล็อตแลมป์ / ไพล็อตแลมป์ชนิดกะพริบ / ไพล็อตแลมป์ชนิดต่อตรง / สวิตช์กดมีแลมป์ รุ่น TB, TS, TK, TP, TI Ø25 / Ø30	49-57
		Metal Push Button Switch / Illuminated Metal Push Button Switch สวิตช์กดโลหะ / สวิตช์กดโลหะมีแลมป์ รุ่น TT19 Ø19	58-59
		Push Button Switch / Illuminated Push Button Switch / Pilot Lamp / Selector Switch / Key Switch สวิตช์กด / สวิตช์กดมีแลมป์ / ไพล็อตแลมป์ / สวิตช์ลูกศร / สวิตช์กุญแจ รุ่น TT16 Ø16	60-64
		Push Button Switch / Illuminated Push Button Switch / Selector Switch / Key Switch Accessories สวิตช์กด / สวิตช์กดมีแลมป์ / สวิตช์ลูกศร / สวิตช์กุญแจ / อุปกรณ์เสริม รุ่น TN16 Ø16	65-72
		Illuminated Push Button Switch สวิตช์กดมีแลมป์ รุ่น T16 Ø16	73-74
	PROXIMITY SWITCH	Proximity Switch พร็อคซิมิตี้สวิตช์ รุ่น TP-R, TP-S	75-79
	MICRO SWITCH & MINI MICRO SWITCH	Mini Micro Switch มินิไมโครสวิตช์ รุ่น TMV	80-82
		Micro Switch ไมโครสวิตช์ รุ่น TM	83-90
		Micro Switch (Two Circuit Double-Break) ไมโครสวิตช์ รุ่น TW	91
	LIMIT SWITCH	Limit Switch for Direct Current ลิมิตสวิตช์ใช้ไฟ DC รุ่น TMD	92
		Compact Limit Switch คอมแพค ลิมิตสวิตช์ รุ่น TZ-1, TZ-2	93-95
		Compact Prewired Limit Switch คอมแพค พรีไวร์ ลิมิตสวิตช์ รุ่น TZ-3	96-98
		Limit Switch / Enclosed Limit Switch ลิมิตสวิตช์ / เอ็นโคลสลิมิตสวิตช์ รุ่น TZ-5, TZ-6, TZ-7, TZ-8	99-108
		Limit Switch / Limit Switch (for Elevator) / Safety Key Interlock Switch ลิมิตสวิตช์ชนิดใช้เคเบิ้ลแกลน / ลิมิตสวิตช์สำหรับลิฟท์ / เซฟตี้คีย์อินเตอร์ล็อคสวิตช์ รุ่น TZ-9, TSW, TZ-93	109-114
	CRANE SWITCH	Hoist Push Button Switch / Push Button And Pilot Lamp For Hoist Push Button Switch สวิตช์เครน / สวิตช์กด และไพล็อตแลมป์สำหรับสวิตช์เครน รุ่น THS-E, THS-2, THS-6, THS-8, THS-9	115-124
	OTHER SWITCH	Monolever Switch สวิตช์เกียร์ รุ่น TMR, TMRS, TMS	125
		Toggle Switch ท๊อกเกิ้ลสวิตช์ รุ่น TO	126-127
		Foot Switch สวิตช์เท้าเหยียบ รุ่น TFS	128
		Power Push Button Switch สวิตช์กดจม รุ่น TBS, TPB	129
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Brand	Product Group	Product Category	Page
TEND	TERMINAL BLOCKS	Terminal Block / Ground Terminal Block / Fuse Holder Terminal Block / Marking Tag / Short Link / Accessories แผงต่อสาย / แผงต่อสายชนิดมีสายกราวด์ / แผงต่อสายชนิดมีฐานฟิวส์ / แท็กเครื่องหมาย / แผ่นเชื่อม / อุปกรณ์เสริม รุ่น TBU	132-141
		Rail-Mount Terminal Block แผงต่อสายชนิดใช้รางปีกนก รุ่น TBR	142
		Double Level Terminal Block แผงต่อสายชนิดใช้ราง ไม่ใช้ราง ใช้รางตัว C หรือใช้รุ่น TBC-N, TBR-N รุ่น TBD	143
		Cassets Assembly Terminal Block แผงต่อสายชนิดใช้ราง TBR-C หรือรางตัว C เท่านั้น รุ่น TBC, TBCN, TBRN, TBDN	144-147
		Solid-Type Terminal Block แผงต่อสายชนิดโซลิด รุ่น TB	148-149
	MAGNETIC CONTACTOR OVERLOAD	Contactor คอนแทคเตอร์ รุ่น TC, TCR	150-151
		Contactor and Control Relay คอนแทคเตอร์ และคอนโทรลรีเลย์ รุ่น TA, TB, TR	152
		Magnetic Switch แมกเนติกสวิตช์ รุ่น TC, TMS, TMR, TES, TEB, TEL, TEW	153-156
		Thermal Overload Relay โอเวอร์โหลดรีเลย์ รุ่น THR, THP	157-158
		Accessory อุปกรณ์เสริม รุ่น TCF, TCS, TCL, TCC	159-160
	RELAY	Solid State Relay โซลิดสเตตรีเลย์ รุ่น TSSR	161-163
		Relay Socket ซ็อกเก็ตรีเลย์ รุ่น PF, PTF, PYF, US, 8PF, P2CF, P3G	164
	CAM SWITCH & MAIN SWITCH	Cam Switch แคมสวิตช์สำเร็จรูป รุ่น TCS 48x48 / 48x60 / 64x64 / 64x80	165-191
		Voltmeter Cam Switch / Ammeter Cam Switch โวลต์มิเตอร์ แคมสวิตช์ / แอมมิเตอร์ แคมสวิตช์ รุ่น TAS, TVS, TAV 48x48 / 48x60 / 64x64 / 64x80	192-198
		Cam Switch แคมสวิตช์ รุ่น TCS Ø22 / Ø25 / Ø30	199-207
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	TIMER	Multifunction Counter มัลติฟังก์ชั่นเคาน์เตอร์ รุ่น T7D-C	213-214
		Total Counter โททอลเคาน์เตอร์ รุ่น THE-C	215
	MACHINE LIGHT	LED Machine Light โคมไฟส่องเครื่องจักรใช้หลอด LED และ HALOGEN รุ่น THL-10, THL07	216-219
		Wall Mount Warning Light ชนิดกะพริบ ชนิดกะพริบพร้อมเสียงออด และแบบ Fluorescent รุ่น TPH, TFL	220-221
	TOWER LIGHT & WARNING LIGHT	Tower Light : Continuous Light / Flash Light / Audible Alarm ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน รุ่น TPT, TPW Ø40 / Ø50 / Ø60 / Ø70	222-233
		Tower Light (LED Module) : Flash Light / Audible Alarm /Accessories ทาวเวอร์ไลท์ (โมดูลประกอบ LED) : ชนิดกะพริบ / ชนิดพร้อมไซเรน / อุปกรณ์เสริม รุ่น MTPT, MTPW Ø50	234-238
		Tower Light (Square Lens) : Continuous Light / Flash Light / Audible Alarm ทาวเวอร์ไลท์ (ทรงเหลี่ยม) : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน รุ่น TST, TSW 50x50	239-241
		Multicolored-Layer Tower Light : Continuous Light / Flash Light / Audible Alarm ทาวเวอร์ไลท์ รุ่น 1 ชั้น เปลี่ยนสีได้ : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน รุ่น TPT, TPW	242-244
		Tower Light ทาวเวอร์ไลท์ รุ่น TPW Ø120	245
		Xenon Beacon ซีนอน บีคอน รุ่น TSL, TLL	246

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Brand	Product Group	Product Category	Page
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		Warning Light ไฟหมุน รุ่น TRM	250
		Buzzer / Bell ออดและกระดิ่ง รุ่น TBY TBN 4BL	251
	ACCESSORY	Blue Incandescent Lamp, Neon Lamp, LED Lamp หลอดไฟธรรมดา / หลอดนีออน / หลอด LED รุ่น 2S, 2E, 2T, S15, TL	252-253
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BANDEX	WIRING DUCT , CABLE TIE & WIRING ACCESSORY	Wiring Duct / Soft Wiring Duct วายริ่งดัก / วายริ่งดักแบบดัดได้ รุ่น WD, RD, TE, TP, SRD	256-260
		Cable Marker เคเบิ้ลมาร์กเกอร์ รุ่น MP, SM, BM, GM / Marker Strip รุ่น MS	261-262
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		Spiral Wrapping Band ไส้ไก่ รุ่น SW, KL	267
		Flexible Corrugated Automotive Conduit ท่ออ่อนลูกฟูกชนิดผ่าใช้กับรถยนต์ รุ่น CR	268
		Cable Clamp and Cable Clip เคเบิ้ลแคลม และก๊็บตอกสายไฟ รุ่น CC, P-S, NK	269
		Close End Wire Connector / Vinyl Wire End Cap หัวหมวกต่อสายไฟ / ปลอกหุ้มหางปลา รุ่น HS, CE	270
		Cable Gland เคเบิ้ลแกลน รุ่น KB, NG, AG, EG	271
		Bushing บุชชิ่ง รุ่น SB, MB	272
		Hole Plug / Heat Shrinking Sleeve โฮลปลั๊ก / ท่อหดหุ้มบัสบาร์ รุ่น HP, HS	273
TAKAMURA	BREAKER, MAGNETIC AND OVERLOAD	MCCB Breaker เบรกเกอร์ รุ่น NF, TA	274
		Magnetic Contactor แมกเนติก คอนแทกเตอร์ รุ่น S-N	275-276
		Thermal Overload Relay เทอร์มอล โอเวอร์โหลด รีเลย์ รุ่น TH-N	277-278
		General Purpose Relay รีเลย์ รุ่น LY MY	279-282
	WIRE CONNECTOR	Screw-On Wire Connector ไวร์นัท รุ่น 33, 44, 66	283-284
		Winged Wire Connector ไวร์นัทแบบมีปีก รุ่น P11V, P12, P13, P15	285
		Releasable Wire Connector ขั้วต่อสายแบบถอดออกได้ รุ่น PC622, PC623, PC625	286
		Easy-Link Lighting Connector ขั้วต่อสายแบบ Easy-Link รุ่น PC301, PC302	287
	PANEL METER AND CURRENT TRANSFORMER	Micro Meter ไมโครมิเตอร์ AM / Hour Meter มิเตอร์นับชั่วโมง รุ่น AM, HM	288
		Current Transformer หม้อแปลงกระแส รุ่น RCT, MSQ	289-290
		Specification of Digital Meter	291-300
		Ammeter แอมป์มิเตอร์ / Voltmeter โวลท์มิเตอร์ รุ่น DM, AM	301
		Frequency Meter ไซเกิ้ลมิเตอร์ / Power Factor Meter เพาเวอร์แฟกเตอร์ รุ่น DM, AM	302
		Multifunction Meter มัลติมิเตอร์ รุ่น DM PM	303
	OTHER	Insulators อินซูเลเตอร์ รุ่น EL, CT, SM, CJ	304-307
		Bus-bar Supports บัสบาร์ ซัพพอร์ท รุ่น EL	308
		Stainless Cable Tie เคเบิ้ลไทร์สแตนเลส	309
		Cam Switch แคมสวิตช์ รุ่น ACS, VCS, AC	310
		Photo Electric Control สวิตช์แสงแดด รุ่น AP, AB, A	311
		Fiberglass Fish Tape / Flat Steel Fish Tape / Nylon Fish Tape / POM Fish Tape / PET Fish Tape ฟิชเทปไฟเบอร์กลาส / ฟิชเทปเหล็ก / ฟิชเทปเปลือย / ฟิชเทป POM / ฟิชเทป PET รุ่น FF, SF, N0, P, PS, S0, S4, S5, S6, T0, TS	312-316
TEEFLEX	CONDUIT CONNECTOR CABLE GLAND	Zinc-Plating Metal Hose (TF Type) / Angle Liquid-Tight Box Connector ท่อโลหะชุบสังกะสี / คอนเนคเตอร์โค้ง รุ่น TF, LB	317
		High-Grade Waterproof Hose Flat Pipe ท่ออ่อนแบนกันน้ำคุณภาพสูง รุ่น EF	318
		Waterproof Metal Hose Wave pipe ท่ออ่อนกันน้ำชนิดลอน รุ่น TEEFLEX-F	319
		Straight Liquid - Tight Box Connector คอนเนคเตอร์ท่ออ่อนกันน้ำ รุ่น CN, CP	320
		Cable Gland เคเบิ้ลแกลน M, PG, NPT	321

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Brand	Product Group	Product Category	Page
KENION	TERMINAL LUG หางปลา	ST Cable Lug หางปลาทรงยุโรป รุ่น ST	322-324
		Butt Connector สลิปต่อสาย รุ่น BF, L	325
		Non-Insulated Ring Terminal / Insulated Ring Terminal / Non-Insulated Spade Terminal / Insulated Spade Terminal / Non-Insulated Cord-End Terminal / Insulated Cord-End Terminal / Insulated Male Connector/ Insulated Pin Connector/ Non-Insulated Pin Terminals/ Nylon Fully Insulated Male Connector / Insulated Bullet Connector/ Quick Splice Connectors หางปลาหัวกลมแบบเปลือย / หางปลาหัวกลมแบบหุ้ม / หางปลาหัวแฉกแบบเปลือย / หางปลาหัวแฉกแบบหุ้ม / ข้อต่อย้ำปลายสายแบบเดี่ยวเปลือย / ข้อต่อย้ำปลายสายแบบเดี่ยวหุ้ม / ข้อต่อย้ำปลายสายแบบคู่หุ้ม / หางปลาเสียบตัวผู้-เมีย รุ่นแบบหุ้ม / หางปลาก้านไม้ขีด รุ่นกลมหุ้ม / หางปลาก้านไม้ขีด รุ่นกลมเปลือย / หัวเสียบไนล่อน ตัวผู้-ตัวเมีย รุ่นแบนหุ้มเต็ม / หางปลาตัวต่อสายตัวผู้ รุ่นกลมหุ้ม / ตลับหนีบสาย รุ่น VF, LN, LT, CT, RM, BM, YM, RF, BF, YF, MF, PIN, KS, F_A, F_B, 3M	326-336
NISSEI	SLEEVE ปลอกหุ้ม	Vinyl Wire End Cap ปลอกหุ้มหางปลา	337
ROSI	PLUG & SOCKET	Industrial Plugs and Socket-Movable Plug and Socket ปลั๊กตัวผู้-เมีย กันน้ำ, ไม่กันน้ำ IP67/ IP44	338-339
		Industrial Plugs and Socket-Wall Plug and Socket ปลั๊กตัวผู้-เมียลอย กันน้ำ, ไม่กันน้ำ IP67/ IP44	340-341
		Industrial Socket-Panel Socket ปลั๊กตัวเมียฝัง กันน้ำ, ไม่กันน้ำ IP67/ IP44	342
		Interlocked Socket with Switch ปลั๊กตัวเมียพร้อมอินเตอร์ล็อก IP67/ IP44	343
		SCHUKO series - Panel Socket ปลั๊กตัวเมียฝังรุ่นหน้าตรง IP67/ IP44	344
		Multipliers - 3 Ways ปลั๊ก 3 ทางชนิดกันน้ำ IP67/ IP44	345
APEKS		Socket and Plug เพาเวอร์ปลั๊ก	346-347
		Wall Socket ปลั๊กตัวเมียลอย กันน้ำ, ไม่กันน้ำ IP67/ IP44	348
		Panel Socket ปลั๊กตัวเมียฝังรุ่นหน้าตรง/ ปลั๊กตัวเมียรุ่นหน้าเฉียง/ ปลั๊กตัวผู้ลอย กันน้ำ, ไม่กันน้ำ IP67/ IP44	349-350
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		Isolating Switch ไอโซเลทติ้งสวิตช์ รุ่น APK	353
		CEE Distribution Box กล่องกระจายไฟ	354-355
LKEW		Locking Type Plug, Receptacle and Connector ปลั๊ก เต้ารับ และขั้วต่อ แบบล็อค รุ่น LK 20A NEMA	356
		Locking Type Plug, Receptacle and Connector ปลั๊ก เต้ารับ และขั้วต่อ แบบล็อค รุ่น LK 30A NEMA	357
		Locking Type Plug, Receptacle (Bakelite) Locking Type Plug, Receptacle (Rubber) ปลั๊ก เต้ารับ และขั้วต่อ แบบล็อค (เบ็กไลต์) / ปลั๊ก เต้ารับ และขั้วต่อ แบบล็อค (ยาง) รุ่น LK 20A NEMA, LK 30A NEMA, LK 20A 250V	358-360
		Straight Type Plug and Connector / Angle Type Plug ปลั๊ก และขั้วต่อแบบตรง / ปลั๊กแบบเฉียง รุ่น LK 15A, 20A, 30A, 50A NEMA	361
		Grounding Plug, Receptacle and Socket / 2 Pole Socket ปลั๊ก เต้ารับ และปลั๊กตัวเมีย แบบมีกราวด์ / ปลั๊กตัวเมียแบบ 2 Pole รุ่น LK 15A 125V	362
TAC	เครื่องมือย้ำ CRIMPING TOOLS	Hydraulic Compression Head หัวย้ำ และลูกย้ำ รุ่น CO	363
		Hydraulic Crimping Tools เครื่องย้ำหางปลาไฮโดรลิค รุ่น CPO	364
		Hydraulic Compression คีมย้ำหางปลาไฮโดรลิค รุ่น CPO, CYO	365-366
	เครื่องมือเจาะโลหะ PUNCHING TOOLS	Angle-Steel Hydraulic Punching Tools เครื่องมือเจาะรูแผ่นทองแดง, อลูมิเนียมระบบไฮโดรลิค รุ่น CH	367
		Slug-Buster Punch Driver Sets Puncher เครื่องมือเจาะรู รุ่น CC	368
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		Female Wire Processing Machine เครื่องมือดัด, ตัดแผ่นทองแดง, อลูมิเนียม ระบบไฮโดรลิค รุ่น CWC, CB	374-375
	HYDRAULIC TOOLS	Hydraulic Cable Reel Stands and Spindles เครื่องมือยกล้อสายไฟไฮโดรลิค และชนิดธรรมดา รุ่น CRS	376
		Hydraulic Tools เครื่องมือไฮโดรลิค รุ่น CO-5250M+T250+250AT, CYO-5250M+T250+250AT, 250AT-104I, 250AT-104II	377

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		Multi Function Tools เครื่องมือมัลติฟังก์ชั่น รุ่น MK	379
		Cable, Steel Ropes Cutting Tools เครื่องมือตัดสายเคเบิ้ล และเชือกเหล็ก รุ่น ME, MS, MI	380
		Hand Type of Compression Tools คีมย้ำสายไฟ รุ่น MH, MK, MT, CK	381
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		One Time Mold วันไทม์โมลด์ รุ่น CWE, CGE, CWT, CGT, CWX, CNT, CPK, CXT	405
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JKN		Weekly Programmable Time Switch นาฬิกาตั้งเวลา 7 วัน รุ่น WTS	407
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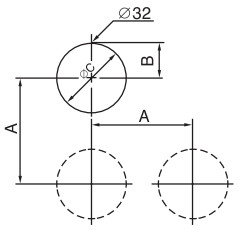
tend



PUSH BUTTON SWITCH
สวิตช์กด
Ø22 / Ø25

PANEL CUT-OUT
Ø22 / Ø25 Series



DIMENSIONS (mm)

Series		Ø22	Ø25
A	Pilot Lamp Push Button Selector	31 min.	
	Mushroom Head	39 min.	
B	All Types	11.2	12.7
C	All Types	22.4	25.4

CONTACT LATING

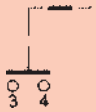
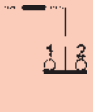
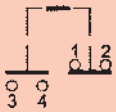
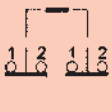
		AC24V	AC110V	AC220V	AC380V	AC440V
AC	AC11 Inductive load	7.5A	4.5A	3A	2A	2A
	AC14 Inductive load	7.5A	7.5A	4.5A	4A	4A

		DC24V	DC110V	DC220V	DC380V
DC	DC11 Inductive load	1.5A	0.5A	0.2A	0.1A
	DC14 Inductive load	10A	2A	0.6A	0.2A

CHARACTORISTICS

Operating frequency	Mechanically	Push button (momentary) 60 cycle/ min. others 30 cycles/min.
	Electrically	30 cycles/ min.
Service life	Mechanically	Push button (momentary) 3,000,000 operations., other 300,000 operations.
	Electrically	Push button (momentary) 500,000 operations., other 200,000 operations.
Shock	Durability	1000 m/s²
	Malfunction	Push button (momentary) 1,000 m/s² , others 250 m/s²
Vibration	Malfunction	10-55 Hz double amplitude 1.5 mm
Contact resistance	50 mΩ max. (intial value)	
Insulation resistance	100 MΩ min. (500 VDC)	
Dielectric strength	2,500 VAC, 50/60 Hz for 1 minute	
Ambient temperature	-20˚C ~ +60˚C	
Humidity	45 ~ 85% RH	

WIRING DIAGRAM

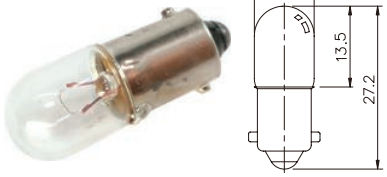
Type	TS2-A	TS2-B	TS2-C	TS2-2A	TS2-2B
Contact	1a	1b	1a1b	2a	2b
Contact arrangement					

BULB TYPE AND CHARACTORISTICS

Lamp type	Signal	Rated voltage	Signal	Operating voltage	Rated current	Color code	Signal	Designation
Incandescent	I	6V AC/ DC	6	6V AC/ DC	150 mA	None	None	I - 6
		12V AC/ DC	12	12V AC/ DC	100 mA			
		18V AC/ DC	18	18V AC/ DC	66 mA			
		24V AC/ DC	24	24V AC/ DC	50 mA			
		30V AC/ DC	30	30V AC/ DC	40 mA			
LED	L	6V AC/ DC	6	6V AC/ DC	9-13 mA	Red	R	L - 110 - R
		12V AC/ DC	12	12V AC/ DC	9-13 mA	Blue	BL	
		24V AC/ DC	24	24V AC/ DC	8-13 mA	Green	G	
		110V AC	110	110V AC	3-5 mA	White	W	
		220V AC	220	220V AC	3-5 mA	Orange	O	

DIMENSIONS OF BULB

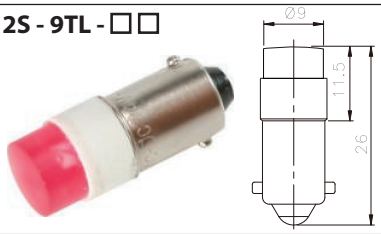
2S - 9 - ☐



Incandescent bulb

6V
12V
18V
30V

2S - 9TL - ☐☐



LED bulb

G, W, BL, R, O

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PUSH BUTTON SWITCH
สวิตช์กด
Ø22 / Ø25

MODEL DESIGNATIONS

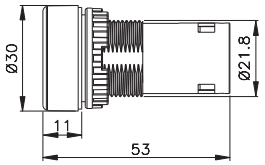
TS2 BF R - A
1 2 3 4

Designation	Signal	Description
1.Mounting hole	TS2	Ø22 mm / Ø25 mm
2.Type	BF	Flat head
	BL	Long head
	BM	Mushroom head
3.Lens color	R	Red
	G	Green
	Y	Yellow
	W	White
	B	Black
4.Type of contact blocks fitted	A	1a (1NO)
	B	1b (1NC)
	C	1a1b (1NO 1NC)
	2A	2a (2NO)
	2B	2b (2NC)

OPERATING HEAD DIMENSIONS

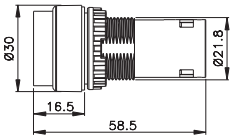
TS2BF สวิตช์กดหัวเรียบ 22/25 มม. **TS2BF-2A, 2B**
TS2BF-1A, 1B **TS2BF-1C**





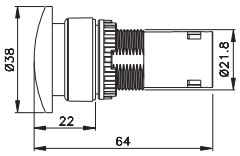
TS2BL สวิตช์กดหัวนูน 22/25 มม. **TS2BL-2A, 2B**
TS2BL-1A, 1B **TS2BL-1C**





TS2BM สวิตช์กดหัวเห็ด 22/25 มม. **TS2BM-2A, 2B**
TS2BM-1A, 1B **TS2BM-1C**





ILLUMINATED PUSH BUTTON (TS2 Ø22 / Ø25) Direct Power

MODEL DESIGNATION

TS2 IL 1 R - I A
1 2 3 4 5 6

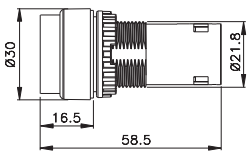
Designation	Signal	Description
1.Mounting hole	TS2	Ø22 mm / Ø25 mm
2.Type	IL	long head
	IM	Mushroom head
3.Voltage	1	110V AC LED
	2	220V AC LED
	5	6V AC/ DC incandescent - LED
	6	18V AC/ DC incandescent
	7	24V AC/ DC incandescent - LED
	8	30V AC/ DC incandescent
	9	12V AC/ DC incandescent - LED

Designation	Signal	Description
4.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
5.No. of contact fitted	I	Incandescent
	L	LED
6.Type of contact block fitted	A	1a (1NO)
	B	1b (1NC)

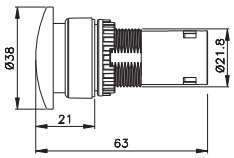
OPERATING HEAD DIMENSIONS

TS2IL สวิตช์กดหัวนูนมีแลมป์ 22/25 มม. **TS2IM สวิตช์กดหัวเห็ดมีแลมป์ 22/25 มม.**
TS2IL-I **TS2IL-L(R, O, G, W, BL)** **TS2IM-I** **TS2IM-L(R, O, G, W, BL)**

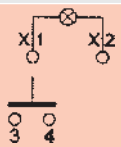
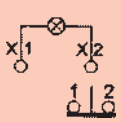






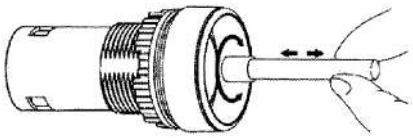


ILLUMINATED PUSH BUTTON (DIRECT POWER) CONTACT BLOCKS

Type	TN2-A	TN2-B
Contact	1a	1b
Contact arrangement		

METHOD TO REPLACE LAMP :

Put the fixing-disassembling tool into the lamp, turn clockwise and the lamp is fixed.
If counter-clockwise, the lamp is disassembling.



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SELECTOR SWITCH
สวิตช์ลูกศร
Ø22 / Ø25

MODEL DESIGNATIONS

TS2 SS 1 R - A

1 2 3 4 5

Designation	Signal	Description
1.Mounting hole	TS2	Ø22 mm / Ø25 mm
2.Type	SS	Knob Operator
3.Positions	1	90˚x 2 Position
	2	45˚x 2 3 Position
	3	45˚x 2 3 Position Spring return from right
	4	45˚x 2 3 Position Spring return from left
	5	45˚x 2 3 Position 2 Way Spring return

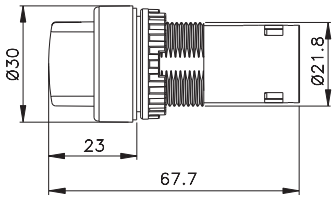
Designation	Signal	Description	
4.Lens color	R	Red	
	G	Green	
	B	Black	
5.Type of contact block fitted		2-Positions	3-Positions
	A	1a (1NO)	-----
	B	1b (1NC)	-----
	C	1a1b (1NO 1NC)	1a 0 1a
	2A	2a (2NO)	-----
	2B	2B (2NC)	-----

OPERATING HEAD DIMENSIONS

TS2SS สวิตช์ลูกศร



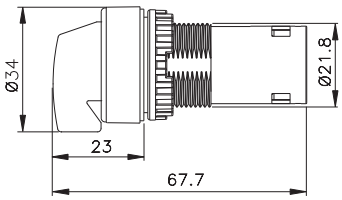
TS2SS-1A,1B
TS2SS-1-1C
TS2SS-1-2A,2B
TS2SS-2-2A
TS2SS-3-2A
TS2SS-4-2A
TS2SS-5-2A



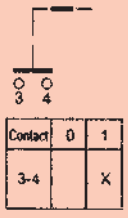
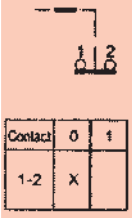
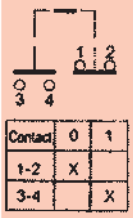
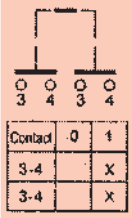
TS2SH สวิตช์ลูกศร



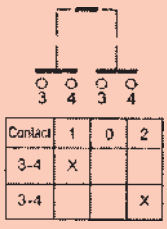
TS2SH-1A,1B
TS2SH-1-1C
TS2SH-1-2A,2B
TS2SH-2-2A
TS2SH-3-2A
TS2SH-4-2A
TS2SH-5-2A



SELECTOR SWITCH 2-POSITIONS CONTACT ARRANGEMENT

Type	TS2-A	TS2-B	TS2-C	TS2-2A	TS2-2B
Contact	1a	1b	1a1b	2a	2b
Contact arrangement					

SELECTOR SWITCH 3-POSITIONS CONTACT ARRANGEMENT

Type	TS2-C
Contact	1a 0 1a
Contact arrangement	

tend

PILOT LAMP / BUZZER
ไพล็อตแลมป์ / ออดไฟฟ้า
Ø22 / Ø25

MODEL DESIGNATIONS

TS2 D 1 - R
1 2 3 4

Designation	Signal	Description
1.Mounting hole	TS2	Ø22 mm / Ø25 mm
2.Type	D	LED Continuous light
	F	LED Flashing light
3.Voltage	1	110V AC
	2	220V AC
	3	380V AC
	4	440V AC
	7	24V AC/ DC
	9	12V AC/ DC
4.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

PILOT LAMP (DIRECT POWER)

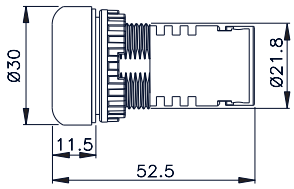
DIMENSIONS

TS2D ไพล็อตแลมป์ (ใช้หลอด LED)

- ชนิดติดต่อเนื่อง
  TS2D
  (R, O, G, W, BL)



- ชนิดติดกะพริบ
  TS2F
  (R, O, G, W, BL)



BUZZER AND BUZZER PILOT LAMP (TS2 Ø22 / Ø25)
ออดไฟฟ้า

MODEL DESIGNATIONS

TS2 BC 1
1 2 3

- The color of lens for buzzer pilot lamp is red.
- The color of lens for buzzer is black.

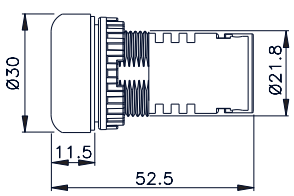
Designation	Signal	Description
1.Mounting hole	TS2	Ø22 mm / Ø25 mm
2.Type	BC	Continuous buzzer
	BI	Intermittence buzzer
	BCL	Continuous light with audible alarm
	BIL	Flashing light with audible alarm
3.Voltage	1	110V AC
	2	220V AC
	7	24V AC/ DC
	9	12V AC/ DC

BUZZER AND BUZZER PILOT LAMP DIMENSIONS

- ออดชนิดมีแลมป์ (LED)

TS2BCL ออดชนิดดังต่อเนื่องมี LED แลมป์
TS2BIL ออดชนิดดังไม่ต่อเนื่องมี LED แลมป์

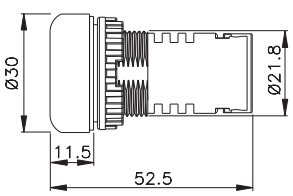




- ออดชนิดไม่มีแลมป์

TS2BC ออดชนิดดังต่อเนื่อง
TS2BI ออดชนิดดังไม่ต่อเนื่อง





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

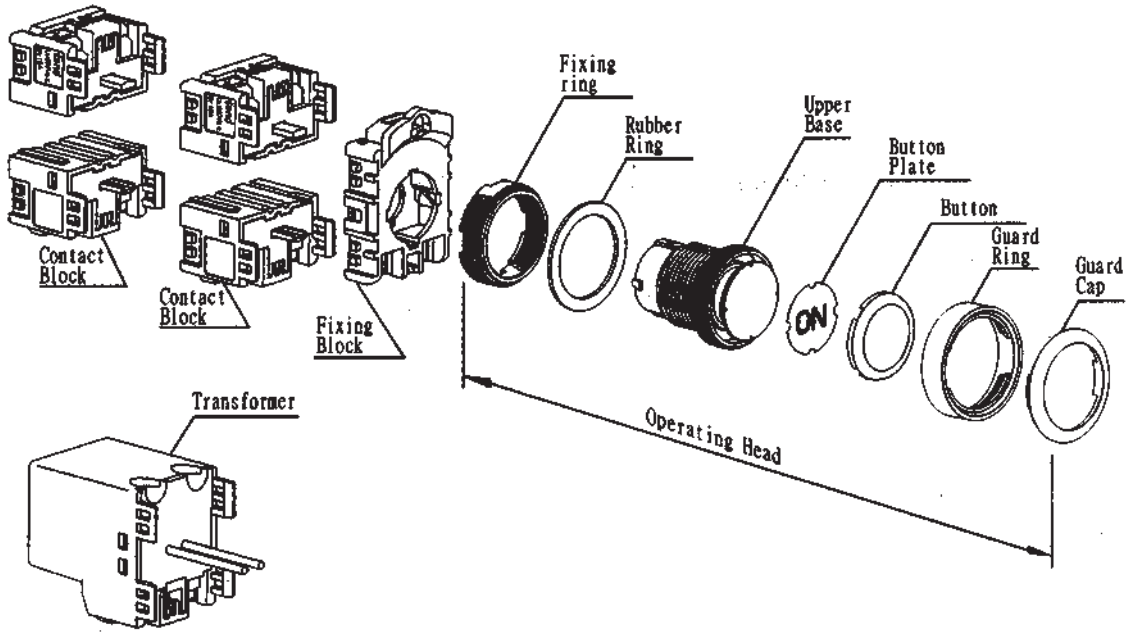
tend SERIES CONTROL COMPONENTS

IP40

Ø22 / Ø25 / Ø30

The operating head and contact block of TN2 series are detachable. The protection structure for this series is IP65 (IEC144) for waterproof, oil tight and dust proof in harsh environment except Twin-Touch push button switches which are IP40.

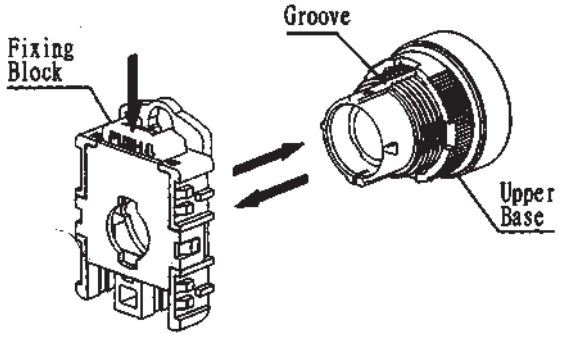
CONFIGURATION OF SWITCHS



FEATURES

TN2 series switches are detachable in 3 sub-assembly. It consists of upper base, fixing block and contact block

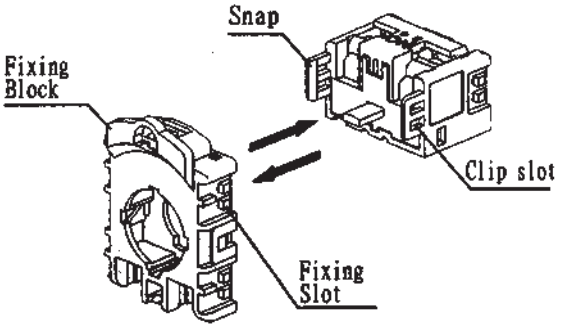
- Assembly and disassembly of fixing block with upper base



Assembly : Align the hole on top of fixing block with groove on the upper base and push them together.

Disassembly : Place downward by hand or use flat screwdriver to push down the orange button thru the hole on top of fixing block.

- Assembly and disassembly of fixing block with contact block

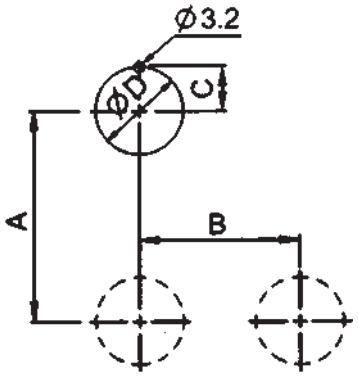


Assembly : Align the fixing slot on the fixing block to clip slot on the contact block.

Disassembly : Use flat screwdriver toward fixing slot to lift up clip and snap for disassembly.

tend SERIES CONTROL COMPONENTS
Ø22 / Ø25 / Ø30

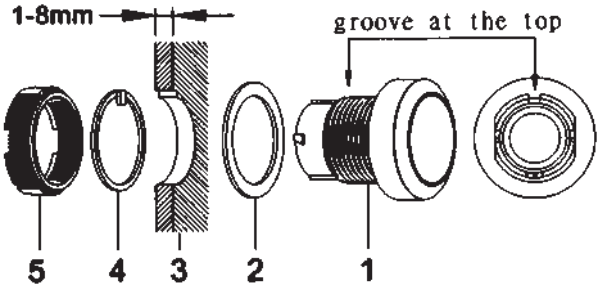
PANEL CUT-OUT



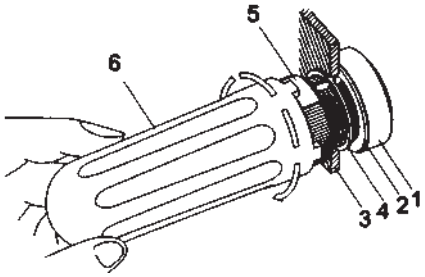
DIMENSIONS (mm)

Series		Ø22	Ø25	Ø30
A	All types except Twin-Touch & Joystick	50 min.		
	Twin-Touch	60 min.		
	Joystick	90 min.		
B	Light push button & Selector with name plate	31	31	35
		41 min.		
	Mushroom, Push-Lock, Long & Lever Selector, Twin-Touch	39 min.		
	Joystick	90 min.		
C	All types	11.2	12.7	15.2
D	All types	22.4	25.4	30.4

MOUNTING METHOD



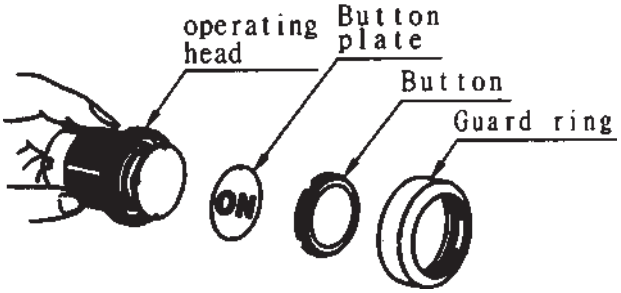
1	2	3	4	5	6
Operting Head	Rubber Ring	Panel	Stop Ring	Fixing Ring	Fixing Tool



- Install the operating head and rubber ring through the front panel and tighten fixing ring with fixing tool.

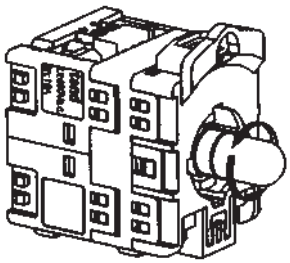
INDICATION OF LETTERS AND SYMBOLS

Transparent printing paper

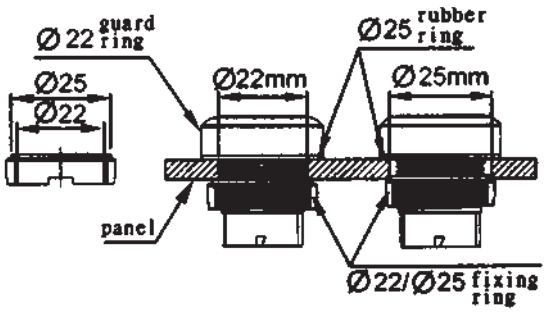


METHOD TO REPLACE LAMP

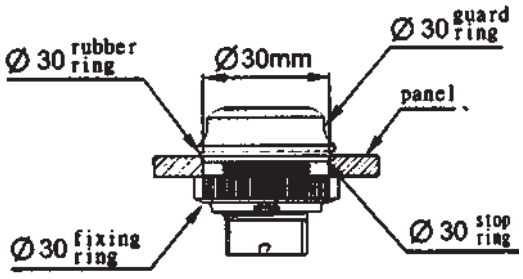
Disassembly fixing block from operating read and turn the lamp.



Ø22 mm / Ø25 mm SERIES ARE THE SAME DIMENSIONS WITH COMMON FIXING RING



THE ASSEMBLY METHOD FOR Ø30 SERIES



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SERIES CONTROL COMPONENTS
Ø22 / Ø25 / Ø30

TYPE OF FIXING BLOCK (There are three different types of fixing blocks)

STANDARD Fixing block (TN2-1)
บ๊อกใช้กับสวิตช์ที่ไม่มีแลมป์ใช้ต่อกับคอนแทคบ๊อก



Direct Fixing block (TN2-2)
บ๊อกใช้กับสวิตช์ที่มีแลมป์ใช้ต่อกับคอนแทคบ๊อก



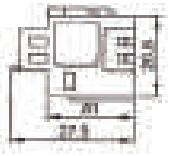
Transformer type Fixing block (TN2-3)
บ๊อกใช้กับสวิตช์ที่มีแลมป์ชนิดใช้หม้อแปลงใช้ต่อกับคอนแทคบ๊อก



TYPE OF CONTACT BLOCK AND EXTENTION OF CONTACT BLOCK THERE ARE 1a(1NO), 1b(1NC), AND 1c(1NO, 1NC), 1ab(1NO+1NC)

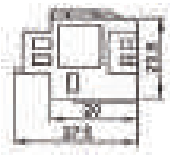
TN2-A(1a)
คอนแทคบ๊อก (1 NO)
สามารถต่อได้ถึง 4C (หรือ 8a)





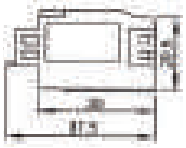
TN2-B(1b)
คอนแทคบ๊อก (1 NC)
สามารถต่อได้ถึง 4C (หรือ 8a)





TN2-C(1c)
คอนแทคบ๊อก 1C (1NO,1 NC)
สามารถต่อได้ถึง 2C (หรือ 4a, หรือ 4b)





CONTACT BLOCKS CAN HAVE FOLLOWING 3 STYLES. IT DEPENDS ON THE FIXING BLOCKS

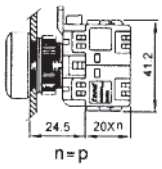
- Standard contact block : standard fixing block with contact block. It can be extended to 4C (or 8a or 8 b) used in non-illuminated products.
- Direct contact block : direct fixing block with contact block. It can be extended to 4C (or 8a or 8b) used in illuminated products.
- Transformer type contact block : Transformer type fixing block with contact block. It can be extended to 2C (or 4a or 4b) used in transformer illuminated products.

DIMENSIONS OF STANDARD CONTACT BLOCK
คอนแทคบ๊อกสำเร็จรูปสำหรับสวิตช์กด

TN2-1a~TN2-8a
TN2-1b~TN2-8b



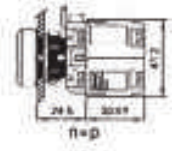
TN2-1A
TN2-1B



TN2-1c~TN2-4c



TN2-1C
TN2-1AB
TN2-2A
TN2-2B
TN2-2C



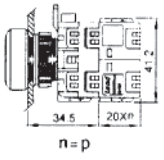
หมายเหตุ :
คอนแทค TN2-1ab หมายถึง TN2-a + TN2-b (1a+1b) คอนแทค 2 ตัว

DIMENSIONS OF DIRECT CONTACT BLOCK
คอนแทคบ๊อกสำเร็จรูปสำหรับสวิตช์กดชนิดมีแลมป์

TN2-I1a~TN2-I8a
TN2-I1b~TN2-I8b



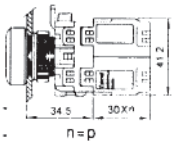
TN2-I1A
TN2-I1B



TN2-I1c~TN2-I4c



TN2-I1C
TN2-I1AB
TN2-I2A
TN2-I2B
TN2-I2C



หมายเหตุ :
คอนแทค TN2-C หมายถึง TN2-C (1a,1b) อยู่ในคอนแทคตัวเดียว

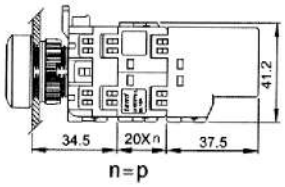
tend SERIES CONTROL COMPONENTS
Ø22 / Ø25 / Ø30

DIMENSIONS OF TRANSFORMER TYPE OF CONTACT BLOCK
คอนแทคบ๊อกสำเร็จรูปสำหรับสวิตช์มีแลมป์ชนิดหม้อแปลง

TN2-T1A
TN2-T1B



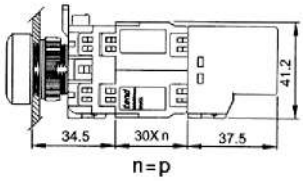
TN2-T2A
TN2-T2B



TN2-T1AB(1N0+1NC)



TN2-T1C(1N0,1NC)
TN2-T2C(2N0,2NC)



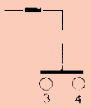
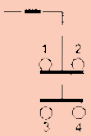
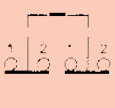
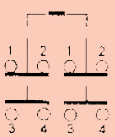
CONTACT RATING

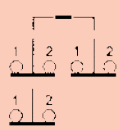
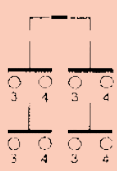
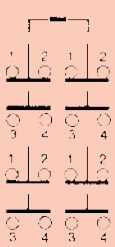
		AC24V	AC110V	AC220V	AC380V	AC440V			DC24V	DC110V	DC220V	DC380V
AC	AC11 Inductive load	10A	6A	4A	2.5A	2A	DC	DC11 Inductive load	1.5A	0.5A	0.2A	0.1A
	AC14 Resistive load	10A	10A	6A	5A	4A		DC14 Resistive load	10A	2A	0.6A	0.2A

CHARACTERISTICS

Operating frequency	Mechanically	Push button (momentary) 60 cycle/ min. others 30 cycles/min.
	Electrically	30 cycles/ min.
Service life	Mechanically	Push button (momentary) 3,000,000 operations., other 300,000 operations.
	Electrically	Push button (momentary) 500,000 operations., other 200,000 operations.
Shock	Durability	Transformer series 600 m/s² , other 1000 m/s²
	Malfunction	Push button (momentary) 1,000 m/s² , others 250 m/s²
Vibration	Malfunction	10-55 Hz double amplitude 1.5 mm
Contact resistance	50 mΩ max. (intial value)	
Insulation resistance	100 MΩ min. (500 VDC)	
Dielectric strength	2,500 VAC, 50/60 Hz for 1 minute	
Ambient temperature	-20 ˚C ~ +60 ˚C	
Humidity	45 ~ 85% RH	

STANDARD CONTACT BLOCKS

Type	TN2-1A	TN2-1B	TN2-1C	TN2-2A	TN2-2B	TN2-2C
Contact	1a	1b	1c	2a	2b	2a2b
Contact arrangement						

Type	TN2-3A	TN2-3B	TN2-3C	TN2-4A	TN2-4B	TN2-4C
Contact	3a	3b	3c	4a	4b	4a4b
Contact arrangement						

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

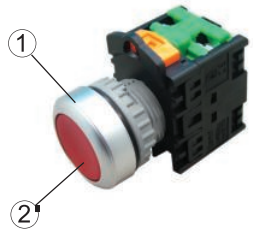
tend PUSH BUTTON SWITCH
สวิตช์กด IP65 IEC44
Ø22 / Ø25 / Ø30

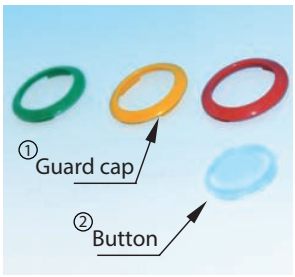
The contact block of this series is standard

MODEL DESIGNATION

TN2 BF R - 1 A
1 2 3 4 5

It must use transparent button to have marking printing on buttons. The colors can be distinguished by using different color guard ring.





Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	BF	Flat head
	BL	Long head
	BM	Mushroom head
	BA	Long head (Alternate)
	BK	Push-Lock
	BP	Push-Pull
	BT	Twin-Touch
3.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	B	Blue
4.No. of contact fitted	1	1
	2	2
	3	3
	4	4
5.Type of contact block fitted	A	1a(1 NO)
	B	1b(1 NC)
	C	1a1b(1 NO 1 NC)

+ Only used with AB contact

OPERATING HEAD DIMENSIONS

TN2BF สวิตช์กดหัวเรียบ 22/25 มม.



TN2BF-1A,1B
TN2BF-1C
TN2BF-1AB

TN3BF สวิตช์กดหัวเรียบ 30 มม.



TN3BF-1A,1B
TN3BF-1C
TN3BF-1AB

TN2BL สวิตช์กดหัวนูน 22/25 มม.



TN2BL-1A,1B
TN2BL-1C
TN2BL-1AB

TN3BL สวิตช์กดหัวนูน 30 มม.



TN3BL-1A,1B
TN3BL-1C
TN3BL-1AB

TN2BM สวิตช์กดหัวเห็ด 22/25 มม.



TN2BM-1A,1B
TN2BM-1C
TN2BM-1AB

TN3BM สวิตช์กดหัวเห็ด 30 มม.



TN3BM-1A,1B
TN3BM-1C
TN3BM-1AB

TN2BA สวิตช์กดจมหัวนูน 22/25 มม.



TN2BA-1A,1B
TN2BA-1C
TN2BA-1AB

TN3BA สวิตช์กดจมหัวนูน 30 มม.



TN3BA-1A,1B
TN3BA-1C
TN3BA-1AB

tend PUSH BUTTON SWITCH
สวิตช์กด IP65 IEC44
Ø22 / Ø25 / Ø30

TN2BK สวิตช์กดชนิดกันน้ำ,กันน้ำมัน,กันฝุ่น 22/25 มม.



TN2BK-1A,1B
TN2BK-1C
TN2BK-1AB

มีเฉพาะสีแดงเท่านั้น
(Only red color)

TN3BK สวิตช์กดล็อคหัวเห็ด 30 มม.



TN3BK-1A,1B
TN3BK-1C
TN3BK-1AB

มีเฉพาะสีแดงเท่านั้น
(Only red color)

TN2BP สวิตช์กดแบบดึงเข้า-ออก 22/25 มม.



TN2BP-1A,1B
TN2BP-1C
TN2BP-1AB

มีเฉพาะสีแดงเท่านั้น
(Only red color)

TN3BP สวิตช์กดแบบดึงเข้า-ออก 30 มม.



TN3BP-1A,1B
TN3BP-1C
TN3BP-1AB

มีเฉพาะสีแดงเท่านั้น
(Only red color)

TN2BT สวิตช์กด ปิด-เปิด 22/25 มม.
(ยกเว้นรุ่นนี้เป็น IP40)



TN2BT-1AB

TN3BT สวิตช์กด ปิด-เปิด 30 มม.
(ยกเว้นรุ่นนี้เป็น IP40)



TN3BT-1AB

Waterproof cap for twin touch push button switch for T2BTL, T3BTL

TN2-BTW

BULB TYPE AND CHARACTERISTICS

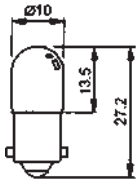
BA9S - 11 X 28 mm - 1.2 W max.

Lamp type	Signal	Rated voltage	Signal	Operating voltage	Rated current	Color code	Signal	Designation
Incandescent	I	6V AC/ DC	6	6V AC/ DC	150 mA	None	None	I - 6
		12V AC/ DC	12	12V AC/ DC	100 mA			
		18V AC/ DC	18	18V AC/ DC	66 mA			
		24V AC/ DC	24	24V AC/ DC	50 mA			
		30V AC/ DC	30	30V AC/ DC	40 mA			
Neon bulb	N	110V AC/ DC	110	110V AC/ DC	1.3 mA	Red Green Blue	R G BL	N - 110 R
		220V AC/ DC	220	220V AC/ DC	2.2 mA			
		380V AC/ DC	380	380V AC/ DC	1.15 mA			
		440V AC/ DC	440	440V AC/ DC	1.4 mA			
LED bulb	L	6V AC/ DC	6	6V AC/ DC	9 ~ 13 mA	Red	R	L - 24 R
		24V AC/ DC	24	24V AC/ DC	8 ~ 13 mA	Green	G	
		30V AC/ DC	30	30V AC/ DC	8 ~ 13 mA	Orange	O	
		110V AC/ DC	110	110V AC/ DC	3 ~ 5 mA	Blue	BL	
		220V AC/ DC	220	220V AC/ DC	3 ~ 5 mA	White	W	

DIMENSIONS BULB

2S - 9 - ☐ 6V 18V 12V 30V

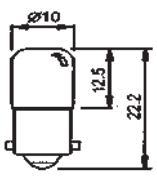




Incandescent

2S - 9 - ☐

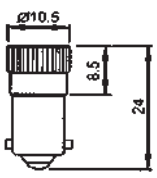




Neon Bulb

2S - 9TL - ☐☐





LED Bulb
R,O,G,W,BL

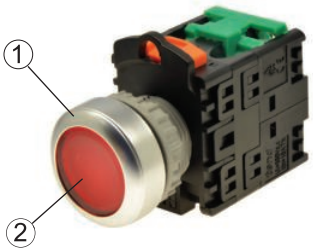
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

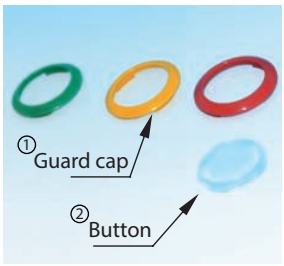
ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ IP65
Ø22 / Ø25 / Ø30

The contact block for this series is direct contact block

MODEL DESIGNATION

TN2	IF	1	R	-	N	1	A	06
①	②	③	④		⑤	⑥	⑦	⑧





It must use transparent button to have marking printing on buttons. The colours can be distinguished by using different colour guard ring.

Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	IF	Flat head
	IL	Long head
	IM	Mushroom head
	IA	Long head (Alternate)
	IK	Push-Lock
	IT	Twin-Touch
3.Voltage	1	110V AC (Neon LED bulb)
	2	220V AC (Neon LED bulb)
	3	380V AC (Neon bulb)
	4	440V AC (Neon bulb)
	5	6V AC/ DC (Incandescent LED bulb)
	6	18V AC/ DC (Incandescent)
	7	24V AC/ DC (Incandescent LED bulb)
	8	30V AC (Incandescent LED bulb)
	9	12V AC/ DC (Incandescent)
4.Lens color	R	Red
	G	Greed
	O	Orange
	W	White
	YG	Olivine
5.Lamp	I	Incandescent
	N	Neon bulb
	L	LED bulb
6.No. of contact fitted	1	1
	2	2
	3	3
	4	4
7.Type of contact block fitted	A	1a (1NO)
	B	1b (1NC)
	C	1a1b (1NO 1NC)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

OPERATING HEAD DIMENSIONS

TN2IF สวิตช์กดมีแลมป์หัวเรียบ 22/25 มม.



ชนิดหลอดธรรมดา
TN2IF-I1A,1B
TN2IF-I1C
TN2IF-I1AB

ชนิดหลอด นีออน
TN2IF-N1A,1B
TN2IF-N1C
TN2IF-N1AB

ชนิดหลอด LED
TN2IF-L1A,1B (R,O,G,W,BL)
TN2IF-L1C (R,O,G,W,BL)
TN2IF-L1AB (R,O,G,W,BL)

TN3IF สวิตช์กดมีแลมป์หัวเรียบ 30 มม.



ชนิดหลอดธรรมดา
TN3IF-I1A,1B
TN3IF-I1C
TN3IF-I1AB

ชนิดหลอด นีออน
TN3IF-N1A,1B
TN3IF-N1C
TN3IF-N1AB

ชนิดหลอด LED
TN3IF-L1A,1B (R,O,G,W,BL)
TN3IF-L1C (R,O,G,W,BL)
TN3IF-L1AB (R,O,G,W,BL)

TN2IL สวิตช์กดมีแลมป์หัวนูน 22/25 มม.



ชนิดหลอดธรรมดา
TN2IL-I1A,1B
TN2IL-I1C
TN2IL-I1AB

ชนิดหลอด นีออน
TN2IL-N1A,1B
TN2IL-N1C
TN2IL-N1AB

ชนิดหลอด LED
TN2IL-L1A,1B (R,O,G,W,BL)
TN2IL-L1C (R,O,G,W,BL)
TN2IL-L1AB (R,O,G,W,BL)

TN3IL สวิตช์กดมีแลมป์หัวนูน 30 มม.



ชนิดหลอดธรรมดา
TN3IL-I1A,1B
TN3IL-I1C
TN3IL-I1AB

ชนิดหลอด นีออน
TN3IL-N1A,1B
TN3IL-N1C
TN3IL-N1AB

ชนิดหลอด LED
TN3IL-L1A,1B (R,O,G,W,BL)
TN3IL-L1C (R,O,G,W,BL)
TN3IL-L1AB (R,O,G,W,BL)

tend ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ IP65
Ø22 / Ø25 / Ø30

TN2IM สวิตช์กดหัวเห็ดมีแลมป์ 22/25 มม.



ชนิดหลอดธรรมดา
TN2IM-I1A,1B
TN2IM-I1C
TN2IM-I1AB

ชนิดหลอด นีออน
TN2IM-N1A,1B
TN2IM-N1C
TN2IM-N1AB

ชนิดหลอด LED
TN2IM-L1A,1B (R,O,G,W,BL)
TN2IM-L1C (R,O,G,W,BL)
TN2IM-L1AB (R,O,G,W,BL)

TN3IM สวิตช์กดหัวเห็ดมีแลมป์ 30 มม.



ชนิดหลอดธรรมดา
TN3IM-I1A,1B
TN3IM-I1C
TN3IM-I1AB

ชนิดหลอด นีออน
TN3IM-N1A,1B
TN3IM-N1C
TN3IM-N1AB

ชนิดหลอด LED
TN3IM-L1A,1B (R,O,G,W,BL)
TN3IM-L1C (R,O,G,W,BL)
TN3IM-L1AB (R,O,G,W,BL)

TN2IA สวิตช์กดมีแลมป์กดจม 22/25 มม.



ชนิดหลอดธรรมดา
TN2IA-I1A,1B
TN2IA-I1C
TN2IA-I1AB

ชนิดหลอด นีออน
TN2IA-N1A,1B
TN2IA-N1C
TN2IA-N1AB

ชนิดหลอด LED
TN2IA-L1A,1B (R,O,G,W,BL)
TN2IA-L1C (R,O,G,W,BL)
TN2IA-L1AB (R,O,G,W,BL)

TN3IA สวิตช์กดมีแลมป์กดจม 30 มม.



ชนิดหลอดธรรมดา
TN3IA-I1A,1B
TN3IA-I1C
TN3IA-I1AB

ชนิดหลอด นีออน
TN3IA-N1A,1B
TN3IA-N1C
TN3IA-N1AB

ชนิดหลอด LED
TN3IA-L1A,1B (R,O,G,W,BL)
TN3IA-L1C (R,O,G,W,BL)
TN3IA-L1AB (R,O,G,W,BL)

TN2IK สวิตช์กดหัวเห็ดมีแลมป์กดล็อค 22/25 มม.



ชนิดหลอดธรรมดา
TN2IK-I1A,1B
TN2IT-I1C
TN2IT-I1AB

ชนิดหลอด นีออน
TN2IK-N1A,1B
TN2IK-N1C
TN2IK-N1AB

ชนิดหลอด LED
TN2IK-L1A,1B (R,O,G,W,BL)
TN2IK-L1C (R,O,G,W,BL)
TN2IK-L1AB (R,O,G,W,BL)

TN3IK สวิตช์กดหัวเห็ดมีแลมป์กดล็อค 30 มม.



ชนิดหลอดธรรมดา
TN3IK-I1A,1B
TN3IT-I1C
TN3IT-I1AB

ชนิดหลอด นีออน
TN3IK-N1A,1B
TN3IK-N1C
TN3IK-N1AB

ชนิดหลอด LED
TN3IK-L1A,1B (R,O,G,W,BL)
TN3IK-L1C (R,O,G,W,BL)
TN3IK-L1AB (R,O,G,W,BL)

TN2IT สวิตช์กดปิด-เปิดมีแลมป์ 22/25 มม. (ยกเว้นรุ่นนี้เป็น IP40)



TN2IT-I1AB
TN2IT-N1AB
TN2IT-L1AB
(R,O,G,W,BL)

TN3IT สวิตช์กดปิด-เปิดมีแลมป์ 30 มม. (ยกเว้นรุ่นนี้เป็น IP40)



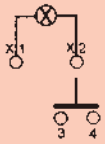
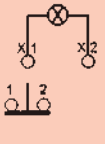
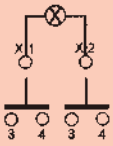
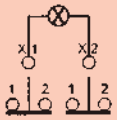
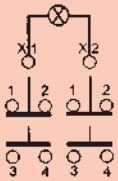
TN3IT-I1AB
TN3IT-N1AB
TN3IT-L1AB
(R,O,G,W,BL)

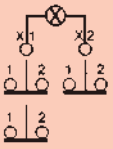
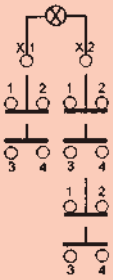
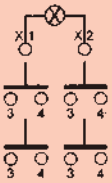
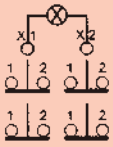
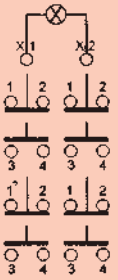
TN2-BTW ฝาครอบกันน้ำ
Waterproof cap for twin touch push button switch for T2BTL, T3BTL

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์
Ø22 / Ø25 / Ø30

ILLUMINATED PUSH BUTTON (DIRECT POWER) CONTACT BLOCKS

Type	TN2-I1A	TN2-I1B	TN2-I1C	TN2-I2A	TN2-I2B	TN2-I2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						

Type	TN2-I3A	TN2-I3B	TN2-I3C	TN2-I4A	TN2-I4B	TN2-I4C
Contact	3a	3b	3a3b	4a	4b	4a4b
Contact arrangement						

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ ชนิดหม้อแปลง IP65
Ø22 / Ø25 / Ø30

This series of switches come with transformers at the secondary voltage of 5V and (6V) incandescent used.

MODEL DESIGNATION

TN2 TF 1 R - 1 A
1 2 3 4 5 6

Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	TF	Flat head
	TL	Long head
	TM	Mushroom head
	TA	Long head (Alternate)
	TK	Push-Lock
	TT	Twin-Touch

Designation	Signal	Description
3.Voltage	1	110V AC
	2	220V AC
	3	380V AC
	4	440V AC
4.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
5.No. of contact fitted	1	1
	2	2
6.Type of contact block fitted	A	1a(1NO)
	B	1b(1NC)
	C	1a1b(1NO 1NC)
	AB	1a+1b(1NO 1NC)

OPERATING HEAD DIMENSIONS

TN2TF สวิตช์กดหัวเรียบมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



TN2TF-1A,1B
TN2TF-1AB
TN2TF-1C

TN3TF สวิตช์กดหัวเรียบมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.



TN3TF-1A,1B
TN3TF-1AB
TN3TF-1C

TN2TL สวิตช์กดหัวนูนมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



TN2TL-1A,1B
TN2TL-1AB
TN2TL-1C

TN3TL สวิตช์กดหัวนูนมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.



TN3TL-1A,1B
TN3TL-1AB
TN3TL-1C

TN2TM สวิตช์กดหัวเห็ดมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



TN2TM-1A,1B
TN2TM-1AB
TN2TM-1C

TN3TM สวิตช์กดหัวเห็ดมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.



TN3TM-1A,1B
TN3TM-1AB
TN3TM-1C

TN2TA สวิตช์กดหัวนูนกดจมมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



TN2TA-1A,1B
TN2TA-1AB
TN2TA-1C

TN3TA สวิตช์กดหัวนูนกดจมมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.



TN3TA-1A,1B
TN3TA-1AB
TN3TA-1C

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED PUSH BUTTON SWITCH

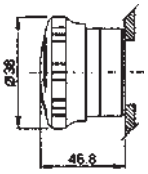
สวิตช์กดมีแลมป์ ชนิดหม้อแปลง IP65

Ø22 / Ø25 / Ø30

TN2TK สวิตช์กดมีแลมป์หัวเห็ดกดล็อค ชนิดใช้หม้อแปลง 22/25 มม.



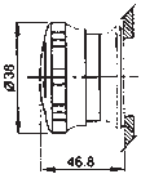
TN2TK-1A,1B
TN2TK-1AB
TN2TK-1C



TN3TK สวิตช์กดมีแลมป์หัวเห็ดกดล็อค ชนิดใช้หม้อแปลง 30 มม.



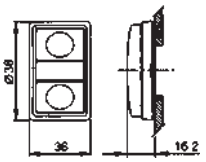
TN3TK-1A,1B
TN3TK-1AB
TN3TK-1C



TN2TT สวิตช์กดปิด-เปิดมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



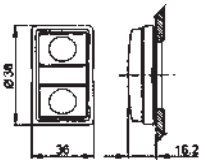
TN2TT-1AB
TN2TT-1C



TN3TT สวิตช์กดปิด-เปิดมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.

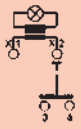
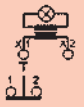
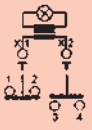
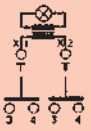
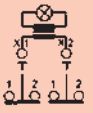
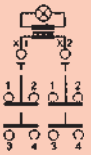


TN3TT-1AB
TN3TT-1C



TN2-BTW ฝาครอบกันน้ำ
Waterproof cap for twin touch push button switch for TN2TT, TN3TT

ILLUMINATED PUSH BUTTON CONTACT BLOCKS (with Transformer) DIMENSION

Type	TN2-T1A	TN2-T1B	TN2-T1AB	TN2-T2A	TN2-T2B	TN2-T2C
Contact	1a	1b	1a+1b	2a	2b	2a2b
Contact arrangement						

SELECTOR SWITCH (TN2 Ø22/ Ø25/ Ø30)

The contact block of this series of switches is standard 2 Positions contact block arrange, 1C contact block arrangement for 2 Positions is 1a1b, 1C contact block arrangement for 3 Positions is 1a 0 1a (2a)

MODEL DESIGNATION

TN2 SS 1 1 R - 1 A
1 2 3 4 5 6 7

Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	SS	Knob Operator
	SH	Lever Operator
	KS	Key Operator
3.Positions	1	90˚x 2 3 Position
	2	90˚x 2 Position
	3	90˚x 2 Position Spring return from right
	4	45˚x 2 3 Position
	5	45˚x 2 3 Position Spring return from right
	6	45˚x 2 3 Position Spring return from left
	7	45˚x 2 3 Position 2 Way Spring return

สวิตช์ลูกศรต่อตรง ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น IP65 IEC144

Designation	Signal		Description
4.Key withdrawable	1	2 Positions	0.1 Key with-drawable
	2		0 Key with-drawable
	3		1 Key with-drawable
	4	3 Positions	0.1.2 Key with-drawable
	5		0 Key with-drawable
	6	3 Positions	0.1.2 Key with-drawable
	7		0 Key with-drawable
5.Lens color	R		Red
	G		Green
	B		Black
6.NO. of contacts fitted	1		1
	2		2
	3		3
	4		4

7.Type of contacts block fitted	2-Positions	3-Positions
A	1a(1NO)	-
B	1b(1NC)	-
C	1a1b(1NO 1NC)	1a 0 1a (2a)
AB	1a+1b(1NO 1NC)	1a+1b

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SELECTOR SWITCH
สวิตช์ลูกศร ชนิดต่อตรง IP65 IEC144
Ø22 / Ø25 / Ø30

OPERATING HEAD DIMENSIONS

TN2SS สวิตช์ลูกศร 22/25 มม.



TN2SS-1A,1B
TN2SS-1C
TN2SS-2A,2B
TN2SS-1AB
TN2SS-2C
TN2SS-4A

TN3SS สวิตช์ลูกศร 30 มม.



TN3SS-1A,1B
TN3SS-1C
TN3SS-2A,2B
TN3SS-1AB
TN3SS-2C
TN3SS-4A

TN2SH สวิตช์ลูกศรก้านยาว 22/25 มม.



TN2SH-1A,1B
TN2SH-1C
TN2SH-2A,2B
TN2SH-1AB
TN2SH-2C
TN2SH-4A

TN3SH สวิตช์ลูกศรก้านยาว 30 มม.



TN3SH-1A,1B
TN3SH-1C
TN3SH-2A,2B
TN3SH-1AB
TN3SH-2C
TN3SH-4A

TN2KS สวิตช์กุญแจ 22/25 มม.



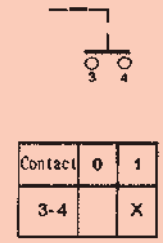
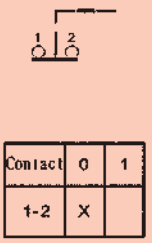
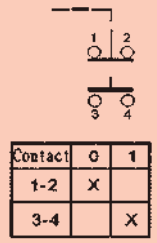
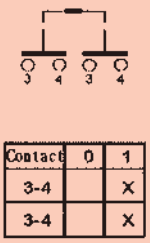
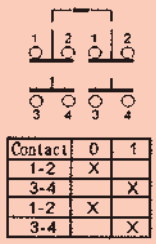
TN2KS-1A,1B
TN2KS-1C
TN2KS-2A,2B
TN2KS-1AB
TN2KS-2C
TN2KS-4A

TN3KS สวิตช์กุญแจ 30 มม.



TN3KS-1A,1B
TN3KS-1C
TN3KS-2A,2B
TN3KS-1AB
TN3KS-2C
TN3KS-4A

SELECTOR SWITCH 2 - POSITIONS CONTACT ARRANGEMENT

Type	TN2-1A	TN2-1B	TN2-1C	TN2-2A	TN2-2B	TN2-2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						

Contact	0	1
3-4		X

Contact	0	1
1-2	X	

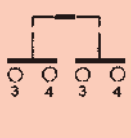
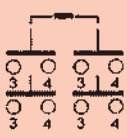
Contact	0	1
1-2	X	
3-4		X

Contact	0	1
3-4		X
3-4		X

Contact	0	1
1-2	X	
1-2	X	

Contact	0	1
1-2	X	
3-4		X
1-2	X	
3-4		X

SELECTOR SWITCH 3 - POSITIONS CONTACT ARRANGEMENT

Type	TN2-2A	TN2-4A
Contact	1a 0 1a	2a 0 2a
Contact arrangement		

Contact	1	0	2
3-4	X		
3-4			X

Contact	1	0	2
3-4	X		
3-4	X		
3-4			X
3-4			X

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED PUSH BUTTON SWITCH

สวิตช์ลูกศรมีแลมป์ ชนิดต่อตรง IP65

Ø22 / Ø25 / Ø30

The contacy black used in this type of switch is a direcy contact block type. The type and specification of bulb used are the same as those for direct type illuminated push button switch.

MODEL DESIGNASION

TN2 IS 1 1 R - N 1 A

1 2 3 4 5 6 7 8

Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	IS	Knob Operator
	IH	Lever Operator
3.Positions	1	90˚x 2 3 Position
	2	 90˚x 2 Position
	3	 90˚x 2 Position Spring return from right
	4	 45˚x 2 3 Position
	5	 45˚x 2 3 Position Spring return from right
	6	 45˚x 2 3 Position Spring return from left
	7	 45˚x 2 3 Position 2 Way Spring return

Designation	Signal	Description
4.Key withdrawable	1	110V AC (Neon LED bulb)
	2	220V AC (Neon LED bulb)
	3	380V AC (Neon bulb)
	4	440V AC (Neon bulb)
	5	6V AC/DC (Incandescent LED bulb)
	6	18V AC/DC (Incandescent)
	7	24V AC/DC (Incandescent LED bulb)
	8	30V AC/DC (Incandescent LED bulb)
	9	12V AC/DC (Incandescent LED bulb)
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	B	Blue
6.Lamp	I	Incandescent
	N	Neon Bulb
	L	LED Bulb
7.NO. of contacts fitted	1	1
	2	2
	3	3
	4	4
8.Type of contact block fitted		2-Positions / 3-Positions
	A	1a(1NO) / -
	B	1b(1NC) / -
	C	1a1b(1NO 1NC) / 1a 0 1a
	AB	1a+1b(1NO 1NC) / -

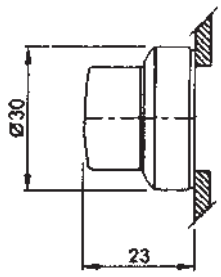
OPERATING HEAD DIMENSIONS

TN2IS สวิตช์ลูกศรมีแลมป์ 22/25 มม.



ชนิดหลอดธรรมดา
TN2IS-I1A,1B
TN2IS-I1C
TN2IS-I2A
TN2IS-I1AB

ชนิดหลอดนีออน
TN2IS-N1A,1B
TN2IS-N1C
TN2IS-N2A
TN2IS-N1AB



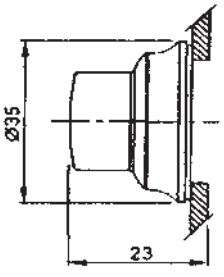
ชนิดหลอด LED
TN2IS-L1A,1B (R,O,G,W,BL)
TN2IS-L1C (R,O,G,W,BL)
TN2IS-L2A (R,O,G,W,BL)
TN2IS-L1AB (R,O,G,W,BL)

TN3IS สวิตช์ลูกศรมีแลมป์ 30 มม.



ชนิดหลอดธรรมดา
TN3IS-I1A,1B
TN3IS-I1C
TN3IS-I2A
TN3IS-I1AB

ชนิดหลอดนีออน
TN3IS-N1A,1B
TN3IS-N1C
TN3IS-N2A
TN3IS-N1AB



ชนิดหลอด LED
TN3IS-L1A,1B (R,O,G,W,BL)
TN3IS-L1C (R,O,G,W,BL)
TN3IS-L2A (R,O,G,W,BL)
TN3IS-L1AB (R,O,G,W,BL)

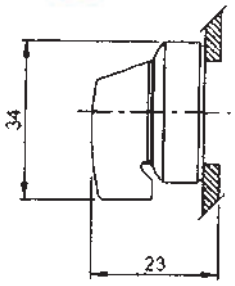
tend

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์ลูกศรมีแลมป์ ชนิดต่อตรง IP65
Ø22 / Ø25 / Ø30

OPERATING HEAD DIMENSIONS

TN2IH สวิตช์ลูกศรก้านยาวมีแลมป์ 22/25 มม.





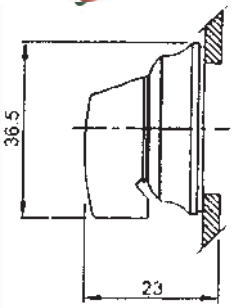
ชนิดหลอดธรรมดา
TN2IH-I1A,1B
TN2IH-I1C
TN2IH-I2A
TN2IH-I1AB

ชนิดหลอดนีออน
TN2IH-N1A,1B
TN2IH-N1C
TN2IH-N2A
TN2IH-N1AB

ชนิดหลอด LED
TN2IH-L1A,1B (R,O,G,W,BL)
TN2IH-L1C (R,O,G,W,BL)
TN2IH-L2A (R,O,G,W,BL)
TN2IH-L1AB (R,O,G,W,BL)

TN3IH สวิตช์ลูกศรก้านยาวมีแลมป์ 30 มม.



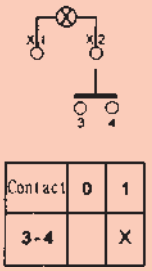
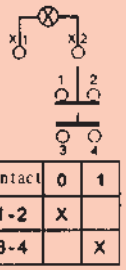
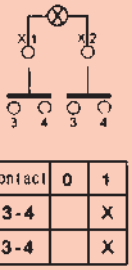
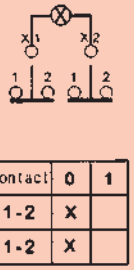
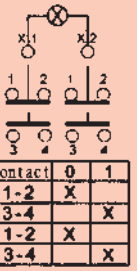


ชนิดหลอดธรรมดา
TN3IH-I1A,1B
TN3IH-I1C
TN3IH-I2A
TN3IH-I1AB

ชนิดหลอดนีออน
TN3IH-N1A,1B
TN3IH-N1C
TN3IH-N2A
TN3IH-N1AB

ชนิดหลอด LED
TN3IH-L1A,1B (R,O,G,W,BL)
TN3IH-L1C (R,O,G,W,BL)
TN3IH-L2A (R,O,G,W,BL)
TN3IH-L1AB (R,O,G,W,BL)

ILLUMINATED SELECTOR SWITCH (DIRECT POWER) 2 - POSITIONS CONTACT ARRANGEMENT

Type	TN2-I1A	TN2-I1B	TN2-I1C	TN2-I2A	TN2-I2B	TN2-I2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						

Contact	0	1
3-4		X

Contact	0	1
1-2	X	

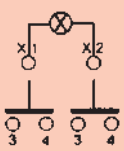
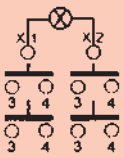
Contact	0	1
1-2	X	
3-4		X

Contact	0	1
3-4		X
3-4		X

Contact	0	1
1-2	X	
1-2	X	

Contact	0	1
1-2	X	
3-4		X
1-2	X	
3-4		X

ILLUMINATED SELECTOR SWITCH (DIRECT POWER) 3 - POSITIONS CONTACT ARRANGEMENT

Type	TN2-I2A	TN2-I4A
Contact	1a 0 1a	2a 0 2a
Contact arrangement		

Contact	1	0	2
3-4	X		
3-4			X

Contact	1	0	2
3-4	X		
3-4	X		
3-4			X
3-4			X

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED SELECTOR SWITCH
สวิตช์ลูกศรมีแลมป์ ชนิดหม้อแปลง IP65 IEC144
Ø22 / Ø25 / Ø30

The contact block of this series of switches is the tranformer type contact block. This series of switches come with transformers at secondary voltage of 5V and (6V) incandescent used.

MODEL DESIGNASION

TN2 TS 1 1 R - 1 A
1 2 3 4 5 6 7

Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	TS	Knob Operator
	TH	Lever Operator
3.Positions	1	 90˚x 2 3 Position
	2	 90˚x 2 Position
	3	 90˚x 2 Position Spring return from right
	4	 45˚x 2 3 Position
	5	 45˚x 2 3 Position Spring return from right
	6	 45˚x 2 3 Position Spring return from left
	7	 45˚x 2 3 Position 2 Way Spring return

Designation	Signal	Description	
4.Voltage	1	110V AC (Neon LED Bulb)	
	2	220V AC (Neon LED Bulb)	
	3	380V AC (Neon Bulb)	
	4	440V AC (Neon Bulb)	
5.Lens color	R	Red	
	G	Green	
	O	Orange	
	W	White	
	BL	Blue	
6.No. of contacts fitted	1	1	
	2	2	
7.No. of contacts block fitted		2-Positions	3-Positions
	A	1a(1NO)	-
	B	1b(1NC)	-
	C	1a1b(1NO 1NC)	1a 0 1a
	AB	1a+1b(1NO 1NC)	-

OPERATING HEAD DIMENSIONS

TN2TS สวิตช์ลูกศรมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



TN2TS-1A, 1B
TN2TS-2A
TN2TS-1AB

TN3TS สวิตช์ลูกศรมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.



TN3TS-1A, 1B
TN3TS-2A
TN3TS-1AB

TN2TH สวิตช์ลูกศรก้านยาวมีแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.



TN2TH-1A, 1B
TN2TH-2A
TN2TH-1AB

TN3TH สวิตช์ลูกศรก้านยาวมีแลมป์ ชนิดใช้หม้อแปลง 30 มม.

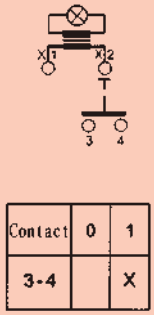
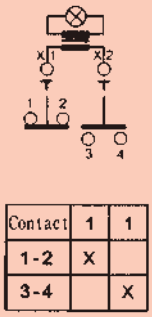
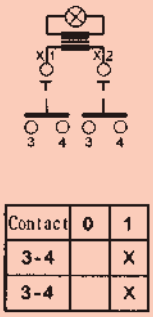
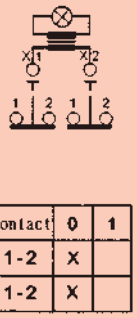
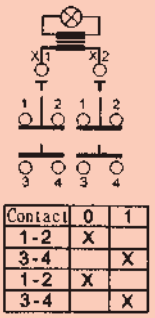


TN3TH-1A, 1B
TN3TH-2A
TN3TH-1AB

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED SELECTOR SWITCH
Ø22 / Ø25 / Ø30

ILLUMINATED SELECTOR SWITCH (TRANSFORMER) 2 - POSITIONS CONTACT ARRANGEMENT

Type	TN2-T1A	TN2-T1B	TN2-T1AB	TN2-T2A	TN2-T2B	TN2-T2C
Contact	1a	1b	1a + 1b	2a	2b	2a2b
Contact arrangement						

Contact	0	1
3-4		X

Contact	0	1
1-2	X	

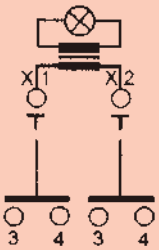
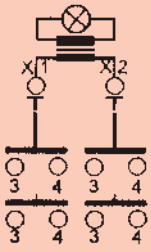
Contact	1	1
1-2	X	
3-4		X

Contact	0	1
3-4		X
3-4		X

Contact	0	1
1-2	X	
1-2	X	

Contact	0	1
1-2	X	
3-4		X
1-2	X	
3-4		X

ILLUMINATED SELECTOR SWITCH (TRANSFORMER) 3 - POSITIONS CONTACT ARRANGEMENT

Type	TN2-2A	TN2-4A
Contact	1a 0 1a	2a 0 2a
Contact arrangement		

Contact	1	0	2
3-4	X		
3-4			X

Contact	1	0	2
3-4	X		
3-4	X		
3-4			X
3-4			X

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PILOT LAMP
ไพล็อตแลมป์ ชนิดต่อตรง IP65
Ø22 / Ø25 / Ø30

The series of bulbs used are same as those for direct type illuminated push botton switch.

MODEL DESIGNASION

TN2 P 1 R N
1 2 3 4 5

Designation	Signal	Description
1. Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2. Type	P	Direct Power
	L	Simple (Screw Terminal in the rear)
	N	Simple (Screw Terminal in the side)
	D	Big LED

Designation	Signal	Description
3.Voltage	1	110V AC (Neon LED Bulb)
	2	220V AC (Neon LED Bulb)
	3	380V AC (Neon Bulb)
	4	440V AC (Neon Bulb)
	5	6V AC/ DC (Incandescent LED bulb)
	6	18V AC/ DC (Incandescent)
	7	24V AC/ DC (Incandescent LED bulb)
	8	30V AC/ DC (Incandescent LED bulb)
	9	12V AC/ DC (Incandescent)
4.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	B	Blue
5.Lamp	I	Incandescent
	N	Neon bulb
	L	LED bulb

PILOT LAMP (DIRECT POWER) DIMENSIONS

TN2P ไพล็อตแลมป์ ชนิดต่อตรง 22/25 มม.



TN2PI	หลอดธรรมดา
TN2PN	หลอดนีออน
TN2PL (R,O,G,W,BL)	หลอด LED

TN3P ไพล็อตแลมป์ ชนิดต่อตรง 30 มม.



TN3PI	หลอดธรรมดา
TN3PN	หลอดนีออน
TN3PL (R,O,G,W,BL)	หลอด LED

TN2L ไพล็อตแลมป์ ชนิดต่อตรง 22/25 มม.



TN2LI	หลอดธรรมดา
TN2LN	หลอดนีออน
TN2LL (R,O,G,W,BL)	หลอด LED

TN3L ไพล็อตแลมป์ ชนิดต่อตรง 30 มม.



TN3LI	หลอดธรรมดา
TN3LN	หลอดนีออน
TN3LL (R,O,G,W,BL)	หลอด LED

TN2N ไพล็อตแลมป์ ชนิดต่อตรง 22/25 มม.



TN2NI	หลอดธรรมดา
TN2NN	หลอดนีออน
TN2NL (R,O,G,W,BL)	หลอด LED

TN3N ไพล็อตแลมป์ ชนิดต่อตรง 30 มม.



TN3NI	หลอดธรรมดา
TN3NN	หลอดนีออน
TN3NL (R,O,G,W,BL)	หลอด LED

TN2D ไพล็อตแลมป์ ชนิดต่อตรง 22/25 มม.



TN2DL (R,O,G,W,BL)	หลอด LED

TN3D ไพล็อตแลมป์ ชนิดต่อตรง 30 มม.

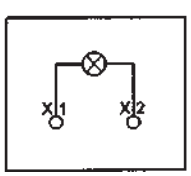


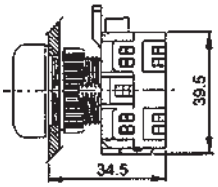
TN3DL (R,O,G,W,BL)	หลอด LED

LAMP HOLDER BLOCKS (DIRECT POWER) คอนแทคบ๊อก ไพล็อตแลมป์ ชนิดต่อตรง

TNPS-1







*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PILOT LAMP / JOY STICK
ไพล็อตแลมป์ ชนิดหม้อแปลง / สวิตช์เกียร์โยก IP65
Ø22 / Ø25 / Ø30

The series of pilot lamp are equipped with transformer at the secondary voltage of 5V and (6V) bulb used.

MODEL DESIGNASION

TN2 TP 1 R

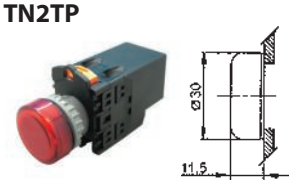
1 2 3 4

Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	TP	with transfoemer

Designation	Signal	Description
3.Voltage	1	110V/ 5V AC
	2	220V/ 5V AC
	3	380V/ 5V AC
	4	440V/ 5V AC
4.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

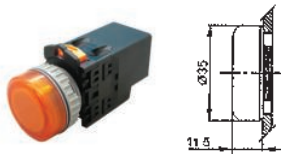
PILOT LAMP DIMENSIONS

TN2TP



ไพล็อตแลมป์ ชนิดใช้หม้อแปลง 22/25 มม.

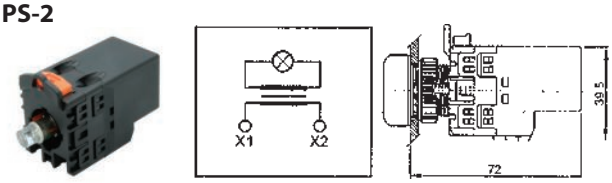
TN3TP



ไพล็อตแลมป์ ชนิดใช้หม้อแปลง 30 มม.

LAMP HOLDER BLOCKS (WITH TRANSFORMER)

TNPS-2



คอนแทคบ๊อก ไพล็อตแลมป์ ชนิดใช้หม้อแปลง

JOY STICK (TN2 Ø22 / Ø25 / Ø30)

MODEL DESIGNASION

TN2 MR 2 L - 2

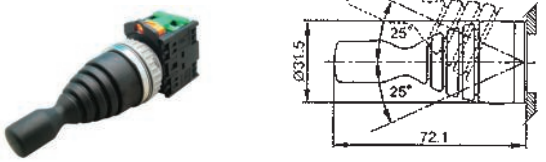
1 2 3 4 5

The contact block joystick will have printed marking UDLR for up, down, left, right direction.The contact block is only for joystick and can not be used in any other type of switches.

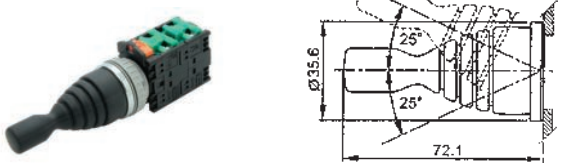
Designation	Signal	Description
1.Mounting hole	TN2	Ø22 mm / Ø25 mm
	TN3	Ø30 mm
2.Type	MR	Joystick
3.Direct	2	Up & down 2 directions up, down.
	4	Left & right 4 directions
4.Movement way	L	Retain
	R	Revert
5.No. of contact block	2	1a at up & down each
	4	2a at up & down or 1a at up,down, left,right
	8	2a at up & down,left & right

JOY STICK DIMENSIONS

TN2MR2 สวิตช์เกียร์โยก 22/26 มม.



TN3MR4 สวิตช์เกียร์โยก 30 มม.



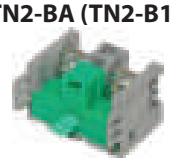
Type	Description	Price
TN2MR2L2	สวิตช์เกียร์โยก 2 ทิศทาง 22 มม.	1,705.-
TN2MR4L4	สวิตช์เกียร์โยก 4 ทิศทาง 22 มม.	1,890.-
TN2MR2R2	สวิตช์เกียร์โยก 2 ทิศทาง เด้งกลับเอง 22 มม.	1,710.-
TN2MR4R4	สวิตช์เกียร์โยก 4 ทิศทาง เด้งกลับเอง 22 มม.	1,890.-
TN2MR2L4	สวิตช์เกียร์โยก 2a ขึ้น-ลง	1,890.-
TN2MR2R4	สวิตช์เกียร์โยก 2a ขึ้น-ลง	1,890.-
TN2MR4L8	สวิตช์เกียร์โยก 4 ทิศทาง 2a ขึ้น-ลง	2,250.-
TN2MR4R8	สวิตช์เกียร์โยก 4 ทิศทาง 2a ขึ้น-ลง	2,250.-
TN3MR2L2	สวิตช์เกียร์โยก 2 ทิศทาง 30 มม.	1,720.-
TN3MR4L4	สวิตช์เกียร์โยก 4 ทิศทาง 30 มม.	1,910.-
TN3MR2R2	สวิตช์เกียร์โยก 2 ทิศทาง เด้งกลับเอง 30 มม.	1,720.-
TN3MR4R4	สวิตช์เกียร์โยก 4 ทิศทาง เด้งกลับเอง 30 มม.	1,910.-
TN3MR2L4	สวิตช์เกียร์โยก 2a ขึ้น-ลง	1,910.-
TN3MR2R4	สวิตช์เกียร์โยก 2a ขึ้น-ลง	1,910.-
TN3MR4L8	สวิตช์เกียร์โยก 4 ทิศทาง 2a ขึ้น-ลง	2,270.-
TN3MR4R8	สวิตช์เกียร์โยก 4 ทิศทาง 2a ขึ้น-ลง	2,270.-

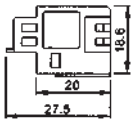
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend INSULATED ENCLOSURE
บ๊อกพลาสติก
Ø22 / Ø30

The mounting holes of this series of insulated enclosures are ø22 mm. Single-hole insulated enclosures are available in yellow and gray. All the others are in gray, the upper base and contact block are of exclusive type, which is different from those of ø22/ø30 series control components. The dimension and type of the upper base are same as those of ø22/ø30 series control components.

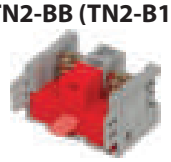
TN2-BA (TN2-B1A)

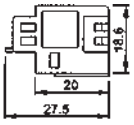




คอนแทคบ๊อกสวิตช์กด 1A (1NO) สำหรับใช้กับบ๊อกพลาสติก

TN2-BB (TN2-B1B)

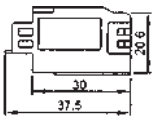




คอนแทคบ๊อกสวิตช์กด 1B (1NC) สำหรับใช้กับบ๊อกพลาสติก

TN2-BC (TN2-B1C) 1NO, 1NC





คอนแทคบ๊อกสวิตช์กด 1C (1NO,1NC) สำหรับใช้กับบ๊อกพลาสติก

THE ASSEMBLY OF INSULATED ENCLOURES AND SWITCH

1. Take apart the upper cover and the lower base of the insulated enclosure.
2. Fix the contact block on the lower base, and the upper base on the upper cover. (standard contact block needs underneath packing)
3. Connect the upper cover with the lower base into one kit.
   - The protection structure for this series of insulated enclosures is IP65 (IBC144).
   - All the illuminated switches used in the insulated enclosures are direct type.



NO 2TN2B104



NO 2TN2B105

ฐานเสริมสำหรับคอนแทคบ๊อก (ใช้กับบ๊อกพลาสติก)

NO 2TN2B104
สำหรับสวิตช์กดรุ่น TN ราคา 30 บาท

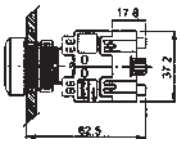
NO 2TN2B105
สำหรับสวิตช์กดรุ่น T2
ใช้กับบ๊อกรุ่น TN2 ราคา 25 บาท

STANDARD CONTACT BLOCK FOR INSULATED ENCLOSURES

TN2-B1ab/ TN2-B2a คอนแทคบ๊อกสวิตช์กดสำหรับใช้กับบ๊อกพลาสติก



TN2-B1ab (1NO+1NC)
TN2-B2a (2NO)
TN2-B2b (2NC)
TN2-B2c (2NO+2NC)

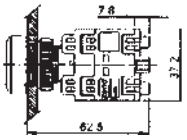


ILLUMINATED CONTACT BLOCK FOR INSULATED ENCLOSURES

TN2-BI1ab/ TN2-BI2a คอนแทคบ๊อกสวิตช์กดชนิดมีแลมป์สำหรับใช้กับบ๊อกพลาสติก



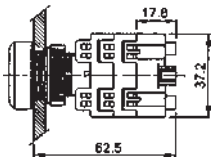
TN2-BI1ab (1NO+1NC)
TN2-BI2a (2NO)
TN2-BI2b (2NC)
TN2-BI1a (1NO)
TN2-BI1b (1NC)
TN2-BI1c (1NO, 1NC)
TN2-BI2c (2NO, 2NC)



LAMP HOLDER BLOCKS (FOR INSULATED ENCLOSURES)

TNPS-3 คอนแทคบ๊อกไพล็อตแลมป์สำหรับใช้กับบ๊อกพลาสติก



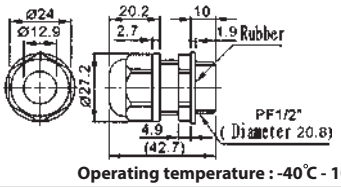


SERIES CABLE GLAND เคเบิ้ลแกลน

HPF-12 (TG-20)



Diameter of cables
: Ø7 - Ø12.5



Operating temperature : -40℃ - 100℃

INSULATED ENCLOSURES DIMENTIONS TN2 : Ø22 mm TN3 : Ø30 mm บ๊อกพลาสติก

TN2-B1	TN2-B2	TN2-B3	TN2-B4	TN2-B5
22 มม. 1 ช่อง	22 มม. 2 ช่อง	22 มม. 3 ช่อง	22 มม. 4 ช่อง	22 มม. 5 ช่อง
TN3-B1	**TN3-B2**	**TN3-B3**	**TN3-B4**	**TN3-B5**
30 มม. 1 ช่อง	30 มม. 2 ช่อง	30 มม. 3 ช่อง	30 มม. 4 ช่อง	30 มม. 5 ช่อง

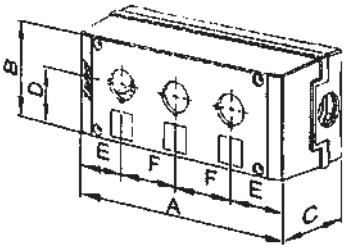


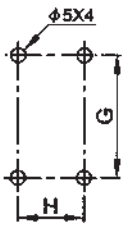












Type	A	B	C	D	E	F	G	H
TN2-B1 TN3-B1	82	75	67.3	43.5	41	-	63	54
TN2-B2 TN3-B2	127	75	67.3	43.5	41	45	108	54
TN2-B3 TN3-B3	172	75	67.3	43.5	41	45	153	54
TN2-B4 TN3-B4	217	75	67.3	43.5	41	45	198	54
TN2-B5 TN3-B5	262	75	67.3	43.5	41	45	243	54

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tend CONTROL STATION
กล่องคอนโทรล
Ø22 / Ø30

- The mounting hole of this series of insulated enclosures is 22. The illuminated push button and pilot lamp are all direct type.
- The insulated enclosures of mushroom-head and chain type push button are in yellow or gray. Others in gray.

ONE BUTTON MODEL DESIGNATION

TNB1 BF R 1 2 N
1 2 3 4 5 6

Designation	Signal	Description
1.NO. of button	TNB1	1 Button
2.Type	BF	Flat Head Push Button
	BL	Long Head Push Button
	BM	Mushroom Head Push Button
	BK	Push-Lock Push Button
	IF	Flat Head Illuminated Push Button
	IL	Long Head Illuminated Push Button
	IM	Mushroom Head Illuminated Push Button
	IK	Push-Lock Illuminated Push Button
	S2	Selector Switch (2 Positions)
	S3	Selector Switch (3 Positions)

Designation	Signal	Description
3.Lens color	R	Red
	G	Green
	B	Black
4.Name plate	1	OFF
	2	ON
	3	EM.STOP
	4	OFF - ON
	5	ON - OFF - ON
5.Voltage	1	110V AC
	2	220V AC
	3	380V AC
	4	440V AC
	5	6V AC/ DC
	6	18V AC/ DC
	7	24V AC/ DC
	8	30V AC/ DC
	9	12V AC/ DC
6.Bulb type	I	Incandescent
	N	Neon Bulb
	L	LED Bulb



สวิตช์กดหัวเรียบสีแดง
สวิตช์กดหัวเรียบสีแดงมีแลมป์

Type	Description	Contact	Spec
TN2B1-BFR1 1C	สวิตช์กดหัวเรียบสีแดง 22 มม.	1c	-
TN3B1-BFR1 1C	สวิตช์กดหัวเรียบสีแดง 30 มม.	1c	-
TN2B1-BFR1 1B	สวิตช์กดหัวเรียบสีแดง 22 มม.	1b	-
TN3B1-BFR1 1B	สวิตช์กดหัวเรียบสีแดง 30 มม.	1b	-
TN2B1-BFR1 2N1B	สวิตช์กดมีแลมป์หัวเรียบสีแดง 22 มม. 220V	1b	Neon
TN3B1-BFR1 2N1B	สวิตช์กดมีแลมป์หัวเรียบสีแดง 30 มม. 220V	1b	Neon
TN2B1-IFR11 TO 14	สวิตช์กดมีแลมป์หัวเรียบสีแดง 22 มม. 110,220,380,440V	1b	Neon
TN3B1-IFR11 TO 14	สวิตช์กดมีแลมป์หัวเรียบสีแดง 30 มม. 110,220,380,440V	1b	Neon
TN2B1-IFR15 TO 19	สวิตช์กดหัวเรียบสีแดง 22 มม. 6,12,18,24,30V	1b	Incandescent
TN3B1-IFR15 TO 19	สวิตช์กดหัวเรียบสีแดง 30 มม. 6,12,18,24,30V	1b	Incandescent



สวิตช์กดหัวเรียบสีเขียว
สวิตช์กดหัวเรียบสีเขียวมีแลมป์

Type	Description	Contact	Spec
TN2B1-BFG2 1C	สวิตช์กดหัวเรียบสีเขียว 22 มม.	1c	-
TN3B1-BFG2 1C	สวิตช์กดหัวเรียบสีเขียว 30 มม.	1c	-
TN2B1-BFG2 1A	สวิตช์กดหัวเรียบสีเขียว 22 มม.	1a	-
TN3B1-BFG2 1A	สวิตช์กดหัวเรียบสีเขียว 30 มม.	1a	-
TN2B1-IFG2 2N1A	สวิตช์กดมีแลมป์หัวเรียบสีเขียว 22 มม. 220V	1a	Neon
TN3B1-IFG2 2N1A	สวิตช์กดมีแลมป์หัวเรียบสีเขียว 30 มม. 220V	1a	Neon
TN2B1-IFG21 TO 24	สวิตช์กดมีแลมป์หัวเรียบสีเขียว 22 มม. 110,220,380,440V	1a	Neon
TN3B1-IFG21 TO 24	สวิตช์กดมีแลมป์หัวเรียบสีเขียว 30 มม. 110,220,380,440V	1a	Neon
TN2B1-IFG15 TO 29	สวิตช์กดหัวเรียบสีเขียว 22 มม. 6,12,18,24,30V	1a	Incandescent
TN3B1-IFG15 TO 29	สวิตช์กดหัวเรียบสีเขียว 30 มม. 6,12,18,24,30V	1a	Incandescent

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Ø22 / Ø30



สวิตช์กดหัวนูนสีแดง
สวิตช์กดหัวนูนสีแดงมีแลมป์

Type	Description	Contact	Spec
TN2B1-BLR1	สวิตช์กดหัวนูนสีแดง 22 มม.	1c	-
TN3B1-BLR1	สวิตช์กดหัวนูนสีแดง 30 มม.	1c	-
TN2B1-ILR11 to 14	สวิตช์กดมีแลมป์หัวนูนสีแดง 22 มม. 110,220,380,440V	1b	Neon
TN3B1-ILR11 to 14	สวิตช์กดมีแลมป์หัวนูนสีแดง 30 มม. 110,220,380,440V	1b	Neon
TN2B1-ILR15 to 19	สวิตช์กดมีแลมป์หัวนูนสีแดง 22 มม. 6,12,18,24,30V	1b	Incandescent
TN3B1-ILR15 to 19	สวิตช์กดมีแลมป์หัวนูนสีแดง 30 มม. 6,12,18,24,30V	1b	Incandescent



สวิตช์กดหัวนูนสีเขียว
สวิตช์กดหัวนูนสีเขียวมีแลมป์

Type	Description	Contact	Spec
TN2B1-BLG2	สวิตช์กดหัวนูนสีเขียว 22 มม.	1c	-
TN3B1-BLG2	สวิตช์กดหัวนูนสีเขียว 30 มม.	1c	-
TN2B1-BLG2 1A	สวิตช์กดหัวนูนสีเขียว 22 มม.	1a	-
TN3B1-BLG2 1A	สวิตช์กดหัวนูนสีเขียว 30 มม.	1a	-
TN2B1-ILG21 to 24	สวิตช์กดมีแลมป์หัวนูนสีเขียว 22 มม. 110,220,380,440V	1a	Neon
TN3B1-ILG21 to 24	สวิตช์กดมีแลมป์หัวนูนสีเขียว 30 มม. 110,220,380,440V	1a	Neon
TN2B1-ILG25 to 29	สวิตช์กดมีแลมป์หัวนูนสีเขียว 22 มม. 6,12,18,24,30V	1a	Incandescent
TN3B1-ILG25 to 29	สวิตช์กดมีแลมป์หัวนูนสีเขียว 30 มม. 6,12,18,24,30V	1a	Incandescent



สวิตช์กดหัวนูนสีแดง
สวิตช์กดหัวนูนสีแดงมีแลมป์

Type	Description	Contact	Spec
TN2B1-BMR3	สวิตช์กดหัวเห็ดสีแดง 22 มม.	1c	-
TN3B1-BMR3	สวิตช์กดหัวเห็ดสีแดง 30 มม.	1c	-
TN2B1-IMR3 2N1B	สวิตช์กดมีแลมป์หัวเห็ดสีแดง 22 มม. 220V	1b	Neon
TN3B1-IMR3 2N1B	สวิตช์กดมีแลมป์หัวเห็ดสีแดง 30 มม. 220V	1b	Neon
TN2B1-IMR31 to 34	สวิตช์กดมีแลมป์หัวเห็ดสีแดง 22 มม. 110,220,380,440V	1b	Neon
TN3B1-IMR31 to 34	สวิตช์กดมีแลมป์หัวเห็ดสีแดง 30 มม. 110,220,380,440V	1b	Neon
TN2B1-IMR35 to 39	สวิตช์กดมีแลมป์หัวเห็ดสีแดง 22 มม. 6,12,18,24,30V	1b	Incandescent
TN3B1-IMR35 to 39	สวิตช์กดมีแลมป์หัวเห็ดสีแดง 30 มม. 6,12,18,24,30V	1b	Incandescent



สวิตช์กดหัวนูนสีแดง
สวิตช์กดหัวนูนสีแดงมีแลมป์

Type	Description	Contact	Spec
TN2B1-BKR3	สวิตช์กดล็อคหัวเห็ดสีแดง 22 มม.	1c	-
TN3B1-BKR3	สวิตช์กดล็อคหัวเห็ดสีแดง 30 มม.	1c	-
TN2B1-IKR3 2N1B	สวิตช์กดล็อคมีแลมป์หัวเห็ดสีแดง 22 มม. 220V	1b	Neon
TN3B1-IKR3 2N1B	สวิตช์กดล็อคมีแลมป์หัวเห็ดสีแดง 30 มม. 220V	1b	Neon
TN2B1-IKR31 to 34	สวิตช์กดล็อคมีแลมป์หัวเห็ดสีแดง 22 มม. 110,220,380,440V	1b	Neon
TN3B1-IKR31 to 34	สวิตช์กดล็อคมีแลมป์หัวเห็ดสีแดง 30 มม. 110,220,380,440V	1b	Neon
TN2B1-IKR35 to 39	สวิตช์กดล็อคมีแลมป์หัวเห็ดสีแดง 22 มม. 6,12,18,24,30V	1b	Incandescent
TN3B1-IKR35 to 39	สวิตช์กดล็อคมีแลมป์หัวเห็ดสีแดง 30 มม. 6,12,18,24,30V	1b	Incandescent



สวิตช์ลูกศร

Type	Description	Contact	Spec
TN2B1-S2B4	สวิตช์ลูกศร ON - OFF 22 มม.	1c	-
TN3B1-S2B4	สวิตช์ลูกศร ON - OFF 30 มม.	1c	-



สวิตช์ลูกศร

Type	Description	Contact	Spec
TN2B1-S3B5	สวิตช์ลูกศร ON - OFF - ON 22 มม.	2a	-
TN3B1-S3B5	สวิตช์ลูกศร ON - OFF - ON 30 มม.	2a	-

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tend CONTROL STATION
กล่องคอนโทรล
Ø22 / Ø30

TWO BUTTONS



สวิตช์กดหัวเรียบ
สวิตช์กดหัวเรียบมีแลมป์

Type	Description	Name plate	Buttons	Voltages	Contact	Spec
TN2B2-BF	สวิตช์กดหัวเรียบ ON-OFF 22 มม.	ON - OFF	2 Flat Head Push Buttons	-	1c	-
TN3B2-BF	สวิตช์กดหัวเรียบ ON-OFF 30 มม.	ON - OFF	2 Flat Head Push Buttons	-	1c	-
TN2B2-IF2	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF 22 มม. 220V	ON - OFF	2 Flat Head Illuminated Push Buttons	220V AC	1a or 1b	Neon
TN3B2-IF2	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF 30 มม. 220V	ON - OFF	2 Flat Head Illuminated Push Buttons	220V AC	1a or 1b	Neon
TN2B2-IF7	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF 24 มม. 24V	ON - OFF	2 Flat Head Illuminated Push Buttons	24V	1a or 1b	Incandescent
TN3B2-IF7	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF 30 มม. 24V	ON - OFF	2 Flat Head Illuminated Push Buttons	24V	1a or 1b	Incandescent

THREE BUTTONS





สวิตช์กดหัวเรียบ
สวิตช์กดหัวเรียบมีแลมป์
สวิตช์กดหัวเรียบพร้อมไพล็อตแลมป์

Type	Description	Name plate	Buttons	Contact	Spec
TN2B3-BF	สวิตช์กดหัวเรียบ ON-OFF-ON 22 มม.	ON - OFF - ON	3 Flat Head Push Buttons	1c	-
TN3B3-BF	สวิตช์กดหัวเรียบ ON-OFF-ON 30 มม.	ON - OFF - ON	3 Flat Head Push Buttons	1c	-
TN2B3-IF2	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF-ON 22 มม. 220V	220 V ON - OFF - ON	3 Flat Head Illuminated Push Buttons	1a or 1b	Neon
TN3B3-IF2	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF-ON 30 มม. 220V	220 V ON - OFF - ON	3 Flat Head Illuminated Push Buttons	1a or 1b	Neon
TN2B3-IF7	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF-ON 24 มม. 24V	24 V ON - OFF - ON	3 Flat Head Illuminated Push Buttons	1a or 1b	Incandescent
TN3B3-IF7	สวิตช์กดมีแลมป์หัวเรียบ ON-OFF-ON 30 มม. 24V	24 V ON - OFF - ON	3 Flat Head Illuminated Push Buttons	1a or 1b	Incandescent
TN2B3-PF2	สวิตช์กดหัวเรียบพร้อมไพล็อตแลมป์ ON-OFF 22 มม. 220V	220 V ON - OFF	1 Pilot Lamp 2 Flat Head Push Buttons	1c	Neon
TN3B3-PF2	สวิตช์กดหัวเรียบพร้อมไพล็อตแลมป์ ON-OFF 30 มม. 220V	220 V ON - OFF	1 Pilot Lamp 2 Flat Head Push Buttons	1c	Neon
TN2B3-PF7	สวิตช์กดหัวเรียบพร้อมไพล็อตแลมป์ ON-OFF 22 มม. 24V	24 V ON - OFF	1 Pilot Lamp 2 Flat Head Push Buttons	1c	Incandescent
TN3B3-PF7	สวิตช์กดหัวเรียบพร้อมไพล็อตแลมป์ ON-OFF 30 มม. 24V	24 V ON - OFF	1 Pilot Lamp 2 Flat Head Push Buttons	1c	Incandescent

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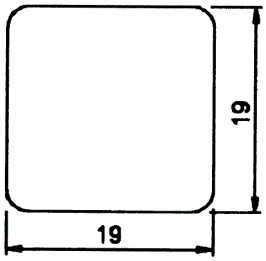
NAME PLATE
ป้ายชื่อ
Ø22 / Ø25 / Ø30

PLATES FOR ENCLOSURES

TBP



FOR ILLUMINATED PUSH BUTTON, PILOT LAMP

TBP-01	TBP-02	TBP-03	TBP-04	TBP-05	TBP-06	TBP-07	TBP-08	TBP-09	TBP-10
○	I	II	III	IV	ON	OFF	START	STOP	UP
TBP-11	**TBP-12**	**TBP-13**	**TBP-14**	**TBP-15**	**TBP-16**	**TBP-17**	**TBP-18**	**TBP-19**	**TBP-20**
DOWN	SOURCE	HAND	AUTO	RUN	FWD	REV	CLOSE	OPEN	FAST
TBP-21	**TBP-22**	**TBP-23**	**TBP-24**	**TBP-25**	**TBP-26**	**TBP-27**	**TBP-28**	**TBP-29**	**TBP-30**
SLOW	RESET	EM.STOP	12V	24V	30V	110V	220V	B	1
TBP-31	**TBP-32**	**TBP-33**	**TBP-34**	**TBP-35**	**TBP-36**	**TBP-37**	**TBP-38**	**TBP-39**	**TBP-40**
2	3	4	5	6	7	8	9	INCH	➡
TBP-41	**TBP-42**	**TBP-43**							
B1	B2	CLEAN							

FOR SELECTOR SWITCH

TBP-51	TBP-52	TBP-53	TBP-54	TBP-55	TBP-56	TBP-57	TBP-58	TBP-59	TBP-60
				ON OFF	ON ON	ON OFF ON	REV FWD	REV OFF FWD	AUTO HAND
TBP-61	**TBP-62**	**TBP-63**	**TBP-64**	**TBP-65**	**TBP-66**	**TBP-67**			
AUTO OFF HAND	START STOP	UP DOWN	UP OFF DOWN	1 2	1 0 2	1 2 3			

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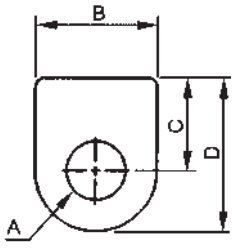
tend NAME PLATE
ป้ายชื่อ
Ø22 / Ø25 / Ø30

Ø22 / Ø25 / Ø30 LEGEND PLATES FOR OPERATING DEVICES, ALUMINUM (M) OR ACRYLIC (P)

TN22P (Acrylic 22)	TN22M (22 Aluminum)	TN25P (Acrylic 25)	TN25M (25 Aluminum)	TN30P (Acrylic 30)	TN30M (30 Aluminum)



	A	B	C	D
TN22P	Ø22.3	41	32	52.5
TN22M	Ø22.2	31	27	42
TN25P	Ø25.5	41	32	52.5
TN25M	Ø24.9	31	27	42
TN30P	Ø30.5	41	32	52.5
TP30M	Ø30.3	38.5	32.5	52

(ตัวว่างเปล่า) อะคริลิค

TN 22P, 25P, 30P - 01 ถึง 74
(มีตัวหนังสือ) อะคริลิค

TN 22M, 25M, 30M
อลูมิเนียม

01	02	03	04	05	06	07	08	09	10	11	12
ON	OFF	START	STOP	UP	DOWN	SOURCE	MANUEL	AUTO	RUN	FWD	REV

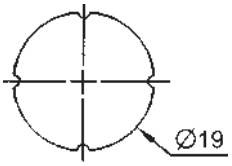
13	14	15	16	17	18	19
OFF ON	ON ON	ON OFF ON	FWD REV	FWD OFF REV	AUTO MANU	AUTO OFF MANU

20	21	22	00
STOP START	MANU OFF AUTO	1 0 2	CLEAN

71	42	73	74
O I	I II	I O II	I II III

BUTTON PLATES FOR Ø22 / Ø25 / Ø30 OPERATING DEVICES

TPP



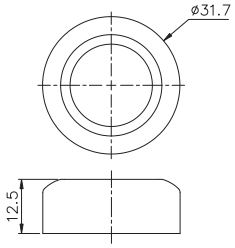
TPP-01	TPP-02	TPP-03	TPP-04	TPP-05	TPP-06	TPP-07	TPP-08	TPP-09	TPP-10	TPP-11
O	I	II	III	IV	ON	OFF	START	STOP	UP	DOWN
TPP-12	**TPP-13**	**TPP-14**	**TPP-15**	**TPP-16**	**TPP-17**	**TPP-18**	**TPP-19**	**TPP-20**	**TPP-21**	**TPP-22**
SOURCE	HAND	AUTO	RUN	FWD	REV	CLOSE	OPEN	FAST	SLOW	RESET
TPP-23	**TPP-24**	**TPP-25**	**TPP-26**	**TPP-27**	**TPP-28**	**TPP-29**	**TPP-30**	**TPP-31**	**TPP-32**	**TPP-33**
INCH	12V	24V	30V	110V	220V	B	1	2	3	4
TPP-34	**TPP-35**	**TPP-36**	**TPP-37**	**TPP-38**	**TPP-39**	**TPP-40**	**TPP-41**	**TPP-42**	**TPP-43**	
5	6	7	8	9	➡	B1	B2	B3	B4	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

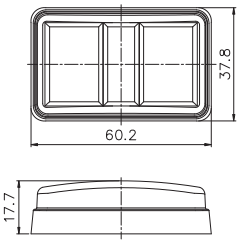
tend ACCESSORIES
อุปกรณ์เสริม
Ø22 / Ø25 / Ø30

TN2-BFW (TN2-BF/IF)
ฝาครอบกันน้ำใช้กับรุ่น TN2BF, TN2IF, T2BF, T2IF



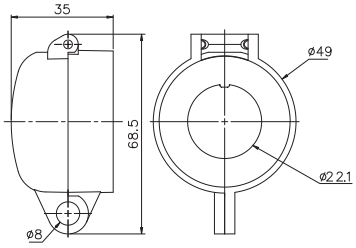


TN2-BTW (TN2-BT/IT)
ฝาครอบกันน้ำใช้กับสวิตช์กด ON - OFF
รุ่น TN2BT, TN2IT, T2BT, T2IT



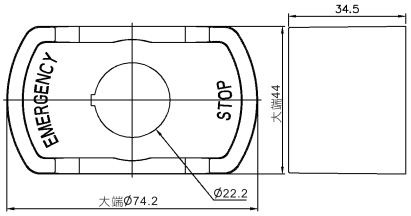
TN2GR ฝาครอบ ปิด-เปิด ได้ ใช้กับรุ่น TN2 และ T2
TN3GR ฝาครอบ ปิด-เปิด ได้ ใช้กับรุ่น TN3 และ T3





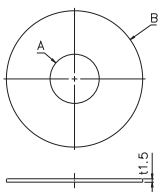
TN2-EA ไม่มีตัวหนังสือ
TN3-EB มีตัวหนังสือ
ใช้กับรุ่น TN2BK, TN2IK, TN2BK, T2IK





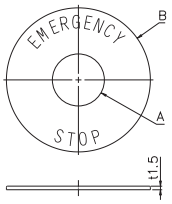
Ø22 / Ø25 / Ø30 แผ่นป้ายใช้กับสวิตช์กด ไพล็อตแลมป์

ชนิดไม่มีตัวหนังสือ



Model	-	A	B
TN22E-01	22	Ø22	Ø60
TN25E-01	25	Ø25	Ø60
TN30E-01	30	Ø30	Ø60
TN22EL-01	22	Ø22	Ø90
TN25EL-01	25	Ø25	Ø90
TN30EL-01	30	Ø30	Ø90

ชนิดมีตัวหนังสือ



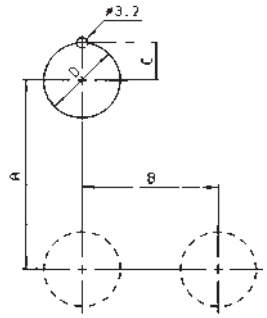
Model	-	A	B
TN22E-02	22 (STOP)	Ø22	Ø60
TN25E-02	25 (STOP)	Ø25	Ø60
TN30E-02	30 (STOP)	Ø30	Ø60
TN22EL-02	22 (STOP)	Ø22	Ø90
TN25EL-02	25 (STOP)	Ø25	Ø90
TN30EL-02	30 (STOP)	Ø30	Ø90

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SERIES CONTROL COMPONENT
IP65 IEC144
Ø22 / Ø25 / Ø30

The upper base and contact block of this series of control components are detachable. IP65 (IEC144) , The protection structure for this series except Twin-Touch push button (IP40), makes the components waterproof, oiltight, dustproof and suitable for use in worse environment.

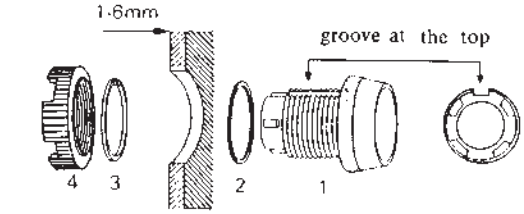
PANEL CUT-OUT (Ø22/ Ø25/ Ø30) SERIES

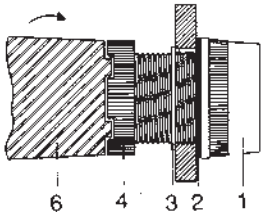


DIMENSIONS (mm)

Series		Ø22	Ø25	Ø30
C		11.1	12.7	15.2
D		22.2	25.5	30.5
A	Standard spacing (Round type, Square type)	45 min.	45 min.	45 min.
	Lever operator selector	50	50	50
	Twin-Touch push button	59	59	59
	Metal plate	45	45	50
B	Standard spacing (Round type, Square type)	30	30	40
	Lever operator selector	45	45	50
	Twin-Touch push button	36	36	36
	Metal plate	31	31	40
	Ø37 Mushroom	38	38	40

MOUNTING METHOD

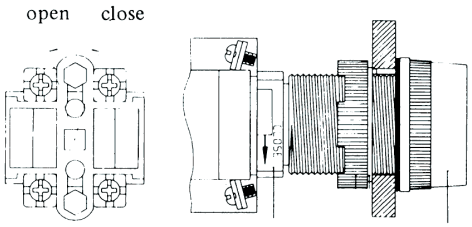




Place the upper base and rubber ring on the panel, thrust into the hole, put the stop ring inside the panel, aim at the upper base's and panel's fixing groove and press tight, then lock up the fixing ring.

1	2	3	4	5	6
upper base	rubber ring	stop ring	fixing ring	contact block	fixing instrument

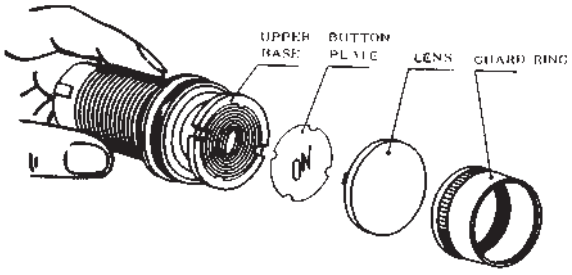
CONTACT BLOCK'S ASSEMBLY AND DISASSEMBLY



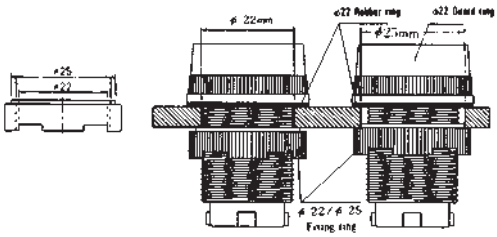
Put the contact block in the corresponding positions, one large the other small, on the upper base after the latter's fixed.Turn in the arrowed direction of "Close" and it's fixed. In disassembling,just turn in the arrowed direction of "OPEN"

INDICATION OF LETTERS AND SYMBOLS

- **Transparent printing pager**

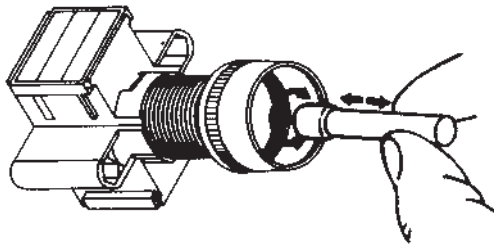


- **Ø22 mm/ Ø25 mm series are of same dimension and with common fixing ring**

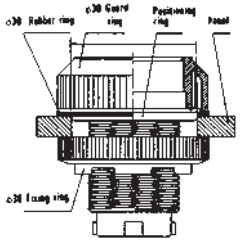


- **Method to replace lamp :**

Put the fixed-disassembling tool into the lamp,turn clockwise and the lamp is fixed.If counter-clockwise, the lamp is disassembling.



- **The assembly method for Ø30 mm series**



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SERIES CONTROL COMPONENT

IP65 IEC144

Ø22 / Ø25 / Ø30

CONTACT RATING

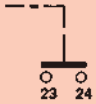
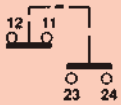
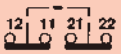
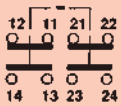
		AC125V	AC250V	AC440V	AC600V
AC	Inductive load	6 A	4 A	2 A	1 A
	Resistive load	10 A	6 A	4 A	1.5 A

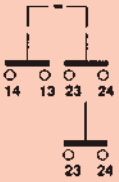
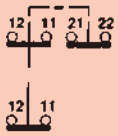
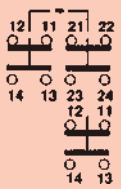
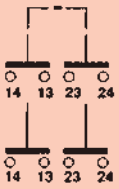
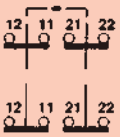
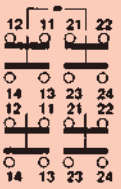
		DC125	DC250	DC380
DC	Inductive load	0.5 A	0.2 A	0.1 A
	Resistive load	2 A	0.6 A	0.2 A

CHARACTERISTICS

Ambient temperature	-20˚C ~ +60˚C	
Humidity	45 - 85 % RH	
Contact resistance	50 mΩ max. (initial value)	
Insulation resistance	100 MΩ min. (at 500V DC)	
Dielectric strength	2,500V AC, 50/60 Hz for 1 minute	
Service life	Mechanically	Push Button / Illuminated Push Botton (Momentary) 3,000,000 Other 500,000
	Electrically	500,000 operations

STANDARD CONTACT BLOCKS

Type	TC-1A	TC-1B	TC-1C	TC-2A	TC-2B	TC-2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						

Type	TC-3A	TC-3B	TC-3C	TC-4A	TC-4B	TC-4C
Contact	3a	3b	3a3b	4a	4b	4a4b
Contact arrangement						

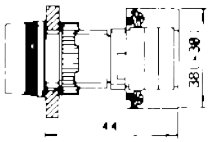
STANDARD TYPE OF CONTACT BLOCK AND ASSEMBLY METHOD

Short contact block is available in 1a, 1b, 1a1b, 2a and 2b. The contact may be increased to 2a2b by replacing the short block with the long one. If more contacts are needed, just add the short one to the long one (The short one is not designed for being added by other block at its rear end). 3a, 3b, 3a3b, 4a and 4b will be available with one-long-one-short blocks. By replacing the short block with another long one and becoming two-long blocks, 4a4b will be obtainable.

STANDARD CONTACT BLOCK DIMENSIONS คอนแทคบ๊อกสำหรับสวิตช์กด

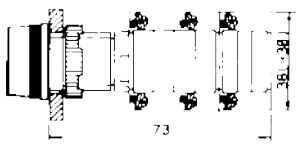
TC-1A, TC-1B, TC-1C, TC-2A, TC-2B





TC-3A, TC-3B, TC-3C, TC-4A, TC-4B

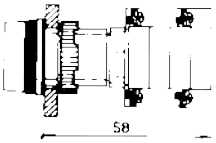




M3x44 SCREW 2PCS
M3NUT 2PCS

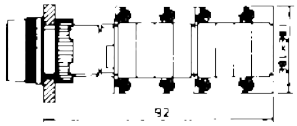
TC-2C





TC-4C





M3x44 SCREW 2PCS
M3NUT 2PCS

tend PUSH BUTTON SWITCH
สวิตช์กด IP65 IEC144
Ø22 / Ø25 / Ø30

The contact block of this series of switches is standard.

MODEL DESIGNATION

T2 BF R R - 1 C
1 2 3 4 5 6

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	BF	Flat head
	BL	Long head
	BM	Mushroom head
	BA	Long head (Alternate)
	BB	Mushroom head (Alternate)
	BK	Push-Lock
	BT	Twin-Touch
	PB	Simple

Designation	Signal	Description
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Lens color	R	Red
	G	Green
	Y	Yellow
	W	White
	B	Black
	BL	Blue
5.No. of contact blocks fitted	1 - 4	1-4
6.Type of contact blocks fitted	A	1a(1NO)
	B	1b(1NC)
	C	1a1b(1NO 1NC)

1 The upper base and contact block in simple type are of one unit, available with 1a1b contact, ø22 mm /ø25 mm fixing hole, round type only.
2 The mounting holes of square series are Ø22 mm / Ø25 mm available.
3 Twin-Touch Push Button is available with rectangular shape.

OPERATING HEAD DIMENSIONS

T2BFR สวิตช์กดหัวเรียบ 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BFR สวิตช์กดหัวเรียบ 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BLR สวิตช์กดหัวนูน 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BLR สวิตช์กดหัวนูน 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BMR สวิตช์กดดอกเห็ด 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BMR สวิตช์กดดอกเห็ด 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BAR สวิตช์กดจมหัวนูน 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BAR สวิตช์กดจมหัวนูน 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend PUSH BUTTON SWITCH

สวิตช์กด IP65 IEC144

Ø22 / Ø25 / Ø30

T2BBR สวิตช์กดจมดอกเห็ด 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BBR สวิตช์กดจมดอกเห็ด 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BKR สวิตช์กดล็อคดอกเห็ด 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BKR สวิตช์กดล็อคดอกเห็ด 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BTL สวิตช์กดปิด-เปิด 22/25 มม. (ยกเว้นไม่กันน้ำ)



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T3BTL สวิตช์กดปิด-เปิด 30 มม. (ยกเว้นไม่กันน้ำ)



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BFS สวิตช์กดหัวเรียบ 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BLS สวิตช์กดหัวเรียบ 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BMS สวิตช์กดดอกเห็ด 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BAS สวิตช์กดดอกเห็ด 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2BBS สวิตช์กดจมดอกเห็ด 22/25 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

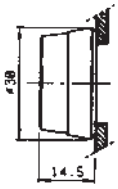
T2BKS สวิตช์กดจมดอกเห็ด 30 มม.



1a, 1b, 1a1b, 2a, 2b
3a, 3b, 3a3b, 4a, 4b
2a2b
4a4b

T2PB สวิตช์กดหัวเรียบ 22/25 มม.





TN2-BTW ฝาครอบกันน้ำ

Waterproof cap for twin touch push botton switch for T2BTL, T3BTL

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED PUSH BUTTON SWITCH

สวิตช์กดมีแลมป์ ชนิดต่อตรง IP65 IEC144

Ø22 / Ø25 / Ø30

BULB TYPE AND CHARACTERISTICS

- BA9S-11x2 mm 1.2W max.
- NEON BULB



Type	Voltage	Lamp color	Lens color
2S-9-110R	110V AC	Red	Red lamps for use with red, orange white lens green lamps for use with green, blue lens.
2S-9-110G		Green	
2S-9-220R	220V AC	Red	
2S-9-220G		Green	
2S-9-380R	380V AC	Red	
2S-9-380G		Green	

- INCAN BULB

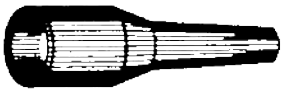


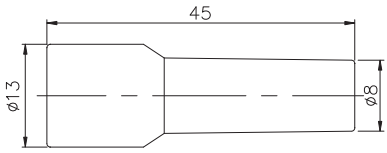
Type	Voltage
2S-9-6.3	6V
2S-9-18	18V
2S-9-30	30V
2S-9-12	12V

BULB EXTRATOR

T2-A







MODEL DESIGNATION

T2 IF R 1 R - 1 C
1 2 3 4 5 6 7

Designation	Signal	Description
1.Mounting hole	T2	Ø22mm/ Ø25 mm
	T3	Ø30 mm
2.Type	IF	Flat Head
	IL	Long Head
	IM	Mushroom Head
	IA	Long Head (Alternate)
	IB	Mushroom Head (Alternate)
	IK	Push-Lock
	IT	Twin-Lock
3.Shape	R	Round
	S	Square
	L	Rectangular

1. The mounting holes of square series are ø22 mm / ø25 mm available.
2. Twin-Touch illuminated push button is available with rectangular shaper, various colors, and transparent.

Designation	Signal	Description
4.Voltage	1	110 V AC (Neon Bulb)
	2	220 V AC (Neon Bulb)
	3	380 V AC (Neon Bulb)
	4	440 V AC (Neon Bulb)
	5	6 V AC (Neon Bulb)
	6	18 V AC (Neon Bulb)
	7	24 V AC (Neon Bulb)
	8	30 V AC (Neon Bulb)
	9	12 V AC (Neon Bulb)
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
6.No. of contacts blocks fitted	1 - 3	1-3
7.Type of contacts blocks fitted	A	1a(1NO)
	B	1b(1NC)
	C	1a1b(1NO 1NC)

OPERATING HEAD DIMENSIONS

T2IFR สวิตช์กดมีไพล็อตแลมป์ - หัวเรียบ 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3IFR สวิตช์กดมีไพล็อตแลมป์ - หัวเรียบ 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED PUSH BUTTON SWITCH

สวิตช์กดมีแลมป์ ชนิดต่อตรง IP65 IEC144

Ø22 / Ø25 / Ø30

T2ILR สวิตช์กดมีไพล็อตแลมป์-หัวนูน 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3ILR สวิตช์กดมีไพล็อตแลมป์-หัวนูน 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IMR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ด 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3IMR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ด 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IAR สวิตช์กดมีไพล็อตแลมป์หัวนูนกดจม 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3IAR สวิตช์กดมีไพล็อตแลมป์หัวนูนกดจม 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IBR สวิตช์กดมีไพล็อตแลมป์ดอกเห็ดกดจม 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3IBR สวิตช์กดมีไพล็อตแลมป์ดอกเห็ดกดจม 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IKR สวิตช์กดมีไพล็อตแลมป์ดอกเห็ดกดล็อค 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3IKR สวิตช์กดมีไพล็อตแลมป์ดอกเห็ดกดล็อค 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2ITL สวิตช์กดปิด-เปิดมีไพล็อตแลมป์ 22/25 มม. (ยกเว้นรุ่นนี้ IP 40 ไม่กันน้ำ)



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T3ITL สวิตช์กดปิด-เปิดมีไพล็อตแลมป์ 30 มม. (ยกเว้นรุ่นนี้ IP 40 ไม่กันน้ำ)



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IFS สวิตช์กดมีไพล็อตแลมป์หัวเรียบ 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2ILS สวิตช์กดมีไพล็อตแลมป์หัวเรียบ 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IMS สวิตช์กดดอกเห็ดมีไพล็อตแลมป์ 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

T2IAS สวิตช์กดดอกเห็ดมีไพล็อตแลมป์ 30 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

TN2-BTW ฝาครอบกันน้ำ
Waterproof cap for twin touch push botton switch for T2BTL, T3BTL

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ ชนิดต่อตรง IP65 IEC144
Ø22 / Ø25 / Ø30

T2IBS สวิตช์กดมีไพล็อตแลมป์ดอกเห็ดจม 22/25 มม.



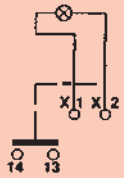
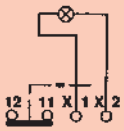
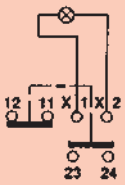
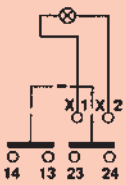
1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

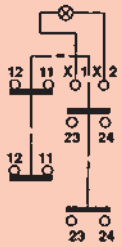
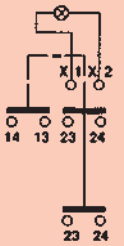
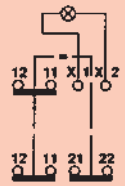
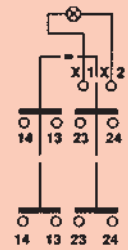
T2IKS สวิตช์กดมีไพล็อตแลมป์ดอกเห็ดล็อค 22/25 มม.



1a, 1b, 1a1b, 2a
3a, 3b, 2a2b, 4a
3a3b

■ ILLUMINATED PUSH BOTTON (DIRECT POWER) CONTACT BLOCKS

Type	TC-I1A	TC-I1B	TC-I1C	TC-I2A
Contact	1a	1b	1a1b	2a
Contact arrangement				

Type	TC-I2C	TC-I3A	TC-I3B	TC-I4A	TC-I3C
Contact	2a2b	3a	3b	4a	3a3b
Contact arrangement					

■ TYPE OF ILLUMINATED (DIRECT POWER) CONTACT BLOCK AND ASSEMBLY METHOD

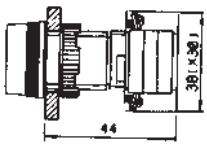
Short contact block is available in 1a, 1b. Long contact block is available in 1a1b, 2a. If more contact are needed, just add the short one to the long one (The short one is not designed for being added by other block at its rear end), 2b, 2a2b, 3a, 3b, 4a will be available with one-long-one-short blocks. By replacing the short block with another long one and becoming two-long blocks, 3a3b. will be obtainable.

■ ILLUMINATED PUSH BOTTON (DIRECT POWER) CONTACT BLOCK DIMENSIONS

คอนแทคบ๊อก สำหรับสวิตช์กดมีไพล็อตแลมป์ในตัว (ชนิดต่อตรง)

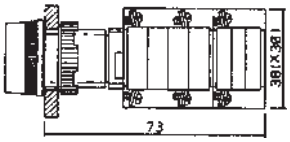
TC-I1A, TC-I1B





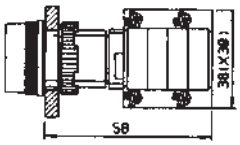
TC-I3A, TC-I3B, TC-I2C, TC-I4A





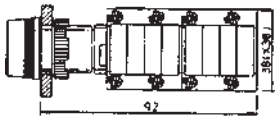
TC-I1C, TC-I2A, TC-I2B





TC-I3C





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED PUSH BUTTON SWITCH

สวิตช์กดมีแลมป์ ชนิดหม้อแปลง IP65 IEC144

Ø22 / Ø25 / Ø30

This series of switches are equipped with transformers at the secondary voltage of 5V and TS9-5 (6V) bulb used.

MODEL DESIGNATION

T2 TF R 1 R - 1 C
1 2 3 4 5 6 7

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	TF	Flat head
	TL	Long head
	TM	Mushroom head
	TA	Long head (Alternate)
	TB	Mushroom head (Alternate)
	TK	Push-Lock
	TT	Twin-Touch
3.Shape	R	Round
	S	Square
	L	Rectangular

Designation	Signal	Description
4.Voltage (50Hz~60Hz)	1	110/ 5V AC
	2	220/ 5V AC
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
6.No. of contacts blocks fitted	1 - 2	1-2
7.Type of contacts blocks fitted	A	1a(1NO)
	B	1b(1NC)
	C	1a1b(1NO 1NC)

1. The mounting holes of square series are ø22 mm / ø25 mm available.
2. Twin-Touch illuminated push button is available with rectangular shape, various colors, and transparent.
3. The voltages of illuminated push button are 110/5V AC and 220/5V AC.

TYPE OF ILLUMINATED CONTACT BLOCK AND ASSEMBLY METHOD

Long or short contact block is same as standard one. After disassembling the transformer base, the assembly method of contact block is same as that of standard type.

OPERATING HEAD DIMENSIONS

T2TFR สวิตช์กดมีไพล็อตแลมป์-หัวเรียบ 22/25 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T3TFR สวิตช์กดมีไพล็อตแลมป์-หัวเรียบ 30 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T2TLR สวิตช์กดมีไพล็อตแลมป์-หัวนูน 22/25 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T3TLR สวิตช์กดมีไพล็อตแลมป์-หัวนูน 30 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T2TMR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ด 22/25 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T3TMR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ด 30 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T2TAR สวิตช์กดมีไพล็อตแลมป์-หัวนูนกดจม 22/25 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

T3TAR สวิตช์กดมีไพล็อตแลมป์-หัวนูนกดจม 30 มม. 380V, 220V



1a,1b,1a1b, 2a,2b
2a2b

tend ILLUMINATED PUSH BUTTON SWITCH

สวิตช์กดมีแลมป์ ชนิดหม้อแปลง IP65 IEC144

Ø22 / Ø25 / Ø30

T2TBR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ดกดจม 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T3TBR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ดกดจม 30 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TKR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ดกดล็อค 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T3TKR สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ดกดล็อค 30 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TTL สวิตช์กดเปิด-ปิดมีไพล็อตแลมป์ 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

ยกเว้นรุ่นนี้เป็น IP40

T3TTL สวิตช์กดเปิด-ปิดมีไพล็อตแลมป์ 30 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

ยกเว้นรุ่นนี้เป็น IP40

T2TFS สวิตช์กดมีไพล็อตแลมป์-หัวเรียบ 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TLS สวิตช์กดมีไพล็อตแลมป์-หัวนูน 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TMS สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ด 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TAS สวิตช์กดมีไพล็อตแลมป์-หัวนูนกดจม 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TBS สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ดกดจม 22/25 มม. 380V,220V



1a,1b,1a1b, 2a,2b
2a2b

T2TKS สวิตช์กดมีไพล็อตแลมป์-ดอกเห็ดกดล็อค 22/25 มม. 380V,220V



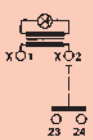
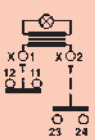
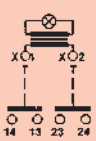
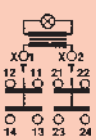
1a,1b,1a1b, 2a,2b
2a2b

TN2-BTW ฝาครอบกันน้ำ

Waterproof cap for twin touch push botton switch for T2BTL, T3BTL

ILLUMINATED PUSH BOTTON CONTACT BLOCKS (WITH TRANSFORMER) DIMENSIONS

คอนแท็คบ๊อก สำหรับสวิตช์มีไพล็อตแลมป์ (ชนิดหม้อแปลง)

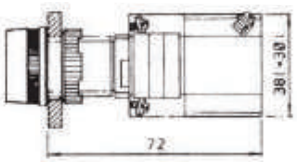
Type	TC-T1A	TC-T1B	TC-T1C	TC-T2A	TC-T2B	TC-T2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						

ILLUMINATED PUSH BOTTON CONTACT BLOCKS (WITH TRANSFORMER) DIMENSIONS

คอนแท็คบ๊อก สำหรับสวิตช์มีไพล็อตแลมป์ (ชนิดหม้อแปลง)

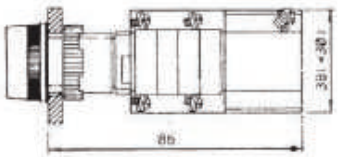
TC-T1A, TC-T1B, TC-1C,TC-T2A, TC-T2B, TC-T1C





TC-T2C





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

SELECTOR SWITCH / KEY SWITCH
สวิตช์ลูกศร / สวิตช์กุญแจ IP65 IEC144
Ø22 / Ø25 / Ø30

The contact block of this series of switches is standard.

MODEL DESIGNATION

T2 SS R 1 1 R - 1 C
1 2 3 4 5 6 7 8

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	SS	Knob Operator
	SH	Lever Operator
	KS	Key Operator
3.Shape	R	Round
	S	Square
4.Positions	1	45°x 2 Position
	2	90°x 2 Position
	3	45°x 2 Position Spring return from right
	4	45°x 2 3 Position
	5	45°x 2 3 Position Spring return from right
	6	45°x 2 3 Position Spring return from left
	7	45°x 2 3 Position 2 Way Spring return

Designation	Signal		Description
5.Key withdrawable	1	2 Positions (0 1)	0.1 Key with-drawable
	2		0 Key with-drawable
	3		1 Key with-drawable
	4	3 Positions (1 0 2)	0.1.2 Key with-drawable
	5		0 Key with-drawable
6.Lens color	R		Red
	G		Green
	B		Black
7.No. of contacts fitted	1-4		1-4

8.Type of contact blocks fitted		2-Positions	3-Positions
	A	1a(1NO)	-
	B	1b(1NC)	-
	C	1a1b(1NO 1NC)	1a 0 1a

OPERATING HEAD DIMENSIONS

T2SSR สวิตช์ลูกศร 22/25 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3SSR สวิตช์ลูกศร 30 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2SHR สวิตช์ลูกศร 22/25 มม. ก้านยาว



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3SHR สวิตช์ลูกศร 30 มม. ก้านยาว



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2KSR สวิตช์กุญแจ 22/25 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3KSR สวิตช์กุญแจ 30 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2SSS สวิตช์ลูกศร-หัวเหลี่ยม 22/25 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2SHS สวิตช์ลูกศร-หัวเหลี่ยม 22/25 มม. ก้านยาว



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

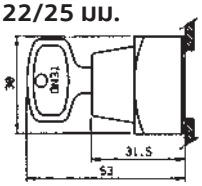
KEY SWITCH / ILLUMINATED SELECTOR SWITCH

สวิตช์กุญแจ / สวิตช์ลูกศรมีแลมป์ IP65 IEC144

Ø22 / Ø25 / Ø30

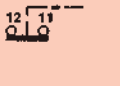
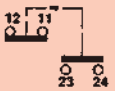
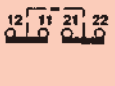
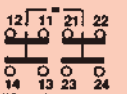
T2KSS สวิตช์กุญแจหัวเหลี่ยม 22/25 มม.



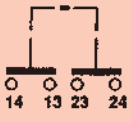
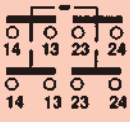


2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

SELECTOR SWITCH 2-POSITIONS CONTACT ARRANGEMENT

Type	TC-1A	TC-1B	TC-1C2	TC-2A	TC-2B	TC-2C2
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						
	Contact 0 1 23-24 x	Contact 0 1 11-12 x	Contact 0 1 11-12 x 23-24 x	Contact 0 1 13-14 x 23-24 x	Contact 0 1 11-12 x 21-22 x	Contact 0 1 11-12 x 13-14 x 21-22 x 23-24 x

SELECTOR SWITCH 3-POSITIONS CONTACT ARRANGEMENT

Type	TC-1C3	TC-2C3
Contact	1a 0 1a	2a 0 2a
Contact arrangement	 Contact 1 0 2 13-14 x 23-24 x	 Contact 1 0 2 13-14 x 13-14 x 23-24 x 23-24 x

ILLUMINATED SELECT SWITCH (Ø22 / Ø25 / Ø30 Direct Power)

ชนิดกันน้ำ,กันน้ำมัน,กันฝุ่น IP65 IEC144 ISO 9002

สวิตช์ลูกศรมีไพล็อตแลมป์ (ชนิดต่อตรง)

The contact block of this series of switches is illuminated type.
This type and specification of bulb used are same as those for direct type illuminated push buuton switch.

MODEL DESIGNATION

T2 IS R 1 1 R - 1 C
1 2 3 4 5 6 7 8

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	IS	Knob Operator
	IH	Lever Operator
3.Shape	R	Round
	S	Square
4.Positions	1	 45°x 2 Position
	2	 90°x 2 Position
	3	 45°x 2 Position Spring return from right
	4	 45°x 2 3 Position
	5	 45°x 2 3 Position Spring return from right
	6	 45°x 2 3 Position Spring return from left
	7	 45°x 2 3 Position 2 Way Spring return

Designation	Signal	Description
5.Voltage	1	110V AC (Neon bulb)
	2	220V AC (Neon bulb)
	3	380V AC (Neon bulb)
	4	440V AC (Neon bulb)
	5	6V AC (Filament bulb)
	6	18V AC (Filament bulb)
	7	24V AC (Filament bulb)
	8	30V AC (Filament bulb)
	9	12V AC (Filament bulb)
6.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
7.No. of contacts fitted	1-3	1-3
8.Type of contact blocks fitted		2-Positions / 3-Positions
	A	1a(1NO) / -
	B	1b(1NC) / -
	C	1a1b(1NO 1NC) / 1a 0 1a

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED SELECTOR SWITCH

สวิตช์ลูกศรมีแลมป์ ชนิดต่อตรง IP65 IEC144

Ø22 / Ø25 / Ø30

OPERATING HEAD DIMENSIONS

T2ISR สวิตช์ลูกศรมีไพล็อตแลมป์ 22/25 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3ISR สวิตช์ลูกศรมีไพล็อตแลมป์ 30 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2IHR สวิตช์ลูกศรมีไพล็อตแลมป์-ก้านยาว 22/25 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3IHR สวิตช์ลูกศรมีไพล็อตแลมป์-ก้านยาว 30 มม.



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2ISS สวิตช์ลูกศรมีไพล็อตแลมป์-หัวเหลี่ยม 22/25 มม.



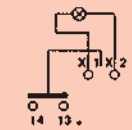
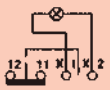
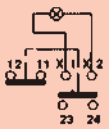
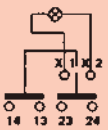
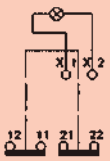
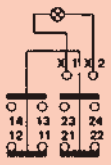
2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2IHS สวิตช์ลูกศรมีไพล็อตแลมป์-หัวเหลี่ยม-ก้านยาว 22/25 มม.

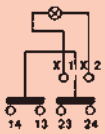


2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

ILLUMINATED SELECTOR SWITCH (DIRECT POWER) 2-POSITIONS CONTACT ARRANGEMENT

Type	TC-I1A	TC-I1B	TC-I1C	TC-I2A	TC-I2B	TC-I2C2
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						
	Contact 0 1 13-14 x	Contact 0 1 11-12 x	Contact 0 1 11-12 x 23-24 x	Contact 0 1 13-14 x 23-24 x	Contact 0 1 11-12 x 21-22 x	Contact 0 1 11-12 x 13-14 x 21-22 x 23-24 x

ILLUMINATED SELECTOR SWITCH (DIRECT POWER) 3-POSITIONS CONTACT ARRANGEMENT

Type	TC-I1C3	TC-I2C3
Contact	1a 0 1a	2a 0 2a
Contact arrangement	 Contact 1 0 2 13-14 x 23-24 x	 Contact 1 0 2 13-14 x 13-14 x 23-24 x 23-24 x

หมายเหตุ : หากต้องการเปลี่ยนเป็นหลอด LED ต้องเพิ่มราคาอีกตัวละ 45 บาท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED SELECTOR SWITCH

สวิตช์ลูกศรมีแลมป์ ชนิดหม้อแปลง IP65 IEC144

Ø22 / Ø25 / Ø30

The contact block of this series of switches is standard.
This series of switches are equipped with transformers at the secondary voltage of 5V and TS9-5(6V) bulb used.

MODEL DESIGNATION

T2	TS	R	1	1	R	-	1	C
1	2	3	4	5	6		7	8

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	TS	Knob Operator
	TH	Lever Operator
3.Shape	R	Round
	S	Square
4.Positions	1	 45°x 2 Position
	2	 90°x 2 Position
	3	 45°x 2 Position Spring return from right
	4	 45°x 2 3 Position
	5	 45°x 2 3 Position Spring return from right
	6	 45°x 2 3 Position Spring return from left
	7	 45°x 2 3 Position 2 Way Spring return

Designation	Signal	Description	
5.Voltage (50-60Hz)	1	110V AC / 5V AC	
	2	220V AC / 5V AC	
6.Lens color	R	Red	
	G	Green	
	O	Orange	
	W	White	
	BL	Blue	
7.No. of contacts fitted	1-2	1-2	
8.Type of contact blocks fitted		2 Positions	3 Positions
	A	1a(1NO)	-
	B	1b(1NC)	-
	C	1a1b(1NO 1NC)	1a 01a

• The mounting holes of square series are ø22 mm /ø25 mm available.

OPERATING HEAD DIMENSIONS

T2TSR สวิตช์ลูกศรมีไพล็อตแลมป์ 22/25 มม. 380V,220V



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3TSR สวิตช์ลูกศรมีไพล็อตแลมป์ 30 มม. 380V,220V



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2THR สวิตช์ลูกศรมีไพล็อตแลมป์-ก้านยาว 22/25 มม. 380V,220V



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T3THR สวิตช์ลูกศรมีไพล็อตแลมป์-ก้านยาว 30 มม. 380V,220V



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2TSS สวิตช์ลูกศรมีไพล็อตแลมป์-หัวเหลี่ยม 22/25 มม. 380V,220V



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

T2THS สวิตช์ลูกศรมีไพล็อตแลมป์-หัวเหลี่ยม-ก้านยาว 30 มม. 380V,220V



2 Positions	1a,1b,1a1b, 2a,2b
2 Positions	2a2b
3 Positions	1a 0 1a
3 Positions	2a 0 2a

หมายเหตุ : หากต้องการเปลี่ยนเป็นหลอด LED ต้องเพิ่มราคาอีกตัวละ 45 บาท

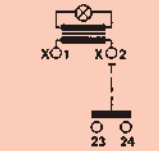
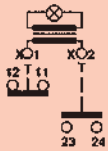
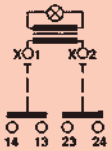
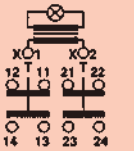
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED SELECTOR SWITCH / PILOT LAMP PUSH BUTTON

สวิตช์ลูกศรมีแลมป์ ชนิดหม้อแปลง / ไพล็อตแลมป์ IP65 IEC144

Ø22 / Ø25 / Ø30

ILLUMINATED SELECTOR SWITCH (TRANSFORMER) 2-POSITIONS CONTACT ARRANGEMENT

Type	TC-T1A	TC-T1B	TC-T1C2	TC-T2A	TC-T2B	TC-T2C2
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact arrangement						

Contact	0	1
23-24		x

Contact	0	1
11-12	x	

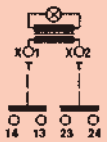
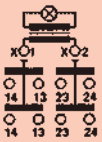
Contact	0	1
11-12	x	
23-24		x

Contact	0	1
13-14		x
23-24		x

Contact	0	1
11-12	x	
21-22	x	

Contact	0	1
11-12	x	
13-14		x
21-22	x	
23-24		x

ILLUMINATED SELECTOR SWITCH (DIRECT POWER) 3-POSITIONS CONTACT ARRANGEMENT

Type	TC-T1C3	TC-T2C3
Contact	1a 0 1a	2a 0 2a
Contact arrangement		

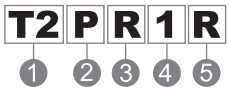
Contact	1	0	2
13-14	x		
23-24			x

Contact	1	0	2
13-14	x		
13-14	x		
23-24			x
23-24			x

PILOT LAMP PUSH BUTTON (Ø22 / Ø25 / Ø30) WITH TRANSFORMER ไพล็อตแลมป์ต่อตรง

This series of bulbs used are same as those for direct types illuminated push button switch.

MODEL DESIGNATION



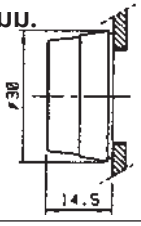
Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	P	Direct power
	L	Simple (Screw terminal in the rear)
	N	Simple (Screw terminal in the side)
3.Shape	R	Round
	S	Square
4.Voltage	1	110V AC (Neon bulb)
	2	220V AC (Neon bulb)
	3	380V AC (Neon bulb)
	4	440V AC (Neon bulb)
	5	6V AC (Filament bulb)
	6	18V AC (Filament bulb)
	7	24V AC (Filament bulb)
	8	30V AC (Filament bulb)
	9	12V AC (Filament bulb)
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

- The upper and lower bases of simple type pilot lamp are one unit and undetachable.
- The mounting holes of square series are ⌀22 mm/⌀25 mm available.

PILOT LAMP (DIRECT POWER) DIMENSIONS

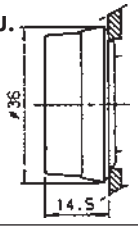
T2PR ไพล็อตแลมป์ต่อตรง 22/25 มม.





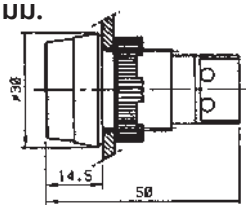
T3PR ไพล็อตแลมป์ต่อตรง 30 มม.





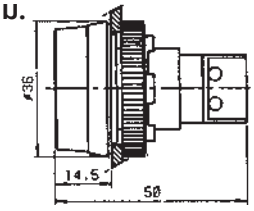
T2LR ไพล็อตแลมป์ต่อตรง 22/25 มม.





T3LR ไพล็อตแลมป์ต่อตรง 30 มม.



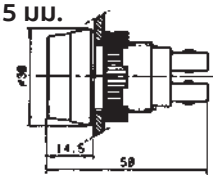


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

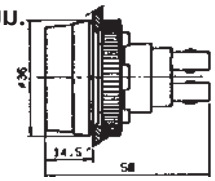
tend PILOT LAMP
ไพล็อตแลมป์ ชนิดต่อตรง IP65 IEC144
Ø22 / Ø25 / Ø30

PILOT LAMP (DIRECT POWER) DIMENSIONS

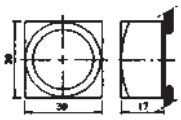
T2NR ไพล็อตแลมป์ต่อตรง 22/25 มม.

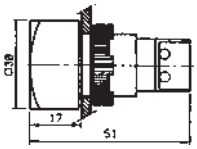
T3NR ไพล็อตแลมป์ต่อตรง 30 มม.

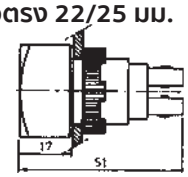
T2PS ไพล็อตแลมป์หัวสี่เหลี่ยมต่อตรง 22/25 มม.

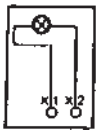
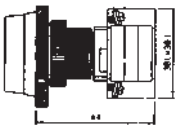
T2LS ไพล็อตแลมป์หัวสี่เหลี่ยมต่อตรง 22/25 มม.

T2NS ไพล็อตแลมป์หัวสี่เหลี่ยมต่อตรง 22/25 มม.

TPS-1 คอนแทคบ๊อกสำหรับไพล็อตแลมป์ต่อตรง

PILOT LAMP (Ø22 / Ø25 / Ø30) WITH TRANSFORMER
ไพล็อตแลมป์ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น IP65 IEC144 ISO 9002

This series of pilots lamp are equipped with transformer at the secondary voltage of 5V and TS9-5 (6V) bulb used.

MODEL DESIGNATION

T2 TP R 1 R

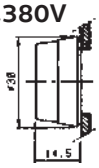
1 2 3 4 5

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	TP	With transformer
3.Shape	R	Round
	S	Square

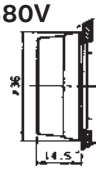
Designation	Signal	Description
4.Voltage (50-60Hz)	1	110V AC (Neon bulb)
	2	220V AC (Neon bulb)
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

•The mounting holes of square series are Ø22 mm/ Ø25 mm available.

T2TPR ไพล็อตแลมป์ 22/25 มม. 220V,380V

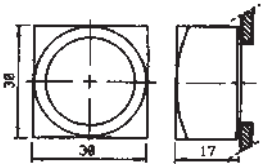



T3TPR ไพล็อตแลมป์ 30 มม. 220V,380V

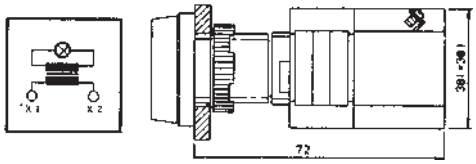
PILOT LAMP DIMENSIONS (ไพล็อตแลมป์ชนิดหม้อแปลง)

T2TPS ไพล็อตแลมป์หัวสี่เหลี่ยม 22/25 มม. 220V,380V

LAMP HOLDER BLOCKS (WITH TRANSFORMER)

TPS-2
380V, 220V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

KEY OPERATED PUSH BUTTON SWITCH

สวิตช์กดมีกุญแจ IP65 IEC144

Ø22 / Ø25 / Ø30

The contact block of this series of switches is standard.

MODEL DESIGNATION

T2 KL R 1 1 - 1 C

1 2 3 4 5 6 7

Designation	Signal	Description
1.Mounting hole	T2	Ø22 mm / Ø25 mm
	T3	Ø30 mm
2.Type	KL	Long head
	KM	Mushroom head
3.Shape	R	Round
	S	Square

1.The mounting holes of square series are Ø22 mm/ Ø25 mm available.
2.The symbol for the position where the key is drawn out for key chain return type is blank.
3.The key switching way is 2-sections.

Designation	Signal	Description
4.Movement way	1	1.Key Return Type
		1) It can't be pressed down when it's in still.
		2) It will become return type push button after being pressed down when the key is turned right.
	2	2. Key Chain Type
		1) Press it down when it's in still and it'll become chain type push button.
		2) It will return after being pressed down when the key is turned right.
	3	3. Key Fixing Type
		1)It can't be pressed down when it's in still.
		2) It can be pressed down when the key is turned right.It will be further fixed after the key is turned left.
		3) It will return when the key is turned right.
	4	4. Key Chain Return Type
		1) It will become chain type after being pressed down when the key is in still and will return when the key is turned right.
		2) It will become return push button when the key is turned right and drawn out.
5.Key withdrawable	1	It may be drawn out both in stillness and being turned right.
	2	It may be drawn out in stillness
6.No. of contact blocks fitted	1-3	1-3
7.Type of contact blocks fitted	A	1a(1NO)
	B	1b(1NC)
	C	1a1b(1NO 1NC)

OPERATING HEADS DIMENSIONS

T2KLR สวิตช์กุญแจ 22/25 มม.



1a,1b,1a1b, 2a,2b
3a, 3b, 3a3b, 4a,4b
2a2b
4a4b

T3KLR สวิตช์กุญแจ 30 มม.



1a,1b,1a1b, 2a,2b
3a, 3b, 3a3b, 4a,4b
2a2b
4a4b

T2KMR สวิตช์กุญแจดอกเห็ด 22/25 มม.



1a,1b,1a1b, 2a,2b
3a, 3b, 3a3b, 4a,4b
2a2b
4a4b

T3KMR สวิตช์กุญแจดอกเห็ด 30 มม.



1a,1b,1a1b, 2a,2b
3a, 3b, 3a3b, 4a,4b
2a2b
4a4b

T2KLS สวิตช์กุญแจหัวเหลี่ยม 22/25 มม.



1a,1b,1a1b, 2a,2b
3a, 3b, 3a3b, 4a,4b
2a2b
4a4b

T2KMS สวิตช์กุญแจหัวเหลี่ยมดอกเห็ด 30 มม.



1a,1b,1a1b, 2a,2b
3a, 3b, 3a3b, 4a,4b
2a2b
4a4b

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

INSULATED ENCLOSURE
บ๊อกพลาสติก IP65 IEC144
Ø22 / Ø25 / Ø30

The mounting holes of this series of insulated enclosures are Ø22 mm/ Ø30 mm .Single-holes insulated enclosures are available in yellow and gray.All the others are in gray.The upper base and contact block are of exclusive type, which is different from those of 22 mm/ Ø30 mm series contact components.

The dimension and type of the upper base are same as those of Ø22 mm/ Ø30 mm series control components.The symbol of this type is : by adding "B" to the type No. of Ø22 mm/ Ø30 mm series control components.For example : T2BFR stands for the upper base of Ø22 flat-head round type push button : and T2BFR-B refers to the exclusive upper base of the insulated enclosures.

THE ASSEMBLY OF INSULATED ENCLOSURES AND SWITCH

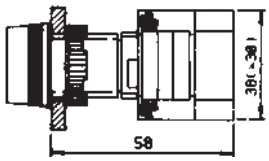
1) Take apart the upper cover and the lower base of the insulated enclosures.
2) Fix the contact block on the lower base, and the upper base on the upper cover.
   (Standard contact block needs underneath packing)
3) Connect the upper cover with the lower base into one kit.
   • The protection structure for this series of insulated enclosures is IP65 (IEC144)
   • All the illuminated switches used in the insulated enclosures are direct type.

STANDARD CONTACT BLOCK FOR INSULATED ENCLOSURES

● คอนแทคบ๊อก-สวิตช์กด (สำหรับบ๊อกพลาสติก)

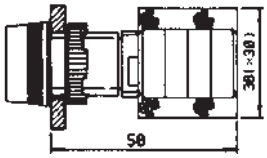
TC-B1A TC-B1B TC-B1C (1NO, 1NC, 1NO+1NC)
TC-B2A TC-B2B (2NO, 2NC)





TC-B2C (2NO+2NC)



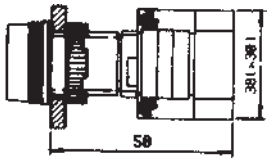


ILLUMINATED CONTACT BLOCK FOR INSULATED ENCLOSURES

● คอนแทคบ๊อก-สวิตช์กด มีไพล็อตแลมป์ (สำหรับบ๊อกพลาสติก)

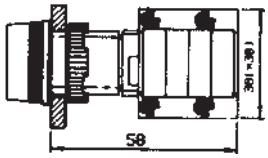
TC-BI1A TC-BI1B (1NO+1NC)





TC-BI1C TC-BI2A (1NO+1NC, 2NO)



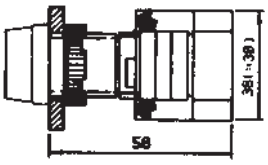


LAMP HOLDER BLOCKS (FOR INSULATED ENCLOSURES)

● คอนแทคบ๊อก ไพล็อตแลมป์ (สำหรับบ๊อกพลาสติก)

TPS-3





● ฐานเสริมสำหรับคอนแทคบ๊อก (ใช้กับบ๊อกพลาสติก)

NO 2TN2B105
สำหรับสวิตช์กดรุ่น T2 ใช้กับบ๊อก รุ่น TN2



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CONTROL STATION
บ๊อกพลาสติก IP65 IEC144
Ø22 / Ø25 / Ø30

The mounting hole of this series of insulated enclosures is Ø22. The illuminated push button and pilot lamp are all direct type.
The contact of the switches are all 1A1B. The shape is round.
The insulated enclosures of mushroom-head and chain type push button are in yellow or gray. Others in gray.

MODEL DESIGNATION ONE BUTTON

B1 - BF R 1 2
1 2 3 4 5

Designation	Signal	Description
1.No. of button	B1	1 Button
	B2	2 Buttons
	B3	3 Buttons
2.Type	BF	Flat Head Push Button
	BL	Long Head Push Button
	BM	Mushroom Head Push Botton
	BK	Push-Lock Push Button
	KM	Key Push-Lock Mushroom
	IF	Flat Head Illuminated Push Button
	IL	Long Head Illuminated Push Button
	IM	Mushroom Head Illuminated Push Botton
	IK	Push-Lock Illuminated Push Button
	S2	Selector Switch (2 Positions)
	S3	Selector Switch (3 Positions)

Designation	Signal	Description
3.Lens color	R	Red
	G	Green
	B	Black
4.Name plate	1	OFF
	2	ON
	3	EM. STOP
	4	OFF-ON
	5	ON-OFF-ON
5.Voltage	None	Non-Illuminated
	2	220V AC
	7	24V

ONE BUTTON

25mm 30mm
B1-BFR1
สวิตช์กดหัวเรียบสีแดง
B1-IFR1
สวิตช์กดหัวเรียบมีไพล็อตแลมป์สีแดง



25mm 30mm
B1-BFG2
สวิตช์กดหัวเรียบสีเขียว
B1-IFG2
สวิตช์กดหัวเรียบมีไพล็อตแลมป์สีเขียว



25mm 30mm
B1-BLR1
สวิตช์กดหัวหัวนูนสีแดง
B1-ILR1
สวิตช์กดหัวนูนมีไพล็อตแลมป์สีแดง



25mm 30mm
B1-BLG2
สวิตช์กดหัวหัวนูนสีเขียว
B1-ILG2
สวิตช์กดหัวนูนมีไพล็อตแลมป์สีเขียว



25mm 30mm
B1-BMR3
สวิตช์กดหัวหัวเห็ดสีแดง
B1-IMR3
สวิตช์กดหัวเห็ดมีไพล็อตแลมป์สีแดง



25mm 30mm
B1-BKR3
สวิตช์กดล็อคสีแดง
B1-IKR3
สวิตช์กดล็อคมีแลมป์สีแดง



25mm 30mm
B1-KMR3
สวิตช์กุญแจดอกเห็ดสีแดง



25mm 30mm
B1-S2B4
สวิตช์ลูกศร ON-OFF



25mm 30mm
B1-S3B5
สวิตช์ลูกศร ON-OFF-ON



TWO BUTTON

(บ๊อกพลาสติก 2 ช่อง พร้อมสวิตช์)

B2-BF สวิตช์กดหัวเรียบ ON-OFF
B2-IF2 สวิตช์กดมีไพล็อตแลมป์หัวเรียบ ON-OFF 220V
B2-IF7 สวิตช์กดมีไพล็อตแลมป์หัวเรียบ ON-OFF 24V

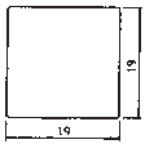


Type	Name plate		Buttons	Voltage
B2-BF	ON	OFF	2 Flat Head Push Buttons	-
B2-IF2	ON	OFF	2 Flat Head Illuminated Push Buttons	220V AC
B2-IF7	ON	OFF	2 Flat Head Illuminated Push Buttons	24V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

NAME PLATE
ป้ายชื่อ IP65 IEC144
Ø22 / Ø25 / Ø30

PLATES FOR ENCLOSURES
TBP (TBP-08 / TBP-09)



FOR PUSH BUTTON, ILLUMINATED PUSH BUTTON, PILOT LAMP

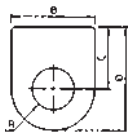
TBP-01	TBP-02	TBP-03	TBP-04	TBP-05	TBP-06	TBP-07	TBP-08	TBP-09	TBP-10
○	I	II	III	IV	ON	OFF	START	STOP	UP
TBP-11	**TBP-12**	**TBP-13**	**TBP-14**	**TBP-15**	**TBP-16**	**TBP-17**	**TBP-18**	**TBP-19**	**TBP-20**
DOWN*	SOURCE	HAND	AUTO	RUN	FWD	REV	CLOSE	OPEN	FAST
TBP-21	**TBP-22**	**TBP-23**	**TBP-24**	**TBP-25**	**TBP-26**	**TBP-27**	**TBP-28**	**TBP-29**	**TBP-30**
SLOW*	RESET	EM STOP	12V	24V	30V	110V	220V	B	1
TBP-31	**TBP-32**	**TBP-33**	**TBP-34**	**TBP-35**	**TBP-36**	**TBP-37**	**TBP-38**		
2	3	4	5	6	7	8	9		

FOR SELECTOR SWITCH

TBP-51	TBP-52	TBP-53	TBP-54	TBP-55	TBP-56	TBP-57	TBP-58	TBP-59	TBP-60
○	II	II o	III	ON OFF	ON ON	ON OFF ON	REV FWD	REV OFF FWD	AUTO HAND
TBP-61	**TBP-62**	**TBP-63**	**TBP-64**	**TBP-65**	**TBP-66**	**TBP-67**			
AUTO OFF HAND	START STOP	UP DOWN	UP OFF DOWN	1 2	1 0 2	1 2 3			

LEGEND PLATES FOR (Ø22/ Ø25/ Ø30) OPERATING DEVICES
(Ø22) T22P
(Ø25) T25P
(Ø30) T30P





Type	Dimensions			
	A	B	C	D
T22P	ø22	31	27	42
T25P	ø25	31	27	42
T30P	ø30	38.5	32.5	52

FOR PUSH BUTTON, ILLUMINATED PUSH BUTTON, PILOT LAMP, T22P---,T25P--,T30P--

06	07	08	09	10	11	12	13	14	15	16	17
ON	OFF	START	STOP	UP	DOWN	SOURCE	HAND	AUTO	RUN	FWD	REV

FOR PUSH BUTTON, ILLUMINATED PUSH BUTTON, PILOT LAMP, T22P---,T25P--,T30P--

51	52	53	54	55	56	57	58
○ I	I II	I○I	I III	OFF ON	ON NO	ON OFF ON	FWD REV

FOR PUSH BUTTON, ILLUMINATED PUSH BUTTON, PILOT LAMP, T22P---,T25P--,T30P--

59	60	61	62
FWD OFF REV	AUTO HAND	AUTO OFF HAND	STOP START

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

PUSH BUTTON SWITCH
สวิตช์กด
Ø25 / Ø30

ISO 9002 CE

MODEL DESIGNATIONS

TBFM - 25 A R
1 2 3 4

CHARACTERISTICS

Operating speed	0.01 mm to 1 m/ sec
Operating frequency	Mechanically : 240 operations/ min. Electrically : 20 operations/ min.
Contact resistance	15 mΩ max.(initial)
Insulation resistance	100 MΩ min.(at 500V DC)
Service life	Mechanically : 20,000,000 operations Electrically : 500,000 operations

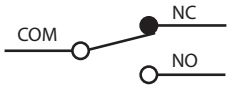
SPECIFICATIONS RATING

Rated voltage (V)	Noninductive load (A)				inductive load (A)				Inrush current (A)	
	Resistive load		Lamp load		Inductive load		Motor load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	15		3	1.5	15		5	2.5		
250VAC	15		2.5	1.25	15		3	1.5		
500VAC	3		1.5	0.75	2.5		1.5	0.75		
8VAC	15		3	1.5	15		5	2.5	30 max	15 max
14VAC	15		3	1.5	10		5	2.5		
30VAC	6 (2)		3	1.5	5		5	2.5		
125VAC	0.4		0.4	0.4	0.05		0.05	0.05		
250VAC	0.2		0.2	0.2	0.03		0.03	0.03		

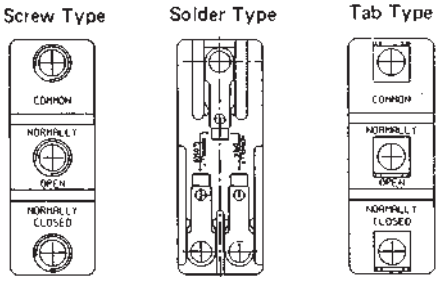
15A 250V AC UL Approved micro switch

Designation	Signal	Description
1.Type	TBFM	Flat Head
	TBLM	Long Head
	TBMM	Mushroom Head
2.Mounting hole	25	Ø25 mm
	30	Ø30 mm
3.Terminal type	B	Screw Terminal
	A	Solder Terminal
	C	Tab Terminal
4.Lens color	R	Red
	G	Green
	Y	Yellow
	B	Black
	W	White

CONTACT CONFIGULATION

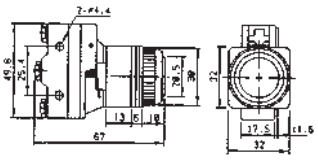


TERMINAL TYPE



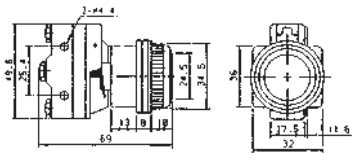
TBFM-25 สวิตช์กดหัวเรียบ





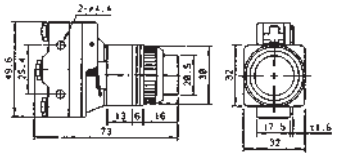
TBFM-30 สวิตช์กดหัวเรียบ





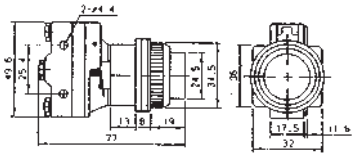
TBLM-25 สวิตช์กดหัวนูน





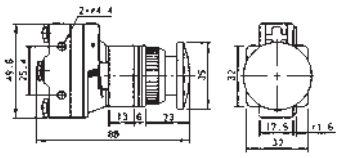
TBLM-30 สวิตช์กดหัวนูน





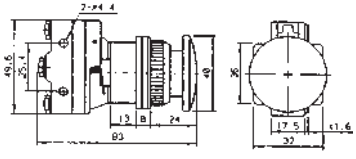
TBMM-25 สวิตช์ดอกเห็ดกดไม่ล็อค





TBMM-30 สวิตช์ดอกเห็ดกดไม่ล็อค





TBKM-25 สวิตช์ดอกเห็ดกดล็อค
TBKM-30



TSSM-25 สวิตช์ลูกศร
TSSM-30



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PUSH BUTTON SWITCH
สวิตช์กด
Ø25 / Ø30

ISO 9002 CE

MODEL DESIGNATIONS

TBF - 25 1 a R
1 2 3 4 5

- **Note : TBD, TBMR, TBDR are 30 mm only.**

SPECIFICATIONS CURRENT RATINGS

Alternate current	AC125V	AC250V	AC500V	AC600V
	10 A	6 A	3 A	2 A
Direct current	**DC125A**	**DC250A**	**DC600A**	
	2 A	1 A	0.4 A	

Dielectric Strength : AC220V for duration of one minute.
Insulation Resistance : Over 100MΩ @DC500V

Temperature Rise :
At Contacts Less than 30 degrees.
At Terminals Less than 25 degrees.
(@ Ambient temperature of 40˚C,
and a continuous current of 10 amperes)
Contact Resistance : Less than 30mΩ
Ambient Temperature Allowable : -20˚C ~ 60˚C

Designation	Signal	Description
1.Type	TBF	Flat Head
	TBL	Long Head
	TBM	Mushroom Head
	TBW	Rainproof
	TBK	Push-Lock
	TBKL	Push-Lock (Large Head)
	TBD	Special Duty
	TBMR	Mushroom Head with Guard Ring
	TBDR	Special Duty with Guard Ring
2.Mounting hole	25	Ø25 mm
	30	Ø30 mm
3.No.of contact blocks fitted	1 ~ 4	1~4
4.Type of contact blocks fitted	(None)	1a1b (1NO 1NC)
	a	1a (1NO)
	b	1b (1NC)
5.Head color	R	Red
	G	Green
	Y	Yellow
	B	Black
	W	White

CONTACT BLOCK


TBC-1A

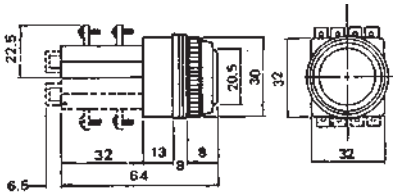

TBC-1B


TBC-1A1B

Type	H	L	W
1A 1B	25	35	32.5
1A or 1B	25	26	32.5

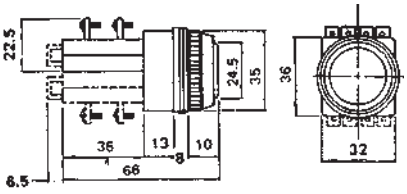
TBF-251 Ø25 mm สวิตช์กดหัวเรียบ **1A1B 1A, 1B**





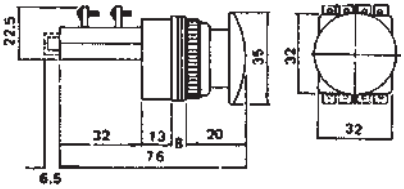
TBF-301 Ø30 mm สวิตช์กดหัวเรียบ **1A1B 1A, 1B**





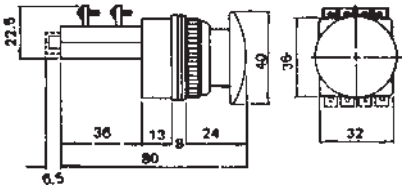
TBM-251 Ø25 mm สวิตช์กดไม่ล็อคดอกเห็ด **1A1B 1A, 1B**





TBM-301 Ø30 mmสวิตช์กดไม่ล็อคดอกเห็ด **1A1B 1A, 1B**





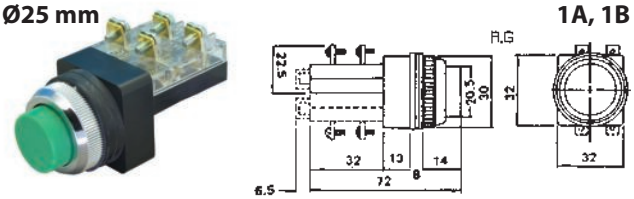
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

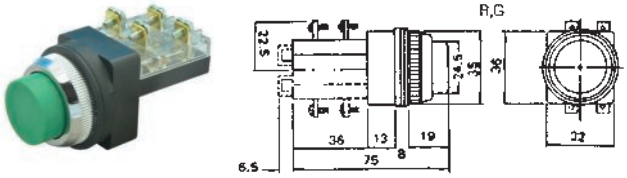
PUSH BUTTON SWITCH
สวิตช์กด
Ø25 / Ø30

ISO 9002 CE

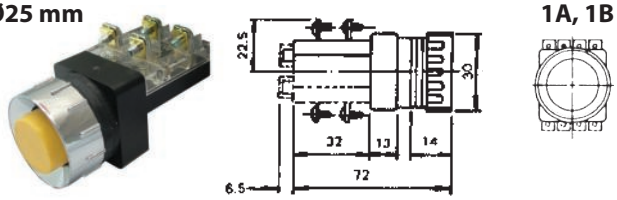
TBL-251 สวิตช์หัวกดนูน **1A1B**
Ø25 mm **1A, 1B**



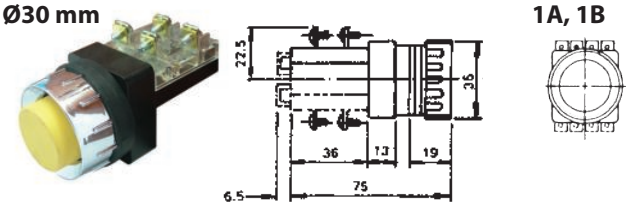
TBL-301 สวิตช์กดหัวนูน **1A1B**
Ø30 mm **1A, 1B**



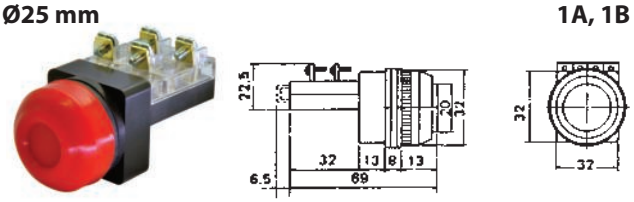
TBR-251 สวิตช์หัวกดนูนชนิดมีการ์ด **1A1B**
Ø25 mm **1A, 1B**



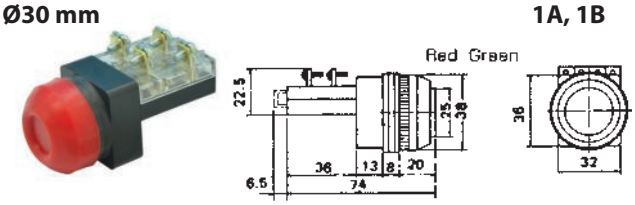
TBR-301 สวิตช์กดหัวนูนชนิดมีการ์ด **1A1B**
Ø30 mm **1A, 1B**



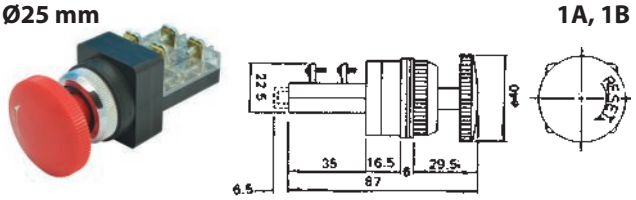
TBW-251 สวิตช์กดกันน้ำ **1A1B**
Ø25 mm **1A, 1B**



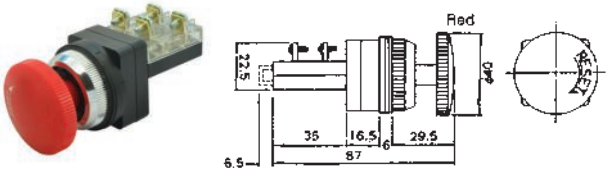
TBW-301 สวิตช์กดกันน้ำ **1A1B**
Ø30 mm **1A, 1B**



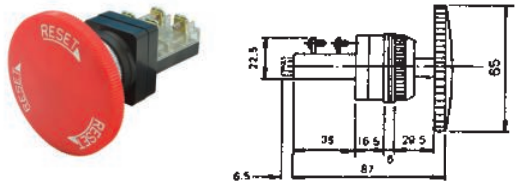
TBK-251 สวิตช์กดล็อคดอกเห็ด **1A1B**
Ø25 mm **1A, 1B**



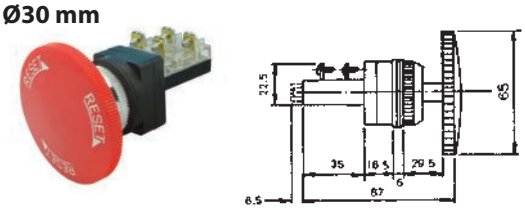
TBK-301 สวิตช์กดล็อคดอกเห็ด **1A1B**
Ø30 mm **1A, 1B**



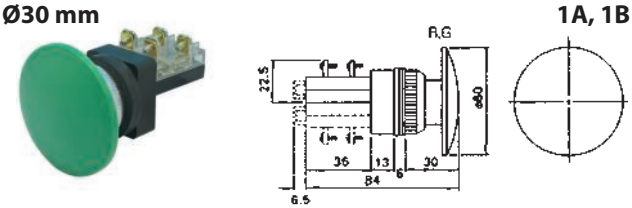
TBKL-251 สวิตช์กดล็อคดอกเห็ดใหญ่ **1A1B**
Ø25 mm **1A, 1B**



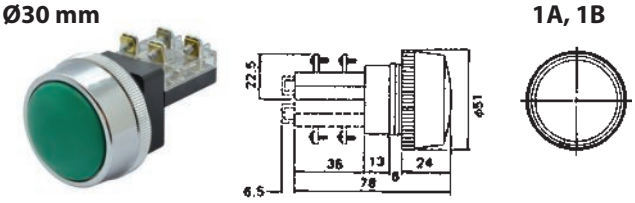
TBKL-301 สวิตช์กดล็อคดอกเห็ดใหญ่ **1A1B**
Ø30 mm **1A, 1B**



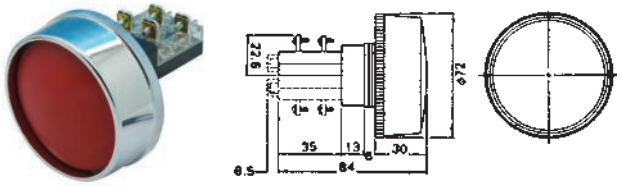
TBD-301 สวิตช์หัวเห็ด **1A1B**
Ø30 mm **1A, 1B**



TBMR-301 สวิตช์หัวเห็ดแบบมีการ์ด **1A1B**
Ø30 mm **1A, 1B**



TBDR-301 สวิตช์หัวเห็ดใหญ่แบบมีการ์ด **1A1B**
Ø30 mm **1A, 1B**



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

SELECTOR SWITCH / KEY SWITCH

สวิตช์ลูกศร / สวิตช์กุญแจ

Ø25 / Ø30

ISO 9002

MODEL DESIGNATIONS

TSS - 25 1 a 2 B

1 2 3 4 5 6

Designation	Signal	Description
1.Type	TSS	Knob Type Selector Switch
	TKS	Key Type Selector Switch
	TSSL	Long Type Selector Switch
2.Mounting hole	25	Ø25 mm
	30	Ø30 mm
3.No. of contact blocks fitted	1 - 4	1 - 4
4.Type of contact blocks fitted	(None)	1a1b(1NO 1NC)
	a	1a(1NO)
	b	1b(1NC)
5.Positions	2	2 Positions
	3	3 Positions
6.Knob color	R	Red (Knob Type Only)
	G	Green
	B	Black

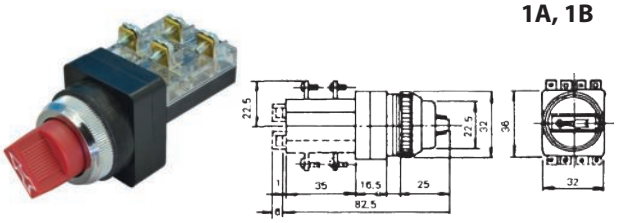
SPECIFICATIONS CURRENT RATINGS

Alternate current	AC125V	AC250V	AC500V	AC600V
	10A	6A	3A	2A
Direct current	**DC125V**	**DC250V**	**DC600V**	
	2A	1A	0.4A	

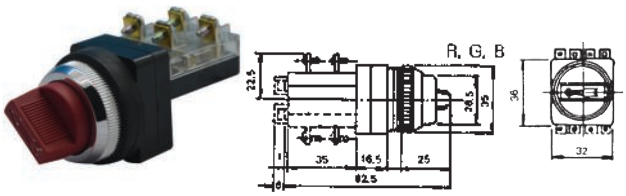
Dielectric Strength : AC220V for duration of one minute.
Insulation Resistance : Over 100MΩ @DC500V

Temperature Rise :
At Contacts Less than 30 degrees.
At Terminals Less than 25 degrees.
(@ Ambient temperature of 40˚C,
and a continuous current of 10 amperes)
Contact Resistance : Less than 30mΩ
Ambient Temperature Allowable : -20˚C ~ 60˚C

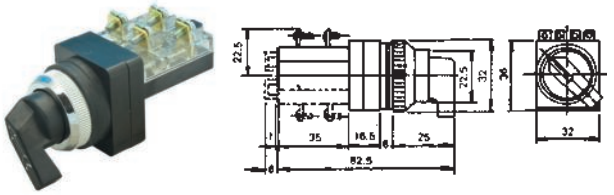
TSS-251 สวิตช์ลูกศรก้านสั้น Ø25 mm 1A1B
TSS-251-2 ON-OFF 1A, 1B
TSS-251-3 ON-OFF-ON 1A1B
1A, 1B



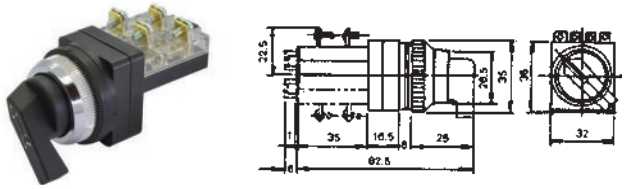
TSS-301 สวิตช์ลูกศรก้านสั้น Ø30 mm 1A1B
TSS-301-2 ON-OFF 1A, 1B
TSS-301-3 ON-OFF-ON 1A1B
1A, 1B



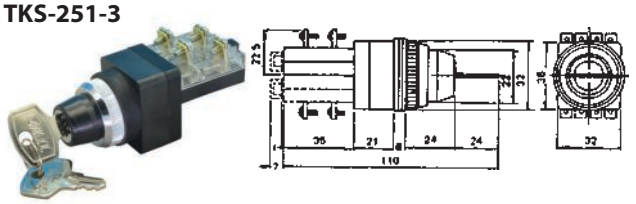
TSSL-251 สวิตช์ลูกศรก้านยาว Ø25 mm 1A1B
TSSL-251-2 1A, 1B
TSSL-251-3



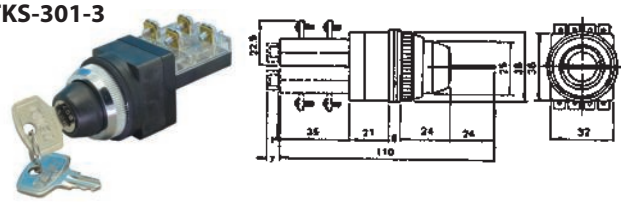
TSSL-301 สวิตช์ลูกศรก้านยาว Ø30 mm 1A1B
TSSL-301-2 1A, 1B
TSSL-301-3



TKS-251 สวิตช์กุญแจ Ø25 mm 1A1B
TKS-251-2 1A, 1B
TKS-251-3



TKS-301 สวิตช์กุญแจ Ø30 mm 1A1B
TKS-301-2 1A, 1B
TKS-301-3



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

PILOT LAMP
ไพล็อตแลมป์ ชนิดหม้อแปลง
Ø25 / Ø30

ISO 9002

MODEL DESIGNATIONS

TPR - 25 2 R

1 2 3 4

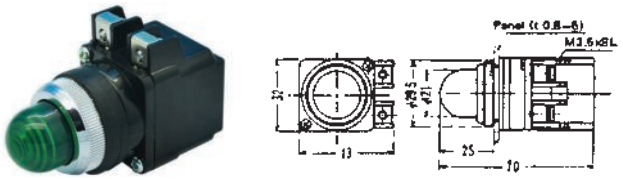
Classification	Bulb type			Price
Ø25 mm				
TPR Series TPF Series TPS Series	E-10	6.3 V	0.15 A	**12.-**
	E-10	12 V	1 W	**16.-**
	E-10	24 V	1 W	**17.-**
	E-10	30 V	1 W	**22.-**
	E-10	110 V	1 W	**41.-**
Ø30 mm				
TPR Series TPF Series TPS Series TPL Series	E-12	18 V	0.11 A	**22.-**
	E-12	24 V	1 W	**22.-**
	E-12	30 V	1 W	**22.-**
	E-12	110 V, 220 V	1 W	**56.-**
	E-12	380 V	1 W	-

Dielectric Strength :
AC 220V for duration of one minute.
Insulation Resistance :
Over 100 megaohm @ DC 500 V

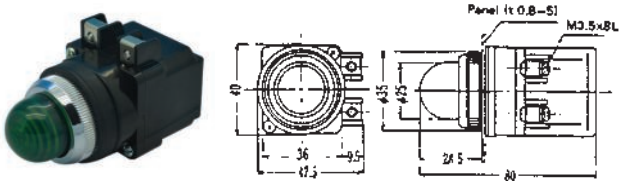
Designation	Signal	Description	
1.Type	TPR	Round Type	
	TPS	Square Type	
	TPF	Flat Type	
	TPL	Large Type	
	TPRF	Flash Type (Round)	
	TPSF	Flash Type (Square)	
	TPLF	Flash Type (Large)	
2.Mounting hole	25	Ø25 mm	
	30	Ø30 mm	
3.Rated voltage	1	110V AC	
	2	220V AC	
	3	380V AC	
	4	440V AC	
	5	6.3V AC (DC)	Without Transformer
	6	18V AC (DC)	
	7	24V AC (DC)	
	8	30V AC (DC)	
4.Lens color	R	Red	
	G	Green	
	O	Orange	
	W	White	
	BL	Blue	

DIMENSIONS

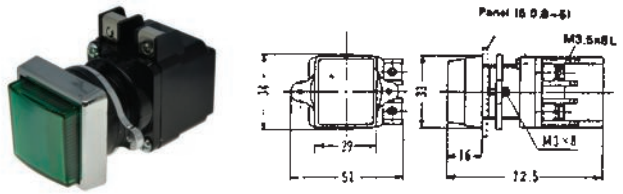
TPR-252 ไพล็อตแลมป์ R, G, Y, B, W **220V**
Ø25 mm **380V**



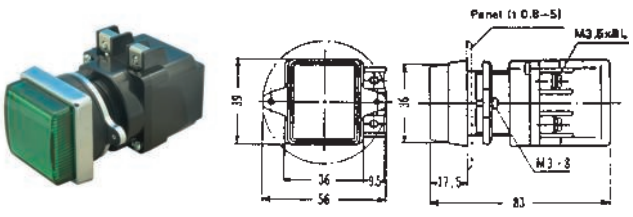
TPR-302 ไพล็อตแลมป์ R, G, Y, B, W **220V**
Ø30 mm **380V**



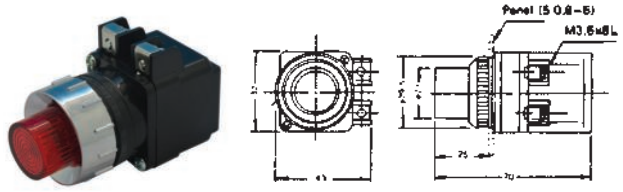
TPS-252 ไพล็อตแลมป์หัวเหลี่ยม R, G, Y, W **220V**
Ø25 mm



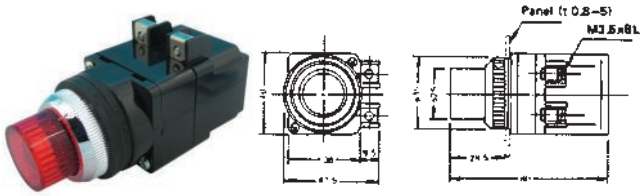
TPS-302 ไพล็อตแลมป์หัวเหลี่ยม R, G, Y, W **220V**
Ø30 mm



TPF-252 ไพล็อตแลมป์หัวตัด R, G, Y **220V**
Ø25 mm



TPF-302 ไพล็อตแลมป์หัวตัด R, G, Y **220V**
Ø30 mm



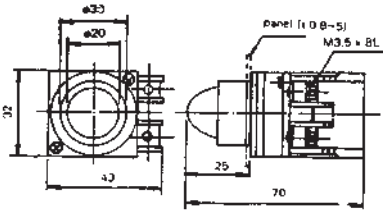
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PILOT LAMP / FLASH LAMP
ไพล็อตแลมป์ / แฟรชแลมป์ ชนิดหม้อแปลง
Ø25 / Ø30

ISO 9002

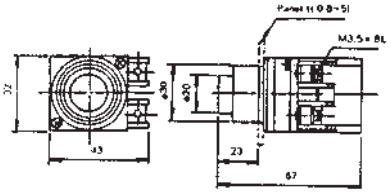
TPRR-252 ไพล็อตแลมป์ชนิดมีการ์ด
Ø25 mm





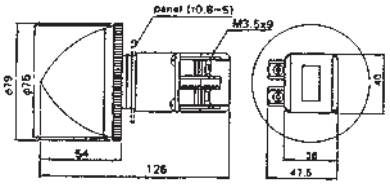
TPFR-252 ไพล็อตแลมป์หัวตัดชนิดมีการ์ด





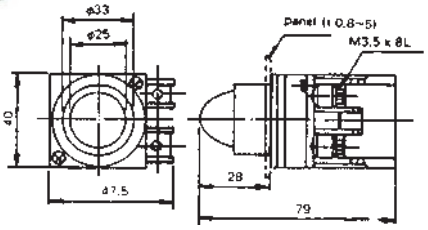
TPL-302 ไพล็อตแลมป์หัวตัดชนิดหัวกลม





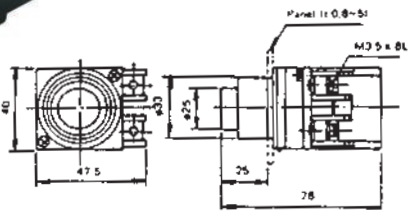
TPRR-302 ไพล็อตแลมป์ชนิดมีการ์ด





TPFR-302 ไพล็อตแลมป์หัวตัดชนิดมีการ์ด

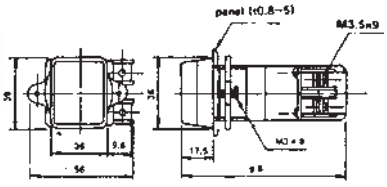




FLASH LAMP
ไฟกะพริบ

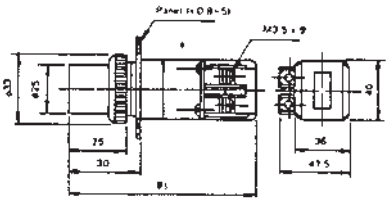
TPSF-302 ไพล็อตแลมป์ชนิดกะพริบหัวเหลี่ยม





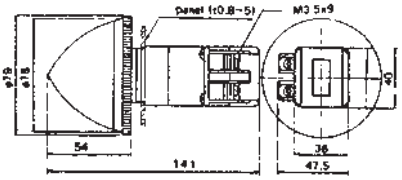
TPFF-302 ไพล็อตแลมป์ชนิดกะพริบหัวตัด





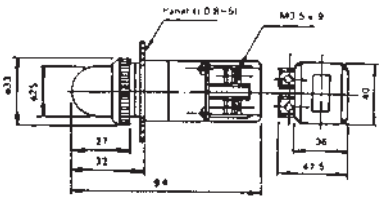
TPLF-302 ไพล็อตแลมป์ชนิดกะพริบหัวใหญ่





TPRF-302 ไพล็อตแลมป์ชนิดกะพริบ





หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend PILOT LAMP
ไพล็อตแลมป์ ชนิดต่อตรง
Ø25 / Ø30

ISO 9002

These types of Pilot lamps are direct type, without transformers. AC 110V, AC 220V, AC 380V, AC 440V are Neon lamps.

MODEL DESIGNATIONS

TPNR - 25 2 R

1 2 3 4

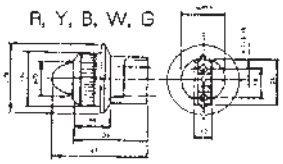
TPN-11, TPN-15 series are 110V AC, 220V AC only.

Designation	Signal	Description
1.Type	TPNR	Round neon lamp
	TPNF	Flat neon lamp
	TPNRR	Round type (with ring)
	TPNFR	Flat type (with ring)
	TPNS	Square neon lamp
2.Mounting hole	11	Ø11 mm
	12	Ø12 mm
	15	Ø15 mm
	16	Ø16 mm
	25	Ø25 mm
	30	Ø30 mm
3.Rated voltage	1	110V AC
	2	220V AC
	3	380V AC
	4	440V AC
	5	6.8V AC (DC)
	6	18V AC (DC)
	7	24V AC (DC)
	8	30V AC (DC)
	9	12V AC (DC)
4.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

DIMENSIONS

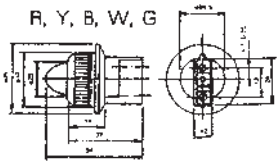
TPNR-252 ไพล็อตแลมป์ชนิดต่อตรง
Ø25 mm (R, Y, B, W, G)





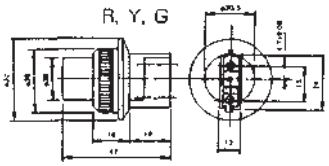
TPNR-302 ไพล็อตแลมป์ชนิดต่อตรง
Ø30 mm (R, Y, B, W, G)





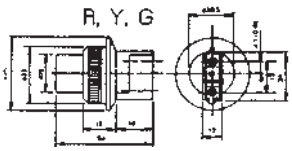
TPNF-252 ไพล็อตแลมป์ชนิดต่อตรง
Ø25 mm (R, Y, G, BL, W)





TPNF-302 ไพล็อตแลมป์ชนิดต่อตรง
Ø30 mm (R, Y, G, BL, W)

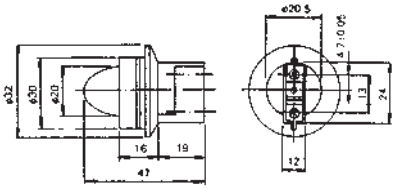




หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

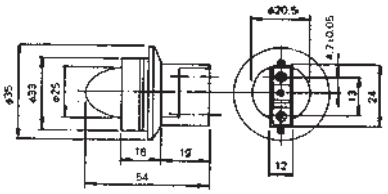
TPNRR-252 ไพล็อตแลมป์ชนิดต่อตรงมีการ์ด





TPNRR-302 ไพล็อตแลมป์ชนิดต่อตรงมีการ์ด



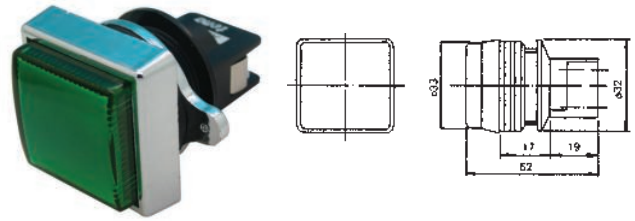


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

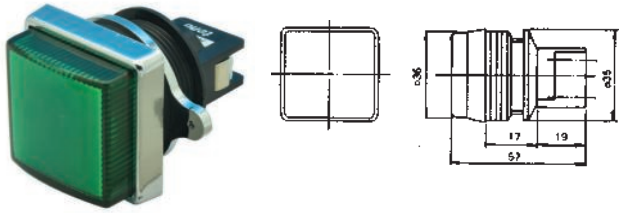
PILOT LAMP / FLASH LAMP
ไพล็อตแลมป์ ชนิดต่อตรง / แฟรชแลมป์
Ø25 / Ø30

ISO 9002

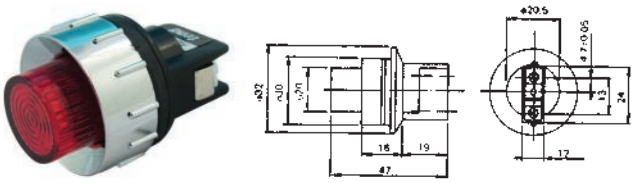
TPNS-252 ไพล็อตแลมป์ชนิดต่อตรงแบบหัวเหลี่ยม



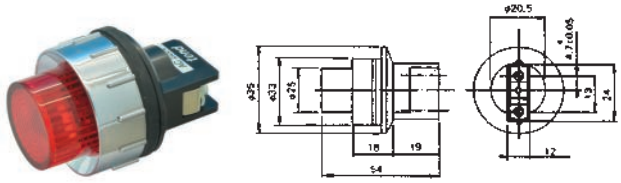
TPNS-302 ไพล็อตแลมป์ชนิดต่อตรงแบบหัวเหลี่ยม



TPNFR-252 ไพล็อตแลมป์ชนิดต่อตรงหัวตัดมีการ์ด

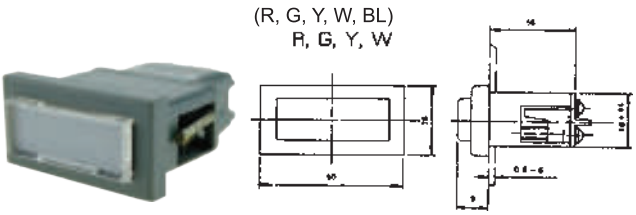


TPNFR-302 ไพล็อตแลมป์ชนิดต่อตรงหัวตัดมีการ์ด



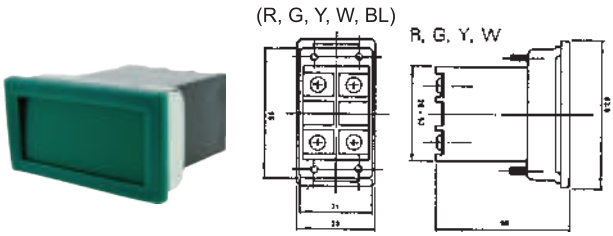
FLASH LAMP
ไฟกะพริบ

TSL-25 Mounting hole 20x45 mm
220V, 24V



TSL-36 Mounting hole 29x53 mm
220V, 24V

TSL-36-1 1 Lamp ชนิด 1 หลอด
TSL-36-2 2 Lamp ชนิด 2 หลอด



หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ ชนิดหม้อแปลง
Ø25 / Ø30

ISO 9002

MODEL DESIGNATION

TIB - 25 2 R
① ② ③ ④

Designation	Signal	Description	
1.Type	TIB	Standard	
	TIBN	Standard (Neon Lamp)	
	TIBR	With Ring	
	TIBNR	With Ring (Neon Ring)	
2.Mounting hole	25	Ø25 mm	
	30	Ø30 mm	
3.Rated voltage	1	110V AC	
	2	220V AC	
	3	380V AC	
	4	440V AC	
	5	6.3V AC (DC)	Without Transformer
	6	18V AC (DC)	
	7	24V AC (DC)	
	8	30V AC (DC)	
4.Lens color	R	Red	
	G	Green	
	O	Orange	
	W	White	

SPECIFICATIONS CURRENT RATINGS

Alternate current	AC125V	AC250V	AC500V	AC600V
	10 A	6 A	3 A	2 A
Direct current	**DC125V**	**DC250V**	**DC600V**	
	2 A	1 A	0.4 A	

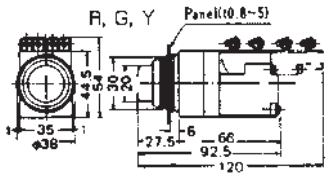
Dielectric Strength : AC220V for duration of one minute.
Insulation Resistance : Over 100MΩ @DC500V

Temperature Rise :
At Contacts Less than 30 degrees.
At Terminals Less than 25 degrees.
(@ Ambient temperature of 40˚C,
and a continuous current of 10 amperes)
Contact Resistance : Less than 30mΩ
Ambient Temperature Allowable : -20˚C ~ 60˚C

DIMENSIONS

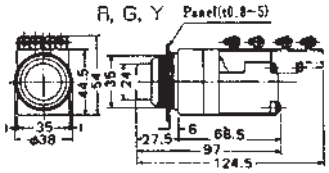
TIB-252 สวิตช์กดมีไฟชนิดใช้หม้อแปลง (R, G, Y)





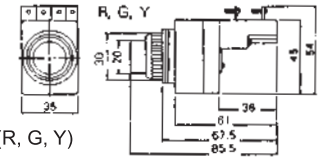
TIB-302 สวิตช์กดมีไฟชนิดใช้หม้อแปลง (R, G, Y)





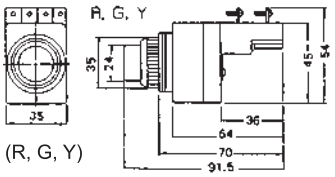
TIBN-252 สวิตช์กดมีไฟชนิดต่อตรง 1A1B 1A, 1B





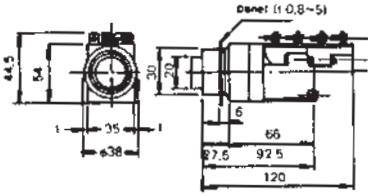
TIBN-302 สวิตช์กดมีไฟชนิดต่อตรง 1A1B 1A, 1B





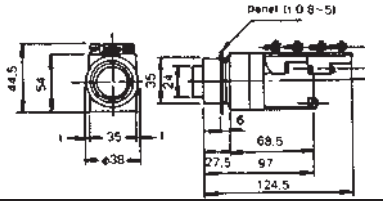
TIBR-252 สวิตช์กดมีไฟชนิดใช้หม้อแปลงมีการ์ด





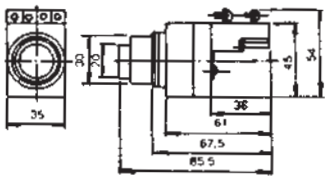
TIBR-302 สวิตช์กดมีไฟชนิดใช้หม้อแปลงมีการ์ด





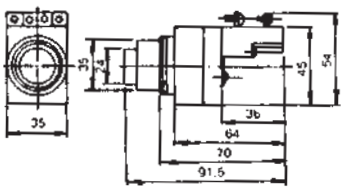
TIBNR-252 สวิตช์กดมีไฟชนิดต่อตรงมีการ์ด 1A1B 1A, 1B





TIBNR-302 สวิตช์กดมีไฟชนิดต่อตรงมีการ์ด 1A1B 1A, 1B





หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

METAL PUSH BUTTON SWITCH
สวิตช์กดโลหะ
Ø19

MODEL DESIGNATION

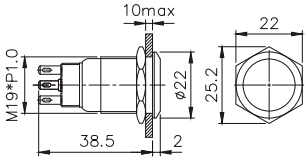
TT19 AB 1
① ② ③

Designation	Signal	Description
1.Mounting Hole	TT19	19 mm Series
2.Type	AB	Metal Push Button(Alternate)
	MB	Metal Push Button(Momentary)
3.Contact blocks	1	1a1b
	2	2a2b

DIMENSIONS

TT19-AB
TT19-MB





MODEL DESIGNATION

TT19 SL R 1 1 1
① ② ③ ④ ⑤ ⑥

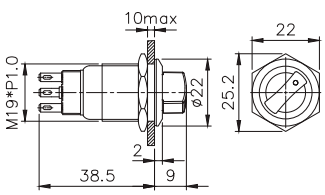
Designation	Signal	Description
1.Mounting hole	TT19	19 mm Series
2.Type	SL	Illuminated Metal Selector Switch
	SS	Metal Selector Switch
3.Lens color	R	Red
	G	Green
	Y	Yellow
	O	Orange
	W	White
	B	Blue
	Blank	No Lights

Designation	Signal	Description	
4.Positions	1		90° 2-Position
	7		90° 3-Position
5.Voltage	1	110V AC LED lamp	
	2	220V AC LED lamp	
	5	6V LED lamp	
	7	24V LED lamp	
	9	12V LED lamp	
	Blank	No Light	
6.Type of contact blocks fitted		2-Position	3-Position
	1	1a1b (1NO 1NC)	–
	2	2a2b (2NO 2NC)	1a1b 0 1a1b

DIMENSIONS

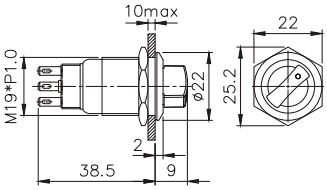
TT19-SL





TT19-SS
2 Position (110V)
2 Position (220V)
3 Position (220V)





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ILLUMINATED METAL PUSH BUTTON SWITCH

สวิตช์กดโลหะมีแลมป์

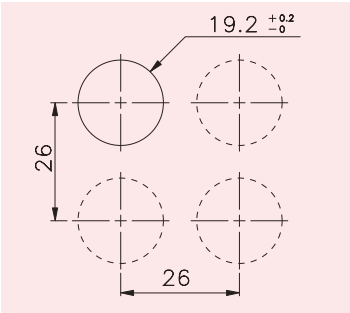
Ø19

MODEL DESIGNATION

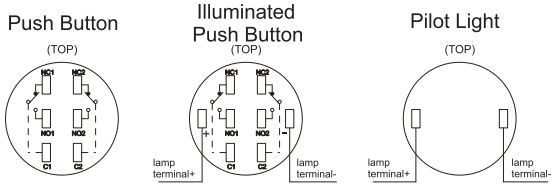
TT19 AL 1 R 1
① ② ③ ④ ⑤

Designation	Signal	Description
1.Mounting hole	TT19	19 mm series
2.Type	AL	Illuminated metal push button (Alternate)
	ML	Illuminated metal push button (Momentary)
	PL	Pilot lamp
3.Voltage	1	110V AC LED lamp
	2	220V AC LED lamp
	5	6V LED lamp
	7	24V LED lamp
	9	12V LED lamp
4.Lens color	R	Red
	G	Green
	Y	Yellow
	O	Orange
	W	White
	BL	Blue
5.Contact blocks	1	1a1b (1NO 1NC)
	2	2a2b (2NO 2NC)

PANEL CUT-OUT



TERMINAL ARRANGMENT



CHARACTERISTICS

Contact resistance	50 mΩ max. (Initial)
Insulation resistance	100 MΩ min. (At 500V DC)
Dielectric strength	1000V AC, 50/60 Hz for 1 minute between non-continuous terminals 2000V AC, 50/60 Hz for 1 minute between current-carrying part and ground
Vibration	Mechanical durability : 10 to 55Hz 1.5 mm double amplitube
Shock	Mechanical durability : Approx : 500 m/ sec² (approx.50G's) Mechanical durability : Approx : 500 m/ sec² (approx.50G's)
Ambient operation temperature	Operating : -25˚C to 55˚C Storage : -30˚C to 80˚C
Humidity	45% to 80% RH
Mechnical life (min)	Momentary : 2,000,000 operations Alternate : 250,000 operations
Electric life (min)	Momentary : 100,000 operations (1,800 operations/ hour) Alternate : 100,000 operations (1,200 operations/ hour)
Nut torque value	14 Nm (140 Kgf.cm) max.

CONTACT RATINGS

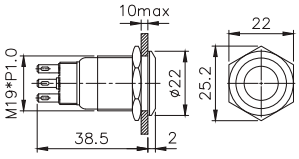
Rated insulation voltage			250VAC		125VAC
Rated continuous current (A)			3A		5A
Rated operating current (A)					
AC			DC		
Voltage	AC13	AC12	Voltage	DC13	DC12
110V 220V	0.7A 0.5A	1A 0.5A	12V 24V	0.7A 0.7A	1A 1A

AC13/DC13:Inductive load; AC12/DC12:Resistive load

DIMENTIONS

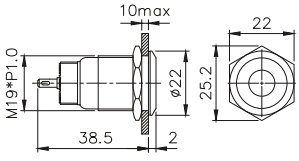
TT19-AL/ML
TT19-AL
TT19-ML





TT19-PL





PUSH BUTTON SWITCH
สวิตช์กด IP44 IP65
Ø16

TT16 - AB R 4 R 1
1 2 3 4 5 6

MODEL DESIGNATION

BK/BKL only Round and Red.

Designation	Signal	Description
1.Mounting hole	TT16	Ø16 mm Series
2.Type	AB	Push Button (Alternate)
	MB	Push Button (Momentary)
	MM	Push Button (Momentary)(Mushroom Head)
	BK	Push-lock Turn-Reset
	BKL	Push-lock Turn-Reset (Mushroom Head)
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Operator protection	4	IP40
	6	IP65
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
	B	Black
6.Contact blocks	1	1a1b(1NO 1NC)
	2	2a2b(2NO 2NC)

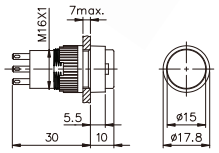
CHARACTERISTICS

Contact resistance	50 mΩ max. (intial)
Insulation resistance	100 MΩ min. (at 500V DC)
Dielectric strength	1000V AC, 50/ 60 Hz for 1 minute between non-continuous terminals 2000V AC, 50/ 60 Hz for 1 minute current-carrying part and ground.
Vibration	Mechanical durability : 10 to 55 Hz 1.5 mm double amplitube
Shock	Mechanical durability : Approx. 500 m/ sec² (approx. 50 G's) Malfunction durability : Approx. 500 m/ sec² (approx. 50G's)
Ambient operating temperature	Operating : -25°C to 55°C Storange : -30°C to 80°C
Humidity	45% to 80% RH
Mechanical life (min)	Momentary : 2,000,000 Alternate/ BKR : 250,000
Electrical life (min)	Momentary : 100,000 (1,800 operations/ hour) Alternate/ BKR : 100,000 (1,200 operations/ hour)

DIMENSION

TT16-ABR/MBR





TT16-ABR รุ่นกดล็อค

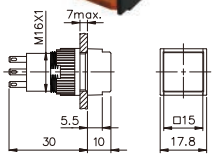
Type	IP	Contact
TT16-ABR	IP44	1NO 1NC
TT16-ABR	IP44	2NO 2NC
TT16-ABR	IP65	1NO 1NC
TT16-ABR	IP65	2NO 2NC

TT16-MBR รุ่นกดไม่ล็อค

Type	IP	Contact
TT16-MBR	IP44	1NO 1NC
TT16-MBR	IP44	2NO 2NC
TT16-MBR	IP65	1NO 1NC
TT16-MBR	IP65	2NO 2NC

TT16-ABS/MBS





TT16-ABS รุ่นกดล็อค

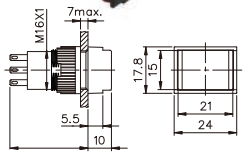
Type	IP	Contact
TT16-ABS	IP44	1NO 1NC
TT16-ABS	IP44	2NO 2NC
TT16-ABS	IP65	1NO 1NC
TT16-ABS	IP65	2NO 2NC

TT16-MBS รุ่นกดไม่ล็อค

Type	IP	Contact
TT16-MBS	IP44	1NO 1NC
TT16-MBS	IP44	2NO 2NC
TT16-MBS	IP65	1NO 1NC
TT16-MBS	IP65	2NO 2NC

TT16-ABL/MBL





TT16-ABL รุ่นกดล็อค

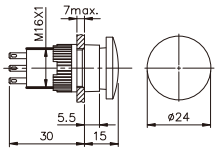
Type	IP	Contact
TT16-ABL	IP44	1NO 1NC
TT16-ABL	IP44	2NO 2NC
TT16-ABL	IP65	1NO 1NC
TT16-ABL	IP65	2NO 2NC

TT16-MBL รุ่นกดไม่ล็อค

Type	IP	Contact
TT16-MBL	IP44	1NO 1NC
TT16-MBL	IP44	2NO 2NC
TT16-MBL	IP65	1NO 1NC
TT16-MBL	IP65	2NO 2NC

TT16-AMR/MMR





TT16-AMR รุ่นหัวเห็ดใหญ่กดล็อค

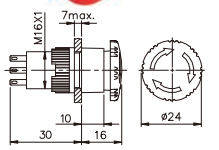
Type	IP	Contact
TT16-AMR	IP44	1NO 1NC
TT16-AMR	IP44	2NO 2NC
TT16-AMR	IP65	1NO 1NC
TT16-AMR	IP65	2NO 2NC

TT16-MMR รุ่นหัวเห็ดใหญ่กดไม่ล็อค

Type	IP	Contact
TT16-MMR	IP44	1NO 1NC
TT16-MMR	IP44	2NO 2NC
TT16-MMR	IP65	1NO 1NC
TT16-MMR	IP65	2NO 2NC

TT16-BKR



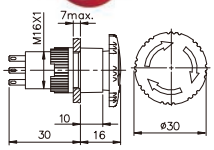


TT16-BKR รุ่นหัวเห็ดกดไม่ล็อค

Type	IP	Contact
TT16-BKR	IP44	1NO 1NC
TT16-BKR	IP44	2NO 2NC
TT16-BKR	IP65	1NO 1NC
TT16-BKR	IP65	2NO 2NC

TT16-BKLR





TT16-BKLR รุ่นหัวเห็ดใหญ่กดล็อค

Type	IP	Contact
TT16-BKLR	IP44	1NO 1NC
TT16-BKLR	IP44	2NO 2NC
TT16-BKLR	IP65	1NO 1NC
TT16-BKLR	IP65	2NO 2NC

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ IP44 IP65
Ø16

MODEL DESIGNATION

TT16 - AI R 4 1 R 1
(1) (2) (3) (4) (5) (6) (7)

Designation	Signal	Description		
1.Mounting hole	TT16	Ø16 mm Series		
2.Type	AI	Illuminated Push Button (Alternate)(LED Lamp)		
	ML	Illuminated Push Button (Momentary)(LED Lamp)		
	PL	Pilot Lamp (LED Lamp)		
3.Shape	R	Round		
	S	Square		
	L	Rectangular		
4.Operator protection	4	IP40		
	6	IP65		
5.Voltage	1	110V AC LED Lamp		
	2	220V AC LED Lamp		
	5	6V LED Lamp		
	7	24V LED Lamp		
	9	12V LED Lamp		
6.Lens color	R	Red	W	White
	G	Green	BL	Blue
	Y	Yellow		
7.Contact blocks	1	1a1b (1NO 1NC)		
	2	2a2b (2NO 2NC)		

CHARACTERISTICS

Contact resistance	50 mΩ max. (intial)
Insulation resistance	100 MΩ min. (at 500V DC)
Dielectric strength	1000V AC, 50/ 60 Hz for 1 minute between non-continuous terminals 2000V AC, 50/ 60 Hz for 1 minute between current-carrying part and ground.
Vibration	Mechanical durability : 10 to 55 Hz 1.5 mm double amplitube
Shock	Mechanical durability : Approx. 500 m/ sec^2 (approx. 50 G's) Malfunction durability : Approx. 500 m/ sec^2 (approx. 50G's)
Ambient operating temperature	Operating : -25°C to 55°C Storange : -30°C to 80°C
Humidity	45% to 80% RH
Mechanical life (min)	Momentary : 2,000,000
	Alternate/ BKR : 250,000
Electrical life (min)	Momentary : 100,000 (1,800 operations/ hour) Alternate/ BKR : 100,000 (1,200 operations/ hour)

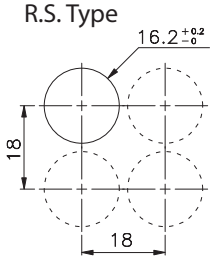
RATING (CONTACT)

Rated insulation voltage			250 V AC		125 V AC
Rated continuous current (A)			3A		5A
Rated operating current (A)					
AC			DC		
Voltage	AC13	AC12	Voltage	DC13	DC12
110 V	0.7 A	1 A	12 V	0.7 A	1 A
220 V	0.5 A	0.5 A	24 V	0.7 A	1 A

AC13/DC13 : Inductive load; AC12/DC12 : Resistive load

PANEL CUT-OUT

R.S. Type



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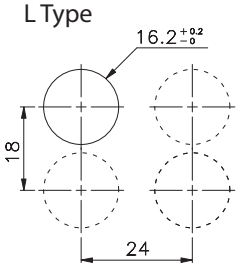
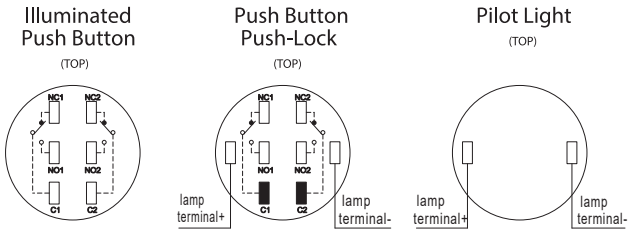


TERMINAL ARRANGEMENT



LAMP DESIGNATION

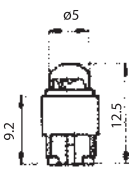
Lamp type	Signal	Rated voltage	Signal	Operating voltage	Rated current	Color code	Signal	Designation
LED	TL	6V AC/ DC	6	6V AC/ DC	26 mA	Red Blue Green Orange White	R BL G O W	TL -6R
		12V AC/ DC	12	12V AC/ DC	26 mA			
		24V AC/ DC	24	24V AC/ DC	26 mA			
		110V AC	110	110V AC	1.5 mA			
		220V AC	220	220V AC	1.5 mA			

Designation need to be completed according to signals.

LAMP DIMENSIONS (For TT16)

TL -□□ (LED)





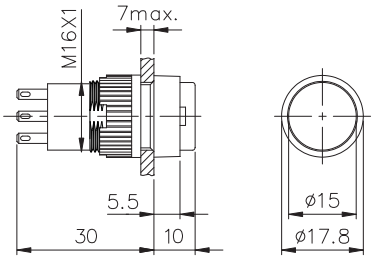
หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ IP44 IP65
Ø16

สวิตช์กดพร้อมแลมป์ ชนิดคอนแทคสั้น

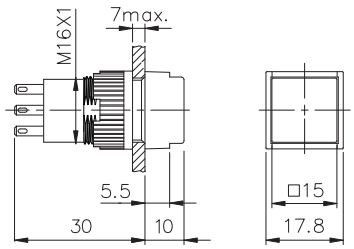




Bulb	Type	IP	Description	Contact
LED	TT16-ALR-4	IP44	กดล็อค	1NO 1NC
	TT16-ALR-4	IP44	กดล็อค	2NO 2NC
	TT16-ALR-6	IP65	กดล็อค	1NO 1NC
	TT16-ALR-6	IP65	กดล็อค	2NO 2NC
LED	TT16-MLR-4	IP44	กดไม่ล็อค	1NO 1NC
	TT16-MLR-4	IP44	กดไม่ล็อค	2NO 2NC
	TT16-MLR-6	IP65	กดไม่ล็อค	1NO 1NC
	TT16-MLR-6	IP65	กดไม่ล็อค	2NO 2NC

สวิตช์กดพร้อมแลมป์ ชนิดคอนแทคสั้น

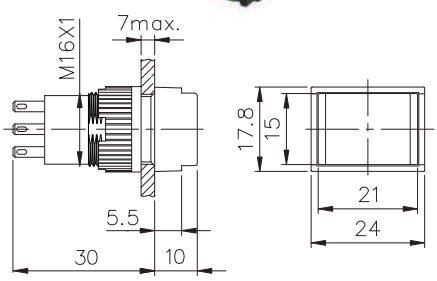




Bulb	Type	IP	Description	Contact
LED	TT16-ALS-4	IP44	กดล็อค	1NO 1NC
	TT16-ALS-4	IP44	กดล็อค	2NO 2NC
	TT16-ALS-6	IP65	กดล็อค	1NO 1NC
	TT16-ALS-6	IP65	กดล็อค	2NO 2NC
LED	TT16-MLS-4	IP44	กดไม่ล็อค	1NO 1NC
	TT16-MLS-4	IP44	กดไม่ล็อค	2NO 2NC
	TT16-MLS-6	IP65	กดไม่ล็อค	1NO 1NC
	TT16-MLS-6	IP65	กดไม่ล็อค	2NO 2NC

สวิตช์กดพร้อมแลมป์ ชนิดคอนแทคสั้น





Bulb	Type	IP	Description	Contact
LED	TT16-ALL	IP44	กดล็อค	1NO 1NC
	TT16-ALL	IP44	กดล็อค	2NO 2NC
	TT16-ALL	IP65	กดล็อค	1NO 1NC
	TT16-ALL	IP65	กดล็อค	2NO 2NC
LED	TT16-MLL	IP44	กดไม่ล็อค	1NO 1NC
	TT16-MLL	IP44	กดไม่ล็อค	2NO 2NC
	TT16-MLL	IP65	กดไม่ล็อค	1NO 1NC
	TT16-MLL	IP65	กดไม่ล็อค	2NO 2NC

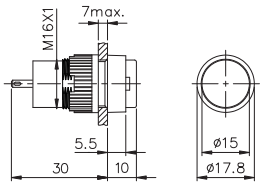
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PILOT LAMP
ไพล็อตแลมป์ IP44 IP65
Ø16

ไพล็อตแลมป์ ชนิดคอนแทคสั้น

TT16-PLR

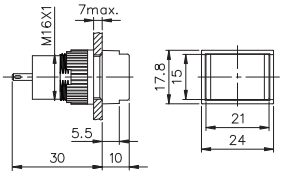




Type	IP	Description	Contact
TT16-PLR	IP44	หลอด LED	1NO 1NC
TT16-PLR	IP65	หลอด LED	1NO 1NC

TT16-PLL

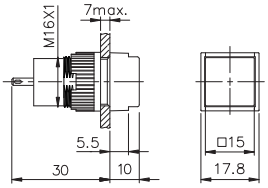




Type	IP	Description	Contact
TT16-PLL	IP44	หลอด LED	1NO 1NC
TT16-PLL	IP65	หลอด LED	1NO 1NC

TT16-PLS



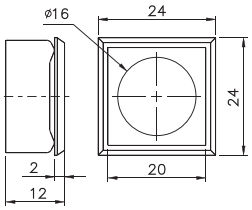


Type	IP	Description	Contact
TT16-PLS	IP44	หลอด LED	1NO 1NC
TT16-PLS	IP65	หลอด LED	1NO 1NC

COVER

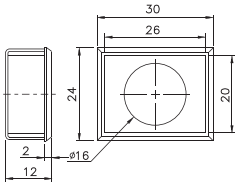
TT16-FS
Square Cover





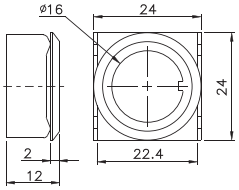
TT16-FL
Rectangular Cover





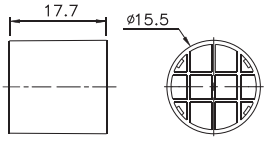
TT16-FR
Round Cover





Terminal Cover





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

SELECTOR SWITCH / KEY SWITCH
สวิตช์ลูกศร / สวิตช์กุญแจ IP44 IP65
Ø16

TT16 - KS R 4 B 1 1 1 A
1 2 3 4 5 6 7 8 9

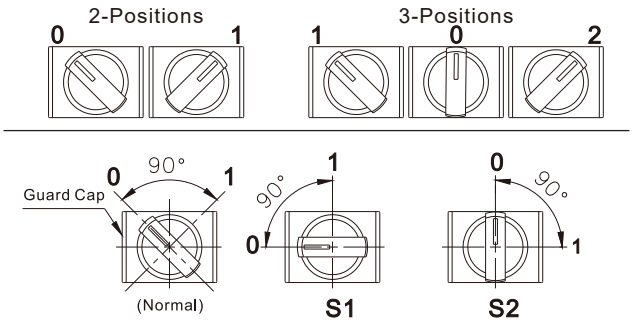
MODEL DESIGNATION

KSR/KSS/KLS only black.

Designation	Signal	Description
1.Mounting hole	TT-16	Ø16 mm Series
2.Type	SS	Knob Operator
	KS	Key Operator
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Operator protection	4	IP44
	6	IP65
5.Lens color	R	Red
	G	Green
	B	Black
6.Positions	1	90° 2-Positions
	2	90° 2-Positions Spring return from right
	7	90° 3-Positions
	8	90° 3-Positions Spring return from right
	9	90° 3-Positions Spring return from left
	0	90° 3-Positions 2-Ways Spring return

Designation	Signal	Description	
		2-Positions	3-Positions
7.Type contact blocks fitted	1	1a1b	-
	2	2a2b	1a1b 0 1a1b
8.Key withdrawable	1	0.1 Key withdrawable	
	2	0 Key withdrawable	
	3	1 Key withdrawable	
	4	0.1.2 Key withdrawable	
	5	0 Key withdrawable	
9.Key no.	A	331	
	B	311	
	C	131	

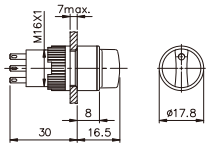
KEY WITHDRAWABLE



DIMENSION

TT16-SSR สวิตช์ลูกศร

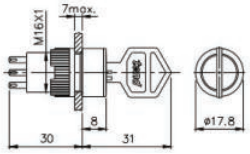




Type	IP	Contact
TT16-SSR	IP44	1NO 1NC
TT16-SSR	IP44	2NO 2NC
TT16-SSR	IP65	1NO 1NC
TT16-SSR	IP65	2NO 2NC

TT16-KSR สวิตช์กุญแจ

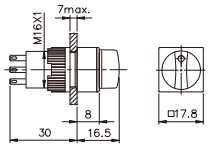




Type	IP	Contact
TT16-KSR	IP44	1NO 1NC
TT16-KSR	IP44	2NO 2NC
TT16-KSR	IP65	1NO 1NC
TT16-KSR	IP65	2NO 2NC

TT16-SSS สวิตช์ลูกศร

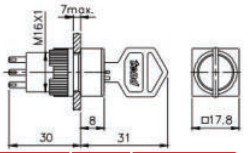




Type	IP	Contact
TT16-SSS	IP44	1NO 1NC
TT16-SSS	IP44	2NO 2NC
TT16-SSS	IP65	1NO 1NC
TT16-SSS	IP65	2NO 2NC

TT16-KSS สวิตช์กุญแจ

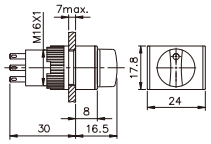




Type	IP	Contact
TT16-KSS	IP44	1NO 1NC
TT16-KSS	IP44	2NO 2NC
TT16-KSS	IP65	1NO 1NC
TT16-KSS	IP65	2NO 2NC

TT16-SSL สวิตช์ลูกศร

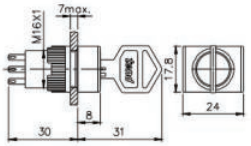




Type	IP	Contact
TT16-SSL	IP44	1NO 1NC
TT16-SSL	IP44	2NO 2NC
TT16-SSL	IP65	1NO 1NC
TT16-SSL	IP65	2NO 2NC

TT16-KSL สวิตช์กุญแจ





Type	IP	Contact
TT16-KSL	IP44	1NO 1NC
TT16-KSL	IP44	2NO 2NC
TT16-KSL	IP65	1NO 1NC
TT16-KSL	IP65	2NO 2NC

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend PUSH BUTTON SWITCH
สวิตช์กด IP44 IP65
Ø16

MODEL DESIGNATION

TN16 - AB R 4 R 1 P

1 2 3 4 5 6 7

Designation	Signal	Description
1.Mounting hole	TN-16	Ø16 mm Series
2.Type	AB	Push Button (Alternate)
	MB	Push Button (Momentary)
	AM	Push Button (Alternate)(Mushroom Head)
	MM	Push Button (Momentary)(Mushroom Head)
	BK	Push-Lock Turn-Reset
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Operator protection	4	IP40
	6	IP65
5.Lens color	R	Red
	G	Green
	Y	Yellow
	O	Orange
	W	White
	BL	Blue
	B	Black
6.Contact blocks	1	1a1b
	2	2a2b
	3	3a3b
7.Terminal	None	Solder/ Plug-in
	P	PC Board

- AM/MM/BK Types only available in round shape.
- AM/MM Types available in Red, Yellow, Green, Black Colors.
- BK Type available in Red colors

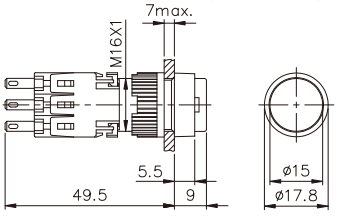
CHARACTERISTICS

Contact resistance	50 mΩ max. (intial)
Insulation resistance	100 MΩ min. (at 500V DC)
Dielectric strength	1000V AC, 50/ 60 Hz for 1 minute between non-continuous terminals 2000V AC, 50/ 60 Hz for 1 minute between current-carrying part and ground.
Vibration	Mechanical durability : 10 to 55 Hz 1.5 mm double amplitube
Shock	Mechanical durability : Approx. 500 m/ sec² (approx. 50 G's) Malfunction durability : Approx. 500 m/ sec² (approx. 50G's)
Ambient temperature	Operating : -25°C to 55°C Storange : -30°C to 80°C
Humidity	45% to 80% RH
Mechanical life(min)	Momentary : 2,000,000 Alternate/ BKR : 250,000
Electrical life(min)	Momentary : 100,000 (1,800 operations/ hour) Alternate/ BKR : 100,000 (1,200 operations/ hour)

DIMENSIONS

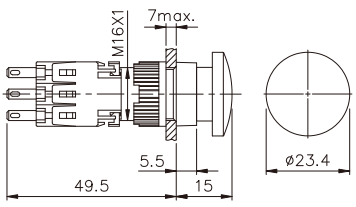
TN16-ABR (1NO + 1NC) (กดล็อค)
TN16-MBR (กดไม่ล็อค)





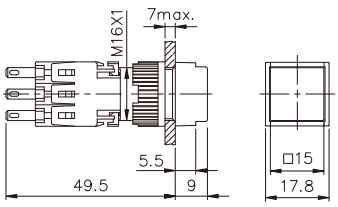
TN16-AMR (1NO + 1NC) (กดล็อค)
TN16-MMR (กดไม่ล็อค)





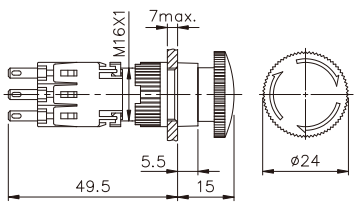
TN16-ABS (1NO + 1NC) (กดล็อค)
TN16-MBS (กดไม่ล็อค)





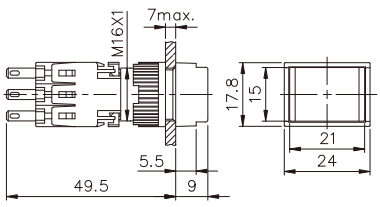
TN16-BKR (1NO + 1NC) (กดล็อค)





TN16-ABL (1NO + 1NC) (กดล็อค)
TN16-MBL (กดไม่ล็อค)



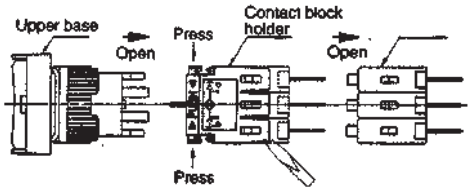


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

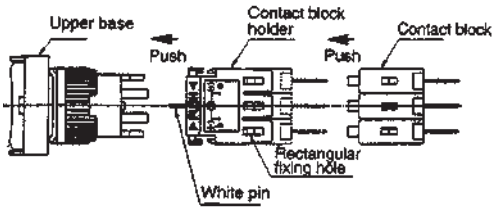
GENERAL INFORMATION
สวิตช์กด IP44 IP65
Ø16

FEATURES

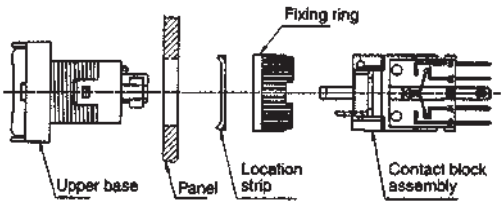
- TN16 series are highly modular detachable swithes. Including upper base, contact block holder and contact block. When disassembling, press the contact block holder in the direction of arrow with "Push" by man ual or a flat " _ " screwdriver to disassemble contact block assembly from upper base. To disassemble con tact block from contact block holder, insert the screw driver in the groove between contact block and contact block holder, then twist it.



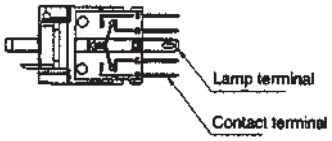
- When Assembling the contact block and contact block holder, aiming the rectangular spot on the contact block to the rectangular fixing hole on the contact block holder, then push in Aiming the white pin of the contact block assembly to the slot of white pin located on the upper base to assemble the switch.



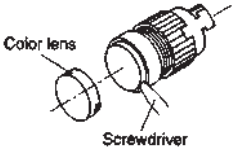
- Mounting method



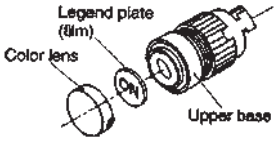
- The lamp terminal for pilot lamp and illuminated push button switch is in the middle position which is 90 degrees from other terminals.



- Method of replacing color lens, insert a flat " _ " screw-drive into the groove of the lens twist it.

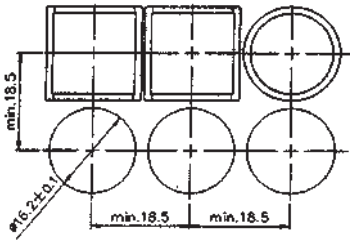


- The legend plate can be removed by detaching the lens, and replace the legend plate you need.

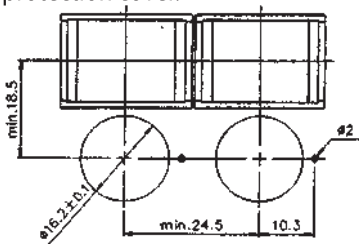


THE SPACE OF MOUNTING HOLES (MM)

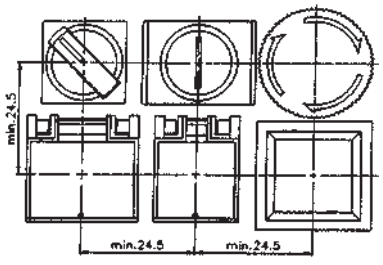
- (Round, square) pilot lamp, illuminated push button Switch



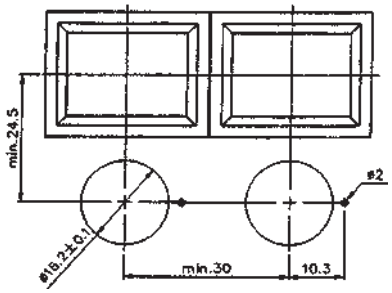
- (Rectangular) pilot lamp, illuminated push button Switch (Square) protection cover.



- (Round, square rectangular) selector, key switch (Round, square) waterproof cap, (Rectangular) protection cover Mushroom head, push-lock push button Switch



- Recangular waterproof cap



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์ IP44 IP65
Ø16

MODEL DESIGNATION

TN16 - AN R 4 1 R 1 P
① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Designation	Signal	Description
1.Mounting hole	TN16	Ø16 mm Series
2.Type	AI	Illuminated Push Button (Alternate) (Incandescent Lamp)
	AL	Illuminated Push Button (Alternate) (LED Lamp)
	AN	Illuminated Push Button (Alternate) (Neon Lamp)
	MI	Illuminated Push Button (Momentary) (Incandescent Lamp)
	ML	Illuminated Push Button (Momentary) (LED Lamp)
	MN	Illuminated Push Button (Momentary) (Neon Lamp)
	PI	Pilot Lamp (Incandescent Lamp)
	PL	Pilot Lamp (LED Lamp)
	PN	Pilot Lamp (NeonLamp)
3.Shape	R	Round
	S	Square
	L	Rectangural

AL/ML/PL use DC voltage; AN/MN/PN use AC voltage

Designation	Signal	Description
4.Operator protection	4	IP40
	6	IP65
5.Voltage	1	110V AC
	2	220V AC
	3	380V AC
	5	6V
	7	24V
	8	28V
	9	12V
6.Lens color	R	Red
	G	Green
	Y	Yellow
	O	Orange
	W	White
	BL	Blue
7.Contact blocks	1	1a1b
	2	2a2b
	3	3a3b
8.Terminal	None	Solder/ Plug-in
	P	PC Board

CHARACTERISTICS

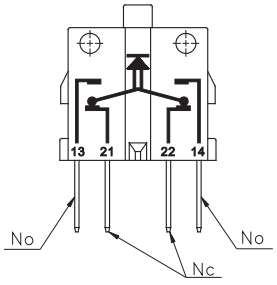
Contact resistance	50 mΩ max. (intial)
Insulation resistance	100 MΩ min. (at 500V DC)
Dielectric strength	1000V AC, 50/ 60 Hz for 1 minute between non-continuous terminals 2000V AC, 50/ 60 Hz for 1 minute between current-carrying part and ground.
Vibration	Mechanical durability : 10 to 55 Hz 1.5 mm double amplitube
Shock	Mechanical durability : Approx. 500 m/ sec^2 (approx. 50 G's) Malfunction durability : Approx. 500 m/ sec^2 (approx. 50G's)
Ambient temperature	Operating : -25°C to 55°C Storange : -30°C to 80°C
Humidity	45% to 80% RH
Mechanical life(min)	Momentary : 2,000,000 Alternate/ BKR : 250,000
Electrical life(min)	Momentary : 100,000 (1,800 operations/ hour) Alternate/ BKR : 100,000 (1,200 operations/ hour)

RATING (CONTACT)

Pated insulation voltage			250 V AC/DC		
Pated continuous current (A)			5A		
Pated operating current (A)					
AC			DC		
Voltage	AC13	AC12	Voltage	DC13	DC12
110V	1.0	1.5	24V	0.7	1
220V	0.7	1.0	110V	0.15	0.2

AC13/DC13 : Inductive load : AC12/DC12 : Resistive load

CONTACT CONFIGURATION

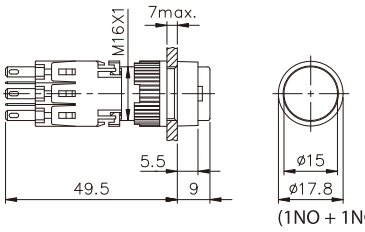


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

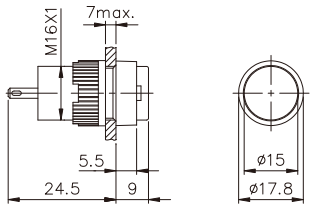
ILLUMINATED PUSH BUTTON SWITCH / PILOT LAMP
สวิตช์กดมีแลมป์ IP44 IP65
Ø16

DIMENSIONS

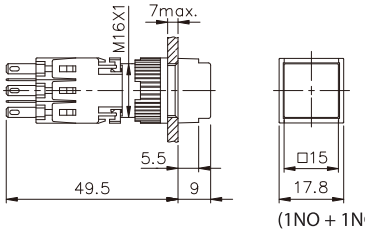
TN16-AIR / ALR / ANR (กดล็อค)
TN16-MIR / MLR / MNR (กดไม่ล็อค)

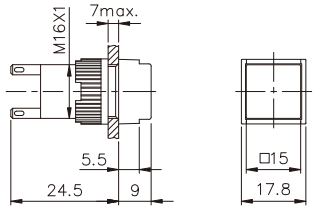
TN16-PIR / PLR / PNR

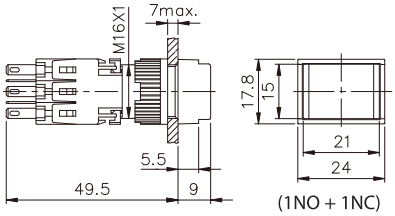
TN16-AIS / ALS / ANS (กดล็อค)
TN16-MIS / MLS / MNS (กดไม่ล็อค)

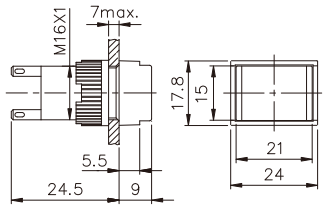
TN16-PIS / PLS / PNS

TN16-AIL / ALL / ANL (กดล็อค)
TN16-MIL / MLL / MNL (กดไม่ล็อค)

TN16-PIL / PLL / PNL

LAMP DESIGNATION

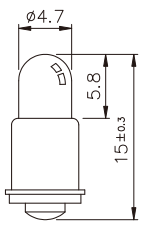
หมายเหตุ : รุ่น TN16 LED สีน้ำเงิน, สีเขียว, สีขาว ต้องเพิ่มราคาอีก 20 บาท

Lamp type	Signal	Rated voltage	Signal	Operating voltage	Rated current	Color code	Signal	Designation
Incandescent	I	6.3V AC/ DC	6	6.3V AC/ DC	110 mA	None	None	I - 6
		14V AC/ DC	14	12V AC/ DC	50 mA			
		28V AC/ DC	28	24/ 28V AC/ DC	25 mA			
LED	L	6V DC	6	6V DC	26 mA	Red Orange	R O	L - 6R
		12V DC	12	12V DC	26 mA	Green Blue	G BL	
		24V DC	24	24V DC	26 mA	Yellow White	Y W	
Neon	N	110V AC	110	110V AC	1.5 mA	Red Green	R G	N - 110R
		220V AC	220	220V AC	1.5 mA			
		380V AC	380	380V AC	1.5 mA			

● Designation need to be completed according to signals.

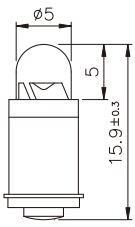
LAMP DIMENSIONS (T1 3/4 BASE)

2T1.75□

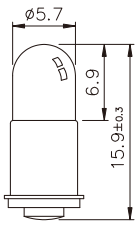
Incandescent

2T1.75 L□

LED สีแดง, ส้ม, เหลือง
LED สีเขียว, น้ำเงิน, ขาว

2T1.75□

Neon

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tend SELECTOR SWITCH / KEY SWITCH

สวิตช์กดลูกศร / สวิตช์กุญแจ IP40 IP65

Ø16

MODEL DESIGNATION

TN16 - KS R 4 B 1 1 1 A P

1 2 3 4 5 6 7 8 9 10

Designation	Signal	Description
1.Mounting hole	TN-16	ø16 mm Series
2.Type	SS	Knob Operator
	KS	Key Operator
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Operator protection	4	IP 40
	6	IP 65
5.Lens color	R	Red
	G	Green
	B	Black
6.Positions	1	90° 2 - Positions
	2	90° 2 - Positions Spring return from right
	3	180° 3 - Positions
	4	150° 3 - Positions Spring return from right
	5	150° 3 - Positions Spring return from left
	6	150° 3 - Positions 2-Ways Spring return

Designation	Signal	Description		
6.Positions	7		90° 3 - Positions	
	8		90° 3 - Positions Spring return from right	
	9		90° 3 - Positions Spring return from left	
	0		90° 3 - Positions 2-Ways Spring return	
7.Type of contact blocks fitted			2 Positions	3 Positions
	1		1a1b	-
	2		2a2b	1a1b 0 1a1b
	3		3a3b	1a1b 1a1b 1a1b
8.Key withdrawable	1	2 Positions	0.1 Key withdrawable	
	2		0 Key withdrawable	
	3		1 Key withdrawable	
	4	3 Positions	0.1.2 Key withdrawable	
	5		0 Key withdrawable	
9.Key no.	A	F	2132	3123
	B	G	2231	3133
	C	H	2313	3213
	D	I	2331	3231
	E	J	3131	3331
10.Terminal	None		Solder / Plug-in	
	P		PC Board	

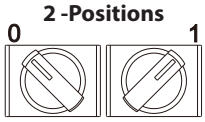
● KSR/KSS/KSL Type only available in black colors.

CHARACTERICS

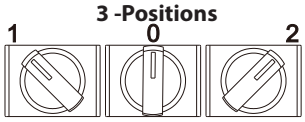
Contact resistance	50 mΩ max. (intial)
Insulation resistance	100 MΩ min. (at 500V DC)
Dielectric strength	1000V AC, 50/ 60 Hz for 1 minute between non-continuous terminals 2000V AC, 50/ 60 Hz for 1 minute between current-carrying part and ground.
Vibration	Mechanical durability : 10 to 55 Hz 1.5 mm double amplitube
Shock	Mechanical durability : Approx. 500 m/ sec² (approx. 50 G's) Malfunction durability : Approx. 500 m/ sec² (approx. 50G's)
Ambient temperature	Operating : -25°C to 55°C Storange : -30°C to 80°C
Humidity	45% to 80% RH
Mechanical life(min)	250,000 operations
Electrical life(min)	100,000 operations

KEY WITHDRAWABLE

2 -Positions



3 -Positions



● 2 -Positions

Key withdrawable / Positions	1		2		3	
	0	1	0	1	0	1
1	•	•	•	-	-	•
2	•	•	•	-	-	•

● 3 -Positions

Key withdrawable / Positions	4			5		
	1	0	2	1	0	2
3	•	•	•	-	•	-
4				-	•	-
5				-	•	-
6				-	•	-
7				-	•	-
8				-	•	-
9				-	•	-
0				-	•	-

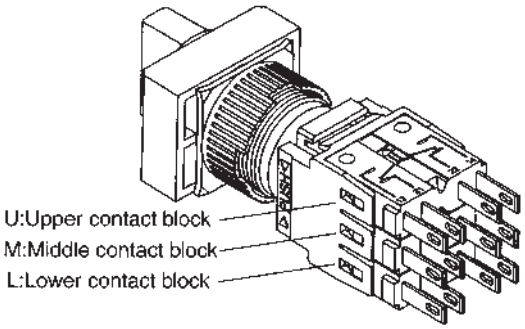
● KEY WITHDRAWABLE

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

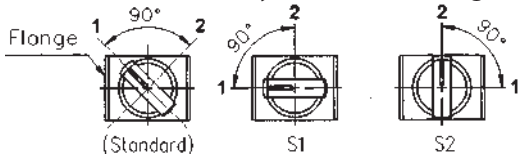
SELECTOR SWITCH / KEY SWITCH
สวิตช์กดลูกศร / สวิตช์กุญแจ IP40 IP65
Ø16

CONTACT BLOCK POSITIONS

● **View from back**



The operating angle range can be changed asshown below by setting the attached flange shifted by 45°in combination with the contact block.In this case, the minimum mounting pitch is 26 mm because the contact block is shifted by 45°from the flange.



● **Contact arrangement and operator positions:**

2-Positions selector switch / Key switch

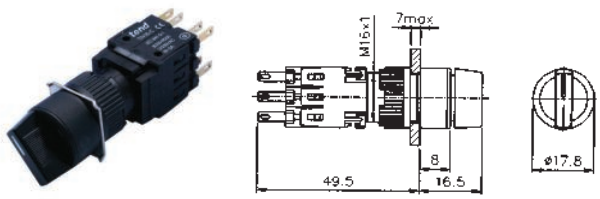
Contact arrangement		1 NO + 1 NC (1a1b)	2 NO + 2 NC (2a2b)	3NO + 3 NC (3a3b)
Operator position	Left	21 o—o 22 13 o o14	21 o—o22 13 o o14 21 o—o22 13 o o14	21 o—o22 13 o o14 21 o—o22 13 o o14 21 o—o22 13 o o14
	Right	21 o o22 13 o—o14	21 o o22 13 o—o14 21 o o22 13 o—o14	21 o o22 13 o—o14 21 o o22 13 o—o14 21 o o22 13 o—o14

3-Positions selector switch / Key switch

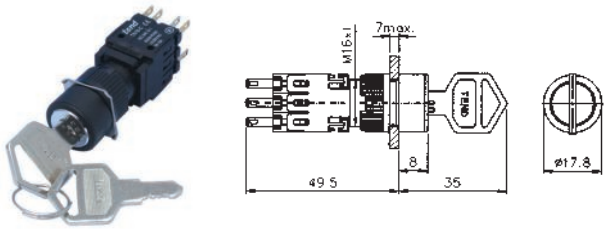
Contact arrangement		2 NO + 2 NC (2a2b)	3NO + 3 NC (3a3b)
Operator position	Left	U L 21 o—o22 21 o o22 13 o o14 13 o—o14	U M L 21 o—o22 21 o o22 21 o o22 13 o o14 13 o—o14 13 o—o14
	Center	21 o—o22 21 o—o22 13 o o14 13 o o14	21 o—o22 21 o—o22 21 o—o22 13 o o14 13 o o14 13 o o14
	Right	21 o o22 21 o—o22 13 o—o14 13 o o14	21 o o22 21 o o22 21 o—o22 13 o—o14 13 o—o14 13 o o14

DIMENSIONS

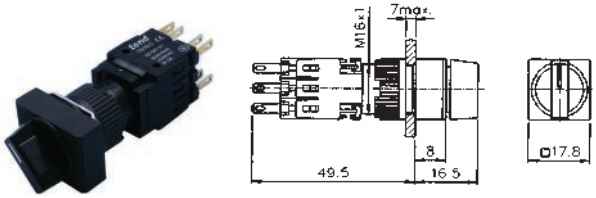
TN16-SSR (1NO+1NC)



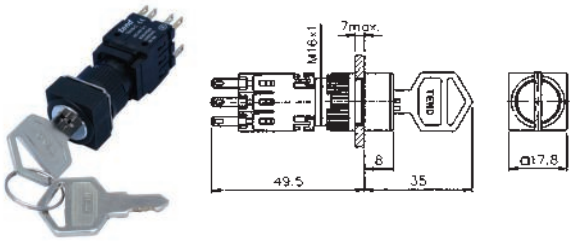
TN16-KSR (1NO+1NC)



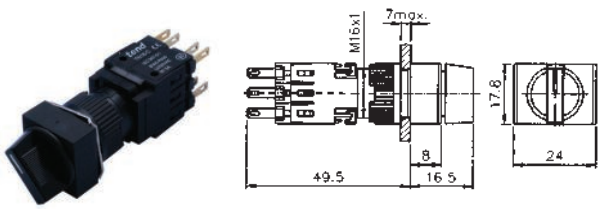
TN16-SSS (1NO+1NC)



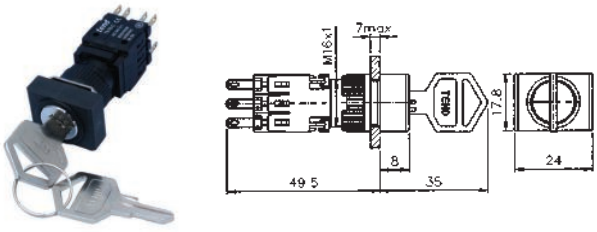
TN16-KSS (1NO+1NC)



TN16-SSL (1NO+1NC)



TN16-KSL (1NO+1NC)



หมายเหตุ:ราคานี้เป็นราคาชนิด IP40 สามารถเพิ่ม contact ได้ถึง 3a 3b (3NO+3NC) : เพิ่ม contact 1NO+1NC รุ่น TN16-C หรือ TN16-CP อีก

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

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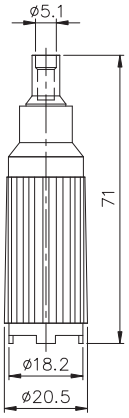
Ø16

DIMENSIONS

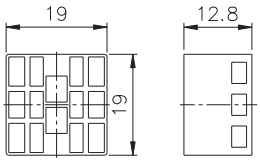
Lamp changer and wrench
TN16-A





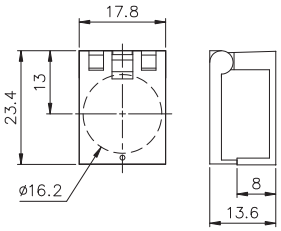
TN16-Terminal cover
TN16-TC





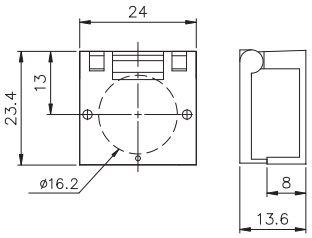
TN16-Round/square protection cover
TN16-GS





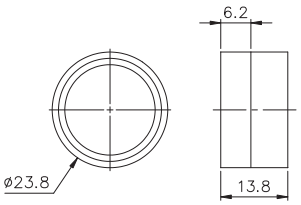
Rectangular protection cover
TN16-GL



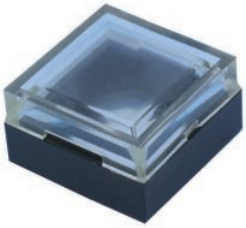


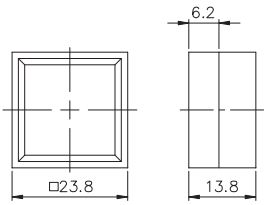
Round head duct-tight cover
TN16-WR



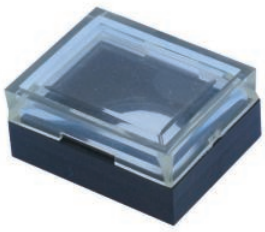


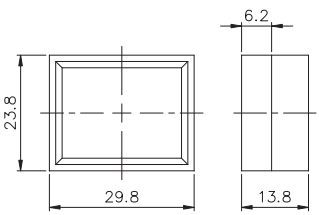
Square head duct-tight cover
TN16-WS





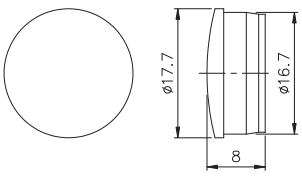
Rectangular head duct-tight cover
TN16-WL





Blanking plug
TN16-BP





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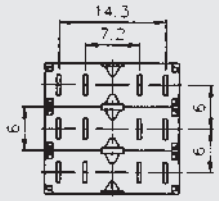
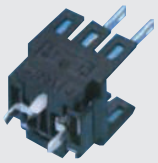
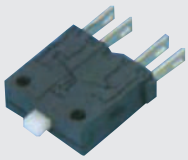
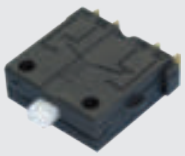
Ø16

Features	Model	Type	Designation		
			Item	Signal	Designation
	Contact blocks assembly	**TN16-A** B 1 P Please use signal for □	1.Contact blocks holder	B	contact blocks holder or push button
				I	contact blocks holder for Illuminated button
				S	contact blocks holder for SS,KS,BK
	(View -From back)		2.Contact blocks fitted	1	1a1b (1NO+1NC)
				2	2a2b (2NO+2NC)
				3	3a3b (3NO+3NC)
			3.Type of contact holder	None	Solder / Plug-in
				P	PC board terminal
TN16-BB 	Contact blocks holder	**TN16-A B** B Please use signal for □	Contact blocks holder	B	contact blocks holder for Push Button
TN16-BI 				I	contact blocks holder for Illuminated Push Button
TN16-BS 				S	contact blocks holder for SS,KS,BK
TN16-C 	Contact blocks	**TN16-C** P Please use signal for □	Contact blocks	None	Solder / Plug-in
TN16-CP 				P	PC Board
	Block	**TN16-D**			

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tend ILLUMINATED PUSH BUTTON SWITCH

สวิตช์กดมีแลมป์

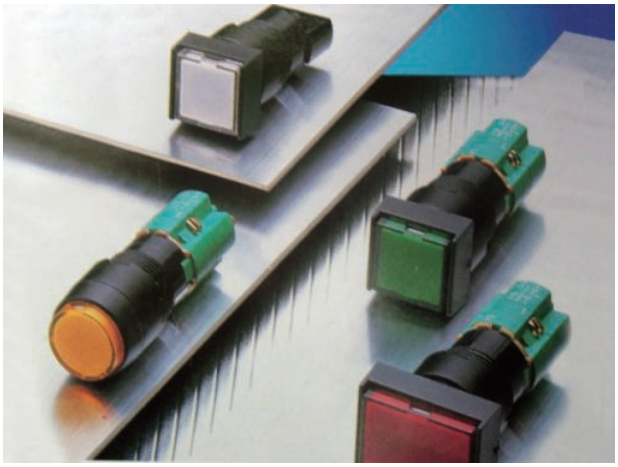
Ø16

ISO 9002

MODEL DESIGNATION

T16 - I R 1 R 1

① ② ③ ④ ⑤ ⑥



Designation	Signal	Description
1.Mounting hole	T16	ø16 mm Series
2.Type	I	Illuminated Push Button (Alternate)
	B	Illuminated Push Button (Momentary)
	P	Pilot Lamp
	K	Key Switch
	G	Switch Guard
	S	Sealing Cap
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Voltage	1	110 V AC
	2	220 V AC
	5	6 V
	6	18 V
	7	24 V
	8	28 V
	9	12 V
5.Lens color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
6.Contact blocks	1	1a1b (1NO 1NC)
	2	2a2b (2NO 2NC)
	3	3a3b (3NO 3NC)
	4	4a4b (4NO 4NC)

CHARACTERISTICS

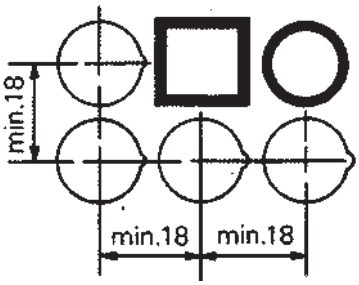
Contact resistance	15 mΩ max
Insulation resistance	100 MΩ
Dielectric strength	1,500 V AC, 50/60 Hz for 1 minute
Ambient temperature	Operating : - 20°C ~ 80 °C
Humidity	95% RH max.
Operation force	150 g
Service life	Mechanically : 1,000, 000 Operations min. Electrically : 100, 000 Operations min.
Weight	10 gr (1a1b)
	15 gr (4a4b)

RATING

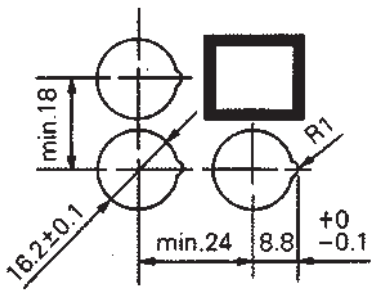
Rated voltage	Resistive load	Inductive	Contact	Length
125V AC	4A	3A	1a1b	41.5 mm
250V AC	4A	3A	2a2b	49.5 mm
24V DC	1A	0.7A	3a3b	57.5 mm
12V DC	0.2A	0.05A	4a4b	65.5 mm

PANEL MOUNTING

(R, S TYPE)



(L TYPE)



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ILLUMINATED PUSH BUTTON SWITCH
สวิตช์กดมีแลมป์
Ø16

ISO 9002

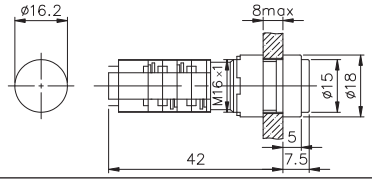
■ สวิตช์กดมีไฟในตัว (12V, 24V, 110V, 220V)

■ ไพล็อตแลมป์ (24V, 220V)

T16-IR (กดล็อค) 1a1b 2a2b 3a3b 4a4b

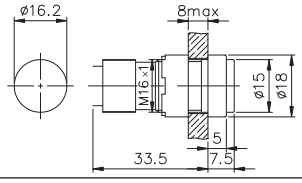
T16-BR (กดไม่ล็อค) 1a1b 2a2b 3a3b 4a4b





T16-PR ไพล็อตแลมป์

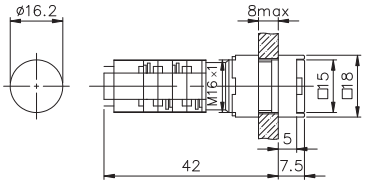




T16-IS (กดล็อค) 1a1b 2a2b 3a3b 4a4b

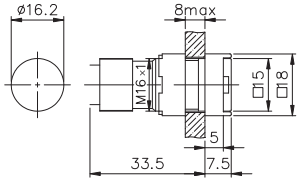
T16-BS (กดไม่ล็อค) 1a1b 2a2b 3a3b 4a4b





T16-PS ไพล็อตแลมป์

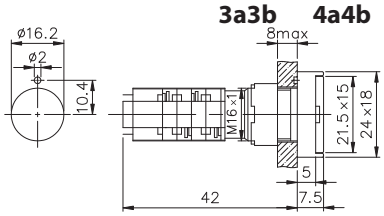




T16-IL (กดล็อค) 1a1b 2a2b 3a3b 4a4b

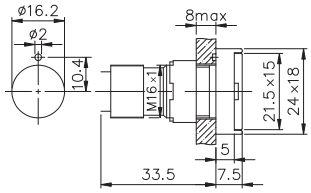
T16-BL (กดไม่ล็อค) 1a1b 2a2b 3a3b 4a4b



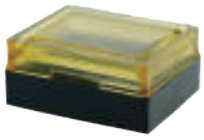


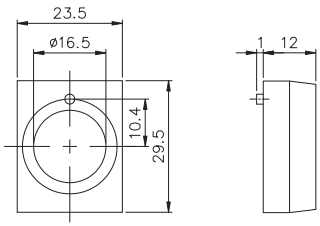
T16-PL ไพล็อตแลมป์





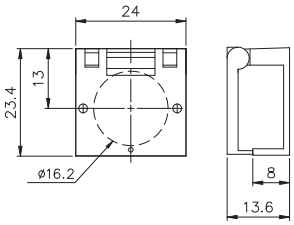
T16-WL





T16-GL





■ MINIATURE TELEPHONE BULB

T-4.5



Voltage	Wattage	Diameter	Length
v	w	mm	mm
6	0.3	4.2 ±0.2	16.5 +0.5 -1
12	0.5		
18	0.5		
24	0.5		
28	0.7		
110V	0.3		
220V	0.3		

■ TIGHTENING TOOL FOR FIXING LAMP

T16-A



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tend PROXIMITY SWITCH
พร็อคซิมิตี้สวิตช์

ISO 9002

CYLINDRICAL SPIRAL TYPE PROXIMITY SWITCH

FEATURES

- Wide operating voltage range : 3 wire 10-30V DC and 2 wire 90-250V AC.
- With operating indicator LED.
- May drive 200 mA loads directly.
- DC type with reverse-polarity proof.
- DC R5, R10, RL8, RL15, type with short circuit and over load proof.
- The lowest residual voltage.
- AC types are O-cross SCR output, operating stable.



TYPE

DC SWITCH TYPE

Type	NPN	TP-R2N	TP-R5N	TP-R10N
	PNP	TP-R2P	TP-R5P	TP-R10P
O.D.		M12	M18	M30
Detecting distance		2 mm	5 mm	10 mm

AC SWITCH TYPE

Type	TP-R2A	TP-R5A	TP-R10A
O.D.	M12	M18	M30
Detecting distance	2 mm	5 mm	10 mm

SPECIFICATIONS

DC SWITCHING TYPE

Item \ Type	TP-R2 □	TP-R5 □	TP-R10 □
Input power	10-30 V DC		
Current consumption	10 mA max.		
Load current	10 mA at 12 V DC, 200 mA at 24 V DC		
Response frequency	800 Hz	500 Hz	300 Hz
Voltage output decrease	0.7 V max.		
Ambient temperature	-20 ~ +70°C		
Humidity	35 ~ 95% RH		
Standard dectectable object	Iron 12 x 12 x 1t mm	Iron 18 x 18 x 1t mm	Iron 30 x 30 x 1t mm
Cable length	2 M		

AC SWITCHING TYPE

Item \ Type		TP-R2A	TP-R5A	TP-R10A
Input power		90V - 250 V AC		
Current consumption		4 mA		
Load	2-Wire	10 ~ 10 mA		
Current	3-Wire	0 ~ 200 mA		
Response	2-Wire	15 Hz		
Frequency	3-Wire	25 Hz		
Voltage output decrease		4 V		
Ambient temperature		-20 ~ +70°C		
Humidity		35 ~ 95% RH		
Standard dectectable object		Iron 12 x 12 x 1t mm	Iron 18 x 18 x 1t mm	Iron 30 x 30 x 1t mm
Cable length		2 M		

DC TYPE

Outside diameter			M12		M18		M30	
Type			Shielded	Non-shielded	Shielded	Non-shielded	Shielded	Non-shielded
Detecting distance			2 mm	4 mm	5 mm	8 mm	10 mm	15 mm
Type	NO	NPN	TP-R2N1	TP-RL4N1	TP-R5N1	TP-RL8N1	TP-R10N1	TP-RL15N1
		PNP	TP-R2P1	TP-RL4P1	TP-R5P1	TP-RL8P1	TP-R10P1	TP-RL15P1
	NC	NPN	TP-R2N2	TP-RL4N2	TP-R5N2	TP-RL8N2	TP-R10N2	TP-RL15N2
		PNP	TP-R2P2	TP-RL4P2	TP-R5P2	TP-RL8P2	TP-R10P2	TP-RL15P2
Standard detectable object (mm)			IRON 12 x 12 x 1t	IRON 18 x 18 x 1t	IRON 18 x 18 x 1t	IRON 30 x 30 x 1t	IRON 30 x 30 x 1t	IRON 54 x 54 x 1t
Response frequency			1.5 kHz	400 Hz	600 Hz	200 Hz	400 Hz	100 Hz

AC TYPE

Outside diameter		M18		M30	
Type		Shielded	Non-shielded	Shielded	Non-shielded
Detecting distance		5 mm	8 mm	10 mm	15 mm
Type SCR	NO	TP-R5A1	TP-RL8A1	TP-R10A1	TP-RL15A1
	NC	TP-R5A2	TP-RL8A2	TP-R10A2	TP-RL15A2
Standard detectable object (mm)		IRON 18 x 18 x 1t	IRON 30 x 30 x 1t	IRON 30 x 30 x 1t	IRON 54 x 54 x 1t
Response frequency		25 Hz			

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tend PROXIMITY SWITCH
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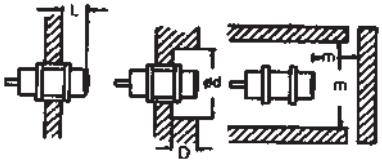
HINTS ON CORRECT USE

Influence of surrounding metals

When mounting a proximity switch flush with a metallic panel, be sure to provide a minimum distance as shown in Table 1 below to prevent the switch from being affected by metal objects other than the object to be detected.



Mutual interference

Be sure to space the two switches at a distance greater than that shown in Table 2, to prevent mutual interference.



Table 1 : Influence of Surrounding Metal (Unit : mm)

Item / Type	TP-R2 □(A)	TP-R5 □(A)	TP-R10 □(A)
L	0	0	0
d	12	18	30
D	0	0	0
m	8	20	40
n	18	27	45

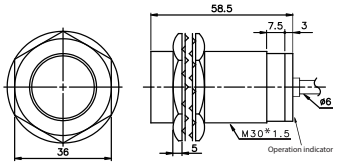
Table 2 : Mutual Interference (Unit : mm)

Item / Type	TP-R2 □(A)	TP-R5 □(A)	TP-R10 □(A)
A	30	50	100
B	15	35	60

TP-R TP-RL DIMENSIONS (mm)

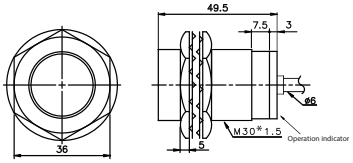


TP-R10A1, 2
TP-RL15A1, 2



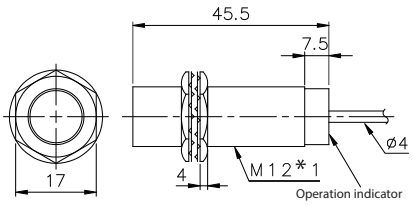


TP-R10N1, 2
TP-R10P1, 2
TP-RL15N1, 2
TP-RL15P1, 2

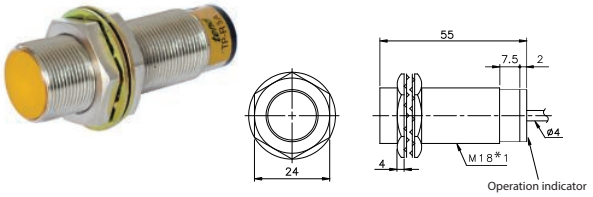




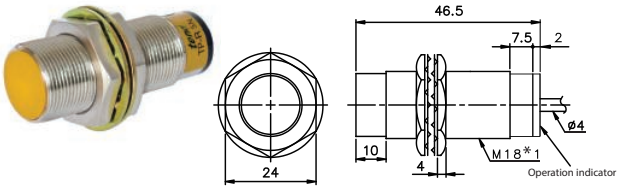
TP-R2N1, 2
TP-R2P1, 2
TP-RL4N1, 2
TP-RL4P1, 2



TP-R5A1, 2
TP-RL8A1, 2



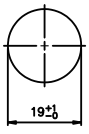
TP-R5N1, 2
TP-R5P1, 2
TP-RL8N1, 2
TP-RL8P1, 2



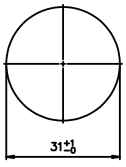
MOUNTING HOLES



TP-R2□A



TP-R5□A



TP-R10□A

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SQUARE TYPE PROXIMITY SWITCH



FEATURES

- Economic price.
- Wide operating voltage range : 3 wires 10 to 30 V DC and 2 wires 90 to 250 V AC.
- With operation indicator LED.
- May drive 150 mA loads directly.
- DC type with reverse-polarity proof.
- DC S5, S10, S20, type with short circuit and overload proof.
- The lowest residual voltage.
- AC type are O-cross SCR output, operating stable.

DC TYPE

Item			DC Type				AC Type		
Type	NO	NPN	TP-SN5N1	TP-S5N1	TP-S10N1	TP-S20N1	TP-S5A1 (SCR)	TP-S10A1 (SCR)	TP-S20A1 (SCR)
		PNP	TP-SN5P1	TP-S5P1	TP-S10P1	TP-S20P1			
	NC	NPN	TP-SN5N2	TP-S5N2	TP-S10N2	TP-S20N2	TP-S5A1 (SCR)	TP-S10A2 (SCR)	TP-S520A2 (SCR)
		PNP	TP-SN5P2	TP-S5P2	TP-S10P2	TP-S20P2			
Detecting distance			5 mm	7 mm	10 mm	20 mm	7 mm	10 mm	20 mm
Standard detectable object (mm)			IRON 18 x 18 x 1t	IRON 25 x 25 x 1t	IRON 30 x 30 x 1t	IRON 40 x 40 x 1t	IRON 25 x 25 x 1t	IRON 30 x 30 x 1t	IRON 40 x 40 x 1t
Response frequency			1 kHz	800 Hz	500 Hz	200 Hz	20 Hz		
Rated voltage			10 - 30 V DC				90 - 250 V AC		
Current sumption			15 mA max.				2 mA max.		
Load current			150 mA max.				3 - 200 mA		
Residual voltage			1.5 V max.				7 V max.		
Ambient temperature			Operating : -20 ~ 70°C						
The variation due to the variation of operating voltage			DC Type : ± 2.5% AC Type : ± 1%						
The variation due to the variation of ammbient temperature			From -20 ~ 70°C : ± 10%						
Enclosure rating			IP 67						
Cable length			2M						

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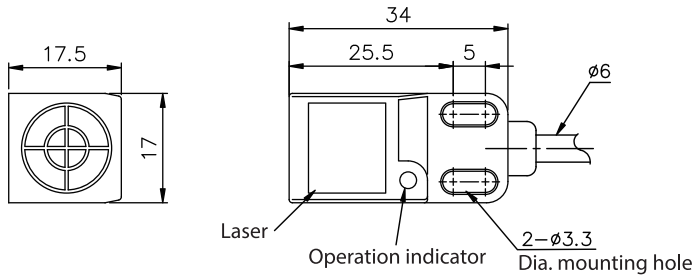
tend PROXIMITY SWITCH
พร็อคซิมิตี้สวิตช์

ISO 9002

TP-S DIMENSIONS (mm)

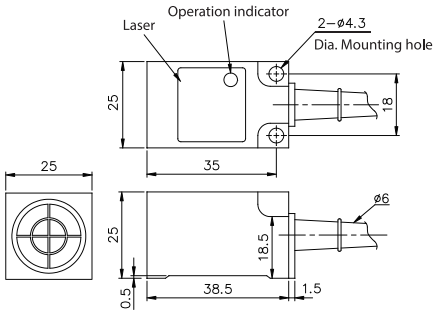
TP-SM5N1,2 (N1=NO , N2=NC)
TP-SM5P1,2 (P1=NO , P2=NC)



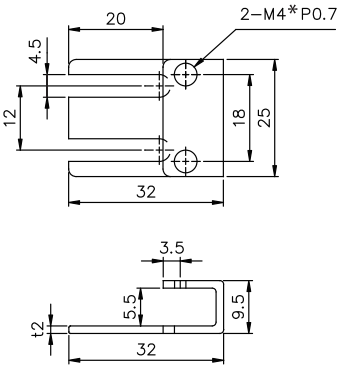


TP-S5N1,2 (N1=NO , N2=NC)
TP-S5P1,2 (P1=NO , P2=NC)
TP-S5A1,2 (A1=NO , A2=NC)



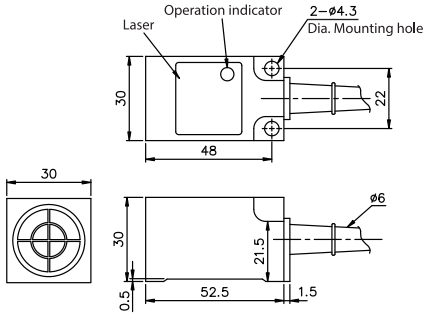


Fix bracket (mm)

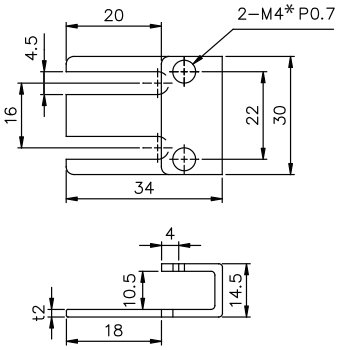


TP-S10N1,2 (N1=NO , N2=NC)
TP-S10P1,2 (P1=NO , P2=NC)
TP-S10A1,2 (A1=NO , A2=NC)



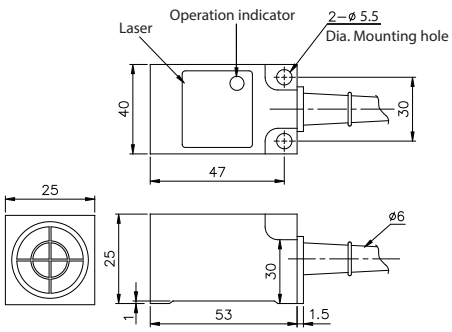


Fix bracket (mm)

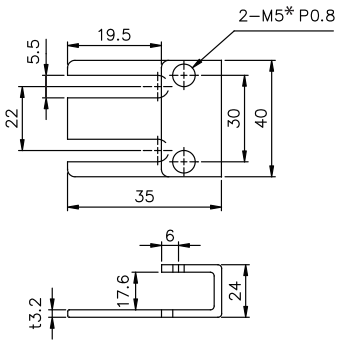


TP-S20N1,2 (N1=NO , N2=NC)
TP-S20P1,2 (P1=NO , P2=NC)
TP-S20A1,2 (A1=NO , A2=NC)





Fix bracket (mm)



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MINI MICRO SWITCH
มินิไมโครสวิตช์

MODEL DESIGNATION

TMV 10 2 ☐ - C
① ② ③ ④

1.Rating
10 10A
16 16A
21 21A

2.Actuator
0 Push button type
1 Long lever type
2 Short lever type
3 Long roller type
4 Short roller type
5 Extra lever type
6 Crank lever type

3.Rating(contact)
None 1C(com bottom terminal)
S 1C(com side terminal)

4.Rating(Terminal)
C #250 Terminal
D #187 Terminal

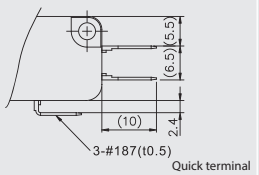
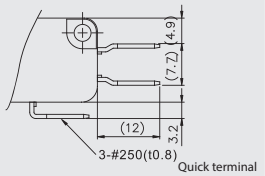
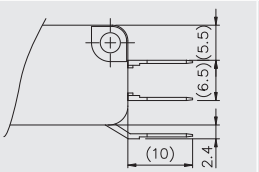
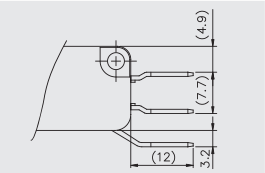
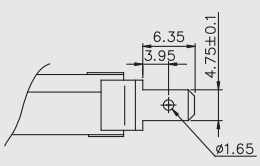
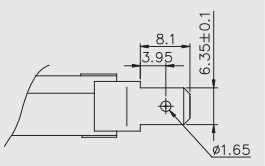
CONTACT CONFIGURATION



TYPES

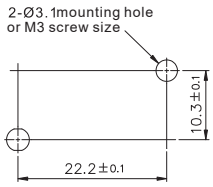
Actuator	COM terminal	Rating Contact	Rating terminal	10A	16A	21A
Push button type	Side Terminal / Bottom erminal	1C	#187 Terminal / #250 Terminal	TMV100-C/D TMV100S-C/D	TMV160-C/D TMV160S-C/D	TMV210-C/D TMV210S-C/D
Long lever type				TMV101-C/D TMV101S-C/D	TMV161-C/D TMV161S-C/D	TMV211-C/D TMV211S-C/D
Short lever type				TMV102-C/D TMV102S-C/D	TMV162-C/D TMV162S-C/D	TMV212-C/D TMV212S-C/D
Long roller type				TMV103C/D TMV103S-C/D	TMV163-C/D TMV163S-C/D	TMV213-C/D TMV213S-C/D
Short roller type				TMV104-C/D TMV104S-C/D	TMV164-C/D TMV164S-C/D	TMV214-C/D TMV214S-C/D
Extra lever type				TMV105-C/D TMV105S-C/D	TMV165-C/D TMV165S-C/D	TMV215-C/D TMV215S-C/D
Crank lever type				TMV106-C/D TMV106S-C/D	TMV166-C/D TMV166S-C/D	TMV216-C/D TMV216S-C/D

TYPE AND SHAPE OF TERMINAL

Type of terminal	#187 Terminal	#250 Terminal
Bottom Terminal		
Side Terminal		
Terminal size		

MOUNTING HOLES

Using M3 screw washer and spring washer as install. The twist force of 0.39~0.59N.m or 4~6kg.cm is recommended and applicable.



SPECIFICATIONS RATINGS

Item / Type	Rated voltage (V)	Noninductive load (A)				inductive load (A)				Inrush current (A)	
		Resistive load		Lamp load		Inductive load		Motor load			
		NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
10A	250V AC	10		1.5		6		2		24 max	
	8 V DC	10		3		6		3			
	30 V DC	6		3		6		3			
	125 V DC	0.6		0.1		0.6		0.1			
	250 V DC	0.3		0.005		0.3		0.05			
16A	250 V AC	16		2		10		3		40 max	
	8 V DC	16		4		10		6			
	30 V DC	10		4		10		4			
	125 V DC	0.6		0.1		0.6		0.1			
	250 V DC	0.3		0.05		0.3		0.05			
21A	250 V AC	21		3		12		4		50 max	
	8 V DC	21		5		12		7			
	30 V DC	14		5		12		5			
	125 V DC	0.6		0.1		0.6		0.1			
	250 V DC	0.3		0.05		0.3		0.05			

CHARACTERISTICS

Item / Type		TMV 10	TMV16	TMV21
Operating speed		0.1 mm. ~ 1 m/s		
Operating frequency		Mechanically : 240 Operations/min electrically : 20 Operations/min		
Insulation resistance		100 MΩ min (at 500 V DC)		
Contact resistance		1,000 V AC, 50/60 Hz for 1 minute		
Detectric strength	Non-continuous terminals	15 mΩ max		
	Between non-continuous terminals	TMV 10 : 1500 V AC. 50/60 Hz for 1 minute TMV16/ TMV21 : 2000 V AC, 50/60 Hz for 1 minute		
Vibration	Malfunction	10-55 Hz, 1.5 mm double amplitude		
Shock	Mechanical durability	1,000 m/sec (approx. 100 G's)		
	Malfunction	200 m/sec (approx. 20 G's)	3,000 m/sec (approx. 30 G's)	
Service life	Mechanical	20,000,000 operations min.		
	Electrically	300,000 operations min.100,000 operations min.		
Ambient temperature		General purpose type : -25 to +80°C		
Ambient humidity		General purpose type : -85% RH max General purpose type : +5 to +35°C		
Weight		Approx : 7.2 ~ 8 g		

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MINI MICRO SWITCH
มินิไมโครสวิตช์

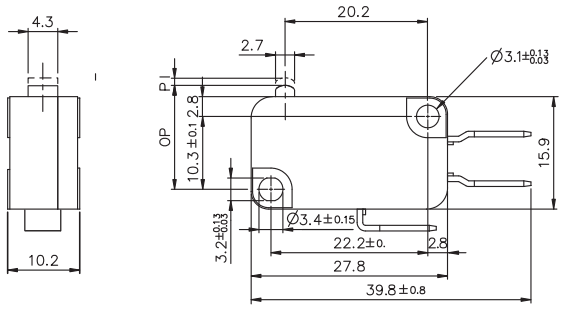
OPERATION CHARACTERISTICS

Type	TMV100	TMV101	TMV102	TMV103	TMV104	TMV105	TMV106
	TMV160	TMV161	TMV162	TMV163	TMV164	TMV165	TMV166
	TMV210	TMV211	TMV212	TMV213	TMV214	TMV215	TMV216
OF max	200 g	125 g	200 g	125 g	240 g	70 g	125 g
RF min	50 g	14 g	50 g	14 g	50 g	6 g	14 g
PT max	1.4 mm	4.0 mm	1.6 mm	4.0 mm	1.6 mm	9.0 mm	4.0 mm
OT min	0.8 mm	1.6 mm	0.8 mm	1.6 mm	0.8 mm	3.2 mm	1.6 mm
MD max	0.5 mm	1.5 mm	0.6 mm	1.5 mm	0.6 mm	2.8 mm	1.5 mm
OP	14.7 ± 0.5 mm	15.2 ± 1.2 mm	15.2 ± 0.5 mm	20.7 ± 1.2 mm	20.7 ± 0.6 mm	15.2 ± 2.5 mm	18.7 ± 1.2 mm

DIMENSIONS

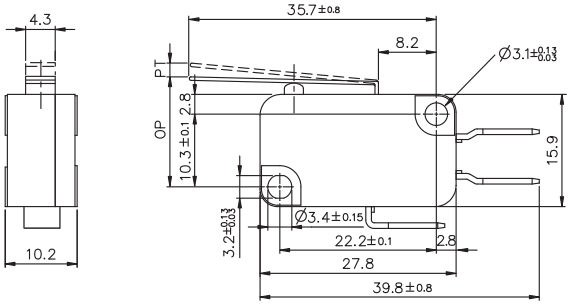
TMV100-C, TMV160-C TMV210-C **TMV100-C/D TMV100S-C/D** **TMV160-C/D TMV160S-C/D** **TMV210-C/D TMV210S-C/D**





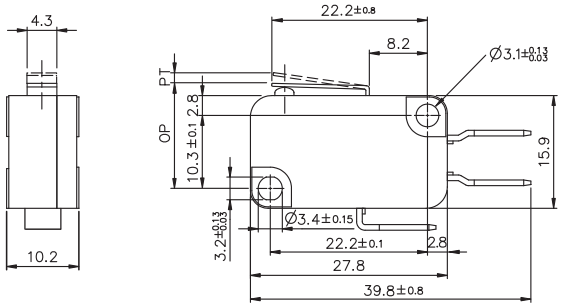
TMV101-C, TMV161-C TMV211-C **TMV101-C/D TMV101S-C/D** **TMV161-C/D TMV161S-C/D** **TMV211-C/D TMV211S-C/D**





TMV102-C, TMV162-C TMV212-C **TMV102-C/D TMV102S-C/D** **TMV162-C/D TMV162S-C/D** **TMV212-C/D**





หมายเหตุ : TMVXXX-C/D Normal terminal C : # 250 Terminal
TMVXXX-C/D Side terminal D : # 187 Terminal

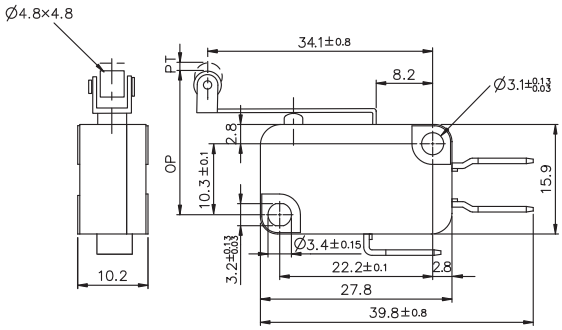
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MINI MICRO SWITCH
มินิไมโครสวิตช์

DIMENSIONS

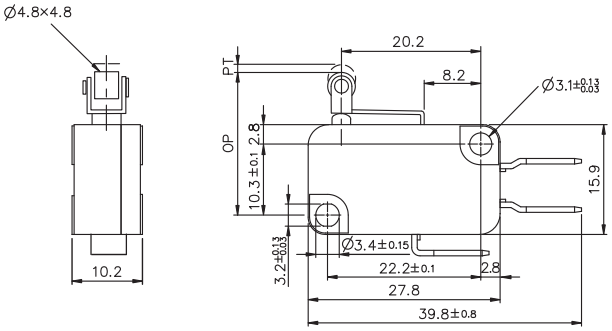
TMV103-C, TMV163-C **TMV103-C/D** **TMV163-C/D** **TMV213-C/D**
TMV213-C **TMV103S-C/D** **TMV163S-C/D** **TMV213S-C/D**





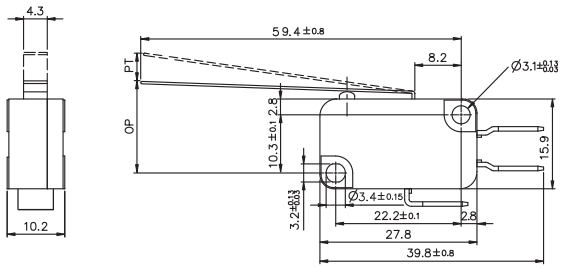
TMV104-C, TMV164-C **TMV104-C/D** **TMV164-C/D** **TMV214-C/D**
TMV214-C **TMV104S-C/D** **TMV164S-C/D** **TMV214S-C/D**





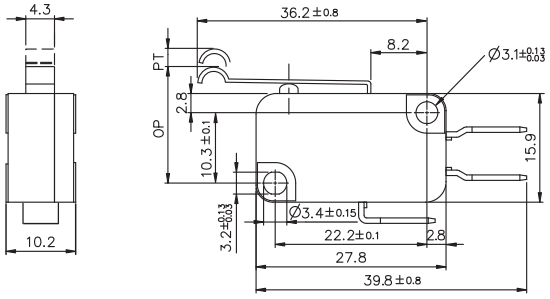
TMV105-C, TMV165-C **TMV105-C/D** **TMV165-C/D** **TMV215-C/D**
TMV215-C **TMV105S-C/D** **TMV165S-C/D** **TMV215S-C/D**





TMV106-C, TMV166-C **TMV106-C/D** **TMV166-C/D** **TMV216-C/D**
TMV216-C **TMV106S-C/D** **TMV166S-C/D** **TMV216S-C/D**





หมายเหตุ : TMVXXX-C/D Normal terminal C : # 257 Terminal
TMVXXX-C/D Side terminal D : # 187 Terminal

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tend MICRO SWITCH
ไมโครสวิตช์

ISO 9002

Best-selling basic switch boasting
Hifh precision and wide variety

FEATURES

- Wide variety of actuators
- High breaking capacity (15A)
- High precision
- Wide operating speed range

Z-15 SERIES :

- 15A 125, 250 or 480 VAC
- 1/2A 125 V DC, 1/4 250 V DC
- 1/8 HP 125 VAC, 1/4 HP 250 VAC

RATINGS

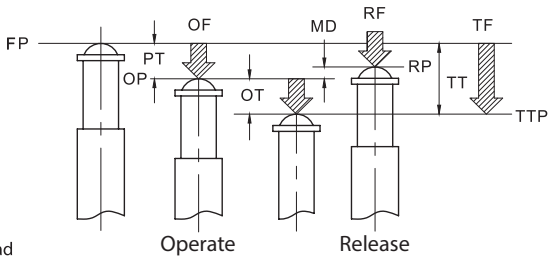
Rated voltage (V)	Non-inductive load (A)				Inductive load (A)				Inrush current (A)	
	Resistive load		Lamp load		Inductive load		Motor load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125 VAC	15		3	1.5	15		5	2.5	30 max	15 max.
250 VAC	15		2.5	1.25	15		3	1.5		
500 VAC	3		1.5	0.75	2.5		1.5	0.75		
8 VAC	15		3	1.5	15		5	2.5		
14 VAC	15		3	1.5	10		5	2.5		
30 VAC	6 (2)		3	1.5	5		5	2.5		
125 VAC	0.4		0.4	0.4	0.05		0.05	0.05		
250 VAC	0.2		0.2	0.2	0.03		0.03	0.03		

NOTES :
1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 msec (DC)
2. Lamp load has an inrush current of 10 times the steady-state current. While motor load has an inrush current of 6 times the steady-state current.

CONTACT CONFIGURATION



DEFINITIONS OF OPERATING CHARACTERISTICS



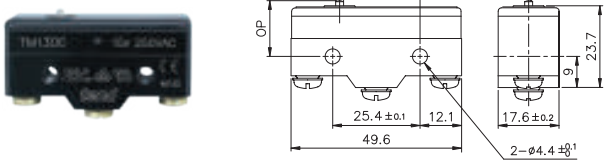
CHARACTERISTICS

Operating speed	0.01 mm to 1 m/sec
Operating frequency	Mechanically : 240 Operations/min. Electrically : 20 operations/min.
Contact resistance	15 mΩ max. (initial)
Insulation resistance	100 MΩ min. (at 500 V DC)
Dielectric strength	1,000 V AC, 50/60 Hz for 1 minute between non-continuous terminals 2,000 V AC, 50/60 Hz for 1 minute between current carrying part and ground
Vibration	Mechanically durability : 10 to 55 Hz 1.5 mm double amplitude
Shock	Mechanically durability : Approx. 1,000 m/sec^2 (approx: 100 G's) Malfunction durability : Approx. 300 m/sec^2 (approx. 30G's)
Ambient operating termperature	General purpose type : -25°to +80°C Sealed type: -15° to 80°C
Humidity	General purpose type : 85% RH max Sealed type: 95% RH
Service life	Mechanically : 20,000,000 Operations min Electrically : 500,000 operations min.
Weight	Approx. 22 to 58g

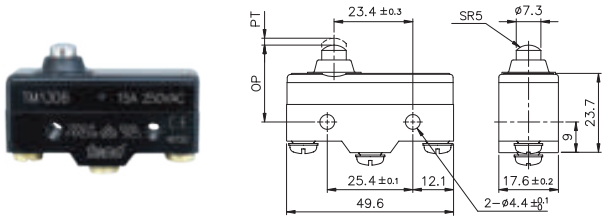
OF : Operating Force
RF : Releasing Force
TF : Total Force
FP : Free Position
OP : Operating Position
RP : Releasing Position
TTP : Total Travel Position
PT : Pretravel
OT : Overtravel
MD : Movement Differential
TT : Total Travel

DIMENSIONS

TM 1300(Z-15G-B) 15A 250V AC
TM 1300-2 20A 250V

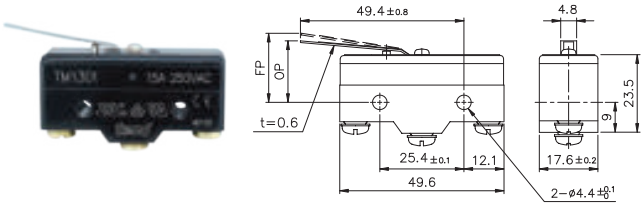


TM 1306(Z-15GD-B) 15A 250V AC
TM 1306-2 20A 250V

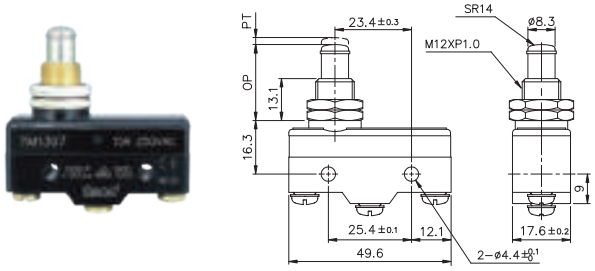


TM 1301(Z-15GL-B) 15A 250V AC
TM 1301-2 20A 250V

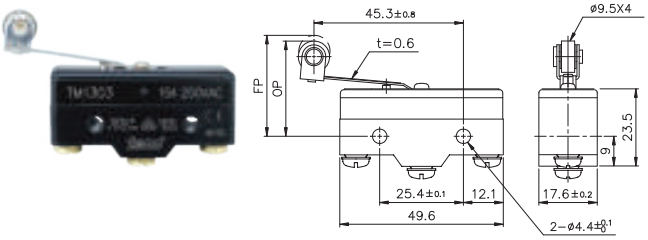
Resistive Load Lamp Load Inductive Load Motor Load



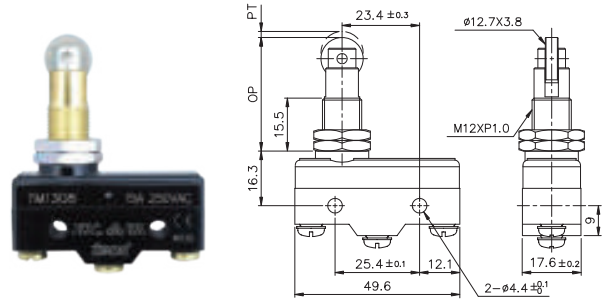
TM 1307(Z-15GQ-B) 15A 250V AC
TM 1307-2 20A 250V



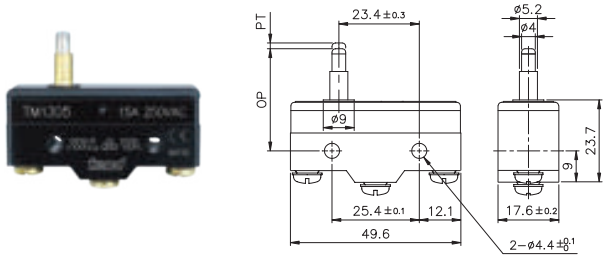
TM 1303(Z-15GL2-B) 15A 250V AC
TM 1303-2 20A 250V



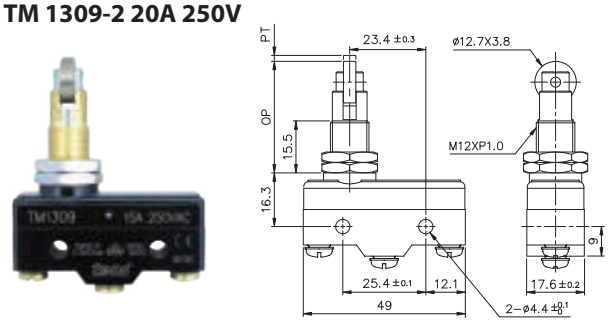
TM 1308(Z-15GQ22-B) 15A 250V AC
TM 1308-2 20A 250V



TM 1305(Z-15GS-B) 15A 250V AC
TM 1305-2 20A 250V



TM 1309(Z-15GQ21-B) 15A 250V AC
TM 1309-2 20A 250V



OPERATION CHARACTERISTICS

Type	TM 1300	TM 1301	TM 1303	TM 1305	TM 1306	TM 1307	TM 1308	TM 1309
OF max	350 g	300 g	300 g	350 g	350 g	350 g	350 g	350 g
RF min	114 g	50 g	50 g	114 g	114 g	114 g	114 g	114 g
PT max	0.4 mm	4 mm	4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm
OT min	0.13 mm	1.6 mm	1.6 mm	1.6 mm	1.6 mm	5.5 mm	3.58 mm	3.58 mm
MD max	0.05 mm	1.3 mm	1.3 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm
FP max		20.6 mm	31.8 mm					
OP	15.9 ±0.4 mm	17.4 ±0.8 mm	28.6 ±0.8 mm	28.2 ±0.5 mm	21.5 ±0.5 mm	21.8 ±0.8 mm	33.4 ±1.2 mm	33.4 ±1.2 mm

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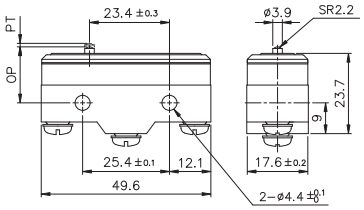
tend MICRO SWITCH

ไมโครสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น ISO 9002

DIMENSIONS

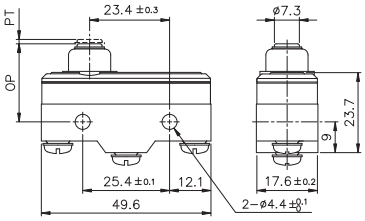
TM 1300-1(15A 250V AC)





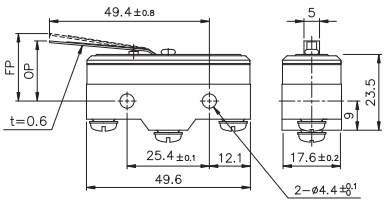
TM 1306-1(15A 250V AC)





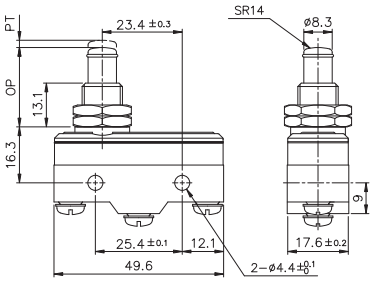
TM 1301-1(15A 250V AC)





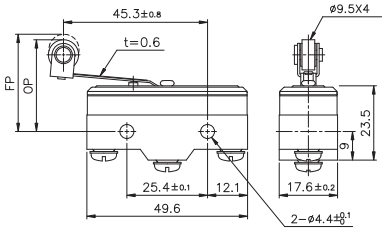
TM 1307-1(15A 250V AC)





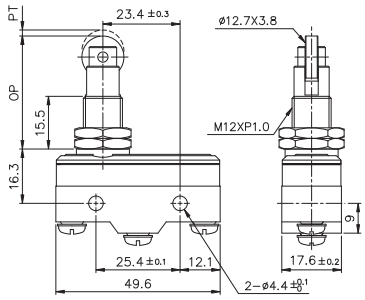
TM 1303-1(15A 250V AC)





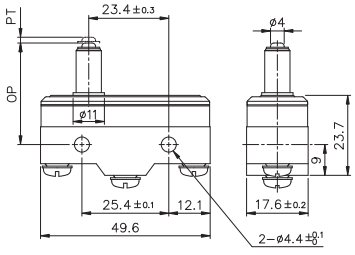
TM 1308-1(15A 250V AC)





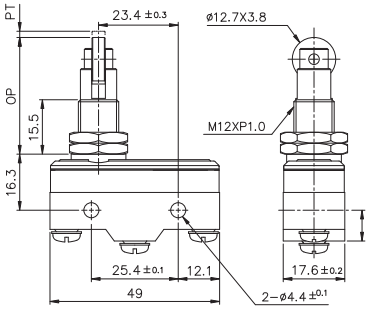
TM 1305-1(15A 250V AC)





TM 1309-1(15A 250V AC)





OPERATION CHARACTERISTIC

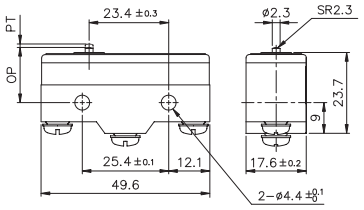
Type	TM1300-1	TM1301-1	TM1303-1	TM1305-1	TM1306-1	TM1307-1	TM1308-1	TM1309-1
OF max	500 g	400 g	400 g	500 g	500 g	500 g	500 g	500 g
RF min	114 g	50 g	50 g	114 g	114 g	114 g	114 g	114 g
PT max	0.4 mm	4 mm	4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm	0.4 mm
OT min	0.13 mm	1.6 mm	1.6 mm	1.6 mm	1.6 mm	5.5 mm	3.58 mm	3.58 mm
MD max	0.05 mm	1.3 mm	1.3 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm	0.05 mm
FP max		20.6 mm	31.8 mm					
OP	15.9 ± 0.4 mm	17.4 ± 0.8 mm	28.6 ± 0.8 mm	28.2 ± 0.5 mm	21.5 ± 0.5 mm	21.8 ± 0.8 mm	33.4 ± 1.2 mm	33.4 ± 1.2 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

DIMENSIONS

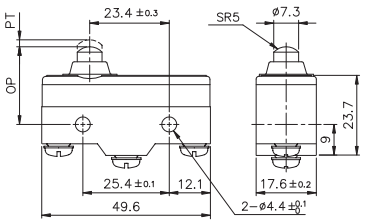
TM 1300-3(20A 250V AC)
TM 1303-12





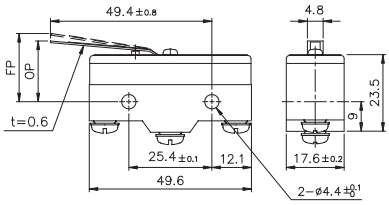
TM 1306-3(20A 250V AC)





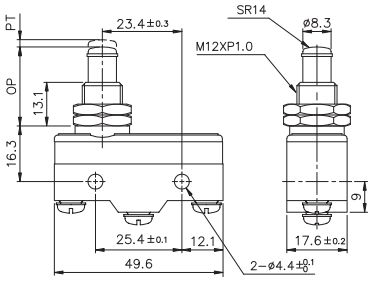
TM 1301-3(20A 250V AC)





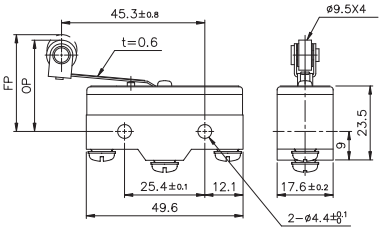
TM 1307-3(20A 250V AC)





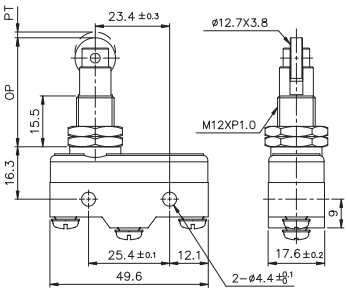
TM 1303-3(20A 250V AC)
TM 1303-12



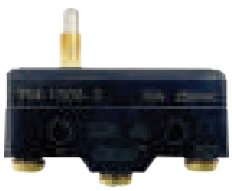


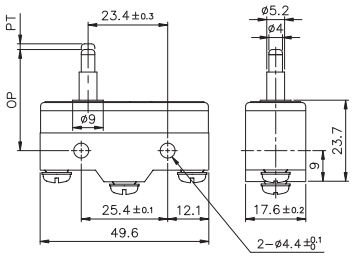
TM 1308-3(20A 250V AC)
TM1308-12





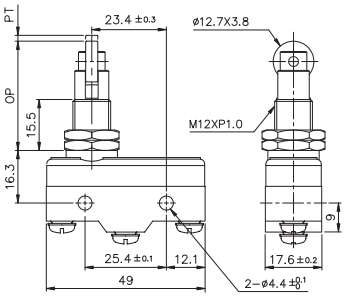
TM 1305-3(20A 250V AC)





TM 1309-3(20A 250V AC)
TM1309-12





OPERATION CHARACTERISTIC

Type	TM1300-3	TM1301-3	TM1303-3	TM1305-3	TM1306-3	TM1307-3	TM1308-3	TM1309-3
OF max	850 g	450 g	450 g	800 g	800 g	800 g	800 g	800 g
RF min	200 g	50 g	50 g	200 g	200 g	200 g	200 g	200 g
PT max	0.7 mm	4 mm	4 mm	0.7 mm	0.7 mm	0.7 mm	0.7 mm	0.7 mm
OT min	0.13 mm	1.6 mm	1.6 mm	1.6 mm	1.6 mm	5.5 mm	3.58 mm	3.58 mm
MD max	0.2 mm	1.3 mm	1.3 mm	0.2 mm	0.2 mm	0.2 mm	0.2 mm	0.2 mm
FP max		20.6 mm	31.8 mm					
OP	15.9 ± 0.4 mm	17.4 ± 0.8 mm	28.6 ± 0.8 mm	28.2 ± 0.5 mm	21.5 ± 0.5 mm	21.8 ± 0.8 mm	33.4 ± 1.2 mm	33.4 ± 1.2 mm

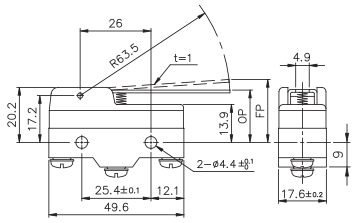
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MICRO SWITCH
ไมโครสวิตช์

ISO 9002

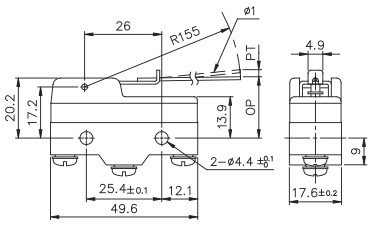
TM1701(15A 250V AC)
TM1701-2 20A 250V





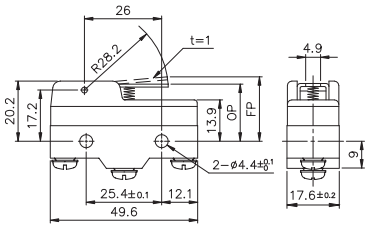
TM1705(15A 250V AC)
TM1705-2 20A 250V





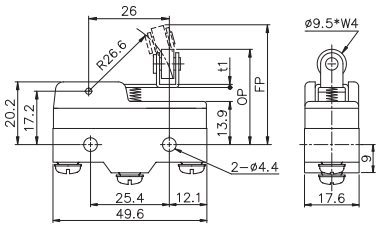
TM1702(15A 250V AC)
TM1702-2 20A 250V





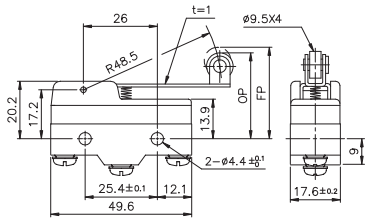
TM1707(15A 250V AC)



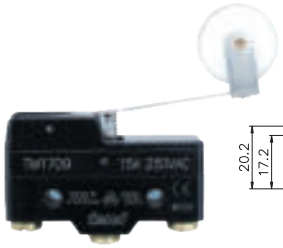


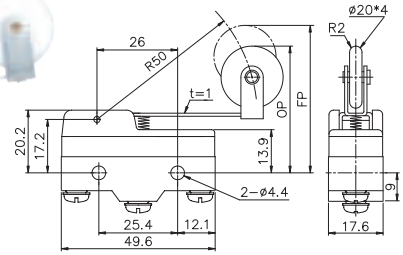
TM1703(15A 250V AC)
TM1703-2 20A 250V





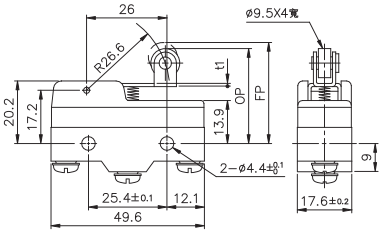
TM1709(15A 250V AC)





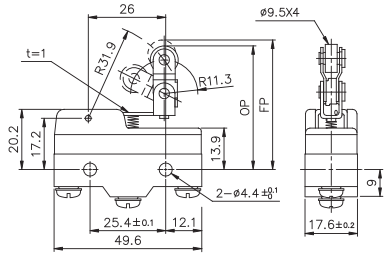
TM1704(15A 250V AC)
TM1704-2 20A 250V





TM1743(15A 250 VAC)
TM1743-2 20A 250V





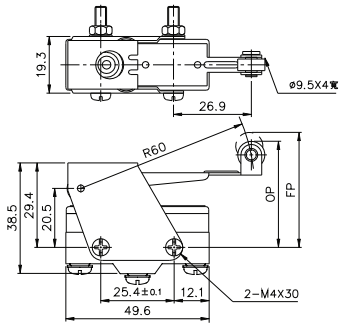
OPERATION CHARACTERISTICS

Type	TM1701	TM1702	TM1703	TM1704	TM1705	TM1707	TM1709	TM1743
OF max	70 g	100 g	160 g	160 g	10 g	170 g	100 g	160 g
RF min	14 g	28 g	22 g	42 g	3 g	42 g	21 g	42 g
PT max	10 mm	5 mm	7.1 mm	2.7 mm	20 mm	2.7 mm	7.3 mm	2.7 mm
OT min	5.6 mm	2 mm	4 mm	2.4 mm	5.6 mm	2.4 mm	4 mm	2.4 mm
MD max	1.27 mm	1 mm	1.02 mm	0.5 mm	3 mm	0.5 mm	1.6 mm	0.5 mm
FP max	28.2 mm	24.8 mm	36.5 mm	32.5 mm		33.3mm	47.5 mm	43.6 mm
OP	19 ± 0.8 mm	19 ± 0.8 mm	30.2 ± 0.8 mm	30.2 ± 0.4 mm	19 ± 0.8 mm	31 ± 0.4 mm	41.2 ± 0.8 mm	43.1 ± 0.8 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

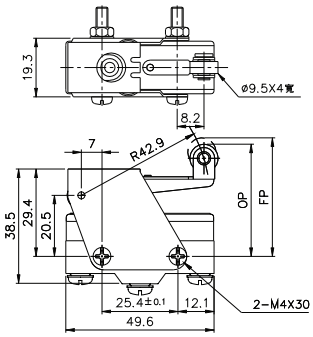
TM1401(15A 250 VAC)
TM1401-2 20A 250V
TM1401-1(15A 250VAC) กันน้ำ
TM1401-3(20A 250VAC) กันน้ำ





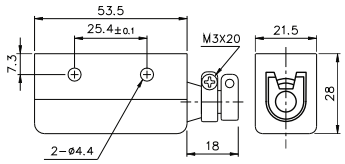
TM1501(15A 250 VAC)
TM1501-2 20A 250V
TM1501-1(15A 250VAC) กันน้ำ
TM1501-3(20A 250VAC) กันน้ำ





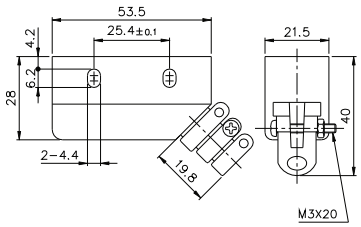
TAP-X





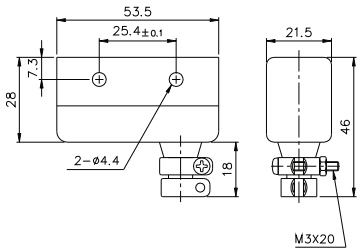
TAP-Y





TAP-Z





OPERATION CHARACTERISTICS

Type	TM1401	TM1501
OF max	500 g	600 g
RF min	170 g	300 g
PT max	5 mm	3 mm
OT min	12.7 mm	6 mm
MD max	2.2 mm	2 mm
FP max	44.5 ± 1.6 mm	41 ± 1.6 mm
OP	40.4 ± 1.6 mm	40.4 ± 1.6 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MICRO SWITCH

ไมโครสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น ISO 9002

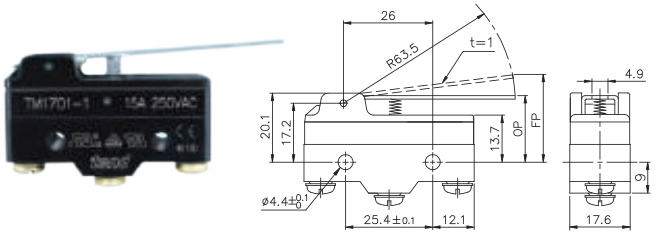
OPERATION CHARACTERISTICS

- Surrounding joints are sealed by epoxy, and waterproof, oiltight rubber boot.
- Dust-preventive, waterproof and oiltight.

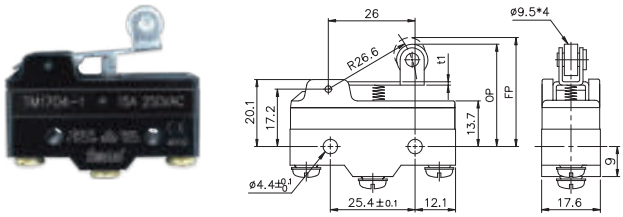
Type	TM 1701-1	TM 1702-1	TM 1703-1	TM 1704-1	TM1705-1	TM 1743-1
OF max	100 g	190 g	130 g	190 g	40 g	190 g
RF min	14 g	28 g	21 g	42 g	3 g	50 g
PT max	10 mm	5 mm	7.1 mm	2.7 mm	20 mm	2.7 mm
OT min	5.6 mm	2 mm	4 mm	2.4 mm	5.6 mm	2.4 mm
MD max	2 mm	1 mm	1.6 mm	0.8 mm	4 mm	0.8 mm
FP max	28.2 mm	25 mm	36.5 mm	32.9 mm		43.6 mm
OP	19 ± 0.8 mm	19 ± 0.8 mm	30.2 ± 0.8 mm	30.2 ± 0.4 mm	19±0.8 mm	41.3 ± 0.8 mm

DIMENSIONS

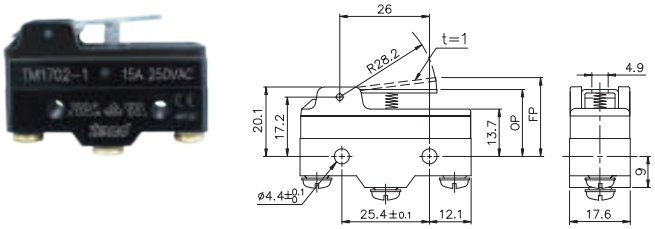
TM1701-1(15A 250V AC)



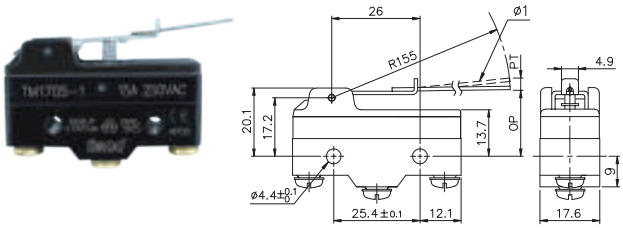
TM1704-1(15A 250V AC)



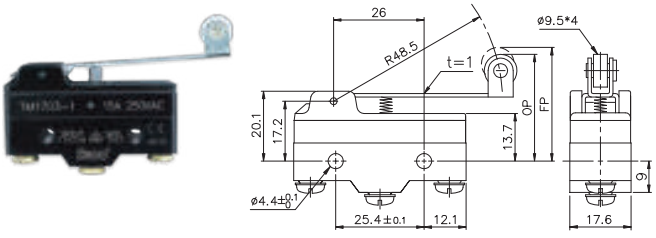
TM1702-1(15A 250V AC)



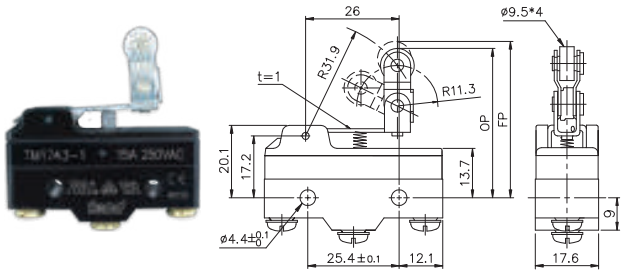
TM1705-1(15A 250V AC)



TM1703-1(15A 250V AC)



TM1743-1(15A 250V AC)



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MICRO SWITCH

ไมโครสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น ISO 9002

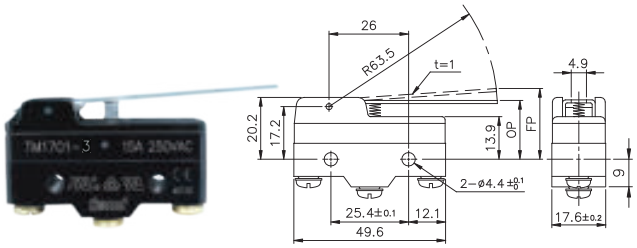
OPERATION CHARACTERISTICS

- Surrounding joints are sealed by epoxy, and waterproof, oiltight rubber boot.
- Dust-preventive, waterproof and oiltight.

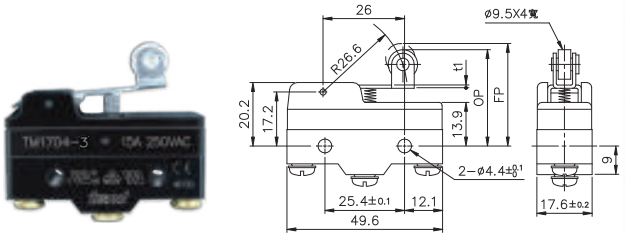
Type	TM 1701-3	TM 1702-3	TM 1703-3	TM 1704-3	TM 1707-3	TM 1709-3	TM 1743-3
OF max	110 g	210 g	150 g	220 g	220 g	150 g	200 g
RF min	14 g	28 g	22 g	42 g	42 g	21 g	42 g
PT max	10 mm	5 mm	7.1 mm	2.7 mm	2.7 mm	7.3 mm	2.7 mm
OT min	5.6 mm	2 mm	4 mm	2.4 mm	2.4 mm	4 mm	2.4 mm
MD max	1.27 mm	1 mm	1.02 mm	0.5 mm	0.5 mm	1.6 mm	0.5 mm
FP max	28.2 mm	24.8 mm	36.5 mm	32.5 mm	32.5 mm	47.5 mm	43.6 mm
OP	19 ± 0.8 mm	19 ± 0.8 mm	30.2 ± 0.8 mm	30.2 ± 0.8 mm	30.2 ± 0.8 mm	41.2 ± 0.8 mm	41.3 ± 0.8 mm

DIMENSIONS

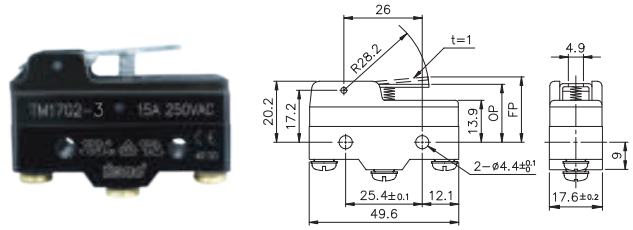
TM1701-3(20A 250V AC)



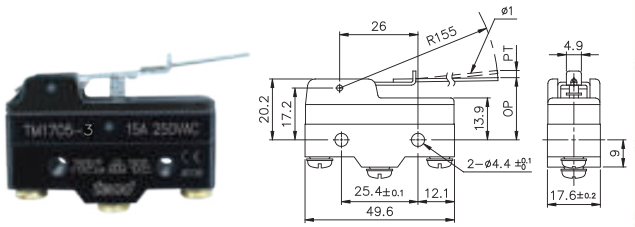
TM1704-3(20A 250V AC)
TM1704-12



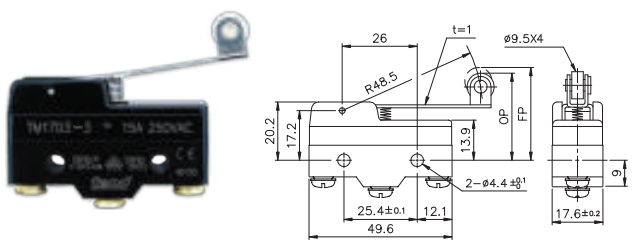
TM1702-3(20A 250V AC)



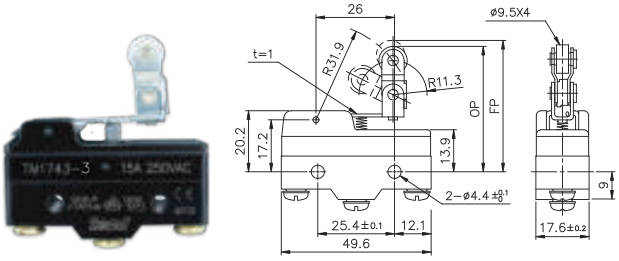
TM1705-3(20A 250V AC)
TM1705-12



TM1703-3(20A 250V AC)
TM1743-12



TM1743-3(20A 250V AC)
TM1743-12



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MICRO SWITCH (TWO CIRCUIT DOUBLE-BREAK)

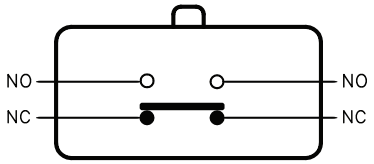
ไมโครสวิตช์

ISO 9002

RATINGS

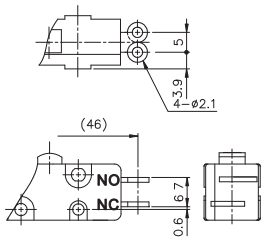
Rated voltage (V)	Non-inductive load (A)				Inductive load (A)				Inrush current (A)	
	Resistive load		Lamp load		Inductive load		Motor load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	10		3	1.5			4	2	30 max.	15 max.
250 V AC	10		2	1	10		3	1.5		
8 V DC	10		6	3	10		6			
14 V DC	10		6	3	10		6			
30 V DC	6		4	3	6.0		4			
125 V DC	0.8		0.2	0.2	0.8		0.2			
250 V DC	0.4		0.1	0.1	0.4		0.1			

CONTACT CONFIGURATION

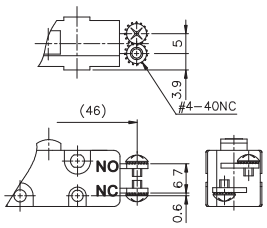


TERMINAL TYPE

TW-101A Solder Type



TW-101B Screw Type

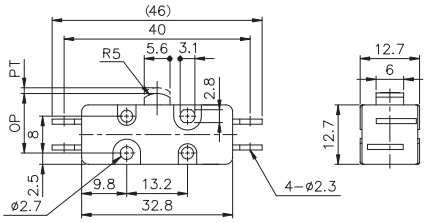


OPERATION CHARACTERISTICS

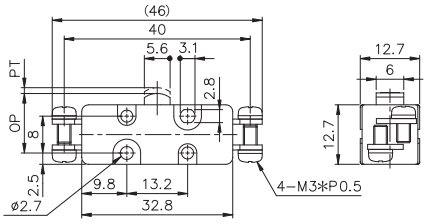
Type	TW-101 A/B	TW-102 A/B	TW-104 A/B
OF max	400 g	200 g	240 g
RF min	114 g	60 g	70 g
PT max	1.6 mm	3.5 mm	3 mm
OT min	0.25 mm	1.8 mm	1.2 mm
MD max	0.65 mm	1.6 mm	2 mm
OP	11.7 ± 0.4 mm	14.6 ± 0.8 mm	25.3 ± 0.8 mm

TW-101A



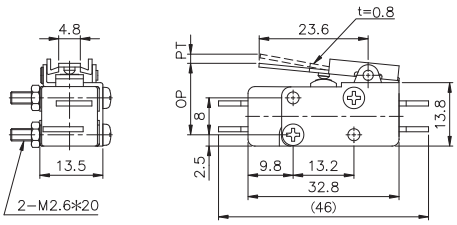


TW-101B

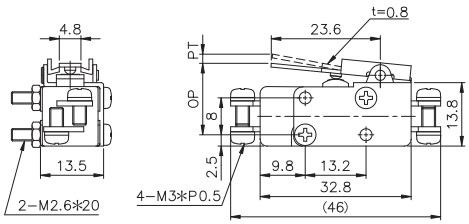


TW-1012A



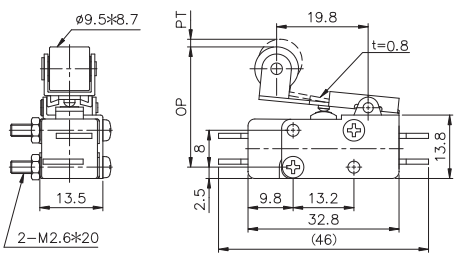


TW-1012B

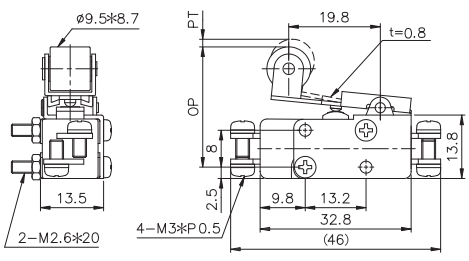


TW-1014A





TW-1014B



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

LIMIT SWITCH FOR DIRECT CURRENT
ลิมิตสวิตช์ใช้ไฟ DC

ISO 9002

FEATURES

- Similar to TEND TM series micro switch
- Put a magnet in the contact block to prevent fire.
- The safety switch for DC usage.

SPECIFICATIONS RATINGS

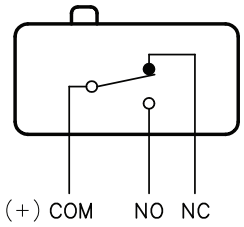
Rated voltage (V)	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
8 V DC	15		3	1.5	15	15	5	2.5
14 V DC	15		3	1.5	15	10	5	2.5
30 V DC	15		3	1.5	10	10	5	2.5
125 V DC	10		3	1.5	7.5	6	5	2.5
250 V DC	3		3	1.5	2	2	2	1.5

NOTES : 1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 msec. Max. (DC)
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.

CHARACTERISTICS

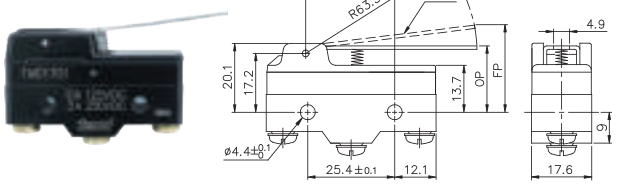
Operating speed	0.1 mm to 1 m/s
Operating frequency	Mechanically : 240 Operations/min.
	Electrically : 20 operations/min.
Contact resistance	15 mΩ max. (initial)
Insuration resistance	100 MΩ max.(at 500 V DC)
Dielectric strength	1,500 V AC, 50/60 Hz for 1 minute
Vibration	10 to 55 Hz 1.5 mm double amplitude
Shock	Mechanically : Approx. 1,000 m/sec2 (approx: 100 G's)
	Electrically : Approx. 300 m/sec2 (approx. 30G's)
Ambient ermperature	-25° ~ +85°C
Ambient humidity	Below 85% RH
Service life	Mechanically : 1,000,000 Operations/min
	Electrically : 100,000 operations/min.
Weight	Approx. 27 g ~ 36 g

CONTACT CONFIGURATION

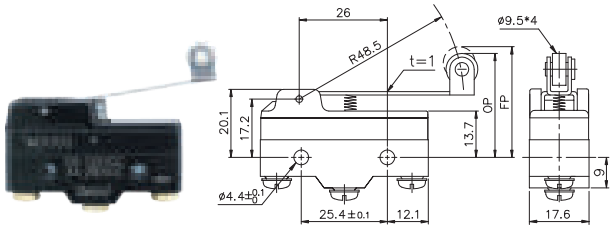


DIMENSIONS

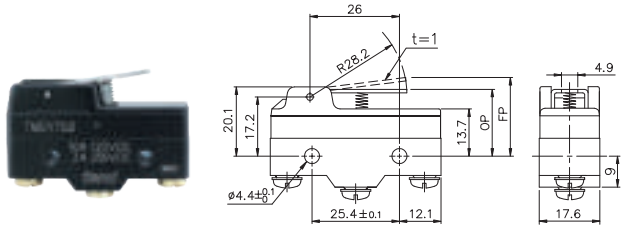
TMD1701



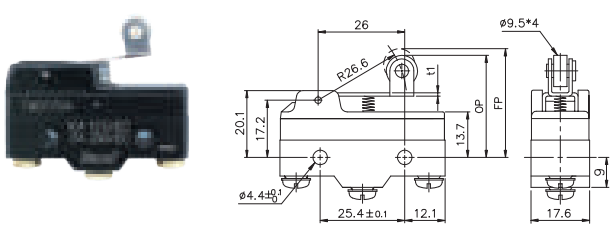
TMD1703



TMD1702



TMD1704



OPERATION CHARACTERISTICS

Type	TMD1701	TMD1702	TMD1703	TMD1704
OF max	110gf (1.08N)	250gf (2.45N)	145gf (1.42N)	220gf (2.16N)
RF min	14gf (0.14N)	32gf (0.31N)	21gf (0.21N)	35gf (0.34N)
OT min	4.8 mm	2.1 mm	4 mm	2.4 mm
MD max	3.9 mm	1.7 mm	3 mm	1.7 mm
FP max	34.6 mm	25.5 mm	40.5 mm	37.1 mm
OP	19.8 ± 0.8 mm	20.7 ± 0.8 mm	32.2 ± 0.8 mm	32.2 ± 0.8 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend COMPACT LIMIT SWITCH

คอมแพคลิมิตสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น

FEATURES

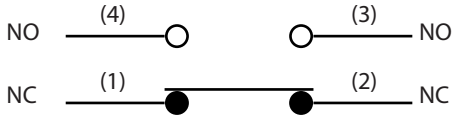
- Two-circuit double-break limits switches
- Rigid die cast switch housing.Made up of zinc alloy and reinforced plastic.
- Small sized, oil-tight, water-proof
- Inbuilt with a micro switch with double read structure for longer mechanical service life
- Larger over travel operations
- Catheter design for easy wiring
- Many types of actuator. Easy to use.

SPECIFICATIONS RATINGS

Rated voltage (V)	Non-inductive load(A)				Inductive load(A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125V AC	5	5	1.5	0.7	3	3	2	1
250V AC	5	5	1	0.5	3	3	1.5	0.8
8V DC	5	5	3	3	5	4	3	3
14V DC	5	5	3	3	4	4	3	3
30V DC	5	5	3	3	4	4	3	3
125V DC	0.4	0.4						
250V DC	0.2	0.2						
Inrush current	N.C : 24A max.			N.O : 12A max.				

Note : 1. Inductive load : power factor = 0.4 (AC)
: time constant = 7 msec (DC)
2. Lamp load has an inrush current of 10 times the steady-state current while motor load has an inrush current of 6 times the steady-state current.

CONTACT CONFIGURATION



CHARACTERISTICS

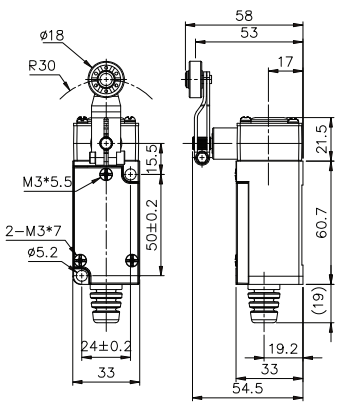
Operating speed	0.5 mm. to 50 cm/s
Operating frequency	Mechanically : 120 operations/min Electrically : 30 operations/min
Contact resistance	25 mΩ (max.) (initial)
Insulation resistance	100 MΩ max. (at 500VDC)
Dielectric strength	1,000 V AC, 50/60 Hz, for 1 minute between non-continuous terminals; 1,500 V AC, 50/60 Hz, for 1 minute between non-current-carrying metal part and between each terminal and ground.
Vibration	10 to 55 Hz, 1.5 mm double amplitude
Shock	Mechanical durability : approx. 1,000m/sec² (approx.30G'S) Malfunction durability: approx. 500m/sec² (approx.30G'S)
Ambient temperature	Operating : -5 to + 65 ℃
Humidity	95% RH max.
Service life	Mechanically : 10,000,000 operations min. Electrically : 500,000 operations min.
Weight	Approx. 130 to 190g
Degree of protection	IEC : IP65

OPERATING CHARACTERISTICS

Type	TZ-1104	TZ-1108	TZ-1107	TZ-1111	TZ-1112 TZ-1122	TZ-1166 TZ-1168 TZ-1167 TZ-1169
OF max	750g	750g	750g	900g	900g	150g
RF min	100g	100g	100g	150g	150g	-
PT max	20°	20°	20°	1.5mm	1.5mm	30mm
OT min	50°	50°	50°	4mm	4mm	-
MD max	12°	12°	12°	1mm	1mm	-
OP	-	-	-	26±0.8mm	37±0.8mm	-

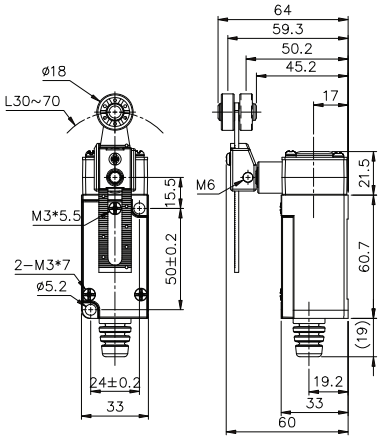
TZ-1104





TZ-1108

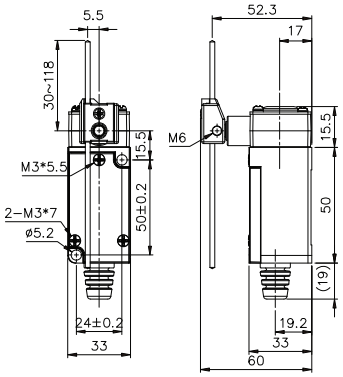




COMPACT LIMIT SWITCH
คอมแพคลิมิตสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น

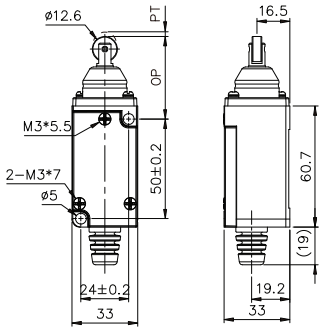
TZ-1107





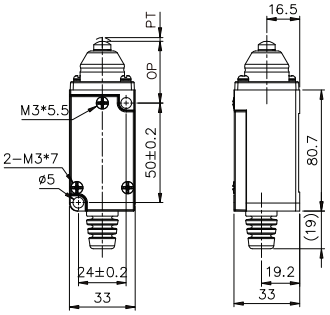
TZ-1112





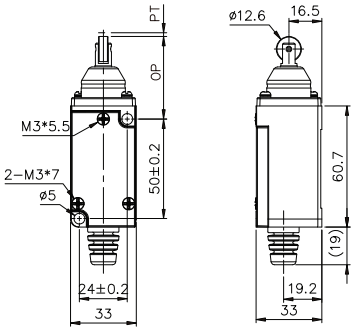
TZ-1111





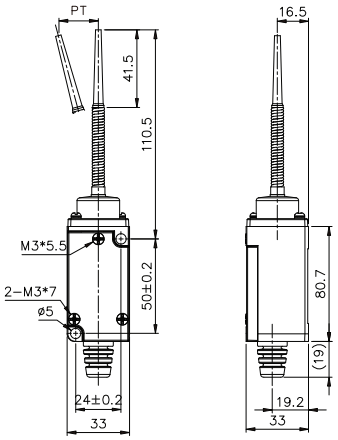
TZ-1122





TZ-1166





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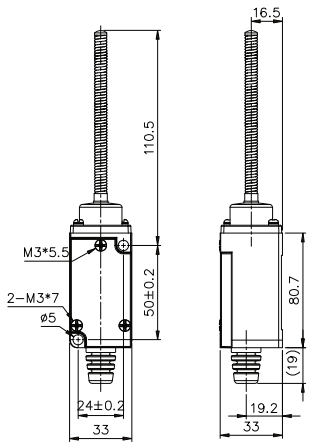
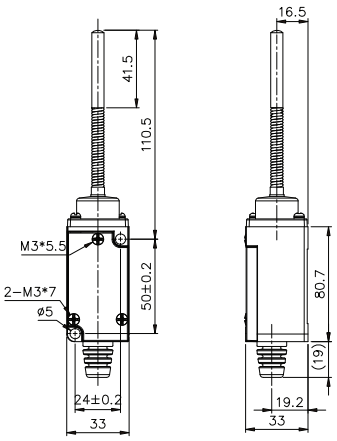


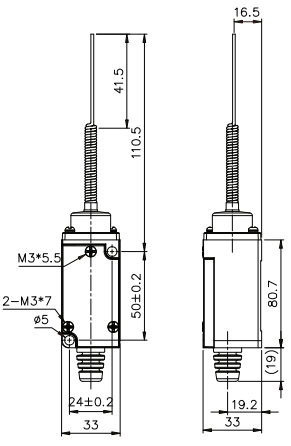
TZ-1168





TZ-1169





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

COMPACT LIMIT SWITCH

คอมแพคลิมิตสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น

SPECIFICATIONS RATINGS

Rated voltage (V)	Non-inductive load(A)				Inductive load(A)				Inrush current (A)	
	Resistive load		Lamp load		Inductive load		Motor load			
	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125V AC	5		1.5		3		2	1	10 max.	10 max.
250V AC	5		1.5		3		1	0.5		
8V DC	5		-		1.5		-			
14V DC	5		-		1.5		-			
30V DC	5		-		1.5		-			
125V DC	0.5		-		0.05		-			
250V DC	0.25		-		0.03		-			

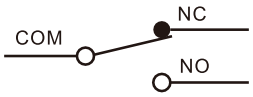
OPERATING CHARACTERISTICS

Type	TZ-2311	TZ-2312
OF max	1200g	1200g
RF min	500g	500g
PT max	1.5mm	1.5mm
OT min	3mm	3mm
MD max	(0.1mm)	(0.1mm)
OP	0.8±0.8	31.4±0.8

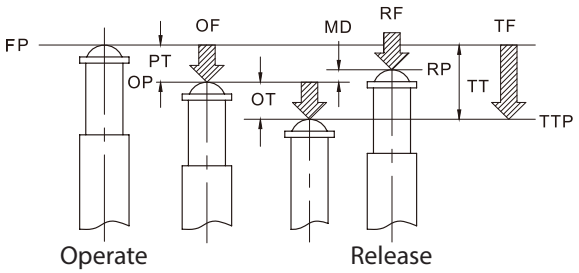
CHARACTERISTICS

Operating speed	0.01 mm to 1 m/sec (Plunger Type)
Operating frequency	Mechanically : 240 operations/min Electrically : 20 operations/min
Contact resistance	15 mΩ (max.) (initial)
Insulation resistance	100 MΩ min. (at 500VDC)
Dielectric strength	1,000 V AC, 50/60 Hz, for 1 minute between non-continuous terminals; 1,500 V AC, 50/60 Hz, for 1 minute between current-carrying metal part and ground.
Vibration	(*10 ~ 20 Hz): 1.5 mm double amplitude Malfunction durability: 10 ~ 55 Hz
Shock	Mechanical durability : 1,000m/sec² (approx.100G'S) Malfunction durability: 300m/sec² (approx.30G'S)
Ambient temperature	-10 ℃ ~ +80 ℃ (Not freezing)
Humidity	Max. 95% RH
Service life	Mechanically : 10,000,000 operations min. Electrically : 500,000 operations min.
Weight	Approx. 22 to 58g
Degree of protection	IEC : IP65

CONTACT CONFIGURATION



DEFINITIONS OF OPERATING CHARACTERISTICS

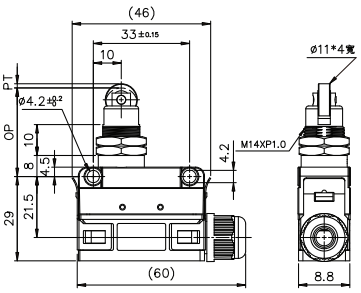


OF : Operating Force
RF : Releasing Force
TF : Total Force
FP : Free Position
OP : Operating Position
RP : Releasing Position
TTP : Total Travel Position
PT : Pretravel
OT : Overtravel
MD : Movement Differential
TT : Total Travel

APPEARANCE AND DIMENSIONS

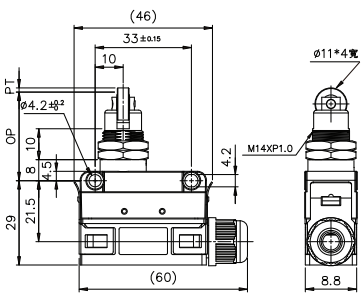
TZ-2311





TZ-2312





COMPACT PREWIRED LIMIT SWITCH

คอมแพค พรีไวร์ ลิมิตสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น

A009142

SPECIFICATIONS

- DPDS Limit switch for multiple applications.
- Rugged aluminum alloy diecast housing.
- High mechanical strength
- Oil resistance, waterproof and dust proof structure

RATINGS

Reted voltage (V)	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	5 (0.1)		1.5	0.7	3		2.5	1.3
250 V AC	3		1	0.5	2		1.5	0.8
8 V DC	5 (0.1)		2		5	4	3	
14 V DC	5 (0.1)		2		4	4	3	
30 V DC	4 (0.1)		2		3	3	3	
125 V DC	0.4		0.05		0.4		0.05	
250 V DC	0.2		0.03		0.2		0.03	

CHARACTERISTICS

Rating	5A 125 V AC, 3A 250 V AC
Operating speed	1 mm ~1 m/s
Operating frequency	Mechanically: 120 operations/min. Electrically : 30 operations/min.
Contact resistance	15 mΩ max. (initial)
Insulation resistance	100 MΩ min. (at 500 V DC)
Dielectric strength	1,000 V AC, 50/60 Hz for 1 minute between noncontinuous terminals 1,500 V AC, 50/60 Hz for 1 minute between current carrying and non-current carrying parts and between each terminal and ground
Vibration	10 ~ 55 Hz 1.5 mm double amplitude
Shock	Mechanically Approx : 1,000 m/s²(Approx:100G's) Electrically : Approx : 500 m/s² (approx. 50G's)
Ambient ermperature	-10° ~ +70°C
Humidity	Below 95% RH
Service life	Mechanically : 1,000 operations/ min
	Electrically : 20 operations/min.
Degree of protection	IEC: IP67
Weight	Approx. 360 g (cable lenght 3 m)
	Approx. 540 g (cable lenght 5 m)

OPERATING CHARACTERISTICS

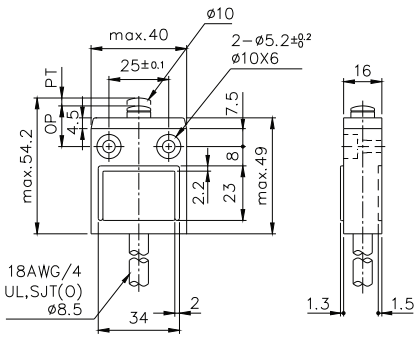
Type	TZ-3101	TZ-3102	TZ-3103	TZ-3104	TZ-3110
OF max	1200 gf (11.77N)	1200 gf (11.77N)	1200 gf (11.77N)	580 gf (5.69N)	1200 gf (11.77N)
RF min	450 gf (4.41N)	450 gf (4.41N)	450 gf (4.41N)	150 gf (1.47N)	450 gf (4.41N)
PT max	1.8 mm	1.8 mm	1.8 mm	25°	1.8 mm
OT min	3 mm	3 mm	3 mm	40°	3 mm
MD max	0.2 mm	0.2 mm	0.2 mm	3°	0.2 mm
OP	15.7 ± 1 mm	28.5 ± 1 mm	28.5 ± 1 mm	-	28.5 ± 1 mm

Type	TZ-3111	TZ-3112	TZ-3113	TZ-3169
OF max	1800 gf (17.65N)	1800 gf (17.65N)	1800 gf (17.65N)	150 gf (1.47N)
RF min	450 gf (4.41N)	450 gf (4.41N)	450 gf (4.41N)	-
PT max	1.8 mm	1.8 mm	1.8 mm	15°
OT min	3 mm	3 mm	3 mm	-
MD max	0.2 mm	0.2 mm	0.2 mm	-
OP	24.9 ± 1 mm	34.3 ± 1 mm	34.3 ± 1 mm	-

DIMENSIONS

TZ-3101





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend COMPACT PREWIRED LIMIT SWITCH

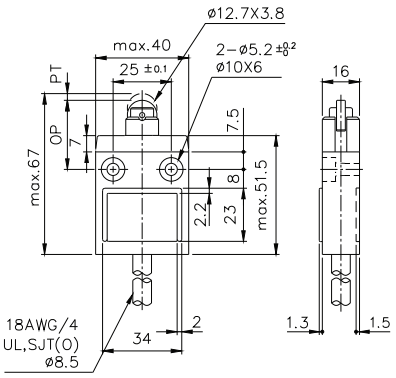
คอมแพค พรีไวร์ ลิมิตสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น

A009142

DIMENSIONS

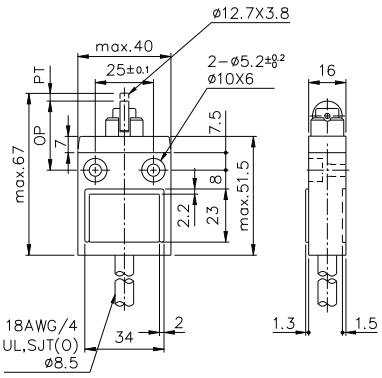
TZ-3102





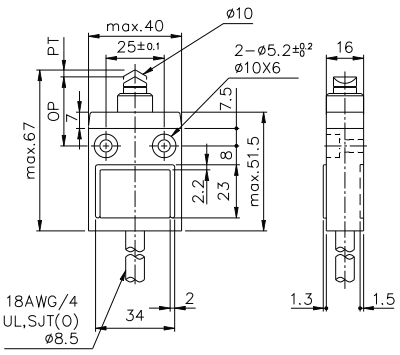
TZ-3103





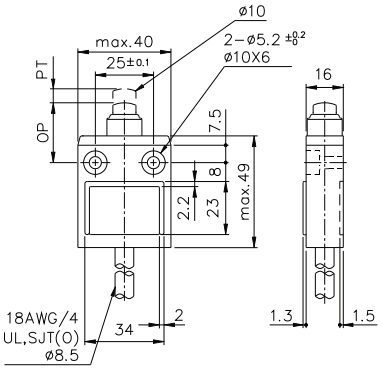
TZ-3110





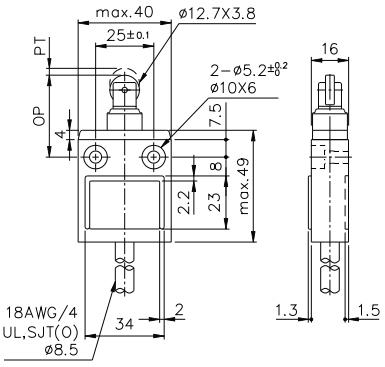
TZ-3111





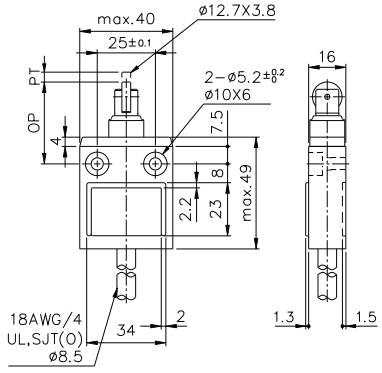
TZ-3112





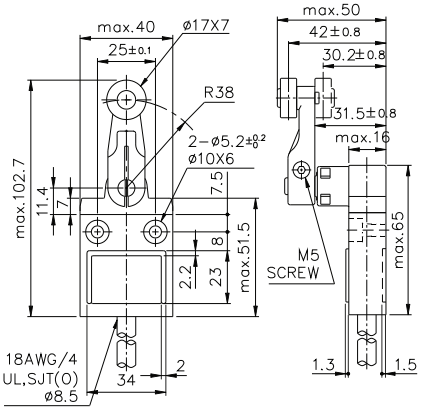
TZ-3113





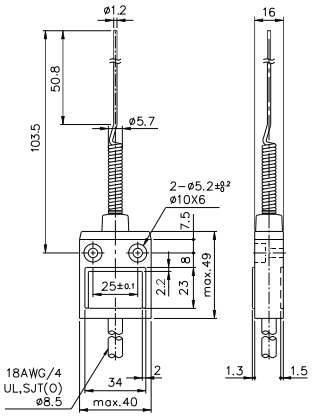
TZ-3104





TZ-3169





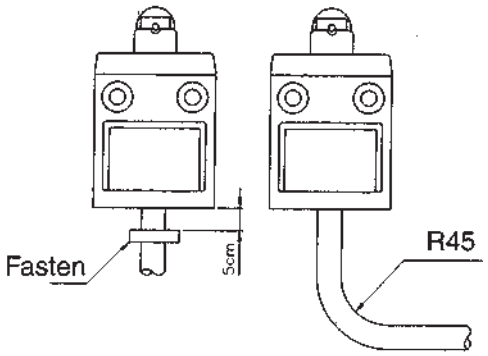
tend COMPACT PREWIRED LIMIT SWITCH

คอมแพค พรีไวร์ ลิมิตสวิตช์ ชนิดกันน้ำ, กันน้ำมัน, กันฝุ่น

A009142

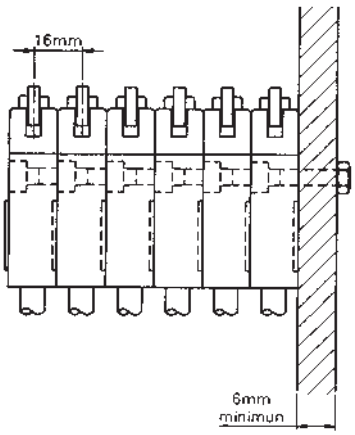
FASTENING OF THE SWITCH CABLE

The switch bodies are filled with resin for sealing purposes. To avoid stressing the cable and switch body, fasten the cable at 5 cm or farther away from the switch body. Should the wire be bent. The bending radius shall be at least 45 mm.



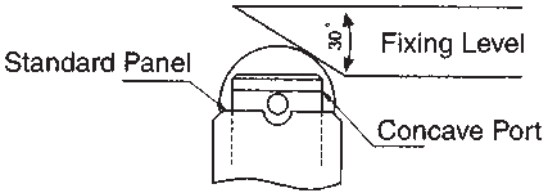
SWITCH BANK MOUNTING

A maximum of six switches may be mounted together as a switch bank . During the installation, the convex part of the switch back. The mounting panel shall be 6 mm or thicker.



INSTALLATION

The service life and accuracy of switches will be effected by the shape of actuator operation frequency & over travel. So the angular of the fixing level should be about 30° the surface finish of the fixing level should be over, the hardness is from HV400~500. When installing, the position of the concave part should be above the standard panel.

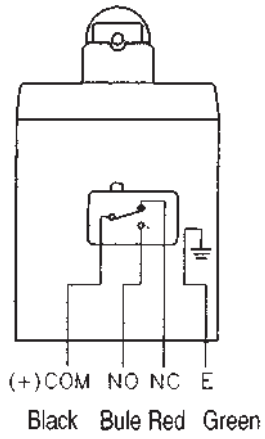


MOUNTING

Recommended tightening torque according to the following form.

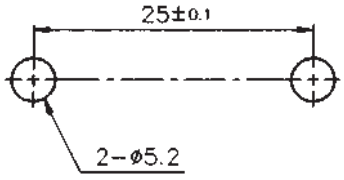
Model	Screw type	Torque
1	M5 fastening screws	4.9~5.88 N.m (50 ~ 60 kgf.cm)
2	M3.5 installing screws	0.78~0.88 N.m (8 ~ 9 kgf.cm)

CONTACT TYPES



MOUNTING HOLES

Mount the switch body to a rigid mounting panel using two M5 screws



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tend LIMIT SWITCH
ลิมิตสวิตช์ IP67

A009142

Wide Selection of Two-circuit Double-break Limit Switches

FRATURES

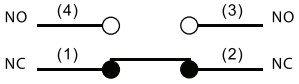
- Rigid diecast switch housing
- Set position indicator plate for easy maintenance
- High mechanical strength
- Oiltight, waterproof and dust proof construction

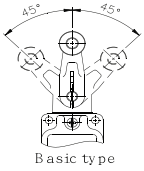
SPECIFICATIONS RATING

Rated voltage (V)	Non-inductive load(A)				Inductive load(A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	10	10	3	1.5	10		5	2.0
250 V AC	5	5	2	1	5		3	1.0
480 V AC	3	3	1.5	0.8	3		1.5	0.8
600 V AC	1	1	1	0.5	1.5		1	0.5
8 V AC	10		6	3	10		6	
14 V DC	10		6	3	10		6	
30 V DC	6		4	3	6		4	
125 V DC	0.8		0.2	0.2	0.8		0.2	
250 V DC	0.4		0.1	0.1	0.4		0.1	

NOTES : 1. Inductive load has a power factor = 0.4; time constant = 7 msec.
2. Lamp load has an inrush current of 10 times the steady-state current while motor load has an inrush current of 6 times the steady-state current.

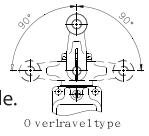
CONTACT CONFIGURATION





OVERTRAVEL TYPE

The Overtravel Type is a limit switch which is provided with a greater OT to facilitate dog setting. Since this type is identical to the Basic Type in dimensions, both types are interchangeable. The Overtravel Type is Classified into two versions -2 series and -2N series.



J2 SERIES

The head of -2 series switch can be installed in any of the four directions.
90° Operation on only one side - impossible
90° Operation on either side - possible

J2N SERIES

The head of -2N series switch can be installed only in two directions. Forward and backward.
90° Operation on only one side - possible
90° Operation on either side - possible



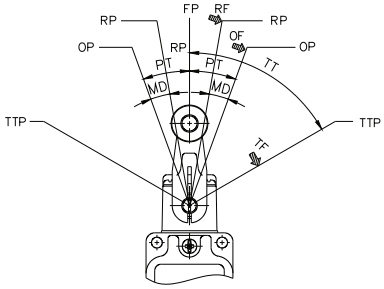
Loosen the cam holder with a coin or screw driver

Reverse the cam

Reverse the position of the cam and reinstall

CHARACTERISTICS

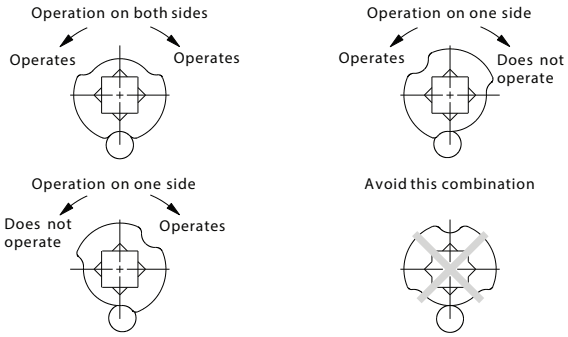
Operating speed	1 mm to 2 m/sec (TZ-5104)
Operating frequency	Mechanically: 120 operations/min Electrically : 30 operations/min
Contact resistance	15 mΩ max. (initial)
Insulation resistance	100 MΩ max.(at 500 V DC)
Dielectric strength	1,000 V AC, 50/60 Hz for 1 minute between noncontinuous terminals. 2,200 V AC, 50/60 Hz for 1 minute between each terminal and non-current carrying metal part and between each terminal and ground
Temperature rise	50 degrees max.
Vibration	Malfunction durability : 10 to 55 Hz. 1.5 mm double amplitude
Shock	Mechanical durability : approx 1,000 m/sec2 (approx: 100 G's) Malfunction durability : approx 300 m/sec2 (approx. 30G's)
Ambient temperature	Operating : -10°~+80°C
Humidity	95% RH max
Service life	Mechanical : 15,000,000 operations min. Electrically : 500,000 operations min.
Weight	Approx. 275 g (with Type TZ-5104)
Degree of protection	IEC : IP 67



OF : Operating Force
RF: Releasing Force
TF: Total Force
FP: Free Position
OP: Operating Position
RP: Releasing Position
TTP: Total Travel Position
PT: Pretravel
OT: Overtravel
MD: Movement Differential
TT: Total Travel

90° operation on one side is possible by simply changing the direction of the cam.

Relationship of cam to operation as observed from the rear of switch



tend LIMIT SWITCH
ลิมิตสวิตช์ IP67

A009142

OPERATING CHARACTERISTICS

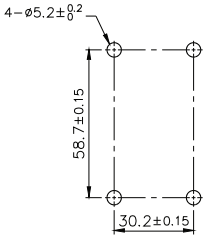
Operating characteristics \ Type	TZ-5101	TZ-5102	TZ-5104	TZ-5105	TZ-5107	TZ-5108
OF max.	2,720 g	2,720 g	1,360 g	1,200 g	142 g	1,360 g
RF min.	910 g	910 g	227 g	-	28°	227 g
PT max.	1.7 mm	1.7 mm	20°	55°	20°	20°
OT min.	6.4 mm	5.6 mm	30°	35°	30°	30°
MD max.	1 mm	1 mm	12°	-	12°	12°
TTP max.	29.5 mm	39.5 mm	-	-	-	-
OP	OP : 34 ± 0.8 mm	44 ± 0.8 mm	-	OP: 90 ± 10°	-	-

OPERATING CHARACTERISTICS

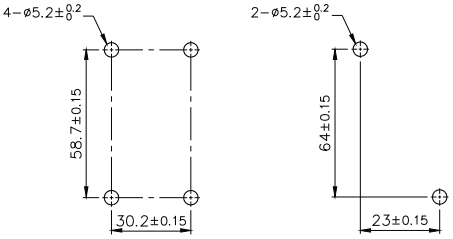
Type	TZ-5104-2 / TZ-5108-2	TZ-5104-2N / TZ-5108-2N	TZ-5106 / TZ-5169	TZ-5107-2	TZ-5107-2N
OF max.	1000 g	980 g	150 g	290 g	290 g
RF min.	100g	120 g	-	25g	25g
PT max.	20°	20°	28 mm	20°	20°
OT min.	55°	70°	-	55°	70°
MD max.	12°	10°	-	12°	10°

MOUNTING HOLES

Basic type and -2 SERIES



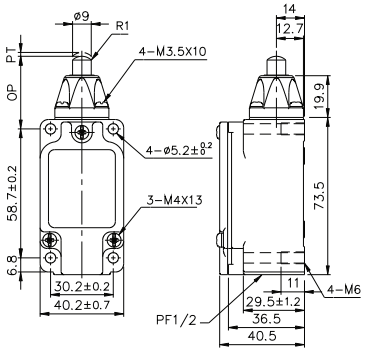
-2N SERIES



DIMENSIONS

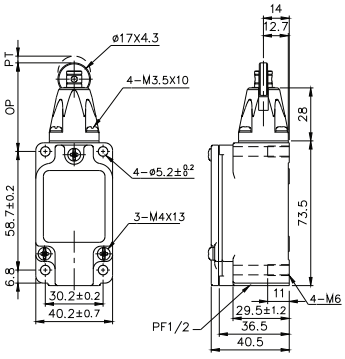
TZ-5101





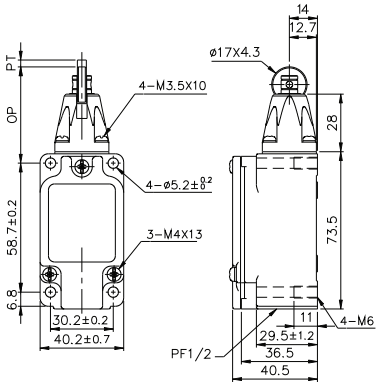
TZ-5102





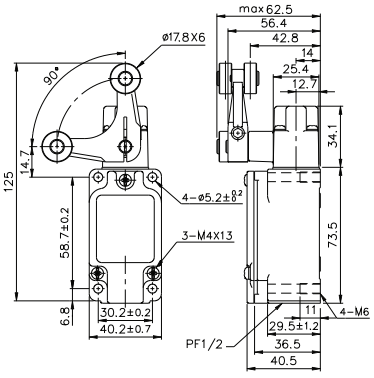
TZ-5103(HL-5000)





TZ-5105(WLCA32-41)





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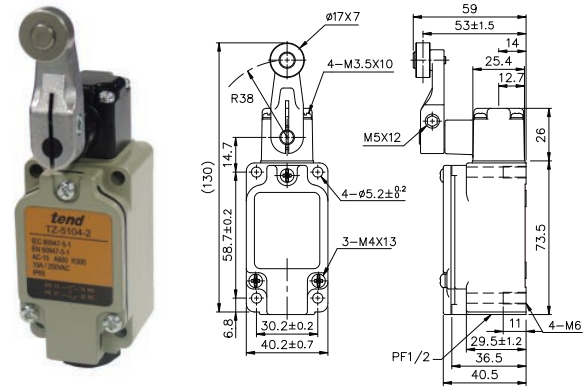
tend LIMIT SWITCH
ลิมิตสวิตช์ IP67

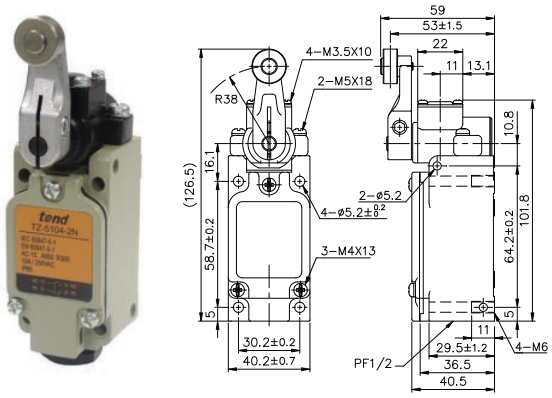
A009142

DIMENSIONS

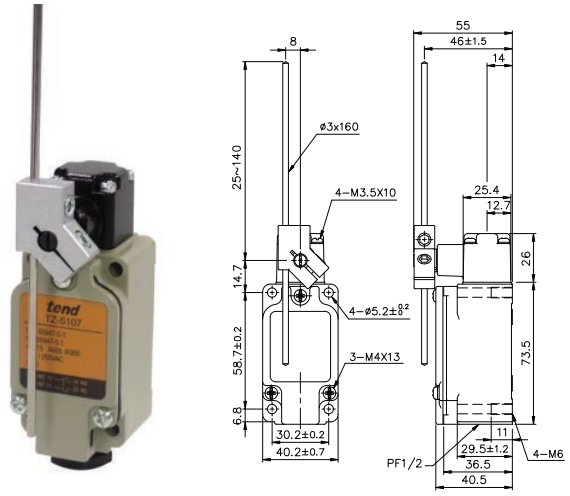
TZ-5104 (WLCA2)
TZ-5104-2 (WLCA2-2)



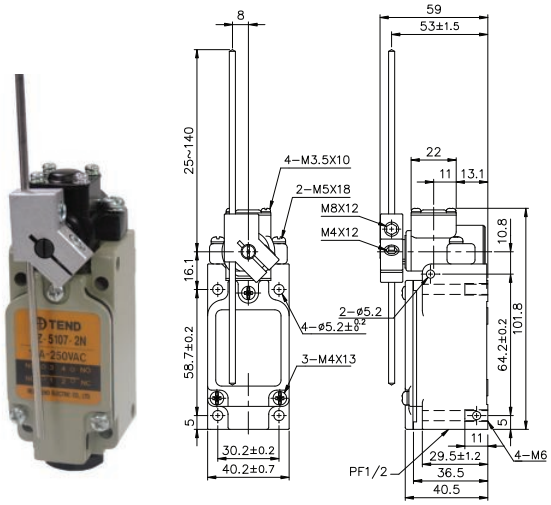
TZ-5104-2N (WLCA2-2N)



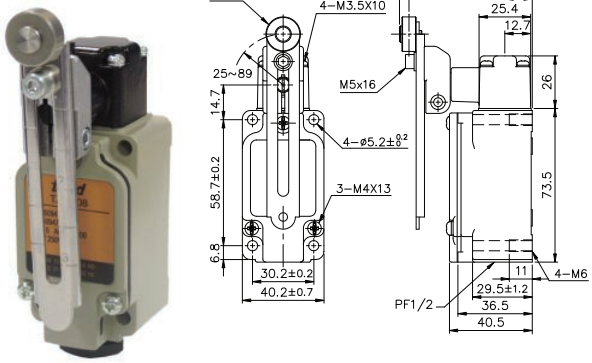
TZ-5107 (WLCL)
TZ-5107-2 (WLCL-2)



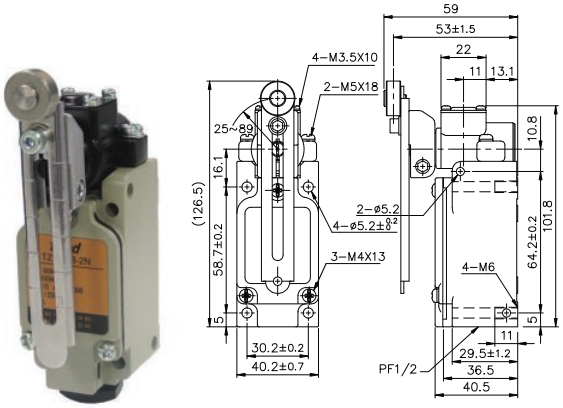
TZ-5107-2N (WLCL-2N)



TZ-5108 (WLCA12)
TZ-5108-2 (WLCA12-2)



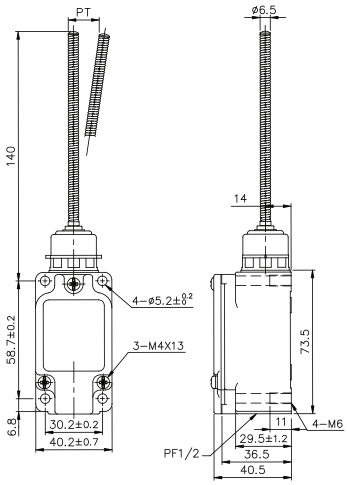
TZ-5108-2N (WLCA-2N)



DIMENSIONS(Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions)

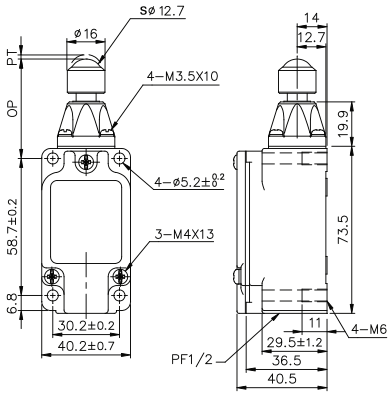
TZ-5106(WLNJ)





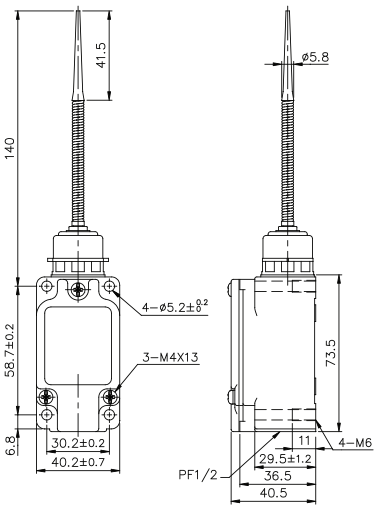
TZ-5109(WLD3)





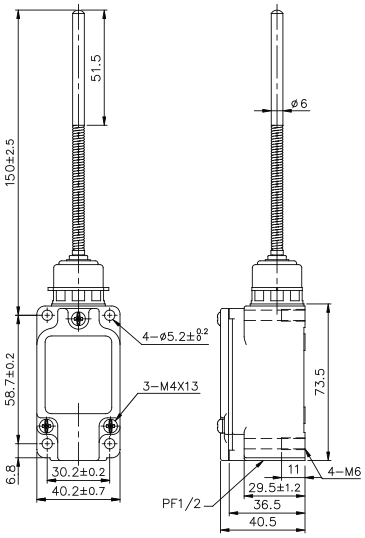
TZ-5166





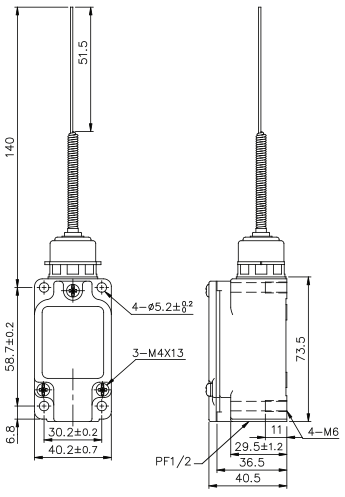
TZ-5168





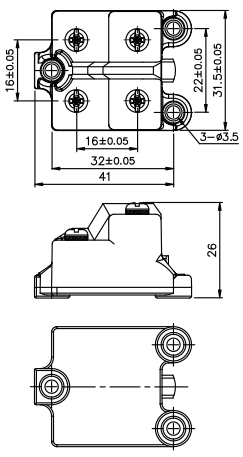
TZ-5169





TZ-501





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ENCLOSED LIMIT SWITCH
เอ็นโคลสลิมิตสวิตช์ IP65

E-99688

Long Service Life and Large Breaking Capacity

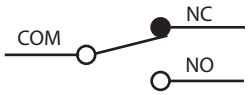
FEATURES

- Models TZ-6 incorporate Model TM Micro Switches with rugged diecast cases.
- Available with various types of built-in switches (including split contact type, maintained operation type, magnetic blowout type) and various actuators.
- **Degree of Protection : IEC IP65**

SPECIFICATIONS

- RATINGS
- CHARACTERISTICS
  THE SAME AS MICRO SWITCH SEE P (A)1

CONTACT CONFIGURATION



OPERATING CHARACTERISTICS

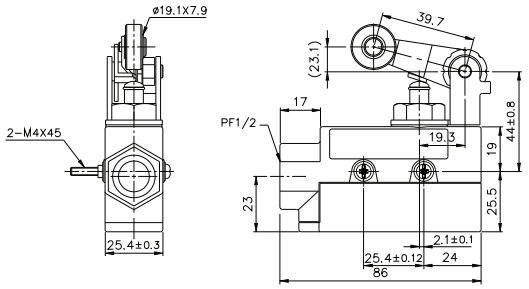
Type	TZ-6001	TZ-6002	TZ-6003	TZ-6004	TZ-6043
OF max	350 g	350 g		570 g	570 g
RF min	114 g	114 g		170 g	170 g
PT max	0.4 mm	0.5 mm		4 mm	4 mm
OT min	5.5 mm	3.6 mm		6 mm	6 mm
MD max	0.05 mm	0.05 mm		0.4 mm	0.4 mm
OP	38.2 ±0.8 mm	49.7 ±1 mm			

Type	TZ-6101	TZ-6102	TZ-6103	TZ-6104	TZ-6143
OF max	800 g	500 g		640 g	640 g
RF min	240 g	100 g		230 g	230 g
PT max	2 mm	1 mm		5 mm	5 mm
OT min	5 mm	3.5 mm		6 mm	6 mm
MD max	0.1 mm	0.12 mm		0.4 mm	0.4 mm
OP	45.8 ± 0.8 mm	49.7 ± 0.8 mm			

DIMENSIONS

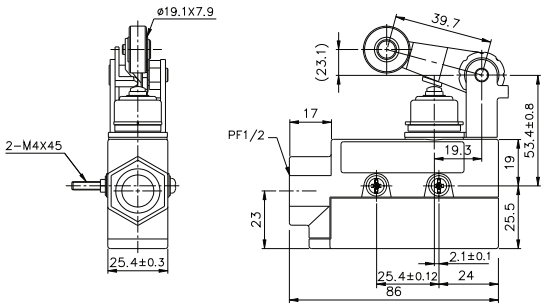
TZ-6004 (ZE-QA2-2)





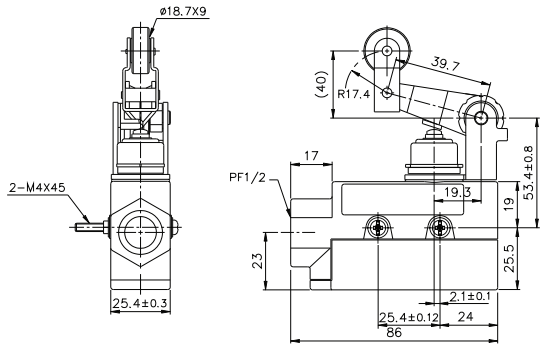
TZ-6104 (ZE-NA2-2)





TZ-6143 (ZE-NA2-2)





ENCLOSED LIMIT SWITCH
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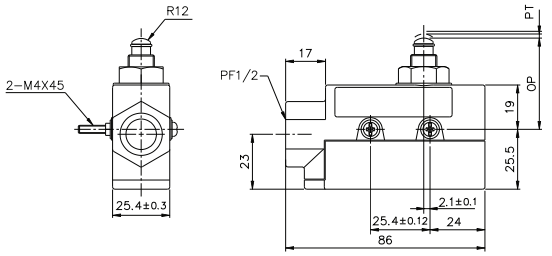
A009142

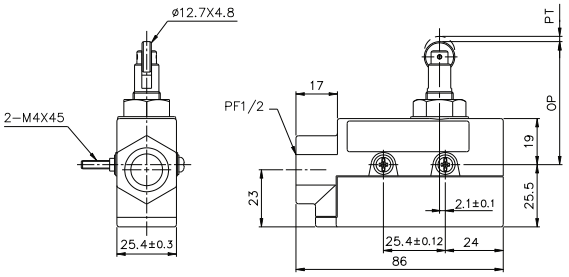
TZ-6001 (ZE-Q-2)





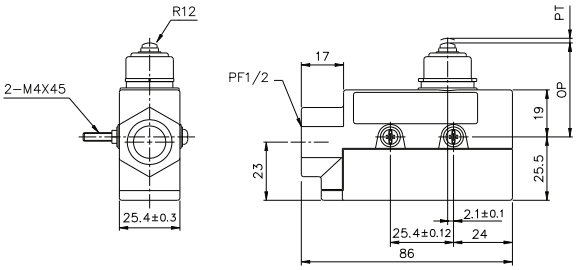
TZ-6002 (ZE-QA22-2)





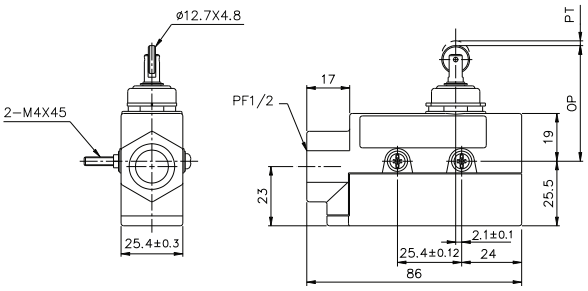
TZ-6101 (ZE-N-2)





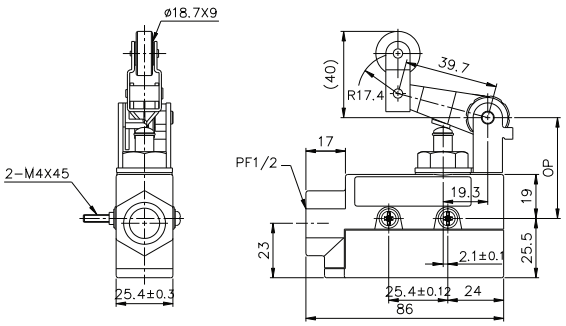
TZ-6102 (ZE-NA22-2)





TZ-6043 (ZE-QA77-2)





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend LIMIT SWITCH
ลิมิตสวิตช์

A009142

FEATURES

- High precision and long life (10,000,000 mechanical operations)
- Sealed with gasket diaphragm to provide high sealing property without use of any adhesive or pin.

SPECIFICATIONS RATINGS

Rated voltage (V)	Non-inductive load(A)				Inductive load(A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	10		3	1.5	10		5	2.5
250 V AC	10		2.5	1.25	10		3	1.5
480 V AC	3		1.5	0.75	2.5		1.5	0.75
8 V AC	10		3	1.5	6		6	5
14 V DC	10		3	1.5	6		6	5
30 V DC	8		3	1.5	6		5	2.5
125 V DC	0.5		0.4		0.05		0.05	
250 V DC	0.25		0.2		0.03		0.03	

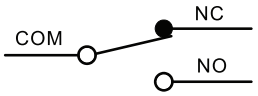
NOTES : 1. Inductive load : power factor = 0.4;
time constant = 7 msec.
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steadystate current.

CHARACTERISTICS

10A 250V AC

Operating speed	0.01 mm to 50 cm/sec (at pin plunger)
Operating frequency	120 operations/min.
Contact resistance	25 mΩ max. (initial)
Insulation resistance	100 MΩ max. (at 500 V DC)
Dielectric strength	1,000 V AC, 50/60 Hz for 1 minute between noncontinuous terminals 2,000 V AC, 50/60 Hz for 1 minute between current carrying and non-current carrying parts and between each terminal and ground
Vibration	Mechanical durability : 10 to 55 Hz 1.5 mm double amplitude
Shock	Mechanical durability : 1,000 m/sec² (approx: 100 G's) Malfunction durability : 300 m/sec² (approx. 30 G's)
Ambient ermperature	Operating : -10° to +80°C
Humidity	95% RH max (at +20° to +35°C)
Service life	Mechanically : 10,000,000 operations min (at rated OT Value) Electrically : 500,000 operations min.
Weight	Approx. 60 g
Degree of protection	IEC : IP65

CONTACT CONFIGURATION



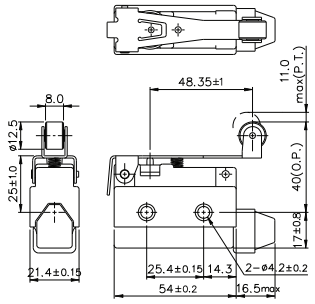
OPERATING CHARACTERISTICS

Type	TZ-7100	TZ-7110	TZ-7310	TZ-7311	TZ-7312	TZ-7120	TZ-7140	TZ-7121	TZ-7141	TZ-7124	TZ-7144	TZ-7166
OF max	600 g	600 g	600 g	600 g	600 g	150 g	220 g	180 g	240 g	200 g	280 g	120 g
RF min	100 g	100 g	100 g	100 g	100 g	40 g	60 g	50 g	80 g	60 g	100 g	
PT max	2.0 mm	2.0 mm	2.0 mm	2.0 mm	2.0 mm	13.5 mm	8.5 mm	11.0 mm	6.5 mm	11.0 mm	6.5 mm	25 mm
OT min	0.8 mm	5.0 mm	6.0 mm	6.0 mm	6.0 mm	4.0 mm	2.5 mm	3.0 mm	2.0 mm	3.0 mm	2.0 mm	11 mm
MD max	0.8 mm	0.8 mm	0.8 mm	0.8 mm	0.8 mm	3.2 mm	2.0 mm	2.4 mm	1.5 mm	2.4 mm	1.5 mm	
OP	30.8±0.8mm	44±1.2mm	21.8 ±1.2 mm	33.3 ±1.2 mm		25 ±1 mm	25 ±1 mm	40 ±1 mm	40 ±1 mm	50 ±1.2 mm	50 ±1.2 mm	
FP max						35 mm	32 mm		46 mm		56 mm	

DIMENSIONS

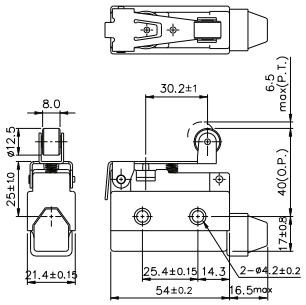
TZ-7121 (D4MC-2000)





TZ-7141 (D4MC-2020)





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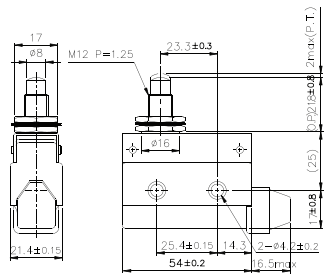
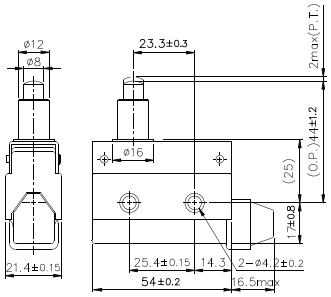
TZ-7310(D4MC)-5000





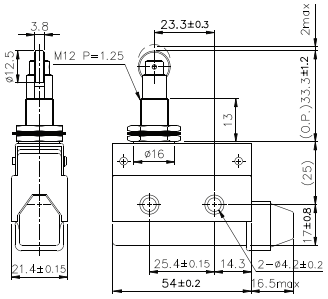
TZ-7110





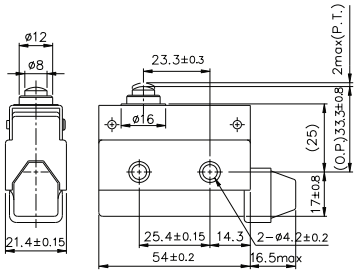
TZ-7311(D4MC)-5020





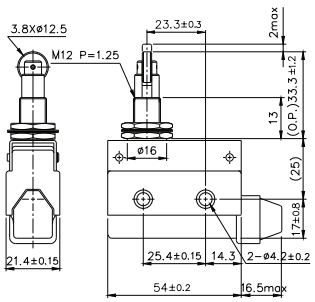
TZ-7100





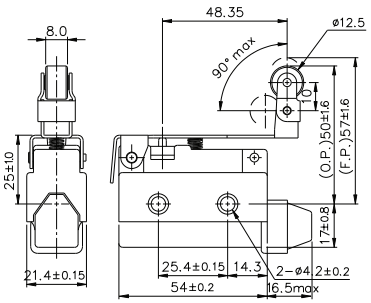
TZ-7312(D4MC)-5040





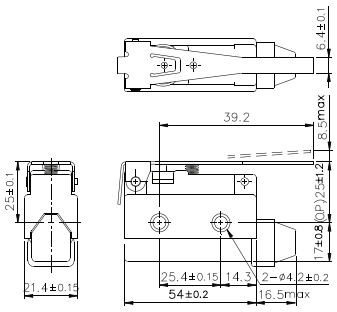
TZ-7124





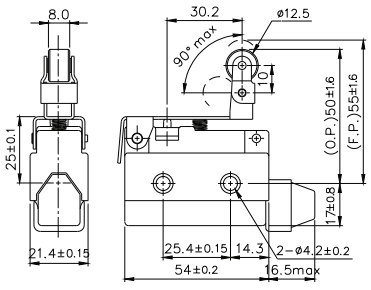
TZ-7120(D4MC)-1000





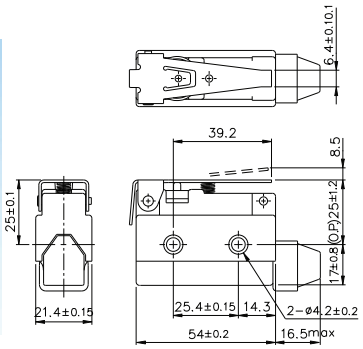
TZ-7144(D4MC)-3030





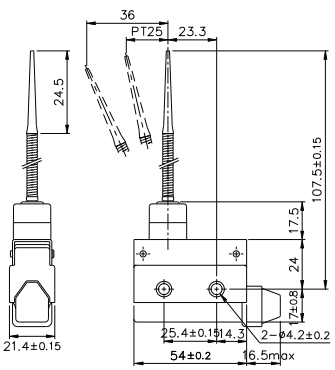
TZ-7140(D4MC)-1020





TZ-7166(D4MC)-5000





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

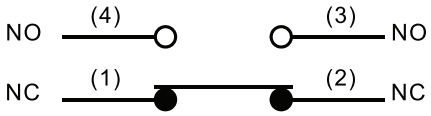
tend LIMIT SWITCH
ลิมิตสวิตช์ IP65

A009142

FEATURES

- Built-in basic switch with double spring mechanism
- Long life (10,000,000 mechanical operations)
- Highly rigid construction (Head and cover snugly fit in box)
- Dustproof and drip-proof construction
- Smooth operation with greater OT
- Easy-to-wire conduit opening design

CONTACT CONFIGURATION



SPECIFICATIONS RATINGS

Rated voltage (V)	Non-inductive load(A)				Inductive load(A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	5	5	1.5	0.7	3	3	2	1
250 V AC	5	5	1	0.5	3	3	1.5	0.8
8 V AC	5	5	3	3	5	4	3	3
14 V DC	5	5	3	3	4	4	3	3
30 V DC	5	5	3	3	4	4	3	3
125 V DC	0.4	0.4						
250 V DC	0.2	0.2						
Inrush current	NC: 24A max. NO: 12A max.							

NOTES : 1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 msec. Max. (DC)
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.

CHARACTERISTICS

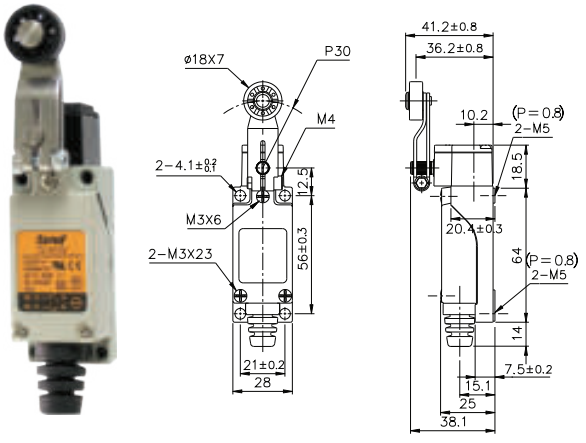
Operating speed	0.5 mm to 50 cm/sec
Operating frequency	Mechanically: 120 operations/min Electrically: 30 operations/min
Contact resistance	15 mΩ max. (initial)
Insulation resistance	100 MΩ min. (at 500 V DC)
Dielectric strength	1,000 V AC, 50/60 Hz for 1 minute between noncontinuous terminals 1,500 V AC, 50/60 Hz for 1 minute between current carrying and non-current carrying parts and between each terminal and ground
Vibration	10 to 55 Hz 1.5 mm double amplitude
Shock	Mechanically durability: 1,000 m/S² (approx. 100G'S) malfuncation: 500 m/S² (approx. 50G'S)
Ambient ermperature	Operating : -5 to + 65°C
Humidity	95% RH max
Service life	Mechanically : 10,000,000 operations min. Electrically : 500,000 operations min.
Weight	Approx. 130 g to 190 g
Degree of protection	IEC : IP65

OPERATING CHARACTERISTICS

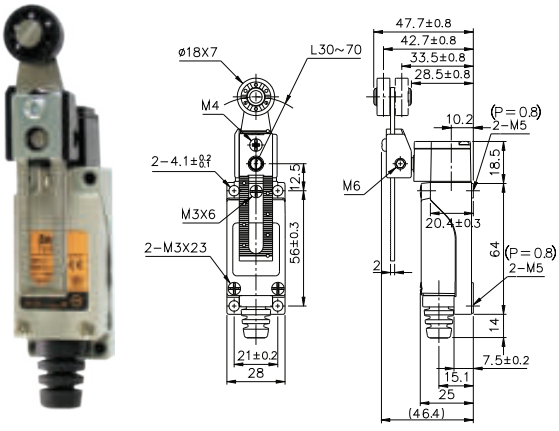
Type / Operating characteristics	TZ-8104	TZ-8108	TZ-8107	TZ-8111	TZ-8112 TZ-8122	TZ-8166, TZ-8167 TZ-8168, TZ-8169
OF max	750 g	750 g	750 g	900 g	900 g	150 g
RF min	100 g	100 g	100 g	150 g	150 g	-
PT max	2.0°	2.0°	2.0°	1.5 mm	1.5 mm	30 mm
OT min	50°	50°	50°	4 mm	4 mm	-
MD max	12°	12°	12°	1 mm	1 mm	-
OP	-	-	-	26 ±0.8 mm	37 ±0.8 mm	-

DIMENSIONS (Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.)

TZ-8104(HL-5000)



TZ-8108(HL-5030)



tend LIMIT SWITCH
ลิมิตสวิตช์ IP65

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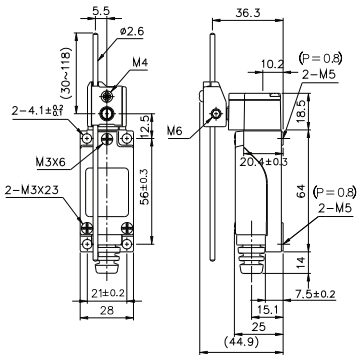
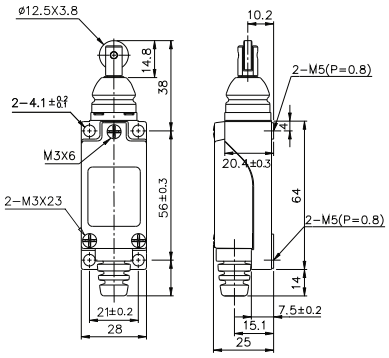
TZ-8107 (HL-5050)





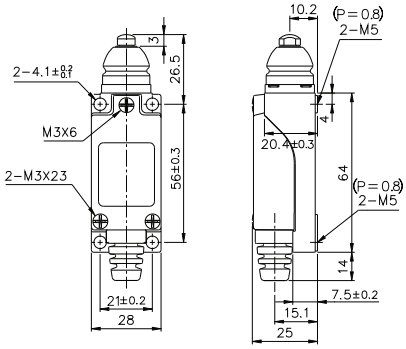
TZ-8112 (HL-5200)





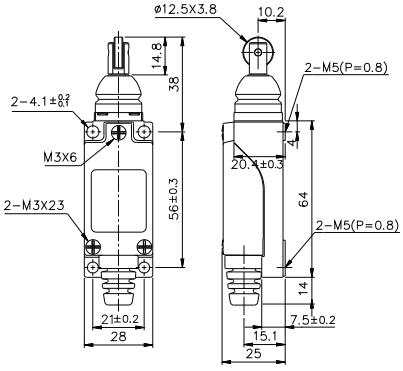
TZ-8111 (HL-5100)





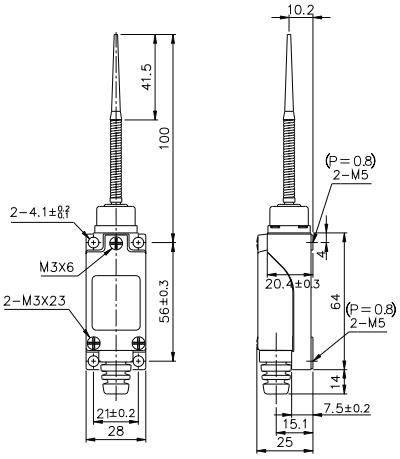
TZ-8122





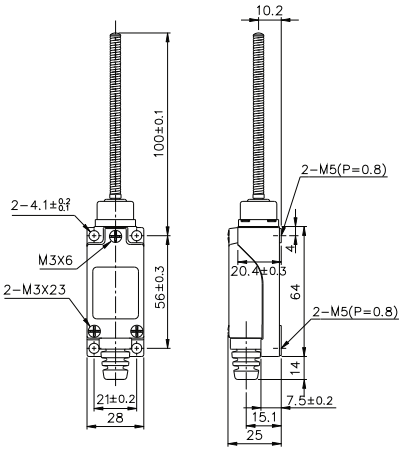
TZ-8166 (HL-5300)





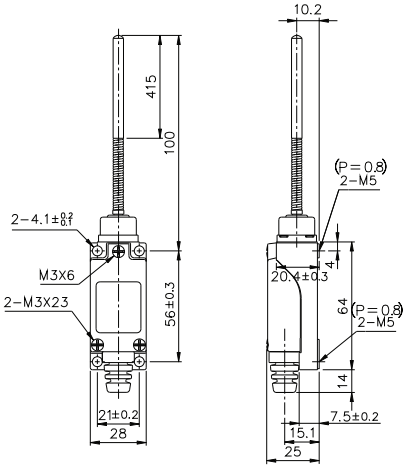
TZ-8167





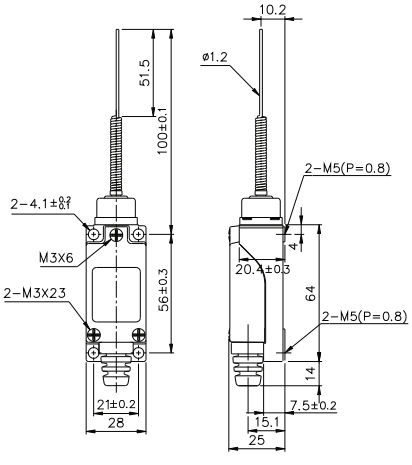
TZ-8168





TZ-8169





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend LIMIT SWITCH
ลิมิตสวิตช์ IP65

A009142

Economical, Miniature Limit Switch Boasting Rigid Construction

TZ-92 Series are DIN EN0047

FEATURES

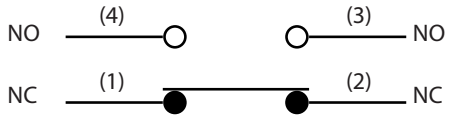
- Built-in basic switch with double spring mechanism
- Long life (10,000,000 mechanical operations)
- Material : Glass reinforced plastic.
- Dust proof and drip-proof construction
- Smooth operation with greater OT
- Easy-to-wire conduit opening design

SPECIFICATIONS RATINGS

Rated voltage (V)	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125 V AC	5	5	1.5	0.7	3	3	2	1
250 V AC	5	5	1	0.5	3	3	1.5	0.8
8 V DC	5	5	3	3	5	4	3	3
14 V DC	5	5	3	3	4	4	3	3
30 V DC	5	5	3	3	4	4	3	3
125 V DC	0.4	0.4						
250 V DC	0.2	0.2						
Inrush current	NC: 24A max. NO: 12A max							

NOTES : 1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 msec. Max. (DC)
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.

CONTACT CONFIGURATION



CHARACTERISTICS

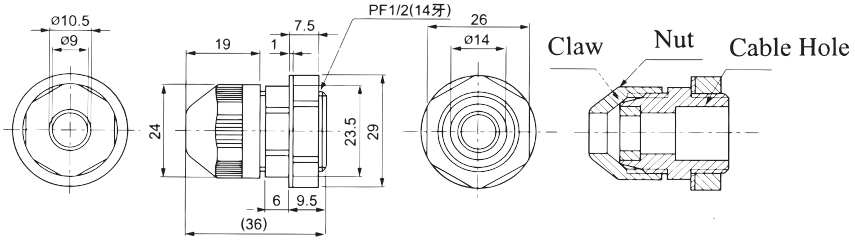
Operating speed	5 mm to 50 cm/s
Operating frequency	120 operations/min.
Contact resistance	25 mΩ max. (initial)
Insulation resistance	100 MΩ max. (at 500 V DC)
Dielectric strength	1,000 V AC, 50/60 Hz for 1 minute between non-continuous terminals 1,500 V AC, 50/60 Hz for 1 minute between current carrying and non-current carrying parts and between each terminal and ground
Vibration	10 to 55 Hz 1.5 mm double amplitude
Shock	Approx :300 m/s² (approx. 30G's)
Ambient ermperature	Operating : -5° to +60°C
Humidity	95% RH max
Service life	Mechanically : 10,000,000 operations min Electrically : 500,000 operations min.
Weight	Approx. 130 to 190 g
Degree of protection	IEC : IP65

OPERATING CHARACTERISTICS

Type	TZ-9104	TZ-9108	TZ-9107	TZ-9111	TZ-9112 TZ-9122	TZ-9124	TZ-9166, TZ-9167 TZ-9169
	TZ-9204	TZ-9208	TZ-9207	TZ-9211	TZ-9212 TZ-9222	TZ-9244	TZ-9266, TZ-9267 TZ-9269
OF max	500 g	450 g	450 g	700 g	700 g	450 g	150 g
RF min	50 g	40 g	40 g	150 g	150 g	80 g	-
PT max	18 ~ 28	18 ~ 28	2 mm	2 mm	2 mm	4 mm	30 mm
OT min	30	30	30	4 mm	4 mm	4 mm	-
MD max	14	14	14	0.8 mm	0.8 mm	1.6 mm	-
OP	-	-	-	18 ± 0.5 mm	28.2 ± 0.8 mm	37 ± 0.8 mm	-

HPF-12 (TG-16) SERIES
CABLE GLAND Diameter of Cable Ø6 ~ 10 mm

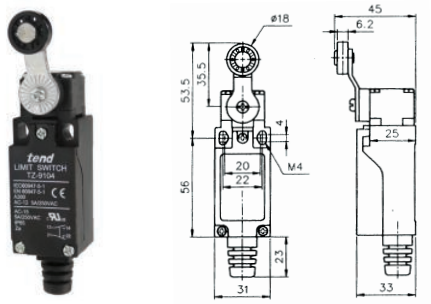




LIMIT SWITCH
ลิมิตสวิตช์ IP65
TZ-9

A009142

TZ-9104



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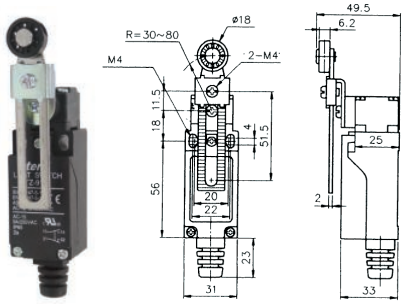

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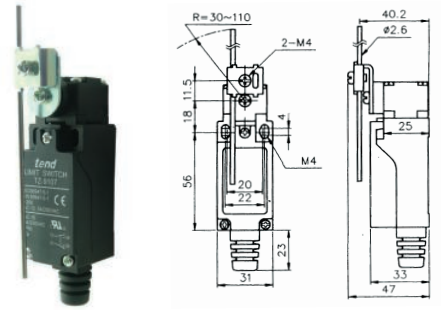

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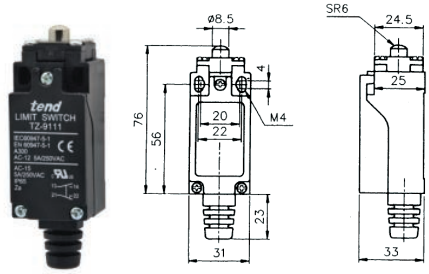
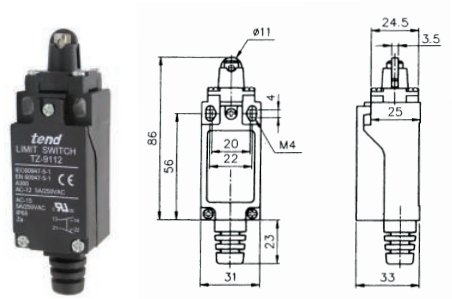


TZ-9112



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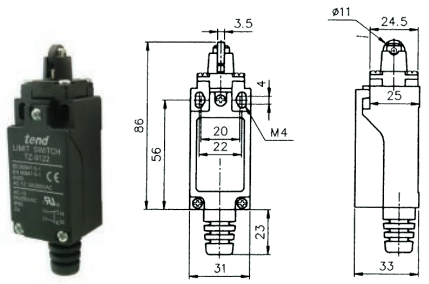

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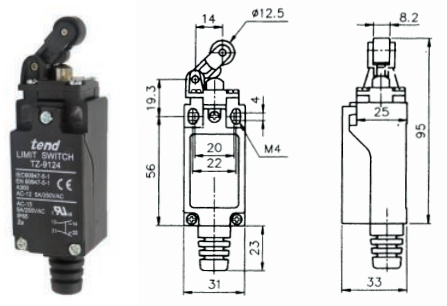

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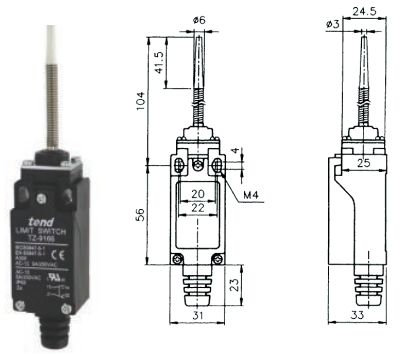

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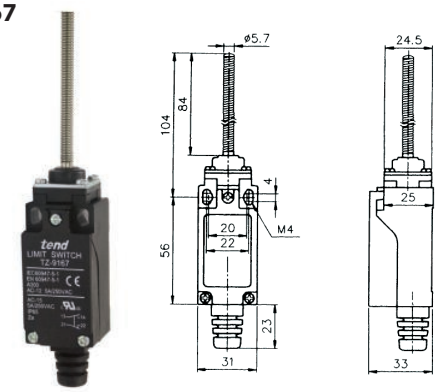

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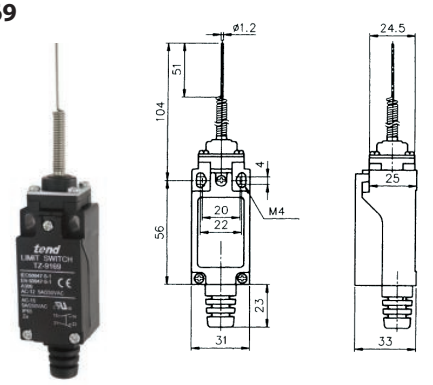
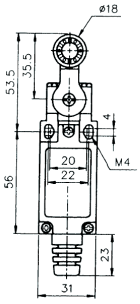


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

LIMIT SWITCH
ลิมิตสวิตช์ IP65
TZ-9

A009142

TZ-9204

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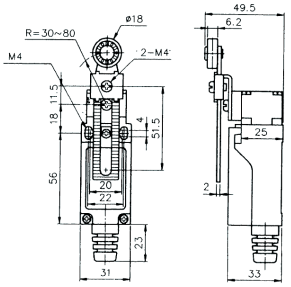

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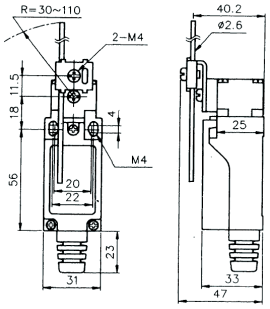

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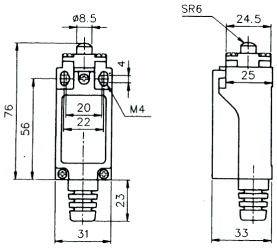

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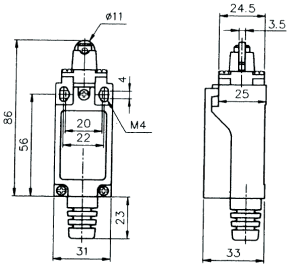

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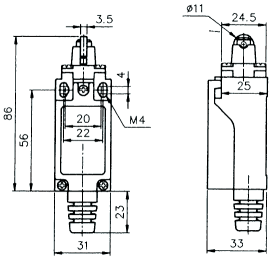

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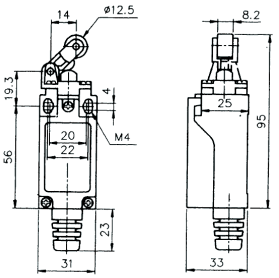

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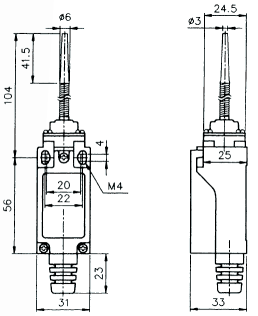

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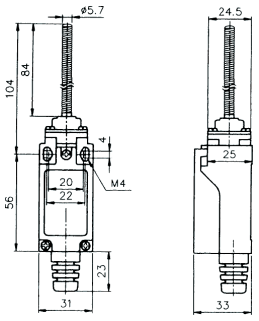

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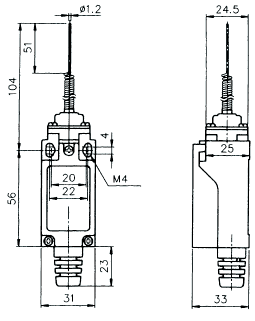


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

LIMIT SWITCH (FOR ELEVATOR)
ลิมิตสวิตช์สำหรับลิฟต์
TSW

MODEL DESIGNATIONS

TSW - A
(1) (2)

Designation	Signal	Description
1.Type	TSW	Elevator Switch
	TSW2	Decelerate Switch
2.Contact blocks	A	1a
	B	1b

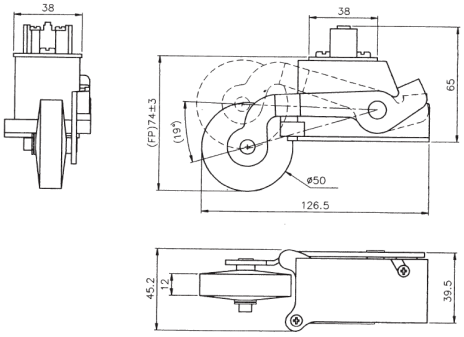
CHARACTERISTICS

Characteristics \ Type	TSW	TSW2
Contact resistance	50 mΩ max.	
Insulation resistance	100 MΩ min. (at 500 V DC)	
Dielectric strength	2000 V AC, 50/60 Hz 1 minute	
Ambient temperature	-10°C ~ 80°C	
Ambient humidity	45% ~ 80% RH	
Operation force	1 Kgf max	300 gr. max
Weight	Approx. 250 gr	Approx. 350 gr
Pretravel	8 mm max	45° ± 5°
Overtravel	25 mm max	23° ± 5°
Free position	74 ± 3 mm.	

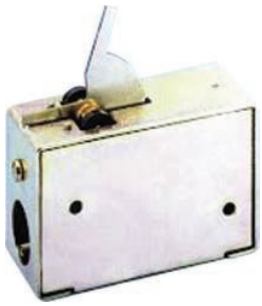
DIMENSIONS

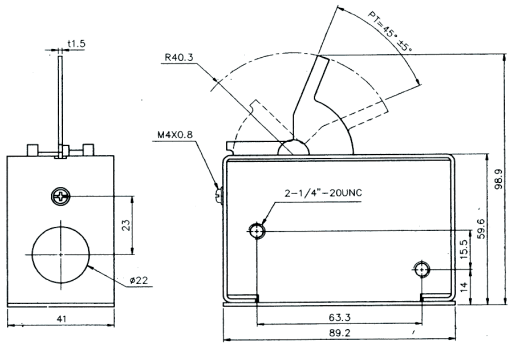
TSW-A (KS-E002A)





TSW2-3 (KS-E002B)





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

SAFETY KEY INTERLOCK SWITCH
เซฟตี้คีย์อินเตอร์ล็อคสวิตช์

A009142

MODEL DESIGNATIONS

TZ93 B PG 01
① ② ③ ④

Designation	Signal	Description
1.Type	TZ-93	Safety Switch
2.Type of contact blocks fitted	B	2b (2NC)
	C	1a1b (No-Nc)
3.Conduit entries	PG	PG13.5 x P1.5
	PT	PT1/2 x 14UNC
4.Actuating keys	None	None
	01	Horizontal
	02	Vertical
	03	Adjustable

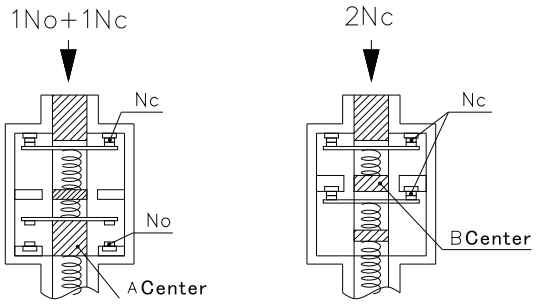
SPECIFICATIONS RATINGS

Rated voltage (V)	Non-inductive load (A)				Inductive load (A)			
	Resistive load		Lamp load		Inductive load		Motor load	
	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	10		3	1.5	10		5	2.5
250VAC	10		2	1	10		3	1.5
400VAC	10		1.5	0.8	3		1.5	0.8
8VDC	10		6	3	10		6	
14VDC	10		6	3	10		6	
30VDC	6		4	3	6		4	
125VDC	0.8		0.2	0.2	0.8		0.2	
250VDC	0.4		0.1	0.1	0.4		0.1	

CHARACTERISTICS

Rating	3A 240 V AC (A300)
Operating speed	0.1 mm ~ 0.5 m/s
Operating frequency	30 times/ minute
Contact resistance	25 mΩ max. (initial)
Insulation resistance	100 MΩ min. (at 500 V DC)
Rated insulation voltage (ui)	400 V
Dielectric strength	AC2500 V/Umip 4 KV
Vibration	10 ~ 50 Hz 0.65 mm double amplitude
Shock	Mechanically Approx : 1,000 m/s² (Approx: 100 G's) Electrically: Approx : 300 m/s ² (approx. 30G's)
Ambient temperature	-30° ~ +70°C
Ambient humidity	Below 95% RH
Service life	Mechanically : 10,000,000 operations/ min Electrically : 150,000 operations/min.
Degree of protection	IP65 (EN60947-5-1)
Shor-circuit protective device	10A Fuse
Weight	Approx. 76 g

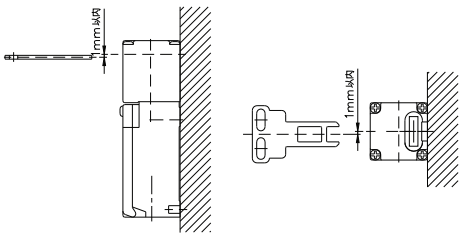
REQUIRED TO HAVE POSITIVE MACHINE



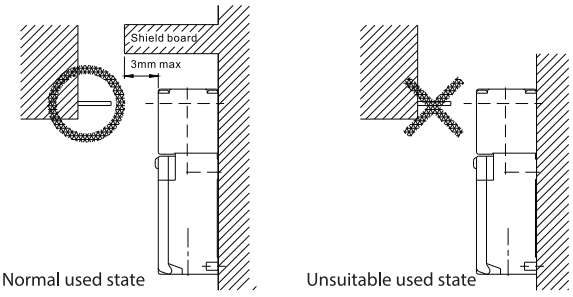
When the contact block get fire, press on the middle of the key structure, the Nc strict leaving structure can push the contact block a way cut off the movement.

USE ATTENTION AFFAIR

To prevent the wear and the space should be within 1 mm between the key and middle of the insert hole



When in use, there should put a plate on the top to prevent the key overinsert. To prevent nonmovement, the space between the plate and the switch should be under 3 mm.



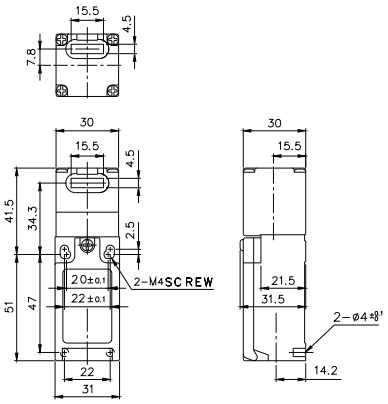
tend SAFETY KEY INTERLOCK SWITCH
เซฟตี้คีย์อินเตอร์ล็อคสวิตช์

A009142

DIMENSIONS (ใช้คอนโทรลปิด-เปิดไฟฝาตู้คอนโทรล)

TZ-93BPG
TZ-93BPT
TZ-93CPG
TZ-93CPT





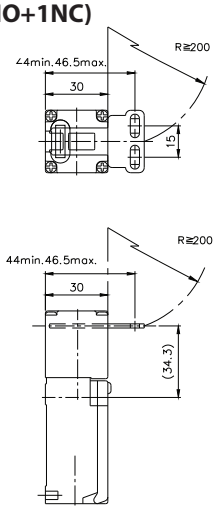
OPERATING CHARACTERISTICS

Key plug in force	max.	14.71N (1,500 gf)
Key pull out force	max.	29.42N (3,000 gf)
Pretravel		6 ± 3 mm
Total travel		(28 mm)
Force required to have positive	min.	58.84N (6,000 gf)
Positive opening travel	min.	10 mm

DIMENSIONS OF OPERATING

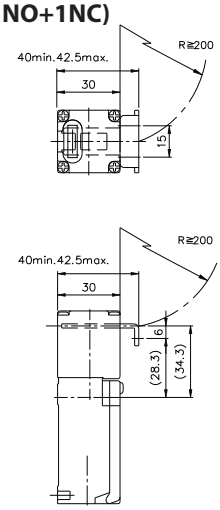
TZ-93BPG01 / TZ-93BPT01 } 2B (2NC)
TZ-93CPG01 / TZ-93CPT01 } 1A1B (1NO+1NC)





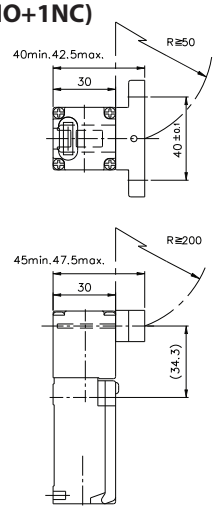
TZ-93BPG02 / TZ-93BPT02 } 2B (2NC)
TZ-93CPG02 / TZ-93CPT02 } 1A1B (1NO+1NC)





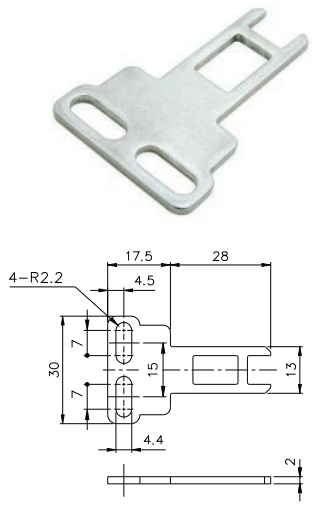
TZ-93BPG03 / TZ-93BPT03 } 2B (2NC)
TZ-93CPG03 / TZ-93CPT03 } 1A1B (1NO+1NC)



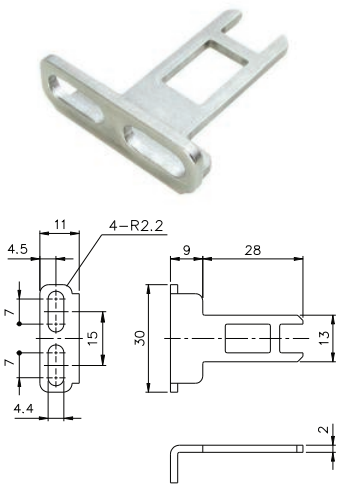


TYPE OF KEYS AND DIMENSIONS

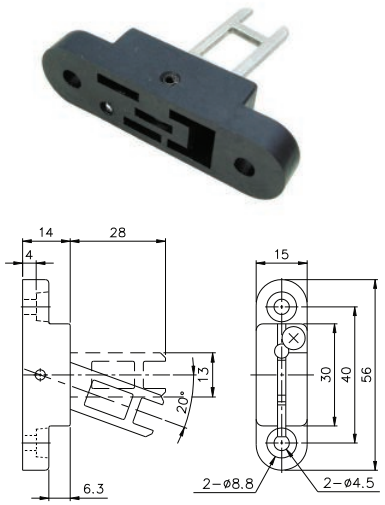
TZ93-K1



TZ-93-K2



TZ93-K3



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HOIST PUSH BUTTON SWITCH
สวิตช์เครน ชนิดธรรมดา

CHARACTERISTICS

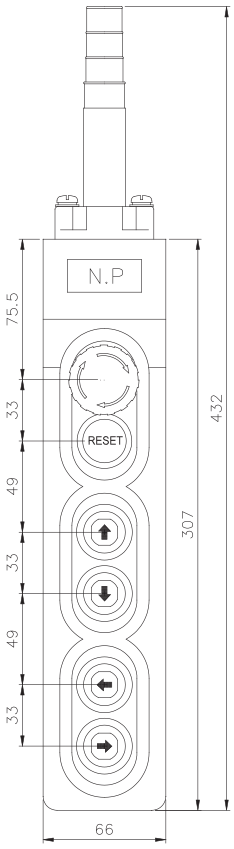
	Type	Label	Button	Button assembly		Description	Exterminal diameter of cable	Terminal	Remark
Direct operation	THS-EP213	None	1	T2BKRR-2B	Emergency stop 2B (red)	10 A 250 V AC	Ø13.3 ~ Ø16.5	M3.5	Control motor directly
			2	T2PR-2R	Indicator (Red)	220 V AC			
			3	THS-213C	213 contact block	Single 100/110 V 0.75 Kw			
			4			Phase 200/220 V 1.5 Kw			
	THS-EI22	A	1	T2BKRR-1B	Emergency stop 1B (red)	10 A 250 V AC	Ø13.3 ~ Ø16.5	M3.5	Control motor directly
			2	T2IFR2G-1A	illuminated flat head push button switch 1A (green)	220 V AC			
			3	THS-2C-S	21 contact block	Single 200/220 V 2.2 Kw			
			4			Phase 400/440 V 2.2 Kw			
	THS-EI23	E	1	T2BKRR-1B	Emergency stop 1B (red)	10 A 250 VAC	Ø16.3 ~ Ø19.5	M3.5	Control motor directly
			2	T2IFR2G-1A	illuminated flat head push button switch 1A (green)	220 VAC			
			3 4	2*THS-2C-S	21 contact block*2	Single 200/220 V 2.2 Kw			
			5 6			Phase 400/440 V 2.2 Kw			

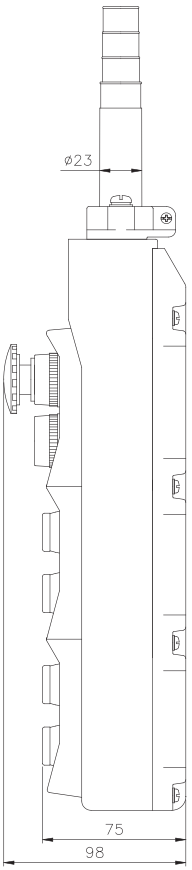
● Note : None-represent Chiness sticker (A: represents the arrow sticker E: represents English sticker)

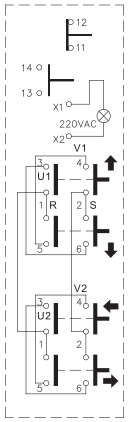
DIMENSIONS AND WIRING DRAWING



THS-EP213 THS-EI22 THS-EI23







R. S. :Power
U₁andV₁: Motor(1)
U₂andV₂: Motor(2)
①And② are terminal numbers

HOIST PUSH BUTTON SWITCH
สวิตช์เครน ชนิดธรรมดา

DIRECT OPERATION TYPE
ชนิดต่อตรง

THS-21 THS-213 THS-213L THS-22 THS-23



DIRECT OPERATION TYPE
ชนิดต่อผ่านเมกเนติคสวิตช์

THS-61 THS-62 THS-63



The hoist push button switches are classified as follows in accordance with application.

Direct operation

1. Hoisting (One set of forward and reverse)
2. Hoisting transverse, or longitudinal (two sets of forward and reverse)
3. Hoisting, transverse, and longitudinal (three sets of forward and reverse)

In conjunction with a magnetic switch

4. Hoisting (one set of forward and reverse used in conjunction with a magnetic switch)
5. Two sets and three sets of forward and reverse are planned.

Used Direct Operation		With A Magnetic Switch	
250 V	15 A	250 V	5 A
500 V	15 A	500 V	2 A

SPECIFICATIONS

Type		Hoist operation	Maximum applicable electric motor capacity 200/220V kW (HP)	Standard			Special
				Inner diameter of the glad bushing packing (mm)	Nominal crossectional area (mm2)	Number of conductors	Other special rubber cables
Direct operation	THS-213L	Hoisting	0.75 (1) 1Ø100V With Lock Pin	18	2.0	6	2 mm2, 4-Conductor, vinyl, 12Ø 2 m2, 9-Conductor, rubber, 19Ø 2 mm2, 7-Conductor, Chloroprene, 17Ø
	THS-213		0.75 (1) 1Ø 100V	18	2.0	6	
	THS-21		2.2 (3)	16	2.0	5	
	THS-22	Hoisting and transverse (or longitudinal)	2.2 (3) x 2	18	2.0	7	
	THS-23	Hoisting transverse and longitudinal	2.2 (3) x 3	14-1, 16-1	2.0	4 and 5	
Indirect operation	THS-61	Hoisting	250 V 5A	12	2.0	3	10Ø , 11Ø, 13Ø
	THS-62	Two sets	500 V 2A	16	2.0	6	
	THS-63	Three sets	with a magnetic switch	18	2.0	7	

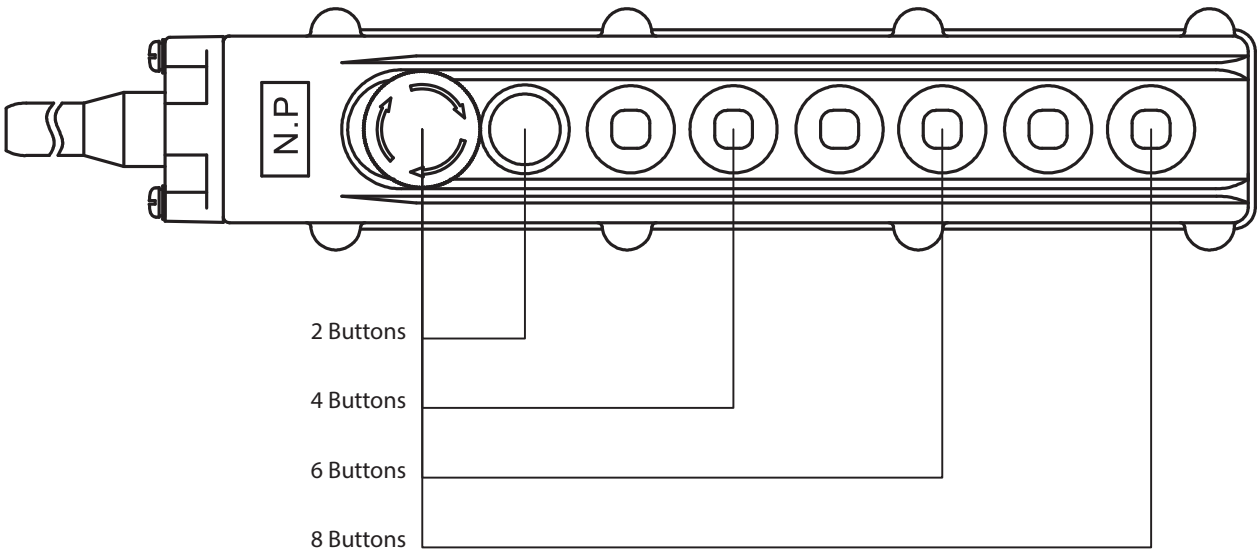
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67

MODEL DESIGNATION

THS-8	2				for 2 buttons
THS-8	2	2			for 4 buttons
THS-8	2	2	2		for 6 buttons
THS-8	EP	2	2	2	for 8 buttons

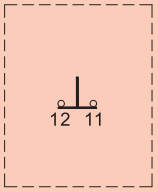
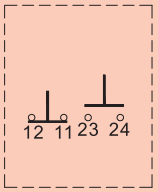
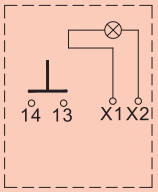
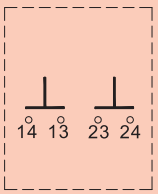
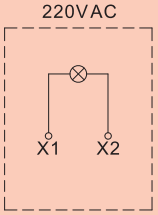
Designation	Signal	Description
Control method	82	Direct control 3Ø Single speed
	83	Indirect control Two speed
	86	Indirect control Single speed
Push button sw.	EX	Emergency stop + Water proof rubber
	EB	Emergency stop + Push button switch
	EI	Emergency stop + Illuminated Push button switch
	EK	Emergency stop + Key switch
	EP	Emergency stop + Indicator
	ES	Emergency stop + Selector switch



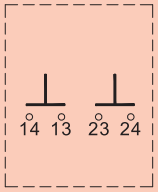
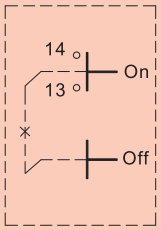
tend

PUSH BUTTON AND PILOT LAMP FOR HOIST PUSH BUTTON SWITCH

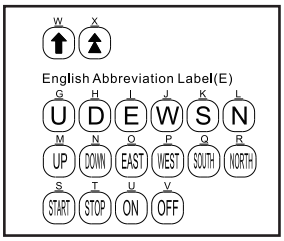
สวิตช์กด และไพล็อตแลมป์สำหรับสวิตช์เครน IP67

Type no.	Picture	Contact
E	สวิตช์กดดอกเห็ด THS-BKR 	(1b) 
B	สวิตช์กด THS-BFR 	(1a1b) 
I	สวิตช์มีไพล็อตแลมป์ THS-IFR 	(1a) 220VAC 
K	สวิตช์กุญแจ THS-KSR 	(2a) 
P	ไพล็อตแลมป์ THS-PR 	220VAC 

หมายเหตุ นอกเหนือจาก Spec สำเร็จรูปใน Price list นี้ ท่านสามารถซื้ออะไหล่ประกอบเองหรือให้ทางบริษัทประกอบให้ตาม Spec ที่ต้องการ

Type no.	Picture	Contact
S	สวิตช์ลูกศร THS-SSR 	(2a) 
X	ตัวอุด THS-X 	2*TP4*8 Screw Blanking Plate
PB	สวิตช์กด ON - OFF THS-PB 	(1a) 

■ STICKER WITH LENS 5HS8C02



- THS-81-B-BOX FOR 2 BUTTON
  บ๊อกสวิตช์เครน 2 ช่อง
- THS-82-B-BOX FOR 4 BUTTON
  บ๊อกสวิตช์เครน 4 ช่อง
- THS-83-B-BOX FOR 6 BUTTON
  บ๊อกสวิตช์เครน 6 ช่อง
- THS-84-B-BOX FOR 8 BUTTON
  บ๊อกสวิตช์เครน 8 ช่อง
- THS-82-C CONTACT DIRECT OPERATION SINGLE SPEED
  คอนแทค 1 สปีดชนิดต่อตรง สำหรับรุ่น THS-82
- THS-83-C CONTACT INDIRECT OPERATION DOUBLE SPEED
  คอนแทค 2 สปีดชนิดต่อผ่านเมกเนติคสวิตช์ สำหรับรุ่น THS-83
- THS-86-C CONTACT INDIRECT OPERATION SINGLE SPEED
  คอนแทค 1 สปีดชนิดต่อผ่านเมกเนติคสวิตช์ สำหรับรุ่น THS-86

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67



INDIRECT OPERATION TYPE สวิตช์เครนชนิดต่อผ่านเมกเนติคสวิตช์

P/N	Description	Contact	Spec.	Remark
THS-86	Indirect Operation 2 buttons	2a	5A 250V AC	Rainproof
THS-866	Indirect Operation 4 buttons	4a	5A 250V AC	Rainproof
THS-8666	Indirect Operation 6 buttons	6a	5A 250V AC	Rainproof
THS-86666	Indirect Operation 8 buttons	8a	5A 250V AC	Rainproof
THS-8PB6	Indirect Operation 2 buttons with P.B.SW. on-0ff	2a	5A 250V AC	Rainproof
THS-8PB66	Indirect Operation 4 buttons with P.B.SW. on-0ff	4a	5A 250V AC	Rainproof
THS-8PB666	Indirect Operation 6 buttons with P.B.SW. on-0ff	6a	5A 250V AC	Rainproof
THS-83	Indirect Operation Double Speed 2 buttons	2a	5A 250V AC	Rainproof
THS-833	Indirect Operation Double Speed 4 buttons	4a	5A 250V AC	Rainproof
THS-8333	Indirect Operation Double Speed 6 buttons	6a	5A 250V AC	Rainproof
THS-83333	Indirect Operation Double Speed 8 buttons	8a	5A 250V AC	Rainproof
THS-8PB3	Indirect Operation Double Speed 2 buttons with P.B.SW. on-off	2a	5A 250V AC	Rainproof
THS-8PB33	Indirect Operation Double Speed 4 buttons with P.B.SW. on-off	4a	5A 250V AC	Rainproof
THS-8PB333	Indirect Operation Double Speed 6 buttons with P.B.SW. on-off	6a	5A 250V AC	Rainproof
THS-836	Double Speed 2 buttons Single Speed 2 buttons	2a	5A 250V AC	Rainproof
THS-8366	Double Speed 2 buttons Single Speed 4 buttons	4a	5A 250V AC	Rainproof
THS-8336	Double Speed 4 buttons Single Speed 2 buttons	6a	5A 250V AC	Rainproof
THS-83666	Double Speed 2 buttons Single Speed 6 buttons	6a	5A 250V AC	Rainproof
THS-83366	Double Speed 4 buttons Single Speed 4 buttons	6a	5A 250V AC	Rainproof
THS-83336	Double Speed 6 buttons Single Speed 2 buttons	8a	5A 250V AC	Rainproof
THS-8EX3	Double Speed 2 buttons With Emergency Stop	2a	5A 250V AC	Rainproof
THS-8EB3	Double Speed 2 buttons With Emergency Stop, P.B. SW	2a	5A 250V AC	Rainproof
THS-8EI3	Double Speed 2 buttons With Emergency Stop, I. P.B SW	2a	5A 250V AC	Rainproof
THS-8EK3	Double Speed 2 buttons With Emergency Stop & Key Sw.	2a	5A 250V AC	Rainproof
THS-8EP3	Double Speed 2 buttons With Emergency Stop & Pilot Lamp	2a	5A 250V AC	Rainproof
THS-8ES3	Double Speed 2 buttons With Emergency Stop & Selector	2a	5A 250V AC	Rainproof

HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67



INDIRECT OPERATION TYPE สวิตช์เครนชนิดต่อผ่านเมกเนติคสวิตช์

P/N	Description	Contact	Spec.	Remark
THS-8EX36	D.S.2 buttons, S.S. 2 buttons / E. STOP	2a/2a	5A 250V AC	Rainproof
THS-8EB36	D.S.2 buttons, S.S. 2 buttons / E. STOP, P.B., SW.	2a/2a	5A 250V AC	Rainproof
THS-8EI36	D.S.2 buttons, S.S. 2 buttons / E. STOP, I.P.B., SW.	2a/2a	5A 250V AC	Rainproof
THS-8EK36	D.S.2 buttons, S.S. 2 buttons / E. STOP, Key., SW.	2a/2a	5A 250V AC	Rainproof
THS-8EP36	D.S.2 buttons, S.S. 2 buttons / E. STOP, Pilot Lamp	2a/2a	5A 250V AC	Rainproof
THS-8ES36	D.S.2 buttons, S.S. 2 buttons / E. STOP, Selector	2a/2a	5A 250V AC	Rainproof
THS-8EX33	D.S.4 buttons, B1 / E. STOP	4a	5A 250V AC	Rainproof
THS-8EB33	D.S.4 buttons / E. STOP, P.B., SW.	4a	5A 250V AC	Rainproof
THS-8EI33	D.S.4 buttons / E. STOP, I.P.B., SW.	4a	5A 250V AC	Rainproof
THS-8EK33	D.S.4 buttons / E. STOP, Key., SW.	4a	5A 250V AC	Rainproof
THS-8EP33	D.S.4 buttons / E. STOP, Pilot Lamp	4a	5A 250V AC	Rainproof
THS-8ES33	D.S.4 buttons / E. STOP, Selector	4a	5A 250V AC	Rainproof
THS-8EX336	D.S.4 buttons, S.S. 2 buttons / E. STOP	4a/2a	5A 250V AC	Rainproof
THS-8EB336	D.S.4 buttons, S.S. 2 buttons / E. STOP, P.B., SW.	4a/2a	5A 250V AC	Rainproof
THS-8EI336	D.S.4 buttons, S.S. 2 buttons / E. STOP, I.P.B., SW.	4a/2a	5A 250V AC	Rainproof
THS-8EK336	D.S.4 buttons, S.S. 2 buttons / E. STOP, Key., SW.	4a/2a	5A 250V AC	Rainproof
THS-8EP336	D.S.4 buttons, S.S. 2 buttons / E. STOP, Pilot Lamp	4a/2a	5A 250V AC	Rainproof
THS-8ES336	D.S.4 buttons, S.S. 2 buttons / E. STOP, Selector	4a/2a	5A 250V AC	Rainproof
THS-8EX333	THS-8EX333 D.S.6 buttons, B1 / E. STOP	6a	5A 250V AC	Rainproof
THS-8EB333	D.S.6 buttons / E. STOP, P.B., SW.	6a	5A 250V AC	Rainproof
THS-8EI333	D.S.6 buttons / E. STOP, I.P.B., SW.	6a	5A 250V AC	Rainproof
THS-8EK333	D.S.6 buttons / E. STOP, Key., SW.	6a	5A 250V AC	Rainproof
THS-8EP333	D.S.6 buttons / E. STOP, Pilot Lamp	6a	5A 250V AC	Rainproof
THS-8ES333	D.S.6 buttons / E. STOP, Selector	6a	5A 250V AC	Rainproof
THS-8EX366	D.S.2 buttons, S.S. 4 buttons / E. STOP	2a/4a	5A 250V AC	Rainproof
THS-8EB366	D.S.2 buttons, S.S. 4 buttons / E. STOP, P.B., SW.	2a/4a	5A 250V AC	Rainproof
THS-8EI366	D.S.2 buttons, S.S. 4 buttons / E. STOP, I.P.B., SW.	2a/4a	5A 250V AC	Rainproof
THS-8EK366	D.S.2 buttons, S.S. 4 buttons / E. STOP, Key., SW.	2a/4a	5A 250V AC	Rainproof
THS-8EP366	D.S.2 buttons, S.S. 4 buttons / E. STOP, Pilot Lamp	2a/4a	5A 250V AC	Rainproof
THS-8ES366	D.S.2 buttons, S.S. 4 buttons / E. STOP, Selector	2a/4a	5A 250V AC	Rainproof

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67



INDIRECT OPERATION TYPE สวิตช์เครนชนิดต่อผ่านเมกเนติคสวิตช์

P/N	Description	Contact	Spec.	Remark
THS-8EX6	Indirect 2 buttons / E. STOP	2a	5A 250V AC	Rainproof
THS-8EB6	Indirect 2 buttons / E. STOP, P.B., SW.	2a	5A 250V AC	Rainproof
THS-8EI6	Indirect 2 buttons / E. STOP, I.P.B., SW.	2a	5A 250V AC	Rainproof
THS-8EK6	Indirect 2 buttons / E. STOP, Key., SW.	2a	5A 250V AC	Rainproof
THS-8EP6	Indirect 2 buttons / E. STOP, Pilot Lamp	2a	5A 250V AC	Rainproof
THS-8ES6	Indirect 2 buttons / E. STOP, Selector	2a	5A 250V AC	Rainproof
THS-8EX66	Indirect 4 buttons / E. STOP	4a	5A 250V AC	Rainproof
THS-8EB66	Indirect 4 buttons / E. STOP, P.B., SW.	4a	5A 250V AC	Rainproof
THS-8EI66	Indirect 4 buttons / E. STOP, I.P.B., SW.	4a	5A 250V AC	Rainproof
THS-8EK66	Indirect 4 buttons / E. STOP, Key., SW.	4a	5A 250V AC	Rainproof
THS-8EP66	Indirect 4 buttons / E. STOP, Pilot Lamp	4a	5A 250V AC	Rainproof
THS-8ES66	Indirect 4 buttons / E. STOP, Selector	4a	5A 250V AC	Rainproof
THS-8EX666	Indirect 6 buttons / E. STOP	6a	5A 250V AC	Rainproof
THS-8EB666	Indirect 6 buttons / E. STOP, P.B., SW.	6a	5A 250V AC	Rainproof
THS-8EI666	Indirect 6 buttons / E. STOP, I.P.B., SW.	6a	5A 250V AC	Rainproof
THS-8EK666	ndirect 6 buttons / E. STOP, Key., SW.	6a	5A 250V AC	Rainproof
THS-8EP666	Indirect 6 buttons / E. STOP, Pilot Lamp	6a	5A 250V AC	Rainproof
THS-8ES666	Indirect 6 buttons / E. STOP, Selector	6a	5A 250V AC	Rainproof

HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67



DIRECT OPERATION TYPE สวิตช์เครนชนิดต่อตรง

P/N	Description	Contact	Spec.	Remark
THS-82	Direct Operation 2 buttons single phases	3a	15A 250V AC	Rainproof
THS-822	Direct Operation 4 buttons single phases	6a	15A 250V AC	Rainproof
THS-8222	Direct Operation 6 buttons single phases	9a	15A 250V AC	Rainproof
THS-82222	Direct Operation 8 buttons single phases	12a	15A 250V AC	Rainproof
THS-8PB2	Direct Operation 2 buttons single phases with P.B. SW. On-off	3a	15A 250V AC	Rainproof
THS-8PB22	Direct Operation 4 buttons single phases with P.B. SW. On-off	6a	15A 250V AC	Rainproof
THS-8PB222	Direct Operation 6 buttons single phases with P.B. SW. On-off	9a	15A 250V AC	Rainproof
THS-8EX2	Direct Operation 2 buttons with E. STOP single phases		15A 250V AC	Rainproof
THS-8EB2	Direct 2 buttons / E. STOP, P.B., SW. single phases		15A 250V AC	Rainproof
THS-8EI2	Direct 2 buttons / E. STOP, I.P.B., SW. single phases		15A 250V AC	Rainproof
THS-8EK2	Direct 2 buttons / E. STOP, Key., SW. single phases		15A 250V AC	Rainproof
THS-8EP2	Direct 2 buttons / E. STOP, Pilot Lamp single phases		15A 250V AC	Rainproof
THS-8ES2	Direct 2 buttons / E. STOP, Selector single phases		15A 250V AC	Rainproof
THS-8EX22	Direct Operation 4 buttons with E. STOP single phases		15A 250V AC	Rainproof
THS-8EB22	Direct 4 buttons / E. STOP, P.B., SW. single phases		15A 250V AC	Rainproof
THS-8EI22	Direct 4 buttons / E. STOP, I.P.B., SW. single phases		15A 250V AC	Rainproof
THS-8EK22	Direct 4 buttons / E. STOP, Key., SW. single phases		15A 250V AC	Rainproof
THS-8EP22	Direct 4 buttons / E. STOP, Pilot Lamp single phases		15A 250V AC	Rainproof
THS-8ES22	Direct 4 buttons / E. STOP, Selector single phases		15A 250V AC	Rainproof
THS-8EX222	Direct Operation 6 buttons with E. STOP single phases		15A 250V AC	Rainproof
THS-8EB222	Direct 6 buttons / E. STOP, P.B., SW. single phases		15A 250V AC	Rainproof
THS-8EI222	Direct 6 buttons / E. STOP, I.P.B., SW. single phases		15A 250V AC	Rainproof
THS-8EK222	Direct 6 buttons / E. STOP, Key., SW.single phases		15A 250V AC	Rainproof
THS-8EP222	Direct 6 buttons / E. STOP, Pilot Lamp single phases		15A 250V AC	Rainproof
THS-8ES222	Direct 6 buttons / E. STOP, Selector single phases		15A 250V AC	Rainproof

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67

Features

- This switch is waterproof and is made out of ABS housing.Suitable for out-door use.
- Sleek appearance, ergonomic, patented design.
- Unique mechinical interlock design, which can help prevent short-circuit.
- Two stage speeds can be set according to wiring configuration. First stage : inching, Second tage : rapid movement.
- Can be used with emergency stop, pilot lamp, push button switch, selector switch, key switch versatile. Selector switch rated current is 1th = 10A.
- Single speed and double speed can be chosen alternatively.

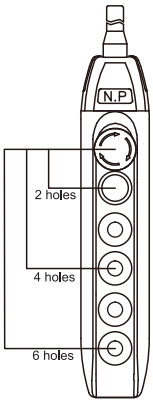
Characteristics

Type	Spec	External diameter of cable		Terminal	Remarks
THS94C	2A 500VAC 5A 250VAC	Two holes	Ø11.4~Ø12.6	M4	Control magnetic switch
		Four holes	Ø14.3~Ø15.5		
THS96C	2A 500VAC 5A 250VAC	Six holes	Ø17.2~Ø18.4		

Model Description

	One-two holes	Three-four holes	Five-six holes	Seven-eight holes	Label
THS-9	4				None
THS-9	4	4			A
THS-9	6	6	6		
THS-9	EP	6	6	6	E

Designation	Signal	Description
Control type	4	Indirect Double Speed (Mechanical Interlock)
	6	Indirect Single Speed
Push button (ref page TA103)	EX	Emergency Stop + Waterproof Rubber
	EB	Emergency Stop + Flat Push Button Switch
	EI	Emergency Stop + Illuminated Push Button Switch
	EK	Emergency Button + Key Switch
	EP	Emergency Stop + Pilot Lamp
	ES	Emergency Stop + Selector Switch

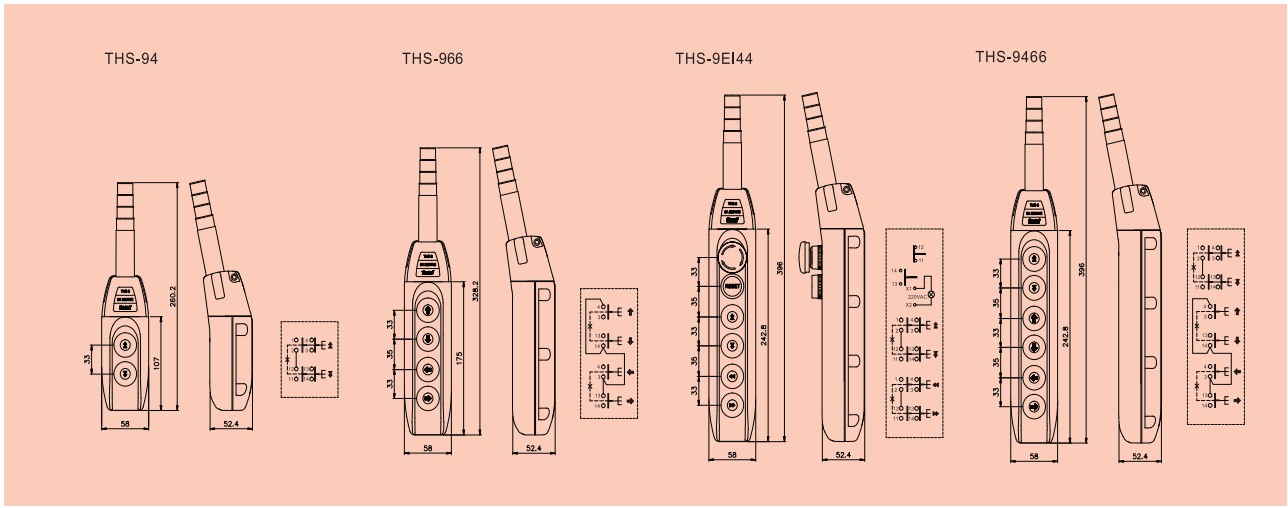


Note 1 : "None" means Chinese lable, A represents Arrow label, E represents English label see page TA121.
Note 2 : Indirect Double Speed is represented by Double Arrow labels, without additional notation of the label code A.



HOIST PUSH BUTTON SWITCH
สวิตช์เครน IP67

DIMENSIONS AND WIRING DIAGRAMS



INDIRACT OPERATION TYPE สวิตช์เครน ชนิดต่อผ่านเมกเนติคสวิตช์

P/N	Description	Contact	Spec.	Remark
THS-96	Indirect operation 2 buttons	2A	5A 250 V AC	Rainproof
THS-966	Indirect operation 4 buttons	4A	5A 250 V AC	Rainproof
THS-9EX6	Indirect operation 2 buttons with emergency stop	2A	5A 250 V AC	Rainproof
THS-9EB6	Indirect operation 2 buttons with emergency stop & flat push button	2A	5A 250 V AC	Rainproof
THS-9EK6	Indirect operation 2 buttons with emergency stop & key button	2A	5A 250 V AC	Rainproof
THS-9EP6	Indirect operation 2 buttons with emergency stop & pilot lamp	2A	5A 250 V AC	Rainproof
THS-9ES6	Indirect operation 2 buttons with emergency stop & selector	2A	5A 250 V AC	Rainproof
THS-94	Indirect operation double speed 2 buttons	2A	5A 250 V AC	Rainproof
THS-944	Indirect operation double speed 4 buttons	4A	5A 250 V AC	Rainproof
THS-9EX4	Double speed 2 buttons with emergency	2A	5A 250 V AC	Rainproof
THS-9EP4	Double speed 2 buttons with emergency Stop & pilot lamp	2A	5A 250 V AC	Rainproof
THS-9ES4	Double speed 2 buttons with emergency stop & selector	2A	5A 250 V AC	Rainproof

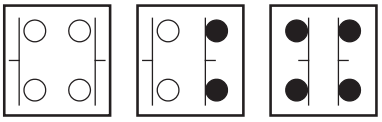
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MONOLEVER SWITCH
สวิตช์เกียร์

ISO 9002 A009142

FEATURES

1. You can smoothly and swiftly, handle the lever in four directions-upward, rightward downward, and leftward.
2. Three alternatives of movement are attainable in each direction: Go-on, auto-return, and blockade-enforcing.
3. You are free as you like to operate in four, three or two directions with the switch.
4. Rubber bushing is water-proof, oil-resistant, and dust preventive.



BR–1 **440.-** BR–2 **440.-** BR–3 **440.-**



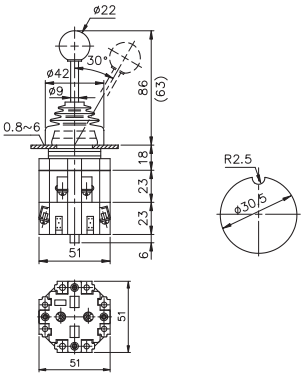
TMR-301(Code no 0101-10001000)
2NO โยก 2 ทิศทาง

TMR-302(Code no 1111-10101010)
4NO โยก 4 ทิศทาง

TMR-301A(Code no 0202-10001000)
2NO โยก 2 ทิศทาง spring return

TMR-302A(Code no 2222-10101010)
4NO โยก 4 ทิศทาง spring return





RATINGS

AC	Rated voltage		110 V AC	220 VAC	440 VAC
	Rated current		5 A	3 A	1 A
	Breaking current capacity		50 A	30 A	10 A
DC	Resistance load	Rated voltage	110 V DC	220 V DC	600 V DC
		Rated current	2.2 A	1.1 A	0.4 A
		Breaking current capacity	2.42 A	1.21 A	0.44 A
	Inductive load	Rated current	1.2 A	0.45 A	0.2 A
		Breaking current capacity	1.32 A	0.5 A	0.22 AA
Continuous passable current			10 A		
Insulation resistance			Over 100 MΩ		
Dielectric strength			2,200 V AC for duration of 1 min.		
Service life		Mechanically	500,000 operations min		
		Electrically	500,000 operations min		
Ambient temperature			-20°C + 50°C		

MODEL

THR - 30 2 1111 10,10,10,10
1 2 3 4 5

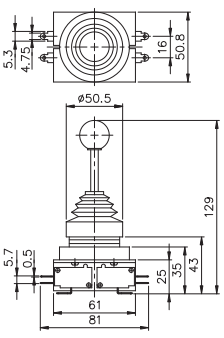
NOTE : When you place order, please kindly designate clockwise the movement way and type of contact blocks fitted.

Designation	Signal	Description
1.Type	TMR	Round Type
	TMS	Square Type
2.Mounting hole	30	Ø30 mm
3.No. of contact blocks fitted	1~4	1 ~ 4
4.Movement way	1	Go-on
	2	Auto-Return
	0	Blockade-enforcing
5.Type of contact blocks fitted	00	None
	10	1a (1NO)
	20	2a (2NO)
	01	1b (1NC)
	02	2b (2NC)
	11	1a1b (1NO-1NC)

TMRS-304(Code no 1111-11111111)
4NO 4NC โยก 4 ทิศทาง

TMRS-304A(Code no 2222-11111111)
4NO 4NC โยก 4 ทิศทาง spring return



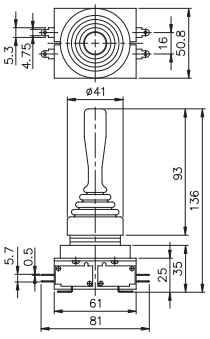


TMS-302 (Code no 0101-10001000)
2NO โยก 2ทิศทาง

TMS-302A (Code no 0202-1111-10101010)
2NO โยก 2 ทิศทาง Spring return

TMS-304A (Code no 2222-11111111)
4NO 4NC โยก 4 ทิศทาง spring return





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend TOGLE SWITCH
แผ่นท็อกเกิ้ล

ISO 9002 CE A009142

MODEL DESIGNATIONS

TO - 11 B
1 2 3

Designation	Signal	Description
1.Type	T0	10A 250 V AC
	T0R	10A 250 V AC Spring return
	T5	15A 250 V AC
	T5R	15A 250 V AC Spring return
2.Contact	11	Single pole Single Throw ON-OFF
	12	Single pole Double Throw ON-ON
	13	Single pole Double Throw (Central OFF) ON-OFF-ON
	131	Single pole Double Throw (Central OFF Single return) ON-OFF-ON
	21	Double pole Single Throw ON-OFF
	22	Double pole Single Throw ON-OFF
	23	Double pole Double Throw (Central OFF) ON-OFF-ON
	231	Double pole Double Throw (Central OFF Single return) ON-OFF-ON
3.Terminal	A	Solder and Tab Terminal
	B	Screw Terminal

CHARACTERISTICS

Contact resistance	15 mΩ max . (initial)
Insulation resistance	100 MΩ min. (at 500 V DC)
Dielectric strength	2,000 VAC, 50/60 Hz for 1 minute
Vibration	10 to 50 Hz,1.5 mm double amplitude
Operating temperature	-25° ~ +80°C
Humidity	85% RH max
Service life	Mechanically : 500,000 operations/min Electrically : 100,000 operations/min.
Handle strength	11.5 kg for 1 minute
Terminal strength	2.5 kg for 1 minute

RATINGS

Load	Type	AC Rating	DC Rating
Resistive load	T0	10A 250V 15A 125V	0.4A 250V 0.8A 125V
	T5	15A 250V 20A 125V	0.5A 250V 0.9A 125V
Inductive load	T0	10A 250V 15A 250V	0.2A 250V 0.4A 125V
	T5	15A 250V 20A 125V	0.3A 250V 0.5A 125V 15A 30V
Lamp load	T0	300W 100V 500W 200V	-----
	T5	400W 125V 800W 250V	7A 30V
Motor load	T0	200W 125V 300W 250V	-----
	T5	400W 125V (1 Phase)	
	T0	550W 250V (3 Phase)	
	T5	750W 250V (3 Phase)	

- **Mounting hole : Ø 12m/m.**

NAME PLATE



PTO ON-OFF
(TO-P1)



PTO ON-ON
(TO-P2)



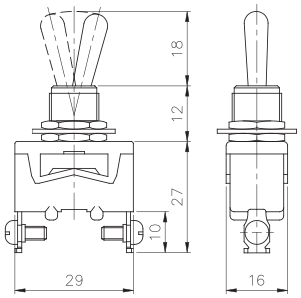
PTO ON-OFF-ON
(TO-P3)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

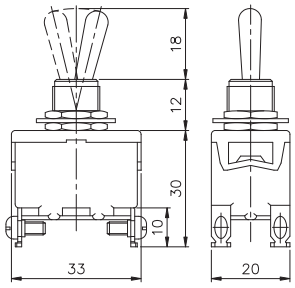
tend TOGLE SWITCH
ท็อกเกิ้ลสวิตช์

ISO 9002 CE A009142

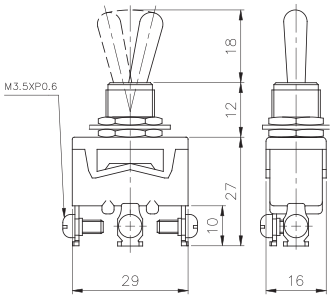
TO11B 2P10A (ON-OFF)
T511B 2P15A (ON-OFF)
TOR11B 2P10A (0N-OFF SPRING RETURN)
T5R11B 2P15A (ON-OFF SPRING RETURN)

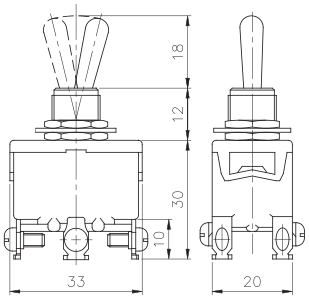
TO21B 4P10A (ON-OFF)
T521B 4P15A (ON-OFF)
TOR21B 4P10A (0N-OFF SPRING RETURN)
T5R21B 4P15A (ON-OFF SPRING RETURN)

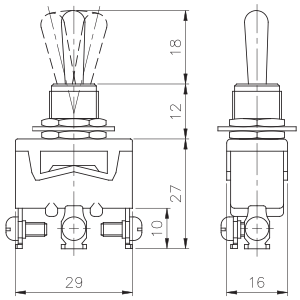
TO12B 3P10A (ON-ON)
T512B 3P15A (ON-ON)
TOR12B 3P10A (0N-ON SPRING RETURN)
T5R12B 3P15A (ON-ON SPRING RETURN)

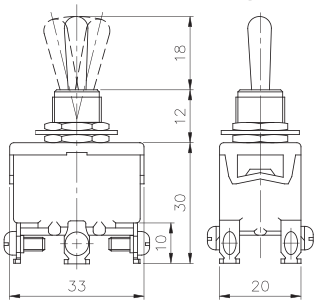
TO22B 6P10A (ON-ON)
T522B 6P15A (ON-ON)
TOR22B 6P10A (0N-ON SPRING RETURN)
T5R22B 6P15A (ON-ON SPRING RETURN)

TO13B 3P10A (ON-OFF-ON)
T513B 3P15A (ON-OFF-ON)
TOR13B 3P10A (0N-OFF-ON SPRING RETURN)
T5R13B 3P15A (ON-OFF-ON SPRING RETURN)

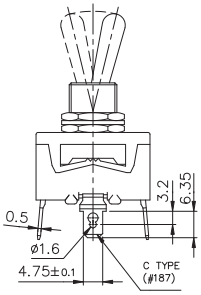



TO23B 6P10A (ON-OFF-ON)
T523B 6P15A (ON-OFF-ON)
TOR23B 6P10A (0N-OFF-ON SPRING RETURN)
T5R23B 6P15A (ON-OFF-ON SPRING RETURN)

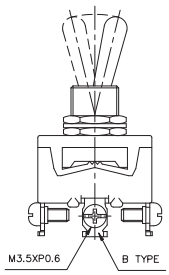



TERMINAL TYPE

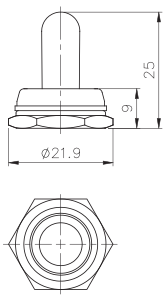
Solder And Tab Type



Screw Type



RAINPROOF CAP หมวดท็อกเกิ้ล กันน้ำ
TOW
TOW-E ชนิดกันยูวี

tend FOOT SWITCH
สวิตช์เท้าเหยียบ

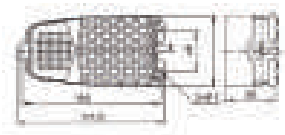
FEATURES

Designation	Type	Rating	Type of switch enclosed & contact arrangement	Cable type / Length	Contact	Actuation force	Material of rind
Standard type Momentary action	TFS-101	10A 250V AC	TMV-10 micro-switch momentary	0.75 mm², 3C/ 0.5M ~ 3M	1A1B	3.5 kg	Plastics aluminium cast
	TFS-102	15A 250V AC	TM-1704	0.75 mm²,3C/ 1M ~ 2M	1A1B	3.5 kg	
	TFS-103	10A 250V AC	TMV-10 micro-switch momentary 2 pcs.	0.75 mm², 6C/ 1M ~ 2M	2A2B	3.5 kg	
	TFS-104	15A 250V AC	TM-1704*2	0.75 mm², 6C/ 1M ~ 2M	2A2B	3.5 kg	
Standard type Alternate action	TFS-105	6A 250V AC	TS-105 Push switch alteranate action	0.75 mm², 2C/ 1m, 1.5m-2m	PUSH ON PUSH OFF	3.5 kg	Plastics aluminium cast
	TFS-105Z	6A 250V AC		0.75 mm², 3C/ 1M	PUSH ON PUSH OFF	3.5 kg	
	TFS-106	6A 250V AC	Imported micro-switch	0.75 mm², 3C/ 1.5m-2m	PUSH 1A PUSH 1B	3.5 kg	
Mini foot switch front end push	TFS-201	10A 250V AC	TMV-10 micro-switch momentary	0.5 mm², 3C/ 1M ~ 3M	1A1B	1 kg	Plastics
Front end push with matal mounting plate	TFS-202	10A 250V AC	TMV-10 micro-switch momentary	Accessory : Cable gland (No cable)	1A1B	1 kg	Plastics
Mini foot switch	TFS-203	10A 250V AC	TMV-10 micro-switch momentary	0.5 mm², 3C/1M ~ 3M	1A1B	1 kg	Plastics
Protective guard foot switch	TFS-302	10A 250V AC	TM-1704	Accessory : Cable gland (No cable)	1A1B	3.5 kg	Plastics aluminium cast
	TFS-302R	15A 250V AC	ชนิดกันน้ำ			3.5 kg	
	TFS-304	15A 250V AC	TM-1704*2		2A2B	3.5 kg	
	TFS-304R	15A 250V AC	ชนิดกันน้ำ			3.5 kg	
	TFS-305	15A 250V AC	TS-105 Push button switch alternate action		Push On Push Off	3.5 kg	
	TFS-305R	6A 250V AC	ชนิดกันน้ำ			3.5 kg	
	TFS-306	6A 250V AC	Imported micro-switch		Push 2A Push 2B	3.5 kg	
	TFS-306R	6A 250V AC	ชนิดกันน้ำ			3.5 kg	
Large type	TFS-402	15A 250V AC	TM-1704	Accessory : Cable gland (No cable)	1A1B	3.5 kg	Plastics aluminium cast
	TFS-402R	15A 250V AC	ชนิดกันน้ำ			3.5 kg	
	TFS-404	15A 250V AC	TM-1704*2		2A21B	3.5 kg	
	TFS-404R	15A 250V AC	ชนิดกันน้ำ			3.5 kg	
	TFS-405	6A 250V AC	TS-105 Push button switch alternate action		Push On Push Off	3.5 kg	
	TFS-405R	6A 250V AC	ชนิดกันน้ำ			3.5 kg	
	TFS-406	6A 250V AC	Imported micro-switch		Push 2A Push 2B	3.5 kg	
	TFS-406R	6A 250V AC	ชนิดกันน้ำ			3.5 kg	
Full shield	TFS-502	15A 250V AC	TM-1704	Accessory : Cable gland (No cable)	1A1B	3.5 kg	Aluminum cast
	TFS-504	15A 250V AC	TM-1704*2			3.5 kg	
	TFS-505					3.5 kg	
	TFS-506					3.5 kg	
	TFS-602	15A 250V AC	TM-1704*2		2A21B	3.5 kg	
	TFS-604	15A 250V AC	TM-1704*4		4A4B	3.5 kg	
	TFS-605	6A 250V AC	TS-105x2		Push On Push Off	3.5 kg	
	TFS-606	6A 250V AC	Imported micro-switchx2		Push 2A Push 2B	3.5 kg	

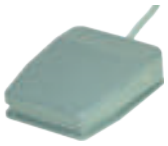
- Add "R" for waterproof. Available in TFS3 & TFS4
- Add "Z" for aluminium housing. Available in TFS1, TFS3 & TFS4
- TFS5 series has TFS-504, TFS-505, TFS-506. Inside Micro-Switch is the same as TFS3 series. • TFS-602 DURING THE DESIGNING

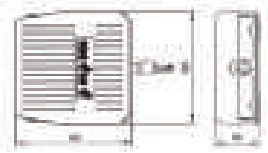
TFS-101, 102, 103, 104, 105, 106, 105Z





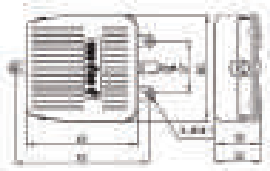
TFS-201



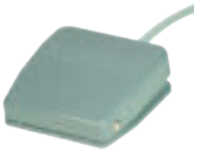


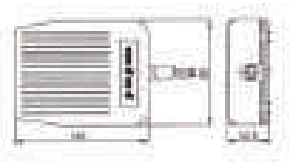
TFS-202





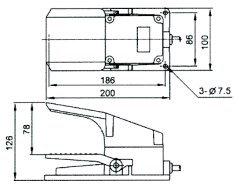
TFS-203





TFS-302, 304, 305, 306





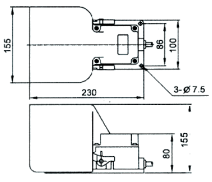
TFS-402, 404, 405, 406





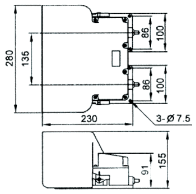
TFS-502, 504





TFS-602, 604, 605, 606





หมายเหตุ TFS-105, TFS-305, TFS-405 เป็นรุ่นกดทีติด กดทีดับ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend POWER PUSH BUTTON SWITCH

สวิตช์กดจม

ISO 9002

MODELS AVAILABLE

Type	Rating	Mounting type	Screw terminal	Material
TBSN-310	3ø 10 A 1.5 KW	Flush mounting	M 3.5	Iron
TBSN-315	3ø 15 A 2.2 KW	Flush mounting	M 4	Iron
TBSN-330	3ø 30 A 3.7 KW	Flush mounting	M 5	Iron
TBSY-315 TBSY-330	3ø 15 A 2 KW 3ø 30 A 3.7 KW	Surface mounting	M 4	Iron
TBSS-315 TBSS-330	3ø 15 A 2 KW 3ø 30 A 3.7 KW	Surface mounting	M 4	Iron
TBSP-315	3ø 15 A 2.2 KW	Flush mounting	M 3.5	Plastic
TBSP-330	3ø 30 A 3.7 KW	Flush mounting	M 4	Plastic

TBSY-315
TBSY-330



DIMENSIONS

TBSN-310



TBSS-315
TBSS-330



TBSN-315
TBSP-315



TPB-2



TBSN-330
TBSP-330



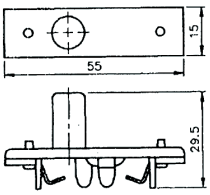
TPB-3



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

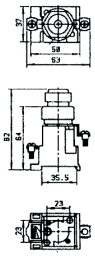
TFB-101N 110V/220V/24V



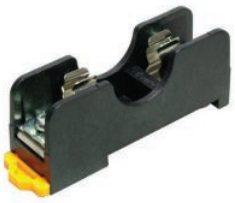


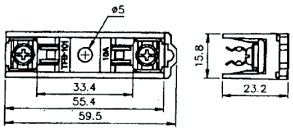
TFE-16N





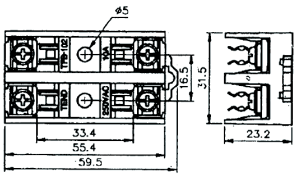
TFBR-101





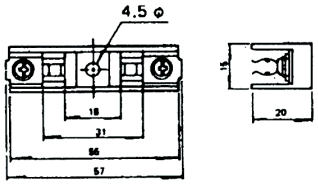
TFBR-102





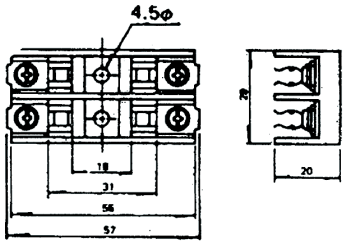
TFB-101





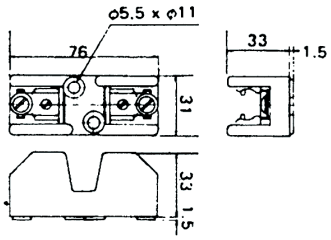
TFB-102





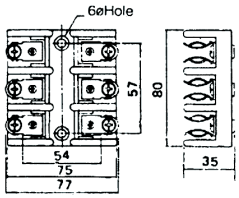
TFB-301





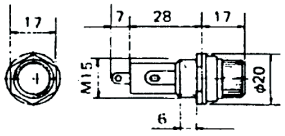
TFB-303





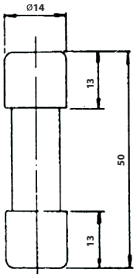
TFB-15





TFU-50(1A-50A)





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

FUSE BOX(DIN RAIL MOUNTED)
ฟิวส์บ๊อก

FEATURES
1. The fuse box can be mounted in DIN rail (TBR-N) or panel directly.
2. Cabling range from 1.5mm^2- 8 mm^2.
3. Make sure power has been cut off before change fuse. The indicator lamp will turn on when power is off.

MODEL DESIGNATION

TFBR - 32 1 N

1 2 3

Designation	Signal	Description
1.Mounting hole	TFBR-32	Din rall mouted fuse box
2.No.of pole	1	1 Pole
	2	2 Poles
	3	3 Poles
3.Indicator lamp	N	110 ~ 500 V AC
	None	No lamp

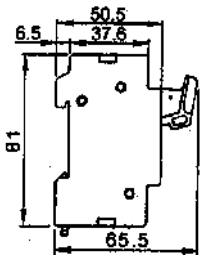
SPECIFICATION

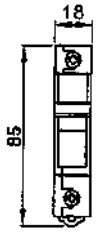
Rated voltage	Rated current	Operating temperature	Humidity	Application	Fuse size
600 V AC max	32A	-20°to + 80°C	95% RH max	Cable protection Motor protection	Ø10 x 38

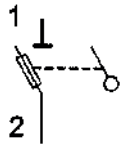
DIMENSIONS

TFBR-321 1P



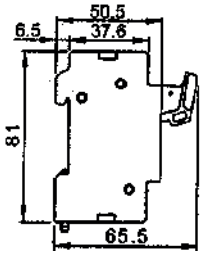


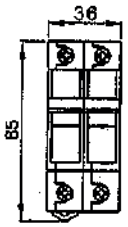


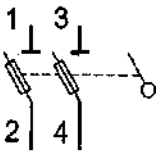


TFBR-322 2P



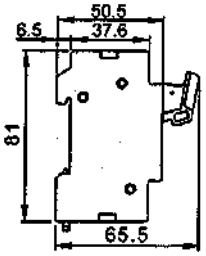


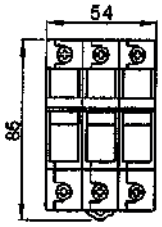


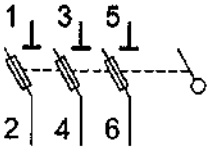


TFBR-323 3P









FUSE BOX (With indicator lamp) ฟิวบ๊อกชนิดมีหลอดไฟ

TFBR-321N 1P



TFBR-322N 2P



TFBR-323N 3P

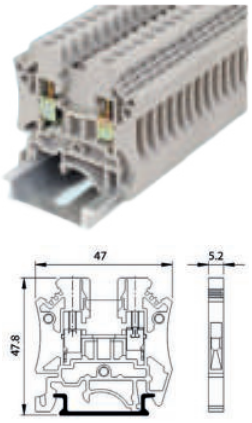


TERMINAL BLOCK
แผงต่อสาย

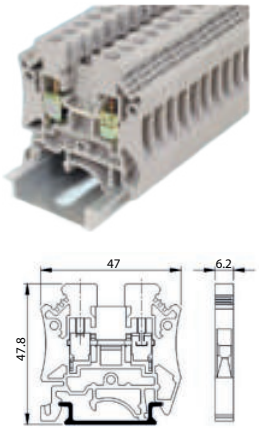
FEATURES

- TBU terminal block may fit in either TBR-N or TBU-N rails simply with the frame-pressed line.
- It's made of quenched and galvanized premium ateel.
- Can use matching short-circuit tag.The design confirm to the requirement of international standard IEC 60947-7-1

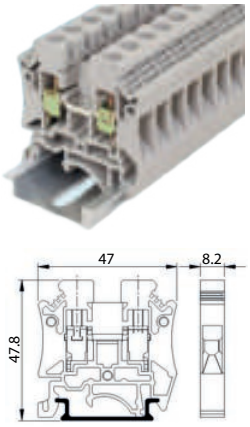
TBU - 2.5N



TBU - 4N



TBU - 6N



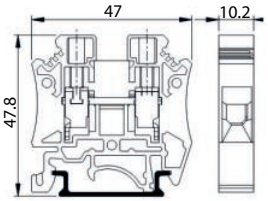
Specifications								
Specifications	**IEC**			**IEC**			**IEC**	
Rated current	24A			32A			41A	
Rated voltage	800V			800V			800V	
Cross-section	2.5 mm²			4 mm²			6 mm²	
Single center	22-12 AWG			22-10 AWG			20-8 AWG	
Conplex center	22-12 AWG			22-10 AWG			20-8 AWG	
Rated impulse voltage	5 KV			5 KV			5 KV	
Tightening torque range	4 kgf.cm			6 kgf.cm			10 kgf.cm	
Clamping screw	M 2.6			M 3			M 3.5	
Insulation striping length	10 ~ 12 mm			10 ~ 12 mm			10 ~ 12 mm	
Accessories	**Type**		**Qty.**	**Type**		**Qty.**	**Type**		**Qty.**
Marking tags	TBU2.5N-A		100	TBU4N-A		100	TBU6N-A		100
End bracket	TBU2.5N-F		10	TBU2.5N-F		10	TBU2.5N-F		10
End plate	TBU2.5N-H		100	TBU2.5N-H		100	TBU2.5N-H		100
Mounting rails	TBR-N(AI)/TBR-S(S)		1M	TBR-N(AI)/TBR-S(S)		1M	TBR-N(AI)/TBR-S(S)		1M
	TBU-N(AI)/TBU-S(S)		1M	TBU-N(AI)/TBU-S(S)		1M	TBU-N(AI)/TBU-S(S)		1M
Cross-connection system	TBU2.5N-CU2	2P	50	TBU4N-CU2	2P	50	TBU6N-CU2	2P	50
	TBU2.5N-CU3	3P	50	TBU4N-CU3	3P	50	TBU6N-CU3	3P	50
	TBU2.5N-CU4	4P	50	TBU4N-CU4	4P	50	TBU6N-CU4	4P	50
	TBU2.5N-CU10	10P	20	TBU4N-CU10	10P	20	TBU6N-CU10	10P	20
Cross-connection combs	TBU2.5N-CS2	2P	50	TBU4N-CS2	2P	50	TBU6N-CS2	2P	50
	TBU2.5N-CS3	3P	50	TBU4N-CS3	3P	50	TBU6N-CS3	3P	50
	TBU2.5N-CS4	4P	50	TBU4N-CS4	4P	50	TBU6N-CS4	4P	50
	TBU2.5N-CS10	10P	20	TBU4N-CS10	10P	20	TBU6N-CS10	10P	20

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TERMINAL BLOCK
แผงต่อสาย

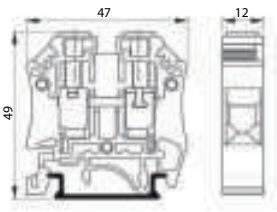
TBU - 10N





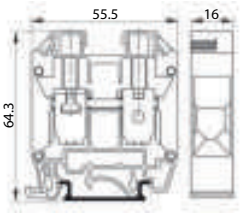
TBU - 16N





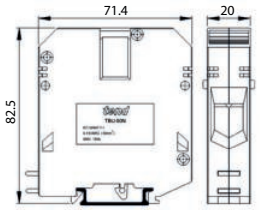
TBU - 35N





TBU - 50N





IEC			**IEC**			**IEC**			**IEC**	
57A			76A			125A			150A	
800V			800V			800V			1000V	
10 mm^2			16 mm^2			35 mm^2			50 mm^2	
16-6 AWG			14-6 AWG			12-2 AWG			6-1/0 AWG	
16-6 AWG			14-6 AWG			12-2 AWG			6-1/0 AWG	
5 KV			5 KV			5 KV			5 KV	
16 kgf.cm			30 kgf.cm			50 kgf.cm			50 kgf.cm	
M 4			M 5			M 6			M 6	
10~12 mm			10~12 mm			15~20 mm			25~30 mm	
Type		**Qty.**	**Type**		**Qty.**	**Type**		**Qty.**	**Type**	**Qty.**
TBU10N-A		100	TBU10N-A		100	TBU10N-A		100	TBU50N-A	50
TBU2.5N-F		10	TBU2.5N-F		10	TBU35N-F		10	TBU35N-F	10
TBU2.5N-H		100	TBU2.5N-H		100	TBU35N-H		50		
TBR-N /TBR-S		1M	TBR-N /TBR-S		1M	TBR-N /TBR-S		1M	TBR-N(Al)/TBR-S(S)	1M
TBU-N / TBU-S		1M	TBU-N / TBU-S		1M	TBU-N / TBU-S		1M	TBU-N(Al)/TBU-S(S)	1M
TBU10N-CU2	2P	50	TBU16N-CU2	2P	50	TBU35N-CU2	2P	50		
TBU10N-CU3	3P	50	TBU16N-CU3	3P	50	TBU35N-CU3	3P	50		
TBU10N-CU4	4P	50	TBU16N-CU4	4P	50	TBU35N-CU4	4P	50		
TBU10N-CU10	10P	20	TBU16N-CU10	10P	10	TBU35N-CU10	10P	10		
TBU10N-CS2	2P	50	TBU16N-CS2	2P	50	TBU35N-CS2	2P	50		
TBU10N-CS3	3P	50	TBU16N-CS3	3P	50	TBU35N-CS3	3P	50		
TBU10N-CS4	4P	50	TBU16N-CS4	4P	50	TBU35N-CS4	4P	50		
TBU10N-CS10	10P	20	TBU16N-CS10	10P	10	TBU35N-CS10	10P	10		

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

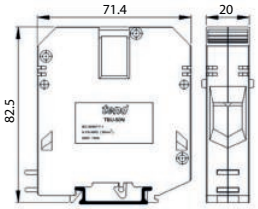
TERMINAL BLOCK
แผงต่อสาย

FEATURES

- TBU terminal block and TBE earthed terminal block may fit in either TBR-N or TBU-N rails simple with the frame pressed line.
- It's made of quenched and galvanized premium steel.
- Can use matching short circuit tag.The design conforms to the require-ment of international standard IEC60947-7-1 and IEC60947-7-2.

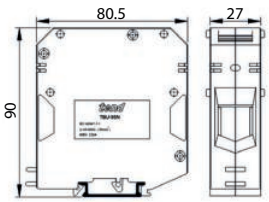
TBU - 70N





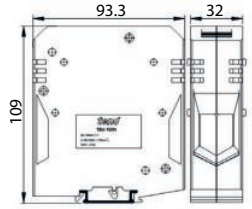
TBU - 95N





TBU - 150N



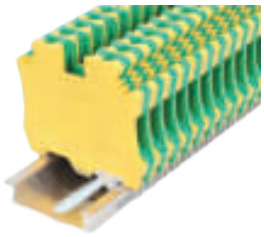


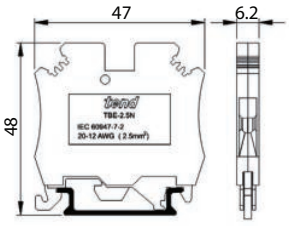
Specifications						
Specifications	**IEC**		**IEC**		**IEC**	
Rated current	200A		232A		269A	
Rated voltage	1000V		1000V		1000V	
Cross-section	70 mm^2		95 mm^2		150 mm^2	
Single center	6-2/0 AWG		2-3/0 AWG		2-300 AWG	
Conplex center	6-2/0 AWG		2-3/0 AWG		2-300 AWG	
Rated impulse voltage	5 KV		5 KV		5 KV	
Tighting torque range	50 kgf.cm		90 kgf.cm		165 kgf.cm	
Clamping screw	M 6		M 8		M 10	
Insulation stripping lenght	25~30 mm		30~35 mm		35~40 mm	
Accessories	**Type**	**Qty.**	**Type**	**Qty.**	**Type**	**Qty.**
Marking tags	TBU50N-A	50	TBU50N-A	50	TBU50N-A	50
End bracket	TBU35N-F	10	TBU35N-F	10	TBU35N-F	10
Mounting rails	TBR-N(Al)/TBR-S(S)	1M	TBR-N(Al)/TBR-S(S)	1M	TBR-N(Al)/TBR-S(S)	1M
	TBU-N(Al)/TBU-S(S)	1M	TBU-N(Al)/TBU-S(S)	1M	TBU-N(Al)/TBU-S(S)	1M

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

GROUND TERMINAL BLOCK
แผงต่อสาย ชนิดมีสายกราวด์

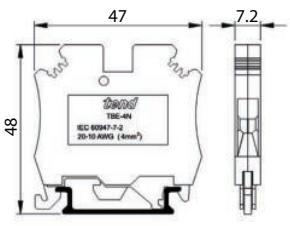
TBE - 2.5N





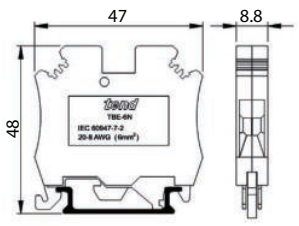
TBE - 4N





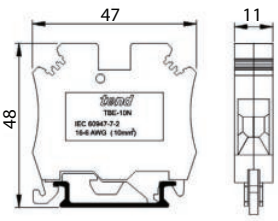
TBE - 6N





TBE - 10N





IEC	IEC	IEC	IEC
24 A	32 A	41 A	57A
-	-	-	-
2.5 mm²	4 mm²	6 mm²	10 mm²
22-12 AWG	22-10 AWG	22-8 AWG	16-6 AWG
22-12 AWG	22-10 AWG	22-8 AWG	16-6 AWG
5 KV	5 KV	5 KV	5 KV
4 kgf.cm	6 kgf.cm	10 kgf.cm	16 kgf.cm
M 2.6	M 3	M 3.5	M 4
10~12 mm	10~12 mm	10~12 mm	10~12 mm

Type	Qty.	Type	Qty.	Type	Qty.	Type	Qty.
TBU4N-A	100	TBU4N-A	100	TBU6N-A	100	TBU10N-A	100
TBU2.5N-F	10	TBU2.5N-F	10	TBU2.5N-F	10	TBU2.5N-F	10
TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M
TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

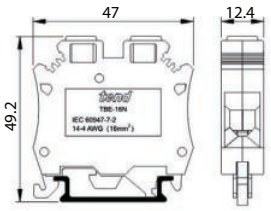
GROUND TERMINAL BLOCK
แผงต่อสาย ชนิดมีสายกราวด์

FEATURE

- TBE earthed terminal block may fit in either TBR-N or TBU-N rails simply with the frame-pressed line.
- It's made of quenched and galvanized premium steel.
- Can use matching short-circuit tag. The design conforms to thr require ment of international standard IEC60947-7-2.

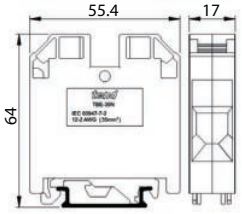
TBE-16N



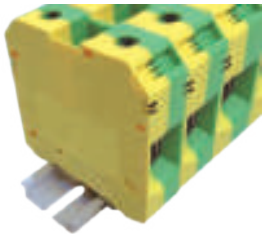


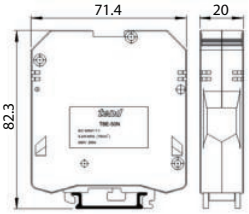
TBE-35N





TBE-50N





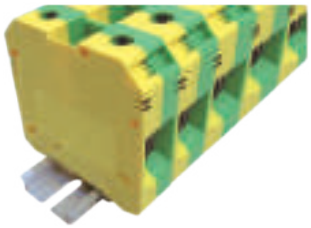
Specifications			
Specifications	**IEC**	**IEC**	**IEC**
Rated current	76A	125A	150A
Cross-section	16 mm²	35 mm²	50 mm²
Single center	14-6 AWG	12-2 AWG	6-1/0 AWG
Complex center	14-6 AWG	12-2 AWG	6-1/0 AWG
Rated impulse voltage	5 KV	5 KV	5 KV
Tighting torque range	30 kgf.cm	50 kgf.cm	50 kgf.cm
Clamping screw	M 5	M 6	M 6
Insulation stripping lenght	10~12 mm	15~20 mm	25~30 mm

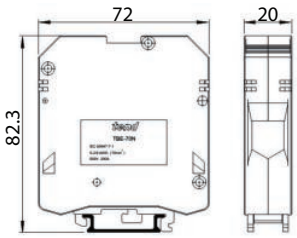
Accessories	Type	Qty.	Type	Qty.	Type	Qty.
Marking tags	TBU10N-A	100	TBU10N-A	100	TBU50N-A	50
End bracket	TBU2.5N-F	10	TBU35N-F	10	TBU35N-F	10
Mounting rails	TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M
	TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

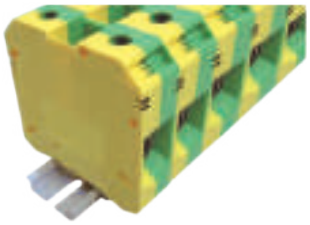
GROUND TERMINAL BLOCK
แผงต่อสาย ชนิดมีสายกราวด์

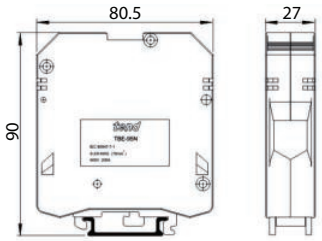
TBE - 70N



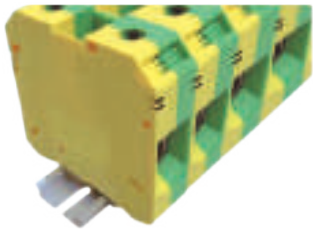


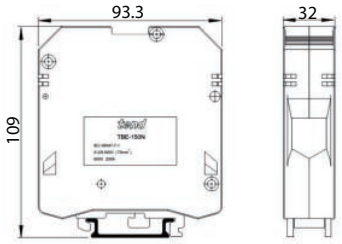
TBE - 95N





TBE - 150N





IEC	IEC	IEC
200A	232A	269A
70 mm 2	95 mm 2	150 mm 2
6-2/0 AWG	2-3/0 AWG	2-300 AWG
6-2/0 AWG	2-3/0 AWG	2-300 AWG
5 KV	5 KV	5 KV
50 kgf.cm	90 kgf.cm	165 kgf.cm
M 6	M 8	M 10
25~30 mm	30~35 mm	35~40 mm

Type	Qty.	Type	Qty.	Type	Qty.
TBU50N-A	50	TBU50N-A	50	TBU50N-A	50
TBU35N-F	10	TBU35N-F	10	TBU35N-F	10
TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M	TBR-N(AI)/TBR-S(S)	1M
TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M	TBU-N(AI)/TBU-S(S)	1M

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

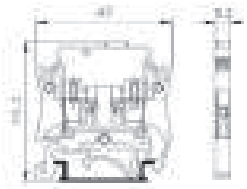
tend FUSE HOLDER TERMINAL BLOCK
แผงต่อสาย ชนิดมีฐานฟิวส์

FEATURES

- TBT disconnect test terminal block and TBFV(H) fuse terminal block may fit in either TBR-N or TBU-N rails simply with the frame-pressed line.
- It's made of quenched and galvanized premium steel.
- Can use matching short-circuit tag.The design conforms to the require ment of international atandard IEC60947-7-1.

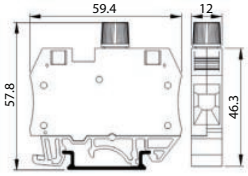
TBT-2.5N





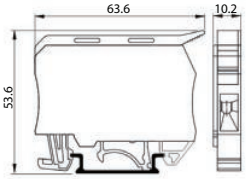
TBFV ไม่มีหลอด LED
TBFV-1 มีหลอด LED (10-3 V AC/DC)
TBFV-2 มีหลอด LED (110-250 V AC/DC)





TBFH ไม่มีหลอด LED
TBFH-1 มีหลอด LED (10-3 V AC/DC)
TBFH-2 มีหลอด LED (110-250 V AC/DC)





Specifications	IEC	IEC	IEC
Rated current	10A	10A	6.3A
Rated voltage	400V	500V	400V
Cross-section	2.5 mm^2	10 mm^2	4 mm^2
Single center	22-12 AWG	16-6 AWG	22-10 AWG
Complex center	22-12 AWG	16-6 AWG	22-10 AWG
Rated impulse voltage	5 KV	5 KV	5 KV
Tighting torque range	4 kgf.cm	16 kgf.cm	6 kgf.cm
Clamping screw	M 2.6	M 4	M 3
Insulation stripping lenght	10 ~12 mm	10 ~12 mm	10 ~12 mm
G-fuse inserts	-	Ø5x20	Ø 5x20 / Ø5x25

Accessories	Type		Qty.	Type		Qty.	Type		Qty.
Marking tags	TBU2.5N-A		100	TBU10N-A		100	TBU6N-A		100
End bracket	TBU2.5N-F		10	TBU2.5N-F		10	TBU2.5N-F		10
End plate	TBU2.5N-H		100	-			TBUF-H		100
Mounting rails	TBR-N(AI)/TBR-S(S)		1M	TBR-N(AI)/TBR-S(S)		1M	TBR-N(AI)/TBR-S(S)		1M
	TBU-N(AI)/TBU-S(S)		1M	TBU-N(AI)/TBU-S(S)		1M	TBU-N(AI)/TBU-S(S)		1M
Cross-connertion system	-			TBU16N-CU2	2P	50	-		
	-			TBU16N-CU3	3P	50	-		
	TBU2.5N-CS2	2P	50	TBU16N-CS2	2P	50	TBU10N-CS2	2P	50
	TBU2.5N-CS3	3P	50	TBU16N-CS3	3P	50	TBU10N-CS3	3P	50
Cross-connertion comb	TBU2.5N-CS4	4P	50	TBU16N-CS4	4P	50	TBU10N-CS4	4P	50
	TBU2.5N-CS10	10P	20	TBU16N-CS10	10P	20	TBU10N-CS10	10P	20
	TBU2.5N-CS4	4P	50	TBU4N-CS4	4P	50	TBU10N-CS4	4P	50
	TBU2.5N-CS10	10P	20	TBU4N-CS10	10P	20	TBU10N-CS10	10P	20

Specifications	Description
LED	TBFV-1/TBFH-1:10 ~ 30V AC/DC / TBFV-2/TBFH-2:110 ~ 250V AC

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MARKING TAG
แท็กเครื่องหมาย

MARKING TAGS
TBU..N-A (BLANK TAGS)
TBU..N-A1 / A0110 / AL /AU
Note : 1 Tag piece -10 pcs. of numbers

										= TBU... N-A
1	1	1	1	1	1	1	1	1	1	= TBU... N-A1
1	2	3	4	5	6	7	8	9	10	= TBU... N-A0110
L1	L2	L3	N	PE	L1	L2	L3	N	PE	= TBU... N-AL
U	V	W	N	U	V	W	N	U	V	= TBU... N-AU

TBU-2.5N — 1 เส้น มี 10 ตัว

Model	Tag	Piece
TBU2.5N-A		100
TBU2.5N-A1	1	100
TBU2.5N-A2	2	100
TBU2.5N-A3	3	100
TBU2.5N-A4	4	100
TBU2.5N-A5	5	100
TBU2.5N-A6	6	100
TBU2.5N-A7	7	100
TBU2.5N-A8	8	100
TBU2.5N-A0	0	100
TBU2.5N-A0110	1~10	100
TBU2.5N-A1120	11~20	100
TBU2.5N-A2130	21~30	100
TBU2.5N-A3140	31~40	100
TBU2.5N-A4150	41~50	100
TBU2.5N-AL	L1,L2,L3,N,PE	100
TBU2.5N-AU	U,V,W,N ⏚	100

TBU-4N — 1 เส้น มี 10 ตัว

Model	Tag	Piece
TBU4N-A		100
TBU4N-A1	1	100
TBU4N-A2	2	100
TBU4N-A3	3	100
TBU4N-A4	4	100
TBU4N-A5	5	100
TBU4N-A6	6	100
TBU4N-A7	7	100
TBU4N-A8	8	100
TBU4N-A0	0	100
TBU4N-A0110	1~10	100
TBU4N-A1120	11~20	100
TBU4N-A2130	21~30	100
TBU4N-A3140	31~40	100
TBU4N-A4150	41~50	100
TBU4N-AL	L1,L2,L3,N,PE	100
TBU4N-AU	U,V,W,N ⏚	100

TBU-6N — 1 เส้น มี 10 ตัว

Model	Tag	Piece
TBU6N-A		100
TBU6N-A1	1	100
TBU6N-A2	2	100
TBU6N-A3	3	100
TBU6N-A4	4	100
TBU6N-A5	5	100
TBU6N-A6	6	100
TBU6N-A7	7	100
TBU6N-A8	8	100
TBU6N-A0	0	100
TBU6N-A0110	1~10	100
TBU6N-A1120	11~20	100
TBU6N-A2130	21~30	100
TBU6N-A3140	31~40	100
TBU6N-A4150	41~50	100
TBU6N-AL	L1,L2,L3,N,PE	100
TBU6N-AU	U,V,W,N ⏚	100

TBU-10N — 1 เส้น มี 10 ตัว

Model	Tag	Piece
TBU10N-A		100
TBU10N-A1	1	100
TBU10N-A2	2	100
TBU10N-A3	3	100
TBU10N-A4	4	100
TBU10N-A5	5	100
TBU10N-A6	6	100
TBU10N-A7	7	100
TBU10N-A8	8	100
TBU10N-A0	0	100
TBU10N-A0110	1~10	100
TBU10N-A1120	11~20	100
TBU10N-A2130	21~30	100
TBU10N-A3140	31~40	100
TBU10N-A4150	41~50	100
TBU10N-AL	L1,L2,L3,N,PE	100
TBU10N-AU	U,V,W,N ⏚	100

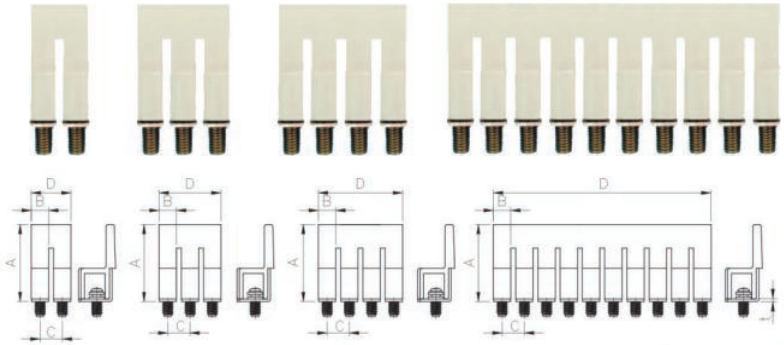
TBU-50N

Model	Tag	Piece
TBU50N-A		100
TBU50N-A1	1	100
TBU50N-A2	2	100
TBU50N-A3	3	100
TBU50N-A4	4	100
TBU50N-A5	5	100
TBU50N-A6	6	100
TBU50N-A7	7	100
TBU50N-A8	8	100
TBU50N-A0	0	100
TBU50N-A0110	1~10	100
TBU50N-A1120	11~20	100
TBU50N-A2130	21~30	100
TBU50N-A3140	31~40	100
TBU50N-A4150	41~50	100
TBU50N-AL	L1,L2,L3,N,PE	100
TBU50N-AU	U,V,W,N ⏚	100

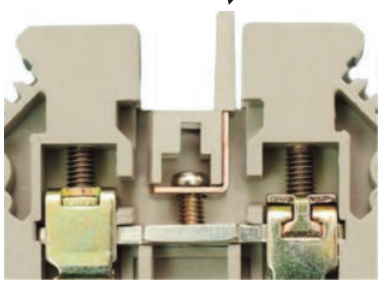
tend SHORT LINK
แผ่นเชื่อม

SHORTING LINK

TBU☐N-CU☐Cross-connection system



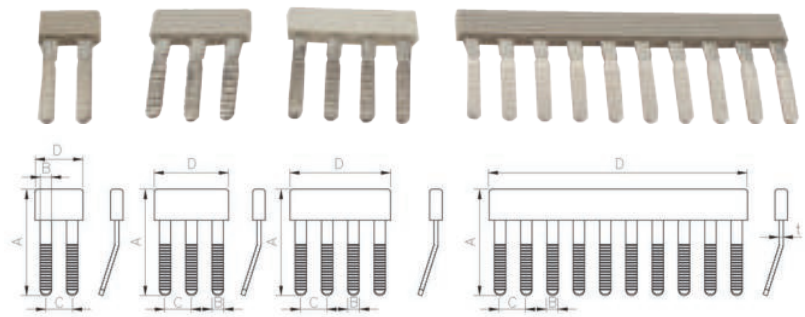
Cross-connection System

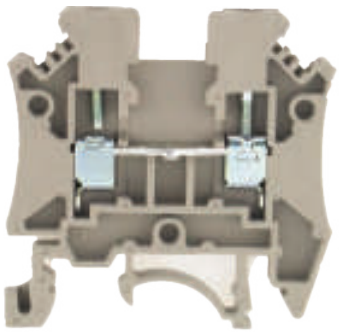


Type	Pole	Use at	Qty.	Dimension				
				A	B	C	D	t
TBU2.5N-CU2	2	TBU-2.5N	50	17.8	4	5.1	9.1	0.6
TBU2.5N-CU3	3	TBU-2.5N	50	17.8	4	5.1	14.2	0.6
TBU2.5N-CU4	4	TBU-2.5N	50	17.8	4	5.1	19.3	0.6
TBU2.5N-CU10	10	TBU-2.5N	20	17.8	4	5.1	49.9	0.6
TBU4N-CU2	2	TBU-4N	50	18.2	4.5	6.2	10.7	1
TBU4N-CU3	3	TBU-4N	50	18.2	4.5	6.2	16.9	1
TBU4N-CU4	4	TBU-4N	50	18.2	4.5	6.2	23.1	1
TBU4N-CU10	10	TBU-4N	20	18.2	4.5	6.2	60.3	1
TBU6N-CU2	2	TBU-6N	50	18.2	6.2	8.2	14.4	1
TBU6N-CU3	3	TBU-6N	50	18.2	6.2	8.2	22.6	1
TBU6N-CU4	4	TBU-6N	50	18.2	6.2	8.2	30.8	1
TBU6N-CU10	10	TBU-6N	20	18.2	6.2	8.2	80	1

Type	Pole	Use at	Qty.	Dimension				
				A	B	C	D	t
TBU10N-CU2	2	TBU-10N	50	24.9	8	10.2	18.2	1
TBU10N-CU3	3	TBU-10N	50	24.9	8	10.2	28.4	1
TBU10N-CU4	4	TBU-10N	50	24.9	8	10.2	38.6	1
TBU10N-CU10	10	TBU-10N	20	24.9	8	10.2	99.8	1
TBU16N-CU2	2	TBU-16N	50	26.2	9.4	12	21.4	1
TBU16N-CU3	3	TBU-16N	50	26.2	9.4	12	33.4	1
TBU16N-CU4	4	TBU-16N	50	26.2	9.4	12	45.4	1
TBU16N-CU10	10	TBU-16N	10	26.2	9.4	12	117.4	1
TBU35N-CU2	2	TBU-35N	50	26.8	11.5	15.9	27.4	1.6
TBU35N-CU3	3	TBU-35N	50	26.8	11.5	15.9	43.3	1.6
TBU35N-CU4	4	TBU-35N	50	26.8	11.5	15.9	59.2	1.6
TBU35N-CU10	10	TBU-35N	10	26.8	11.5	15.9	154.6	1.6

TBU☐N-CS Cross-connection comb





Type	Pole	Use at	Qty.	Dimension				
				A	B	C	D	t
TBU2.5N-CS2	2	TBU-2.5N	50	20.6	2.2	5.1	9.3	0.8
TBU2.5N-CS3	3	TBU-2.5N	50	20.6	2.2	5.1	14.4	0.8
TBU2.5N-CS4	4	TBU-2.5N	50	20.6	2.2	5.1	19.5	0.8
TBU2.5N-CS10	10	TBU-2.5N	20	20.6	2.2	5.1	50.1	0.8
TBU4N-CS2	2	TBU-4N	50	21.5	2.5	6.2	10.7	1
TBU4N-CS3	3	TBU-4N	50	21.5	2.5	6.2	16.9	1
TBU4N-CS4	4	TBU-4N	50	21.5	2.5	6.2	23.1	1
TBU4N-CS10	10	TBU-4N	20	21.5	2.5	6.2	60.3	1
TBU6N-CS2	2	TBU-6N	50	23.8	3.6	8.2	14.8	1.2
TBU6N-CS3	3	TBU-6N	50	23.8	3.6	8.2	23	1.2
TBU6N-CS4	4	TBU-6N	50	23.8	3.6	8.2	31.2	1.2
TBU6N-CS10	10	TBU-6N	20	23.8	3.6	8.2	80.4	1.2

Type	Pole	Use at	Qty.	Dimension				
				A	B	C	D	t
TBU10N-CS2	2	TBU-10N	50	29.4	5.4	10.2	18.4	1.6
TBU10N-CS3	3	TBU-10N	50	29.4	5.4	10.2	28.6	1.6
TBU10N-CS4	4	TBU-10N	50	29.4	5.4	10.2	38.8	1.6
TBU10N-CS10	10	TBU-10N	20	29.4	5.4	10.2	100	1.6
TBU16N-CS2	2	TBU-16N	50	31	6.6	12	21	1.6
TBU16N-CS3	3	TBU-16N	50	31	6.6	12	33	1.6
TBU16N-CS4	4	TBU-16N	50	31	6.6	12	45	1.6
TBU16N-CS10	10	TBU-16N	10	31	6.6	12	117	1.6
TBU35N-CS2	2	TBU-35N	50	37.2	8.4	15.9	29.6	1.6
TBU35N-CS3	3	TBU-35N	50	37.2	8.4	15.9	45.6	1.6
TBU35N-CS4	4	TBU-35N	50	37.2	8.4	15.9	61.6	1.6
TBU35N-CS10	10	TBU-35N	10	37.2	8.4	15.9	157.6	1.6

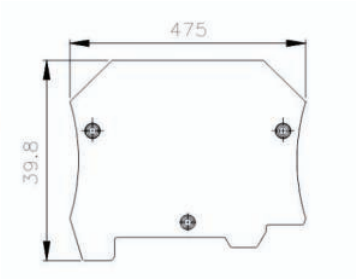
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ACCESSORIES
อุปกรณ์เสริม

DIMENSION

TBU2.5N-H
TBU2.5N end plate (for TBU-2.5N ~ 16N)

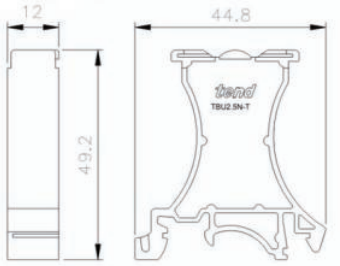




END PLATE

TBU2.5N-T
TBU2.5N end marking tags

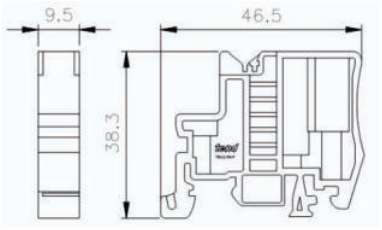




END MARKING TAG

TBU2.5N-F
TBU2.5N end bracket (for TBU-2.5N ~ 16N)

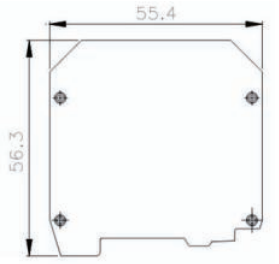




STOPPER

TBU35N-H
TBU35N end plate (for TBU ~ 35N)

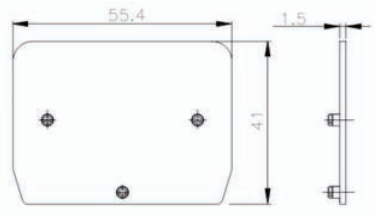




END PLATE

TBU2.5N-K
TBU2.5N partition (for TBU-2.5N ~ 16N)

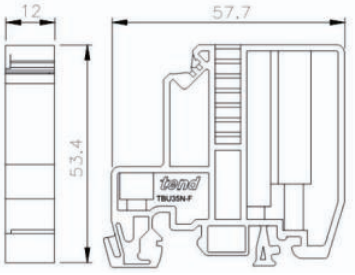




PARTITION

TBU35N-F
TBU35N end plate (for TBU-35N ~ 150N)

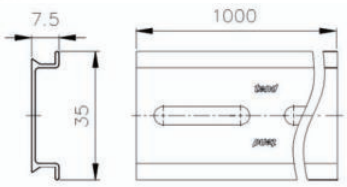




STOPPER

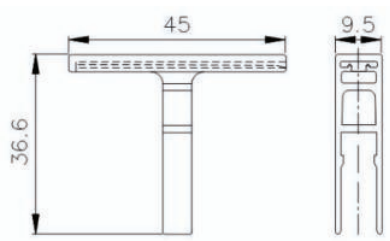
TBR-N mounting rails (Aluminium)
TBR-S mounting rails (Steel slotted)





TBU2.5N-B
TBU-2.5N end marking tags





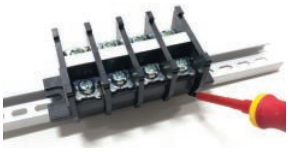
END MARKING TAG

RAIL-MOUNT TERMINAL BLOCK
แผงต่อสาย ชนิดใช้รางปีกนก

ISO 9002

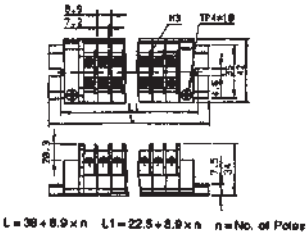
FEATURES เทอร์มินอลชนิดใช้รางปีกนก หรือ รางรุ่น TBR-N

- Uniformed specification expedites mounting-suitable for DIN rails for relay sockets. Time switch sockets. (Fig.4)
- TBR-10.20.30 terminal blocks dismounting leads to easy and swift maintenance by pressing down with a little effort will get it firmly fixed.
  (Fig.1) putting a " _ " shaped screw driver in the rabbet then turning arrowheadware as shown dismounted. (Fig.2)
- The fixation and disassembly of stop plates are same as those of TBR-10,20,30. The fixation can be achieved by firmly tightening the screws on stop plates.
- In assembling TBR-60, 100, 200, align the groove on the buttom of the terminal blocks to one end of the rail, push them, and use stop plates on both sides to make them firmly fixed. (see Fig.5)
- TBR-60, 100, 200 terminal blocks can be connected with TBC-10,20,30 terminal blocks on TBC-N rail. (see Fig.6 on p.20)

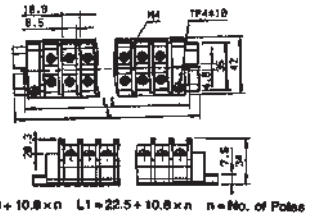



TBR-10-10 10P
ฝาข้าง (END PLATE)

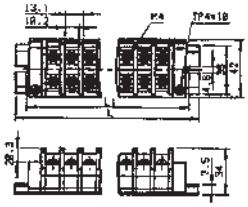
L = 38 + 8.9 × n L1 = 22.5 + 8.9 × n n = No. of Poles

TBR-20-10 10P
ฝาข้าง (END PLATE)

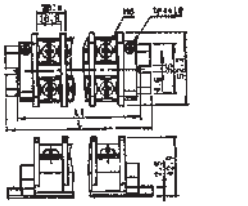
L = 38 + 10.8 × n L1 = 22.5 + 10.8 × n n = No. of Poles

TBR-30-10 10P
ฝาข้าง (END PLATE)

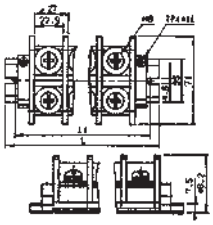
L = 38 + 13.1 × n L1 = 22.5 + 13.1 × n n = No. of Poles

TBR-60
ฝาข้าง (END PLATE)

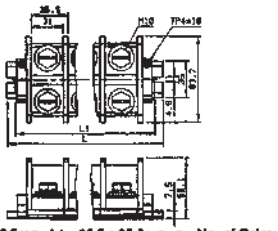
L = 38 + 20.4 × n L1 = 22.5 + 20.4 × n n = No. of Poles

TBR-100
ฝาข้าง (END PLATE)

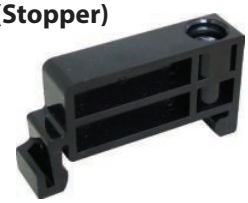
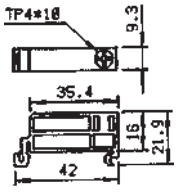
L = 38 + 27 × n L1 = 22.5 + 27 × n n = No. of Poles

TBR-200
ฝาข้าง (END PLATE)

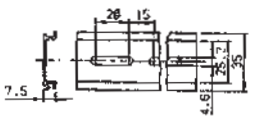



L = 38 + 35.5 × n L1 = 22.5 + 35.5 × n n = No. of Poles

TBR-F
(Stopper)

TBR-N ยาว 1 เมตร

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

DOUBLE LEVEL TERMINAL BLOCK
แผงต่อสาย ชนิดใช้ราง ไม่ใช้ราง ใช้รางตัว C หรือใช้รุ่น TBC-N, TBR-N

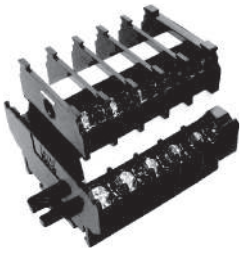
ISO 9002

FEATURES เทอร์มินอลชนิดใช้ราง หรือไม่ใช้รางก็ได้ หรือชนิดใช้รางตัว C หรือใช้รุ่น TBC-N, TBR-N

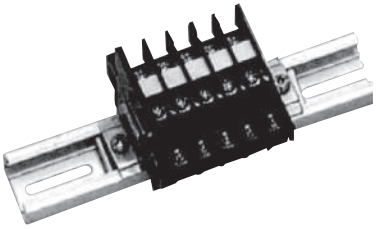
- Shorten the length of terminal blocks and save the space for wiring.
- Three ways of assembly:
  Direct cassette assembly makes it very solid and no need of using iron bar for stringing less than 15P terminal blocks.
  TBC-N rail can be connected with TBC-10, 20, 30 and TBR-60, 100, 200.
  TBR-N can be fixed by pressing down directly, be disassembled by pushing to both ends, and be connected with TBR-10, 20, 30, 60, 100, 200

TBD-10 (10A 600V max)

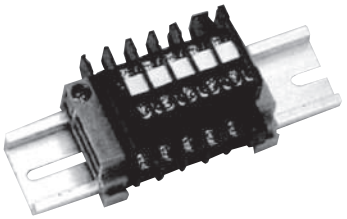
CASSETTE ASSEMBLY TYPE



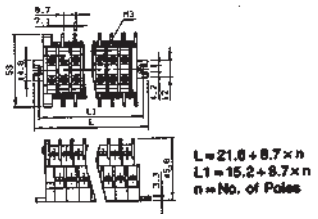
TBC-N RAIL-MOUNT TYPE

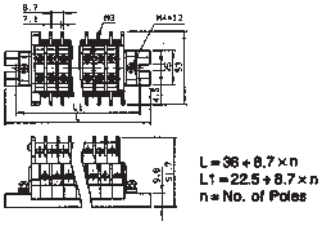


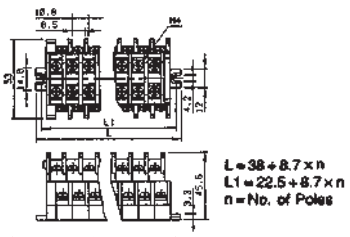
TBR-N RAIL-MOUNT TYPE



TBD 10-10 10P 10A 2ชั้น ใช้รางหรือไม่ใช้รางก็ได้
TBD-10E ฝาปิดข้าง (END PLATE)







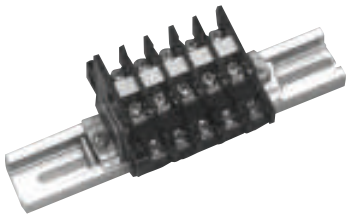
No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	3	47.7	56.4	65.1	73.8	82.5	91.2	99.9	108.6	117.3	126
L1	32.6	41.3	50	58.7	67.4	76.1	84.8	93.5	102.2	110.9	119.6

TBD-20 (20A 600V max)

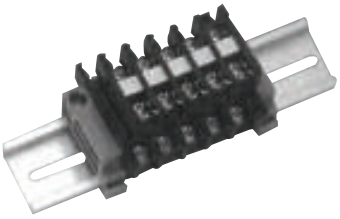
CASSETTE ASSEMBLY TYPE



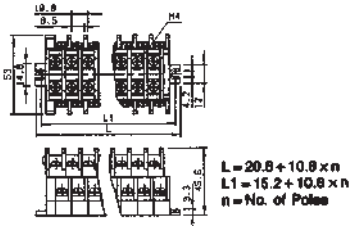
TBC-N RAIL-MOUNT TYPE

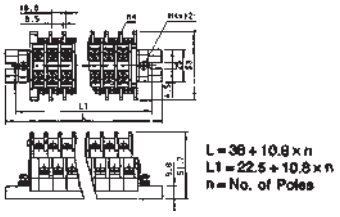


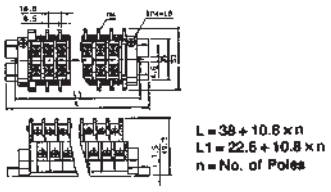
TBR-N RAIL-MOUNT TYPE



TBD 20-10 10P 20A 2 ชั้น ใช้รางหรือไม่ใช้รางก็ได้
TBD-20E ฝาปิดข้าง (END PLATE)







No. of poles	2	3	4	5	6	7	8	9	10	11	12
L	42.2	53	63.8	74.6	85.4	96.2	107	117.8	128.6	139.4	150.2
L1	35.8	46.6	57.4	68.2	79	89.8	100.6	111.4	122.2	133	143.8

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CASSETS ASSEMBLY TERMINAL BLOCK

แผงต่อสาย ชนิดใช้ราง TBR-C หรือรางตัว C เท่านั้น ISO 9002

FEATURES เทอร์มินอลชนิดใช้ราง TBR-C หรือรางตัว C เท่านั้น

- No need of stringing iron bar or rail for less than 15P terminal blocks. Pushing 2P against each other will be OK. Switch and convenient. (Fig.1)
- Stringing iron bar or rail may be attached for more than 15P. In case of over than 30P, you may separate the whole assembly into 2 or 3-sec tions. Fixing the first section. The second and the next. No limitation on the desired length. Very solid and firm. (Fig.2)
- Use " - " shaped screw-driver to pry open from the bottom slot. (Fig.3)
- TBC-10, TBC-20 and TBC-30 are inter-stringable by using the same iron bar. (Fig.4)
- TBC-60, TBC-100 and TBC-200 TBC-300 are also inter-stringable by using the same iron bar. (Fig.5)
- Cassette assembly type terminal blocks, like TBC-10, 20, 30 can be mounted on TBC-N rail with TBR-60, 100, and 200, The combination is called Rail-Mount Termail Block. (see Fig.6)
- PC material ensures heat-resistance, good toughness and no crack.



(Fig.1)



(Fig.2)



(Fig.3)

TBC-10.20.30



(Fig.4)

TBC-60.100.200.300



(Fig.5)

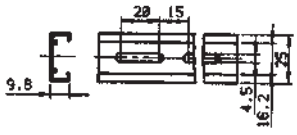
TBC-10.20.30 TBR-60.100.200



(Fig.6)

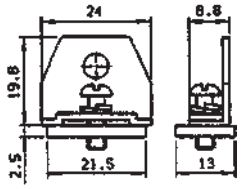
TBC-N ยาว 1 เมตร





TBC-F

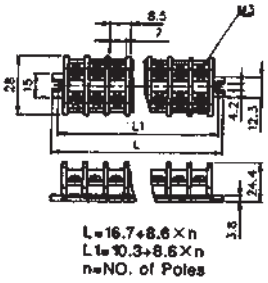




TBC10-10 10P

TBC-10H ฝาข้าง (END PLATE)



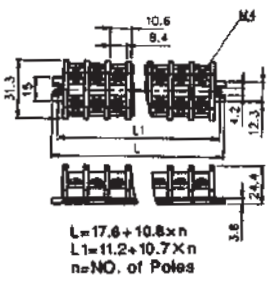


No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	33.9	42.5	51.1	59.7	68.3	76.9	85.5	94.1	102.7	111.3	119.9
L1	27.5	36.1	44.7	53.3	61.9	70.5	79.1	87.7	96.3	104.9	113.5

TBC20-10 10P

TBC-20H ฝาข้าง (END PLATE)





No. of role	2	3	4	5	6	7	8	9	10	11	12
L	39	49.7	60.4	71.1	81.8	92.5	103.2	113.9	124.6	135.3	146
L1	32.6	43.3	54	64.7	75.4	86.1	96.8	107.5	118.2	128.9	139.6

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

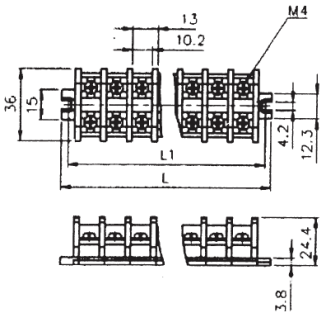
tend CASSETE ASSEMBLY TERMINAL BLOCK

แผงต่อสาย ชนิดใช้ราง TBR-C หรือรางตัว C เท่านั้น ISO 9002

TBC30-10 10P

TBC-30H ฝาข้าง (END PLATE)





L=18+13.1×n
L1=11.6+13.1×n
n=NO. of Poles

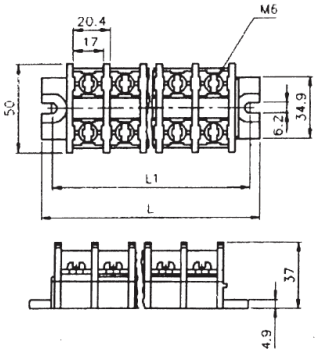
No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	44.2	57.3	70.4	83.5	96.6	109.7	122.8	135.9	149	162.1	175.2
L1	37.8	50.9	64	77.1	90.2	103.3	116.4	129.5	142.6	155.7	168.8

TBC60

4P 60A

3P 60A
6P 60A





L=33.3+20.5×n
L1=18.3+20.5×n
n=NO. of Poles

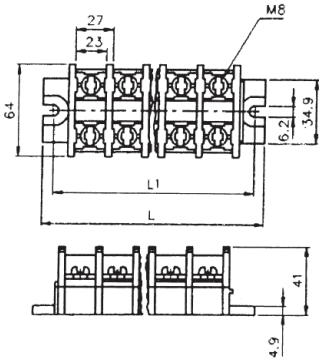
No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	74.3	94.8	115.3	135.8	156.3	176.8	197.3	217.8	238.3	258.8	279.3
L1	59.3	79.8	100.3	120.8	141.3	161.8	182.3	202.8	223.3	243.8	264.3

TBC100

4P 100A

3P 100A
6P 100A





L=34+27.1×n
L1=19+27.1×n
n=NO. of Poles

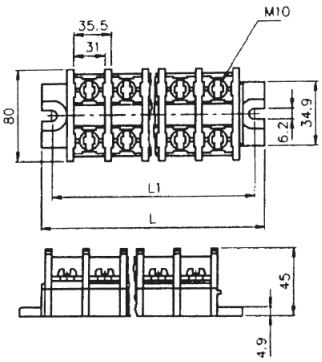
No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	88.2	115.3	142.4	169.5	196.6	223.7	250.8	277.9	305	332.1	359.2
L1	73.2	100.3	127.4	154.5	181.6	208.7	235.8	262.9	290	317.1	344.2

TBC200

4P 200A

3P 200A
6P 200A



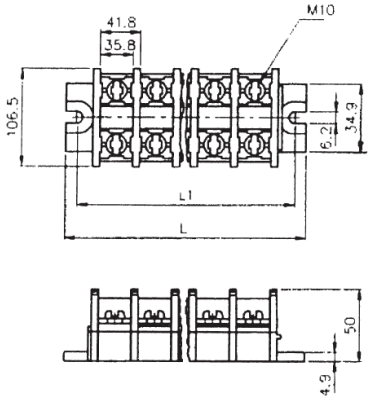


L=34.5+35.6×n
L1=19.5+35.6×n
n=NO. of Poles

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	105.7	141.3	176.9	212.5	248.1	283.7	319.3	354.9	390.5	426.1	461.7
L1	90.7	126.3	161.9	197.5	233.1	268.7	304.3	339.9	375.5	411.1	446.7

TBC300 3P 300A





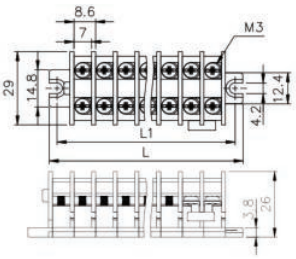
L=36+41.9×n
L1=21+41.9×n
n=NO. of Poles

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	119.8	161.7	203.6	245.5	287.4	329.3	371.2	413.1	455	496.9	538.8
L1	104.8	146.7	188.6	230.5	272.4	314.3	356.2	398.1	440	481.9	523.8

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TBCN-10-10 10P10A
TBCN-10H end plate ฝาข้าง



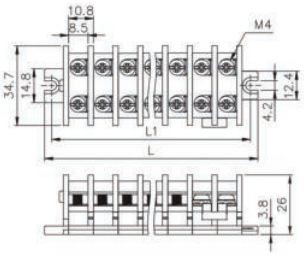


L = 16.8 + 8.6 x n
L1 = 10.6 + 8.6 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	34	42.6	51.2	59.8	68.4	77	85.6	94.2	102.8	111.4	120
L1	27.8	36.4	45	53.6	62.2	70.8	79.4	88	96.6	105.2	103.8

TBCN-20-10 10P20A
TBCN-20H end plate ฝาข้าง





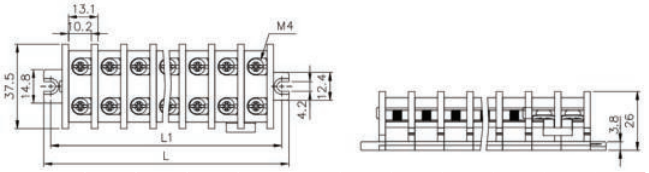
L = 17.60 + 10.8 x n
L1 = 11.30 + 10.8 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	39.1	49.9	60.7	71.5	82.3	93.1	103.9	114.7	125.5	136.3	147.1
L1	32.9	43.7	54.5	65.3	76.1	86.9	97.7	108.5	119.3	130.1	140.9

TBCN-30-10 10P30A
TBCN-30H end plate ฝาข้าง



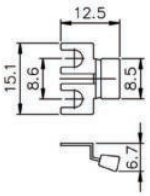
L = 18.1 + 13.1 x n
L1 = 11.9 + 13.1 x n
n = NO. of Pole



No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	44.3	57.4	70.5	83.6	96.7	109.8	122.9	136	149.1	162.2	175.3
L1	38.1	51.2	64.3	77.4	90.5	103.6	116.7	129.8	142.9	156	169.1

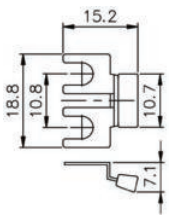
TBCN-10S





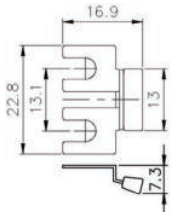
TBCN-20S





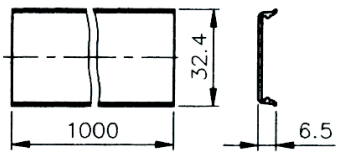
TBCN-30S





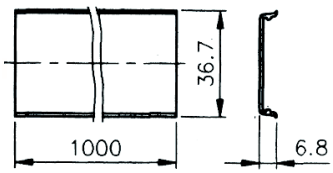
TBR-10C (TBC10,TBR10)





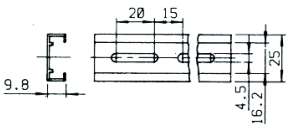
TBR-20C
(TBC20, TBR20, TBD10, 20)





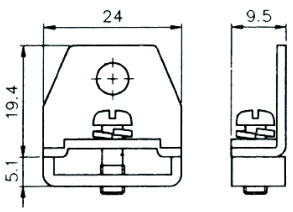
TBC-N





TBC-F





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

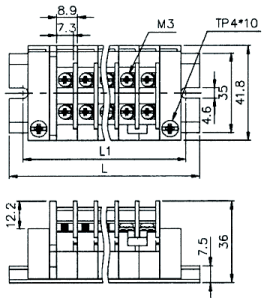
CASSETE ASSEMBLY TERMINAL BLOCK

แผงต่อสาย

ISO 9002

TBRN-10-10 10P10A
TBRN-10H end plate ฝาข้าง



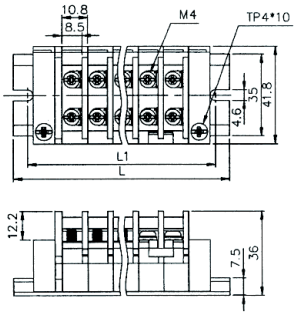


L = 38 + 8.9 x n
L1 = 22.50 + 8.9 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	55.8	64.7	73.6	82.5	91.4	100.3	109.2	118.1	127	135.9	114.8
L1	40.3	49.2	58.1	67	75.9	84.8	93.7	102.6	111.5	120.4	129.3

TBRN-20-10 10P20A
TBRN-20H end plate ฝาข้าง



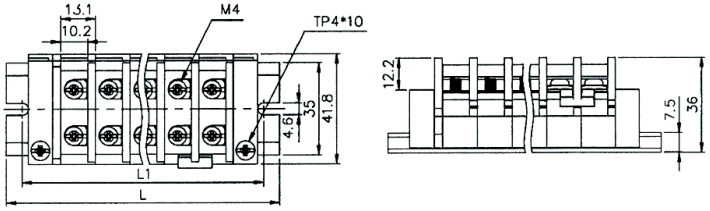


L = 38 + 10.8 x n
L1 = 22.50 + 10.8 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	59.6	70.4	81.2	92	102.8	113.6	124.4	135.2	146	156.8	167.6
L1	44.1	54.9	65.7	76.5	87.3	98.1	108.9	119.7	130.5	141.3	152.1

TBRN-30-10 10P30A
TBRN-30H end plate ฝาข้าง





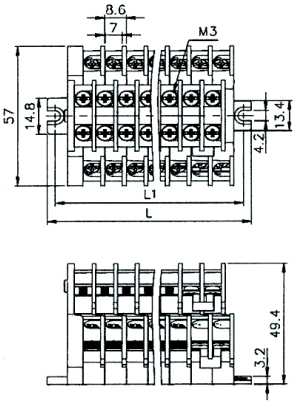
L = 38 + 13.1 x n
L1 = 22.50 + 13.1 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	64.2	77.3	90.4	103.5	116.6	129.7	142.8	155.9	169	182.1	195.2
L1	48.7	61.8	74.9	88	101.1	114.2	127.3	140.4	153.5	166.6	179.7

DOUBLE LEVEL TERMINAL BLOCKS TBCN,TBRN,TBDN

TBDN-10
TBDN-10H end plate ฝาข้าง

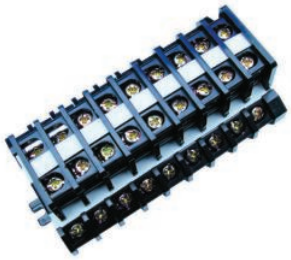


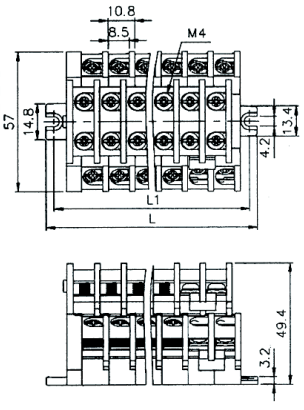


L = 24.80 + 8.6 x n
L1 = 18.40 + 8.6 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	42	50.6	59.2	67.8	76.4	85	93.6	102.2	110.8	119.4	128
L1	35.6	44.2	52.8	61.4	70	78.6	87.2	95.8	104.4	113	121.6

TBDN-20
TBDN-20H end plate ฝาข้าง





L = 24.80 + 10.8 x n
L1 = 18.40 + 10.8 x n
n = NO. of Pole

No. of roles	2	3	4	5	6	7	8	9	10	11	12
L	46.4	57.2	68	78.8	89.6	100.4	111.2	122	132.8	143.6	154.4
L1	40	50.8	61.6	72.4	83.2	94	104.8	115.6	126.4	137.2	148

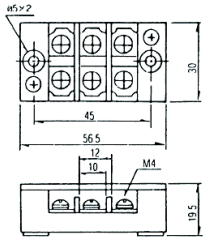
tend SOLID-TYPE TERMINAL BLOCK
แผงต่อสาย ชนิดโซลิด

FEATURE

TB-25 and TB-10, TB-20 Series : glass reinforced plastic, ensures heat-resistance, good toughness and no crack

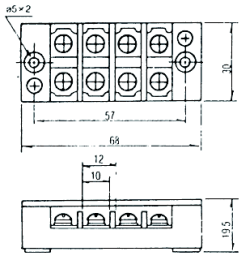
TB25-3





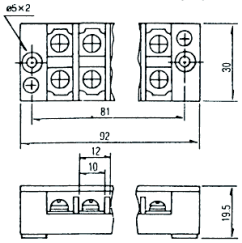
TB25-4





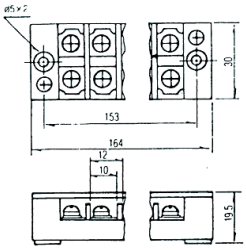
TB25-6





TB25-12



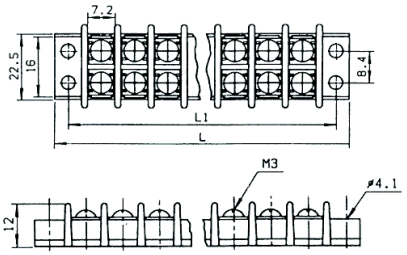


TB-10A



Poles
3P 10A
4P 10A
6P 10A
8P 10A
10P 10A
12P 10A
14P 10A

Poles
15P 10A
16P 10A
18P 10A
20P 10A
22P 10A
24P 10A
26P 10A



No. of poles	1	2	3	4	5	6	7	8	9	10	11	12	13
L1	19	28.5	38	47.5	57	66.5	76	85.5	95	104.5	114	123.5	133
L	26.2	35.7	45.2	54.7	64.2	73.7	83.2	92.7	102.2	111.7	121.2	130.7	140.2

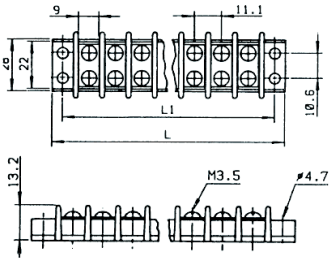
No. of poles	14	15	16	17	18	19	20	21	22	23	24	25	26
L1	142.5	152	161.5	171	180.5	190	199.5	209	218.5	228	237.5	247	256.5
L	149.7	159.2	168.7	176.2	187.7	197.2	206.7	216.2	225.7	235.2	244.7	254.2	263.7

TB-20A



Poles
3P 20A
4P 20A
6P 20A
8P 20A
10P 20A
12P 20A
14P 20A

Poles
16P 20A
18P 20A
20P 20A
22P 20A
24P 20A
26P 20A



No. of poles	1	2	3	4	5	6	7	8	9	10	11	12	13
L1	31.2	43.3	53.4	64.5	75.6	86.7	97.8	108.9	120	131.1	142.2	153.3	164.4
L	22.2	33.3	44.4	55.5	66.6	77.7	88.8	99.9	111	122.1	133.2	144.3	155.4

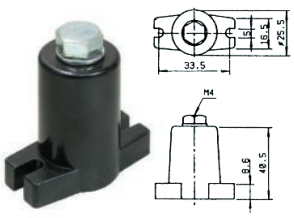
No. of poles	14	15	16	17	18	19	20	21	22	23	24	25	26
L1	175.5	186.6	197.7	208.8	219.9	231	242.1	253.2	264.3	275.4	286.5	297.6	308.7
L	166.5	177.6	188.7	199.8	210.9	222	233.1	244.2	255.3	266.4	277.5	288.6	299.7

TERMINAL แผงต่อสายขนาด15A

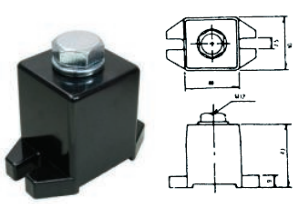


Type	Poles
TB-15-3	3P 15A
TB-15-4	4P 15A
TB-15-6	6P 15A
TB-15-12	12P 15A

T20



T40



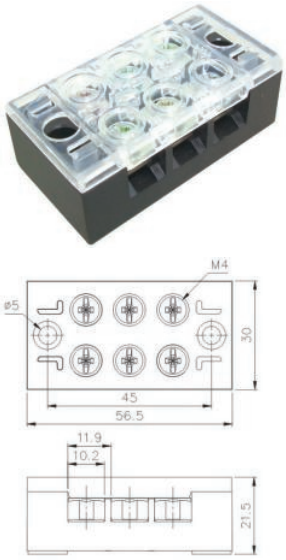
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SOLID-TYPE TERMINAL BLOCK
แผงต่อสาย ชนิดโซลิด

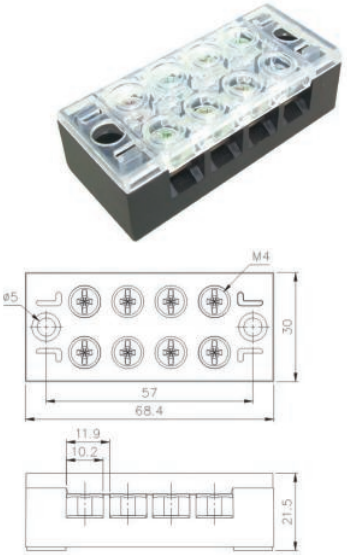
FEATURE

Glass reinforced plastic ensures heat-resistance, good toughness and no crack.

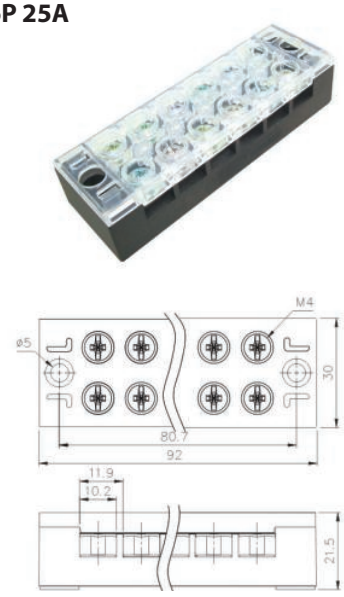
TB25-3N 3P 25A



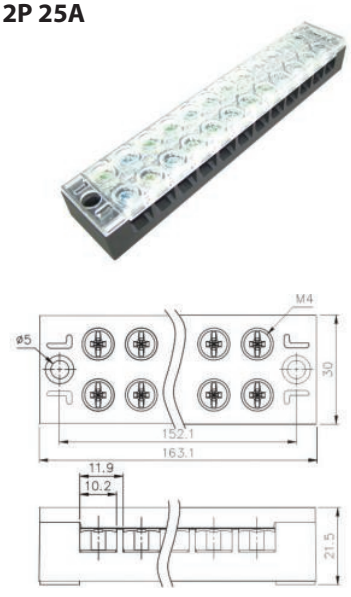
TB25-4N 4P 25A



TB25-6N 6P 25A



TB25-12N 12P 25A



tend CONTACTOR
คอนแทคเตอร์

CE

MODEL DESIGNATION

TC 11 A 2
1 2 3 4

Designation	Signal	Description	
1.Type	TC	Magnetic Contactor	
	TCR	Reversing Contactor	
2.Model	11	12A	(Rated Capacity Based on AC3 3 ph, 220 VAC)
	16	16A	
	21	24A	
	30	30A	
	35	35A	
	40	44A	
	50	58A	
	60	68A	
	80	100A	
3.Auxiliary contacts	(none)	1a1b,2a2b (For TC50-80)	
	A	1a	
	B	1b	

Designation	Signal	Description	
		50 Hz	60 Hz
4.Coil voltage	1	100 VAC	110 VAC
	2	200 VAC	220 VAC
	3	346 VAC	380 VAC
	4	380-400 VAC	440 VAC
	5	110 VAC	120 VAC
	6	240 VAC	260 VAC
	7	24 VAC	24 VAC
	8	48 VAC	48 VAC
	9	415 VAC	460 VAC
	a	220 VAC	240 VAC
	b	500 VAC	550 VAC
	c	32 VAC	32 VAC

RATING AND CHARACTERISTICS

Type no.	Auxiliary contacts		Rated operating current (AC1) ith	IEC 60947 rated capacity (AC3)					Rated insulation voltage	Weight
				1 Phases		3 Phases				
				100V	200V	200V	380V	500V		
				120V	220V	220V	440V	550V		
	NO	NC	A	A/kw/hp	A/kw/hp	A/kw/hp	A/kw/hp	A/kw/hp	V	kg
TC11A	1	-	25	12 0.55 0.75	12 1.1 1.5	12 3 4	12 5.5 7.5	9 5.5 7.5	600	0.32 0.66
TC11B	-	1								
TCR11AB	1	1								
TCR112A	2	-								
TCR112B	-	2								
TC16A	1	-	30	16 0.75 1	16 1.5 2	16 4 5.5	16 7.5 10	12 7.5 10	600	0.32 0.66
TC16B	-	1								
TCR16AB	1	1								
TCR162A	2	-								
TCR162B	-	2								
TC21	1	1	40	24 1.1 1.5	24 2.2 3	24 5.5 7.5	24 11 15	18.4 11 15	600	0.39 0.79
TCR21	2	2								
TC30	1	1	50	30 1.5 2	30 3 4	30 7.5 10	30 15 20	23 15 20	600	0.85 1.72
TCR30	2	2								
TC35	1	1	50	35 1.8 2.5	35 4 5	35 9 12	35 15 20	28.5 18.5 25	600	0.85 1.72
TCR35	2	2								
TC40	1	1	60	44 2.2 3	44 5.5 7.5	44 11 15	44 22 30	33 22 30	600	0.85 1.72
TCR40	2	2								
TC50	2	2	80	58 3 4	58 5.5 7.5	58 15 20	52 30 40	41 30 40	600	1.21 2.57
TCR50	4	4								
TC60	2	2	100	68 3.7 5	68 7.5 10	68 19 25	65 37 50	52 37 50	600	1.21 2.57
TCR60	4	4								
TC80	2	2	130	-	-	100 25 35	90 50 70	72 50 70	600	1.43 3.00
TCR80	4	4								

*Mechanical Service Life 5,000,000, Operations.
*For track mounting on DIN rail or panel mounting

*Electrical Service Life 1,000,000 Operations.
*UL Pending

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CONTACTOR
คอนแทคเตอร์



1. TC11/16
2. TC21
3. TC30/ 35/ 40
4. TC50/ 60/ 80

Type no.	Auxiliary contact		Rated operating current (Ac1) ith	Type no. Rated capacity (AC3) 3 Phases 200-220V			3 Phases 380-440V			Rated insulation voltage
	NO	NC	A	A	kw	hp	A	kw	hp	V
TC11A	1	-	20	12	3	4	9	4	5.5	600
TC11B	-	1	20	12	3	4	9	4	5.5	600
TC16A	1	-	30	16	3.7	5	12	5.5	7.5	600
TC16B	-	1	30	16	3.7	5	12	5.5	7.5	600
TC21	1	1	40	24	5.5	7.5	21	11	15	600
TC30	1	1	50	30	7.5	10	27	15	20	600
TC35	1	1	60	35	9	12.5	33	18	25	600
TC40	1	1	65	44	11	15	40	22	30	600
TC50	2	2	80	58	15	20	52	30	40	600
TC60	2	2	100	68	19	25	65	37	50	600



1. TCR11/16
2. TCR21
3. TCR30/ 35/ 40
3. TCR50/ 60/ 80

Type no.	Auxiliary contact		Rated operating current (Ac1) ith	Type no. Rated capacity (AC3) 3 Phases 200-220V			3 Phases 380-440V			Rated insulation voltage
	NO	NC	A	A	kw	hp	A	kw	hp	V
TCR112A	2	-	20	12	3	4	9	4	5.5	600
TCR112B	-	2	20	12	3	4	9	4	5.5	600
TCR162A	2	-	30	16	3.7	5	12	5.5	7.5	600
TCR162B	-	2	30	16	3.7	5	12	5.5	7.5	600
TCR21	2	2	40	24	5.5	7.5	21	11	15	600
TCR30	2	2	50	30	7.5	10	27	15	20	600
TCR35	2	2	60	35	9	12.5	33	18	25	600
TCR40	2	2	65	44	11	15	40	22	30	600
TCR50	4	4	80	58	15	20	52	30	40	600
TCR60	4	4	100	68	19	25	65	37	50	600

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MODEL DESIGNATIONS

TA4 40 2
1 2 3

Designation	Signal	Description
1.Type	TA4	4P type Contactor for 4HP
	TB4	4P type Contactor for 5HP
	TR4	4P type Control relay
2.Contacts	40	4a
	31	3a1b
	22	2a2b

Designation	Signal	Description	
		50 Hz	60 Hz
3.Coil voltage	1	100 V AC	110 V AC
	2	200 V AC	220 V AC
	3	346 V AC	380 V AC
	4	380-400 V AC	440 V AC
	5	110 V AC	120 V AC
	6	240 V AC	260 V AC
	7	24 V AC	24 V AC
	8	48 V AC	48 V AC
	9	415 V AC	460 V AC
	a	220 V AC	240 V AC
	b	500 V AC	550 V AC
	c	32 V AC	32 V AC

RATING AND CHARACTERISTICS (CONTACTORS)

Type no.	contacts		Rated operating current (Ac1) Ith	Rated capacity (AC3)					Rated insulation voltage	Weight
				1 Phase			3 Phases			
				100V 120V	200V 220V	200V 220V	380V 440V	500V 550V		
	NO	NC	A	A/kw/hp	A/kw/hp	A/kw/hp	A/kw/hp	A/kw/hp	v	kg
TA440	4	-	25	12	12	12	12	9	600	0.32
TA431	3	1		0.55	1.1	3	5.5	5.5		
TA422	2	2		0.75	1.5	4	7.5	7.5		
TB440	4	-	30	16	16	16	16	12	600	0.32
TB431	3	1		0.75	1.5	4	7.5	7.5		
TB422	2	2		1	2	5.5	10	10		

RATING AND CHARACTERISTICS (CONTACTORS)

Type no.	contacts		Rated operating current (Ac1) Ith	Rated capacity (AC15)						Rated operating current Ith	Rated capacity (AC3)					Rated insulation voltage	Weight
				120 V	240 V	380 V	480 V	500 V	600 V		125 V	250 V	400 V	500 V	600 V		
	NO	NC	A	A	A	A	A	A	A	A	A	A	A	A	A	v	kg
TR440	4	-	10	6	3	1.9	1.5	1.4	1.2	5	1.1	0.55	0.31	0.27	0.2	600	0.32
TR431	3	1															
TR422	2	2															

DIMENSIONS

Type no.	Description
TA4	4P TYPE CONTACT FOR 4HP
TB4	4P TYPE CONTACT FOR 5HP
TR4	4P TYPE CONTROL RELAY



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MAGNETIC SWITCH
แมกเนติกสวิตช์

ISO 9002

USER'S INSTRUCTION

ATTENTION :

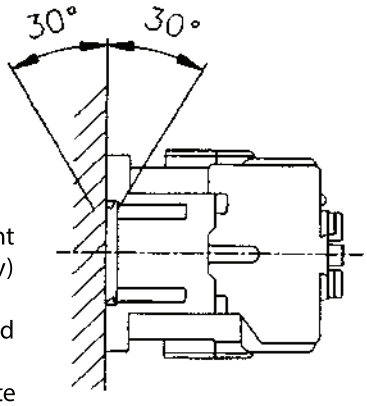
- Turn off power before carrying out any maintenance.
- Please handle carefully and avoid abnormal vibration and shock
- The dust-proof lable on the side of frame must be tear off clearly, if side-mounted auxiliary contact block or mechanical interlock is used.
- To dismantle the magnetic contactors which is mounted by DIN 35mm rail, right " _ " screw driver shall be applied and handled in running direction.
- A minimum clearance of 8mm and a minimum creepage distance of 12mm has to be ensured by the installation.

1. Service environment :

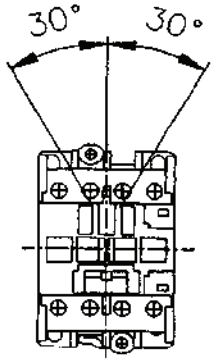
1.1 Operational Temperature : -20°C - 50°C
1.2 Storage Temperature : - 40°C - 70°C
1.3 Ralative Humidity : 45% - 85%
1.4 Altitude : below 2000 m.

2. Installation and wiring :

2.1 Ensure that the specifications (Rated power, arrangement of auxiliary contact, rated coil voltage and frequency) meet the requirements.
2.2 Mounting positions shall be within the ranges specified below.
2.3 Select appropriate conductor and tighten with appropriate torque with right tool.
2.4 Tightening torques for contactors are given below:



VERTICAL



VERTICAL

Type	Item	Screw/blot	Tighting torque (kgf.cm)
TC11	Main terminal	M3.5	8-12
TC16	Main terminal	M3.5	8-12
TC21	Main terminal	M4	12-20
TC30/35/40	Main terminal	M5	20-25
TC50/60	Main terminal	M6	35-40
All series	Auxi contact & coil terminal	M3.5	8-12

*Tightening torque shall be within the values given above to avoid deteriorating the screws.

3. Maintenance :

3.1 Turn off power before conducting any maintenance.
3.2 Disconnect the wires in sequence.
3.3 Dismantle contactor as required for maintenance.
3.4 Assemble and connect the contactor in reverse procedures conducted in step 3.3 and 3.2
3.5 Check the contactor in a good condition.

4. Replacement of the coil :

Follow the instructions if replacement of the coil is carried out.
4.1 Dismantle the contactor in appropriate means.
4.2 Replace the coil to requested coil.
4.3 Assemble the contactor in a reverse sequence conducted in step 4.1
4.4 Check that the contactor can be operated normally.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MAGNETIC SWITCH
แมกเนติกสวิตช์

ISO 9002

MODEL DESIGNATIONS

TMS 11 A 2 2
1 2 3 4 5

Designation	Signal	Description	
1.Type	TMS	Open Type	
	TMR	Reversing Type	
	TES	Enclosed Type	
	TEB	Enclosed Type With pushbutton	
	TEL	Enclosed Type With indicator	
	TEW	Enclosed Type With rainproof (IEC144 IP 65)	
2.Model	11	12A	(Rated Capacity Based on AC3 3ph, 220 V AC)
	16	16A	
	21	24A	
	30	30A	
	35	35A	
	40	44A	
	50	58A	
	60	68A	
3.Auxiliary contacts	(none)	1a1b, 2a2b (For TMS50, 60)	
	A	1a	
	B	1b	

Designation	Signal	Description	
		50 Hz	60 Hz
4.Coil voltage	1	100V AC	110V AC
	2	200 V AC	220 V AC
	3	346V AC	380V AC
	4	380-400 V AC	440 V AC
	5	110 V AC	120 V AC
	6	240 V AC	260 V AC
	7	24 V AC	24 V AC
	8	48 V AC	48 V AC
	9	415 V AC	460 V AC
	a	220 V AC	240 V AC
	b	500 V AC	550 V AC
	c	32 V AC	32 V AC
5.Number of heaters	2	2 Heaters	
	3	3 Heaters	
	P	Phase-Failure (3 Heaters)	

RATING AND CHARACTERISTICS

Type no.	Auxiliary contact		Rated operating current (Ac1) Ith	ICE 60947 rated capacity (AC3)					Rated insulation voltage	Weight
				3 Phases 200-220V		3 Phases 380-440V				
				100V	200V	200V	380V	500V		
				120V	220V	220V	440V	550V		
	NO	NC	A	A/kw/hp	A/kw/hp	A/kw/hp	A/kw/hp	A/kw/hp	v	kg
TMS11A	1	-	25	12 0.55 0.75	12 1.1 1.5	12 3 4	12 5.5 7.5	9 5.5 7.5	600	0.43 0.88
TMS11B	-	1								
TMR11AB	1	1								
TMR112A	2	-								
TMR112B	-	2								
TMS16A	1	-	30	16 0.75 1	16 1.5 2	16 4 5.5	16 7.5 10	12 7.5 10	600	0.43 0.88
TMS16B	-	1								
TMR16AB	1	1								
TMR162A	2	-								
TMR162B	-	2								
TMS21	1	1	40	24 1.1 1.5	24 2.2 3	24 5.5 7.5	24 11 15	18.4 11 15	600	0.51 1.04
TMR21	2	2								
TMS30	1	1	50	30 1.5 2	30 3 4	30 7.5 10	30 15 20	23 15 20	600	1.03 2.08
TMR30	2	2								
TMS35	1	1	50	35 1.8 2.5	35 4 5	35 9 12	35 15 20	28.5 18.5 25	600	1.03 2.08
TMR35	2	2								
TMS40	1	1	60	44 2.2 3	44 5.5 7.5	44 11 15	44 22 30	33 22 30	600	1.03 2.08
TMR40	2	2								
TMS50	2	2	80	58 3 4	58 5.5 7.5	58 15 20	52 30 40	41 30 40	600	1.55 2.76
TMR50	4	4								
TMS60	2	2	100	68 3.7 5	68 7.5 10	68 19 25	65 37 50	52 37 50	600	1.55 2.76
TMR60	4	4								

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MAGNETIC SWITCH

แมกเนติกสวิตช์

ISO 9002


1


2


3

1 TMS11/16
2 TMS21
3 TMS30/ 35/ 40
3 TMS50/ 60/ 80

Type no.	Auxiliary contacts		Rated operating current (Ac1) Ith	Rated capacity (AC3)						Overload range
				3 Phases 200-220V			3 Phases 380-440V			
	NO	NC	A	A	kw	hp	A	kw	hp	A
TMS11A	1	-	20	12	3	4	9	4	5.5	0.1-0.15, 0.15-0.24 0.24-0.36, 0.36-0.54 0.48-0.72, 0.64-0.96
TMS11B	-	1	20	12	3	4	9	4	5.5	0.8-1.2, 0.95-1.45
TMS16A	1	-	30	16	3.7	5	12	5.5	7.5	1.4-2.2, 1.7-2.6, 4-6
TMS16B	-	1	30	16	3.7	5	12	5.5	7.5	5-8, 6-9.7, 11.9-13, 12-18
TMS21	1	1	40	24	5.5	7.5	21	11	15	1.4-2.2, 1.7-2.6, 2.2-3.4, 2.8-4.2, 4-6, 5-8, 6-9, 7-11, 9-13, 12-18, 16-22, 20-26
TMS30	1	1	50	30	7.5	10	27	15	20	7-11, 9-13, 12-18, 16-22, 20-26, 22-34, 28-38, 32-48
TMS35	1	1	60	35	9	12.5	33	18	25	
TMS40	1	1	65	44	11	15	40	22	30	
TMS50	2	2	80	58	15	20	52	30	40	16-22, 20-26, 22-34, 28-38, 32-48, 43-65, 54-80
TMS60	2	2	100	68	19	25	65	37	50	

REVERSING MAGNETIC SWITCH


1


2


3

1 TMR11/16
2 TMR21
3 TMR30/ 35/ 40
3 TMR50/ 60/ 80

Type no.	Auxiliary contacts		Rated operating current (Ac1) Ith	Rated capacity (AC3)						Overload range
				3 Phases 200-220V			3 Phases 380-440V			
	NO	NC	A	A	kw	hp	A	kw	hp	A
TMR11	1	1	20	12	3	4	9	4	5.5	0.1-0.15, 0.15-0.24 0.24-0.36, 0.36-0.54 0.48-0.72, 0.64-0.96, 0.8-1.2, 0.95-1.45, 1.4-2.2, 1.7-2.6, 4-6, 5-8, 6-9.7, 11.9-13, 12-18
TMR112A	2	-	20	12	3	4	9	4	5.5	
TMR112B	-	2	20	12	3	4	9	4	5.5	
TMR16	1	1	30	16	3.7	5	12	5.5	7.5	
TMR162A	2	-	30	16	3.7	5	12	5.5	7.5	
TMR162B	-	2	30	16	3.7	5	12	5.5	7.5	
TMR21	2	2	40	24	5.5	7.5	21	11	15	1.4-2.2, 1.7-2.6, 2.2-3.4, 2.8-4.2, 4-6, 5-8, 6-9, 7-11, 9-13, 12-18
TMR30	2	2	50	30	7.5	10	27	15	20	7-11, 9-13, 12-18, 16-22, 20-26, 22-34, 28-38, 32-48
TMR35	2	2	60	35	9	12.5	33	18	25	
TMR40	2	2	65	44	11	15	40	22	30	
TMR50	4	4	80	58	15	20	52	30	40	16-22, 20-26, 22-34, 28-38, 32-48, 43-65, 54-80
TMR60	4	4	100	68	19	25	65	37	50	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ENCLOSED TYPE



TES 11/ 16



TES 21

Type no.	Rated capacity (AC3)					
	1 Phase 220V			3 Phase 380V		
	A	kw	hp	A	kw	hp
TES11	11	1.1	1.5	9	4	5.5
TES16	14	1.5	2	12	5.5	7.5
TES21	20	2.2	3	21	11	15

ENCLOSED TYPE WITH PUSH BUTTON SWITCH



TEB 11/ 16



TEB 21

Type no.	Rated capacity (AC3)					
	1 Phase 220V			3 Phase 380V		
	A	kw	hp	A	kw	hp
TEB11	11	1.1	1.5	9	4	5.5
TEB16	14	1.5	2	12	5.5	7.5
TEB21	20	2.2	3	21	11	15

ENCLOSED TYPE WITH PUSH BUTTON SWITCH AND INDICATOR LAMP



TEL 11/ 16



TEL 21

Type no.	Rated capacity (AC3)					
	1 Phase 220V			3 Phase 380V		
	A	kw	hp	A	kw	hp
TEL11	11	1.1	1.5	9	4	5.5
TEL16	14	1.5	2	12	5.5	7.5
TEL21	20	2.2	3	21	11	15

ENCLOSED TYPE WITH PUSH BUTTON SWITCH AND INDICATOR LAMP (RAIN PROOF) กันน้ำ



TEW 11/ 16/ 21

Type no.	Rated capacity (AC3)					
	1 Phase 220V			3 Phase 380V		
	A	kw	hp	A	kw	hp
TEW11	11	1.1	1.5	9	4	5.5
TEW16	14	1.5	2	12	5.5	7.5
TEW21	20	2.2	3	21	11	15

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend THERMAL OVERLOAD RELAY
โอเวอร์โหลดรีเลย์

ISO 9002

TA4 40 2

MODEL DESIGNATIONS

THR 1 3 - 3.6
(1) (2) (3) (4)

Designation	Signal	Description
1.Type	THR	Overload Protection
	THP	Phase Failure Protection
2.Contacts	1	for TC11 &TC16
	2	for TC21
	3	for TC30/35 & 40
	4	for TC50&TC60
3.Number of heaters	2	2 Heater Elements
	3	3 Heater Elements
4.Heater setting range (A)	0.12	0.1 - 0.12 - 0.15
	0.2	0.16 - 0.2 - 0.24
	0.3	0.24 - 0.3 - 0.36
	0.44	0.36 - 0.44 - 0.54
	0.6	0.48 - 0.6 - 0.72
	0.8	0.64 - 0.8 - 0.96
	1	0.8 - 1 - 1.2
	1.2	0.95 - 1.2 - 1.45

Designation	Signal	Description
4.Heater setting range (A)	1.8	1.4 - 1.8 - 2.2
	2.1	1.7 - 2.1 - 2.6
	2.8	2.2 - 2.8 - 3.4
	3.6	2.8 - 3.6 - 4.2
	5	4 - 5 - 6
	6.5	5 - 6.5 - 8
	7.5	6 - 7.5 - 9
	9	7 - 9 - 11
	11	9 - 11 - 13
	15	12 - 15 - 18
	19	16 - 19 - 22
	23	20 - 23 - 26
	28	22 - 28 - 34
	33	28 - 33 - 38
	40	32 - 40 - 48
	54	43 - 54 - 65
	67	54 - 67 - 80

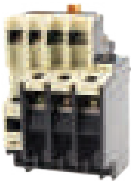
THR1/ THP1



สำหรับรุ่น TC11 และ TC16

Type no.	Description	For contactor	Setting range (A)
THR-12	2 Heater Elements	TC11, TC16	0.1-0.15, 0.15-0.24, 0.24-0.36, 0.36-0.54, 0.48-0.72, 0.64-0.96, 1.4-2.2, 1.7-2.6, 2.2-3.4, 2.8-4.2, 4-6, 5-8, 6-9, 7-11, 9-13, 12-18
THR-13	3 Heater Elements		
THP-1	Phase Failure Protecion		

THR2/ THP2



สำหรับรุ่น TC21

Type no.	Description	For contactor	Setting range (A)
THR-22	2 Heater Elements	TC21	1.4-2.2, 1.7-2.6, 2.2-3.4, 2.8-4.2, 4-6, 5-8, 6-9, 7-11, 16-22, 20-26
THR-23	3 Heater Elements		
THP-2	Phase Failure Protecion		

THR3/ THP3



สำหรับรุ่น TC30, TC35, TC40

Type no.	Description	For contactor	Setting range (A)
THR-32	2 Heater Elements	TC30, TC35, TC40	7-11, 9-13, 12-18, 16-22, 20-26, 22-34, 28-38, 32-48
THR-33	3 Heater Elements		
THP-3	Phase Failure Protecion		

THR4/ THP4



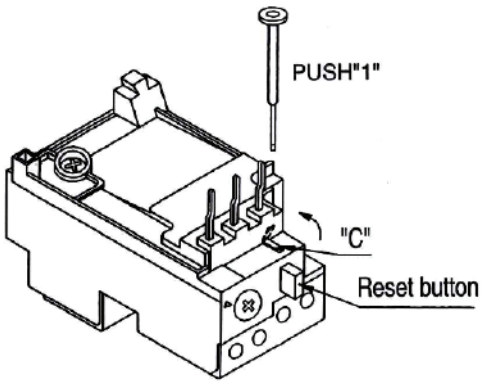
สำหรับรุ่น TC50, TC60

Type no.	Description	For contactor	Setting range (A)
THR-42	2 Heater Elements	TC50, TC60,	16-22, 20-26, 22-34, 28-38, 32-48, 43-65, 54-80
THR-43	3 Heater Elements		
THP-4	Phase Failure Protecion		

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

THR (THP)

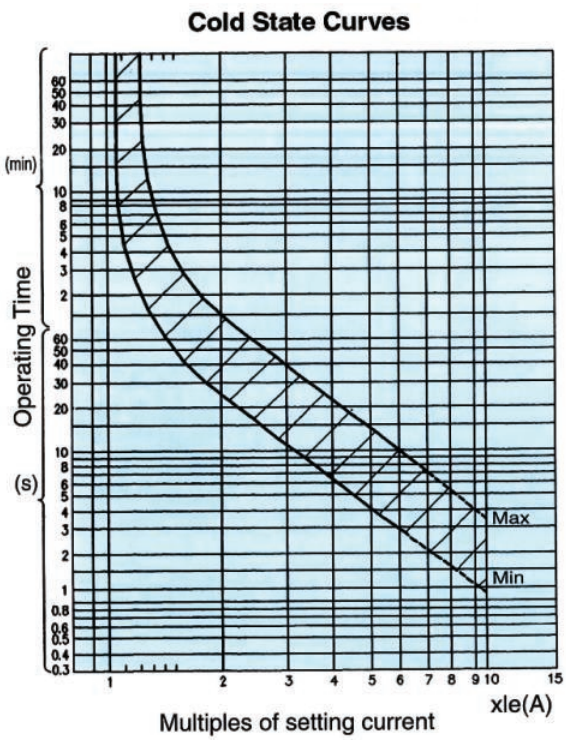


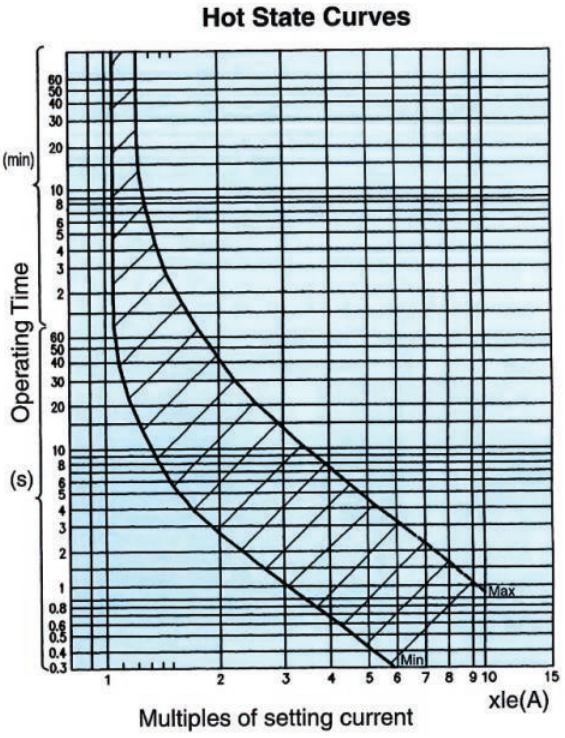


Manual reset :
Press reset button to reset the Thermal Overload Relay

Auto reset :
Take off "C"
Then press reset button and push "1" (fiat screw driver) to lock the button to become autoreset.

OPERATING CHARACTERISTICS OF THERMAL OVERLOAD RELAYS





STAR-DELTA STARTER SELECTION TABLE

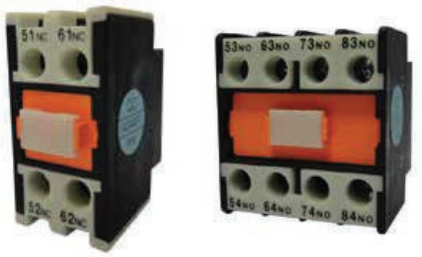
Type		Y-TC21	Y-TC35	Y-TC50	Y-TC60
Motor output KW (HP)	200-220 V	11 (15)	19 (25)	22 (30)	30 (40)
	380 V	19 (25)	30 (40)	45 (60)	55 (75)
	440 V	19 (25)	30 (40)	45 (60)	55 (75)
Contactor used	MC M	TC21	TC35	TC50	TC60
	MC D	TC21	TC35	TC50	TC60
	MC S	TC11	TC16	TC21	TC21

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend ACCESSORIES
อุปกรณ์เสริม

ISO 9002 TÜV DVE CE

AUXILIARY CONTACT BLOCKS (FRONT MOUNTED)



Type no.	NO	NC	Weight	Suitable for
TCF-211	1	1	0.034	TC11 - TC80
TCF-220	2	-		
TCF-202	-	2		
TCF-440	4	-	0.034	TC11 - TC80
TCF-431	3	1		
TCF-422	2	2		
TCF-413	1	3		
TCF-404	-	4		

AUXILIARY CONTACT BLOCKS (FRONT MOUNTED)



Type no.	NO	NC	Weight	Suitable for
TCS-111	1	1	0.034	TC11 - TC80
TCS-120	2	-		
TCS-102	-	2		
TCS-221	1	1	0.034	TC21
TCS-220	2	-		
TCS-202	-	2		

MECHANICAL INTERLOCK



Type no.	NO	NC	Suitable for
*TCL-1	-	2	TC11-TC21
TCL-1N	-	-	TC-11-TC21
*TCL-3	-	2	TC30-TC40
TCL-3N	-	-	TC30-TC40
*TCL-4	-	2	TC50-TC80
TCL-4N	-	-	TC50-TC80

* : with electrical interlock

Type no.	Rated operating current (Ac1) Ith	Rated capacity (AC15)						Rated operating current Ith	Rated capacity (DC13)					Rated insulation voltage	Weight
		120 V AC	240 V AC	380 V AC	480 V AC	500 V AC	600 V AC		125 V AC	250 V AC	400 V AC	500 V AC	600 V AC		
	A	A	A	A	A	A	A	A	A	A	A	A	A	v	kg
TCF-2	10	6	3	1.9	1.5	1.4	1.2	5	1.1	0.55	0.31	0.27	0.2	600	0.034
TCF-4															0.054
TCS-1(2)															0.034
TCS-3															0.040
TCL															0.036

SPARE COIL



Spare coil	Suitable for
TCC-11	TC11-21



Spare coil	Suitable for
TCC-30	TC30-40



Spare coil	Suitable for
TCC-50	TC50-480

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend SOLID STATE RELAY
โซลิดสเตตรีเลย์

A009142

FEATURES

- Wide load voltage range : 24~380 VAC & 90~480VAC
- Load current : 10, 25 and 40 amperes.
- Long service life and high reliability.
- LED indicates the operating of the device. (Except phase controller)
- Low EMI/RFI & surge by zero-cross trigger.
- DC type can be driven by IC such as TTL&CMOS.



MODEL DESIGNATIONS

TSSR **25** **D** **H**
① ② ③

Designation	Signal	Description
1.Load current	10	10A
	25	25A
	40	40A
2.Input type	A	AC input
	D	DC input
	V	Phase trigger control
3.Output voltage range	-	24-380 V AC
	H	90-480 V AC

Phase controller only has 48~380VAC for output voltage range.

SPECIFICATIONS : AC INPUT

Input characteristics

Input characteristics \ Model	TSSR-10A	TSSR-25A	TSSR-40A	TSSR-10AH	TSSR-25AH	TSSR-40AH
Control voltage range	90~250 V AC 50/60 Hz					
Control current	3mA Max.					
Pickup voltage	AC 70V					
Dropout voltage	AC 30V					

Output characteristics

Voltage range	24~380 VAC			90~480 VAC		
Peak voltage (t=1min)	600 V AC (reference)					
Maximum current (rms)	10A	25A	40A	10A	25A	40A
Maximum surge current (t=10ms)	100A	250A	400A	100A	250A	400A

General characteristics (@ 25 °C)

Operate time	1/2 of load power source cycle + 1 ms max.	
Release time	1/2 of load power source cycle + 1 ms max.	
Output ON voltage drop	1.6 V (rms) max.	
Leakage current	4 mA max. (at V max.)	8 mA max. (at V max.)
Insulation resistance	100 MΩmin. (at 500 V DC)	
Dielectric strength	2,500 VAC, 50/60Hz for 1 minute	
Vibration resistance	Mechanical durability : 10 to 55Hz, 1.5 mm double amplitude	
Shock resistance	Mechanical durability : 1,000 m/s (approx. 100G)	
Storage temperature	-30° C to 100° C (with no icing nor condensation)	
Ambient temperature	-20° C to 80° C (with no icing nor condensation)	
Ambient humidity	45 to 85% RH	
Weight	Approx. 80g	

tend SOLID STATE RELAY
โซลิดสเตตรีเลย์

CE A009142

SPECIFICAIONS : DC INPUT

Input characteristics

Characteristics / Model / Price	TSSR-10D	TSSR-25D	TSSR-40D	TSSR-10DH	TSSR-25DH	TSSR-40DH
Control voltage range	3~32V DC					
Control current	6mA / 12V DC					
Pickup voltage	DC 3V max.					
Dropout voltage	DC 2V max.					

Output characteristics

Voltage range	24~380 V AC			90~480 V AC		
Peak voltage (t = 1 min)	600 V AC (reference)					
Maximum current (rms)	10A	25A	40A	10A	25A	40A
Maximum surge current (t = 10 ms)	100A	250A	400A	100A	250A	400A

General characteristics (@ 25°C)

Operating time	1/2 of load power source cycle + 1 ms max	
Release time	1/2 of load power source cycle + 1 ms max	
Output ON voltage drop	1.6 V (rms) max.	
Leakage current	4 mA max. (at V max.)	8 mA max. (at V max.)
Insulation resistance	100 MΩ min. (at 500 V DC)	
Dielectric strength	2,500 V AC, 50/60 Hz for 1 minute	
Vibration resistance	Mechanical durability : 10 to 55 Hz, 1.5 mm double amplitude	
Shock resistance	Mechanical durability : 1,000 m/s ^{2} (approx. 100G)	
Storange temperature	-30°C to 100°C (with no icing nor condensation)	
Ambient temperature	-20°C to 80°C (with no icing nor condensation)	
Ambient humidity	45 to 85% RH	
Weight	Approx. 80g.	

SPECIFICATIONS : PHASE CONTROLLER

Input characteristics

Characteristics/ Model	TSSR-10V	TSSR-25V	TSSR-40V
Variable resistor range	100kΩ to 48V, 250kΩ to 110V 500kΩ to 220V, 1MΩ to 380V		
Control method	Phase trigger control		
Price	**640.-**	**730.-**	**1,070.-**

Output characteristics

Voltage range	24~380 V AC		
Peak voltage (t = 1 min)	600 V AC (reference)		
Maximum current (rms)	10A	25A	40A
Maximum surge current (t = 10 ms)	100A	250A	400A
Price	**640.-**	**730.-**	**1,070.-**

General characteristics (@ 25 °C)

Output ON voltage drop	1.6V (rms) max.
Leakage current	10 mA max. (at V max.)
Dielectric strength	2,500 V AC, 50/60 Hz for 1 minute
Vibration resistance	Mechanical durability : 10 to 55 Hz, 1.5 mm double amplitude
Shock resistance	Mechanical durability : 1,000 m/s ^{2} (approx. 100G)
Storage temperature	-30°C to 100°C (with no icing nor condensation)
Ambient temperature	-20°C to 80°C (with no icing nor condensation)
Ambient humidity	45 to 85% RH
Weight	Approx. 80g.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

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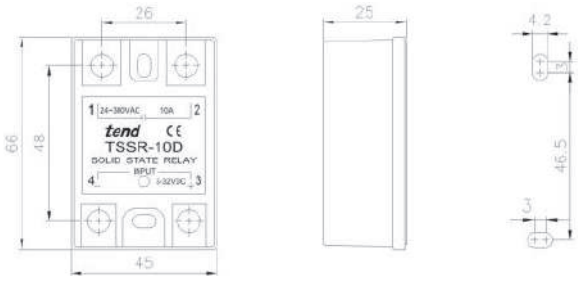
CE A009142

DIMENSION

TSSR - □□□

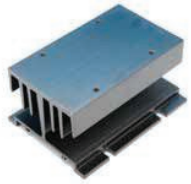


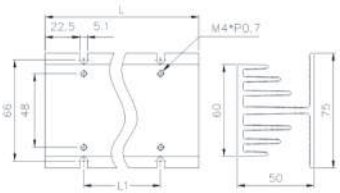


ACCESORIES

There are 5 different lengths of heat sink avaolable.It can be chosen based on the queatity of TSSR used.Put the number of TSSR used in the □ sush as TSSR01- 1P

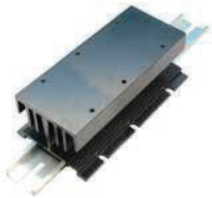
TSSR01 - □
HEAT SINK ชุดระบายความร้อน

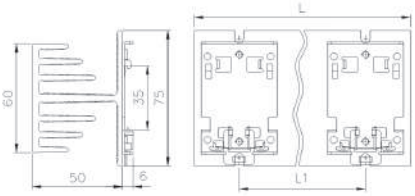




Signal	L	L1
1P	50 mm	
2P	100 mm	50 mm
3P	150 mm	100 mm
4P	200 mm	150 mm
5P	250 mm	200 mm

TSSR02 - □
DIN RAIL MOUNTED HEAT SINK ชุดระบายความร้อนชนิดใช้กับราง

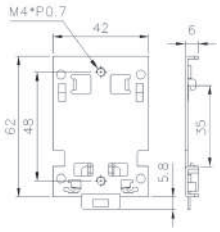




Signal	L	L1
1P	50 mm	
2P	100 mm	50 mm
3P	150 mm	100 mm
4P	200 mm	150 mm
5P	250 mm	200 mm

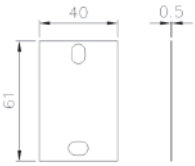
TSSR03
DIN RAIL MOUNTED





TSSR04
HEAT CONDUCTION RUBBER





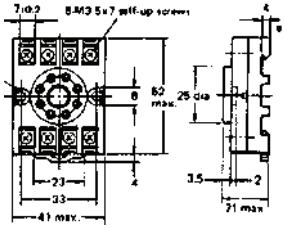
- Used between bottom of TSSR and heat sink.
- Tear off protection film before using.

PRECAUTIONS FOR SAFE USE

1.The TSSR and heat sink will be hot and may occasionally cause minor burns.Do not touch the TSSR or heat sink either while the power supply is ON, or immediately after the power is turned OFF.
2.Be sure to conduct wiring with the power supply turned OFF.Touching the terminals when they are charged may occasionally result in monor electric shock.
3.The internal snubber circuit is charged and may occasionally cause minor electric shock.Do not touch the TSSR's main circuit terminals immediately afterthe power is turned OFF.
4.Do not apply a short-circuit to the load side of the TSSR.The TSSR may rupture.
5.TSSR malfunction or fire damage may occasionally occur.Do not apply excessive voltage or current to the TSSR terminals.
6.To protect against short-circuit accidents, install a quick-burning fuse that is rated 80% current maximum on the output line.
7.Abnormal heat generated by terminals may occasionally result in fire damage.Do not operate if the screws on the output terminal are loose.
8.Do not obstruct the air flow to the TSSR or heat sink.
9.When installing the TSSR directly into a control panel so that the panel can be used as a heat sink, use a panel material with low thermal resistance, sush as aluminum or steel.
10.The TSSR should be installed with a heat sink when the load current is more than 15A.Heat generated from a TSSR error may occasionally cause the output element to short, or cause fire damage.

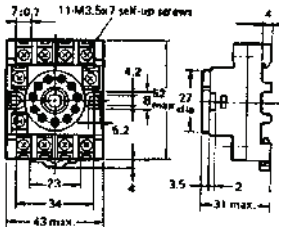
PF-083N ใช้กับรีเลย์ MK-2P





PF-113N ใช้กับรีเลย์ MK-3P



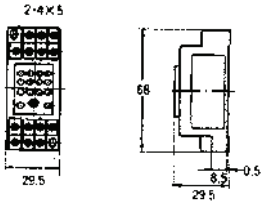


PTF-14N / PTF-14A ใช้กับรีเลย์ LY-4P



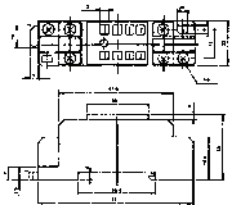
PYF-14N ใช้กับรีเลย์ MY-4





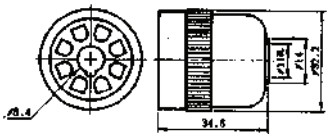
PYF-08N ใช้กับรีเลย์ MY-2





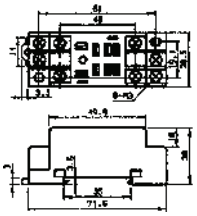
US-08 TIMER SOCKET





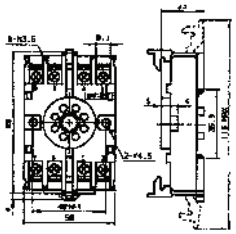
PTF-08N / PTF-08A ใช้กับรีเลย์ LY-2



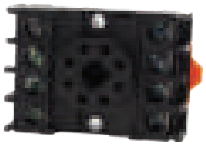


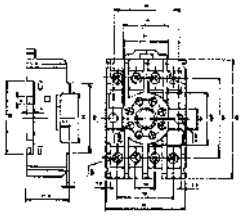
8PF-R TIMER SOCKET





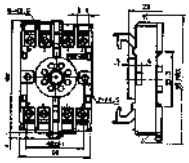
PF-085A TIMER SOCKET





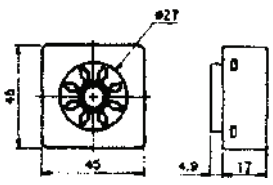
P2CF-08 TIMER SOCKET





P3G-08 ใช้กับ Timer





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

แคมสวิตช์

48x48 / 48x60 / 64x64 / 64x80

FEATURES



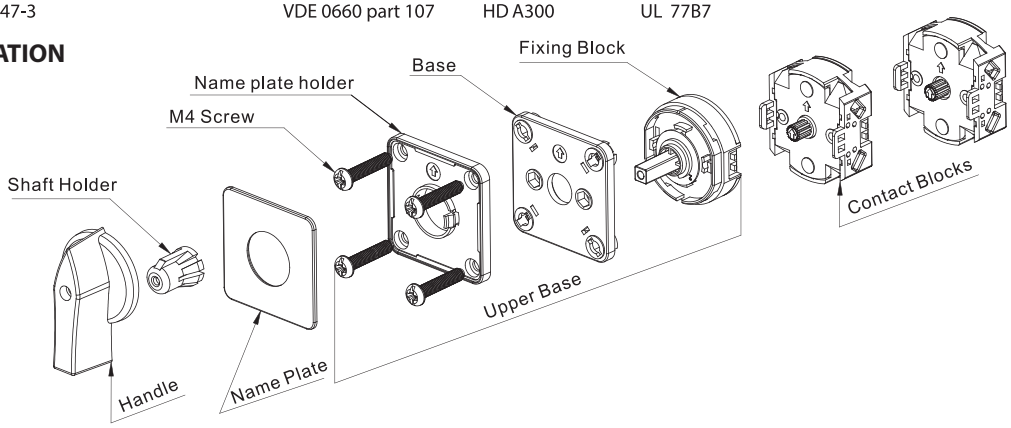
- Diversified operating ways, handles and plates.
- Unique modular design of contact blocks keeps internal parts from falling apart when contact blocks are disassembled or replaced.
- Can assemble or disassemble contact blocks to suit for various models yet without risking excessive stock.
- Contact blocks can be added click-on-easily, no need to unscrew.
- Connecting screws are fatened from the back rather than normally from the side. It makes wiring easier.
- A special design to keep connecting terminals and screws in the contact blocks can prevent users from electric shocking
- All the connecting pieces of terminals are covered to avoid electric shocking.
- Capacities are differentiaed by colors of contact blocks: blue for 10A : gray for 16A and black for 25A.

SPECIFICATIONS

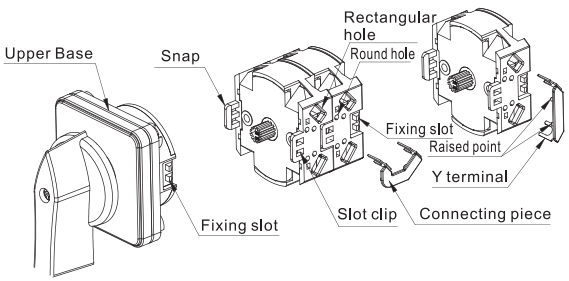
Capacity / Voltage	AC-3 (kw) 3 ph.	AC-3 (kw) 1 ph.	AC-23A (kw) 3 ph.	AC-23A (kw) 1 ph.	AC-21A Iu=Ith	Rated Voltage	AC-3 (HP) 3 ph.	AC-3 (HP) 1 ph.	Motor load
220V-240V	1.5	0.55	1.8	0.75	10A	120V	0.75	0.33	10A
380V-440V	2.2	0.75	3	1.1		240V	1	0.75	
660V-690V	2.2	0.75	3	1.1					
220V-240V	3	1.5	4	2.2	16A	120V	1.5	0.5	16A
380V-440V	5.5	2.2	7	3		240V	3	1.5	
660V-690V	5.5	2.2	7	3					
220V-240V	4	3	5.5	3	25A	120V	3	1.5	25A
380V-440V	7.5	3.7	11	5.5		240V	7.5	3	
660V-690V	7.5	3.7	11	5.5		480V	10	5	

IEC 60947-3, EN 60947-3 VDE 0660 part 107 HD A300 UL 77B7

CONFIGURATION



FOR PANEL SERIES NO.48 AND NO.64, THE HANDLES, ENGRAVING PLATES, UPPER BASES AND CONTACTS CAN BE DISASSEMBLED BY DIY



- Assembly and disassembly of upper base and contact or those of two contacts.
- Assembly between upper base and contact block : point and push the raised part of the upper base into the hole of contact block.
- Assembly between contact block : point and push the raised part of the contact block into the hole of another contact block.
- Disassembly: lift the raised part of contact with "-" shape screwdriver.
- Assembly of connecting piece : insert the "Y" shape terminal of the connecting piece into the ractangular holes flanking the contact and press the raised point of connecting piece down into the round hole of contact block.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์
48x48 / 64x64

Before placing an order for finished products, please refer to the explanation of model numbers shown in this page.

MODEL DESIGNATION

TCS 4 S 242 - 2 2209 R
① ② ③ ④ ⑤ ⑥

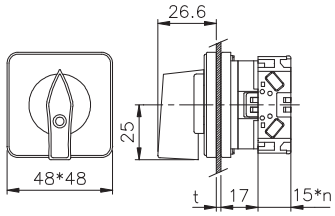
Designation	Signal	Description
1.Size	4	48 x 48
	6	64 x 64
2.Handle	S	Short handle
	L	Long handle
	O	Octagonal handle

Designation	Signal	Description
3.Position turn angle plate number	240-842	See Page 174
4.Capacity	1	10 A
	2	16 A
	3	25 A
5.Wiring diagram number		See Page 173 - 184
6.Operation	None	Hold
	R	Spring return (45°, 2 Position, 3 Position only)

DIMENSIONS

TCS4S □-□□□

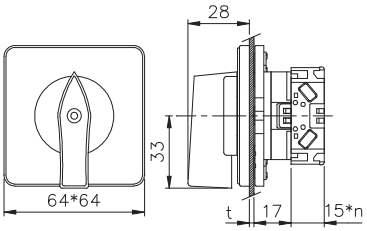




t=6max
N=number of contact blocks

TCS6S □-□□□

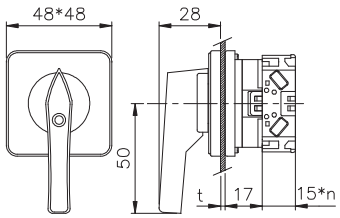




t=8max
N=number of contact blocks

TCS4L □-□□□

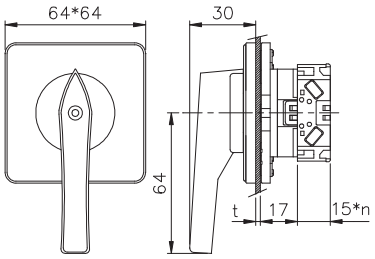




t=6max
N=number of contact blocks

TCS6L □-□□□

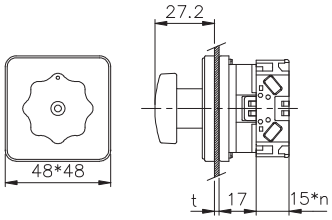




t=8max
N=number of contact blocks

TCS4O □-□□□

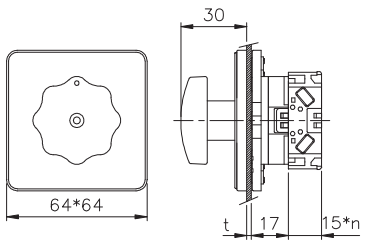




t=8max
N=number of contact blocks

TCS6O □-□□□





t=8max
N=number of contact blocks

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

CAM SWITCH
แคมสวิตช์
48x60 / 64x80

BEFORE PLACIC
NUMBERS SHOWN IN THIS PAGE

MODEL DESIGNATION

TCS 5 S A - 2 2209 R
① ② ③ ④ ⑤ ⑥

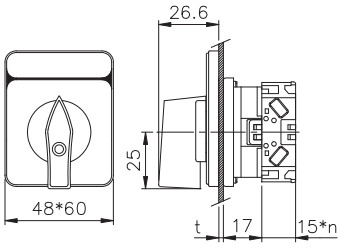
Designation	Signal	Description
1.Size	5	48 x 60
	7	64 x 80
2.Handle	S	Short handle
	L	Long handle
	O	Octagonal handle

Designation	Signal	Description
3.Position turn angle plate number	A-Z	See Page 171
4.Capacity	1	10 A
	2	16 A
	3	25 A
5.Wiring diagram number		See Page 173 - 184
6.Operation	None	Hold
	R	Spring return (45°, 2 Position, 3 Position only)

DIMENSIONS

TCS5S □□-□□□

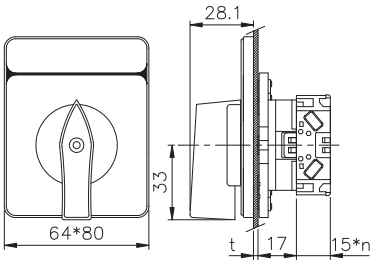




t=6max
N=number of contact blocks

TCS7S □□-□□□

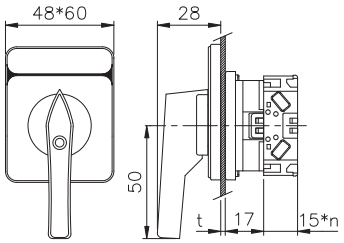




t=8max
N=number of contact blocks

TCS5L □□-□□□

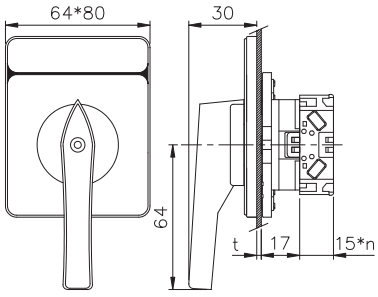




t=6max
N=number of contact blocks

TCS7L □□-□□□

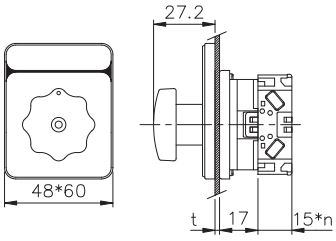




t=8max
N=number of contact blocks

TCS5O □□-□□□

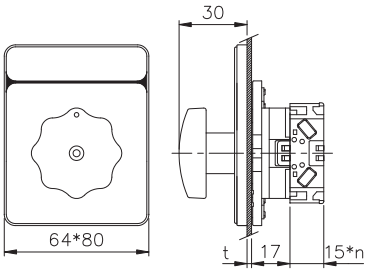




t=8max
N=number of contact blocks

TCS7O □□-□□□



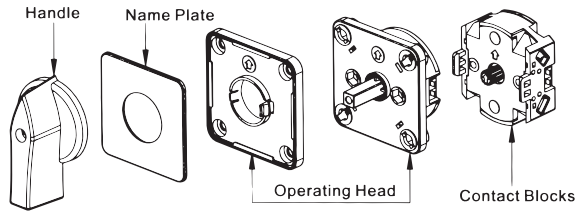


t=8max
N=number of contact blocks

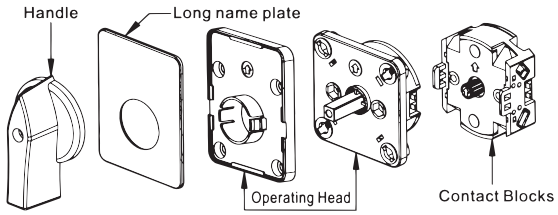
tend CAM SWITCH
แคมสวิตช์
48x48 / 64x64

AS TO ORDER OF COMPONENTS FOR DIY ASSEMBLY, PLEASE REFER TO THE FOLLOWING ASSEMBLY ILLUSTRATION DIAGRAM.

+ 48*48 mm and 64*64 mm series sub-assembly



+ 48*60 mm and 64*80 mm series sub-assembly



HANDLE DESIGNATION

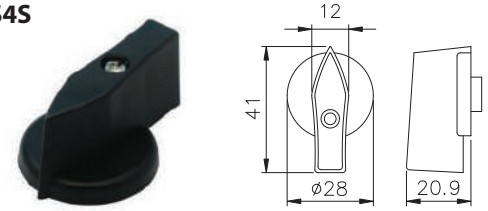
TCS 4 S
1 2

Designation	Signal	Description
1.Size	4	48 x 48 mm
	6	64 x 64 mm

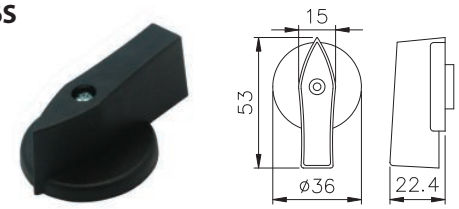
Designation	Signal	Description
2.Handle	S	Short handle
	L	Long handle
	O	Octagonal handle

DIMENSIONS

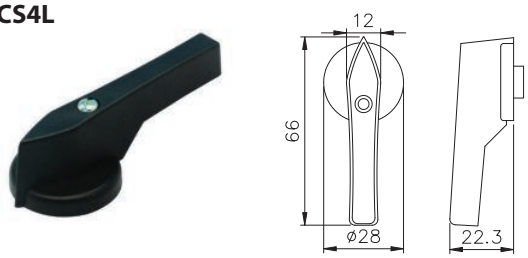
TCS4S



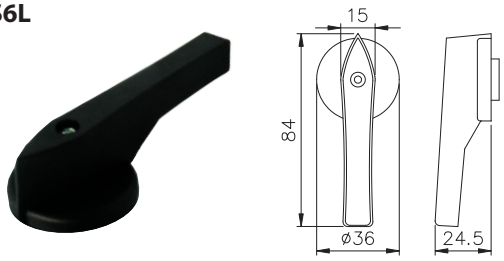
TCS6S



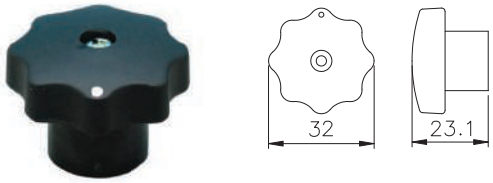
TCS4L



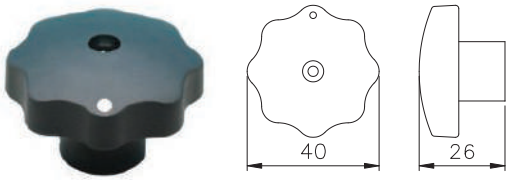
TCS6L



TCS4O



TCS6O



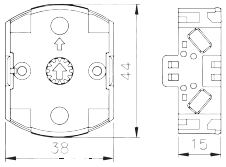
CONTACT BLOCK DESIGNATION

TCS 1 C 01
1 2 3

Designation	Signal	Description
1.Capacity	1	10 A
	2	16 A
	3	25 A
2.No. of contacts fitted	S	Single-point contact
	C	Double-point contact
3.Contacts blocks number	01-A1	

DIMENSIONS





Type
TCS1 - CO1 ~ CA1
TCS1 - SO1 ~ SA1
TCS2 - CO1 ~ CA1
TCS2 - SO1 ~ SA1
TCS3 - CO1 ~ CA1
TCS3 - SO1 ~ SA1

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

CAM SWITCH
แคมสวิตช์
48x48 / 48x60 / 64x64 / 64x80

UPPER BASE DESIGNATION

TCS 6 2 4 R
(1) (2) (3) (4)

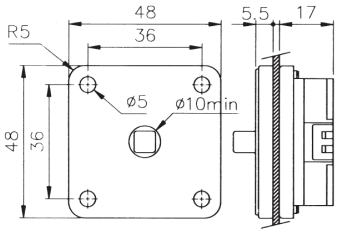
Designation	Signal	Description
1.Size	4	48 x 48
	5	48 x 60
	6	64 x 64
	7	64 x 80
2.Position	2 ~ 8	2 ~ 8 positions

Designation	Signal	Description
3.Turn angle	4	4 45°
	9	9 90°
4.Operation (45, 2 Positions, 3 Positions only)	None	None Hold
	R	Spring return (except 90°)

UPPER BASE DIAMENSION

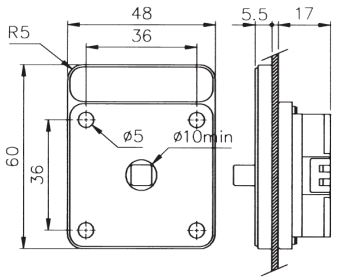
TCS4 □□





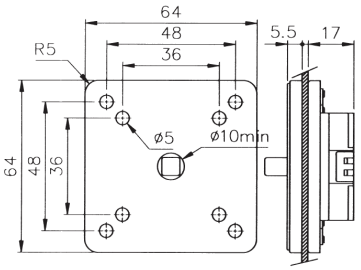
TCS5 □□





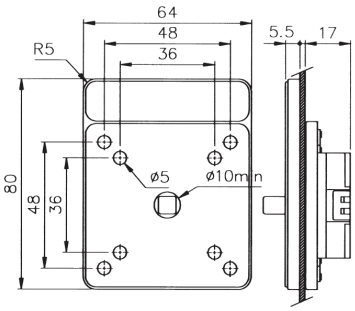
TCS6 □□





TCS7 □□



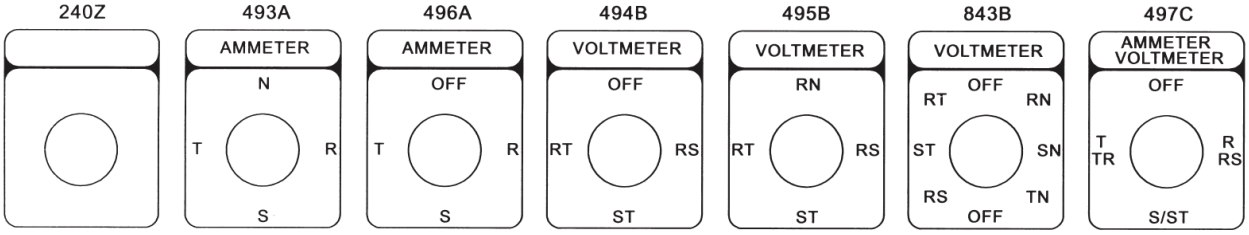


LONG PLATE DESIGNATION

TCS 5P 493A
(1) (2)

Designation	Signal	Description
1.Long plate dimension	5P	48 x 60 plate
	7P	64 x 80 plate
2.Long plate number	240Z ~ 497C	See Page 173

LONG PLATE NUMBER



CAM SWITCH
แคมสวิตช์
48x48 / 64x64

NAME PLATE DESIGNATION

TCS 4P 242
(1) (2)

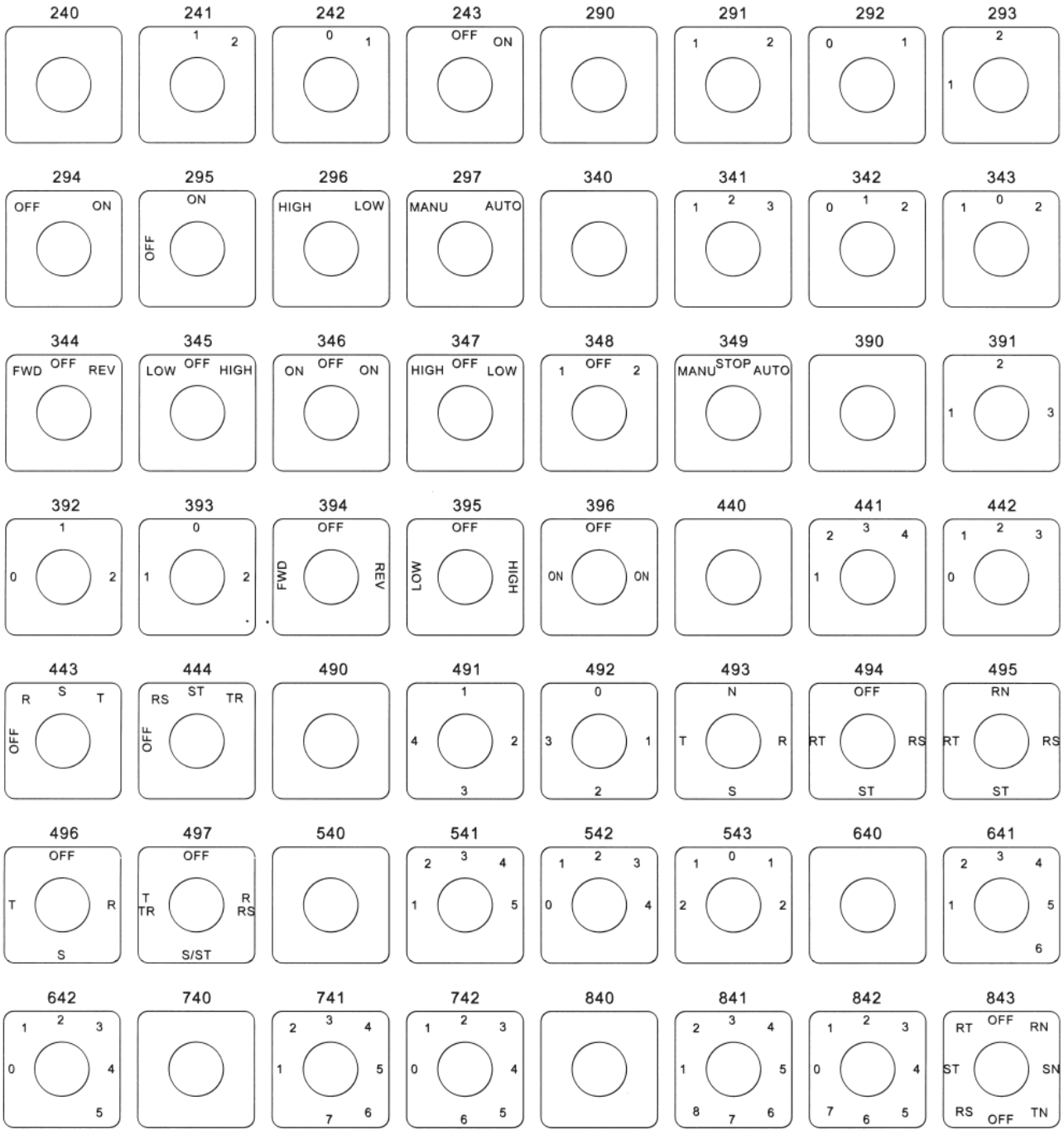
Designation	Signal	Description
1.Name plate dimentions	4P	48 x 48
	6P	64 x 64
2.Name plate number	240 ~ 843	See number designation on right

NUMBER DESIGNATION

TCS 2 4 2
(1) (2) (3)

Designation	Signal	Description
1.Position	2 ~ 8	2 ~ 8 Position
2.Turn angle	4	45°
	9	90°
3.Designation	0 ~ 9	See Page 174

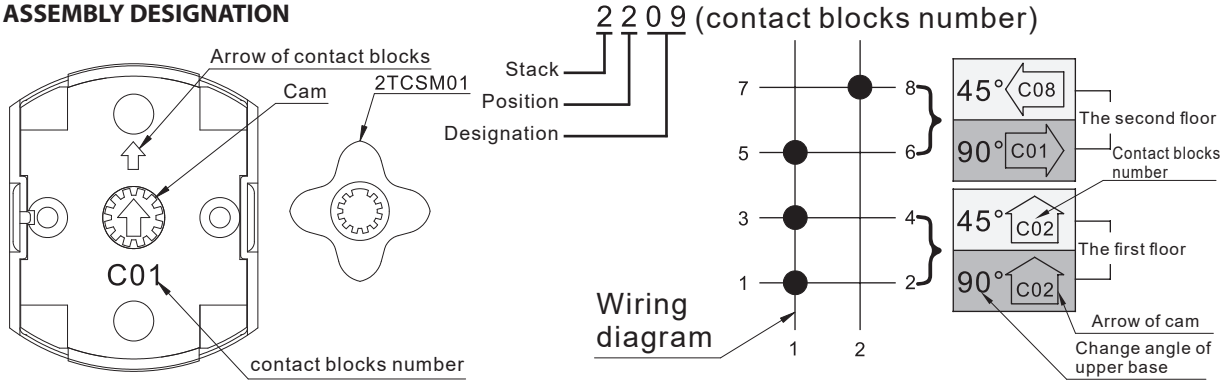
NAME PLATE NUMBER



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

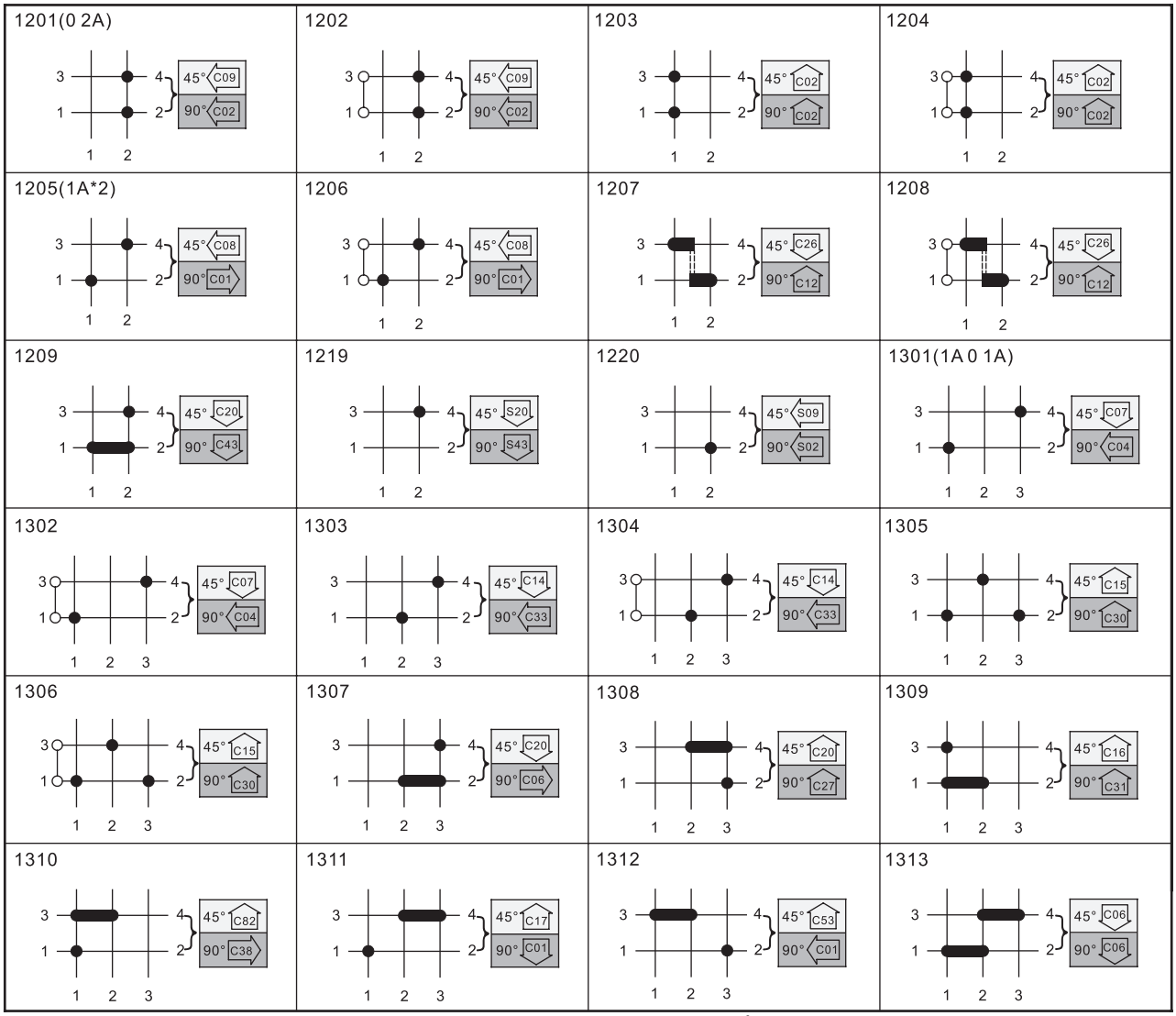
ASSEMBLY DESIGNATION



- Put cam to 1TCSM01, set the arrow of the contact blocks pointing "up", rotate cam and make cam's arrow pointing to the required direction. (See wiring diagram)
- Customer may order double-point contact coded as TCS□~C01~CA3, or single-point contact coded as TCS□-S01-SA3
- Way of assembly : as illustrated above
  When the turning angle of upper base is 45°, the arrow of the first layer of contact coded CO2 points "up" while that of the second layer coded CO8 points to the left.
  When the turning angle of upper base is 90°, the arrow of the first layer of contact coded CO2 points "up" while that of the second layer coded CO1 points to the right.

WIRING DIAGRAM

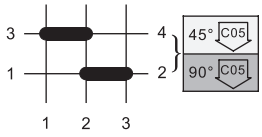
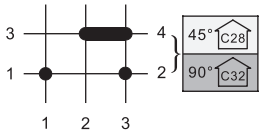
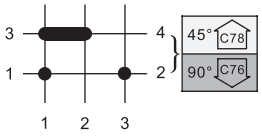
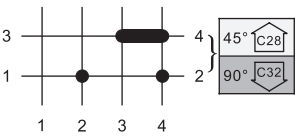
- **ONE STACK**



หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

1314	1315	1316	1401
			

● TWO STACKS

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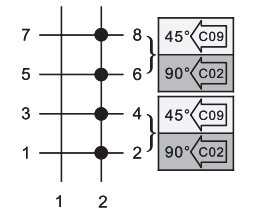
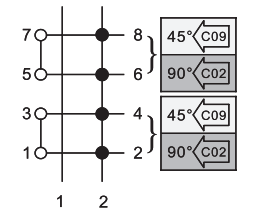
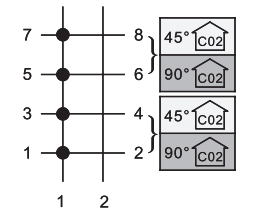
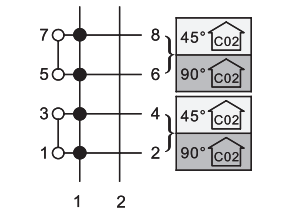
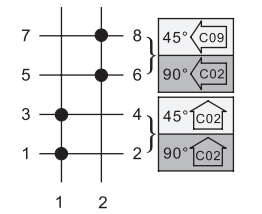
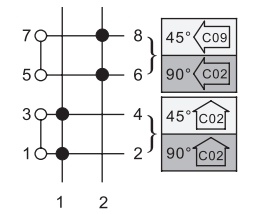
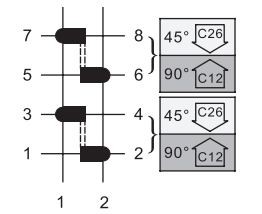
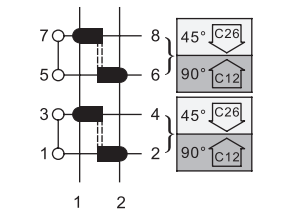
			
2205(2A*2)	**2206**	**2207**	**2208**
			
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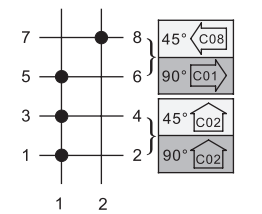
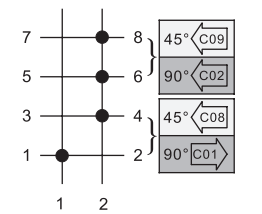
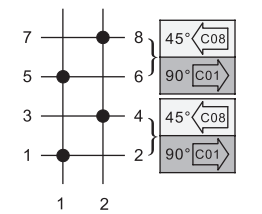
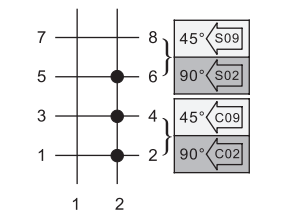
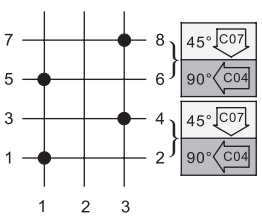
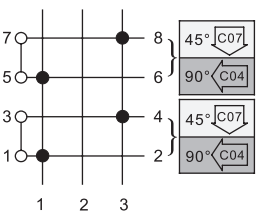
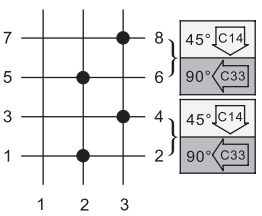
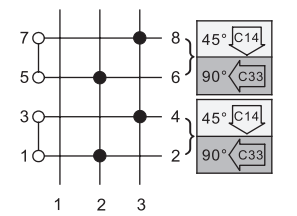
			
2301(2A 0 2A)	**2302**	**2303**	**2304**
			
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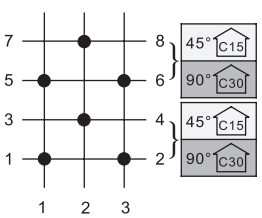	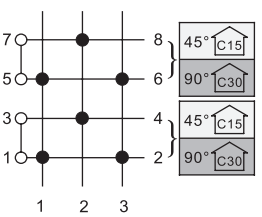	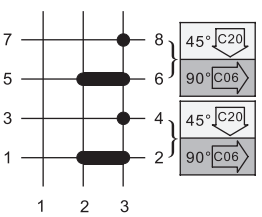	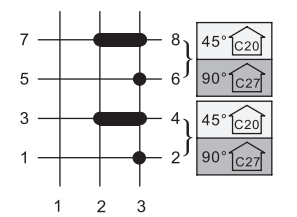
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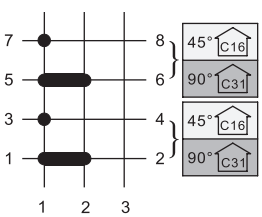
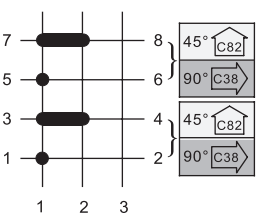
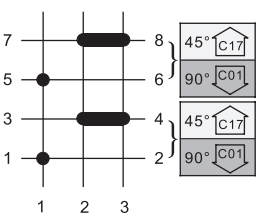
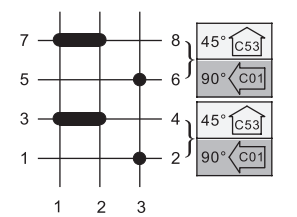
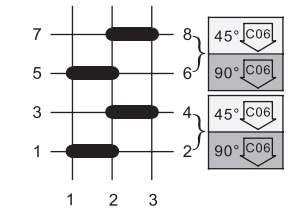
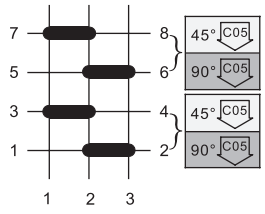
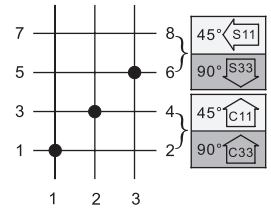
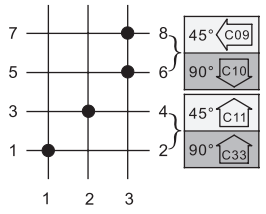
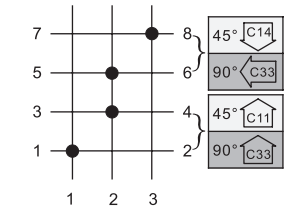
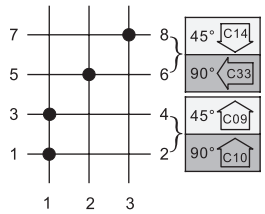
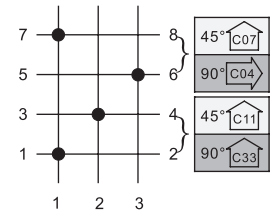
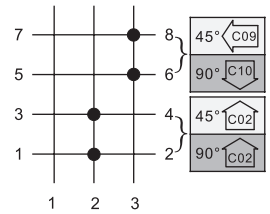
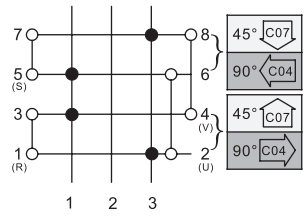
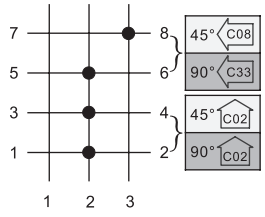
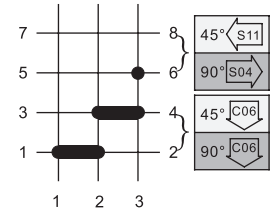
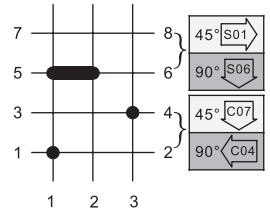
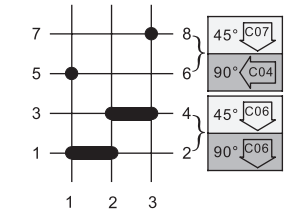
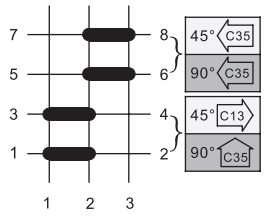
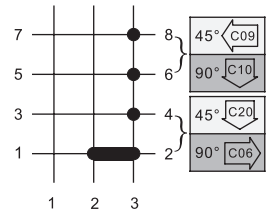
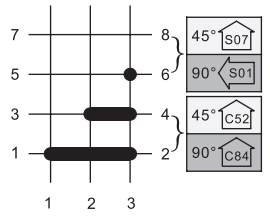
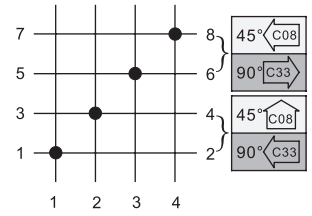
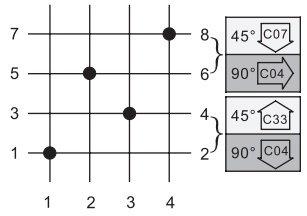
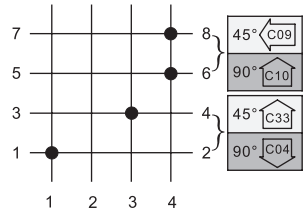
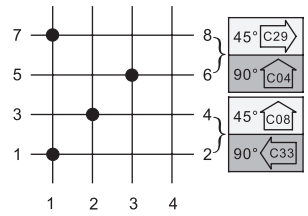
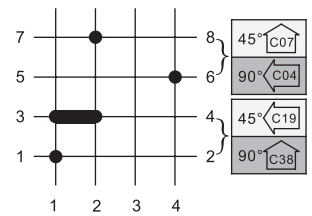
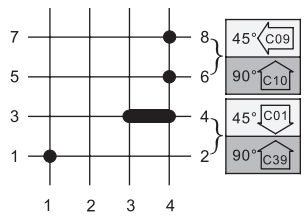
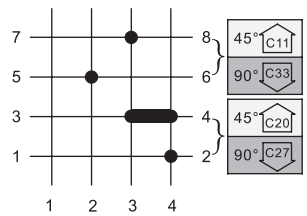
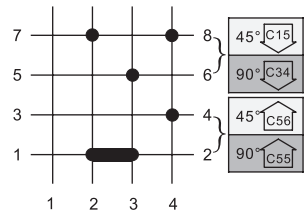
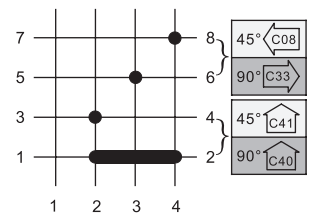
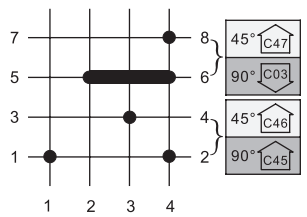
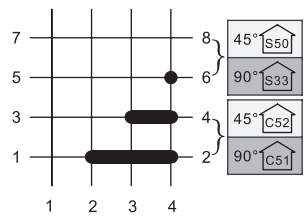
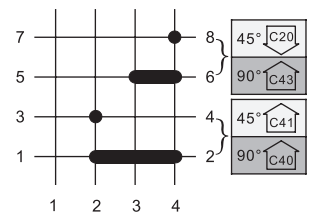
			

หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

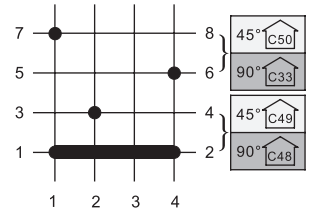
2313 	2314 	2315(1A*3) 	2316 
2317 	2318 	2319 	2320 
2321(3ØF.O.R 2P) 	2322 	2323 	2324 
2325 	2326 	2327 	2328 
2401(1A*4) 	2402 	2403 	2404 
2405 	2406 	2407 	2408 
2409 	2410 	2411 	2412 

หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

2413



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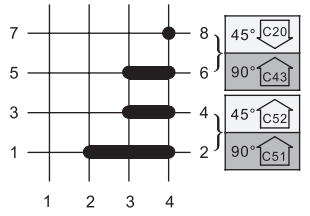

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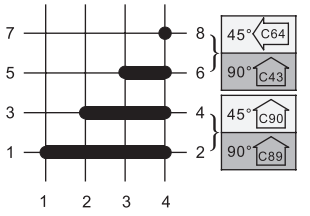

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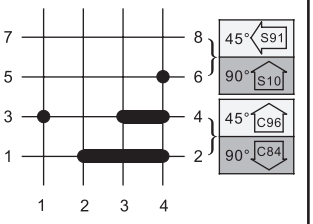

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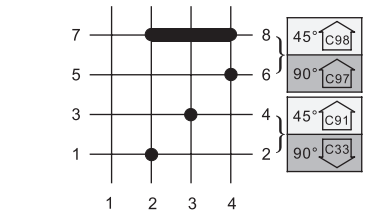

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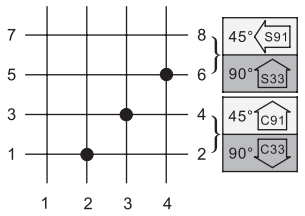

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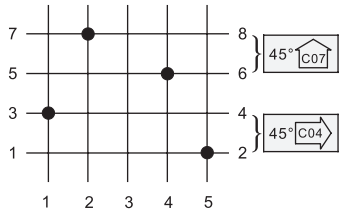

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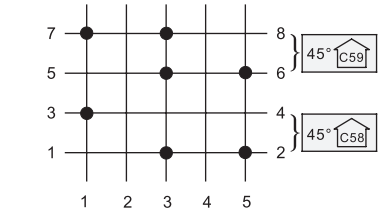

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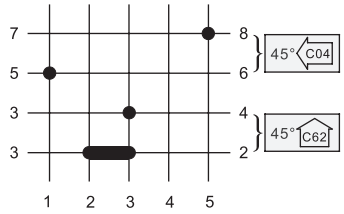

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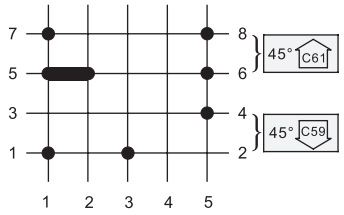

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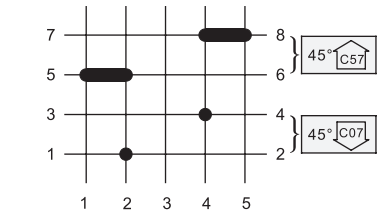

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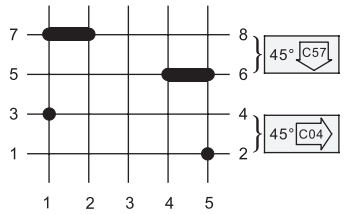

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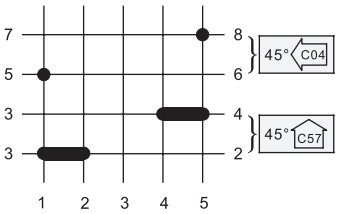

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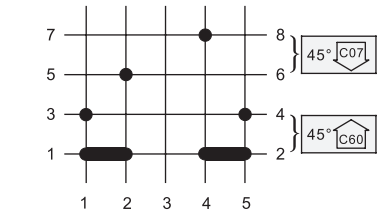

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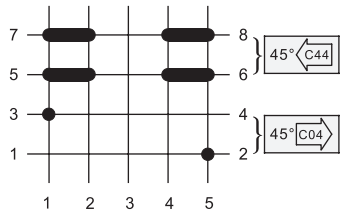

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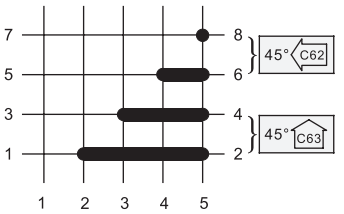
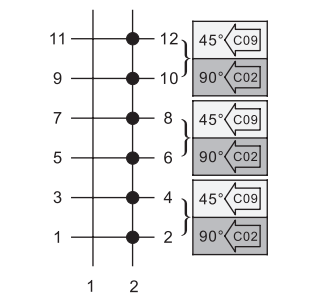


● THREE STACKS

3201



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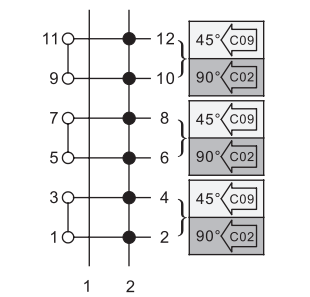

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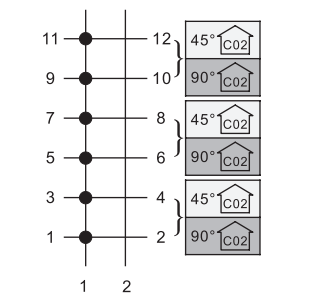

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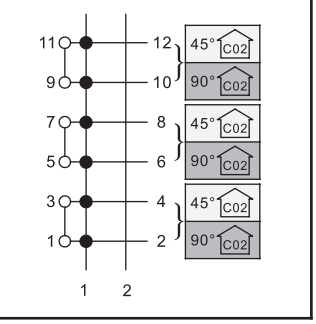
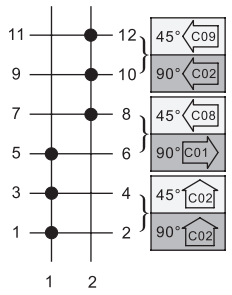
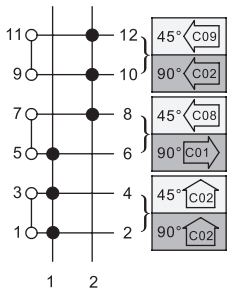
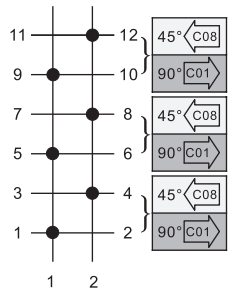
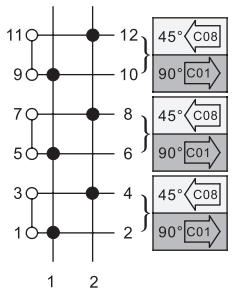


หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

CAM SWITCH
แคมสวิตช์

3205(3A*2)	3206	3207	3208
			
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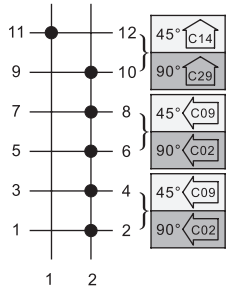	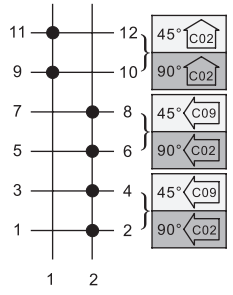	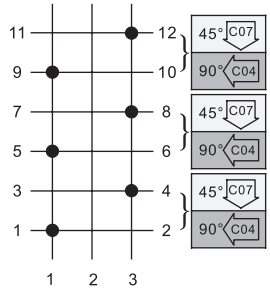	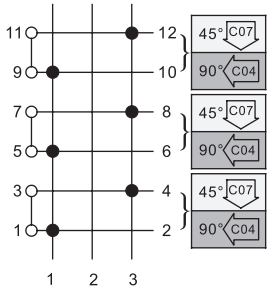
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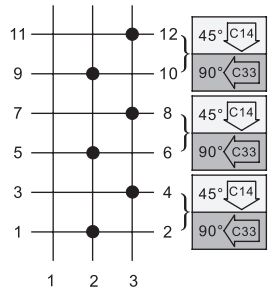	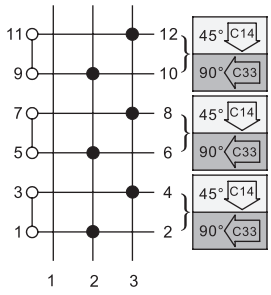	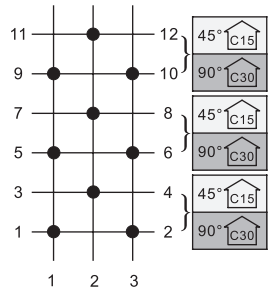	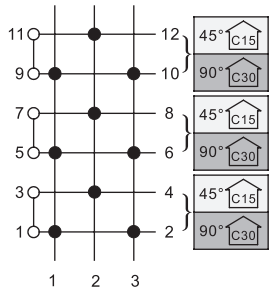
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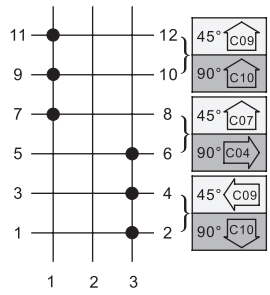	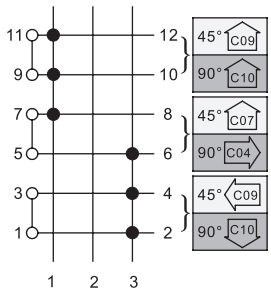	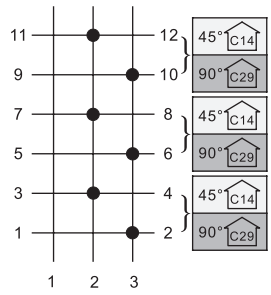	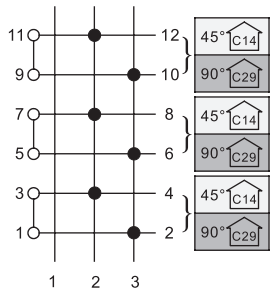
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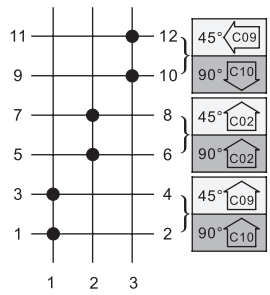
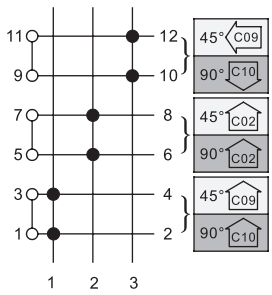
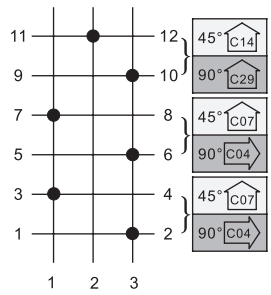
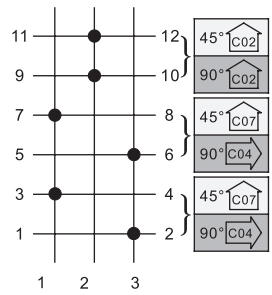
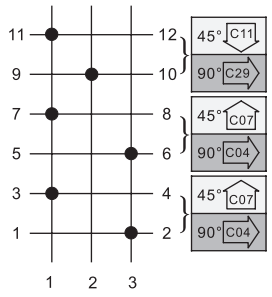
			

หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

3315



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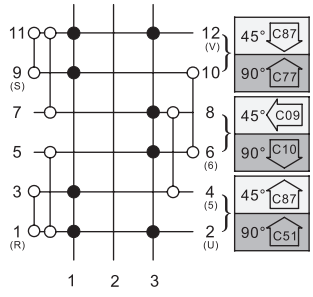
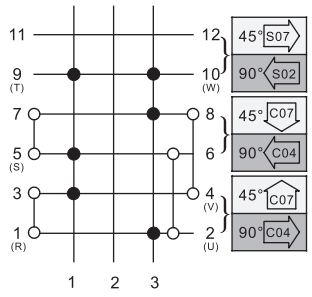


3317(3ØF.O.R)



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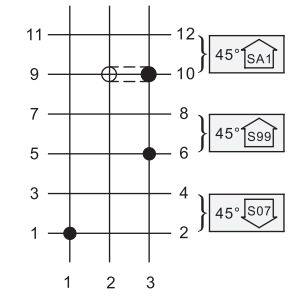

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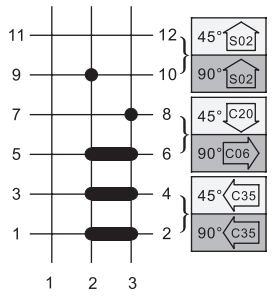
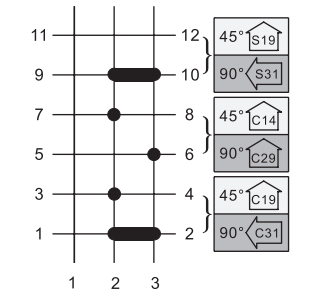


3320(#705)



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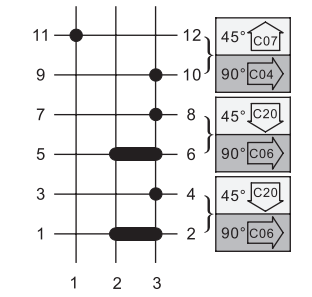

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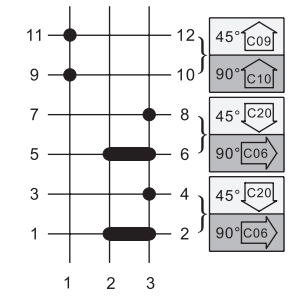

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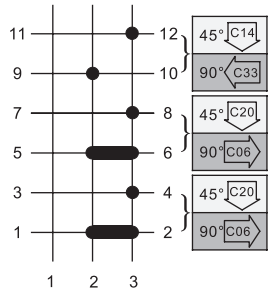

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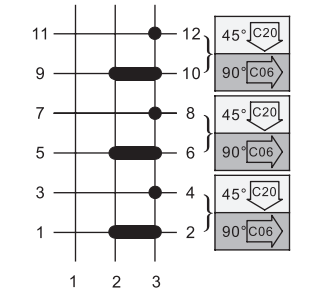

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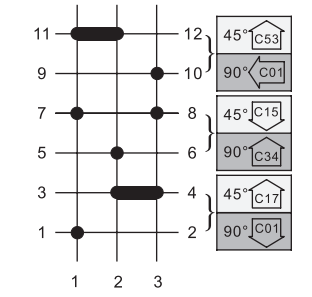

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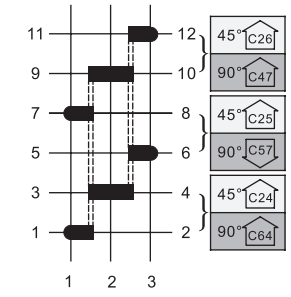

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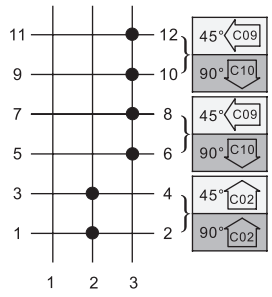

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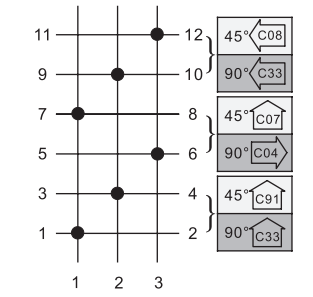

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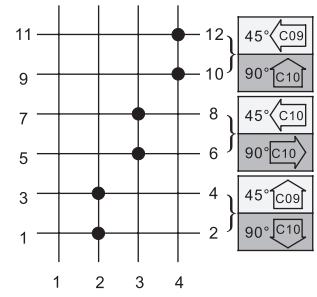

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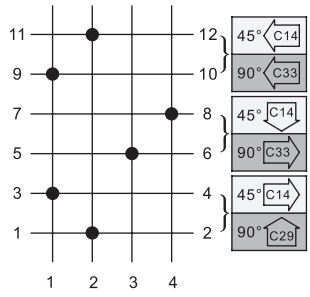

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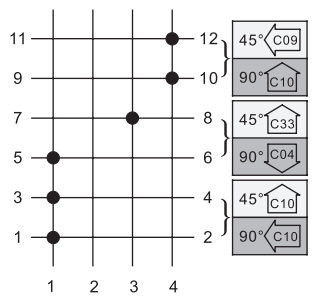

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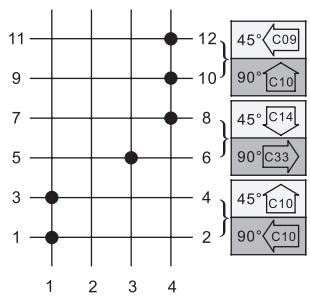

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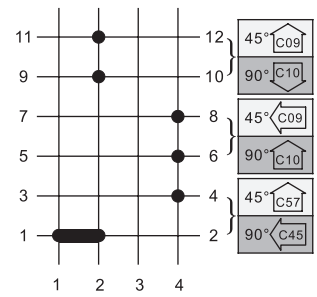

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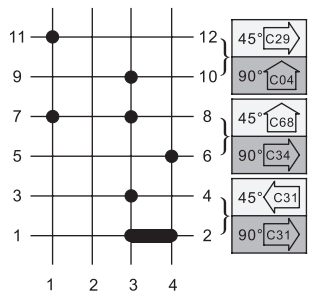
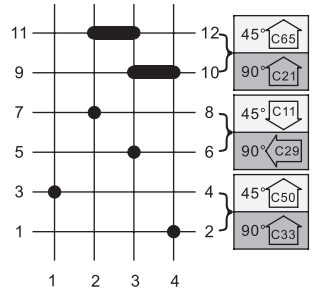


หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

3407



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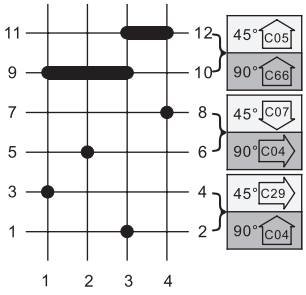

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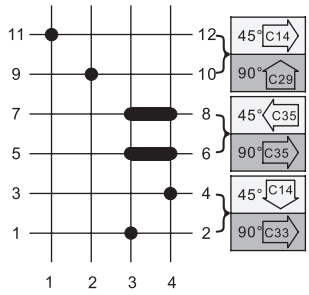

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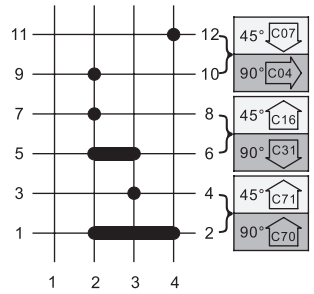

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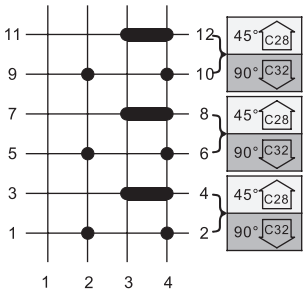

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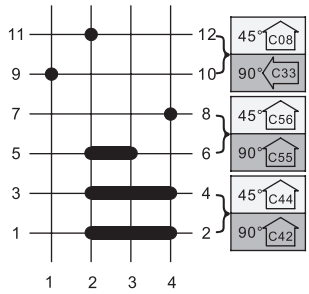

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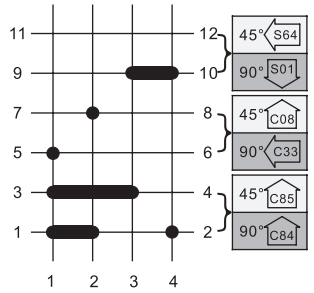

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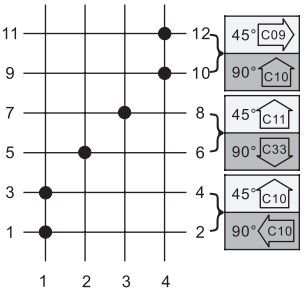
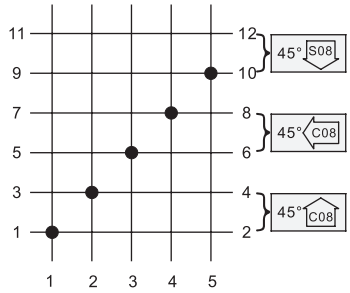


3501(1A*5)



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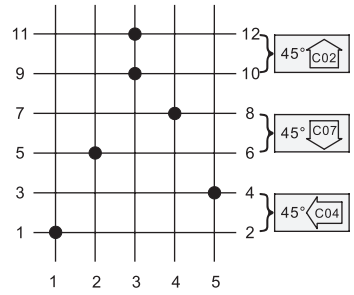

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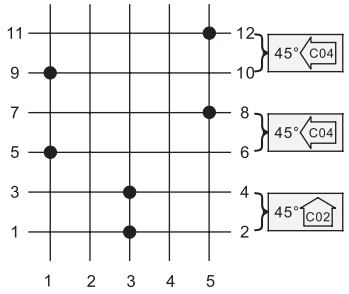

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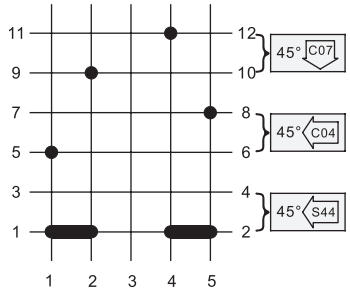

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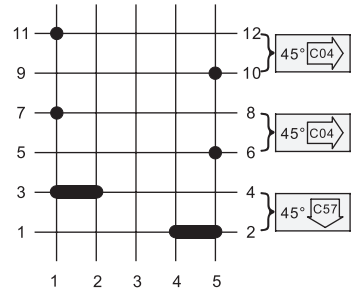

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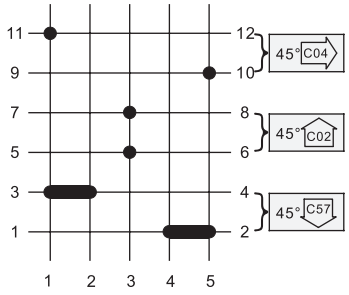

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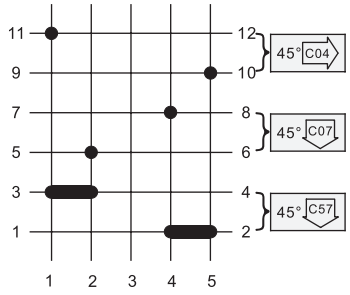

หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

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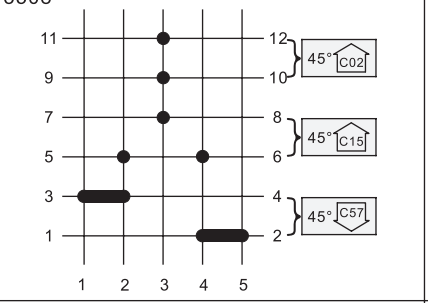
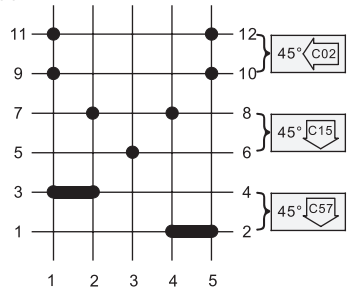
tend CAM SWITCH
แคมสวิตช์

3508



3509



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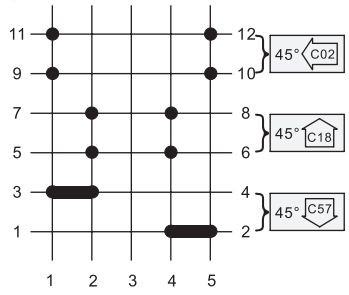

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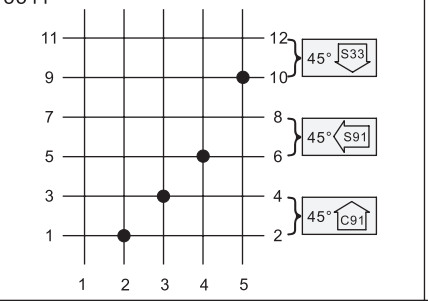

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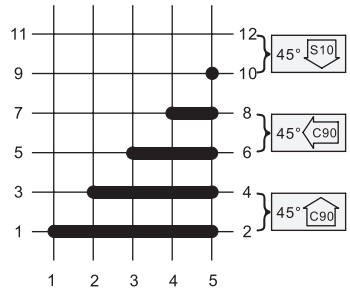

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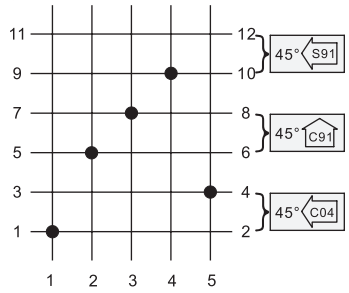
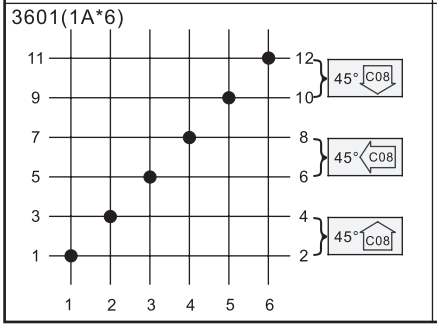


3601(1A*6)



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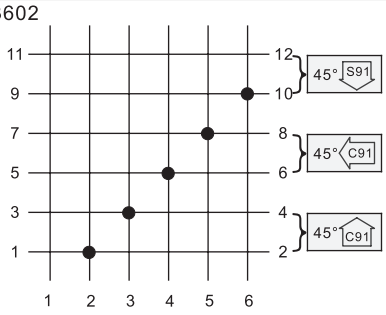
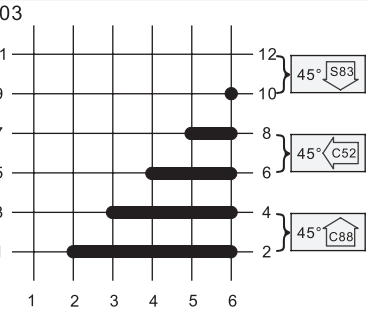
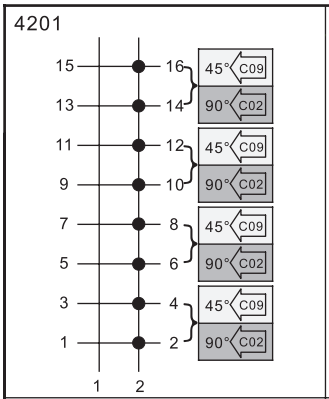


3603



FOUR STACKS

4201



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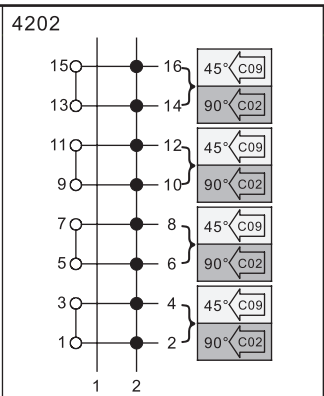

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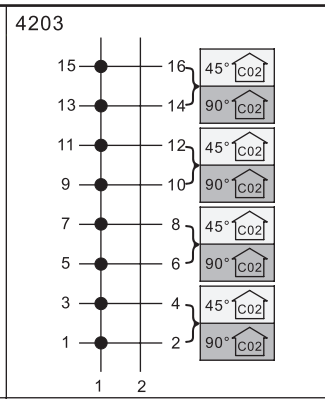

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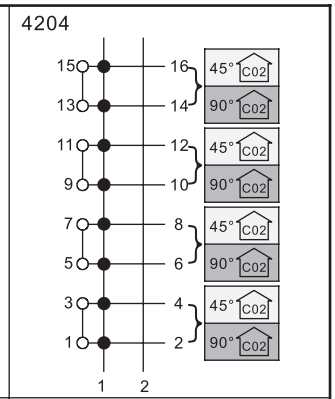
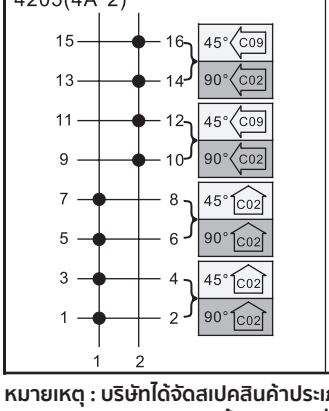


4205(4A*2)



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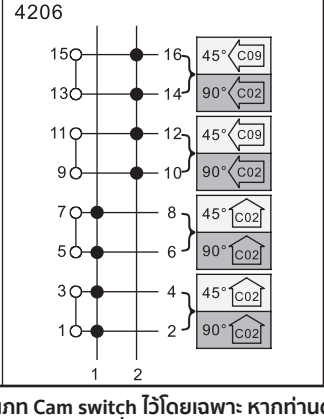

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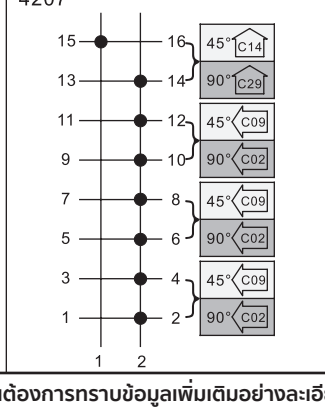
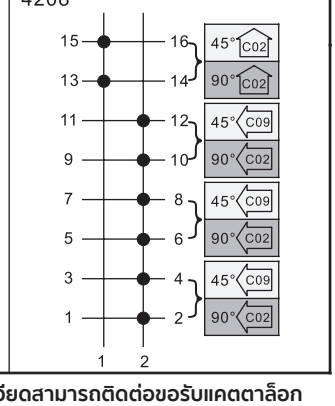


4208



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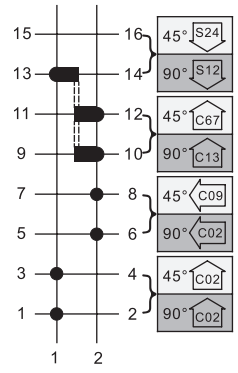
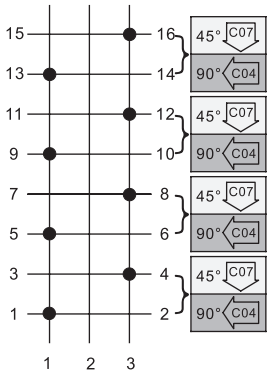
tend CAM SWITCH
แคมสวิตช์

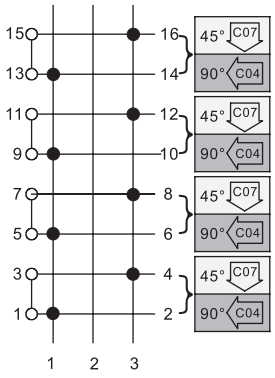
4209



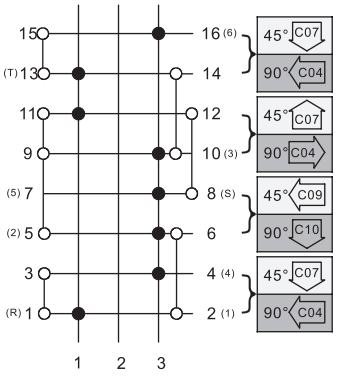
4301(4A 0 4A)



4302



4303(double pole)



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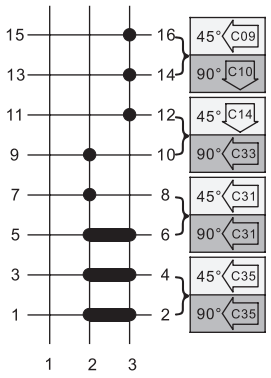
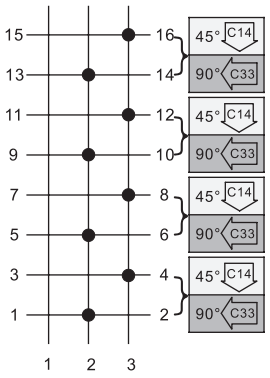
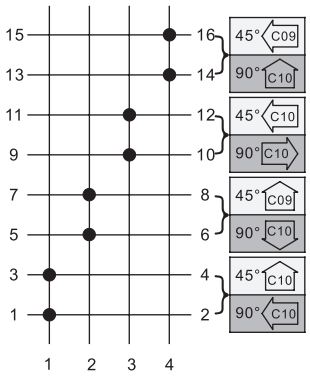


4305



4401(2A*4)



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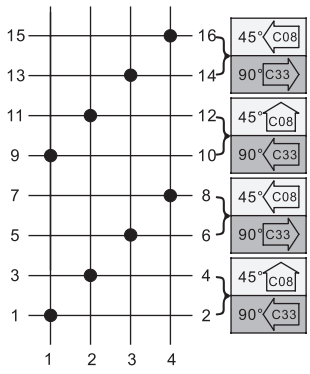

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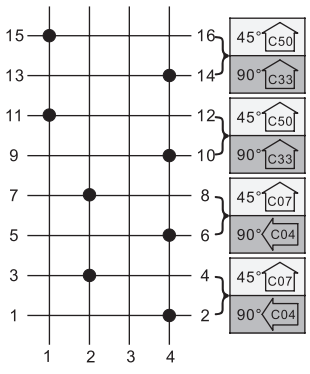

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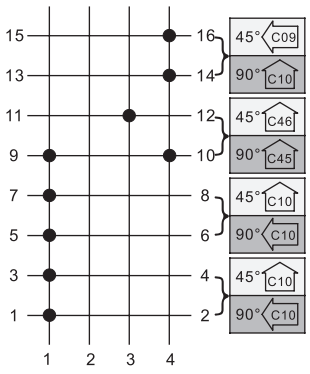

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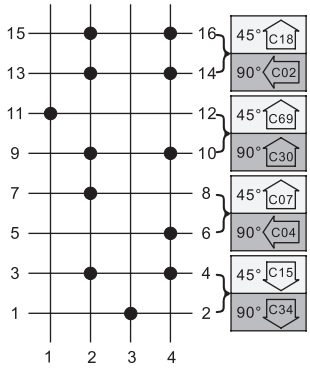

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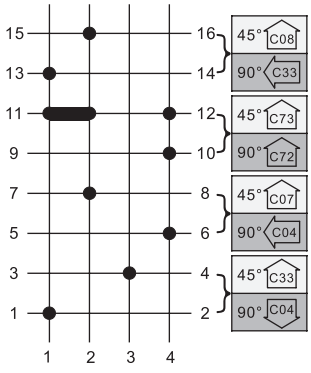

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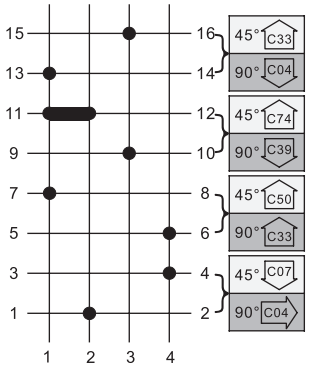

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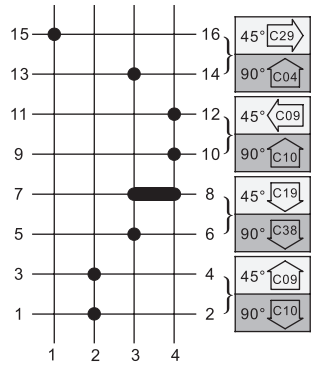
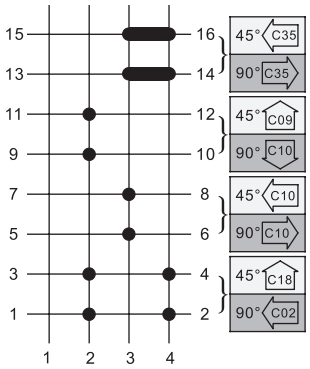
tend CAM SWITCH
แคมสวิตช์

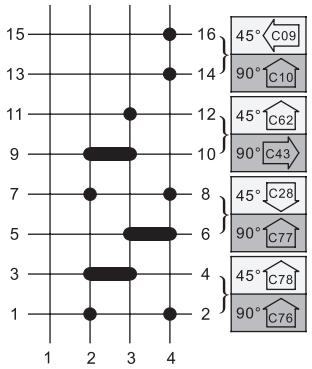
4408



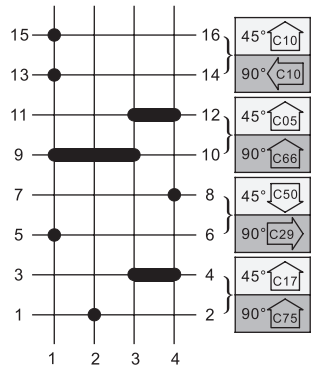
4409



4410



4411



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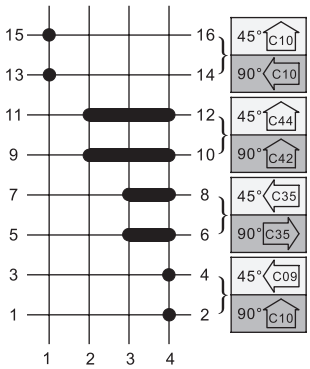
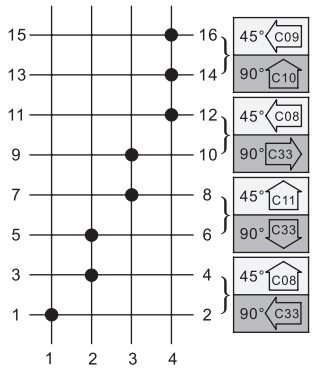


4413



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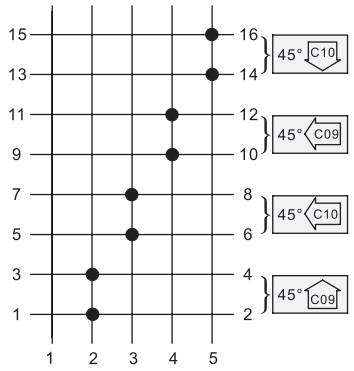
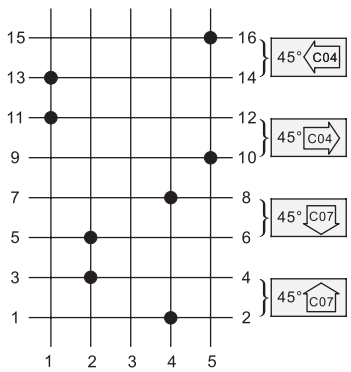


4502



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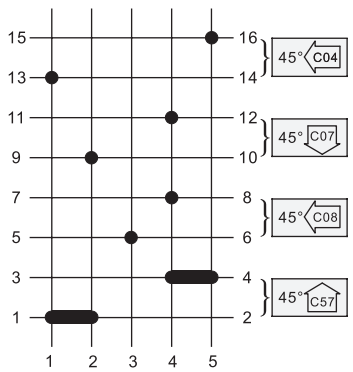
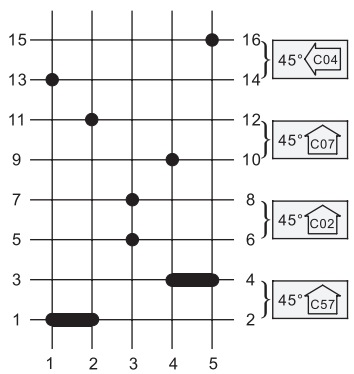
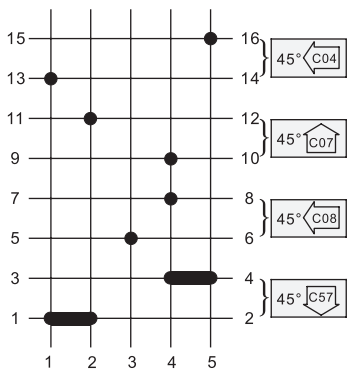


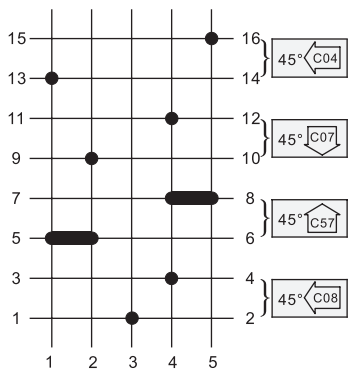
4504



4505



4506

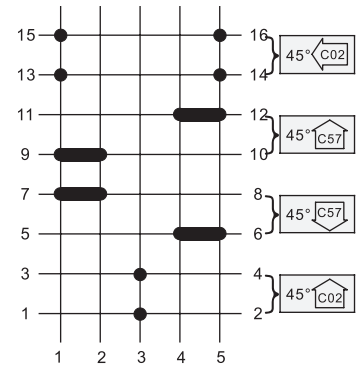


หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

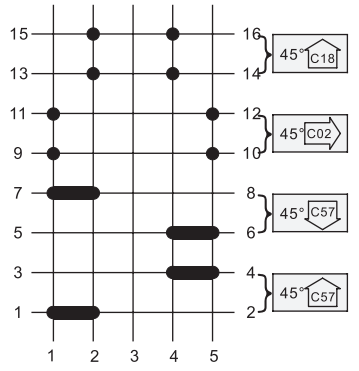
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

4507



4508



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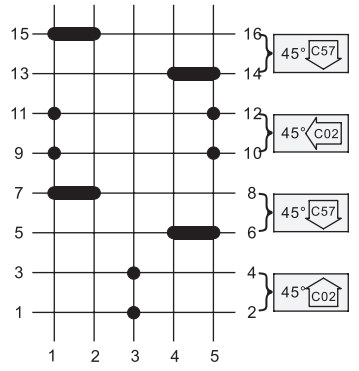

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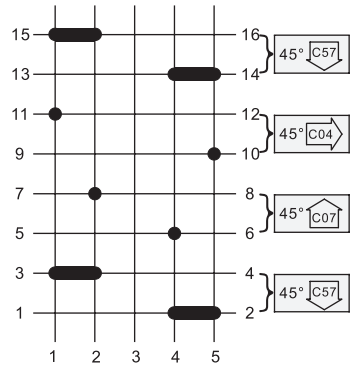

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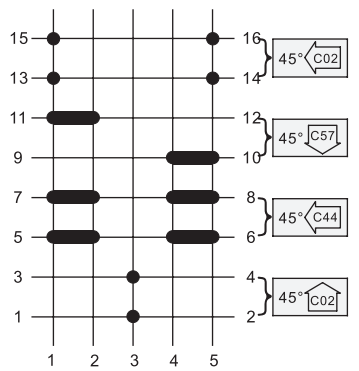

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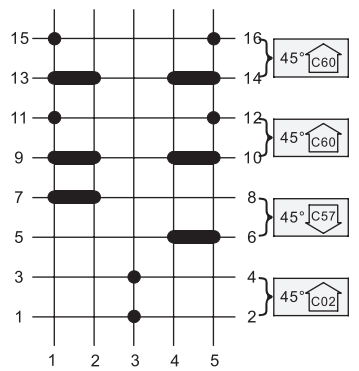
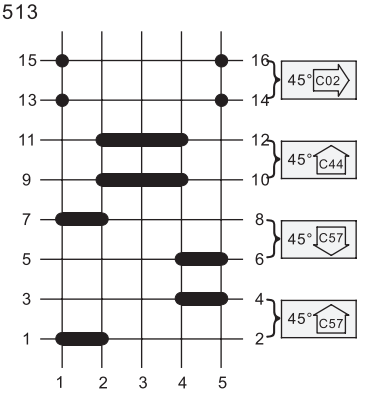
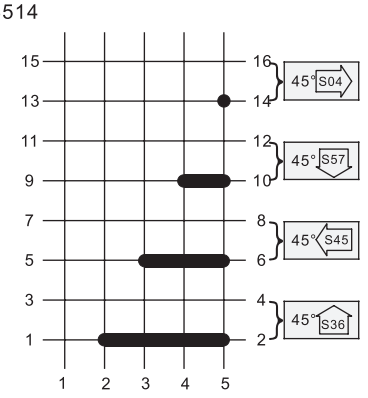


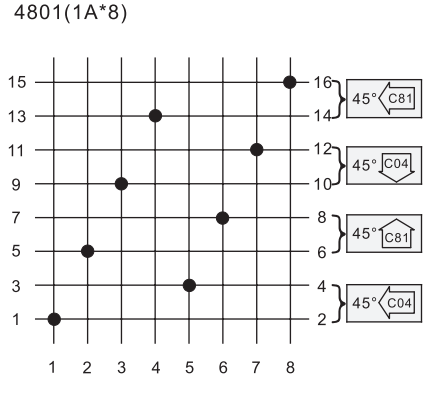
4513



4514

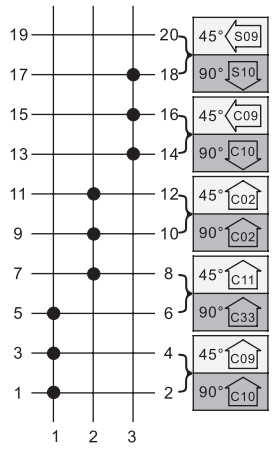


4801(1A*8)

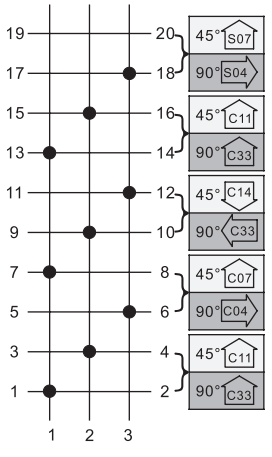


FIVE STACKS

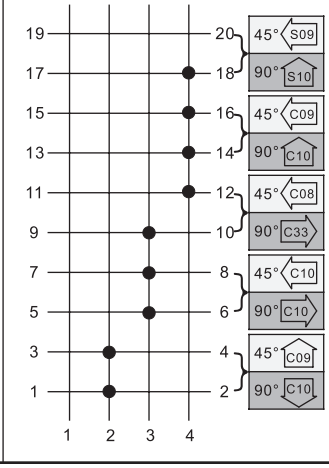
5301(3A*3)



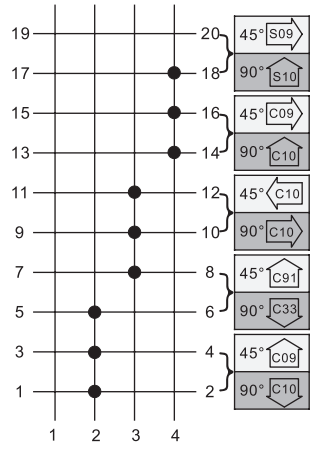
5302



5401



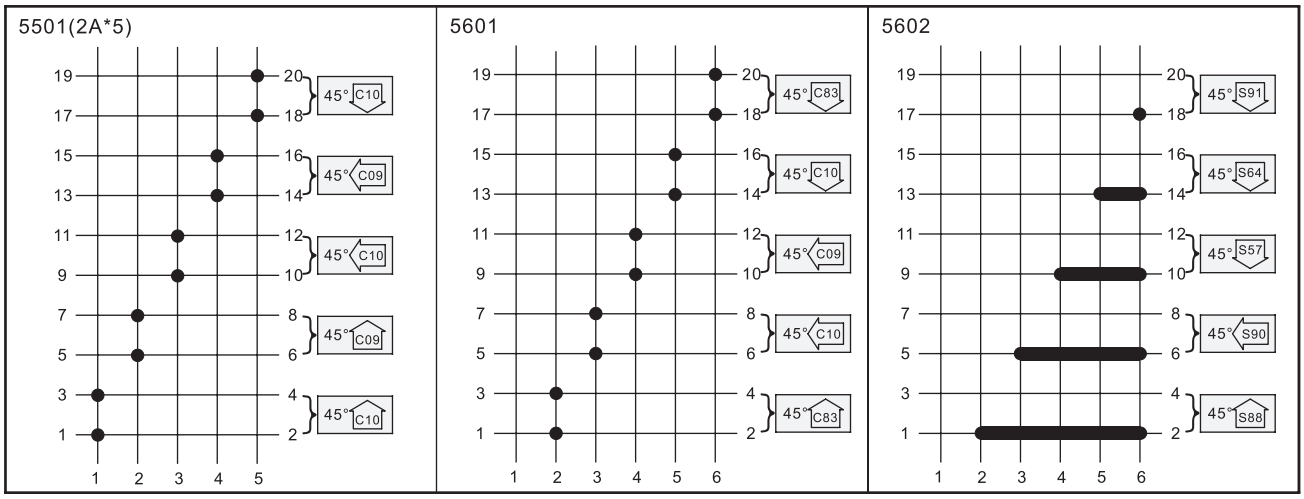
5402



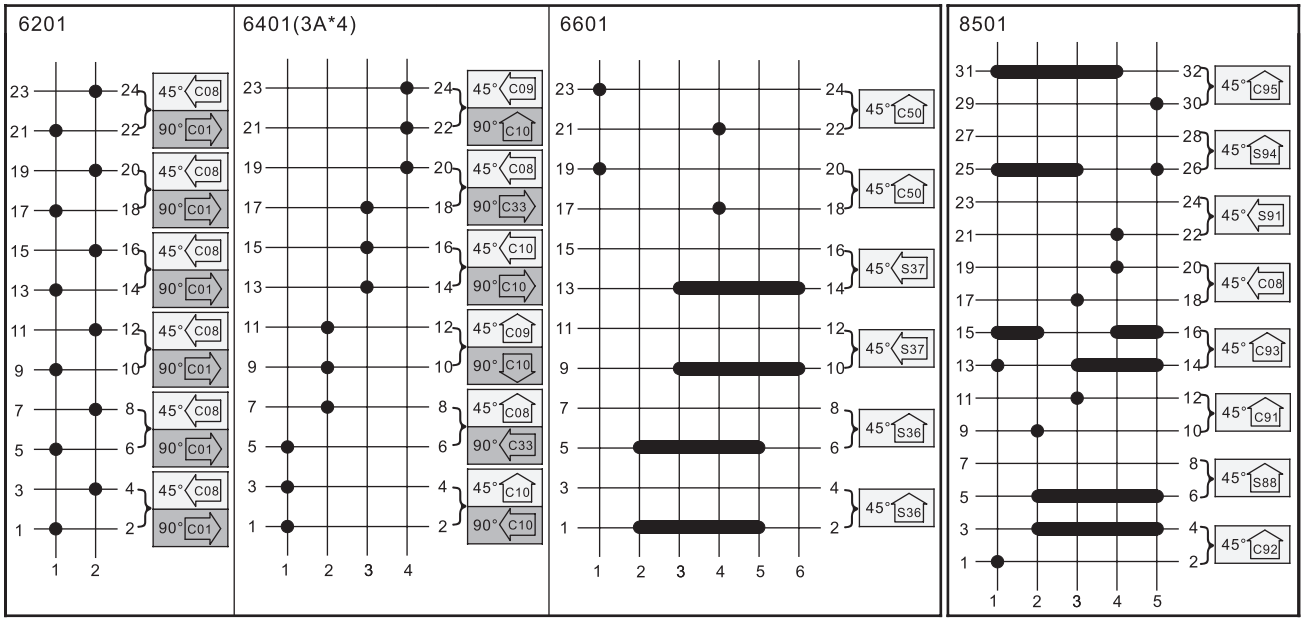
หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์

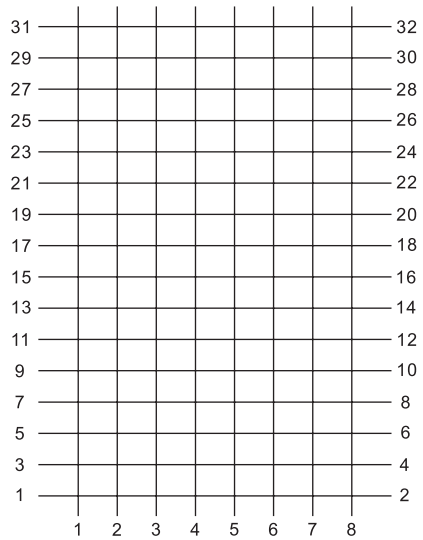


SIX STACKS 八層



ORDER FROM FOR SPECIAL CONTACTS

- If customer has special contact requirement, please copy the following blank contact diagram and mark the required contacts.



Designation	Description
Size	☐ 2 (O22/ O25mm)
	☐ 3 (O30mm)
	☐ 4 (48*48mm)
	☐ 5 (48*60mm)
	☐ 6 (64*64mm)
	☐ 7 (64*80mm)
Handle	☐ S (Short handle)
	☐ L (Long handle)
	☐ O (Aniseed handle)
	☐ K (Key)
Position	☐ 2~8 Positions
Turn angle	4 (45°)
	9 (90°)

Designation	Description
Plate designation	See page 174
Long plate designation	See page 173
Capacity	☐ 1 (10A)
	☐ 2 (16A)
	☐ 3 (25A)
Return	☐ Yes
	☐ No
Action	Contact / Hold / Return hold
Piece	Pcs.

หมายเหตุ : บริษัทได้จัดสเปคสินค้าประเภท Cam switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อก Cam switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

สวิตช์ 2 ทาง / สวิตช์ 3 ทาง

48x48

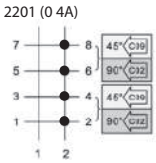
สวิตช์ 2 ทาง

NEW

- **Mounting size 48 x 48 mm**



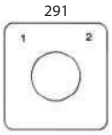


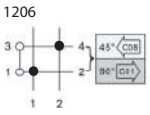


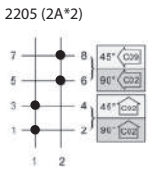
Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S243-1-2201	2 Step	2P	10A	2.2kW	48 x 48
TCS4S243-2-2201	2 Step	2P	16A	5.5kW	
TCS4S243-3-2201	2 Step	2P	25A	7.5kW	

- **Mounting size 48 x 48 mm**



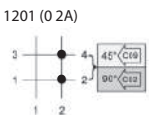






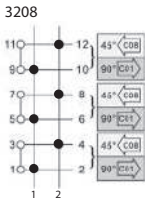












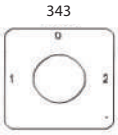
Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S291-2-1206	2 Step	1P	16A	5.5kW	48 x 48
TCS4S291-2-2205	2 Step	2P			
TCS4S291-2-3208	2 Step	3P			
TCS4S297-2-1206	2 Step	1P			
TCS4S297-2-2205	2 Step	2P			
TCS4S297-2-3208	2 Step	3P			
TCS4S294-1-1201	2 Step	1P	10A	2.2kW	
TCS4S294-2-1206	2 Step	1P	16A	5.5kW	
TCS4S294-2-2205	2 Step	2P			
TCS4S294-2-3208	2 Step	3P			

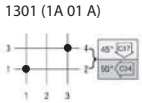
สวิตช์ 3 ทาง

NEW

- **Mounting size 48 x 48 mm**

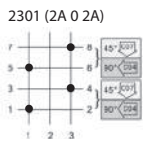




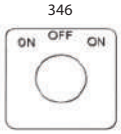


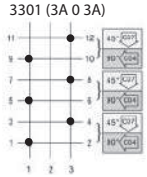












Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S343-2-1301	3 Step	1P	16A	5.5kW	48 x 48
TCS4S343-2-2301	3 Step	2P			
TCS4S343-2-3301	3 Step	3P			
TCS4S349-2-1301	3 Step	1P			
TCS4S349-2-2301	3 Step	2P			
TCS4S349-2-3301	3 Step	3P			
TCS4S346-2-1301	3 Step	1P			
TCS4S346-2-2301	3 Step	2P			
TCS4S346-2-3301	3 Step	3P			

*สินค้าสามารถเปลี่ยน contact ได้ สอบถามรายละเอียดกับพนักงาน

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend

CAM SWITCH
สวิตช์ 3 ทาง ควบคุมมอเตอร์
48x48 / 48x64

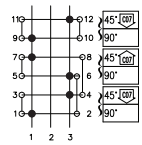
สวิตช์ 3 ทาง (ควบคุมมอเตอร์ 3 phase) NEW



344



3378

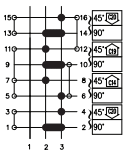


Model	Pole	Rated (380V)		Mounting size
		AC1	AC3	
TCS4S344-1-3378	3P	10A	5.5kW	48 x 48
TCS4S344-2-3378		16A		
TCS4S344-3-3378		25A		



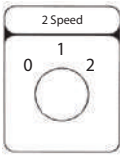


4340

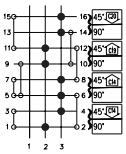


Model	Pole	Rated (380V)		Mounting size
		AC1	AC3	
TCS7S340Z-1-4340	4P	10A	2.2kW	48 x 64
TCS7S340Z-2-4340		16A	5.5kW	
TCS7S340Z-3-4340		25A	7.5kW	



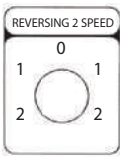


4341

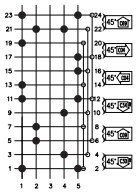


Model	Pole	Rated (380V)		Mounting size
		AC1	AC3	
TCS7S340Z-1-4341	4P	10A	2.2kW	48 x 64
TCS7S340Z-2-4341		16A	5.5kW	
TCS7S340Z-3-4341		25A	7.5kW	





6503



Model	Pole	Rated (380V)		Mounting size
		AC1	AC3	
TCS7S340Z-1-6503	6P	10A	2.2kW	48 x 64
TCS7S340Z-2-6503		16A	5.5kW	
TCS7S340Z-3-6503		25A	7.5kW	

*สินค้าสามารถเปลี่ยน contact ได้ สอบถามรายละเอียดกับพนักงาน

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

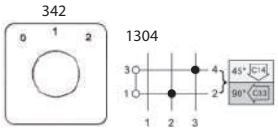
สวิตช์มัลติสเต็ป

48x48

สวิตช์มัลติสเต็ป NEW

3 STEP

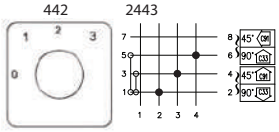




Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S342-2-1304	3 Step	1P	16A	5.5kW	48 x 48

4 STEP

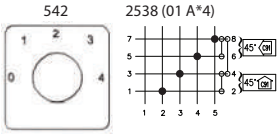




Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S442-2-2443	4 Step	2P	16A	5.5kW	48 x 48

5 STEP

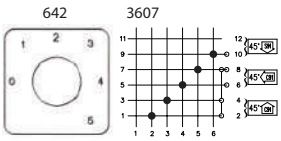




Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S542-2-2538	5 Step	2P	16A	5.5kW	48 x 48

6 STEP

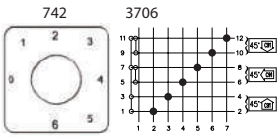




Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S642-2-3607	6 Step	3P	16A	5.5kW	48 x 48

7 STEP

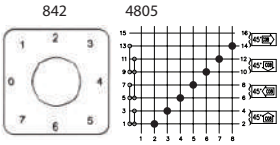




Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S742-2-3706	7 Step	3P	16A	5.5kW	48 x 48

8 STEP





Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S842-2-4805	8 Step	4P	16A	5.5kW	48 x 48

*สินค้าสามารถเปลี่ยน contact ได้ สอบถามรายละเอียดกับพนักงาน

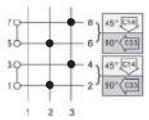
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
สวิตช์มัลติสเต็ป
48x48

สวิตช์มัลติสเต็ป NEW

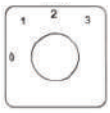
3 STEP

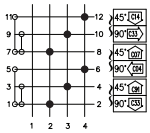


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S342-2-2304	3 Step	2P	16A	5.5kW	48 x 48

4 STEP

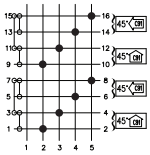





Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S442-2-3448	4 Step	3P	16A	5.5kW	48 x 48

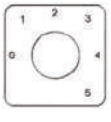
5 STEP

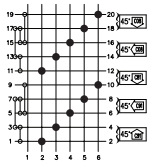


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S542-2-4528	5 Step	4P	16A	5.5kW	48 x 48

6 STEP

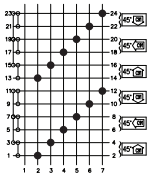





Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S642-2-5605	6 Step	5P	16A	5.5kW	48 x 48

7 STEP

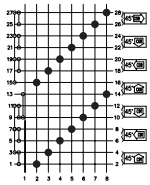


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S742-2-6705	7 Step	6P	16A	5.5kW	48 x 48

8 STEP



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S842-2-7802	8 Step	7P	16A	5.5kW	48 x 48

*สินค้าสามารถเปลี่ยน contact ได้ สอบถามรายละเอียดกับพนักงาน

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

สวิตช์มัลติสเต็ป

48x48

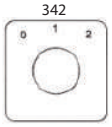
สวิตช์มัลติสเต็ป

NEW

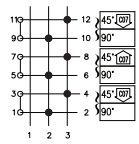
3 STEP



342



3379

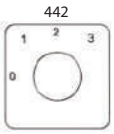


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S342-2-3379	3 Step	3P	16A	5.5kW	48 x 48

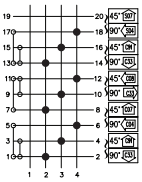
4 STEP



442



5413



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S442-2-5413	4 Step	5P	16A	5.5kW	48 x 48

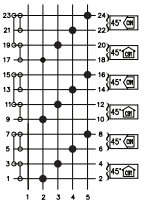
5 STEP



542



6504

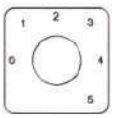


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S542-2-6504	5 Step	6P	16A	5.5kW	48 x 48

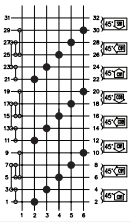
6 STEP



642



8601

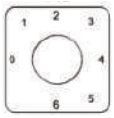


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S642-2-8601	6 Step	8P	16A	5.5kW	48 x 48

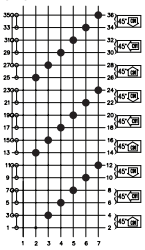
7 STEP



742



9701



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S742-2-9701	7 Step	9P	16A	5.5kW	48 x 48

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*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

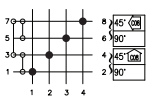
tend CAM SWITCH
สวิตช์มัลติสเต็ป
48x48

สวิตช์มัลติสเต็ป

NEW

4 STEP

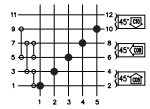


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S441-2-2470	4 Step	2P	16A	5.5kW	48 x 48

5 STEP

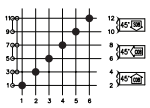


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S541-2-3558	5 Step	3P	16A	5.5kW	48 x 48

6 STEP

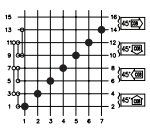


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S641-2-3612	6 Step	3P	16A	5.5kW	48 x 48

7 STEP

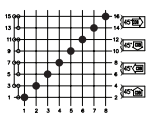


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S741-2-4707	7 Step	4P	16A	5.5kW	48 x 48

8 STEP



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S841-2-4809	8 Step	4P	16A	5.5kW	48 x 48

*สินค้าสามารถเปลี่ยน contact ได้ สอบถามรายละเอียดกับพนักงาน

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

สวิตช์มัลติสเต็ป

48x48

สวิตช์มัลติสเต็ป NEW

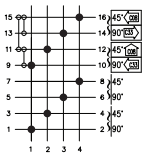
■ 4 STEP



441



4437

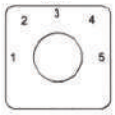


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S441-2-4437	4Step	4P	16A	5.5kW	48 x 48

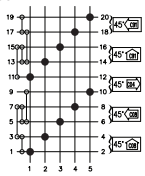
■ 5 STEP



541



5512



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S541-2-5512	5Step	5P	16A	5.5kW	48 x 48

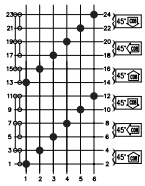
■ 6 STEP



641



6603



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S641-2-6603	6Step	6P	16A	5.5kW	48 x 48

สวิตช์มัลติสเต็ป NEW

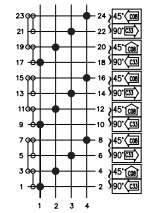
■ 4 STEP



441



6412

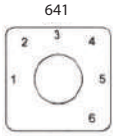


Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S441-2-6412	4Step	6P	16A	5.5kW	48 x 48

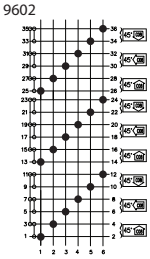
■ 6 STEP



641



9602



Model	Step	Pole	Rated (380V)		Mounting size
			AC1	AC3	
TCS4S641-2-9602	6Step	9P	16A	5.5kW	48 x 48

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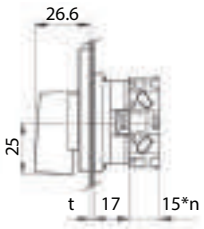
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

แคมสวิตช์ (รุ่นราคาพิเศษ)

48x48 / 64x64

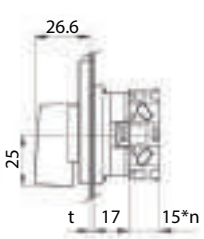




CAM Switch 48 x 48 Series and 64 x 64 Series

Item code				Description	Contact blocks	Amp
Size	Plate	Amp	Contact			
TCS4S,6S	2xx~4xx	1	1xxx	Short handle,	1 Stack	10A
TCS4S,6S	2xx~4xx	1	1xxx R	Spring returnshort handle	1 Stack	10A
TCS4S,6S	2xx~5xx	1	2xxx	Short handle,	2 Stack	10A
TCS4S,6S	2xx~5xx	1	2xxx R	Spring returnshort handle	2 Stack	10A
TCS4S,6S	2xx~6xx	1	3xxx	Short handle,	3 Stack	10A
TCS4S,6S	2xx~5xx	1	3xxx R	Spring returnshort handle	3 Stack	10A
TCS4S,6S	2xx~8xx	1	4xxx	Short handle,	4 Stack	10A
TCS4S,6S	2xx~8xx	1	4xxx R	Spring returnshort handle	4 Stack	10A
TCS4S,6S	2xx~8xx	1	5xxx	Short handle,	5 Stack	10A
TCS4S,6S	2xx~8xx	1	5xxx R	Spring returnshort handle	5 Stack	10A
TCS4S,6S	2xx~8xx	1	6xxx	Short handle,	6 Stack	10A
TCS4S,6S	2xx~8xx	1	6xxx R	Spring returnshort handle	6 Stack	10A
TCS4S,6S	2xx~8xx	1	7xxx	Short handle,	7 Stack	10A
TCS4S,6S	2xx~8xx	1	7xxx R	Spring returnshort handle	7 Stack	10A
TCS4S,6S	2xx~8xx	1	8xxx	Short handle,	8 Stack	10A
TCS4S,6S	2xx~8xx	1	8xxx R	Spring returnshort handle	8 Stack	10A

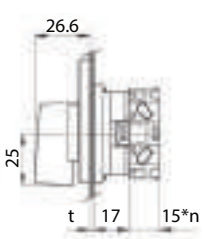




CAM Switch 48 x 48 Series and 64 x 64 Series

Item code				Description	Contact blocks	Amp
Size	Plate	Amp	Contact			
TCS4S,6S	2xx~4xx	2	1xxx	Short handle,	1 Stack	16A
TCS4S,6S	2xx~4xx	2	1xxx R	Spring returnshort handle	1 Stack	16A
TCS4S,6S	2xx~5xx	2	2xxx	Short handle,	2 Stack	16A
TCS4S,6S	2xx~5xx	2	2xxx R	Spring returnshort handle	2 Stack	16A
TCS4S,6S	2xx~6xx	2	3xxx	Short handle,	3 Stack	16A
TCS4S,6S	2xx~5xx	2	3xxx R	Spring returnshort handle	3 Stack	16A
TCS4S,6S	2xx~8xx	2	4xxx	Short handle,	4 Stack	16A
TCS4S,6S	2xx~8xx	2	4xxx R	Spring returnshort handle	4 Stack	16A
TCS4S,6S	2xx~8xx	2	5xxx	Short handle,	5 Stack	16A
TCS4S,6S	2xx~8xx	2	5xxx R	Spring returnshort handle	5 Stack	16A
TCS4S,6S	2xx~8xx	2	6xxx	Short handle,	6 Stack	16A
TCS4S,6S	2xx~8xx	2	6xxx R	Spring returnshort handle	6 Stack	16A
TCS4S,6S	2xx~8xx	2	7xxx	Short handle,	7 Stack	16A
TCS4S,6S	2xx~8xx	2	7xxx R	Spring returnshort handle	7 Stack	16A
TCS4S,6S	2xx~8xx	2	8xxx	Short handle,	8 Stack	16A
TCS4S,6S	2xx~8xx	2	8xxx R	Spring returnshort handle	8 Stack	16A





CAM Switch 48 x 48 Series and 64 x 64 Series

Item code				Description	Contact blocks	Amp
Size	Plate	Amp	Contact			
TCS4S,6S	2xx~4xx	3	1xxx	Short handle,	1 Stack	25A
TCS4S,6S	2xx~4xx	3	1xxx R	Spring returnshort handle	1 Stack	25A
TCS4S,6S	2xx~5xx	3	2xxx	Short handle,	2 Stack	25A
TCS4S,6S	2xx~5xx	3	2xxx R	Spring returnshort handle	2 Stack	25A
TCS4S,6S	2xx~6xx	3	3xxx	Short handle,	3 Stack	25A
TCS4S,6S	2xx~5xx	3	3xxx R	Spring returnshort handle	3 Stack	25A
TCS4S,6S	2xx~8xx	3	4xxx	Short handle,	4 Stack	25A
TCS4S,6S	2xx~8xx	3	4xxx R	Spring returnshort handle	4 Stack	25A
TCS4S,6S	2xx~8xx	3	5xxx	Short handle,	5 Stack	25A
TCS4S,6S	2xx~8xx	3	5xxx R	Spring returnshort handle	5 Stack	25A
TCS4S,6S	2xx~8xx	3	6xxx	Short handle,	6 Stack	25A
TCS4S,6S	2xx~8xx	3	6xxx R	Spring returnshort handle	6 Stack	25A
TCS4S,6S	2xx~8xx	3	7xxx	Short handle,	7 Stack	25A
TCS4S,6S	2xx~8xx	3	7xxx R	Spring returnshort handle	7 Stack	25A
TCS4S,6S	2xx~8xx	3	8xxx	Short handle,	8 Stack	25A
TCS4S,6S	2xx~8xx	3	8xxx R	Spring returnshort handle	8 Stack	25A

บริษัทได้จัดสเปคสินค้าประเภท Cam Switch ไว้โดยเฉพาะ หากท่านต้องการทราบข้อมูลเพิ่มเติมอย่างละเอียดสามารถติดต่อขอรับแคตตาล็อค Cam Switch พร้อมราคาอย่างละเอียดได้ที่พนักงานขายของบริษัท

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

แคมสวิตช์ (รุ่นราคาพิเศษ)

48x48 / 64x64



สวิทช์เปิด-ปิด (ON-OFF switchs) หน้าปัดสีเหลือง ลูกบิดสีแดง

รุ่น Model	Old type	Position	Contact blocks	Size	Amp
TCS4SR243-1-3201		2P	3	48x48	10A
TCS4SR243-2-3201		2P	3	48x48	16A
TCS4SR243-3-3201		2P	3	48x48	25A
TCS6SR243-1-3201	TCS-301	2P	3	48x48	10A
TCS6SR243-2-3201		2P	3	48x48	16A
TCS6SR243-3-3201		2P	3	48x48	25A



สวิทช์สับเปลี่ยน 2 ทาง (ON-OFF-ON switchs) หน้าปัดสีเหลือง ลูกบิดสีแดง

รุ่น Model	Old type	Position	Contact blocks	Size	Amp
TCS4SR346-1-3301		3P	3	48x48	10A
TCS4SR346-2-3301		3P	3	48x48	16A
TCS4SR346-3-3301		3P	3	48x48	25A
TCS6SR346-1-3301	TCS-302	3P	3	64x64	10A
TCS6SR346-2-3301		3P	3	64x64	16A
TCS6SR346-3-3301		3P	3	64x64	25A
TCS6S341-1-3328	TCS-303	3P	3	64x64	10A



สวิทช์สับเดินหน้า-ถอยหลัง (Forward reverse switchs) หน้าปัดสีเหลือง ลูกบิดสีแดง

รุ่น Model	Old type	Position	Contact blocks	Size	Amp
TCS4SR344-1-3317		3P	3	48x48	10A
TCS4SR344-2-3317		3P	3	48x48	16A
TCS4SR344-3-3317		3P	3	48x48	25A
TCS6SR344-1-3317		3P	3	64x64	10A
TCS6SR344-2-3317		3P	3	64x64	16A
TCS6SR344-3-3317		3P	3	64x64	25A



สวิทช์มัลติสเต็ป (multi-step switchs with “OFF”) หน้าปัดสีเหลือง ลูกบิดสีแดง

รุ่น Model		Position	Contact blocks	Size	Amp
TCS4SR342-1-1303	2STEP	2P	1	48x48	10A
TCS4SR342-2-1303	2STEP	2P	1	48x48	16A
TCS4SR342-3-1303	2STEP	2P	1	48x48	25A
TCS6SR342-1-1303	2STEP	2P	1	64x64	10A
TCS6SR342-2-1303	2STEP	2P	1	64x64	16A
TCS6SR342-3-1303	2STEP	2P	1	64x64	25A
TCS4SR442-1-2418	3STEP	4P	2	48x48	10A
TCS4SR442-2-2418	3STEP	4P	2	48x48	16A
TCS4SR442-3-2418	3STEP	4P	2	48x48	25A
TCS6SR442-1-2418	3STEP	4P	2	64x64	10A
TXS6SR442-2-2418	3STEP	4P	2	64x64	16A
TCS6SR442-3-2418	3STEP	4P	2	64x64	25A
TCS4SR542-1-3511	4STEP	8P	3	48x48	10A
TCS4SR542-2-3511	4STEP	8P	3	48x48	16A
TCS4SR542-3-3511	4STEP	8P	3	48x48	25A
TCS6SR542-1-3511	4STEP	8P	3	64x64	10A
TCS6SR542-2-3511	4STEP	8P	3	64x64	16A
TCS6SR542-3-3511	4STEP	8P	3	64x64	25A
TCS4SR642-1-3602	5STEP	10P	3	48x48	10A
TCS4SR642-2-3602	5STEP	10P	3	48x48	16A
TCS4SR642-3-3602	5STEP	10P	3	48x48	25A
TCS6SR642-1-3602	5STEP	10P	3	64x64	10A
TCS6SR642-2-3602	5STEP	10P	3	64x64	16A
TCS6SR642-3-3602	5STEP	10P	3	64x64	25A

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x48 / 64x64

MODEL DESIGNATION

T AS33 - 6 1 3

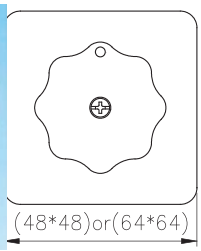
① ② ③ ④

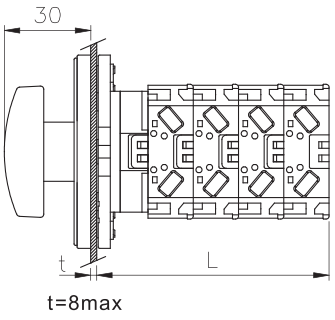
Designation	Signal	Description
1.Control type	AS33	AS33 (3Ø3W)
	AS34	AS34 (3Ø4W)
	VS33	VS33 (3Ø3W)
	VS34	VS34 (3Ø4W)
	VS334	VS33 (3Ø3W)/VS34 (3Ø4W)
	AV33	VS33 (3Ø3W)/AS33 (3Ø3W)

Designation	Signal	Description
2.Size	4	48 * 48
	6	64 * 64
3.Capacity	1	10A
	2	16A
	3	25A
4.Nos.of	None	2CT
	3	3CT

DIMENSIONS







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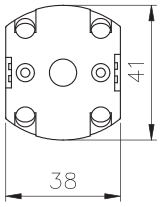
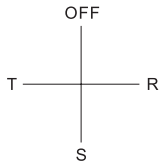
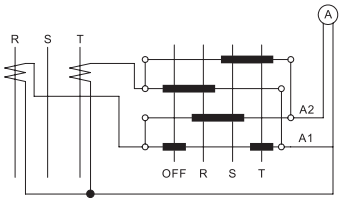


Stack	L
One stack	32
Two stacks	47
Three stacks	62
Four stacks	77
Five stacks	92
Six stacks	107

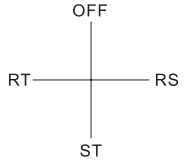
PLATE, CONTACT AND WIRING DIAGRAM

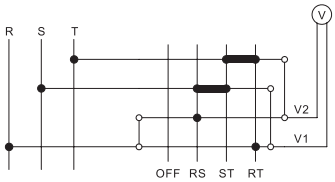
TAS33-□□
AS(3Ø3W 2CT)



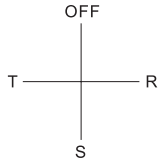


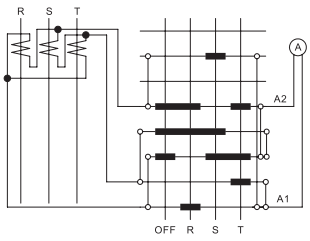
TVS33-□□
VS(3Ø3W)



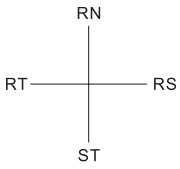


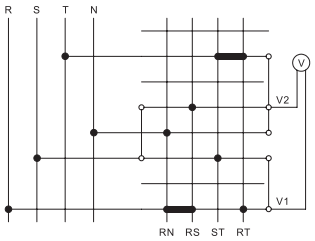
TAS33-□□3
AS(3Ø3W 3CT)



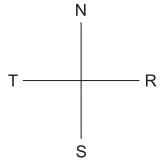


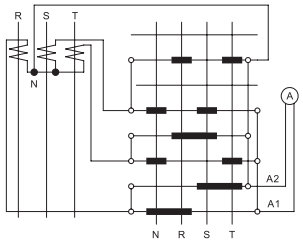
TVS34-□□
VS(3Ø4W)



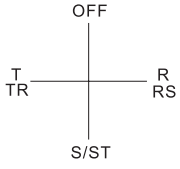


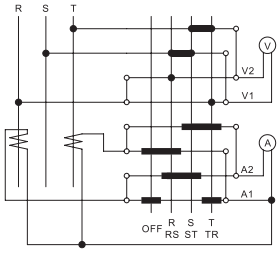
TAS34-□□3
AS(3Ø4W 3CT)



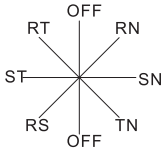


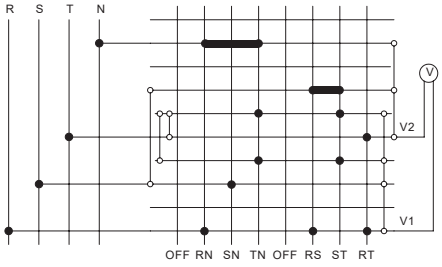
TVS33-□□
AS(3Ø3W 2CT)
VS(3Ø3W)





TVS334-□□
VS(3Ø3W)
VS(3Ø4W)





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x60 / 64x80

MODEL DESIGNATION

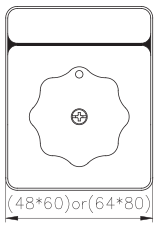
T AS33 - 713
① ②③④

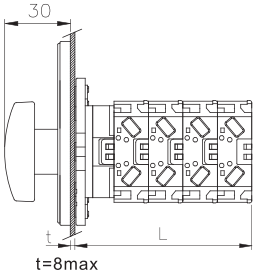
Designation	Signal	Description
1.Control type	AS33	AS33 (3Ø3W)
	AS34	AS34 (3Ø4W)
	VS33	VS33 (3Ø3W)
	VS34	VS34 (3Ø4W)
	VS334	VS334 (3Ø3W)/ VS34 (3Ø4W)
	AV33	AV33 (3Ø3W)/ AS34 (3Ø3W)

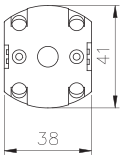
Designation	Signal	Description
2.Size	5	48*60
	6	64*80
3.Capacity	1	10A
	2	16A
	3	25A
4.Nos.of	None	2CT
	3	3CT

DIMENSIONS





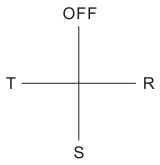


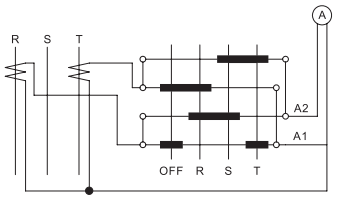


Stack	L
One stack	32
Two stacks	47
Three stacks	62
Four stacks	77
Five stacks	92
Six stacks	107

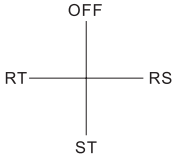
PLATE, CONTACT AND WIRING DIAGRAM

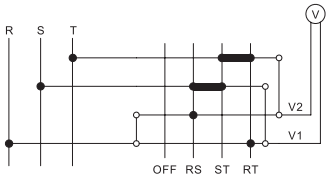
TAS33-□□
AS(3Ø3W 2CT)



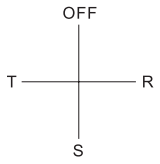


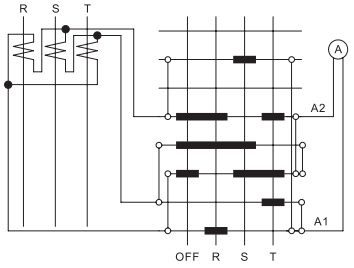
TVS33-□□
VS(3Ø3W)



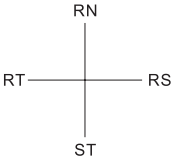


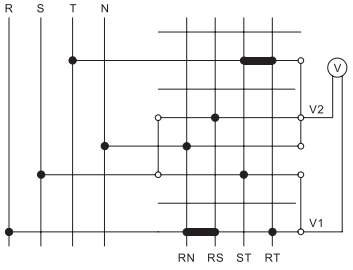
TAS33-□□3
AS(3Ø3W 3CT)



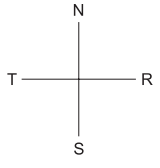


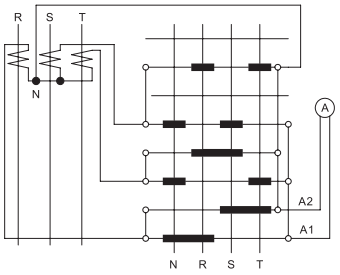
TVS34-□□
VS(3Ø4W)



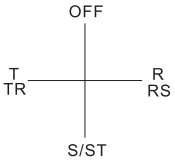


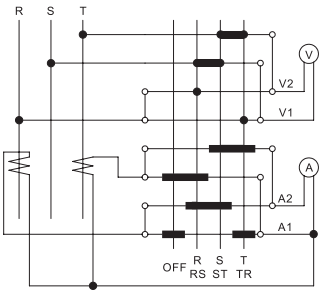
TAS34-□□3
AS(3Ø4W 3CT)



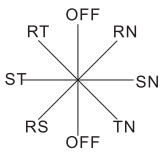


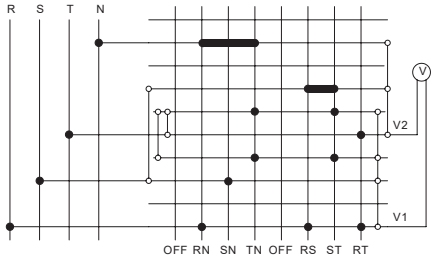
TVS33-□□
AS(3Ø3W 2CT)
VS(3Ø3W)





TVS334-□□
VS(3Ø3W)
VS(3Ø4W)





VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x48 / 48x60 / 64x64 / 64x80

MODEL DESIGNATION

T AS33 - 7 1 3

① ② ③ ④

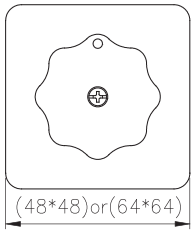
Designation	Signal	Description
1.Control type	AS33	AS33(3Ø3W)
	AS34	AS34(3Ø4W)
	VS33	VS33(3Ø3W)
	VS34	VS34(3Ø4W)
	VS334	VS33(3Ø3W)/VS34(3Ø4W)
	AV33	AV33(3Ø3W),AS33(3Ø3W)

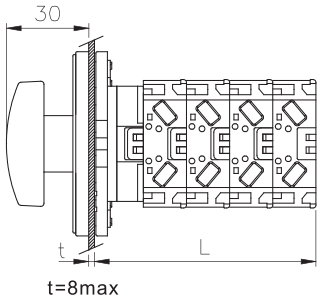
Designation	Signal	Description
2.Size	4	48*48
	5	48*60
	6	64*64
	7	64*80
3.Capacity	1	10A
	2	16A
	3	25A
4.Nos.of	None	2CT
	3	3CT

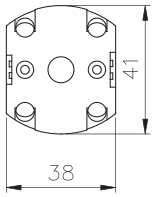
- All these series of switches are fitted with short handle.
- 2CT or 3CT can be used for TAS33 series.

DIMENSION









Stack	L
One Stack	32
Two Stacks	47
Three Stacks	62
Four Stacks	77
Five Stacks	92
Six Stacks	107

รุ่นนิยม







หน้าปัดสีเหลือง ลูกบิดสีแดง (ซีเล็คเตอร์โวลต์ แอมป์)

Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-4R1S	496	Amp selector 48x48 mm (3Ø3W2CT)	2 Stacks	10A
TAS33-6R1S	496	Amp selector 64x64 mm (3Ø3W2CT)	2 Stacks	10A
TAS33A-4R1S	496	Amp selector 48x48 mm (3Ø3W3CT)	3 Stacks	10A
TAS33A-6R1S	496	Amp selector 64x64 mm (3Ø3W3CT)	3 Stacks	10A
TVS33-4R1S	494	Volt selector 48x48 mm (3Ø3W)	2 Stacks	10A
TVS33-6R1S	494	Volt selector 64x64 mm (3Ø3W)	2 Stacks	10A
TVS334A-4R1S	843	Volt selector 48x48 mm (3Ø3W & 3Ø4W)	3 Stacks	10A
TAS334A-6R1S	843	Volt selector 64x64 mm (3Ø3W & 3Ø4W)	3 Stacks	10A

รุ่นนิยม







Voltmeter / Ammeter cam switch (48x48 and 64x64)

หน้าปัดสีเหลือง ลูกบิดสีแดง (ซีเล็คเตอร์โวลต์ แอมป์)

Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-5R1S	496A	Amp selector 48x48 mm (3 Ø3W2CT)	2 Stacks	10A
TAS33-7R1S	496A	Amp selector 64x64 mm (3 Ø3W2CT)	2 Stacks	10A
TAS33A-5R1S	496A	Amp selector 48x48 mm (3 Ø3W3CT)	3 Stacks	10A
TAS33A-7R1S	496A	Amp selector 64x64 mm (3 Ø3W3CT)	3 Stacks	10A
TVS33-5R1S	494B	Volt selector 48x48 mm (3 Ø3W)	2 Stacks	10A
TVS33-7R1S	494B	Volt selector 64x64 mm (3 Ø3W)	2 Stacks	10A
TVS334A-5R1S	843B	Volt selector 48x48 mm (3 Ø3W & 3 Ø4W)	3 Stacks	10A
TAS334A-7R1S	843B	Volt selector 64x64 mm (3 Ø3W & 3 Ø4W)	3 Stacks	10A

* หากต้องการเปลี่ยนเป็น Long handle (ลูกบิดก้านยาว) หรือ Octagonal handle (ลูกบิดหัวกลม) สอบถามราคาเพิ่มเติมได้ที่พนักงานขายของบริษัท
** หากต้องการหน้าปัดสีขาว ลูกบิดสีดำสามารถแจ้งเปลี่ยนได้

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x48 / 48x60 / 64x64 / 64x80

MODEL DESIGNATION

T AS33 - 7 1 3

① ② ③ ④

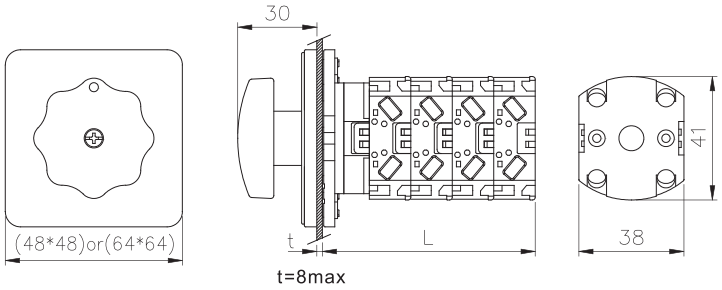
Designation	Signal	Description
1.Control type	AS33	AS33(3Ø3W)
	AS34	AS34(3Ø4W)
	VS33	VS33(3Ø3W)
	VS34	VS34(3Ø4W)
	VS334	VS33(3Ø3W)/VS34(3Ø4W)
	AV33	AV33(3Ø3W),AS33(3Ø3W)

Designation	Signal	Description
2.Size	4	48*48
	5	48*60
	6	64*64
	7	64*80
3.Capacity	1	10A
	2	16A
	3	25A
4.Nos.of	None	2CT
	3	3CT

- All these series of switches are fitted with short handle.
- 2CT or 3CT can be used for TAS33 series.

DIMENSION





Stack	L
One Stack	32
Two Stacks	47
Three Stacks	62
Four Stacks	77
Five Stacks	92
Six Stacks	107





Voltmeter / Ammeter cam switch (48x48 and 64x64)

หน้าปัดสีเหลือง ลูกบิดสีแดง (ซีเล็คเตอร์โวลต์ แอมป์)

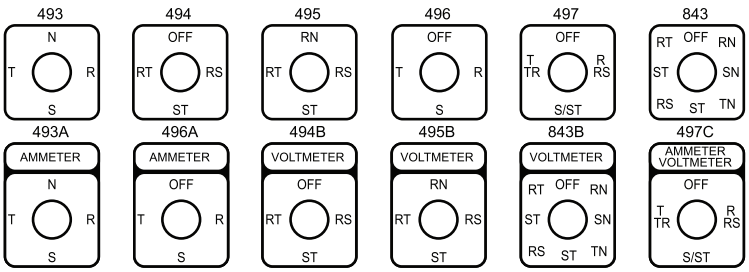
Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-4R1S	496	Amp selector 48x48 mm (3Ø3W2CT)	2 stacks	10A
TAS33-6R1S	496	Amp selector 64x64 mm (3Ø3W2CT)	2 stacks	10A
TAS33A-4R1S	496	Amp selector 48x48 mm (3Ø3W3CT)	3 stacks	10A
TAS33A-6R1S	496	Amp selector 64x64 mm (3Ø3W3CT)	3 stacks	10A
TAS33-4R13S	496	Amp selector 48x48 mm (3Ø3W3CT)	4 stacks	10A
TAS33-6R13S	496	Amp selector 64x64 mm (3Ø3W3CT)	4 stacks	10A
TAS34A-4R1S	493	Amp selector 48x48 mm (3Ø4W3CT)	4 stacks	10A
TAS34-6R1S	493	Amp selector 64x64 mm (3Ø4W3CT)	4 stacks	10A
TVS33-4R1S	494	Volt selector 48x48 (3Ø3W)	2 stacks	10A
TVS33-6R1S	494	Volt selector 64x64 (3Ø3W)	2 stacks	10A
TVS334A-4R1S	843	Volt selector 48x48 (3Ø3W&3Ø4W)	3 stacks	10A
TVS334A-6R1S	843	Volt selector 64x64 (3Ø3W&3Ø4W)	3 stacks	10A
TVS334-4R1S	843	Volt selector 48x48 (3Ø3W&3Ø4W)	4 stacks	10A
TVS334-6R1S	843	Volt selector 64x64 (3Ø3W&3Ø4W)	4 stacks	10A
TVS34-4R1S	495	Volt selector 48x48 (3Ø4W)	4 stacks	10A
TVS34-6R1S	495	Volt selector 64x64 (3Ø4W)	4 stacks	10A
TAV33-4R1S	497	Amp selector 48x48 (3Ø3W 2CT) & Volt selector 48x48 (3Ø3W)	4 stacks	10A
TAV33-6R1S	497	Amp selector 64x64 (3Ø3W 2CT) & Volt selector 64x64 (3Ø3W)	4 stacks	10A

หมายเหตุ

TVS 334 และ TVS334A สามารถเลือกใช้ได้ทั้ง 3 Ø3W หรือ 3 Ø4W ในตัวเดียวกัน TAV33 สามารถใช้ได้ Amp selector (3 Ø3W2CT) และ Volt selector (3 Ø3W) ในตัวเดียวกัน

* หากต้องการเปลี่ยนเป็น Long handle (ลูกบิดก้านยาว) หรือ Octagonal handle (ลูกบิดหัวกลม) สอบถามราคาเพิ่มเติมได้ที่พนักงานขายของบริษัท

** หากต้องการหน้าปัดสีขาว ลูกบิดสีดำสามารถแจ้งเปลี่ยนได้



VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x48 / 48x60 / 64x64 / 64x80

(ซีเล็คเตอร์โวลต์ แอมป์)

Voltmeter / Ammeter cam switch (48x60 and 64x80)

หน้าปัดสีเหลือง
ลูกบิดสีแดง





Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-5R1S	496A	Amp Selector 48x60 mm (3 Ø3W2CT)	2 stacks	10A
TAS33-7R1S	496A	Amp Selector 64x80 mm (3 Ø3W2CT)	2 stacks	10A
TAS33A-5R1S	496A	Amp Selector 48x60 mm (3 Ø3W2CT)	3 stacks	10A
TAS33A-7R1S	496A	Amp Selector 64x80 mm (3 Ø3W2CT)	3 stacks	10A
TAS33-5R13S	496A	Amp Selector 48x60 mm (3 Ø3W2CT)	4 stacks	10A
TAS33-7R13S	496A	Amp Selector 64x80 mm (3 Ø3W2CT)	4 stacks	10A
TAS34A-5R1S	493A	Amp Selector 48x60 mm (3 Ø3W2CT)	4 stacks	10A
TAS34-7R1S	493A	Amp Selector 64x80 mm (3 Ø3W2CT)	4 stacks	10A
TVS33-5R1S	494B	Volt Selector 48x60 mm (3 Ø3W)	2 stacks	10A
TVS33-7R1S	494B	Volt Selector 64x80 mm (3 Ø3W)	2 stacks	10A
TVS334A-5R1S	843B	Volt Selector 48x60 mm (3 Ø3W)	3 stacks	10A
TVS334A-7R1S	843B	Volt Selector 48x60 mm (3 Ø3W)	3 stacks	10A
TVS334-5R1S	843B	Volt Selector 48x60 mm (3 Ø3W)	4 stacks	10A
TVS334-7R1S	843B	Volt Selector 48x60 mm (3 Ø3W)	4 stacks	10A
TVS34-5R1S	495B	Volt Selector 48x60 mm (3 Ø3W)	4 stacks	10A
TVS34-7R1S	495B	Volt Selector 48x60 mm (3 Ø3W)	4 stacks	10A
TAV33-5R1S	497C	Amp Selector 48x60 (3 Ø3W2CT)& Volt Selector 48x60 (3 Ø3W)	4 stacks	10A
TAV33-7R1S	497C	Amp Selector 48x60 (3 Ø3W2CT)& Volt Selector 48x60 (3 Ø3W)	4 stacks	10A

Voltmeter / Ammeter cam switch (48x48 and 64x64)

หน้าปัดสีเหลือง
ลูกบิดสีแดง
(ซีเล็คเตอร์โวลต์ แอมป์)





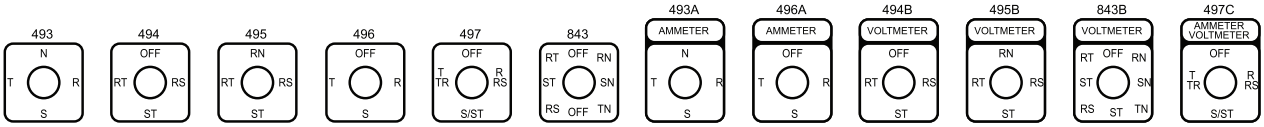
Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-4R2S	496	Amp Selector 48x48 mm (3 Ø3W2CT)	2 stacks	16A
TAS33-6R2S	496	Amp Selector 64x64 mm (3 Ø3W2CT)	2 stacks	16A
TAS33A-4R2S	496	Amp Selector 48x48 mm (3 Ø3W2CT)	3 stacks	16A
TAS33A-6R2S	496	Amp Selector 64x64 mm (3 Ø3W2CT)	3 stacks	16A
TAS33-4R23S	496	Amp Selector 48x48 mm (3 Ø3W2CT)	4 stacks	16A
TAS33-6R23S	496	Amp Selector 64x64 mm (3 Ø3W2CT)	4 stacks	16A
TAS34A-4R2S	493	Amp Selector 48x48 mm (3 Ø3W2CT)	4 stacks	16A
TAS34-6R2S	493	Amp Selector 64x64 mm (3 Ø3W2CT)	4 stacks	16A
TVS33-4R2S	494	Volt Selector 48x48 mm (3 Ø3W)	2 stacks	16A
TVS33-6R2S	494	Volt Selector 64x64 mm (3 Ø3W)	2 stacks	16A
TVS334A-4R2S	843	Volt Selector 48x48 mm (3 Ø3W)	3 stacks	16A
TVS334A-6R2S	843	Volt Selector 48x64 mm (3 Ø3W)	3 stacks	16A
TVS334-4R2S	843	Volt Selector 48x48 mm (3 Ø3W)	4 stacks	16A
TVS334-6R2S	843	Volt Selector 48x64 mm (3 Ø3W)	4 stacks	16A
TVS34-4R2S	495	Volt Selector 48x480 mm (3 Ø3W)	4 stacks	16A
TVS34-6R2S	495	Volt Selector 48x64 mm (3 Ø3W)	4 stacks	16A
TAV33-4R2S	497	Amp Selector 48x48 mm(3 Ø 3W2CT)& Volt Selector 48x48 mm(3 Ø 3W)	4 stacks	16A
TAV33-6R2S	497	Amp Selector 48x64 mm(3 Ø 3W2CT)& Volt Selector 48x64 mm(3 Ø 3W)	4 stacks	16A

หมายเหตุ

TVS 334 และ TVS334A สามารถเลือกใช้ได้ทั้ง 3 Ø3W หรือ 3 Ø4W ในตัวเดียวกัน TAV33 สามารถใช้ได้ Amp selector (3 Ø3W2CT) และ Volt selector (3 Ø3W) ในตัวเดียวกัน

* หากต้องการเปลี่ยนเป็น Long handle (ลูกบิดก้านยาว) หรือ Octagonal handle (ลูกบิดหัวกลม) สอบถามราคาเพิ่มเติมได้ที่พนักงานขายของบริษัท

** หากต้องการหน้าปัดสีขาว ลูกบิดสีดำสามารถแจ้งเปลี่ยนได้



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x48 /48x60 / 64x64 / 64x80

(ซีเล็คเตอร์โวลต์ แอมป์)

Voltmeter / Ammeter cam switch (48x60 and 64x80)

หน้าปัดสีเหลือง
ลูกบิดสีแดง





Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-5R2S	496A	Amp Selector 48x60 mm (3 Ø3W2CT)	2 stacks	16A
TAS33-7R2S	496A	Amp Selector 64x80 mm (3 Ø3W2CT)	2 stacks	16A
TAS33A-5R2S	496A	Amp Selector 48x60 mm (3 Ø3W2CT)	3 stacks	16A
TAS33A-7R2S	496A	Amp Selector 64x80 mm (3 Ø3W2CT)	3 stacks	16A
TAS33-5R23S	496A	Amp Selector 48x60 mm (3 Ø3W3CT)	4 stacks	16A
TAS33-7R23S	496A	Amp Selector 64x80 mm (3 Ø3W3CT)	4 stacks	16A
TAS34A-5R2S	493A	Amp Selector 48x60 mm (3 Ø3W3CT)	4 stacks	16A
TAS34-7R2S	493A	Amp Selector 64x80 mm (3 Ø3W3CT)	4 stacks	16A
TVS33-5R2S	494B	Volt Selector 48x60 mm (3 Ø3W)	2 stacks	16A
TVS33-7R2S	494B	Volt Selector 64x80 mm (3 Ø3W)	2 stacks	16A
TVS334A-5R2S	843B	Volt Selector 48x60 mm (3 Ø3W&3 Ø4W)	3 stacks	16A
TVS334A-7R2S	843B	Volt Selector 48x60 mm (3 Ø3W&3 Ø4W)	3 stacks	16A
TVS334-5R2S	843B	Volt Selector 48x60 mm (3 Ø3W&3 Ø4W)	4 stacks	16A
TVS334-7R2S	843B	Volt Selector 48x60 mm (3 Ø3W&3 Ø4W)	4 stacks	16A
TVS34-5R2S	495B	Volt Selector 48x60 mm (3 Ø4W)	4 stacks	16A
TVS34-7R2S	495B	Volt Selector 48x60 mm (3 Ø4W)	4 stacks	16A
TAV33-5R2S	497C	Amp Selector 48x60 mm (3 Ø3W2CT)& Volt Selector 48x60 mm (3 Ø 3W)	4 stacks	16A
TAV33-7R2S	497C	Amp Selector 48x60 mm (3 Ø3W2CT)& Volt Selector 48x60 mm (3 Ø3W)	4 stacks	16A

Voltmeter / Ammeter cam switch (48x48 and 64x64)

หน้าปัดสีเหลือง
ลูกบิดสีแดง
(ซีเล็คเตอร์โวลต์ แอมป์)





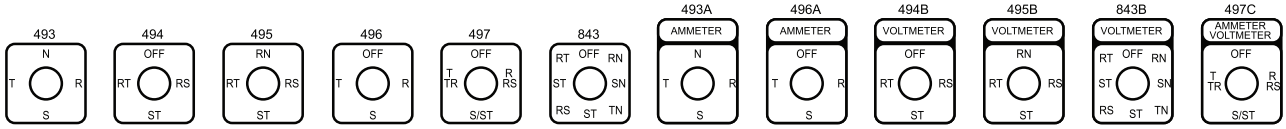
Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-4R3S	496	Amp Selector 48x48 mm (3 Ø3W2CT)	2 stacks	25A
TAS33-6R3S	496	Amp Selector 64x64 mm (3 Ø3W2CT)	2 stacks	25A
TAS33A-4R3S	496	Amp Selector 48x48 mm (3 Ø3W2CT)	3 stacks	25A
TAS33A-6R3S	496	Amp Selector 64x64 mm (3 Ø3W2CT)	3 stacks	25A
TAS33-4R33S	496	Amp Selector 48x48 mm (3 Ø3W3CT)	4 stacks	25A
TAS33-6R33S	496	Amp Selector 64x64 mm (3 Ø3W3CT)	4 stacks	25A
TAS34A-4R3S	493	Amp Selector 48x48 mm (3 Ø3W3CT)	4 stacks	25A
TAS34-6R3S	493	Amp Selector 64x64 mm (3 Ø3W3CT)	4 stacks	25A
TVS33-4R3S	494	Volt Selector 48x48 mm (3 Ø3W)	2 stacks	25A
TVS33-6R3S	494	Volt Selector 64x64 mm (3 Ø3W)	2 stacks	25A
TVS334A-4R3S	843	Volt Selector 48x48 mm (3 Ø3W&3 Ø4W)	3 stacks	25A
TVS334A-6R3S	843	Volt Selector 64x64 mm (3 Ø3W&3 Ø4W)	3 stacks	25A
TVS334-4R3S	843	Volt Selector 48x48 mm (3 Ø3W&3 Ø4W)	4 stacks	25A
TVS334-6R3S	843	Volt Selector 64x64 mm (3 Ø3W&3 Ø4W)	4 stacks	25A
TVS34-4R3S	495	Volt Selector 48x48 mm (3 Ø4W)	4 stacks	25A
TVS34-6R3S	495	Volt Selector 64x64 mm (3 Ø4W)	4 stacks	25A
TAV33-4R3S	497	Amp Selector 48x48 mm (3 Ø 3W2CT)& Volt Selector 48x48 mm (3 Ø 3W)	4 stacks	25A
TAV33-6R3S	497	Amp Selector 64x64 mm (3 Ø 3W2CT)& Volt Selector 64x64 mm (3 Ø 3W)	4 stacks	25A

หมายเหตุ

TVS 334 และ TVS334A สามารถเลือกใช้ได้ทั้ง 3 Ø3W หรือ 3 Ø4W ในตัวเดียวกัน TAV33 สามารถใช้ได้ Amp selector (3 Ø3W2CT) และ Volt selector (3 Ø3W) ในตัวเดียวกัน

* หากต้องการเปลี่ยนเป็น Long handle (ลูกบิดก้านยาว) หรือ Octagonal handle (ลูกบิดหัวกลม) สอบถามราคาเพิ่มเติมได้ที่พนักงานขายของบริษัท

** หากต้องการหน้าปัดสีขาว ลูกบิดสีดำสามารถแจ้งเปลี่ยนได้



VOLTMETER AND AMMETER CAM SWITCH

โวลต์มิเตอร์ และแอมมิเตอร์แคมสวิตช์

48x48 / 48x60 / 64x64 / 64x80

หน้าปัดสีเหลือง
ลูกบิดสีแดง





(ซีเล็คเตอร์โวลต์ แอมป์)

Voltmeter / Ammeter cam switch (48x60 and 64x80)

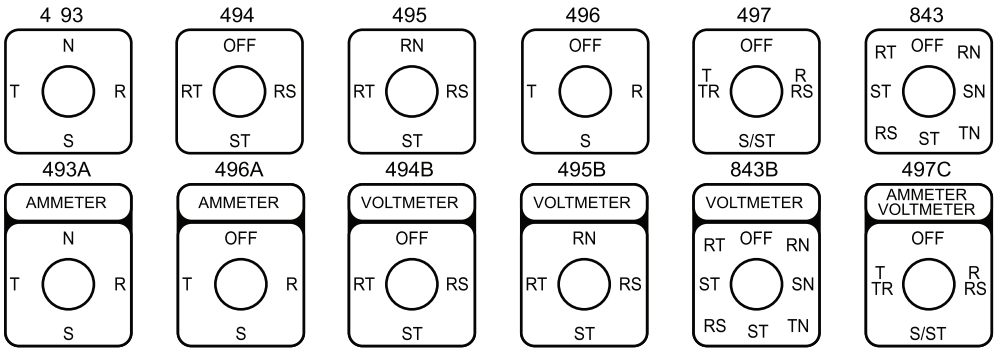
Item no.		Description	Contact blocks	Amp
Size	Plate			
TAS33-5R3S	496A	Amp selector 48x60 mm (3 Ø3W2CT)	2 Stacks	25A
TAS33-7R3S	496A	Amp selector 64x80 mm (3 Ø3W2CT)	2 Stacks	25A
TAS33A-5R3S	496A	Amp selector 48x60 mm (3 Ø3W2CT)	3 Stacks	25A
TAS33A-7R3S	496A	Amp selector 64x80 mm (3 Ø3W2CT)	3 Stacks	25A
TAS33-5R33S	496A	Amp selector 48x60 mm (3 Ø3W2CT)	4 Stacks	25A
TAS33-7R33S	496A	Amp selector 64x80 mm (3 Ø3W2CT)	4 Stacks	25A
TAS34-5R3S	493A	Amp selector 48x60 mm (3 Ø3W2CT)	4 Stacks	25A
TAS34-7R3S	493A	Amp selector 64x80 mm (3 Ø3W2CT)	4 Stacks	25A
TVS33-5R3S	494B	Volt selector 48x60 (3 Ø3W)	2 Stacks	25A
TVS33-7R3S	494B	Volt selector 64x80 (3 Ø3W)	2 Stacks	25A
TVS334A-5R3S	843B	Volt selector 48x60 (3 Ø3W&3 Ø4W)	3 Stacks	25A
TVS334A-7R3S	843B	Volt selector 48x60 (3 Ø3W&3 Ø4W)	3 Stacks	25A
TVS334-5R3S	843B	Volt selector 64x80 (3 Ø3W&3 Ø4W)	4 Stacks	25A
TVS334-7R3S	843B	Volt selector 64x80 (3 Ø3W&3 Ø4W)	4 Stacks	25A
TVS34A-5R3S	495B	Volt selector 48x60 (3 Ø4W)	4 Stacks	25A
TVS34A-7R3S	495B	Volt selector 64x80 (3 Ø4W)	4 Stacks	25A
TAV33-5R3S	497C	Amp selector 48x60 (3 Ø3W2CT)& Volt selector 48x60 (3 Ø3W)	4 Stacks	25A
TAV33-7R3S	497C	Amp selector 64x80 (3 Ø3W2CT)& Volt selector 64x80 (3 Ø3W)	4 Stacks	25A

หมายเหตุ

TVS 334 และ TVS334A สามารถเลือกใช้ได้ทั้ง 3 Ø3W หรือ 3 Ø4W ในตัวเดียวกัน TAV33 สามารถใช้ได้ Amp selector (3 Ø3W2CT) และ Volt selector (3 Ø3W) ในตัวเดียวกัน

*** หากต้องการเปลี่ยนเป็น Long handle (ลูกบิดก้านยาว) หรือ Octagonal handle (ลูกบิดหัวกลม) สอบถามราคาเพิ่มเติมได้ที่พนักงานขายของบริษัท**

**** หากต้องการหน้าปัดสีขาว ลูกบิดสีดำสามารถแจ้งเปลี่ยนได้**





725.-

VOLT SELECTOR SWITCH

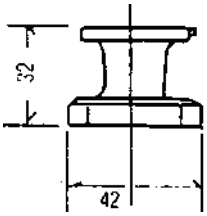
TYPE TVS-33 3 3W-VS@

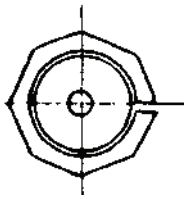
TYPE TVS-34 3 4W-VS@

AMP SELECTOR SWITCH

TYPE TAS-33 3 3W-AS@

TYPE TAS-34 3 4W-AS@





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH

แคมสวิตช์

Ø22 / Ø25 / Ø30

FEATURE



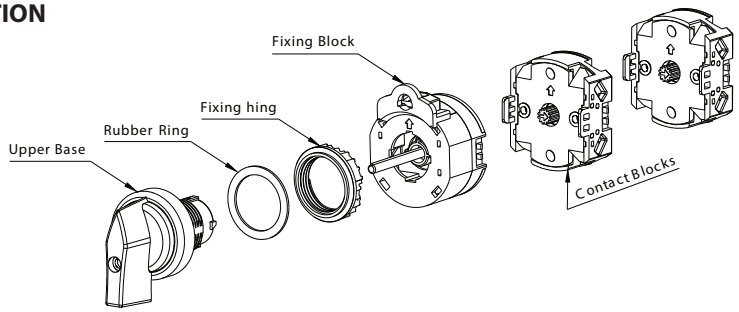
- The upper and lower bases of Ø22, Ø25, and Ø30 series can be push-button assembled or disassembled as per our patent. Upper base, fixed base and contact are three detachable parts.
- Unique modular design of contact blocks keeps internal parts from falling apart when contact blocks are disassembled or replaced.
- Can assemble or disassemble contact blocks to suit for various models yet without risking excessive stock.
- Contact blocks can be added click-on easily, no need to unscrew.
- Connecting screws are fastened from the back rather than normally from the side. It makes wiring easier.
- A special design to keep connecting terminals and screws in the contact blocks can prevent users from electric shocking.
- All the connecting pieces of terminals are covered to avoid from electric shocking.
- Capacities are differentiated by colors of contact blocks: blue for 10A: gray for 16A and black for 25A.

SPECIFICATIONS

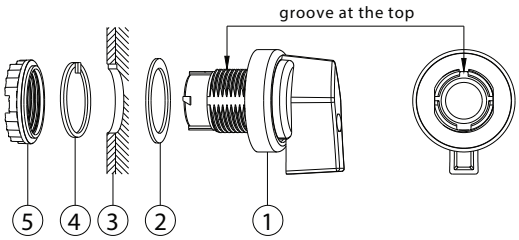
Capacity / voltage	AC-3 (kw)		AC-23 (kw)		AC-21A Iu=Ith	Rated voltage	AC-3 (HP)		Motor load
	3 ph.	1 ph.	3 ph.	1 ph.			3 ph.	1 ph.	
220V - 240V	1.5	0.55	1.8	0.75	10A	120V	0.75	0.33	10A
380V - 440V	2.2	0.75	3	1.1		240V	1	0.75	
660V - 690V	2.2	0.75	3	1.1					
220V - 240V	3	1.5	4	2.2	16A	120V	1.5	0.5	16A
380V - 440V	5.5	2.2	7	3		240V	3	1.5	
660V - 690V	5.5	2.2	7	3					
220V - 240V	4	3	5.5	3	25A	120V	3	1.5	25A
380V - 440V	7.5	3.7	11	5.5		240V	7.5	3	
660V - 690V	7.5	3.7	11	5.5		480V	10	5	

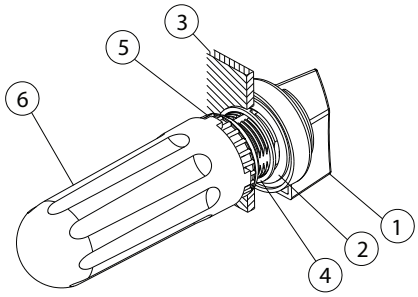
IEC 60947-3, EN 60947-3 VDE 0660 part 107 HD A300 UL 77B7

CONFIGURATION



MOUNTING METHOD





1	2	3	4	5	6
Upper base	Rubber ring	Panel	Stop ring	Fixing ring	Fixing tool

- Install the operating head and rubber ring through the front panel and tighten fixing ring with fixing tool.

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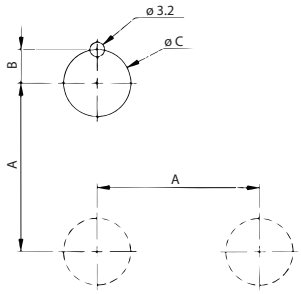
Ø22 / Ø25 / Ø30

PANEL CUT-OUT

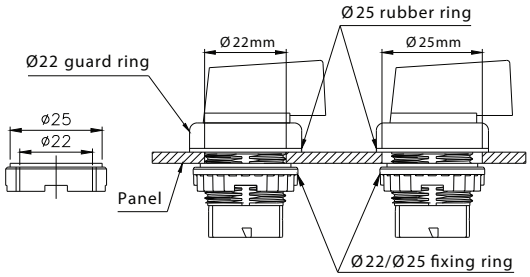


DIMENSIONS (mm)

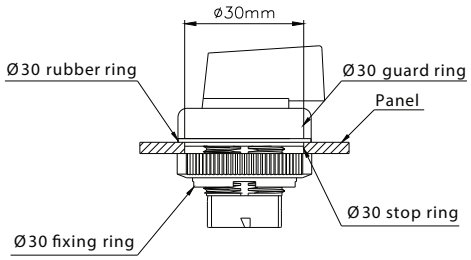
Designation	Ø22	Ø25	Ø30
A	60 min		
B	11.2	12.7	15.2
C	22.4	25.4	30.4

Ø 22 mm/ Ø 25 mm series are the same dimensions with common fixing ring.

- **The assembly method for Ø 22/ Ø 25 series**

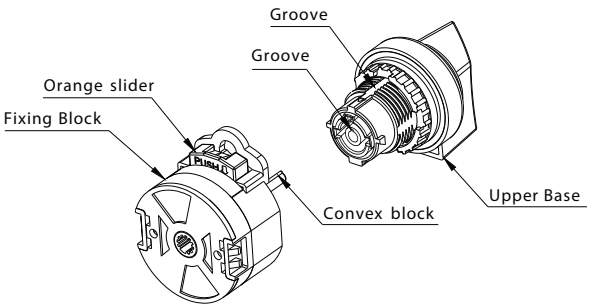


- **The assembly method for Ø 30 series**



ASSEMBLY INSTRUCTION

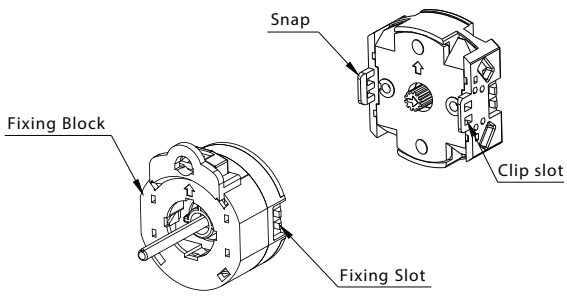
- **Assembly and disassembly of fixing block with upper base**



Assembly :
Align the fixing slot on the fixing block to clip slot on the upper base and push them together.

Disassembly :
Place downward by hand or use flat screw-driver to plush down the orange button thru the hole on top of the fixing block.

- **Assembly and disassembly of fixing block with contact block**



Assembly :
Align the fixing slot on the fixing block to clip slot on the contact block.

Disassembly :
Use flat screwdriver toward fixing slot to lift up clip and snap for disassembly.

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tend CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30

Before placing an order for finished products, please refer to the explannation of model numbers shown in this page

MODEL DESIGNATION (2-3 positions)

TCS 2 K 4 5 - 2 2209 A
(1) (2) (3) (4) (5) (6) (7)

Designation	Signal	Description
1.Mounting hole	2	22 mm / 25 mm
	3	30 mm
2.Type	S	Knob operator
	K	Key operator
3.Positions	1	45° 2-Positions
	2	90° 2-Positions
	3	45° 2-Positions spring return from right
	4	45° 3-Positions
	5	90° 3-Positions
	6	45° 3-Positions spring return from right

Designation	Signal	Description		
4.Key with drawable (only key operator)	1	2-Positions	0.1 Key with-drawable	
	2		0 Key with-drawable	
	3		1 Key with-drawable	
	4	3-Positions	0.1, 2 Key with-drawable	
	5		0 Key with-drawable	
	6	3-Positions	0.1, 2 Key with-drawable	
	7		0 Key with-drawable	
5.Capacity	1	10 A		
	2	16 A		
	3	25 A		
6.Wiring diagram				
7.Key number	A	3313	E	3131
	B	1313	F	3133
	C	1331	G	3212
	D	3113	H	3331

MODEL DESIGNATION (4-8 positions)

TCS 2 K 442 2 - 2 2418 A
(1) (2) (3) (4) (5) (6) (7)

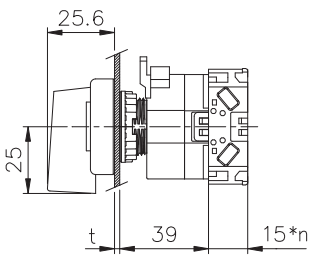
Designation	Signal	Description
1.Mounting hole	2	22 mm / 25 mm
	3	30 mm
2.Type	S	Knob operator
	K	Key operator
3.Position turn angle plate number	440 - 842	

Designation	Signal	Description		
4.Key with drawable (only key operator)	1	Key with-drawable		
	2	0 Key with-drawable		
5.Capacity	1	10 A		
	2	16 A		
	3	25 A		
6.Wiring diagram				
7.Key number	A	3313	E	3131
	B	1313	F	3133
	C	1331	G	3212
	D	3113	H	3331

DIMENSIONS

TCS2S □□- □□

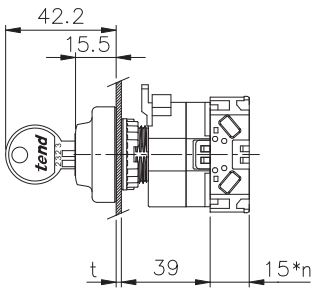




t = 8 max
N = number of contact blocks

TCS2K □□- □□





t = 8 max
N = number of contact blocks

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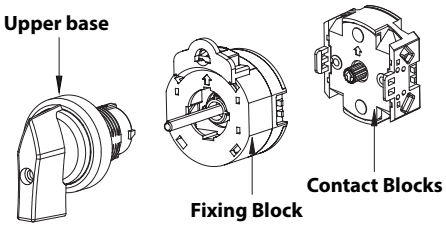
CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30



■ **As to the order of components for DIY assembly, please refer to the following assembly ilustration diagram.**

■ UPPER BASE DESIGNATION

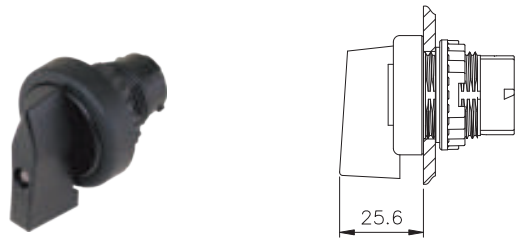
TCS 2 S
1 2

Designation	Signal	Description
1.Mounting hole	2	Ø22 mm / Ø25 mm
	3	Ø30 mm

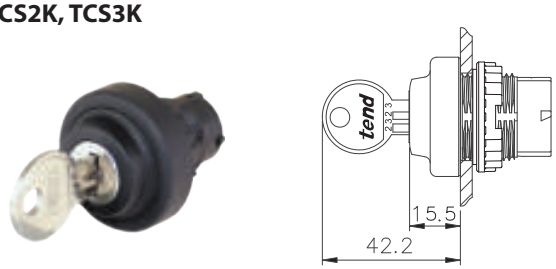
Designation	Signal	Description
2.Handle	S	Short handle
	K	Key

■ DIMENSIONS

TCS2S, TCS3S



TCS2K, TCS3K



■ FIXING BLOCK DESIGNATION

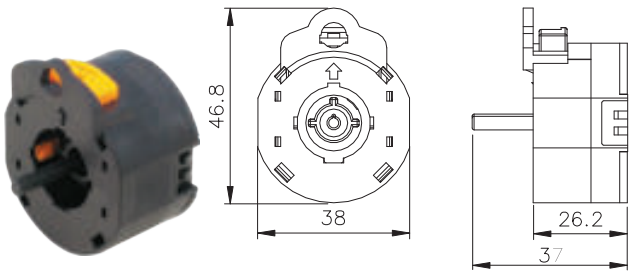
TCS 2 4 R
1 2 3

Designation	Signal	Description
1.Position	2-8	2-8 Position
2.Turn angle	4	45°
	9	90°
3.Operation	None	Hold
	R	Spring return (45°, 2 Position, 3 Position only)

● 22mm/25mm/30mm share base

■ DIMENSIONS

TCS □□□



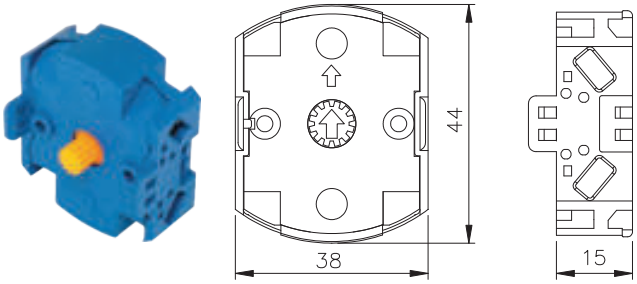
■ CONTACT BLOCK DESIGNATION

TCS 1 C 01
1 2 3

Designation	Signal	Description
1.Capacity	1	10A
	2	16A
	3	25A
2.No.of contacts fitted	S	Single-point contact
	C	Double-point contact
3.Contact base number	CO1 - CA1	See page (M) 9- (M) 20

■ DIMENSIONS

TCS □-C01~CA1
TCS □-S01~SA1



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30

Ø 22 / Ø 25 / Ø 30 legend plates for operating devices, aluminum (m) or acrylic (p)

- **TN22P (Acrylic 22)**
- **TN22M (22 Aluminum)**
- **TN25P (Acrylic 25)**
- **TN25M (25 Aluminum)**
- **TN30P (Acrylic 30)**
- **TN30M (30 Aluminum)**

	A	B	C	D
TN22P	ø 22.3	41	32	52.5
TN22M	ø 22.2	31	26.7	42
TN25P	ø 25.5	41	32	52.5
TN25M	ø 24.8	31	26.7	42
TN30P	ø 30.5	41	32	52.5
TN30M	ø 30.2	38.3	32.7	51.9

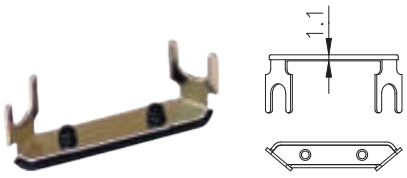
13	14	15	16	17	18	19	20
OFF ON	ON ON	ON OFF ON	FWD REV	FWD OFF REV	AUTO MANU	AUTO OFF MANU	STOP START

21	22	00
MANU OFF AUTO	1 0 2	

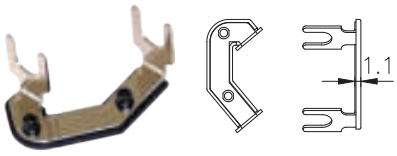
72	73	74
I II	I O II	I II II

ENDOSURE CONTACT

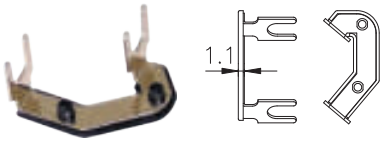
TCS-2H



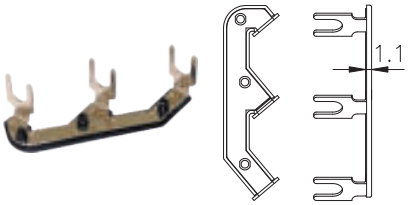
TCS-2L



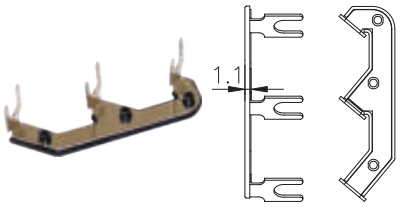
TCS-2R



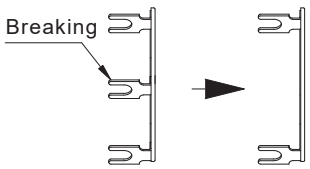
TCS-3L



TCS-3R



The middle terminals of TCS-3L / TCS-3R can be snapped and turned into over passing terminals.



tend CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30

FEATURE

- The upper and lower bases of Ø22, Ø30 series can be push-button assembled or disassembles as per our patent.Upper base, fixed base and contact are three detachable parts.
- Unique modular design of contact blocks keeps internal parts from falling apart when contact blocks are disassembled or replaced.
- Can assemble or disassemble contact blocks to suit foe various models yet without risking excessive stock.
- Contact blocks can be added click-on easilly, no need to un screw.
- Connecting screws are fasten from the back rather than nomally from the side.It makes wiring easier.
- A special design to keep connecting terminals are screws in the contact blocks can prevent users from electric shocking.
- All the connecting pieces of terminal are covered to avoid from electric shocking.
- Capacities are differentiaed by colors of contact blocks : blue for 10A, gray foe 16A, and black for 25A.



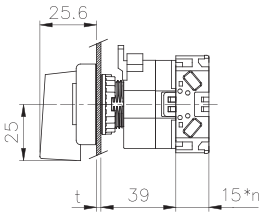
SPECIFICATIONS

Capacity / Voltage	AC-3(kw) 3 ph.	AC-3(kw) 1 ph.	AC-23A(kw) 3 ph.	AC-23A(kw) 1 ph.	AC-21A Iu = Ith
220V ~ 240V	1.5	0.55	1.8	0.75	10A
380V ~ 440V	2.2	0.75	3	1.1	
660V ~ 690V	2.2	0.75	3	1.1	
220V ~ 240V	3	1.5	4	2.2	16A
380V ~ 440V	5.5	2.2	7	3	
660V ~ 690V	5.5	2.2	7	3	
220V ~ 240V	4	3	5.5	3	25A
380V ~ 440V	7.5	3.7	11	5.5	
660V ~ 690V	7.5	3.7	11	5.5	

Rated voltage	AC-3(HP) 3 ph.	AC-3(HP) 1 ph.	Motor load
120V	0.75	0.33	10A
240V	1	0.75	
120V	1.5	0.5	16A
240V	3	1.5	
120V	3	1.5	25A
240V	7.5	3	
480V	10		

CAM Switch
22, 25 & 30 series





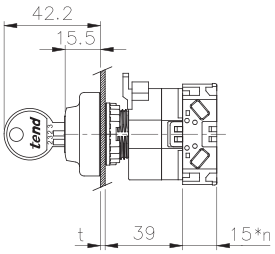
Capacity Size	Amp.	Plate	Contact	Description	Contact block	Amp.	Remark
TCS2S	1	13 ~ 74	1xxx	2 - 3 positions	1 Stack	10A	22 or 25 mm
TCS2S	1	13 ~ 74	2xxx	2 - 3 positions	2 Stacks	10A	22 or 25 mm
TCS2S	1	13 ~ 74	3xxx	2 - 3 positions	3 Stacks	10A	22 or 25 mm
TCS2S	1	13 ~ 74	4xxx	2 - 3 positions	4 Stacks	10A	22 or 25 mm
TCS2S	1	13 ~ 74	5xxx	2 - 3 positions	5 Stacks	10A	22 or 25 mm
TCS2S	1	13 ~ 74	6xxx	2 - 3 positions	6 Stacks	10A	22 or 25 mm
TCS2S	1	13 ~ 74	7xxx	2 - 3 positions	7 Stacks	10A	22 or 25 mm
TCS2S	1	13 ~ 74	8xxx	2 - 3 positions	8 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	1xxx	4 - 8 positions	1 Stack	10A	22 or 25 mm
TCS2S	1	440 ~ 842	2xxx	4 - 8 positions	2 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	3xxx	4 - 8 positions	3 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	4xxx	4 - 8 positions	4 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	5xxx	4 - 8 positions	5 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	6xxx	4 - 8 positions	6 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	7xxx	4 - 8 positions	7 Stacks	10A	22 or 25 mm
TCS2S	1	440 ~ 842	8xxx	4 - 8 positions	8 Stacks	10A	22 or 25 mm
TCS3S	1	13 ~ 74	1xxx	2 - 3 positions	1 Stack	10A	30 mm
TCS3S	1	13 ~ 74	2xxx	2 - 3 positions	2 Stacks	10A	30 mm
TCS3S	1	13 ~ 74	3xxx	2 - 3 positions	3 Stacks	10A	30 mm
TCS3S	1	13 ~ 74	4xxx	2 - 3 positions	4 Stacks	10A	30 mm
TCS3S	1	13 ~ 74	5xxx	2 - 3 positions	5 Stacks	10A	30 mm
TCS3S	1	13 ~ 74	6xxx	2 - 3 positions	6 Stacks	10A	30 mm
TCS3S	1	13 ~ 74	7xxx	2 - 3 positions	7 Stacks	10A	30 mm
TCS3S	1	13 ~ 74	8xxx	2 - 3 positions	8 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	1xxx	4 - 8 positions	1 Stack	10A	30 mm
TCS3S	1	440 ~ 842	2xxx	4 - 8 positions	2 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	3xxx	4 - 8 positions	3 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	4xxx	4 - 8 positions	4 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	5xxx	4 - 8 positions	5 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	6xxx	4 - 8 positions	6 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	7xxx	4 - 8 positions	7 Stacks	10A	30 mm
TCS3S	1	440 ~ 842	8xxx	4 - 8 positions	8 Stacks	10A	30 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30

KEY Switch
22, 25 & 30 series

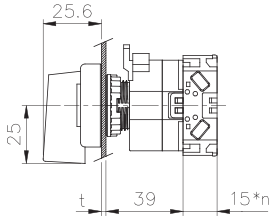




Item code				Description	Contact block	Amp	Remark
Size	Amp	Plate	Contact				
TCS2K	1	13~74	1xxx	2~3 positions	1 Stack	10 A	22 or 25 mm
TCS2K	1	13~74	2xxx	2~3 positions	2 Stacks	10 A	22 or 25 mm
TCS2K	1	13~74	3xxx	2~3 positions	3 Stacks	10 A	22 or 25 mm
TCS2K	1	13~74	4xxx	2~3 positions	4 Stacks	10 A	22 or 25 mm
TCS2K	1	13~74	5xxx	2~3 positions	5 Stacks	10 A	22 or 25 mm
TCS2K	1	13~74	6xxx	2~3 positions	6 Stacks	10 A	22 or 25 mm
TCS2K	1	13~74	7xxx	2~3 positions	7 Stacks	10 A	22 or 25 mm
TCS2K	1	13~74	8xxx	2~3 positions	8 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	1xxx	4~8 positions	1 Stack	10 A	22 or 25 mm
TCS2K	1	440~842	2xxx	4~8 positions	2 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	3xxx	4~8 positions	3 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	4xxx	4~8 positions	4 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	5xxx	4~8 positions	5 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	6xxx	4~8 positions	6 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	7xxx	4~8 positions	7 Stacks	10 A	22 or 25 mm
TCS2K	1	440~842	8xxx	4~8 positions	8 Stacks	10 A	22 or 25 mm
TCS3K	1	13~74	1xxx	2~3 positions	1 Stack	10 A	30 mm
TCS3K	1	13~74	2xxx	2~3 positions	2 Stacks	10 A	30 mm
TCS3K	1	13~74	3xxx	2~3 positions	3 Stacks	10 A	30 mm
TCS3K	1	13~74	4xxx	2~3 positions	4 Stacks	10 A	30 mm
TCS3K	1	13~74	5xxx	2~3 positions	5 Stacks	10 A	30 mm
TCS3K	1	13~74	6xxx	2~3 positions	6 Stacks	10 A	30 mm
TCS3K	1	13~74	7xxx	2~3 positions	7 Stacks	10 A	30 mm
TCS3K	1	13~74	8xxx	2~3 positions	8 Stacks	10 A	30 mm
TCS3K	1	440~842	1xxx	4~8 positions	1 Stack	10 A	30 mm
TCS3K	1	440~842	2xxx	4~8 positions	2 Stacks	10 A	30 mm
TCS3K	1	440~842	3xxx	4~8 positions	3 Stacks	10 A	30 mm
TCS3K	1	440~842	4xxx	4~8 positions	4 Stacks	10 A	30 mm
TCS3K	1	440~842	5xxx	4~8 positions	5 Stacks	10 A	30 mm
TCS3K	1	440~842	6xxx	4~8 positions	6 Stacks	10 A	30 mm
TCS3K	1	440~842	7xxx	4~8 positions	7 Stacks	10 A	30 mm
TCS3K	1	440~842	8xxx	4~8 positions	8 Stacks	10 A	30 mm

CAM Switch
22, 25 & 30 series





Item code				Description	Contact block	Amp	Remark
Size	Amp	Plate	Contact				
TCS2S	2	13~74	1xxx	2~3 positions	1 Stack	16 A	22 or 25 mm
TCS2S	2	13~74	2xxx	2~3 positions	2 Stacks	16 A	22 or 25 mm
TCS2S	2	13~74	3xxx	2~3 positions	3 Stacks	16 A	22 or 25 mm
TCS2S	2	13~74	4xxx	2~3 positions	4 Stacks	16 A	22 or 25 mm
TCS2S	2	13~74	5xxx	2~3 positions	5 Stacks	16 A	22 or 25 mm
TCS2S	2	13~74	6xxx	2~3 positions	6 Stacks	16 A	22 or 25 mm
TCS2S	2	13~74	7xxx	2~3 positions	7 Stacks	16 A	22 or 25 mm
TCS2S	2	13~74	8xxx	2~3 positions	8 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	1xxx	4~8 positions	1 Stack	16 A	22 or 25 mm
TCS2S	2	440~842	2xxx	4~8 positions	2 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	3xxx	4~8 positions	3 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	4xxx	4~8 positions	4 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	5xxx	4~8 positions	5 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	6xxx	4~8 positions	6 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	7xxx	4~8 positions	7 Stacks	16 A	22 or 25 mm
TCS2S	2	440~842	8xxx	4~8 positions	8 Stacks	16 A	22 or 25 mm
TCS3S	2	13~74	1xxx	2~3 positions	1 Stack	16 A	30 mm
TCS3S	2	13~74	2xxx	2~3 positions	2 Stacks	16 A	30 mm
TCS3S	2	13~74	3xxx	2~3 positions	3 Stacks	16 A	30 mm
TCS3S	2	13~74	4xxx	2~3 positions	4 Stacks	16 A	30 mm
TCS3S	2	13~74	5xxx	2~3 positions	5 Stacks	16 A	30 mm
TCS3S	2	13~74	6xxx	2~3 positions	6 Stacks	16 A	30 mm
TCS3S	2	13~74	7xxx	2~3 positions	7 Stacks	16 A	30 mm
TCS3S	2	13~74	8xxx	2~3 positions	8 Stacks	16 A	30 mm
TCS3S	2	440~842	1xxx	4~8 positions	1 Stack	16 A	30 mm
TCS3S	2	440~842	2xxx	4~8 positions	2 Stacks	16 A	30 mm
TCS3S	2	440~842	3xxx	4~8 positions	3 Stacks	16 A	30 mm
TCS3S	2	440~842	4xxx	4~8 positions	4 Stacks	16 A	30 mm
TCS3S	2	440~842	5xxx	4~8 positions	5 Stacks	16 A	30 mm
TCS3S	2	440~842	6xxx	4~8 positions	6 Stacks	16 A	30 mm
TCS3S	2	440~842	7xxx	4~8 positions	7 Stacks	16 A	30 mm
TCS3S	2	440~842	8xxx	4~8 positions	8 Stacks	16 A	30 mm

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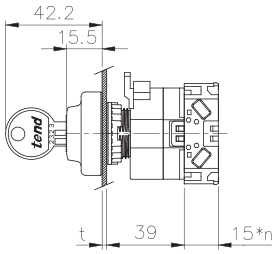
tend CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30

KEY Switch
22, 25 & 30 series

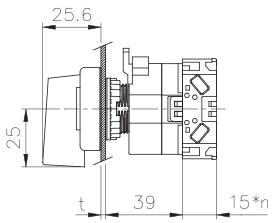




Item Code				Description	Contact Block	Amp.	Remark
Size	Amp.	Plate	Contact				
TCS2K	2	13~74	1xxx	2~3 positions	1 Stack	16 A	22 or 25 mm
TCS2K	2	13~74	2xxx	2~3 positions	2 Stacks	16 A	22 or 25 mm
TCS2K	2	13~74	3xxx	2~3 positions	3 Stacks	16 A	22 or 25 mm
TCS2K	2	13~74	4xxx	2~3 positions	4 Stacks	16 A	22 or 25 mm
TCS2K	2	13~74	5xxx	2~3 positions	5 Stacks	16 A	22 or 25 mm
TCS2K	2	13~74	6xxx	2~3 positions	6 Stacks	16 A	22 or 25 mm
TCS2K	2	13~74	7xxx	2~3 positions	7 Stacks	16 A	22 or 25 mm
TCS2K	2	13~74	8xxx	2~3 positions	8 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	1xxx	4~8 positions	1 Stack	16 A	22 or 25 mm
TCS2K	2	440~842	2xxx	4~8 positions	2 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	3xxx	4~8 positions	3 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	4xxx	4~8 positions	4 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	5xxx	4~8 positions	5 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	6xxx	4~8 positions	6 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	7xxx	4~8 positions	7 Stacks	16 A	22 or 25 mm
TCS2K	2	440~842	8xxx	4~8 positions	8 Stacks	16 A	22 or 25 mm
TCS3K	2	13~74	1xxx	2~3 positions	1 Stack	16 A	30 mm
TCS3K	2	13~74	2xxx	2~3 positions	2 Stacks	16 A	30 mm
TCS3K	2	13~74	3xxx	2~3 positions	3 Stacks	16 A	30 mm
TCS3K	2	13~74	4xxx	2~3 positions	4 Stacks	16 A	30 mm
TCS3K	2	13~74	5xxx	2~3 positions	5 Stacks	16 A	30 mm
TCS3K	2	13~74	6xxx	2~3 positions	6 Stacks	16 A	30 mm
TCS3K	2	13~74	7xxx	2~3 positions	7 Stacks	16 A	30 mm
TCS3K	2	13~74	8xxx	2~3 positions	8 Stacks	16 A	30 mm
TCS3K	2	440~842	1xxx	4~8 positions	1 Stack	16 A	30 mm
TCS3K	2	440~842	2xxx	4~8 positions	2 Stacks	16 A	30 mm
TCS3K	2	440~842	3xxx	4~8 positions	3 Stacks	16 A	30 mm
TCS3K	2	440~842	4xxx	4~8 positions	4 Stacks	16 A	30 mm
TCS3K	2	440~842	5xxx	4~8 positions	5 Stacks	16 A	30 mm
TCS3K	2	440~842	6xxx	4~8 positions	6 Stacks	16 A	30 mm
TCS3K	2	440~842	7xxx	4~8 positions	7 Stacks	16 A	30 mm
TCS3K	2	440~842	8xxx	4~8 positions	8 Stacks	16 A	30 mm

CAM Switch
22, 25 & 30 series





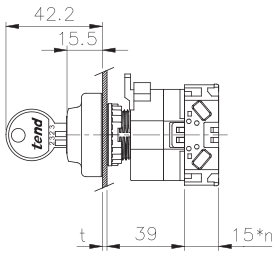
Item Code				Description	Contact Block	Amp.	Remark
Size	Amp.	Plate	Contact				
TCS2S	3	13~74	1xxx	2~3 positions	1 Stack	25 A	22 or 25 mm
TCS2S	3	13~74	2xxx	2~3 positions	2 Stacks	25 A	22 or 25 mm
TCS2S	3	13~74	3xxx	2~3 positions	3 Stacks	25 A	22 or 25 mm
TCS2S	3	13~74	4xxx	2~3 positions	4 Stacks	25 A	22 or 25 mm
TCS2S	3	13~74	5xxx	2~3 positions	5 Stacks	25 A	22 or 25 mm
TCS2S	3	13~74	6xxx	2~3 positions	6 Stacks	25 A	22 or 25 mm
TCS2S	3	13~74	7xxx	2~3 positions	7 Stacks	25 A	22 or 25 mm
TCS2S	3	13~74	8xxx	2~3 positions	8 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	1xxx	4~8 positions	1 Stack	25 A	22 or 25 mm
TCS2S	3	440~842	2xxx	4~8 positions	2 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	3xxx	4~8 positions	3 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	4xxx	4~8 positions	4 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	5xxx	4~8 positions	5 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	6xxx	4~8 positions	6 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	7xxx	4~8 positions	7 Stacks	25 A	22 or 25 mm
TCS2S	3	440~842	8xxx	4~8 positions	8 Stacks	25 A	22 or 25 mm
TCS3S	3	13~74	1xxx	2~3 positions	1 Stack	25 A	30 mm
TCS3S	3	13~74	2xxx	2~3 positions	2 Stacks	25 A	30 mm
TCS3S	3	13~74	3xxx	2~3 positions	3 Stacks	25 A	30 mm
TCS3S	3	13~74	4xxx	2~3 positions	4 Stacks	25 A	30 mm
TCS3S	3	13~74	5xxx	2~3 positions	5 Stacks	25 A	30 mm
TCS3S	3	13~74	6xxx	2~3 positions	6 Stacks	25 A	30 mm
TCS3S	3	13~74	7xxx	2~3 positions	7 Stacks	25 A	30 mm
TCS3S	3	13~74	8xxx	2~3 positions	8 Stacks	25 A	30 mm
TCS3S	3	440~842	1xxx	4~8 positions	1 Stack	25 A	30 mm
TCS3S	3	440~842	2xxx	4~8 positions	2 Stacks	25 A	30 mm
TCS3S	3	440~842	3xxx	4~8 positions	3 Stacks	25 A	30 mm
TCS3S	3	440~842	4xxx	4~8 positions	4 Stacks	25 A	30 mm
TCS3S	3	440~842	5xxx	4~8 positions	5 Stacks	25 A	30 mm
TCS3S	3	440~842	6xxx	4~8 positions	6 Stacks	25 A	30 mm
TCS3S	3	440~842	7xxx	4~8 positions	7 Stacks	25 A	30 mm
TCS3S	3	440~842	8xxx	4~8 positions	8 Stacks	25 A	30 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CAM SWITCH
แคมสวิตช์
Ø22 / Ø25 / Ø30

KEY Switch
22, 25 & 30 series





Item Code				Description	Contact Block	Amp.	Remark
Size	Amp.	Plate	Contact				
TCS2K	3	13~74	1xxx	2~3 positions	1 Stack	25 A	22 or 25 mm
TCS2K	3	13~74	2xxx	2~3 positions	2 Stacks	25 A	22 or 25 mm
TCS2K	3	13~74	3xxx	2~3 positions	3 Stacks	25 A	22 or 25 mm
TCS2K	3	13~74	4xxx	2~3 positions	4 Stacks	25 A	22 or 25 mm
TCS2K	3	13~74	5xxx	2~3 positions	5 Stacks	25 A	22 or 25 mm
TCS2K	3	13~74	6xxx	2~3 positions	6 Stacks	25 A	22 or 25 mm
TCS2K	3	13~74	7xxx	2~3 positions	7 Stacks	25 A	22 or 25 mm
TCS2K	3	13~74	8xxx	2~3 positions	8 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	1xxx	4~8 positions	1 Stack	25 A	22 or 25 mm
TCS2K	3	440~842	2xxx	4~8 positions	2 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	3xxx	4~8 positions	3 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	4xxx	4~8 positions	4 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	5xxx	4~8 positions	5 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	6xxx	4~8 positions	6 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	7xxx	4~8 positions	7 Stacks	25 A	22 or 25 mm
TCS2K	3	440~842	8xxx	4~8 positions	8 Stacks	25 A	22 or 25 mm
TCS3K	3	13~74	1xxx	2~3 positions	1 Stack	25 A	30 mm
TCS3K	3	13~74	2xxx	2~3 positions	2 Stacks	25 A	30 mm
TCS3K	3	13~74	3xxx	2~3 positions	3 Stacks	25 A	30 mm
TCS3K	3	13~74	4xxx	2~3 positions	4 Stacks	25 A	30 mm
TCS3K	3	13~74	5xxx	2~3 positions	5 Stacks	25 A	30 mm
TCS3K	3	13~74	6xxx	2~3 positions	6 Stacks	25 A	30 mm
TCS3K	3	13~74	7xxx	2~3 positions	7 Stacks	25 A	30 mm
TCS3K	3	13~74	8xxx	2~3 positions	8 Stacks	25 A	30 mm
TCS3K	3	440~842	1xxx	4~8 positions	1 Stack	25 A	30 mm
TCS3K	3	440~842	2xxx	4~8 positions	2 Stacks	25 A	30 mm
TCS3K	3	440~842	3xxx	4~8 positions	3 Stacks	25 A	30 mm
TCS3K	3	440~842	4xxx	4~8 positions	4 Stacks	25 A	30 mm
TCS3K	3	440~842	5xxx	4~8 positions	5 Stacks	25 A	30 mm
TCS3K	3	440~842	6xxx	4~8 positions	6 Stacks	25 A	30 mm
TCS3K	3	440~842	7xxx	4~8 positions	7 Stacks	25 A	30 m/m
TCS3K	3	440~842	8xxx	4~8 positions	8 Stacks	25 A	30 mm

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MAIN SWITCH
เมนสวิตช์

FEATURE

- These series of switches has 5 types of capacity ranging from 16A to 66A.
- Installation includes fixed way (fixed on the operating panel) and detached way (contact fixed in the control box whereas upper base and handles fixed on the tope cover of the control box)
- Detachable type can be installed on TBR-N (standard aluminium rail-wide rail)
- There are two types of switching handles : standard and round.Standard is colored in red, yellow or black, silver while round ones in red, yellow or black, gray.

MODEL DESIGNATION

TDS25 F R R 1

1 2 3 4 5

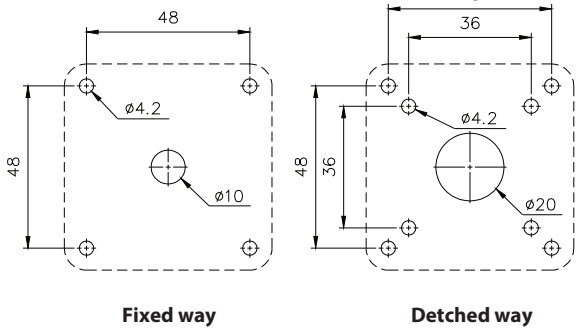
Designation	Signal	Description
1. Capacity	TDS16	16A
	TDS25	25A
	TDS33	33A
	TDS40	40A
	TDS66	66A
2. Installation way	F	Fixed way
	B	Detched way
	E	Control stations
3. Handle	S	Standard handle
	R	Rotundity handle
4. Color	B	Black / Silver / Gray
	R	Red / Yellow
5. Transmission rod length (only detached way)	None	100 mm
	1	150 mm
	2	250 mm
	3	300 mm

	Type / Voltage	TDS16	TDS25	TDS33	TDS40	TDS66
AC-3 (kw)	220V - 240V	2.2	4	5.5	7.5	11.0
	380V - 440V	3.7	5.5	7.5	11.0	18.5
	660V - 690V	3.7	5.5	7.5	15.0	22.5
AC-23A (kw)	220V - 240V	3.0	5.5	5.5	7.5	11.0
	380V - 440V	5.5	7.5	11.5	15.0	22.0
	660V - 690V	3.7	7.5	11.5	18.5	30.0
AC-21		16A	25A	33A	40A	66A

	Type / Voltage	TDS16	TDS25	TDS33	TDS40	TDS66
AC-3 (hp)	110V - 120V	1	1.5	2	3	5
	220V - 440V	2	3	5	7.5	10
	380V - 440V	3	5	10	15	20
	660V - 690V	3	5	10	15	20

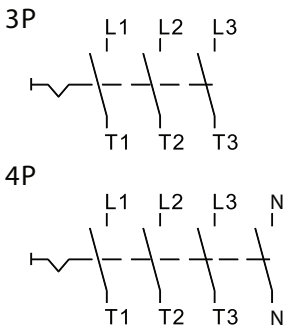
3 phase . 3 poles

PLATE DIMENSIONS

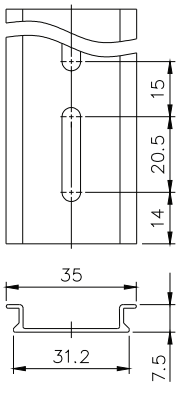


Fixed way Detched way

WIRING DIAGRAM



TBR-N (Dimensions)



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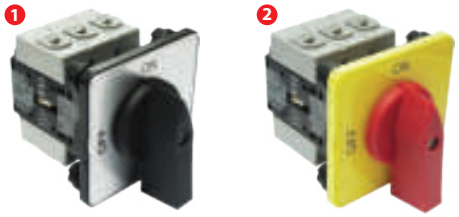
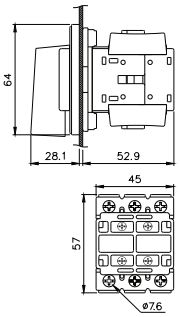
tend MAIN SWITCH
เมนสวิตช์

DIMENSIONS

Fixed Way Standard Handle

1. TDS16/25/33-FSB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS16/25/33-FSR
   หน้าปัดสีเหลือง ลูกบิดสีแดง



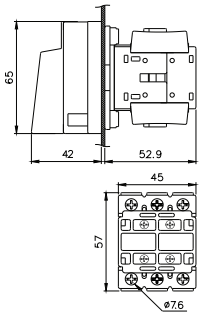


Type
TDS16(16A)-FSB
TDS16(16A)-FSR
TDS25(25A)-FSB
TDS25(25A)-FSR
TDS33(33A)-FSB
TDS33(33A)-FSR

Fixed Way Rotundity Handle

1. TDS16/25/33-FRB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS16/25/33-FRR
   หน้าปัดสีเหลือง ลูกบิดสีแดง



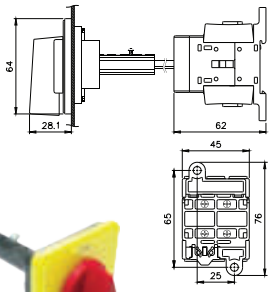


Type
TDS16(16A)-FRB
TDS16(16A)-FRR
TDS25(25A)-FRB
TDS25(25A)-FRR
TDS33(33A)-FRB
TDS33(33A)-FRR

Detched Way Standard Handle

1. TDS16/25/33-BSB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS16/25/33-BSR
   หน้าปัดสีเหลือง ลูกบิดสีแดง



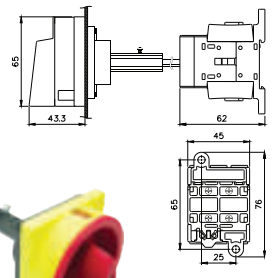


Type	Price	Type
TDS16(16A)-BSB	1,210.-	TDS16(16A)-BSR
TDS16(16A)-BSB1	1,210.-	TDS16(16A)-BSR1
TDS16(16A)-BSB2	1,300.-	TDS16(16A)-BSR2
TDS16(16A)-BSB3	1,300.-	TDS16(16A)-BSR3
TDS25(25A)-BSB	1,300.-	TDS25(25A)-BSR
TDS25(25A)-BSB1	1,300.-	TDS25(25A)-BSR1
TDS25(25A)-BSB2	1,430.-	TDS25(25A)-BSR2
TDS25(25A)-BSB3	1,430.-	TDS25(25A)-BSR3
TDS33(33A)-BSB	1,540.-	TDS33(33A)-BSR
TDS33(33A)-BSB1	1,540.-	TDS33(33A)-BSR1
TDS33(33A)-BSB2	1,630.-	TDS33(33A)-BSR2
TDS33(33A)-BSB3	1,630.-	TDS33(33A)-BSR3

Detched Way Rotundity Handle

1. TDS16/25/33-BRB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS16/25/33-BRR
   หน้าปัดสีเหลือง ลูกบิดสีแดง





Type	Price	Type
TDS16(16A)-BRB	1,210.-	TDS16(16A)-BRR
TDS16(16A)-BRB1	1,210.-	TDS16(16A)-BRR1
TDS16(16A)-BRB2	1,300.-	TDS16(16A)-BRR2
TDS16(16A)-BRB3	1,300.-	TDS16(16A)-BRR3
TDS25(25A)-BRB	1,300.-	TDS25(25A)-BRR
TDS25(25A)-BRB1	1,300.-	TDS25(25A)-BRR1
TDS25(25A)-BRB2	1,430.-	TDS25(25A)-BRR2
TDS25(25A)-BRB3	1,430.-	TDS25(25A)-BRR3
TDS33(33A)-BRB	1,540.-	TDS33(33A)-BRR
TDS33(33A)-BRB1	1,540.-	TDS33(33A)-BRR1
TDS33(33A)-BRB2	1,630.-	TDS33(33A)-BRR2
TDS33(33A)-BRB3	1,630.-	TDS33(33A)-BRR3

หมายเหตุ : ราคานี้พร้อมก้านมาตราฐาน 100 มม. มีก้านความยาวอีก 3 ขนาด สามารถเปลี่ยนได้ตามความต้องการราคาก้านยาว 150 มม. ก้านยาว 250 มม. ก้านยาว 300 มม.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

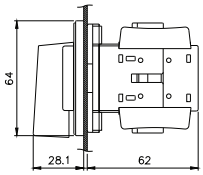
tend MAIN SWITCH
เมนสวิตช์

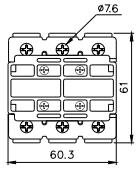
DIMENSIONS

Fixed Way Standard Handle

1. TDS40/66/80-FSB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS40/60/80-FSR
   หน้าปัดสีเหลือง ลูกบิดสีแดง





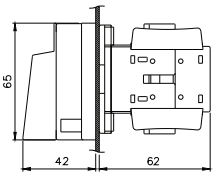


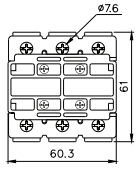
Type
TDS40(40A)-FSB
TDS40(40A)-FSR
TDS66(66A)-FSB
TDS66(66A)-FSR
TDS80(80A)-FSB
TDS80(80A)-FSR

Fixed Way Rotundity Handle

1. TDS40/66/80-FRB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS40/66/80-FRR
   หน้าปัดสีเหลือง ลูกบิดสีแดง



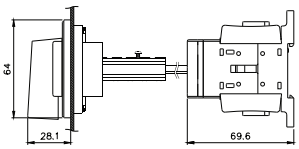




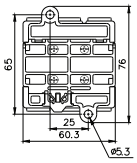
Type
TDS40(40A)-FRB
TDS40(40A)-FRR
TDS66(66A)-FRB
TDS66(66A)-FRR
TDS80(80A)-FRB
TDS80(80A)-FRR

Detched Way Rotundity Handle

1. TDS40/66/80-BSB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS40/66/80-BSR
   หน้าปัดสีเหลือง ลูกบิดสีแดง



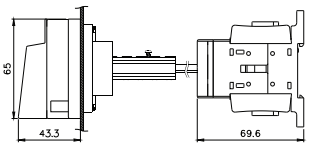




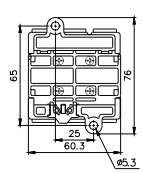
Type	Price	Type
TDS40(40A)-BSB	1,830.-	TDS40(40A)-BSR
TDS40(40A)-BSB1	1,830.-	TDS40(40A)-BSR1
TDS40(40A)-BSB2	1,930.-	TDS40(40A)-BSR2
TDS40(40A)-BSB3	1,930.-	TDS40(40A)-BSR3
TDS66(66A)-BSB	2,270.-	TDS66(66A)-BSR
TDS66(66A)-BSB1	2,270.-	TDS66(66A)-BSR1
TDS66(66A)-BSB2	2,380.-	TDS66(66A)-BSR2
TDS66(66A)-BSB3	2,380.-	TDS66(66A)-BSR3
TDS80(80A)-BSB	2,960.-	TDS80(80A)-BSR
TDS80(80A)-BSB1	2,960.-	TDS80(80A)-BSR1
TDS80(80A)-BSB2	3,070.-	TDS80(80A)-BSR2
TDS80(80A)-BSB3	3,070.-	TDS80(80A)-BSR3

Detched Way Rotundity Handle

1. TDS40/66/80-BRB
   หน้าปัดสีขาว ลูกบิดสีดำ
2. TDS40/66/80-BRR
   หน้าปัดสีเหลือง ลูกบิดสีแดง







Type	Price	Type
TDS40(40A)-BRB	1,830.-	TDS40(40A)-BRR
TDS40(40A)-BRB1	1,830.-	TDS40(40A)-BRR1
TDS40(40A)-BRB2	1,930.-	TDS40(40A)-BRR2
TDS40(40A)-BRB3	1,930.-	TDS40(40A)-BRR3
TDS66(66A)-BRB	2,270.-	TDS66(66A)-BRR
TDS66(66A)-BRB1	2,270.-	TDS66(66A)-BRR1
TDS66(66A)-BRB2	2,380.-	TDS66(66A)-BRR2
TDS66(66A)-BRB3	2,380.-	TDS66(66A)-BRR3
TDS80(80A)-BRB	2,960.-	TDS80(80A)-BRR
TDS80(80A)-BRB1	2,960.-	TDS80(80A)-BRR1
TDS80(80A)-BRB2	3,070.-	TDS80(80A)-BRR2
TDS80(80A)-BRB3	3,070.-	TDS80(80A)-BRR3

หมายเหตุ : ราคานี้พร้อมก้านมาตราฐาน 100 มม. มีก้านความยาวอีก 3 ขนาด สามารถเปลี่ยนได้ตามความต้องการราคาก้านยาว 150 มม. ก้านยาว 250 มม. ก้านยาว 300 มม.

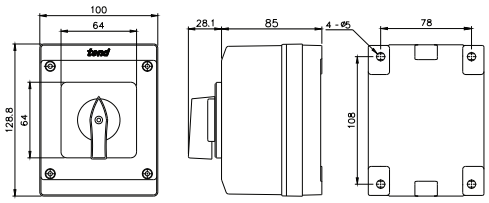
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MAIN SWITCH
เมนสวิตช์

CONTROL STATION STANDARD HANDLE

TDS-ESB
หน้าปัดสีขาว, ลูกบิดสีดำ

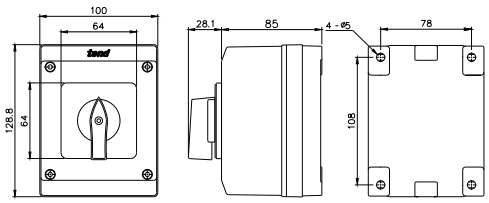




Type
TDS-16ESB(16A)
TDS-25ESB(25A)
TDS-33ESB(33A)
TDS-40ESB(40A)
TDS-66ESB(66A)
TDS-80ESB(80A)

TDS-ESR
หน้าปัดสีเหลือง, ลูกบิดสีแดง



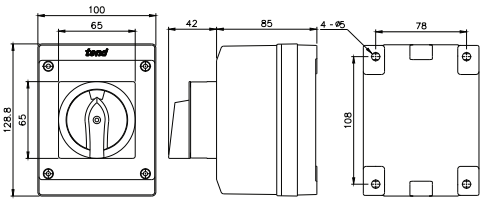


Type
TDS-16ESR(16A)
TDS-25ESR(25A)
TDS-33ESR(33A)
TDS-40ESR(40A)
TDS-66ESR(66A)
TDS-80ESR(80A)

CONTROL STATION ROTUNDITY HANDLE

TDS-ERB
หน้าปัดสีขาว, ลูกบิดสีดำ

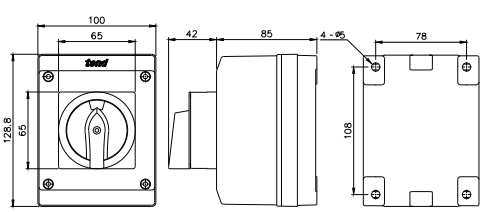




Type
TDS-16ERB(16A)
TDS-25ERB(25A)
TDS-33ERB(33A)
TDS-40ERB(40A)
TDS-66ERB(66A)
TDS-80ERB(80A)

TDS-ERR
หน้าปัดสีเหลือง, ลูกบิดสีแดง





Type
TDS-16ERR(16A)
TDS-25ERR(25A)
TDS-33ERR(33A)
TDS-40ERR(40A)
TDS-66ERR(66A)
TDS-80ERR(80A)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MAIN SWITCH
เมนสวิตช์

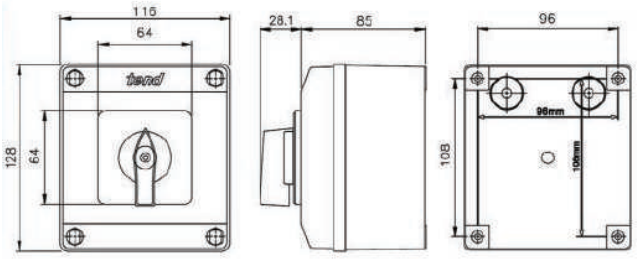
CONTROL STATIONS

TDS4□□-ESB



TDS4□□-ESR



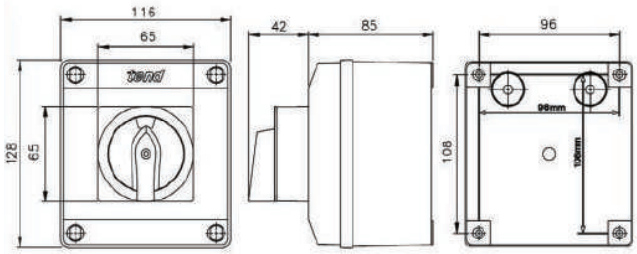


TDS4□□-ERB



TDS4□□-ERR



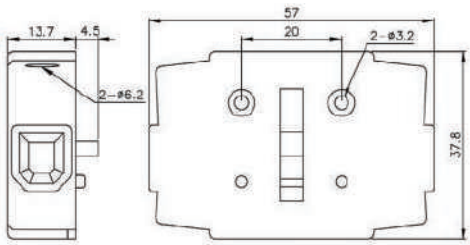


REINFORCING CONTACT BLOCK & COVER

TDS16/33-AF/AB□ **□ :blank=1P, 2=2P (Single side)**

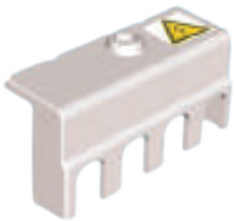


Designation	Description
TDS16-AF	16A Fixed reinforcing contact block
TDS33-AF	33A Fixed reinforcing contact block
TDS16-AB	16A Detachable reinforcing contact block
TDS33-AB	33A Detachable reinforcing contact block



1NO

- Can be used as the main contact block with the same voltage,or as an reinforcing contact block with different voltage.
- A maximum of two sets of reinforcing contact blocks can be attached on one side.



Designation	Description
TDS40-C4	40A-4P cover (16A~40A)
TDS80-C4	80A-4P cover (66A~80A)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MULTIFUNCTION COUNTER
มัลติฟังก์ชั่นเคาน์เตอร์

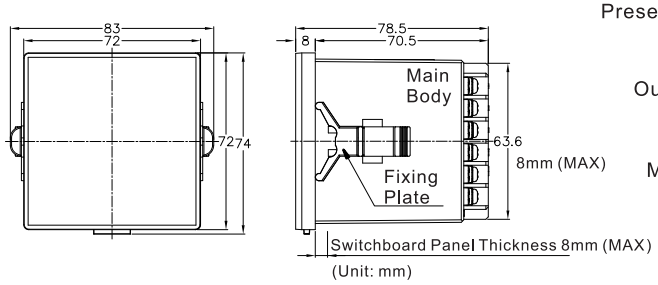
MODEL : T7D-C

CAUTION BEFORE USE

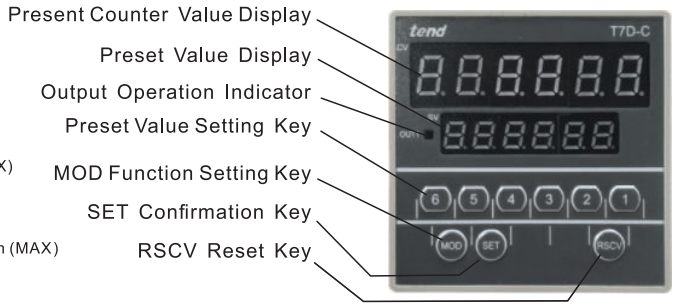
(Hold the MOD key then switch it on, the S/W version date can be displayed.)

1. Check and ensure if electricity 110VAC or 220 VAC power is connected to the correct terminals.
2. Do not run Counter Signal Input line or Reset Signal Input line parallel with AC power wires for drive power, hi-voltage power, main stream current, or twisting together with the latter of along through shielding conduit. When unavoidable be sure to run only insulation coat protected lines.
3. Do not use it under direct sunlight, where there is sharp change in temperature, corrosive gas, moisture and dust, spill of oil, water or chemical, or where there is heavy vibration or impacts.

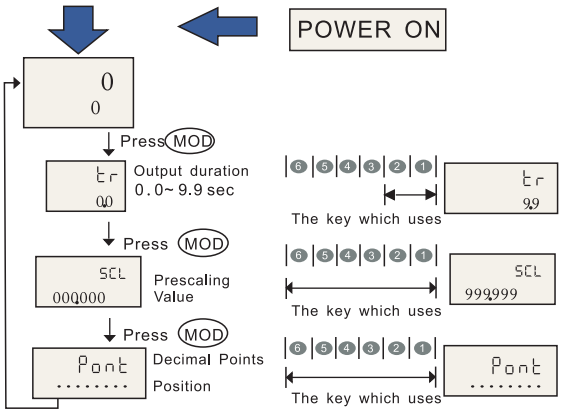
APPEARANCE AND DIMENSIONS



PANEL DESCRIPTIONS

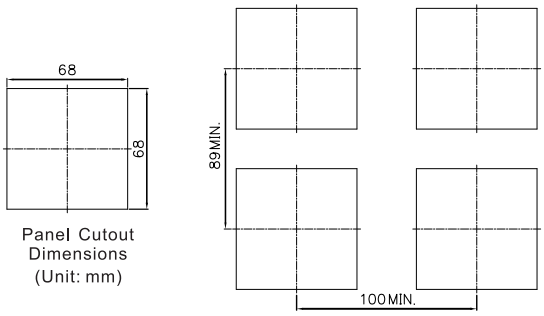


MOD FUNCTION KEY SETTING INSTRUTIONS



Display will return to run Mode in 3 seconds when no key is triggered or when SET key is pressed.

PANEL CUTOUTS

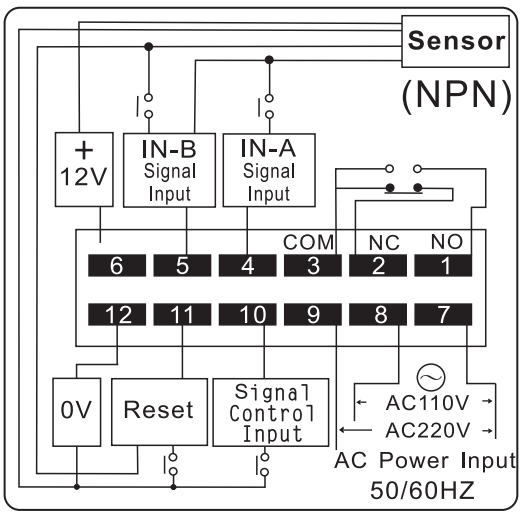


PRESET SETTING

Use ⑥ ⑤ ④ ③ ② ① key to adjust the sv value, from 000000 to 999999

Note: Display will return to run Mode in 3 seconds when no key is pressed for 3 sec or when the SET key is pressed.

TERMINAL ARRANGEMENT



SPECIFICATIONS

Power supply	AC110/220V 50/60HZ <4VA
Input method	H(Logic):4.5~30Vdc, L(Logic):0~2Vdc,(Impedence:4.7KΩ)
Counting speed	Contact Input: 30cps (max), Contactless Input: 3000cps (max)
Power source for sensor	12Vdc(±10%)/70mA MAX
Reset input	MIN Input Signal: 50mS
Control output	NO/NC 10A/5A 120Vac (240Vac MAX)
Output time	0~9.9 sec
Memory	EEPROM (Overwrites: 100,000 times, data store for more than 10 years)
Working temperature	-10°C~55°C (No Ice or Condensation)
Ambient temperature	-25°C~65°C (No Ice or Condensation)
Ambient humidity	45%~85%RH

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MULTIFUNCTION COUNTER
มัลติฟังก์ชั่นเคาน์เตอร์

BASIC FUNCTION SETTINGS

1	MOD Control	Description
	Enabled	Function selection enabled
	Disabled	Function selection disabled

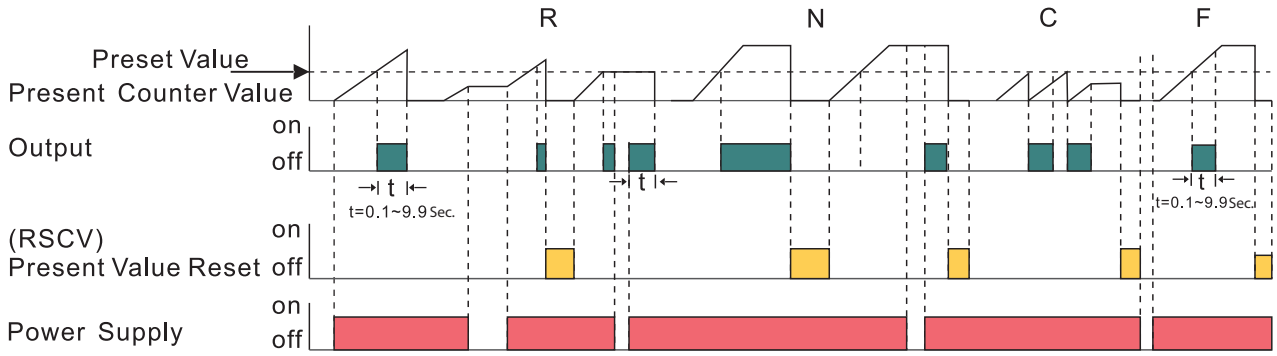
234	Output function	Description
	N mode	Manual reset (CV resets externally)
	R mode	Auto reset (CV resets when output finishes)
	C mode	Auto reset (CV resets when output starts)
	F mode	Manual reset (CV resets externally)

56	Counter mode	Description
	Single add up mode	IN-A Input addition, IN-B No input
	Addition mode	IN-A and IN-B can be inputted together or separate
	Subtraction mode	IN-A Input addition, IN-B Input subtraction
	Up/Down mode	IN-A and IN-B Input phase shift of 90 degree, addition or subtraction can be autometically determined

78	Counter mode	Description
	30CPS	Used for contact input (Micro switch,Relay)
	1000CPS	Used for contactless input
	3000CPS	Used for contactless input

Note: CPS = counts per second

TIMING CHARTS (COUNTER OPERATION AND R,N,C AUTO OR MANUAL RESET MODE)



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOTAL COUNTER
โททอลเคาน์เตอร์

LIMITATION OF USE

When this product is used on devices with special safety requirement or when it is used in important applications, please pay special attention to the overall system and device safety.

When necessary, please install fail-safe safety device, perform additional checks and regular inspections and other appreciate safety measures.

Class II.

Backlight Function (Optional) requires external AC/DC24V Power Supply.

SAFETY PRECAUTIONS

In order to prevent injuries and accidents, be sure to follow the below warnings. In the case of misuse, it could cause death or serious injury to the user.

NOTE: In the case of misuse, it could cause injury to the user or damage to the article.

Warnings

- Incorrect wiring may cause damages to the product or other hazards. Before power is turned on, please make sure the wiring of this product is correct.
- When wiring, moving or prior to installing this product, please make sure the power is off, otherwise it may cause electric shock.
- Do not touch the conductive parts, such as the power supply terminals, or it may cause electric shock.
- Do not disassemble the product as this may cause electric shock or malfunction of the product.

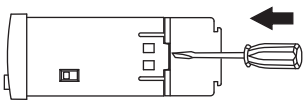
Note

- Please check the specifications for the recommended operating ranges for use (such as temperature, humidity, voltage installation etc.) Otherwise, it could cause fire or malfunction of the product.
- Please use screws to secure the wire connections tightly. If the connection is not secured, it may cause abnormal heat or smoke.

BATTERY REPLACEMENT

1.Use the flathead screwdriver to pry open the housing.
2.Pull open the housing.
3.Remove the old battery(CR123A), insert a new battery, and pay attention to polarity.
(Please complete these steps within 30 seconds to ensure the memory is not lost.)

1.



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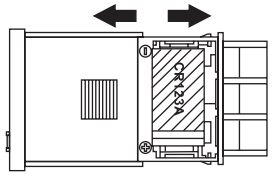
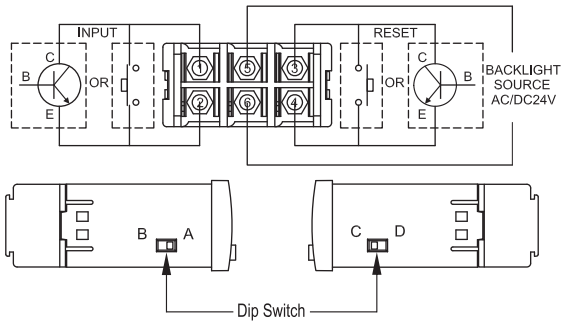


SPECIFICATIONS

Operating voltage	DC:3 (Battery : CR123A)
Battery life	7 Years (at 25 C)
Backlight operating voltage	AC/DC 24V
Backlight voltage range	85% ~ 110% of rated operating voltage
Backlight power supply frequency	50/60HZ
Power consumption	About 0.8W/2.4VA
Ambient temperature	-10 C~50 C
Ambient humidity	Max 85% RH
Weight	About 68g
Max. counting speeds	30HZ/1KKHZ

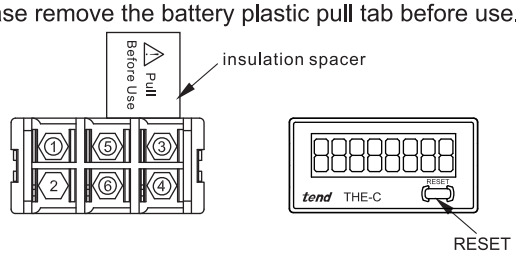
WIRING DIAGRAM



Key function	A	B	C	D
			Key protect	
	1K HZ	30 HZ	Key/P off	Key/P on

BEFORE USE

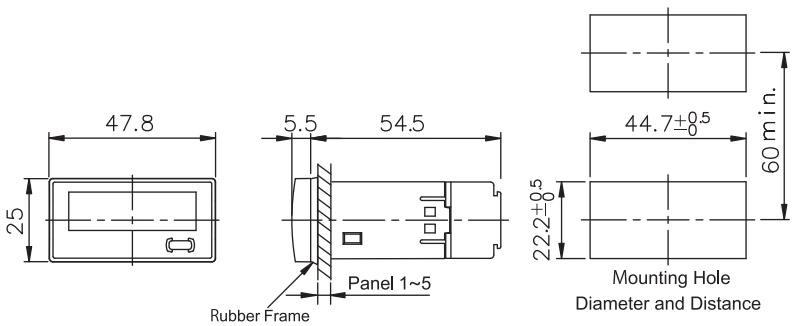
Please remove the battery plastic pull tab before use.



APPEARANCE AND DIMENSIONS

THE-C (No Backlight)
THE-CB (Backlight)





LED MACHINE LIGHT
โคมไฟส่องเครื่องจักรใช้หลอด LED

CHARACTERISTICS

Lamp	Cold white LED	LED	55W	70W
Watt	8W		55W	70W
Voltage	12 VAC/CD, 24VAC/DC, 100 ~ 240VAC		12VAC/DC	24VAC/DC
Illumination at 50 cm	10,000 UX. Min.	5,500 UX. Min.	4,500 UX. Min.	6,800 UX. Min.
Life	30,000 hrs. Min.		800 hrs. Min	
IP rating	IP65			
Glass	Tempered glass			

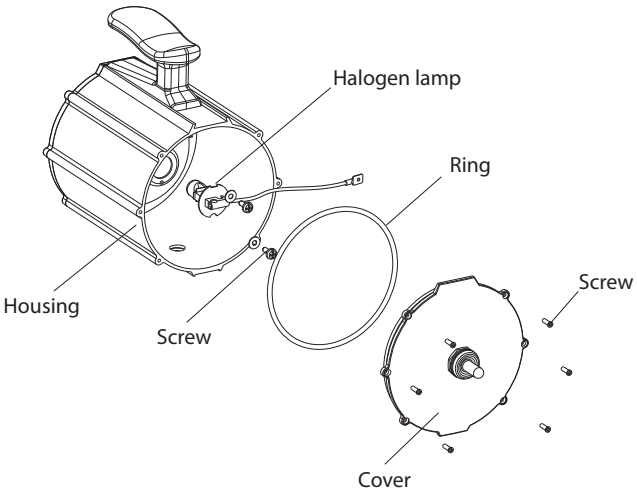
MODEL DESIGNATIONS

THL 10 - 7 H 7 L S ☐
1 2 3 4 5 6

Item	Signal	Description
1.Type	THL 10-7	Ø100mm Machine Lights
2.Lever	7W	Warm white LED
	7C	Color white LED
	H	Halogen Lamp
3.Voltage	1	110VAC (Halogen Lamp)
	2	100~ 240VAC (LED)
	7	24VAC/DC
	9	12VAC/DC
4.Length	L	410mm + 390mm
	M	410mm + 115mm
	R	220mm + 220mm
	S	- -
5.Base	Space	Square 45mm*45mm
	L	L Type Base
	S6	Square 60mm*60mm
	T	Triangle Base
6.Color	Space	Silver
	B	Black

REPLACEMENT LAMP

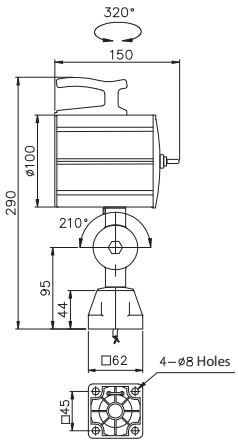
Step 1 - Loosen the screws.
Step 2 - Release cover and O-ring.
Step 3 - Loosen the screws and replace the halogen lamp.



DIMENSIONS

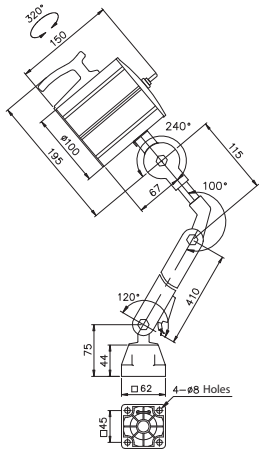
- **THL-10-S**
  THL10-7W-S
  THL10-7C-S
  THL10-H-S





- **THL-10-M**
  THL10-7W-M
  THL10-7C-M
  THL10-H-M





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend LED MACHINE LIGHT
โคมไฟส่องเครื่องจักรใช้หลอด LED

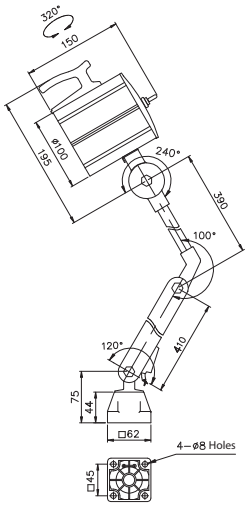
SGS CE

DIMENSIONS

- **THL-10-L**

THL10-7W-L
THL10-7C-L
THL10-H-L

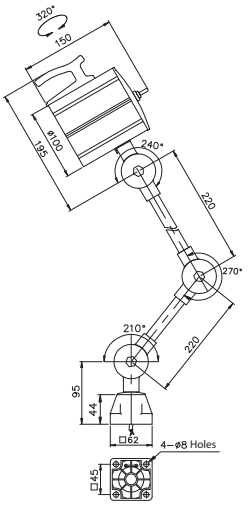




- **THL-10-R**

THL10-7W-R
THL10-7C-R
THL10-H-R



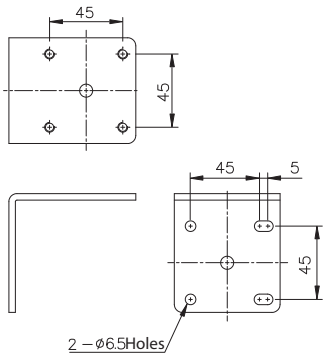


BASE
ฐานตั้งโคมสำหรับรุ่น THL 10 และ THL 07

BASE For THL 10, THL 07

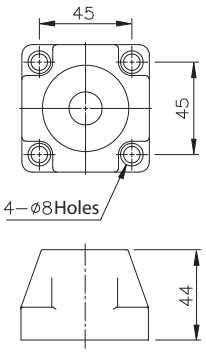
(THL-10-A)





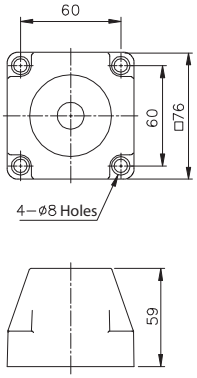
45 mm
(THL-10-S4)





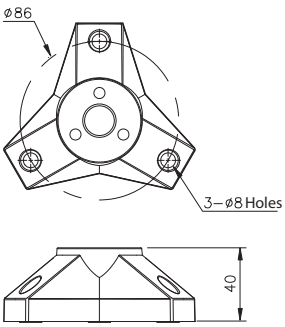
60 mm
(THL-10-S6)





(THL-10-T)





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

LED MACHINE LIGHT
โคมไฟส่องเครื่องจักรใช้หลอด HALOGEN
Ø70

SGS CE

FEATURES

- Flexible Conduit
- Tempered Glass
- Osram Halogen lamp 12V 20W
- 5 Kinds of the
- 1200 Lux at 50 cm distance

MODEL DESIGNATION

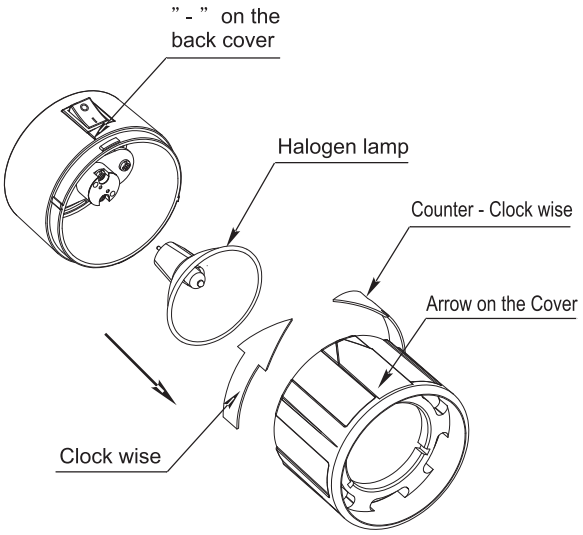
THL07 — 1 T M

① ② ③ ④

Item	Signal	Description
1.Type	THL07	70mm
2.Voltage	1	110 VAC
	2	220 VAC
	9	12 VAC/DC
3.Length of arm	T	Flexible conduit 460mm
	L	310mm+390mm(Only 12V)
	M	310mm+115mm(Only 12V)
	R	220mm+220mm
	S	No Arm.
4.Base	L	L Type base
	M	Magnetic base
	T	Triangle base
	S4	45*45mm
	S6	60*60mm

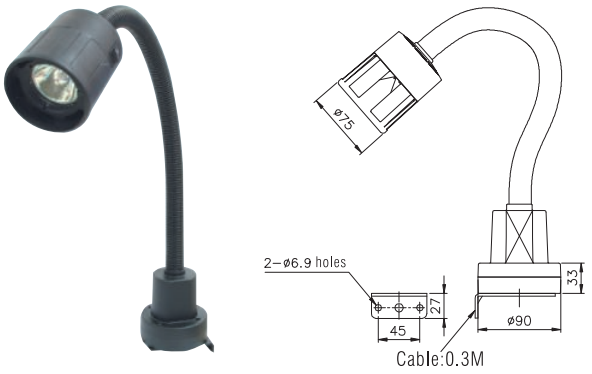
HALOGEN LAMP

Replacement :
Step1. To turn counter – clockwise to release the cover.
Step2. Replace Halogen lamp.
Step3. To Align the "Arrow on the cover" and the "- on the back cover" then turn clockwise to fit the cover.

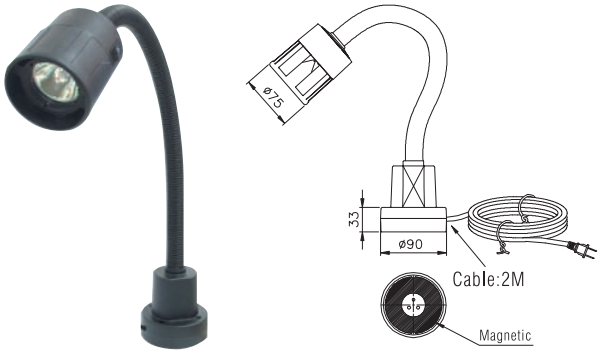


DIMENSIONS

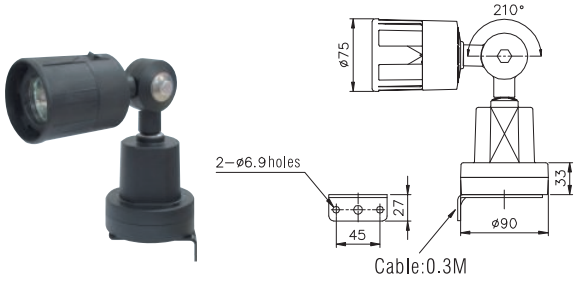
THL07-TL



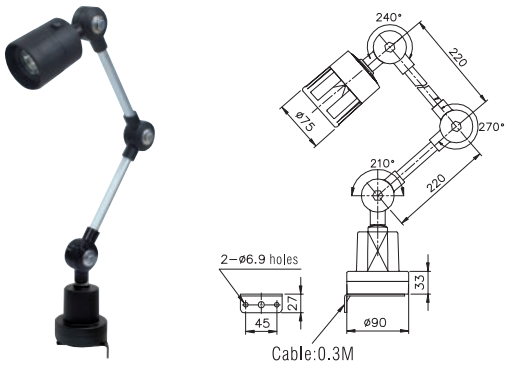
THL07-TM



THL07-SL



THL07-RL



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend LED MACHINE LIGHT

โคมไฟส่องเครื่องจักรใช้หลอด HALOGEN

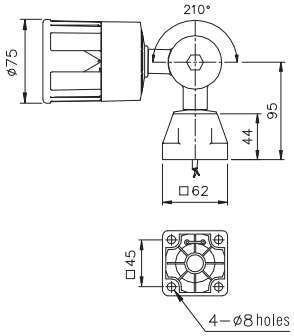
Ø70

SGS CE

DIMENSIONS

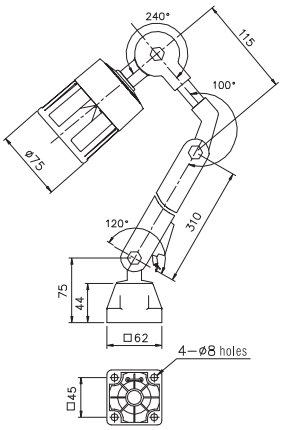
THL07-SS4
THL07-SS6
THL07-ST





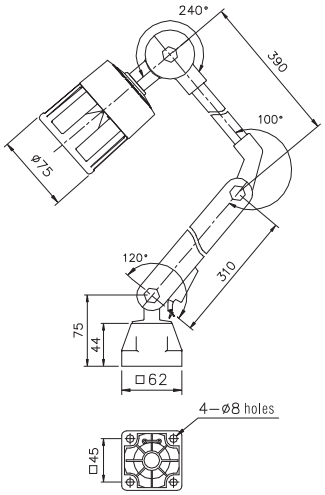
THL07-9MS4
THL07-9MS6
THL07-9MT





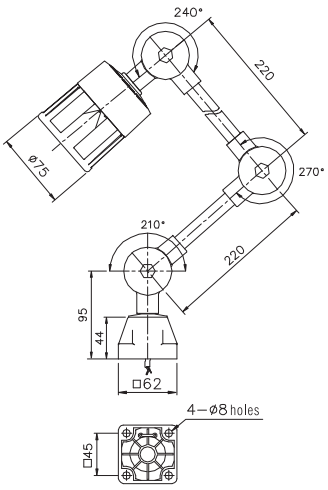
THL07-9LS4
THL07-9LS6
THL07-9LT





THL07-RS4
THL07-RS6
THL07-RT

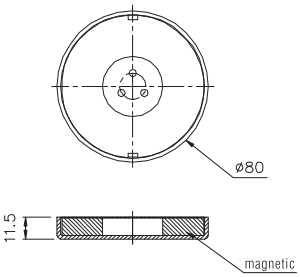




BASE DIMENSIONS

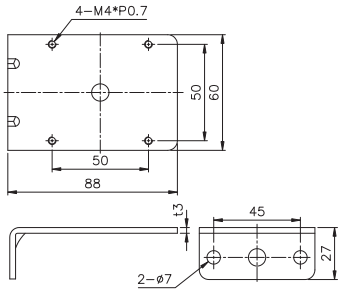
MAGNETIC BASE
THL07-M





L TYPE
THL07-L





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

WALL MOUNT WARNING LIGHT

ชนิดกะพริบ กะพริบพร้อมเสียงออด และแบบ FLUORESCENT

FEATURES

- 3 Signal lights in a lanes (Red, Orange, Green)
- Ligespan. : LED 50,000 hrs min.
- Intermittence Buzzer : 80db/1m min.
- Frequency : 60 cycles/min
- Protection : TPHL & TPHF : IP53
- TPHB & TPHS : IP50

MODEL DESIGNATION

TPH L - 2

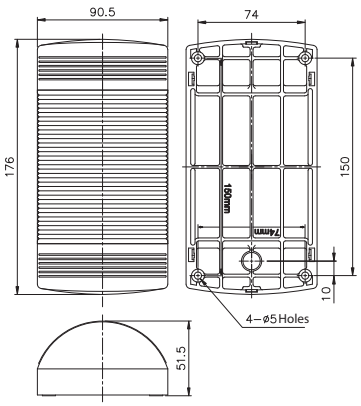
① ② ③

Designation	Signal	Description
1.Type	TPH	Wall mount warning light
2.Function	L	Standard
	F	Flash
	B	Buzzer
	S	Flash + Buzzer
3.Voltage	1	110 VAC
	2	220 VAC
	7	24 VAC/DC
	9	12 VAC/DC

DIMENSIONS

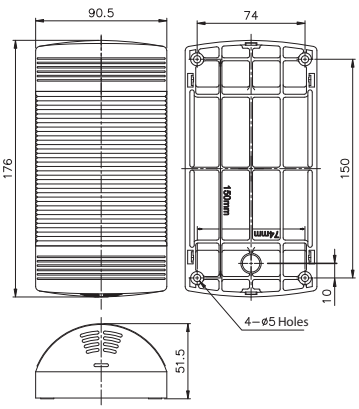
TPHL
TPHF (ชนิดกะพริบ)





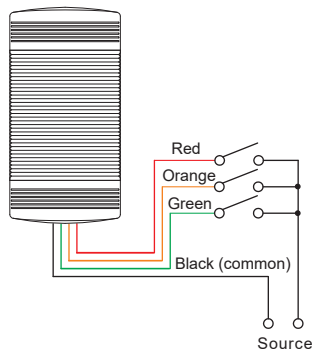
TPHS ชนิดกะพริบพร้อมสัญญาณเสียงออด
หมายเหตุ : สามารถต่อกะพริบพร้อมสัญญาณเสียงออด



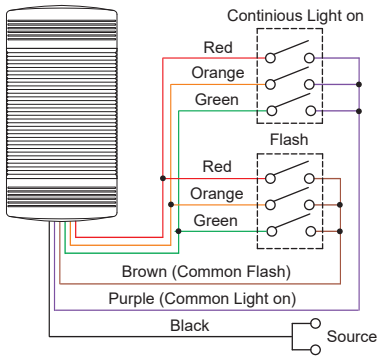


DIMENSIONS

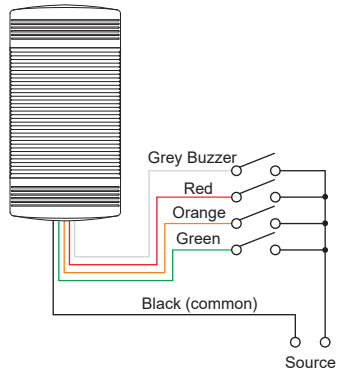
TPHL



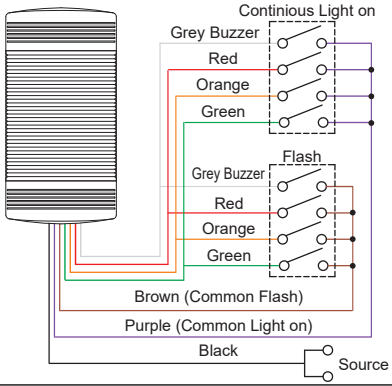
TPHF



TPHB



TPHS



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tend

WALL MOUNT WARNING LIGHT

ชนิดกะพริบ กะพริบพร้อมเสียงออด และแบบ FLUORESCENT

FEATURES

- Tendered glass.
- Protection : IP67.
- Osram PL Light.
- Ligespan. : 10,000 hrs.
- High safety : Fuse in the Electronic Stabilizer will be burnt immediately if any unusual situation happen.
- Instantaneously started by Electronic Stabilizer.

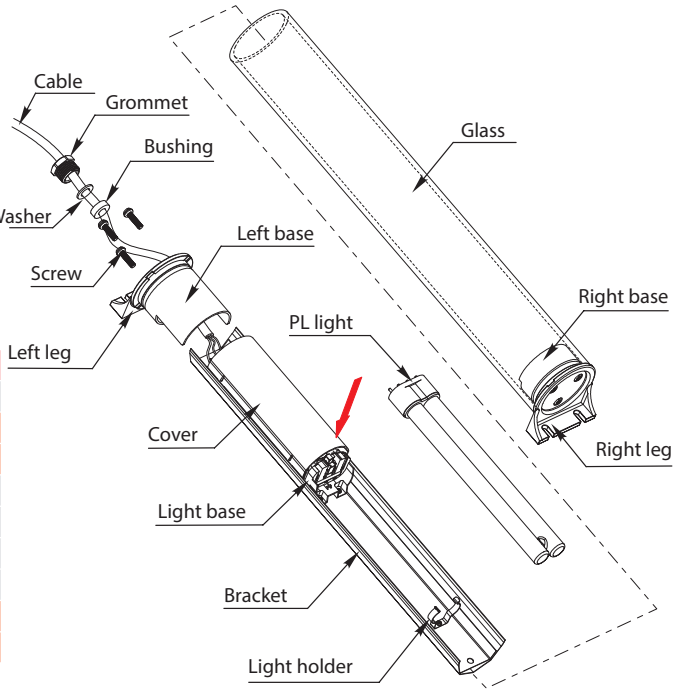
MODEL DESIGNATION

TFL - 18 2 T

① ② ③ ④

Designation	Signal	Description
1.Type	TFL	Fluorescent light
2.PL	18	18W
	36	36W
3.Voltage	1	120 VAC
	2	230 VAC
	7	24 VAC
	7D	24 VAC
4.Fix type		Plastic base
	T	Steel circle

LIGHT REPLACEMENT

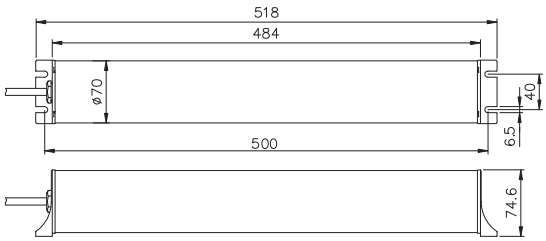


DIMENSIONS

TFL-18 (Plastic base)
TFL-18T (Steel circle)



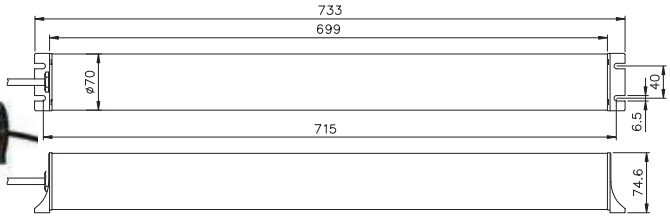
หลอด Fluorescent ยี่ห้อ OSRAM DULUX L 18/840



TFL-36 (Plastic base)
TFL-36T (Steel circle)



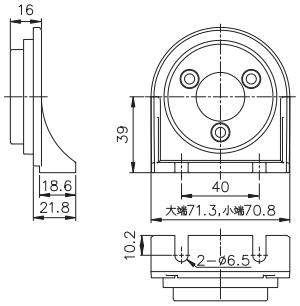
หลอด Fluorescent ยี่ห้อ OSRAM DULUX L 38/840



BASE DIMENSIONS

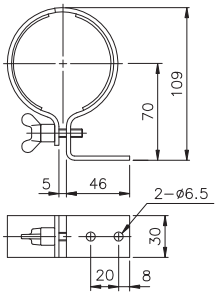
PLASTIC BASE





STEEL CIRCLE





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend TOWER LIGHT
ทาวเวอร์ไลท์

FEATURES

- Tend tower light can be installed in any machine as a status indicator by showing the color as a status indicator by showing the color change of light and audible alarm.
- Tower light can be customer-made to meet different needs.
- Internal spring suspension can avoid damage to the bulb due to machines vibration.
- Flexible wiring design : Steady, flashing of Flexible wiring design : Steady, flashing of alarm are achievable through wiring by end user.
- Audio alarm buzzes at 90 db/30 cm.
- Both bulb base for incandescent bulb & LED is BA15S. So it is easy to change bulb type.

MODEL DESIGNATIONS

TPT L 6 - L 2 3 ROG - S
(1) (2) (3) (4) (5) (6) (7) (8)

Item	Signal	Description
1.Mounting Method	TPT	Pole Mount
	TPW	Tray Mount
	TPF	Tented Type
	TPA	Side Hitch Type
2.Functional	L	Continuous light
	F	Continuous or flashing
	S	Continuous or flashing with audible alarm
	B	Audible alarm light
3.Diameter	4	Ø40 mm (NO TPFL)
	5	Ø50 mm
	6	Ø60 mm
	7	Ø70 mm
4.Bulb	Space	Incandescent
	L	LED
5.Voltage	1	110 VAC
	2	220 VAC
	7	24 VAC/DC
	9	12 VAC/DC
6.Section	1 - 5	1 - 5
7.Lens	R	Red
	O	Orange
	G	Green
	B	Blue
	W	White
8.Aluminum tube length	Space	Standard Length, TPT:288 mm, TPF:43 mm
	S	Special Length, TPT : 138 mm
		Special Length, TPF : 193 mm

RATED CURRENT FOR BULBS AND BUZZERS (REFERANCE ONLY)

Incandescent	
S15-I49 (12VAC/DC)	0.5A
S15-I47 (24VAC/DC)	0.25A
S15-I41 (110VAC)	0.05A
S15-I42 (220VAC)	0.03A
S15-I59 (12VAC/DC)	0.7A
S15-I57 (24VAC/DC)	0.35A
S15-I51 (110VAC)	0.06A
S15-I52 (220VAC)	0.03A
S15-I69 (12VAC/DC)	0.8A
S15-I67 (24VAC/DC)	0.4A
S15-I61 (110VAC)	0.08A
S15-I62 (220VAC)	0.04A

BULB MODEL DESIGNATIONS

S15 - L4 2 R
(1) (2) (3) (4)

Item	Signal	Description
1.Base type	S15	BA15S Bulb
2.Lens diameter	I4	Ø40 mm 5W Incandescent
	I5	Ø50 mm 8W Incandescent
	I6	Ø60 mm / 70 mm 10W Incandescent
	L4	Ø40 mm LED
	L5	Ø50 mm / Ø60 mm / Ø70 mm, LED
3.Voltage	1	110 VAC
	2	220 VAC
	7	24 VAC/DC
	9	12 VAC/DC
4.Color	Space	Incandescent
	R	Red LED
	O	Orange LED
	G	Green LED
	B	Blue LED
	W	White LED

LED LAMP FOR TOWER LIGHT

MODEL DESIGNATIONS

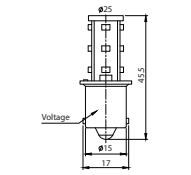
S15 - L4 2 R
(1) (2) (3) (4)

Item	Signal	Description
1.Base type	S15	BA15S base
2.Lens diameter	L4	LED x 8
	L5	LED x 15
3.Voltage	1	110 VAC/DC
	2	220 VAC/DC
	7	24 VAC/DC
	9	12 VAC/DC
4.Color	R	Red LED
	O	Orange LED
	G	Green LED
	BL	Blue LED

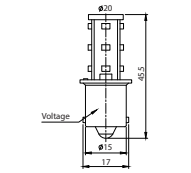
S15-L4 : for TWR-08 only S15-L5 : for TWF-10 and TWF-12

LAMP DIMENSIONS

S15-L4



S15-L5

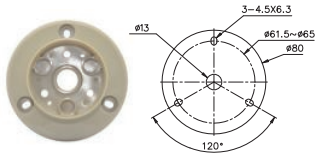


LED	
S15-L49 (12VAC/DC)	0.1A
S15-L47 (24VAC/DC)	0.03A
S15-L41 (110VAC)	0.02A
S15-L42 (220VAC)	0.02A
S15-L59 (12VAC/DC)	0.15A
S15-L57 (24VAC/DC)	0.04A
S15-L51 (110VAC)	0.02A
S15-L52 (220VAC)	0.02A

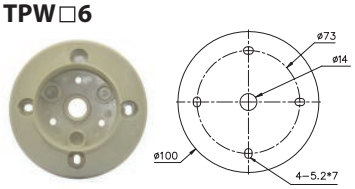
Buzzer	
12 V AC/DC	0.08A
24 V AC/DC	0.02A
110 V AC	0.01A
220 V AC	0.01A

Mounting Holes - Tray Mount

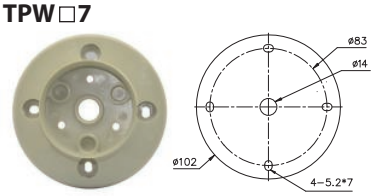
TPW□4 / TPW□5



TPW□6



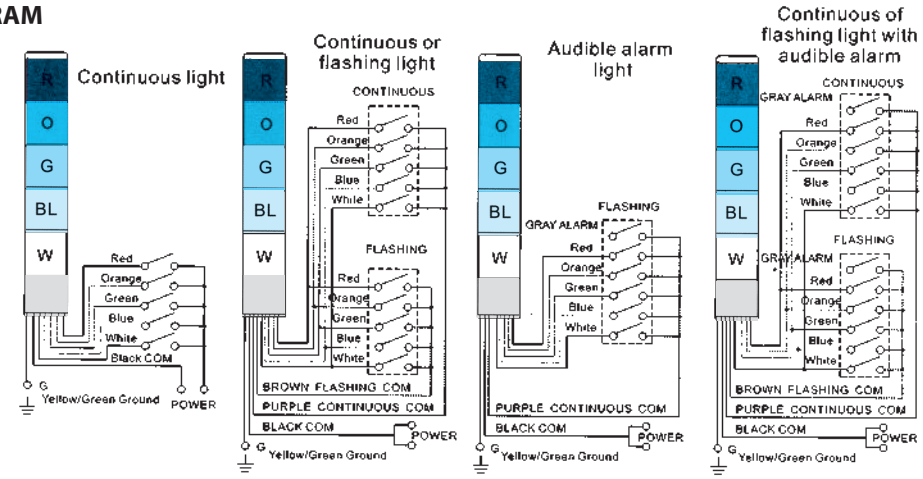
TPW□7



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

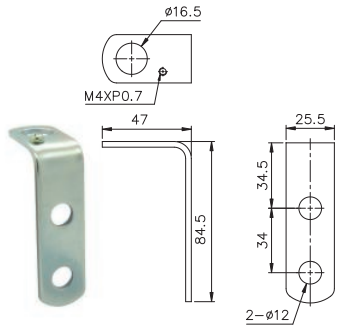
TOWER LIGHT
ทาวเวอร์ไลท์

WIRING DIAGRAM

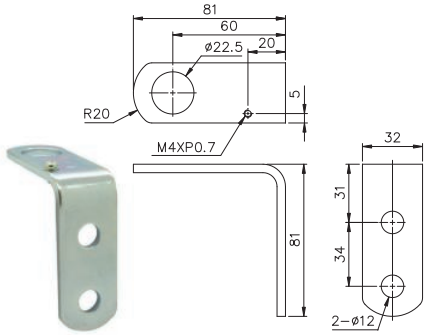


MOUNTING HOLES

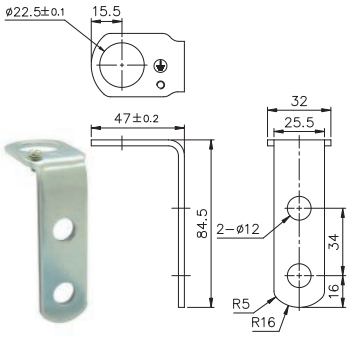
POLE MOUNTING BRACKET
Used TPTL4



Used TPT□6/TPT□7

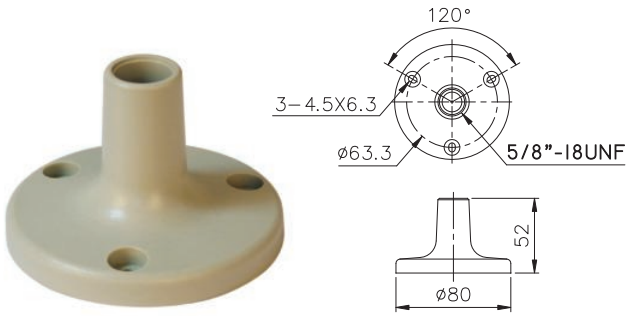


Used TPTF4/TPTS4/TPTB4 TPT□5

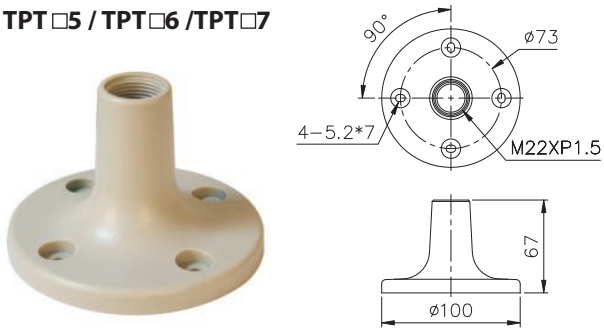


MOUNTING HOLES — POLE MOUNTING BRACKET (OPTIONAL)

TPTL-S
Used TPTL4



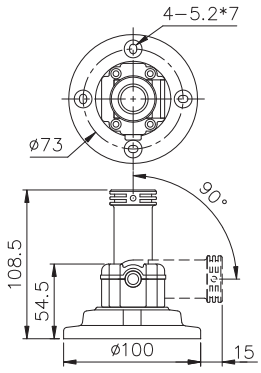
TPTL6-S
Used TPTS4 / TPTF4 / TPTB4 / TPT□5 / TPT□6 /TPT□7



• FOLDABLE MOUNTING BRACKET (OPTIONAL)

TPTL6-F
Used TPTS4 / TPTF4 / TPTB4 / TPT□5 / TPT□6 /TPT□7

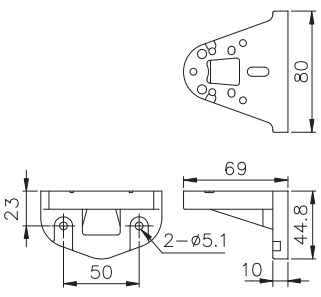




• SIDE MOUNTING BRACKET (OPTIONAL)

TPTL6-A
Used TPT□4 / TPT□5 / TPT□6 / TPT□7

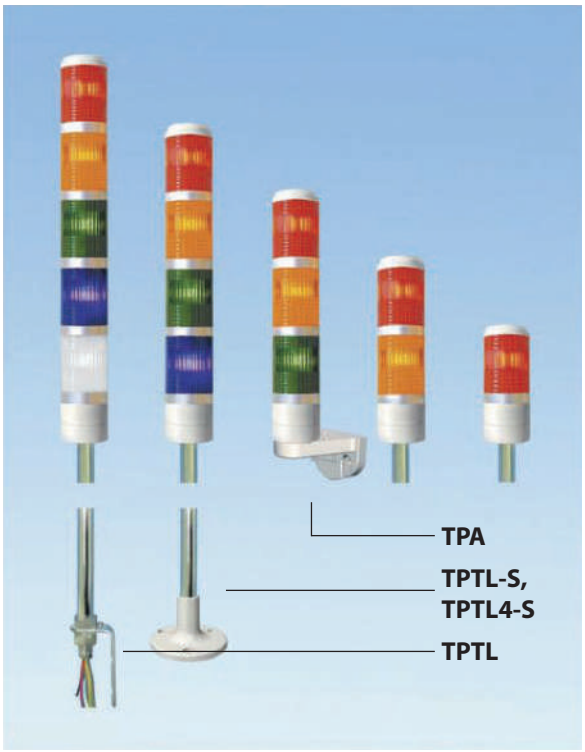




*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT
ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง
Ø40

TPTL4



TPWL4



Tower Light Ø40 mm Pole Mount-Continuous Light
12V, 24V, 110V, 220V ชนิดไฟต่อเนื่อง Ø40 มม.

Type		Description
TPTL4-1	หลอดธรรมดา	1 Section
TPTL4-2	หลอดธรรมดา	2 Section
TPTL4-3	หลอดธรรมดา	3 Section
TPTL4-4	หลอดธรรมดา	4 Section
TPTL4-5	หลอดธรรมดา	5 Section
TPTL4L-1 (LED)	หลอด LED	1 Section
TPTL4L-2 (LED)	หลอด LED	2 Section
TPTL4L-3 (LED)	หลอด LED	3 Section
TPTL4L-4 (LED)	หลอด LED	4 Section
TPTL4L-5 (LED)	หลอด LED	5 Section

Tower Light Ø40 mm Tray Mount-Continuous Ligh
12V, 24V, 110V, 220V ชนิดไฟต่อเนื่อง Ø40 มม.

Type		Description
TPWL4-1	หลอดธรรมดา	1 Section
TPWL4-2	หลอดธรรมดา	2 Section
TPWL4-3	หลอดธรรมดา	3 Section
TPWL4-4	หลอดธรรมดา	4 Section
TPWL4-5	หลอดธรรมดา	5 Section
TPWL4L-1 (LED)	หลอด LED	1 Section
TPWL4L-2 (LED)	หลอด LED	2 Section
TPWL4L-3 (LED)	หลอด LED	3 Section
TPWL4L-4 (LED)	หลอด LED	4 Section
TPWL4L-5 (LED)	หลอด LED	5 Section

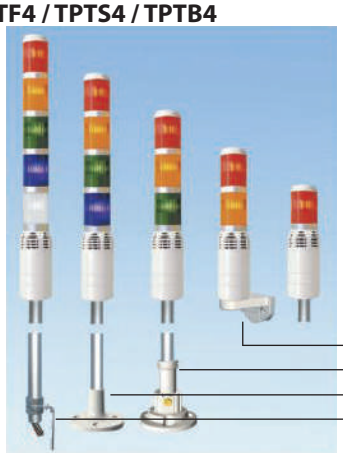
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT / FLASH LIGHT / AUDIBLE LIGHT

ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน

Ø40

TPTF4 / TPTS4 / TPTB4



TPWF4 / TPWS4 / TPWB4



- **Tower Light ø40 mm Pole Mount Continuous or Flashing Light 12V, 24V, 110V, 220V** ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบ Ø40 มม.

Type			Description
TPTF4-1		หลอดธรรมดา	1 Section
TPTF4-2		หลอดธรรมดา	2 Section
TPTF4-3		หลอดธรรมดา	3 Section
TPTF4-4		หลอดธรรมดา	4 Section
TPTF4-5		หลอดธรรมดา	5 Section
TPTF4L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTF4L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTF4L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTF4L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTL4L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

- **Tower Light ø40 mm Tray Mount Continuous or Flashing Light 12V, 24V, 110V, 220V** ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบ Ø40 มม.

Type			Description
TPWF4-1		หลอดธรรมดา	1 Section
TPWF4-2		หลอดธรรมดา	2 Section
TPWF4-3		หลอดธรรมดา	3 Section
TPWF4-4		หลอดธรรมดา	4 Section
TPWF4-5		หลอดธรรมดา	5 Section
TPWF4L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWF4L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWF4L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWF4L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWF4L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

- **Tower Light Ø40mm Pole Mount Continuous or Flashing Light with alarm 12V, 24V, 110V, 220V** ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบพร้อมไซเรน Ø40 มม.

Type			Description
TPTS4-1		หลอดธรรมดา	1 Section
TPTS4-2		หลอดธรรมดา	2 Section
TPTS4-3		หลอดธรรมดา	3 Section
TPTS4-4		หลอดธรรมดา	4 Section
TPTS4-5		หลอดธรรมดา	5 Section
TPTS4L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTS4L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTS4L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTS4L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTS4L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

- **Tower Light Ø40 mm Tray Mount Continuous or Flashing Light with Alarm 12V, 24V, 110V, 220V** ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบพร้อมไซเรน Ø40 มม.

Type			Description
TPWS4-1		หลอดธรรมดา	1 Section
TPWS4-2		หลอดธรรมดา	2 Section
TPWS4-3		หลอดธรรมดา	3 Section
TPWS4-4		หลอดธรรมดา	4 Section
TPWS4-5		หลอดธรรมดา	5 Section
TPWS4L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWS4L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWS4L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWS4L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWS4L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

- **Tower Light Ø40 mm Pole mount Continuous Light-Audible Alarm Light 12V, 24V, 110V, 220V** ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø40 มม.

Type			Description
TPTB4-1		หลอดธรรมดา	1 Section
TPTB4-2		หลอดธรรมดา	2 Section
TPTB4-3		หลอดธรรมดา	3 Section
TPTB4-4		หลอดธรรมดา	4 Section
TPTB4-5		หลอดธรรมดา	5 Section
TPTB4L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTB4L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTB4L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTB4L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTB4L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

- **Tower Light Ø40 mm Tray mount Continuous Light-Audible Alarm Light 12V, 24V, 110V, 220V** ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø40 มม.

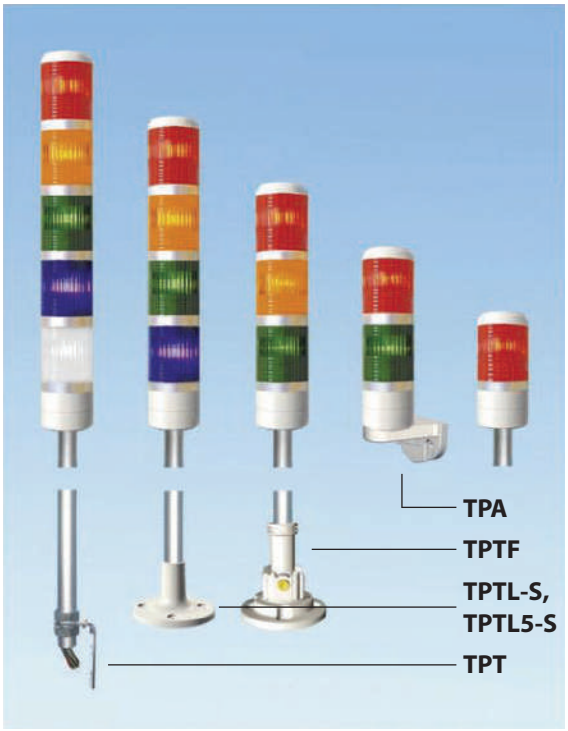
Type			Description
TPWB4-1		หลอดธรรมดา	1 Section
TPWB4-2		หลอดธรรมดา	2 Section
TPWB4-3		หลอดธรรมดา	3 Section
TPWB4-4		หลอดธรรมดา	4 Section
TPWB4-5		หลอดธรรมดา	5 Section
TPWB4L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWB4L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWB4L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWB4L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWB4L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

หมายเหตุ รุ่น TPTF, TPWF, TPTS, TPWS ผู้ใช้สามารถเลือกต่อไฟชนิดติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT
ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง
Ø50

TPTL5



TPWL5



● **Tower Light Ø50 mm Pole Mount-Continuous Light**
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่อง Ø 50 มม.

Type		Description
TPTL5-1	หลอดธรรมดา	1 Section
TPTL5-2	หลอดธรรมดา	2 Section
TPTL5-3	หลอดธรรมดา	3 Section
TPTL5-4	หลอดธรรมดา	4 Section
TPTL5-5	หลอดธรรมดา	5 Section
TPTL5L-1 (LED)	หลอด LED	1 Section
TPTL5L-2 (LED)	หลอด LED	2 Section
TPTL5L-3 (LED)	หลอด LED	3 Section
TPTL5L-4 (LED)	หลอด LED	4 Section
TPTL5L-5 (LED)	หลอด LED	5 Section

● **Tower Light Ø50 mm Tray Mount-Continuous Ligh**
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่อง Ø50 มม.

Type		Description
TPWL5-1	หลอดธรรมดา	1 Section
TPWL5-2	หลอดธรรมดา	2 Section
TPWL5-3	หลอดธรรมดา	3 Section
TPWL5-4	หลอดธรรมดา	4 Section
TPWL5-5	หลอดธรรมดา	5 Section
TPWL5L-1 (LED)	หลอด LED	1 Section
TPWL5L-2 (LED)	หลอด LED	2 Section
TPWL5L-3 (LED)	หลอด LED	3 Section
TPWL5L-4 (LED)	หลอด LED	4 Section
TPWL5L-5 (LED)	หลอด LED	5 Section

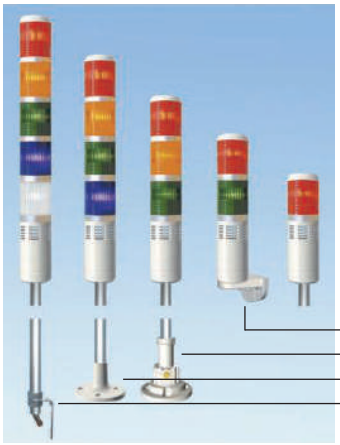
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT / FLASH LIGHT / AUDIBLE LIGHT

ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน

Ø50

TPTF5 / TPTS5 / TPTB5



TPWF5 / TPWS5 / TPWB5



Tower Light Ø 50 mm Pole Mount Continuous or Flashing Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบ Ø50 มม.

Type			Description
TPTF5-1		หลอดธรรมดา	1 Section
TPTF5-2		หลอดธรรมดา	2 Section
TPTF5-3		หลอดธรรมดา	3 Section
TPTF5-4		หลอดธรรมดา	4 Section
TPTF5-5		หลอดธรรมดา	5 Section
TPTF5L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTF5L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTF5L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTF5L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTF5L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø50 mm Tray Mount Continuous or Flashing Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบ Ø50 มม.

Type			Description
TPWF5-1		หลอดธรรมดา	1 Section
TPWF5-2		หลอดธรรมดา	2 Section
TPWF5-3		หลอดธรรมดา	3 Section
TPWF5-4		หลอดธรรมดา	4 Section
TPWF5-5		หลอดธรรมดา	5 Section
TPWF5L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWF5L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWF5L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWF5L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWF5L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø50 mm Pole Mount Continuous or Flashing Light with Alarm
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบพร้อมไซเรน Ø50 มม.

Type			Description
TPTS5-1		หลอดธรรมดา	1 Section
TPTS5-2		หลอดธรรมดา	2 Section
TPTS5-3		หลอดธรรมดา	3 Section
TPTS5-4		หลอดธรรมดา	4 Section
TPTS5-5		หลอดธรรมดา	5 Section
TPTS5L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTS5L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTS5L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTS5L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTS5L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø 50 mm Tray Mount Continuous or Flashing Light with Alarm
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบพร้อมไซเรน Ø50 มม.

Type			Description
TPWS5-1		หลอดธรรมดา	1 Section
TPWS5-2		หลอดธรรมดา	2 Section
TPWS5-3		หลอดธรรมดา	3 Section
TPWS5-4		หลอดธรรมดา	4 Section
TPWS5-5		หลอดธรรมดา	5 Section
TPWS5L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWS5L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWS5L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWS5L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWS5L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø50 mm Pole Mount Continuous Light-Audible Alarm Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø50 มม.

Type			Description
TPTB5-1		หลอดธรรมดา	1 Section
TPTB5-2		หลอดธรรมดา	2 Section
TPTB5-3		หลอดธรรมดา	3 Section
TPTB5-4		หลอดธรรมดา	4 Section
TPTB5-5		หลอดธรรมดา	5 Section
TPTB5L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTB5L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTB5L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTB5L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTB5L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø 50 mm Tray Mount Continuous Light-Audible Alarm Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø50 มม.

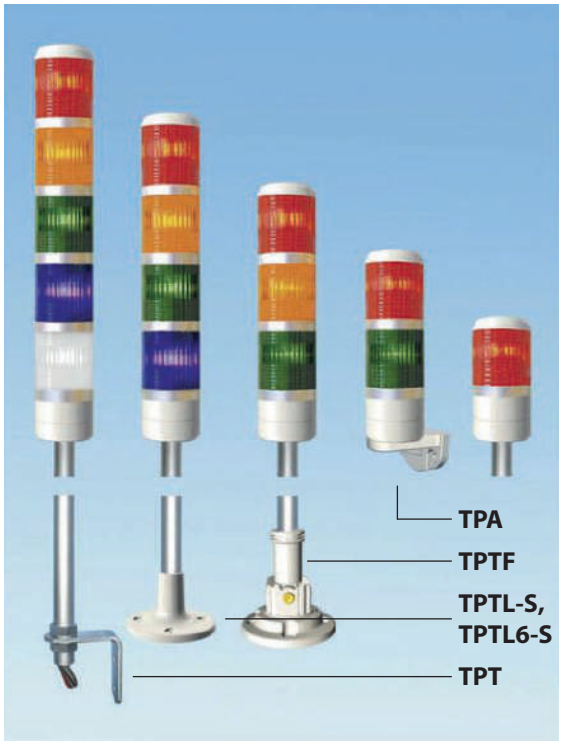
Type			Description
TPWB5-1		หลอดธรรมดา	1 Section
TPWB5-2		หลอดธรรมดา	2 Section
TPWB5-3		หลอดธรรมดา	3 Section
TPWB5-4		หลอดธรรมดา	4 Section
TPWB5-5		หลอดธรรมดา	5 Section
TPWB5L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWB5L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWB5L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWB5L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWB5L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

หมายเหตุ รุ่น TPTF, TPWF, TPTS, TPWS ผู้ใช้สามารถเลือกต่อไฟชนิดติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT
ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง
Ø60

TPTL6



TPWL6



● **Tower Light Ø60 mm Pole Mount-Continuous Light**
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่อง Ø60 มม.

Type		Description
TPTL6-1	หลอดธรรมดา	1 Section
TPTL6-2	หลอดธรรมดา	2 Section
TPTL6-3	หลอดธรรมดา	3 Section
TPTL6-4	หลอดธรรมดา	4 Section
TPTL6-5	หลอดธรรมดา	5 Section
TPTL6L-1 (LED)	หลอด LED	1 Section
TPTL6L-2 (LED)	หลอด LED	2 Section
TPTL6L-3 (LED)	หลอด LED	3 Section
TPTL6L-4 (LED)	หลอด LED	4 Section
TPTL6L-5 (LED)	หลอด LED	5 Section

● **Tower Light Ø60 mm Tray Mount-Continuous Ligh**
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่อง Ø60 มม.

Type		Description
TPWL6-1	หลอดธรรมดา	1 Section
TPWL6-2	หลอดธรรมดา	2 Section
TPWL6-3	หลอดธรรมดา	3 Section
TPWL6-4	หลอดธรรมดา	4 Section
TPWL6-5	หลอดธรรมดา	5 Section
TPWL6L-1 (LED)	หลอด LED	1 Section
TPWL6L-2 (LED)	หลอด LED	2 Section
TPWL6L-3 (LED)	หลอด LED	3 Section
TPWL6L-4 (LED)	หลอด LED	4 Section
TPWL6L-5 (LED)	หลอด LED	5 Section

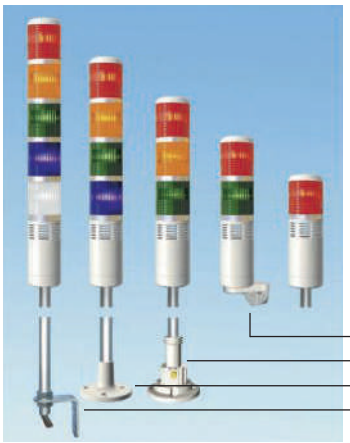
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT / FLASH LIGHT / AUDIBLE LIGHT

ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน

Ø60

TPTF6 / TPTS6 / TPTB6



TPWF6 / TPWS6 / TPWB6



Tower Light Ø60 mm Pole Mount Continuous or Flashing Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบ Ø60 มม.

Type		Description
TPTF6-1	หลอดธรรมดา	1 Section
TPTF6-2	หลอดธรรมดา	2 Section
TPTF6-3	หลอดธรรมดา	3 Section
TPTF6-4	หลอดธรรมดา	4 Section
TPTF6-5	หลอดธรรมดา	5 Section
TPTF6L-1 (LED) R,O,G,W,BL	หลอด LED	1 Section
TPTF6L-2 (LED) R,O,G,W,BL	หลอด LED	2 Section
TPTF6L-3 (LED) R,O,G,W,BL	หลอด LED	3 Section
TPTF6L-4 (LED) R,O,G,W,BL	หลอด LED	4 Section
TPTF6L-5 (LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø60 mm Tray Mount Continuous or Flashing Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบ Ø60 มม.

Type		Description
TPWF6-1	หลอดธรรมดา	1 Section
TPWF6-2	หลอดธรรมดา	2 Section
TPWF6-3	หลอดธรรมดา	3 Section
TPWF6-4	หลอดธรรมดา	4 Section
TPWF6-5	หลอดธรรมดา	5 Section
TPWF6L-1 (LED) R,O,G,W,BL	หลอด LED	1 Section
TPWF6L-2 (LED) R,O,G,W,BL	หลอด LED	2 Section
TPWF6L-3 (LED) R,O,G,W,BL	หลอด LED	3 Section
TPWF6L-4 (LED) R,O,G,W,BL	หลอด LED	4 Section
TPWF6L-5 (LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø60 mm Pole Mount Continuous or Flashing Light with Alarm
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบพร้อมไซเรน Ø60 มม.

Type		Description
TPTS6-1	หลอดธรรมดา	1 Section
TPTS6-2	หลอดธรรมดา	2 Section
TPTS6-3	หลอดธรรมดา	3 Section
TPTS6-4	หลอดธรรมดา	4 Section
TPTS6-5	หลอดธรรมดา	5 Section
TPTS6L-1 (LED) R,O,G,W,BL	หลอด LED	1 Section
TPTS6L-2 (LED) R,O,G,W,BL	หลอด LED	2 Section
TPTS6L-3 (LED) R,O,G,W,BL	หลอด LED	3 Section
TPTS6L-4 (LED) R,O,G,W,BL	หลอด LED	4 Section
TPTS6L-5 (LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø60 mm Tray Mount Continuous or Flashing Light with Alarm
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือชนิดกะพริบพร้อมไซเรน Ø60 มม.

Type		Description
TPWS6-1	หลอดธรรมดา	1 Section
TPWS6-2	หลอดธรรมดา	2 Section
TPWS6-3	หลอดธรรมดา	3 Section
TPWS6-4	หลอดธรรมดา	4 Section
TPWS6-5	หลอดธรรมดา	5 Section
TPWS6L-1 (LED) R,O,G,W,BL	หลอด LED	1 Section
TPWS6L-2 (LED) R,O,G,W,BL	หลอด LED	2 Section
TPWS6L-3 (LED) R,O,G,W,BL	หลอด LED	3 Section
TPWS6L-4 (LED) R,O,G,W,BL	หลอด LED	4 Section
TPWS6L-5 (LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø60 mm Pole Mount Continuous Light-Audible Alarm Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø60 มม.

Type		Description
TPTB6-1	หลอดธรรมดา	1 Section
TPTB6-2	หลอดธรรมดา	2 Section
TPTB6-3	หลอดธรรมดา	3 Section
TPTB6-4	หลอดธรรมดา	4 Section
TPTB6-5	หลอดธรรมดา	5 Section
TPTB6L-1 (LED) R,O,G,W,BL	หลอด LED	1 Section
TPTB6L-2 (LED) R,O,G,W,BL	หลอด LED	2 Section
TPTB6L-3 (LED) R,O,G,W,BL	หลอด LED	3 Section
TPTB6L-4 (LED) R,O,G,W,BL	หลอด LED	4 Section
TPTB6L-5 (LED) R,O,G,W,BL	หลอด LED	5 Section

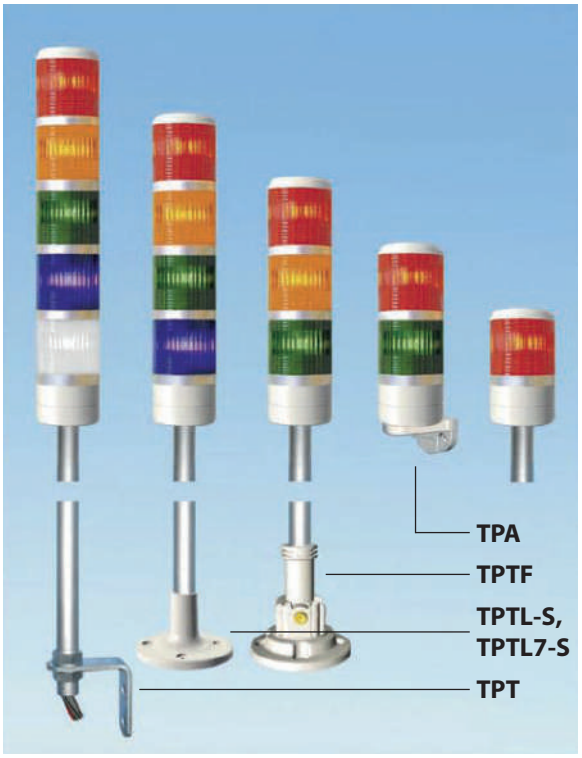
Tower Light Ø60 mm Tray Mount Continuous Light-Audible Alarm Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø60 มม.

Type		Description
TPWB6-1	หลอดธรรมดา	1 Section
TPWB6-2	หลอดธรรมดา	2 Section
TPWB6-3	หลอดธรรมดา	3 Section
TPWB6-4	หลอดธรรมดา	4 Section
TPWB6-5	หลอดธรรมดา	5 Section
TPWB6L-1 (LED) R,O,G,W,BL	หลอด LED	1 Section
TPWB6L-2 (LED) R,O,G,W,BL	หลอด LED	2 Section
TPWB6L-3 (LED) R,O,G,W,BL	หลอด LED	3 Section
TPWB6L-4 (LED) R,O,G,W,BL	หลอด LED	4 Section
TPWB6L-5 (LED) R,O,G,W,BL	หลอด LED	5 Section

หมายเหตุ รุ่น TPTF, TPWF, TPTS, TPWS ผู้ใช้สามารถเลือกต่อไฟชนิดติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

TOWER LIGHT : CONTINUOUS LIGHT
ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง
Ø70

TPTL7



TPWL7



● **Tower Light Ø70 mm Pole Mount-Continuous Light**
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่อง Ø70 มม.

Type		Description
TPTL7-1	หลอดธรรมดา	1 Section
TPTL7-2	หลอดธรรมดา	2 Section
TPTL7-3	หลอดธรรมดา	3 Section
TPTL7-4	หลอดธรรมดา	4 Section
TPTL7-5	หลอดธรรมดา	5 Section
TPTL7L-1 (LED)	หลอด LED	1 Section
TPTL7L-2 (LED)	หลอด LED	2 Section
TPTL7L-3 (LED)	หลอด LED	3 Section
TPTL7L-4 (LED)	หลอด LED	4 Section
TPTL7L-5 (LED)	หลอด LED	5 Section

● **Tower Light Ø70 mm Tray Mount-Continuous Light**
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่อง Ø70 มม.

Type		Description
TPWL7-1	หลอดธรรมดา	1 Section
TPWL7-2	หลอดธรรมดา	2 Section
TPWL7-3	หลอดธรรมดา	3 Section
TPWL7-4	หลอดธรรมดา	4 Section
TPWL7-5	หลอดธรรมดา	5 Section
TPWL7L-1 (LED)	หลอด LED	1 Section
TPWL7L-2 (LED)	หลอด LED	2 Section
TPWL7L-3 (LED)	หลอด LED	3 Section
TPWL7L-4 (LED)	หลอด LED	4 Section
TPWL7L-5 (LED)	หลอด LED	5 Section

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT : CONTINUOUS LIGHT / FLASH LIGHT / AUDIBLE LIGHT

ทาวเวอร์ไลท์ : ชนิดไฟต่อเนื่อง / ชนิดกะพริบ / ชนิดพร้อมไซเรน

Ø70

TPTF7 / TPTS7 / TPTB7



TPWF7 / TPWS7 / TPWB7



Tower Light Ø 70 mm Pole Mount Continuous or Flashing Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือกะพริบ Ø70 มม.

Type			Description
TPTF7-1		หลอดธรรมดา	1 Section
TPTF7-2		หลอดธรรมดา	2 Section
TPTF7-3		หลอดธรรมดา	3 Section
TPTF7-4		หลอดธรรมดา	4 Section
TPTF7-5		หลอดธรรมดา	5 Section
TPTF7L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTF7L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTF7L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTF7L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTF7L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø70 mm Tray Mount Continuous or Flashing Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือกะพริบ Ø70 มม.

Type			Description
TPWF7-1		หลอดธรรมดา	1 Section
TPWF7-2		หลอดธรรมดา	2 Section
TPWF7-3		หลอดธรรมดา	3 Section
TPWF7-4		หลอดธรรมดา	4 Section
TPWF7-5		หลอดธรรมดา	5 Section
TPWF7L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWF7L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWF7L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWF7L-4	(LED)	หลอด LED	4 Section
TPWF7L-5	(LED)	หลอด LED	5 Section

Tower Light Ø70 mm Pole Mount Continuous or Flashing Light with Alarm
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือกะพริบพร้อมไซเรน Ø70 มม.

Type			Description
TPTS7-1		หลอดธรรมดา	1 Section
TPTS7-2		หลอดธรรมดา	2 Section
TPTS7-3		หลอดธรรมดา	3 Section
TPTS7-4		หลอดธรรมดา	4 Section
TPTS7-5		หลอดธรรมดา	5 Section
TPTS7L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTS7L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTS7L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTS7L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTS7L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø 70 mm Tray Mount Continuous or Flashing Light with Alarm
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องหรือกะพริบพร้อมไซเรน Ø70 มม.

Type			Description
TPWS7-1		หลอดธรรมดา	1 Section
TPWS7-2		หลอดธรรมดา	2 Section
TPWS7-3		หลอดธรรมดา	3 Section
TPWS7-4		หลอดธรรมดา	4 Section
TPWS7-5		หลอดธรรมดา	5 Section
TPWS7L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWS7L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWS7L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWS7L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWS7L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø 70 mm Pole Mount Continuous Light-Audible Alarm Light
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø70 มม.

Type			Description
TPTB7-1		หลอดธรรมดา	1 Section
TPTB7-2		หลอดธรรมดา	2 Section
TPTB7-3		หลอดธรรมดา	3 Section
TPTB7-4		หลอดธรรมดา	4 Section
TPTB7-5		หลอดธรรมดา	5 Section
TPTB7L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPTB7L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPTB7L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPTB7L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPTB7L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

Tower Light Ø70 mm Tray Mount Continuous Light-
12V, 24V, 110V, 220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø70 มม.

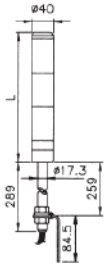
Type			Description
TPWB7-1		หลอดธรรมดา	1 Section
TPWB7-2		หลอดธรรมดา	2 Section
TPWB7-3		หลอดธรรมดา	3 Section
TPWB7-4		หลอดธรรมดา	4 Section
TPWB7-5		หลอดธรรมดา	5 Section
TPWB7L-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TPWB7L-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TPWB7L-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TPWB7L-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TPWB7L-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

หมายเหตุ รุ่น TPTF, TPWF, TPTS, TPWS ผู้ใช้สามารถเลือกต่อไฟชนิดติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

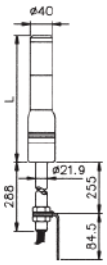
tend TOWER LIGHT
ทาวเวอร์ไลท์

DIMENSIONS



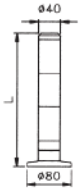
TPTL4 :

Section	L
1	114
2	176
3	238
4	300
5	362



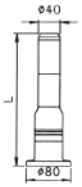
TPTF4 / TPTS4 TPTB4 :

Section	L
1	114
2	176
3	238
4	300
5	362



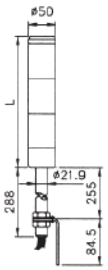
TPWL4 :

Section	L
1	122
2	184
3	246
4	308
5	370



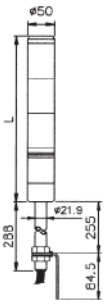
TPWF4 / TPWS4 TPWB4 :

Section	L
1	181
2	243
3	305
4	367
5	429



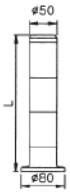
TPTL5 :

Section	L
1	112
2	176
3	240
4	304
5	368



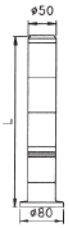
TPTF5 / TPTS4 TPTB5 :

Section	L
1	176
2	140
3	304
4	368
5	432



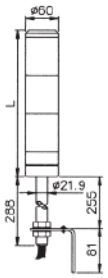
TPWL5 :

Section	L
1	122
2	186
3	250
4	314
5	378



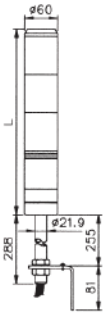
TPWF5 / TPWS5 TPWB5 :

Section	L
1	186
2	250
3	314
4	378
5	442



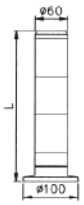
TPTL6 :

Section	L
1	130
2	200
3	270
4	340
5	410



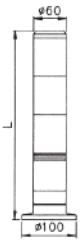
TPTF6 / TPTS6 TPTB6 :

Section	L
1	200
2	270
3	340
4	410
5	480



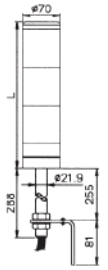
TPWL6 :

Section	L
1	136
2	206
3	276
4	346
5	416



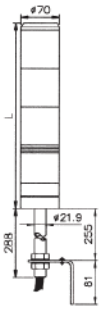
TPWF6 / TPWS6 TPWB6 :

Section	L
1	206
2	276
3	346
4	416
5	486



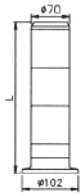
TPTL7 :

Section	L
1	130
2	200
3	270
4	340
5	410



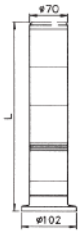
TPTF7 / TPTS7 TPTB7 :

Section	L
1	200
2	270
3	340
4	410
5	480



TPWL7 :

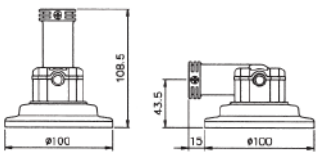
Section	L
1	136
2	206
3	276
4	346
5	416

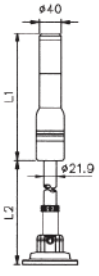


TPWF7 / TPWS7 TPWB7 :

Section	L
1	206
2	276
3	346
4	416
5	486

TPTL6-F

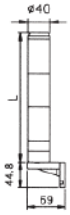




TPFF4 / TPFS4 TPFB4 :

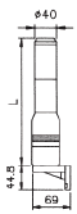
Section	L
1	171
2	233
3	295
4	357
5	419

L2
Short151
Long 301



TPAL4 :

Section	L
1	114
2	176
3	238
4	300
5	362

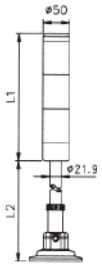


TPAF4 / TPAS4 TPAB4 :

Section	L
1	171
2	233
3	295
4	357
5	419

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

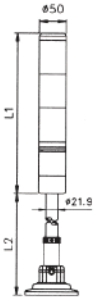
tend TOWER LIGHT
ทาวเวอร์ไลท์



● TPTL5 :

Section	L
1	112
2	176
3	240
4	304
5	368

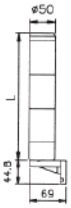
L2
Short151 Long 301



● TPFF5/TPFS5 TPFB5 :

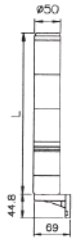
Section	L
1	176
2	240
3	304
4	368
5	432

L2
Short151 Long 301



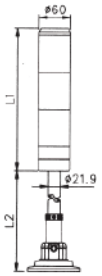
● TPAL5 :

Section	L
1	112
2	176
3	240
4	304
5	368



● TPAF5/TPAS5 TPAB5 :

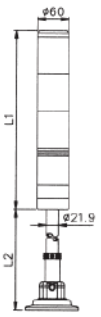
Section	L
1	176
2	240
3	304
4	368
5	432



● TPAL6 :

Section	L
1	130
2	200
3	270
4	340
5	410

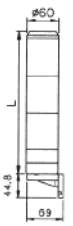
L2
Short151 Long 301



● TPAF6/TPAS6 TPAB6 :

Section	L
1	200
2	270
3	340
4	410
5	480

L2
Short151 Long 301



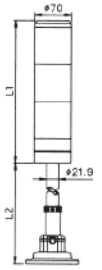
● TPAL6 :

Section	L
1	130
2	200
3	270
4	340
5	410



● TPAF6/TPAS6 TPAB6 :

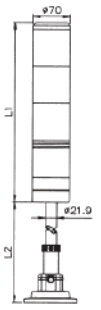
Section	L
1	200
2	270
3	340
4	410
5	480



● TPFL7 :

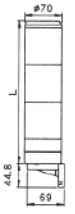
Section	L
1	130
2	200
3	270
4	340
5	410

L2
Short151 Long 301



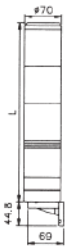
● TPAF7/TPAS7 TPAB7 :

Section	L
1	200
2	270
3	340
4	410
5	480



● TPAL7 :

Section	L
1	130
2	200
3	270
4	340
5	410



● TPAF7/TPAS7 TPAB7 :

Section	L
1	200
2	270
3	340
4	410
5	480

TOWER LIGHT (LED MODULE)
ทาวเวอร์ไลท์ (โมดูลประกอบ LED)

FEATURES

- Tend tower light can be installed in any machine as a status indicator by showing the color change of light and audible alarm. Tower light can be custom-made to meet different needs
- Flexible wiring design continuous or flashing Light intemittent or continous buzzing are achievable through wiring by end user
- Easy connection between modules enables customers to change module position and quantity based on requirement
- Audio alarm buzzes at 80dB/1m
- Pole Mount and Tray Mount with different type of brackets available

MODEL DESIGNATION

MTPT F 5 — L 2 3 ROG — S
1 2 3 4 5 6 7 8

Item	Signal	Description
1.Mounting medhod	MTPT	Pole mount
	MTPW	Tray mount
	MTPF	Tented type (Round tray)
	MTPFQ	Tented type (Square tray)
	MTPA	Side hitch type
	MTPS	Pole stand type
2.Functional	F	Flashing light
	S	Audible alarm with flashing light
3.Diameter	5	Ø 50mm
4.Bulb	L	LED
5.Voltage	2	220VAC - 110VAC
	7	24VAC/DC-12VAC/DC
6.No of modules	1~5	1~5
7.Color of module	R	Red
	O	Orange
	G	Green
	B	Blue
	W	White
8.Aluminum tube length	blank	Standard length TPT:288mm, TPF:43mm
	S	Special length TPT:138mm
	S	Special length TPT:193mm

LED MODULE MODEL DESIGNATION

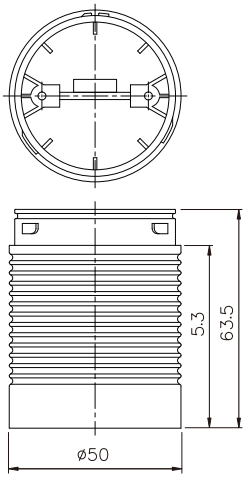
MS — L5 R
1 2

Item	Signal	Description
1.Lens diameter	L5	Ø 50mm
2.LED module	R	Red
	O	Orange
	G	Green
	B	Blue
	W	White

APPEARANCE AND DIMENSIONS

LED Module
MS-L5□□





LED MODULE AND BUZZER

Rated current (for reference only)

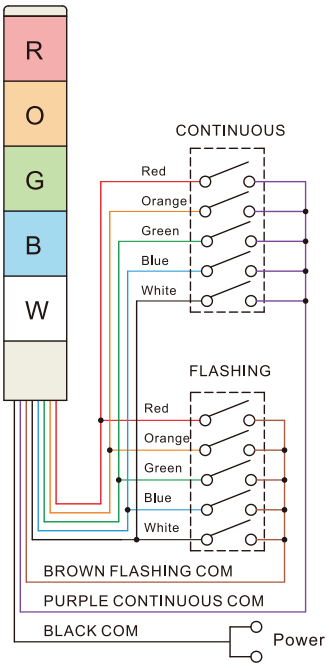
Voltage / Color	AC				DC	
	220V	110V	24V	12V	24V	12V
Red	9mA	19mA	181mA	169mA	96mA	90mA
Orange	9mA	19mA	179mA	169mA	95mA	86mA
Green	8mA	14mA	136mA	127mA	70mA	64mA
Blue	8mA	18mA	176mA	168mA	95mA	84mA
White	10mA	19mA	178mA	175mA	98mA	87mA
Buzzer	7mA	12mA	132mA	116mA	67mA	65mA

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

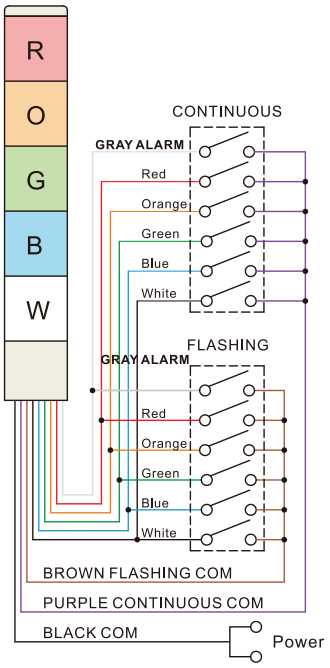
TOWER LIGHT (LED MODULE)
ทาวเวอร์ไลท์ (โมดูลประกอบ LED)

WIRING DIAGRAM (DC, Polarity labeled on power cables)

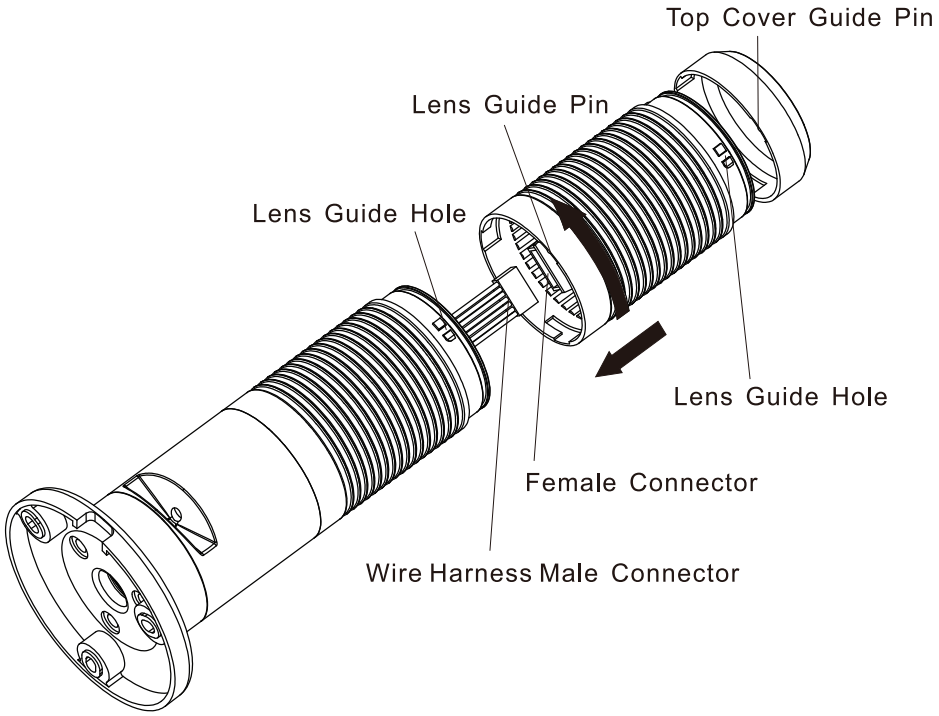
Continuous light



Audible alarm light



ASSEMBLY



TOWER LIGHT (LED MODULE) : FLASH LIGHT

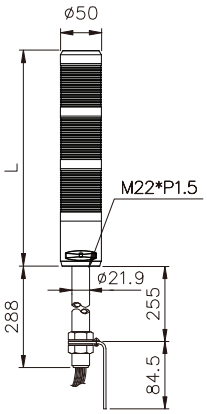
ทาวเวอร์ไลท์ (โมดูลประกอบ LED) : ชนิดกะพริบ

Ø50

APPEARANCE AND DIMENSIONS

MTPTF5



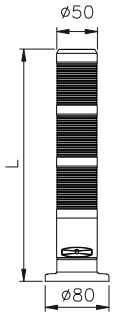


- MTPTF5:

Section	L
1	119
2	172
3	225
4	278
5	331

MTPWF5





- MTPWF5:

Section	L
1	141
2	194
3	247
4	300
5	353

MTPTF5
Tower light Ø50mm. Pole Mount-Flashing Light
12V, 24V, 110V, 220V
ชนิดไฟกะพริบหรือไฟต่อเนื่อง Ø50mm

Type		Description
MTPTF5-1	หลอด LED	1 Section
MTPTF5-2	หลอด LED	2 Section
MTPTF5-3	หลอด LED	3 Section
MTPTF5-4	หลอด LED	4 Section
MTPTF5-5	หลอด LED	5 Section

MTPWF5
Tower light Ø50mm. Tray Mount-Flashing Light
12V, 24V, 110V, 220V
ชนิดไฟกะพริบหรือไฟต่อเนื่อง Ø50mm

Type		Description
MTPWF5-1	หลอด LED	1 Section
MTPWF5-2	หลอด LED	2 Section
MTPWF5-3	หลอด LED	3 Section
MTPWF5-4	หลอด LED	4 Section
MTPWF5-5	หลอด LED	5 Section

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

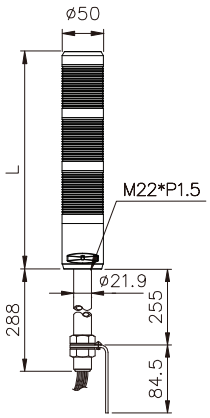
TOWER LIGHT (LED MODULE) : FLASH LIGHT

ทาวเวอร์ไลท์ (โมดูลประกอบ LED) : ชนิดกะพริบ

Ø50

MTPTS5



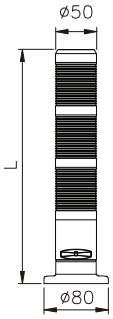


● MTPTS5 :

Section	L
1	119
2	172
3	225
4	278
5	331

MTPWS5





● MTPWS5 :

Section	L
1	141
2	194
3	247
4	300
5	353

MTPTS5
Tower light ø50mm. Pole Mount-Audible Alarm with Flashing Light 12V, 24V, 110V, 220V
ชนิดไฟกะพริบหรือไฟต่อเนื่องพร้อมเสียงออด Ø50mm

Type		Description
MTPTS5-1	หลอด LED	1 Section
MTPTS5-2	หลอด LED	2 Section
MTPTS5-3	หลอด LED	3 Section
MTPTS5-4	หลอด LED	4 Section
MTPTS5-5	หลอด LED	5 Section

MTPWS5
Tower light Ø50mm. Tray Mount-Audible Alarm with Flashing Light 12V, 24V, 110V, 220V
ชนิดไฟกะพริบหรือไฟต่อเนื่องพร้อมเสียงออด Ø50mm

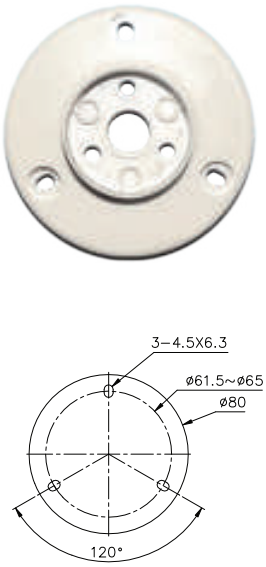
Type		Description
MTPWS5-1	หลอด LED	1 Section
MTPWS5-2	หลอด LED	2 Section
MTPWS5-3	หลอด LED	3 Section
MTPWS5-4	หลอด LED	4 Section
MTPWS5-5	หลอด LED	5 Section

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

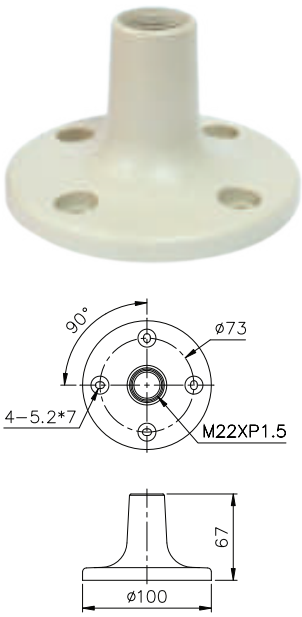
MOUNTING HOLE

- Tray mount
- Pole mount bracket (Optional)
- Pole mounting bracket

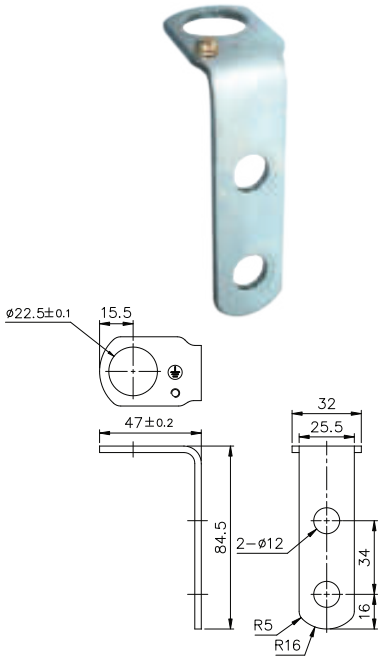
MTPW □5



TPTL6-S
Use on MTPW □5



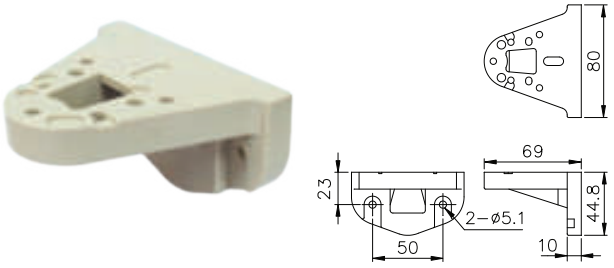
Use on MTPW5



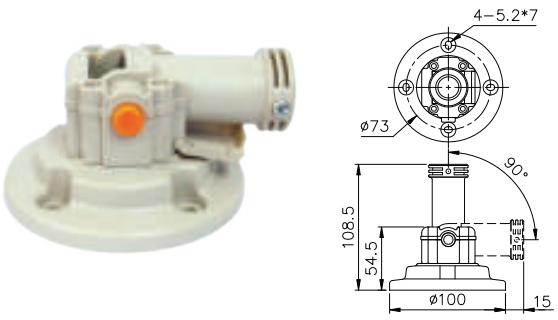
MOUNTING HOLE DIMENSION

- Pole mounting bracket (Optional)
- Foldable mounting bracket (Optional)

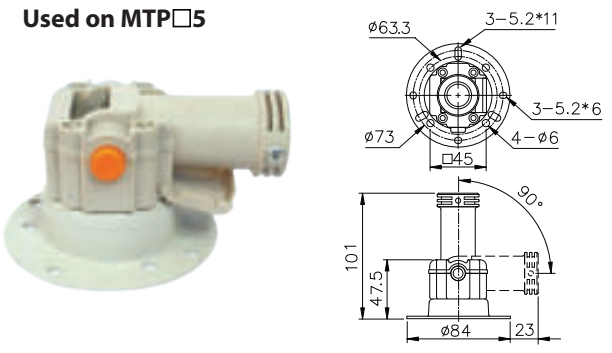
TPTL6-A
Used on MTPA □5



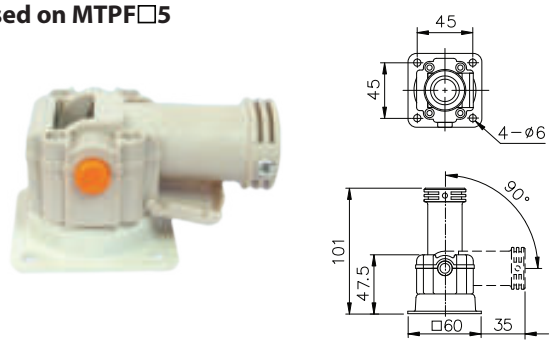
TPTL6-F (New patenred round plastic plate)
Used on MTPF □5



TPTL5-F
Used on MTP□5



TPTL5-FS (New patented)
Used on MTPF□5



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

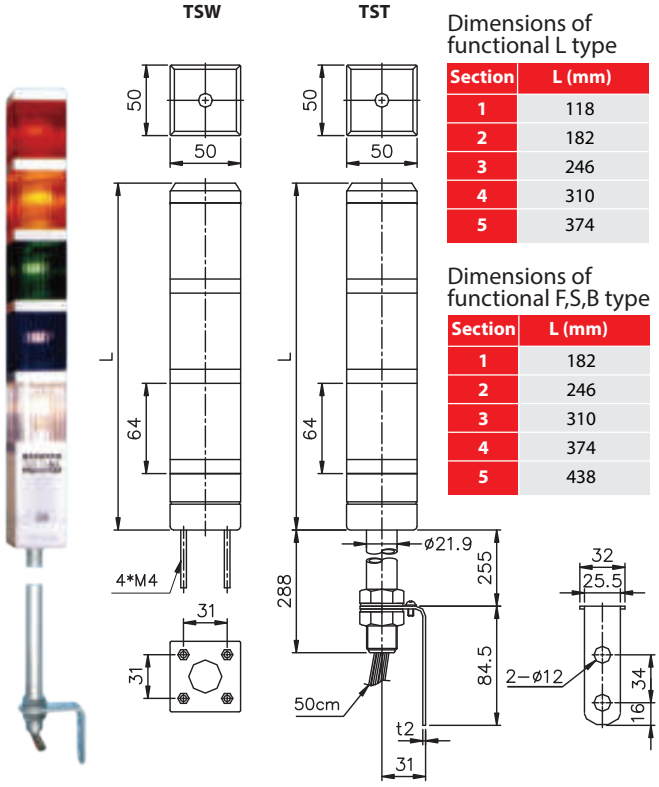
TOWER LIGHT (SQUARE LEN)
ทาวเวอร์ไลท์ (ทรงเหลี่ยม)

FEATURES
- Tend tower light can be installing in any machine as a status indicator by showing the color change of light and audible alarm.Tower light can be customer-made to meet differant needs.
- Internal spring suspention can avoid damage to the bulb due to machine's vibration.
- Flexible wiring design : Steady, flashing of alarm are achievable trough wiring by end user.
- Both bulb base for incandescent bulb & LED is BA15S.So it is easy to change bulb type.
- Audio alarm buzzers at 90 DB/30cm.

MODEL DESIGNATION

TST L 5 — L 2 3 ROG
1 2 3 4 5 6 7

Designation	Signal	Description
1.Mouting method	TST	Pole mount
	TSW	Tray mount
	TSF	Tented type (round tray)
	TSFQ	Tented type (Square tray)
	TSS	Pole stand type
2.Functional	L	Continuous light
	F	Continuous or falshing light
	S	Continuous of flashing light with audible alarm
	B	Audible alarm light
3.Diameter	5	50mm x 50mm
4.Bulb	Space	Incandescent
	L	LED
5.Voltage	1	110VAC
	2	220VAC
	7	24VAC/DC
	9	12VAC/DC
6.Section	1~5	1~5
7.Lens	R	Red
	O	Orange
	G	Green
	B	Blue
	W	White



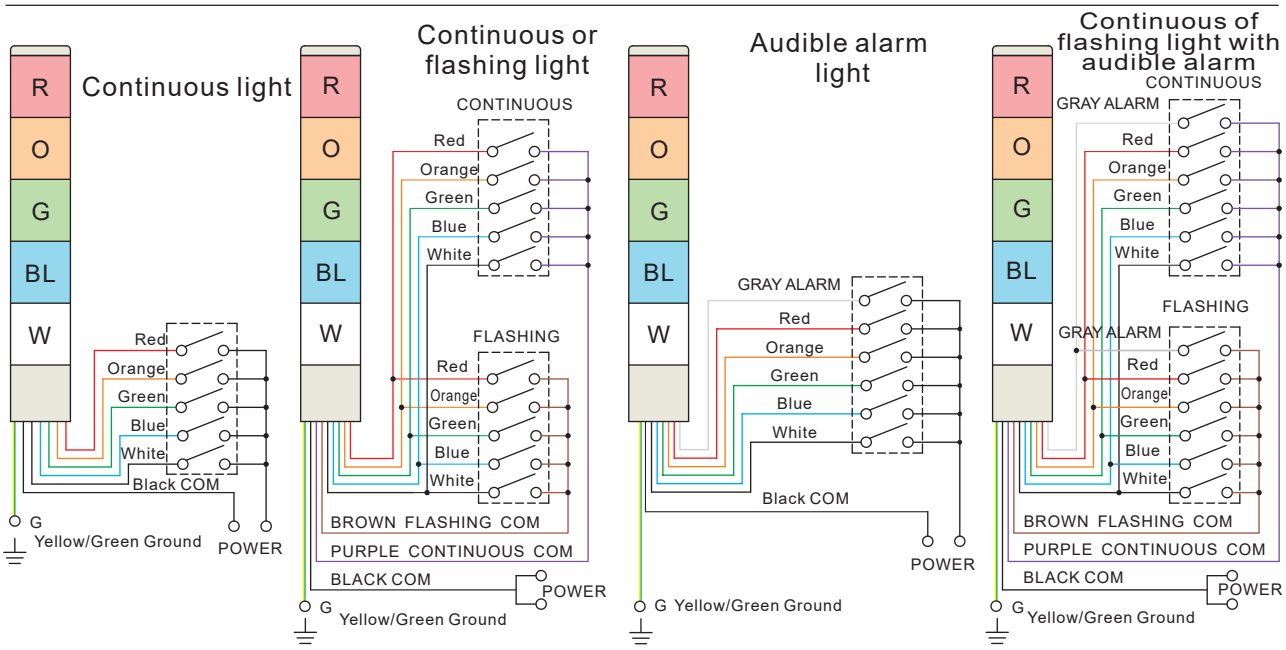
Dimensions of functional L type

Section	L (mm)
1	118
2	182
3	246
4	310
5	374

Dimensions of functional F,S,B type

Section	L (mm)
1	182
2	246
3	310
4	374
5	438

WIRING DIAGRAM



TOWER LIGHT (SQUARE LEN)
ทาวเวอร์ไลท์ (ทรงเหลี่ยม)

TSTL5



TSWL5



- **Tower light Ø50 mm pole mount-continuous light 12V,24V,110V,220V ชนิดไฟติดต่อเนื่อง Ø 50 มม.**

Type		Description
TSTL5-1	หลอดธรรมดา	1 Section
TSTL5-2	หลอดธรรมดา	2 Section
TSTL5-3	หลอดธรรมดา	3 Section
TSTL5-4	หลอดธรรมดา	4 Section
TSTL5-5	หลอดธรรมดา	5 Section
TSTL5-1 (LED)	หลอด LED	1 Section
TSTL5-2 (LED)	หลอด LED	2 Section
TSTL5-3 (LED)	หลอด LED	3 Section
TSTL5-4 (LED)	หลอด LED	4 Section
TSTL5-5 (LED)	หลอด LED	5 Section

- **Tower light Ø50 mm tray mount-continuous light 12V,24V,110V,220V ชนิดไฟติดต่อเนื่อง Ø 50 มม.**

Type		Description
TSWL5-1	หลอดธรรมดา	1 Section
TSWL5-2	หลอดธรรมดา	2 Section
TSWL5-3	หลอดธรรมดา	3 Section
TSWL5-4	หลอดธรรมดา	4 Section
TSWL5-5	หลอดธรรมดา	5 Section
TSWL5-1 (LED)	หลอด LED	1 Section
TSWL5-2 (LED)	หลอด LED	2 Section
TSWL5-3 (LED)	หลอด LED	3 Section
TSWL5-4 (LED)	หลอด LED	4 Section
TSWL5-5 (LED)	หลอด LED	5 Section

หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend TOWER LIGHT (SQUARE LEN)
ทาวเวอร์ไลท์ (ทรงเหลี่ยม)

TSTF5/ TSTS5/ TSTB5



TSWF5/ TSWS5/ TSWB5



● **Tower light Ø50 mm pole mount continuous or flashing light**
12V,24V,110V,220V ชนิดไฟติดต่อเนื่องหรือกะพริบ Ø50 มม.

Type			Description
TSTF5-1		หลอดธรรมดา	1 Section
TSTF5-2		หลอดธรรมดา	2 Section
TSTF5-3		หลอดธรรมดา	3 Section
TSTF5-4		หลอดธรรมดา	4 Section
TSTF5-5		หลอดธรรมดา	5 Section
TSTF5-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TSTF5-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TSTF5-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TSTF5-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TSTF5-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

● **Tower light Ø50 mm pole mount continuous or flashing light with alarm**
12V,24V,110V,220V ชนิดไฟติดต่อเนื่องหรือกะพริบพร้อมไซเรน Ø50 มม.

Type			Description
TSTS5-1		หลอดธรรมดา	1 Section
TSTS5-2		หลอดธรรมดา	2 Section
TSTS5-3		หลอดธรรมดา	3 Section
TSTS5-4		หลอดธรรมดา	4 Section
TSTS5-5		หลอดธรรมดา	5 Section
TSTS5-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TSTS5-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TSTS5-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TSTS5-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TSTS5-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

● **Tower light Ø50 mm pole mount continuous light-audible alarm light**
12V,24V,110V,220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø50 มม.

Type			Description
TSTB5-1		หลอดธรรมดา	1 Section
TSTB5-2		หลอดธรรมดา	2 Section
TSTB5-3		หลอดธรรมดา	3 Section
TSTB5-4		หลอดธรรมดา	4 Section
TSTB5-5		หลอดธรรมดา	5 Section
TSTB5-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TSTB5-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TSTB5-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TSTB5-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TSTB5-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

● **Tower light Ø50 mm tray mount continuous or flashing light**
12V,24V,110V,220V ชนิดไฟติดต่อเนื่องหรือกะพริบ Ø50 มม.

Type			Description
TSWF5-1		หลอดธรรมดา	1 Section
TSWF5-2		หลอดธรรมดา	2 Section
TSWF5-3		หลอดธรรมดา	3 Section
TSWF5-4		หลอดธรรมดา	4 Section
TSWF5-5		หลอดธรรมดา	5 Section
TSWF5-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TSWF5-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TSWF5-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TSWF5-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TSWF5-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

● **Tower light Ø50 mm tray mount continuous or flashing light with alarm**
12V,24V,110V,220V ชนิดไฟติดต่อเนื่องหรือกะพริบพร้อมไซเรน Ø50 มม.

Type			Description
TSWS5-1		หลอดธรรมดา	1 Section
TSWS5-2		หลอดธรรมดา	2 Section
TSWS5-3		หลอดธรรมดา	3 Section
TSWS5-4		หลอดธรรมดา	4 Section
TSWS5-5		หลอดธรรมดา	5 Section
TSWS5-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TSWS5-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TSWS5-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TSWS5-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TSWS5-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

● **Tower light Ø50 mm pole mount continuous light-audible alarm light**
12V,24V,110V,220V ชนิดไฟติดต่อเนื่องพร้อมไซเรน Ø50 มม.

Type			Description
TSWB5-1		หลอดธรรมดา	1 Section
TSWB5-2		หลอดธรรมดา	2 Section
TSWB5-3		หลอดธรรมดา	3 Section
TSWB5-4		หลอดธรรมดา	4 Section
TSWB5-5		หลอดธรรมดา	5 Section
TSWB5-1	(LED) R,O,G,W,BL	หลอด LED	1 Section
TSWB5-2	(LED) R,O,G,W,BL	หลอด LED	2 Section
TSWB5-3	(LED) R,O,G,W,BL	หลอด LED	3 Section
TSWB5-4	(LED) R,O,G,W,BL	หลอด LED	4 Section
TSWB5-5	(LED) R,O,G,W,BL	หลอด LED	5 Section

หมายเหตุ : สอบถามเพิ่มเติมกรณีต้องการใช้หลอด LED

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MULTICOLORED-LAYER TOWER LIGHT
ทาวเวอร์ไลท์รุ่น 1 ชั้น เปลี่ยนสีได้

FEATURES

- Multicolors in one layer to reduce total height, color : Red, Orange, Green and Blue.
- Revolving speed : 180 RPM, flashing frequency : 60 times per minuite.
- Intermittent buzz : Frequency with series connected with revolving wire : 180 RPM
  Frequency with series connected with flashing wire : 60 times per minute, volume : 80db/1M or more

NAME PLATE DESIGNATION

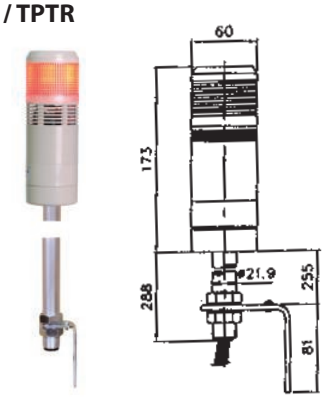
TPT	ML	6	-	2	3	ROG
1	2	3		4	5	6

Item	Signal	Description
1.Mounting method	TPT	Pole Mount
	TPW	Tray Mount
2.Functional	ML	Continuous Light
	MF	Continuous or Flashing Light
	MB	Audible Alarm Light
	MS	Continuous or Flashing Light With Audible Alarm
	RF	Rotary Light, Continuous And Flashing Light
	RS	Rotary Light, Continuous And Flashing Light
		With Audible Alarm
3.Size	5	Ø50 mm
	6	Ø60 mm
	7	Ø70 mm

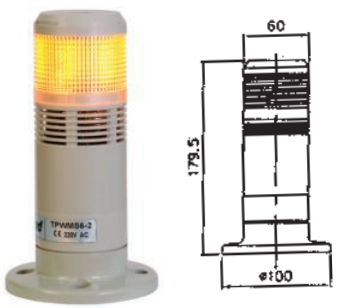
Item	Signal	Description
4.Voltage	1	110 V AC
	2	220 V AC
	7	24 V AC/ DC
	9	12 V AC/ DC
5.Section	2-4	2-4 Light
6.Color	R	Red
	O	Orange
	G	Green LED
	BL	Blue

DIMENSIONS AND MOUNTING HOLE

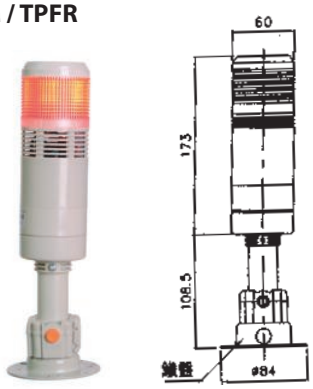
TPTM / TPTR



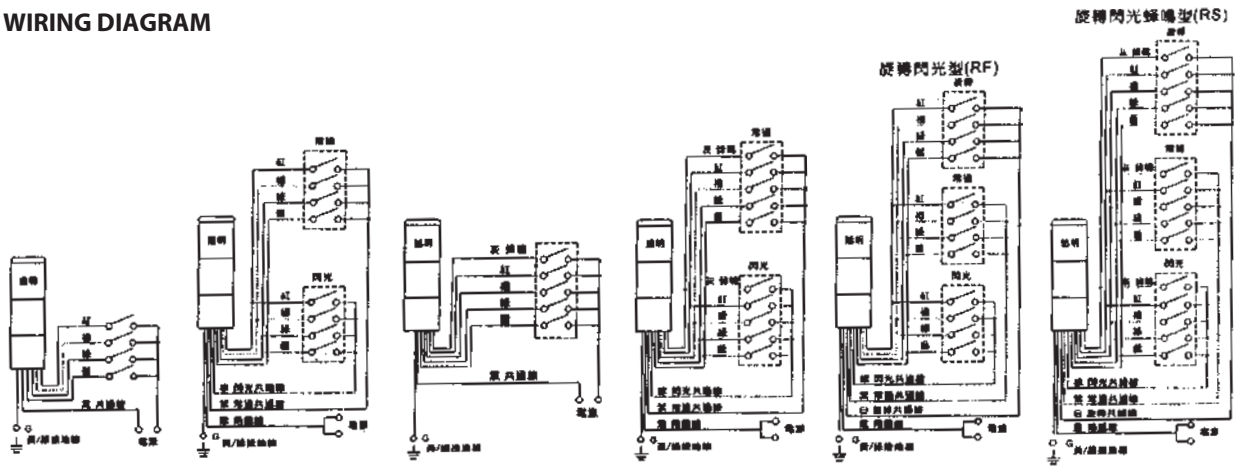
TPWM / TPWR



TPFM / TPFR



WIRING DIAGRAM



Continuous light | Continuous or flashing light | Audible alarm light | Continuous of flashing light with Audible alarm light

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend MULTICOLORED-LAYER TOWER LIGHT
ทาวเวอร์ไลท์รุ่น 1 ชั้น เปลี่ยนสีได้

One section tower light-LED : Continuous light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดก้านแป้นแบบไฟติดต่อเนื่อง ใช้หลอด LED



Code No.	Color	Voltage
TPTML5 2	2	12, 24, 110, 220 V
TPTML5 3	3	12, 24, 110, 220 V
TPTML5 4	4	12, 24, 110, 220 V
TPTML6 2	2	12, 24, 110, 220 V
TPTML6 3	3	12, 24, 110, 220 V
TPTML6 4	4	12, 24, 110, 220 V
TPTML7 2	2	12, 24, 110, 220 V
TPTML7 3	3	12, 24, 110, 220 V
TPTML7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Continuous light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาแป้นแบบไฟติดต่อเนื่อง ใช้หลอด LED



Code No.	Color	Voltage
TPWML5 2	2	12, 24, 110, 220 V
TPWML5 3	3	12, 24, 110, 220 V
TPWML5 4	4	12, 24, 110, 220 V
TPWML6 2	2	12, 24, 110, 220 V
TPWML6 3	3	12, 24, 110, 220 V
TPWML6 4	4	12, 24, 110, 220 V
TPWML7 2	2	12, 24, 110, 220 V
TPWML7 3	3	12, 24, 110, 220 V
TPWML7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Continuous or flashing light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดก้านแป้นแบบไฟติดต่อเนื่องหรือไฟกะพริบ ใช้หลอด LED



Code No.	Color	Voltage
TPTMF5 2	2	12, 24, 110, 220 V
TPTMF5 3	3	12, 24, 110, 220 V
TPTMF5 4	4	12, 24, 110, 220 V
TPTMF6 2	2	12, 24, 110, 220 V
TPTMF6 3	3	12, 24, 110, 220 V
TPTMF6 4	4	12, 24, 110, 220 V
TPTMF7 2	2	12, 24, 110, 220 V
TPTMF7 3	3	12, 24, 110, 220 V
TPTMF7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Continuous or flashing light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาแป้นแบบไฟติดต่อเนื่องหรือไฟกะพริบ ใช้หลอด LED



Code No.	Color	Voltage
TPWMF5 2	2	12, 24, 110, 220 V
TPWMF5 3	3	12, 24, 110, 220 V
TPWMF5 4	4	12, 24, 110, 220 V
TPWMF6 2	2	12, 24, 110, 220 V
TPWMF6 3	3	12, 24, 110, 220 V
TPWMF6 4	4	12, 24, 110, 220 V
TPWMF7 2	2	12, 24, 110, 220 V
TPWMF7 3	3	12, 24, 110, 220 V
TPWMF7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Audible alarm light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดก้านแป้นแบบไฟติดต่อเนื่องพร้อมเสียง สัญญาณออดใช้หลอด LED



Code No.	Color	Voltage
TPTMB5 2	2	12, 24, 110, 220 V
TPTMB5 3	3	12, 24, 110, 220 V
TPTMB5 4	4	12, 24, 110, 220 V
TPTMB6 2	2	12, 24, 110, 220 V
TPTMB6 3	3	12, 24, 110, 220 V
TPTMB6 4	4	12, 24, 110, 220 V
TPTMB7 2	2	12, 24, 110, 220 V
TPTMB7 3	3	12, 24, 110, 220 V
TPTMB7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Audible alarm light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาแป้นแบบไฟติดต่อเนื่องพร้อมเสียง สัญญาณออดใช้หลอด LED



Code No.	Color	Voltage
TPWMB5 2	2	12, 24, 110, 220 V
TPWMB5 3	3	12, 24, 110, 220 V
TPWMB5 4	4	12, 24, 110, 220 V
TPWMB6 2	2	12, 24, 110, 220 V
TPWMB6 3	3	12, 24, 110, 220 V
TPWMB6 4	4	12, 24, 110, 220 V
TPWMB7 2	2	12, 24, 110, 220 V
TPWMB7 3	3	12, 24, 110, 220 V
TPWMB7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MULTICOLORED-LAYER TOWER LIGHT
ทาวเวอร์ไลท์รุ่น 1 ชั้น เปลี่ยนสีได้

One section tower light-LED :
Continuous or flashsing light with audible alarm
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาก้านแบบไฟติดต่อเนื่องหรือไฟกะพริบ พร้อมเสียงสัญญาณ ใช้หลอด LED



Code No.	Color	Voltage
TPTMS5 2	2	12, 24, 110, 220 V
TPTMS5 3	3	12, 24, 110, 220 V
TPTMS5 4	4	12, 24, 110, 220 V
TPTMS6 2	2	12, 24, 110, 220 V
TPTMS6 3	3	12, 24, 110, 220 V
TPTMS6 4	4	12, 24, 110, 220 V
TPTMS7 2	2	12, 24, 110, 220 V
TPTMS7 3	3	12, 24, 110, 220 V
TPTMS7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED :
Continuous or flashsing light with audible alarm
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาแป้นแบบไฟติดต่อเนื่องหรือไฟกะพริบ พร้อมเสียงสัญญาณ ใช้หลอด LED



Code No.	Color	Voltage
TPWMS5 2	2	12, 24, 110, 220 V
TPWMS5 3	3	12, 24, 110, 220 V
TPWMS5 4	4	12, 24, 110, 220 V
TPWMS6 2	2	12, 24, 110, 220 V
TPWMS6 3	3	12, 24, 110, 220 V
TPWMS6 4	4	12, 24, 110, 220 V
TPWMS7 2	2	12, 24, 110, 220 V
TPWMS7 3	3	12, 24, 110, 220 V
TPWMS7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED :
Rotary light continuous or flashing light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาก้านชนิดไฟหมุนแบบไฟติดต่อเนื่องหรือไฟกะพริบ ใช้หลอด LED



Code No.	Color	Voltage
TPTRF5 2	2	12, 24, 110, 220 V
TPTRF5 3	3	12, 24, 110, 220 V
TPTRF5 4	4	12, 24, 110, 220 V
TPTRF6 2	2	12, 24, 110, 220 V
TPTRF6 3	3	12, 24, 110, 220 V
TPTRF6 4	4	12, 24, 110, 220 V
TPTRF7 2	2	12, 24, 110, 220 V
TPTRF7 3	3	12, 24, 110, 220 V
TPTRF7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED :
Rotary light continuous flashing light
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาแป้นชนิดไฟหมุนแบบไฟติดต่อเนื่องหรือไฟกะพริบ ใช้หลอด LED



Code No.	Color	Voltage
TPWRF5 2	2	12, 24, 110, 220 V
TPWRF5 3	3	12, 24, 110, 220 V
TPWRF5 4	4	12, 24, 110, 220 V
TPWRF6 2	2	12, 24, 110, 220 V
TPWRF6 3	3	12, 24, 110, 220 V
TPWRF6 4	4	12, 24, 110, 220 V
TPWRF7 2	2	12, 24, 110, 220 V
TPWRF7 3	3	12, 24, 110, 220 V
TPWRF7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Rotary light, continuous or flashing light with audible alarm
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาก้านชนิดไฟหมุนแบบไฟติดต่อเนื่องหรือไฟกะพริบพร้อมเสียงสัญญาณออด ใช้หลอด LED



Code No.	Color	Voltage
TPTRS5 2	2	12, 24, 110, 220 V
TPTRS5 3	3	12, 24, 110, 220 V
TPTRS5 4	4	12, 24, 110, 220 V
TPTRS6 2	2	12, 24, 110, 220 V
TPTRS6 3	3	12, 24, 110, 220 V
TPTRS6 4	4	12, 24, 110, 220 V
TPTRS7 2	2	12, 24, 110, 220 V
TPTRS7 3	3	12, 24, 110, 220 V
TPTRS7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

One section tower light-LED : Rotary light, continuous or flashing light with audible alarm
ทาวเวอร์ไลท์ รุ่น 1 ชั้นสามารถเปลี่ยนสีได้
ไฟสัญญาณชนิดขาแป้นชนิดไฟหมุนแบบไฟติดต่อเนื่องหรือไฟกะพริบพร้อมเสียงสัญญาณออด ใช้หลอด LED



Code No.	Color	Voltage
TPWRS5 2	2	12, 24, 110, 220 V
TPWRS5 3	3	12, 24, 110, 220 V
TPWRS5 4	4	12, 24, 110, 220 V
TPWRS6 2	2	12, 24, 110, 220 V
TPWRS6 3	3	12, 24, 110, 220 V
TPWRS6 4	4	12, 24, 110, 220 V
TPWRS7 2	2	12, 24, 110, 220 V
TPWRS7 3	3	12, 24, 110, 220 V
TPWRS7 4	4	12, 24, 110, 220 V

Note : ผู้ใช้สามารถเลือกใช้ไฟติดต่อเนื่องหรือไฟกะพริบได้ตามต้องการ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TOWER LIGHT
ทาวเวอร์ไลท์
Ø120

FEATURES

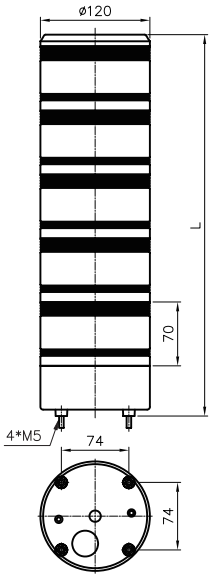
- Tend tower light can be installed in any machine as a statusindicator by showing the color change of light and audible alarm. Tower light can be custom-made to meet different needs.
- Flexible wiring design.LED flashing or continuous and alarm intermittent or continuous can be determined by end user though wiring.
- Audio alarm buzzes at 90DB/30cm.

MODEL DESIGNATION

TPW (1) L (2) 12 (3) — L (4) 2 (5) 3 (6) ROG (7)

Designation	Signal	Description
1.Mounting method	TPW	Tray mount
2.Function	L	Continuous light
	F	Continuous flashing light
	S	Continuous flashing light with audible alarm
	B	Audible alarm light
3.Diameter	12	Ø120 mm
4.Bulb	L	LED
5.Voltage	1	110VAC
	2	220VAC
	7	24VAC/DC
	9	12VAC/DC
6.Section	1~5	1~5
7.Lens color	R	Red
	O	Orange
	G	Green
	B	Blue
	W	White



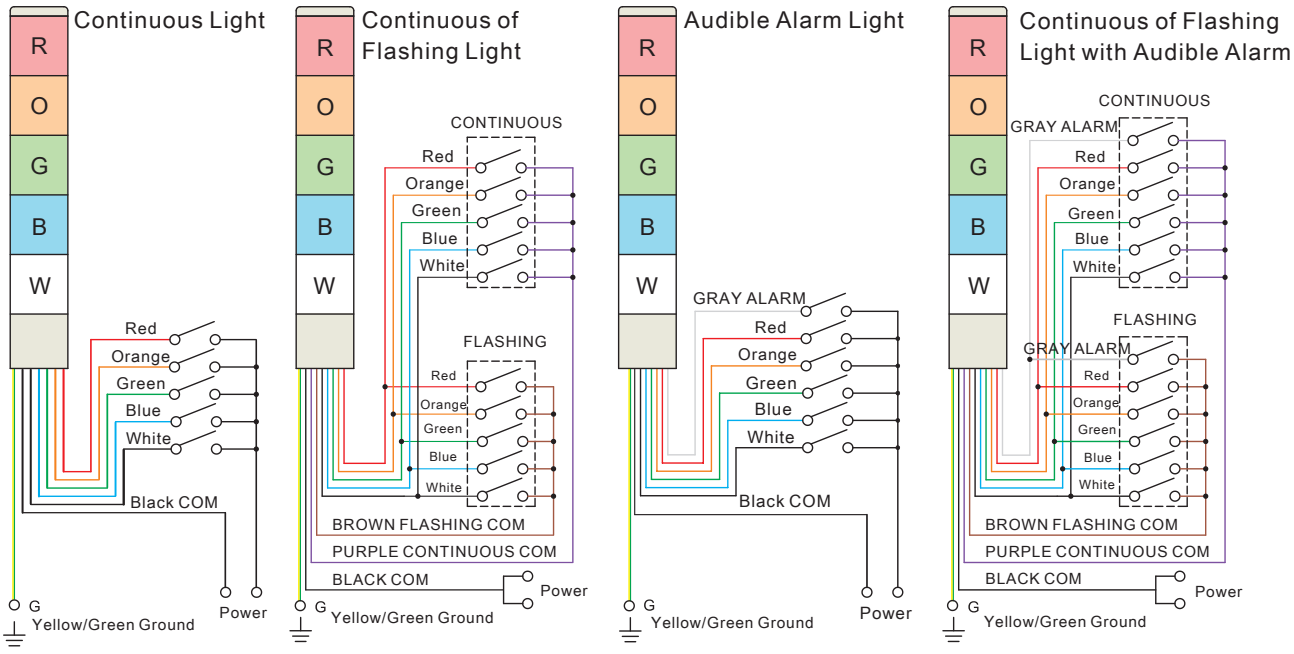


● **Continuous light :**

Section	L
1	118
2	182
3	246
4	310
5	374

WIRING DIAGRAM (DC,Polarity labeled on power cables)

* สอบถามราคากับพนักงานขาย



XENON BEACON
ซีนอน บีคอน

FEATURES
- Surface Mount Type. Suitable for Indoor and Outdoor
- Rated IP65. Application Ambient Temperature -20~+55°（Ice Free）
- Available in five colors
- Beacon body in black



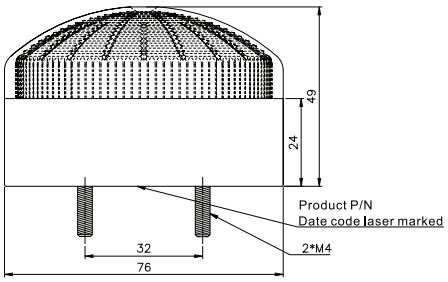
24V DC
220V AC

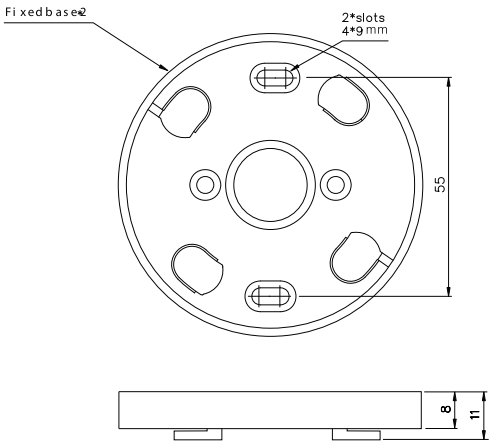
DESIGNATION

TSL – 24 DA – A
1 2 3 4

Designation	Code	Description
1	TSL TLL	Xenon tube LED lamp
2	24	Rated voltage 12~24VAC/DC
	220	Rated voltage 110~220VAC
3	A	AC only
	DA	DC/AC
4	A	Color : Amber
	B	Color : Blue
	C	Color : Clear
	G	Color : Green
	R	Color : Red

DIMENSIONS AND MOUNTING HOLES





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

REVOLVING AND FLASHING WARNING LIGHT
ไฟหมุน / ไฟกะพริบ

FEATURE

- Revolving or flashing types color : Red, Orange, Green, Blue and Pink.
- Revolvin speed : 160 RPM, flash frequency : 150 times per minute.
- Intermittent buzz, Synchronizing frequency with flash, approx 150 times per minute volume : 80 db/1m or more.

MODEL DESIGNATION

TWF B - 10 L 2 R
1 2 3 4 5 6

Designation	Signal	Description
1.Type	TWR	Rotary (Transparent Lens)
	TWK	Rotary (Diamond Lens)
	TWF	Flashing (LED)
	TWL	Rotary (LED)
2.Buzzer	Space	Screw terminal (without Buzzer)
	B	Screw terminal (with Buzzer)
	W	Lead (without Buzzer)
	S	Lead (with Buzzer)
3.Size	08	Ø 80 mm
	10	Ø 100 mm
	12	Ø 120 mm
	16	Ø 160 mm
	18	Ø 180 mm
4.Bulb	Space	Incandescent Bulb
	L	LED
5.Voltage	1	110 VAC
	2	220 VAC
	7	24 VAC/DC
	9	12 VAC/DC
6.Color of lens	R	Red
	O	Orange
	G	Green
	BL	Blue
	P	Pink

Note : 1.TWR/TWK incandescent bulb only
2.TWF incandescent bulb or LED
3.TWL LED only

LED

Size	TWF							
		12V		24V		110V		220V
Ø80 mm	L4	12V 0.08A	L4	24V 0.04A	L4	110V 0.02A	L4	220V 0.02A
Ø100 mm Ø120 mm	L6	24V 0.1A	L6	24V 0.05A	L6	110V 0.02A	L6	220V 0.02A

Size	TWR/TWK								TWF							
		12V		24V		110V		220V		12V		24V		110V		220V
Ø80 mm	I3	12 V 8 W	I3	24 V 8 W	I4	110 V 5W	I4	220 V 5 W	I6	12 V 10 W	I6	24 V 10 W	I6	110 V 10 W	I6	220 V 10 W
Ø100 mm	I3	12 V 8 W	I3	24 V 8 W	I2	12 V 5 W	I2	12 V 5 W	I6	12 V 10 W	I6	24 V 10 W	I6	110 V 10 W	I6	220 V 10 W
Ø120 mm	I3	12 V 8 W	I3	24 V 8 W	I3	12 V 8 W	I3	12 V 8 W	I6	12 V 10 W	I6	24 V 10 W	I6	110 V 10 W	I6	220 V 10 W
Ø160 mm Ø180 mm	I7	12 V 35 W	I7	24 V 35 W	I7	12 V 35 W	I7	12 V 35 W	I7	12 V 35 W	I7	24 V 35 W	I7	110 V 35 W	I7	220 V 35 W

LED LAMP FOR WARNING LIGHT

MODEL DESIGNATION

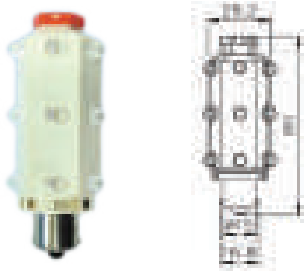
S15 - L4 2 R
1 2 3 4

LAMP DIMENSION

S15-L4



S15-L6



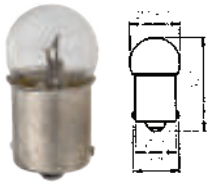
Designation	Signal	Description
1.Base type	S15	BA15S base
2.Lamp type	L4	LED X 8
	L6	LED X 15
3.Voltage	1	110 VAC/DC
	2	220 VAC/DC
	7	24 VAC/DC
	9	12 VAC/DC
4.Color	R	Red LED
	O	Orange LED
	G	Green LED
	BL	Blue LED

S15-L4 for TWL-08 + TWF-08
S15-L6 for TWL-10, TWF-12 + TWL-10, TWL-12

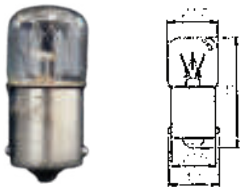
tend REVOLVING AND FLASHING WARNING LIGHT
ไฟหมุน / ไฟกะพริบ

LAMP DIMENSION

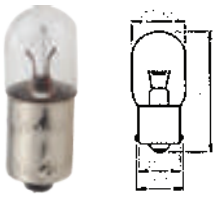
S15-I2
S15-I3



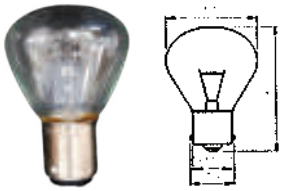
S15-I4



S15-I6



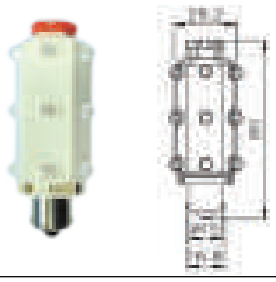
S15-I7



S15-L4(R,O)
S15-L4(G,W,BL)



S15-L6(R,O)
S15-L6(G,W,BL)



TWR **TWS** **TWK**

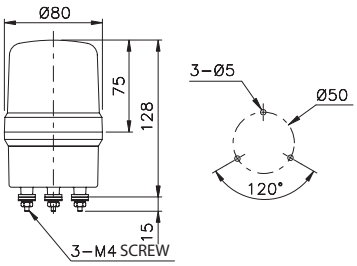


ฝาครอบเรียบ ฝาครอบ ฝาครอบลายเพรช

DIMENSION AND MOUNTING HOLE

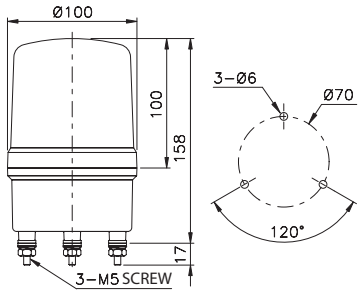
TWRW-08





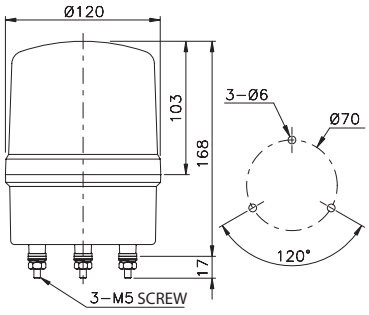
TWRW-10





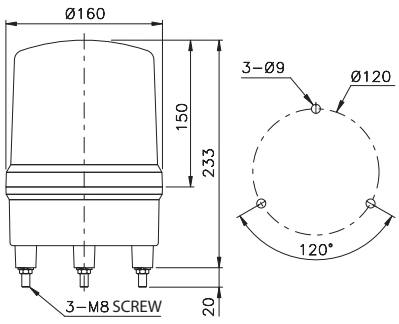
TWRW-12





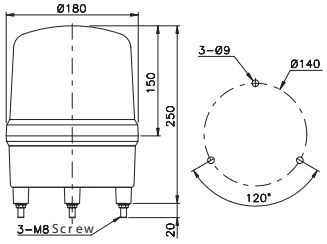
TWRW-16



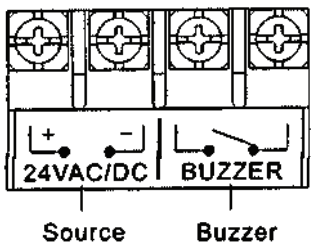


TWRW-18





WIRING DIAGRAM



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

REVOLVING AND FLASHING WARNING LIGHT
ไฟหมุน / ไฟกะพริบ

Code	Description	Voltage
TWR-08	ไฟหมุนฝาครอบเรียบ ขนาด 80 มม.	110V, 220V, 12V, 24V
TWR-10	ไฟหมุนฝาครอบเรียบ ขนาด 100 มม.	110V, 220V, 12V, 24V
TWR-12	ไฟหมุนฝาครอบเรียบ ขนาด 120 มม.	110V, 220V, 12V, 24V
TWR-16	ไฟหมุนฝาครอบเรียบ ขนาด 160 มม.	110V, 220V, 12V, 24V
TWR-18	ไฟหมุนฝาครอบเรียบ ขนาด 180 มม.	110V, 220V, 12V, 24V
TWK-10	ไฟหมุนฝาครอบลายเพรช ขนาด 100 มม.	110V, 220V, 12V, 24V
TWS-08	ไฟหมุนฝาครอบลายเส้น ขนาด 80 มม.	110V, 220V, 12V, 24V
TWS-10	ไฟหมุนฝาครอบลายเส้น ขนาด 100 มม.	110V, 220V, 12V, 24V
TWS-12	ไฟหมุนฝาครอบลายเส้น ขนาด 120 มม.	110V, 220V, 12V, 24V
TWS-16	ไฟหมุนฝาครอบลายเส้น ขนาด 160 มม.	110V, 220V, 12V, 24V
TWS-18	ไฟหมุนฝาครอบลายเส้น ขนาด 180 มม.	110V, 220V, 12V, 24V
TWLW-08L	ไฟหมุนฝาครอบลายเส้น ขนาด 80 มม. (LED)	110V, 220V, 12V, 24V
TWLW-10L	ไฟหมุนฝาครอบลายเส้น ขนาด 100 มม. (LED)	110V, 220V, 12V, 24V
TWLW-12L	ไฟหมุนฝาครอบลายเส้น ขนาด 120 มม. (LED)	110V, 220V, 12V, 24V
TWLW-16L	ไฟหมุนฝาครอบลายเส้น ขนาด 160 มม. (LED)	110V, 220V, 12V, 24V
TWLW-18L	ไฟหมุนฝาครอบลายเส้น ขนาด 180 มม. (LED)	110V, 220V, 12V, 24V
TWRB-08	ไฟหมุนฝาครอบเรียบ พร้อมสัญญาณออด ขนาด 80 มม. - Terminal	110V, 220V, 12V, 24V
TWRB-10	ไฟหมุนฝาครอบเรียบ พร้อมสัญญาณออด ขนาด 100 มม. - Terminal	110V, 220V, 12V, 24V
TWRB-12	ไฟหมุนฝาครอบเรียบ พร้อมสัญญาณออด ขนาด 120 มม. - Terminal	110V, 220V, 12V, 24V
TWRB-16	ไฟหมุนฝาครอบเรียบ พร้อมสัญญาณออด ขนาด 160 มม. - Terminal	110V, 220V, 12V, 24V
TWRB-18	ไฟหมุนฝาครอบเรียบ พร้อมสัญญาณออด ขนาด 180 มม. - Terminal	110V, 220V, 12V, 24V
TWLB-08L	ไฟหมุนฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 80 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWLB-10L	ไฟหมุนฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 100 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWLB-12L	ไฟหมุนฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 120 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWLB-16L	ไฟหมุนฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 160 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWLB-18L	ไฟหมุนฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 180 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWF-08L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น ขนาด 80 มม. (LED)	110V, 220V, 12V, 24V
TWF-10L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น ขนาด 100 มม. (LED)	110V, 220V, 12V, 24V
TWF-12L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น ขนาด 120 มม. (LED)	110V, 220V, 12V, 24V
TWF-16L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น ขนาด 160 มม. (LED)	110V, 220V, 12V, 24V
TWF-18L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น ขนาด 180 มม. (LED)	110V, 220V, 12V, 24V
TWFB-08L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 80 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWFB-10L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 100 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWFB-12L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 120 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWFB-16L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 160 มม. (LED) - Terminal	110V, 220V, 12V, 24V
TWFB-18L	ไฟหมุนชนิดกะพริบฝาครอบลายเส้น พร้อมเสียงสัญญาณออด ขนาด 180 มม. (LED) - Terminal	110V, 220V, 12V, 24V

*TWRS, TWLS, TWFS ไฟหมุนพร้อมเสียงออด-มีสายไฟ (สอบถามเพิ่มเติมกับพนักงานขาย)

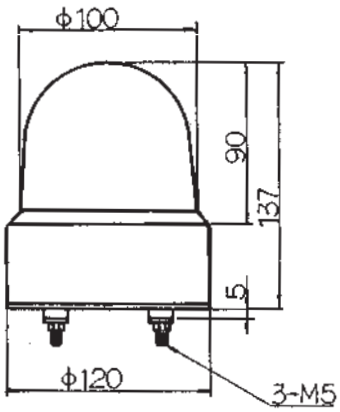
tend WARNING LIGHT
สัญญาณไฟหมุน

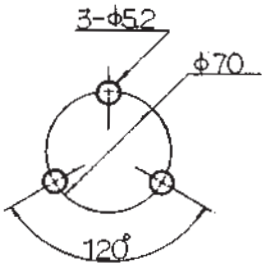
TRM-220

Model RM is small model with paraboolic reflector Acrylic done is availible in red orang, blue, green ideal for commercial use and industrial use.

Model	Voltage	Current	Plashes per minute	Bulb	Weight
TRM 120	DC 12V	0.7 A	150 R PM	12V8W	0.6 kg.
TRM 240	DC 24V	0.07 A		24V 10W	0.75 kg.
TRM 220	DC 220V	0.04 A		220V 5W	0.75 kg.







*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

BUZZER / BELL
ออด / กระดิ่ง
TBY TBN 4BL

FEATURES
- Small size
- Beautiful style
- High volume

MODEL DESIGNATION
TBN - 220 □
1 2 3

SPECIFICATIONS
- Dielectric strength :
  AC 1500V for duration of one minute
- Insulation resistance : Over 100 m DC500V
- Service life : Over than 30 minutes (Continuous)
- Volume (D,B)
  TBN-220, TBY-220 series : Over than 85 D.B.
  TBY-302 Series : Over than 75 D.B.
  4BL-220 Series : Over than 95 D.B.

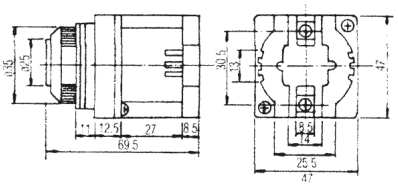
Designation	Signal	Description
1.Type	TBN	Flush Mounting
	TBY	Surface Mounting
	4BL	4" Bell
2.Voltage	110	110 V
	220	220 V
	24	24 V
	12	12 V
	301	110 V 30mm
	302	220 V 30mm
	312	12 V
	324	24 V
3.Current	(NONE)	AC
	D	DC

DIMENSIONS

Type	Description
TBY-302	220V,
TBY-301	110V
TBY-324D	24V
TBY-312D	12V

30 mm

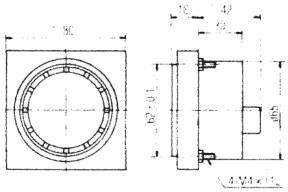




Type	Description
TBY-220	220V,
60mm220V	110V
TBY-24D	24V
TBY-12D	12V

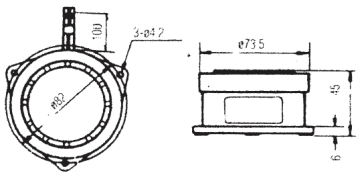
60 mm





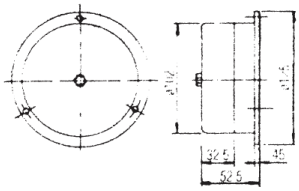
Type	Description
TBN-220	220V, 110V
TBN-24D	24V
TBN-12D	12V





Type
4BL-220
4BL-24D (24VDC)





BLUE INCANDESCENT LAMP / NEON LAMP / LED LAMP
หลอดไฟธรรมดา / นีออน / LED

	Series no.	Code no.	Volt.	Rated current	ใช้สำหรับ
	2S-9-6.3	2S-9-6.3	5V DC/AC	150mA	Incan for pilot lamp T2,TN2,TS2 BA9S
	2S-9-18	2S-9-18	18V DC/AC	66mA	
	2S-9-24	2S-9-24	24V DC/AC	50mA	
	2S-9-30	2S-9-30	30V DC/AC	40mA	
	2S-9-12	2S-9-12	12V DC/AC	100mA	
	2S-9-110R	2S-9-110R	110V AC-R	1.3mA	Neon for pilot lamp T2,TN2,TS2
	2S-9-110G	2S-9-110G	110V AC-G	1.3mA	
	2S-9-220R	2S-9-220R	220V AC-R	2.2mA	
	2S-9-220G	2S-9-220G	220V AC-G	2.2mA	
	2S-9-380R	2S-9-380R	380V AC-R	1.15mA	
	2S-9-380G	2S-9-380G	380V AC-G	1.15mA	
	2S-9TL-6 R,Y,G,W,BL	LED-R,Y,G,W,BL	6V DC	9-13mA	LED for pilot lamp Illuminated TN2
	2S-9TL-12 R,Y,G,W,BL	LED-R,Y,G,W,BL	12V DC	9-13mA	
	2S-9TL-24 R,Y,G,W,BL	LED-R,Y,G,W,BL	24V DC	8-13mA	
	2S-9TL110 R,Y,G,W,BL	LED-R,Y,G,W,BL	110V AC	3-5mA	
	2S-9-TL220 R,Y,G,W,BL	LED-R,Y,G,W,BL	220V AC	3-5mA	
	2S-9TL-380 R,Y,G,W,BL	LED-R,Y,G,W,BL	380V AC		
	2E-10-6.3	E10 6.3V	6.3V DC/AC	0.15W	For pilot lamp TPR,TPF,TPS 25 mm
	2E-10-12	E10 12V	12V DC/AC	1W	
	2E-10-24	E10 24V	24V DC/AC	1W	
	2E-10-30	E10 30V	30V DC	1W	
	2E-10-110	E10 110V	110V AC	1W	
	2E-10-220-R	E10 220V	220V AC	1W	
	2E-10-380	E10 380V	380V AC	1W	
	2E-12-12	E12 12V	12V	0.11W	For pilot lamp TPR,TPF,TPS,TPL 30 mm
	2E-12-18	E12 18V	18V	0.11W	
	2E-12-24	E12 24V	24V	1W	
	2E-12-30	E12 30V	30V	1W	
	2E-12-110	E12 110V	110V	1W	
	2E-12-220	E12 220V	220V	1W	
	2E-12-380	E12 380V	380V	1W	
	2T-4.5-6	T-4.5-6V	6V	0.3W	For T16
	2T-4.5-12	T-4.5-12V	12V	0.5W	
	2T-4.5-18	T-4.5-18V	18V	0.5W	
	2T-4.5-24	T-4.5-24V	24V	0.5W	
	2T-4.5-30	T-4.5-28V	28V	0.7W	
	2T-4.5-110G,R	T-4.5-110VG,R	110V	0.3W	
	2T-4.5-220G,R	T-4.5-220VG,R	220V	0.3W	
	2T1.75F6.3	T13/4 110V	6.3V DC/AC	110mA	Incan for TN16,T13/4 Base
	2T1.75F14	T13/4 14V	12V DC/AC	50mA	
	2T1.75F28	T13/4 28V	28V DC/AC	25mA	
	2T1.75F110G,R	T13/4 110V	110V DC/AC	1.5mA	Neon for TN16,T13/4
	2T1.75F220G,R	T13/4 220V	220V DC/AC	1.5mA	
	2T1.75F380G,R	T13/4 380V	380V DC/AC	1.5mA	
	2T1.75L6 R,Y,O	LED-R,Y,O	6V DC	26mA	LED for TN16
	2T1.75L12 R,Y,O	LED-R,Y,O	12V DC	26mA	
	2T1.75L24 R,Y,O	LED-R,Y,O	24V DC	26mA	
	2T1.75L6 BL,W,G	LED-BL,W,G	6V DC	26mA	
	2T1.75L12 BL,W,G	LED-BL,W,G	12V AC	26mA	
	2T1.75L24 BL,W,G	LED-BL,W,G	24V AC	26mA	
	TL-12 R, O, Y, G, BL, W	LED	12V DC/AC	26mA	LED for TT16
	TL-24 R, O, Y, G, BL, W	LED	24V DC/AC	26mA	
	TL-110 R, O, Y, G, BL, W	LED	110V AC	15mA	
	TL-220 R, O, Y, G, BL, W	LED	220V AC	15mA	
	2S-15-12-5W	S15-I49	12V DC/AC	5W	Incan for tower light 40, 50mm Incan for warning lamp TWR, TWK 08 220V
	2S-15-24-8W	S15-I47	24V DC/AC	8W	
	2S-15-110-5W	S15-I41	110V AC	5W, 10W	
	2S-15-220-5W	S15-I42	220V AC	5W, 10W	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

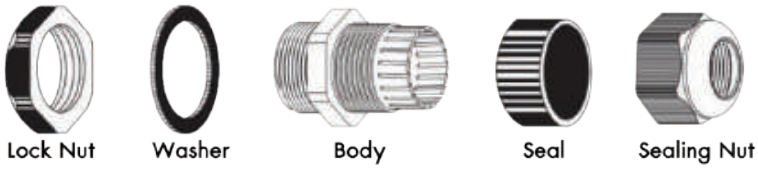
BLUE INCANDESCENT LAMP / NEON LAMP / LED LAMP
หลอดไฟธรรมดา / นีออน / LED

	Series no.	Code no.	Volt.	Rated current	ใช้สำหรับ
	**2S-15L-12**	**2S-I69**	12V DC/AC	10W	Incan for tower light 60,70mm Incan for warning lamp TWF 08, 10, 12 12V
	2S-15L-24	**2S-I67**	24V DC/AC	10W	
	2S-15L-110	**2S-I61**	110V AC	10W	
	2S-15L-220	**2S-I62**	220V AC	10W	
	**S15-L49R, Y, G, W, BL**	**S15-L49R, Y, G, W, BL**	12V DC/AC	0.1 A	LED for tower light 40mm LED for warning lamp TWL, TWF - 08
	S15-L47R, Y, G, W, BL	**S15-L47R, Y, G, W, BL**	24V DC/AC	0.03 A	
	S15-L41R, Y, G, W, BL	**S15-L41R, Y, G, W, BL**	110V AC	0.02 A	
	S15-L42R, Y, G, W, BL	**S15-L42R, Y, G, W, BL**	220V AC	0.02 A	
	**S15-L59**	**S15-L59R, Y, G, W, BL**	12V DC/AC	0.1 A	LED for tower light 50, 60, 70mm
	S15-L57	**S15-L57R, Y, G, W, BL**	24V DC/AC	0.03 A	
	S15-L51	**S15-L51R, Y, G, W, BL**	110V AC	0.02 A	
	S15-L52	**S15-L52R, Y, G, W, BL**	220V AC	0.02 A	
	**2S-15S-12-5W**	**S15-12**	12V	5W	Incan for warning lamp TWR, TWK 10 110V, 220V Incan for warning lamp TWR, TWK 08, 10, 12 12V, 110V, 220V Incan for warning lamp TWR, TWK 08, 10, 12, 24V
	**12V35W**	**S15-17**	12V	35W	Incan for warning lamp TWR, TWK 16, 18 12V, 110V, 220V TWF 16,18 12V
	24V35W	**S15-17**	24V	35W	Incan for warning lamp TWR, TWK 16, 18 TWF 16, 18 110V
	24V40W	**S15-17**	24V	40W	Incan for warning lamp TWF 16, 18 110V
	220V40W	**S15-17**	220V	40W	Incan for warning lamp TWF 16, 18 220V
	**2S-15-L61R, Y, G, W, BL**	**S15-L69R, Y, G, W, BL**	110V AC	0.02A	LED for warning lamp TWL, TWF - 10, 12
	2S-15-L62R, Y, G, W, BL	**S15-L67R, Y, G, W, BL**	220V AC	0.02A	
	2S-15-L67R, Y, G, W, BL	**S15-L61R, Y, G, W, BL**	24V DC	0.05A	
	2S-15-L69R, Y, G, W, BL	**S15-L62R, Y, G, W, BL**	12V DC	0.1A	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

tend CABLE GLAND
เคเบิ้ลแกลน





- **Thread : PG, PF and NPT**
- **Material : NYLON 66 (L 94V-2)**
- **Operating temperature : 40 ℃ ~ 100 ℃**

Type	Color		Cable	Wrench	OD (Thread)	Length (Thread)	Packaging	Remark
	Black	Gray	Ø	L1	L2	A/E	PCS	
PG7	HPG7	HPG7GR	3-6.5	12.4	8	17/15	50	
PG9	HPG9	HPG9GR	4-8	15.1	8	22/19	50	
PG11	HPG11	HPG11GR	5-10	18.5	8	24/22	50	
PG13.5	HPG13.5	HPG13.5GR	6-12	20.3	9	27/24	50	
PG16	HPG16	HPG16GR	10-14	22.3	10	30/27	50	
PG21	HPG21	HPG21GR	13-18	28	11	36/33	50	
PG29	HPG29	HPG29GR	18-25	36.8	11	46/42	10	
PG36	HPG36	HPG36GR	22-32	47	14	59/54	10	
PG42	HPG42	HPG42GR	30-38	53.8	14	65/60	10	
PG 48	HPG 48	HPG 48GR	34-44	58.1	15	70/65	10	
PF 1/2"	HPF 12	HPF 12GR	6-12	20.5	9	27/24	50	
NPT 3/8"	HPN 38	HPN 38GR	5-10	17	15	-/24	50	Without nut
NPT 1/2"	HPN 12	HPN 12GR	10-14	21.3	15	-/27	50	
NPT 3/4"	HPN 34	HPN 34GR	13-18	26.6	15	-/33	50	
NPT 1"	HPN 11	HPN 11GR	18-25	33.6	15	-/42	10	
NPT 1 1/4"	HPN 114	HPN 114GR	22-32	42.1	17	-/54	10	

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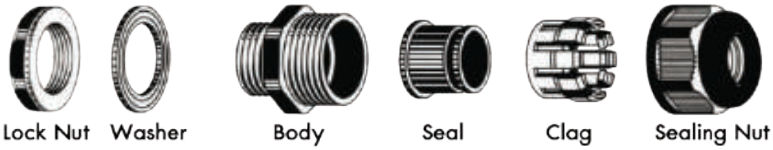
tend CABLE GLAND
เคเบิ้ลแกลน

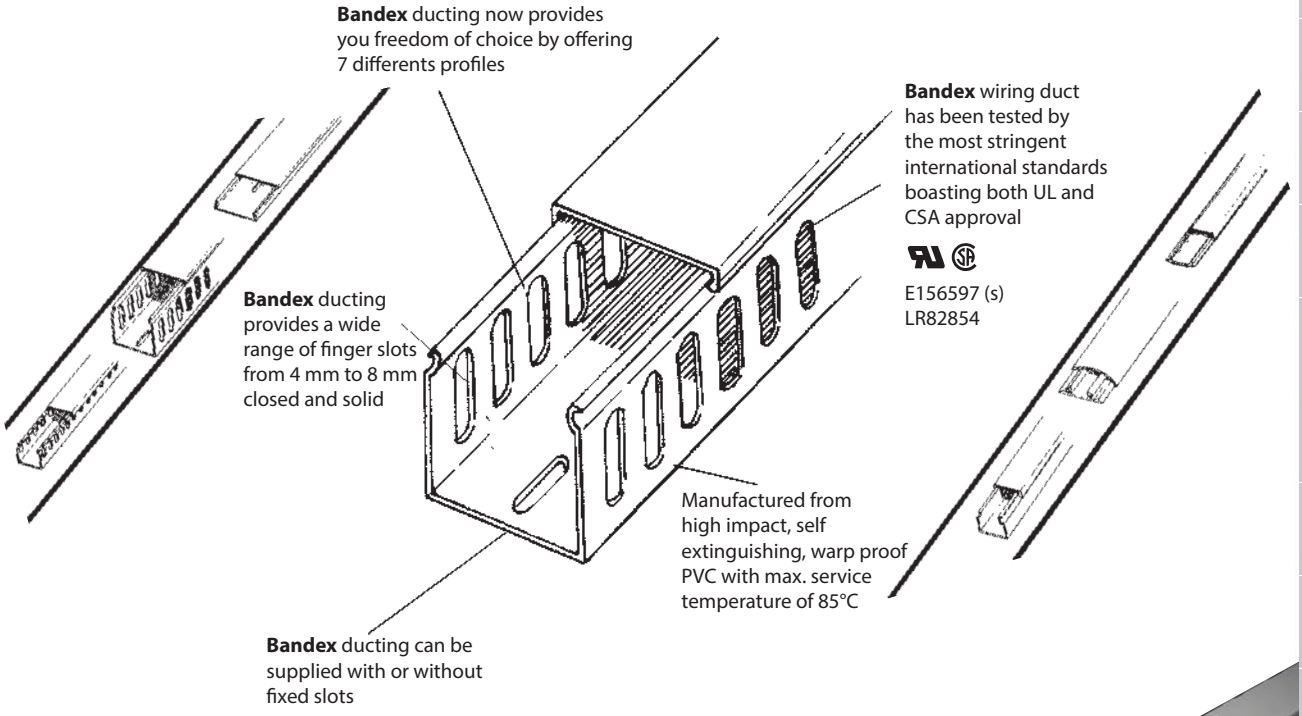




- **Thread : PG, PF and NPT**
- **Material : NYLON 66 (L 94V-2)**
- **Operating temperature : 40 ℃ ~ 100 ℃**

Type	Color		Cable	Wrench	OD (Thread)	Length (Thread)	Packaging
	Black	Gray	Ø	L1	L2	A/E	PCS
M12 x 1.5	HPM12	HPM12GR	3-6.5	11.8	15	17/15	50
M16 x 1.5	HPM16	HPM16GR	5-10	15.8	15	22/22	50
M20 x 1.5	HPM20	HPM20GR	10-14	19.8	15	27/27	50
M25 x 1.5	HPM25	HPM25GR	13-18	24.8	15	33/33	50
M32 x 1.5	HPM32	HPM32GR	18-25	31.8	15	42/42	10
M40 x 1.5	HPM40	HPM40GR	22-32	39.9	18	50/53	10
M50 x 1.5	HPM50	HPM50GR	30-38	49.9	18	59/60	10
M63 x 1.5	HPM63	HPM63GR	34-44	62.9	18	70/65	10

BANDEX WIRING DUCT
วายริ่งดัก





COLOR : GRAY (สีเทา)

Dimention W x H (mm.)	No. of packing	Item no.	
		Slotted : 0	Length 2 m.
25 x 30	72	WD-2530-0	
25 x 40	56	WD-2540-0	
25 x 60	60	WD-2560-0	
30 x 30	70	WD-3030-0	
33 x 40	46	WD-3340-0	
40 x 40	38	WD-4040-0	
40 x 60	28	WD-4060-0	
40 x 80	56	WD-4080-0	
60 x 40	26	WD-6040-0	
60 x 60	18	WD-6060-0	
60 x 80	20	WD-6080-0	
80 x 60	20	WD-8060-0	
80 x 80	16	WD-8080-0	
100 x 60	16	WD-10060-0	
100 x 100	10	WD-100100-0	

COLOR : WHITE (สีขาว)

Dimention W x H (mm.)	No. of packing	Item no.	
		Slotted : 0	Length 2 m.
25 x 30	72	WD-2530-0	
40 x 40	38	WD-4040-0	
50 x 50	26	WD-5050-0	
60 x 60	18	WD-6060-0	
60 x 80	20	WD-6080-0	
75 x 40	32	WD-7540-0	
100 x 40	36	WD-10040-0	
100 x 60	30	WD-10060-0	

- TC family wire channel is suitable in the use of wires distribution inside the complete set electrical control equipment and various high and low voltage distributors.

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BANDEX WIRING DUCT
วายริ่งดัก

ROUND TYPE WIRING DUCT

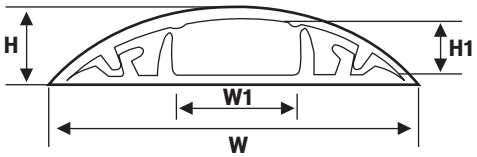
RoHS

Item no.	Packing	W	W1	H	H1	Length
RD-20	300	20	8	6	4	1 M
RD-30	150	30	11	8	6	
RD-40	100	40	16	9.5	7	
RD-50	65	50	20	11	8	
RD-60	50	60	30	13	9	
RD-70	50	70	40	15	10	



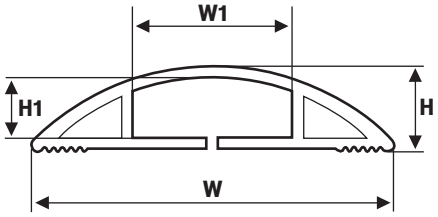
COLOR : GRAY (สีเทา)

- Material : High impact, rigid, self-extinguish P.V.C.
  Service temperature : 85°C
  Colour : Gray (Milk, White, Brown, Dark Brown available)
  Backed with high quality double sided tape for permeant stick. Good for floor wiring to faciliate trolly pass and to avoid trip.



SOFT WIRING DUCT
วายริ่งดัก แบบดัดได้





RoHS

- Material:PVC
- Soft pvc products, packed in roll for easy storage.
- Cut to required length for temporary wiring or permanent application.
- Supplied with double sided tape.

Color : Gray (สีเทา), Brown (สีน้ำตาล), Milk (สีครีม), Black (ดำ)

Item no.	Packing	Dimention				Length
		W	W1	H	H1	
SRD-25	200	25.4	7.4	5.8	3.8	1 M
SRD-50	50	50.8	14.8	11.6	7.8	
SRD-65	40	66.0	19.0	15.3	10.9	
SRD-75	35	76.2	22.0	17.4	11.6	
SRD-100	20	101.6	29.4	23.2	15.4	

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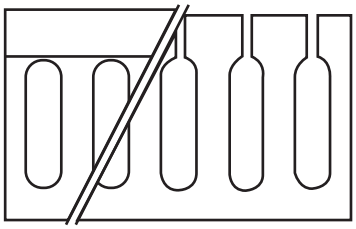
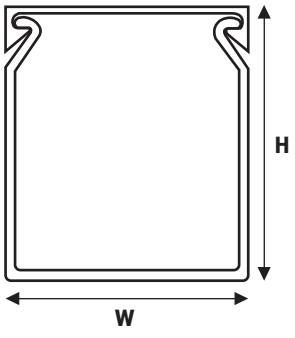
BANDEX WIRING DUCT
วายริ่งดัก



- Material : High impact, self-extinguishing, warpproof P.V.C. (Polyvinyl chioride)
- Color : Gray
- Maximum service temperature : 80°C
- Used extensively for all wiring applications Where cable protection is essential i.e. Switchboards etc. (Features parallel holes onboth sidewalls to facilitate cutting in wire application.)
- Special colour, size, length upon request of large quantity.

Dimention W x H (mm.)	No. of packing	Item no.	
		Slotted :ø8 mm.	Length 2 m.
25 x 30	72	WD-2530-8	
25 x 40	56	WD-2540-8	
33 x 40	46	WD-3340-8	
40 x 40	38	WD-4040-8	
60 x 40	26	WD-6040-8	
80 x 40	24	WD-8040-8	
100 x 40	20	WD-10040-8	
25 x 60	42	WD-2560-8	
40 x 60	28	WD-4060-8	
60 x 60	18	WD-6060-8	
80 x 60	20	WD-8060-8	
100 x 60	16	WD-10060-8	
120 x 60	12	WD-12060-8	
120 x 65	12	WD-12065-8	
25 x 80	28	WD-2580-8	
40 x 80	28	WD-4080-8	
60 x 80	20	WD-6080-8	
80 x 80	16	WD-8080-8	
100 x 80	12	WD-10080-8	
120 x 80	10	WD-12080-8	
40 x 100	24	WD-40100-8	
70 x 100	14	WD-70100-8	
75 x 100	10	WD-75100-8	
100 x 100	10	WD-100100-8	





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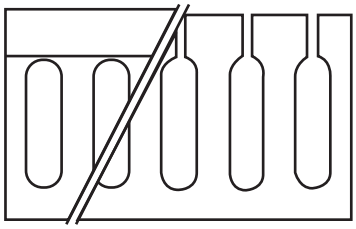
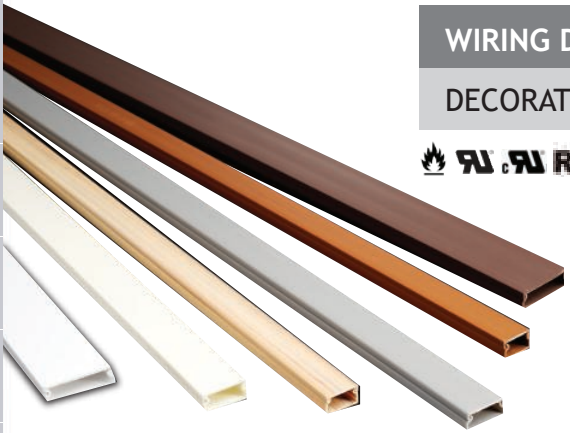
BANDEX WIRING DUCT
วายริ่งดัก





Dimention W x H (mm.)	No. of packing	Item no.	
		Slotted :ø4 mm.	Length 2 m.
15 x 25	150	WD-1525-4	
20 x 20	140	WD-2020-4	
25 x 25	88	WD-2525-4	
25 x 45	54	WD-2545-4	
25 x 65	40	WD-2565-4	
30 x 30	70	WD-3030-4	
33 x 33	54	WD-3333-4	
33 x 45	40	WD-3345-4	
33 x 65	30	WD-3365-4	
45 x 45	30	WD-4545-4	
45 x 65	24	WD-4565-4	
50 x 50	26	WD-5050-4	
60 x 40	18	WD-6040-4	
60 x 60	18	WD-6060-4	
65 x 45	20	WD-6545-4	
65 x 65	16	WD-6565-4	



WIRING DUCT
DECORATION WIRING DUCT.

RoHS

- Material : Rigid, self-extinguishing P.V.C.
- Standard colour : Gray, (Milk, White, Brown available upon request to meet your colour system.)
- Features : All size feature same height in 11 mm which were specially designed for flat cables.
- Application : Used extensively for electric wire application of indoor decoration or outdoor security, alarm system.

Color : Gray (สีเทา), White (สีขาว), Milk (สีครีม)

Item no.	Packing	Overall length	Width (mm.)	Height (mm.)
TE-1	340	2 M	12.7 (1/2 ")	11
TE-2	200		19.1 (3/4")	
TE-3	170		25.4 (1")	
TE-4	130		31.8 (1 1/4")	
TE-5	110		38.1 (1 1/2")	
TE-6	80		50.8 (2")	

BANDEX WIRING DUCT
วายริ่งดัก



- Material : Rigid, self-extinguishing P.V.C.
- Backed with high quality self-adhesive tape to facilitate wire application.
- color : Gray, (Milk, White, Brown available on request)
- Length : 2 M
- Application : Designed to protect wire on floor.

COLOR : GRAY (สีเทา), WHITE (สีขาว), MILK (สีครีม)

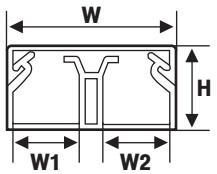
Item no.	Packing 1 m.	Packing 2 m.	Dimention			Wire to be contained
			W1	W2	H	
TP-1	100	350	6	7	4	1 pcs
TP-2	55	190	8	8	6	3 pcs
TP-3	45	140	10	10	10	3-4 pcs
TP-4	60	90	12	15	13	4-7 pcs
TP-5	50	75	10	17	16	7-9 pcs
TP-6	40	60	11	19	16	10-15 pcs
TP-8	30	32	30	37	16	30-40 pcs

TELEPHONE WIRING DUCT

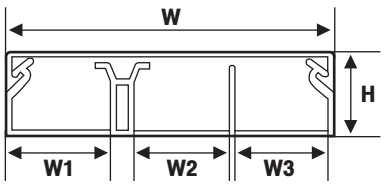
RoHS

WD-2010-2

WD-3010-2







WD-4010-3

Item no.	Length	W (m.m.)	W1	W2	W3	H	Packing
WD-2010-2	-	20.0	7.5	7.5	-	10.3	260
WD-3010-2	-	30.0	12.5	12.5	-	11.2	150
WD-4010-3	2 M	40.0	11	11.5	11.5	10.3	130

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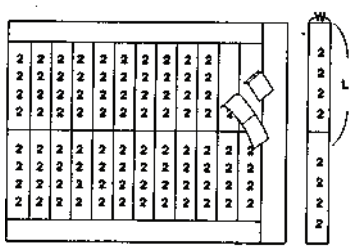
BANDEX CABLE MARKER
เคเบิ้ลมาร์กเกอร์

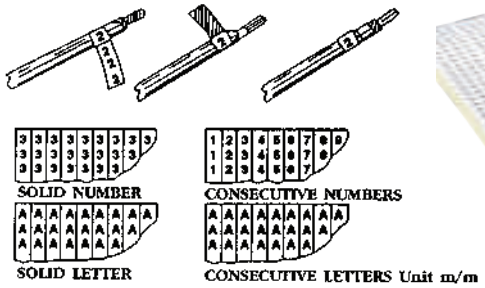
- Material : Nylon (Natural)
- Used to mark cable bundles for permanent indentification.
- Secured with cable ties extensively from CT-075 to CT-200 in varity of ways.

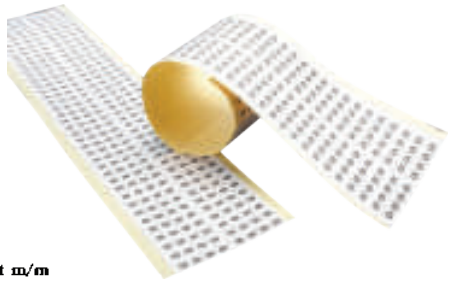
Item no.	L (m/m)	W	T	Packing
MP-1626	26	16	0.8	100 pcs/bag
MP-2040	40	20	1	
MP-2560	60	25	1	
MP-5060	60	50	1	



SELF-ADHESIVE WIRE MARKERS (CLOTH TYPE)







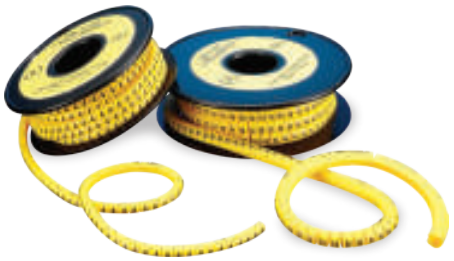
- Stick to wire for permanent identification.
- Used extensively for cable diameters after or before terminal is attached.
- Cloth type label.
- For your orders, please specify solid or consective and what letter (S), number (S) you need.

For example
Solid : WM-1 1, 2, A, B …. 10 pcs each.
Consective : WM-1 0-9, A-Z …. 10 pcs each.

Item no.	L	W	Standard marking	Standard packing
SM-1	25	6.5	Solid numbers 0, 1, 2, 3 …. 99, 100 A, B, C…. Z, +, - Consective Numbers 1-34, 35-68, 69-100 A-Z, 0-9	50 pcs / Box

BANDEX CABLE MARKER
เคเบิ้ลมาร์กเกอร์

- Marker tongue spans to fit various cable diameters and retracts to hold wire firmly in position.
- Maximum service temperature : 85°C
- MATERIAL : Made of finest soft grade, strong, durable P.V.C. that will resist oil, grease, acid, abrasion and chemicals.



DESCRIPTION

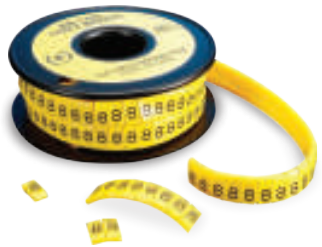
- EC type cable marker features high quality flexible interior to fit various cable diameters.
- The markers stay attached on a roller and can be despatched easily when needed.
- Bold print on yellow body to show your codes distinguishly.
- Any numbers can be composed by arranging letters and numbers in sequence to provide the necessary codes.
- To be fitted before the terminal is attached or solder connection made and grip cables firmly in position.



Shape	Item no.	DIA. Range m.m. Min Max	Standard marking	Standard packing	Standard marking
Plain cut  2	**BM - 0**	2.0 - 3.2	Solid no or letter per roll for 0, 1, 2, 3 ….9 A, B, C, ….Z +, -, + - blank / (slang)	1,000 pcs	Yellow body with black print
	BM - 1	3.0 - 5.2		1,000 pcs	
	BM - 2	3.6 - 7.4		500 pcs	
	BM - 3	5.2 - 10.0		250 pcs	

OVALGRIP MARKER

Cat. no.	Suitable cables used without marker strip	Marker length	Marking	Packing
GM-1	3.5-7.0	5	0, 1, 2, 3 ….9, A, B, C, ….Z +, -, /, EARTH, BLANK	500 pcs/rl



MARKER STRIP



Cat. no.	Strip size	Strip hole	Accommodate markers	Packing
MS-65	65 x 9	6	9 pcs GM-1	100 pcs
MS-100	100 x 9	6	16 pcs GM-1	



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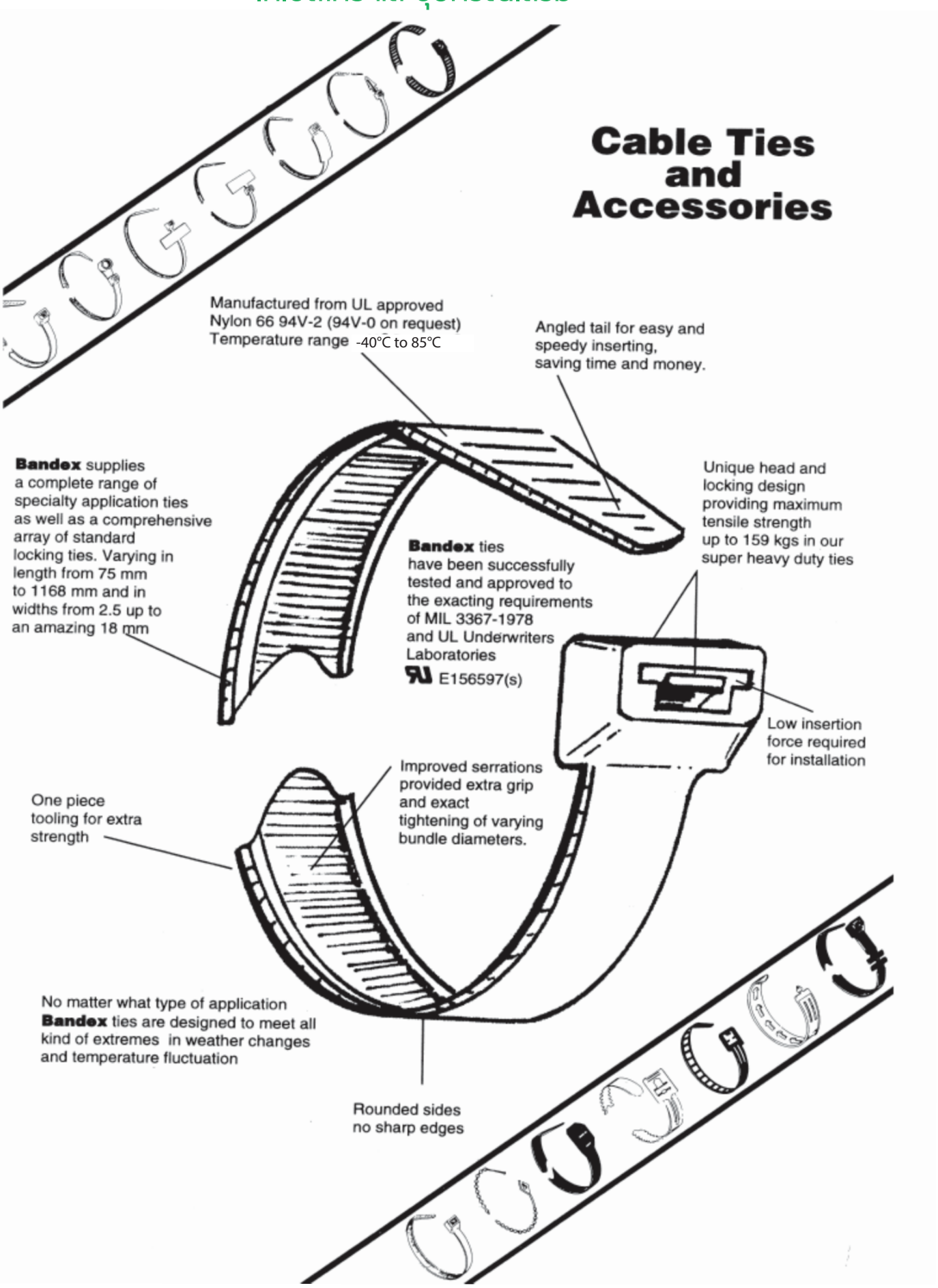
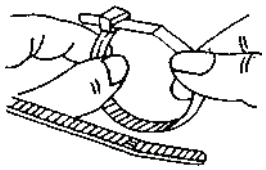
BANDEX CABLE TIE AND ACCESSORIES
เคเบิ้ลไทร์ และอุปกรณ์เสริม

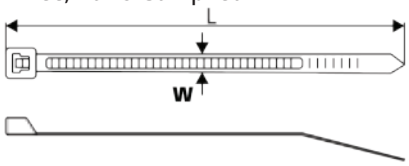


BANDEX CABLE TIE AND ACCESSORIES
เคเบิ้ลไทร์ และอุปกรณ์เสริม

MATERIAL SPECIFICATION :

Natural nylon : standard cable ties made from U.L. Approved nylon 6/6.
Normal service temperature range : -40°C to 85°C.
Flamablility rating : 94 V-2
Feature : Low smoke and Hologen Free, RoHS Complied







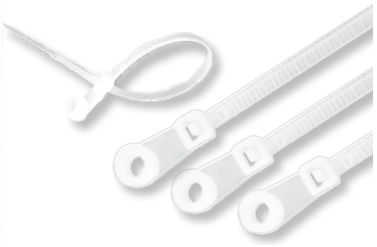
Item no. white color	Item no. black color	L (mm.)	L (inch)	W (mm.)	Max. bundle die (mm.)	Min.Tensile strength lbs	Min.Tensile strength Kgs	Packing per/bag	Packing per/box
CT-075-2C	CT-075B-2C	75	3"	2.4	18	18	8	100 pcs	60,000
CT-100-2C	CT-100B-2C	100	4"	2.5	25	18	8		60,000
CT-120-2C	CT-120B-2C	120	4 3/4"	2.5	30	18	8		50,000
CT-120-3C	CT-120B-3C	120	4 3/4"	3.2	30	40	18		32,000
CT-140-3C	CT-140B-3C	140	5 2/4"	3.2	36	40	18		28,000
CT-150-3C	CT-150B-3C	150	6"	3.6	39	40	18		25,000
CT-180-3C	CT-180B-3C	180	7"	3.6	49	50	22		17,000
CT-190-4C	CT-190B-4C	190	7 2/4"	4.8	52	50	22		13,000
CT-200-3C	CT-200B-3C	203	8"	3.2	55	40	18		22,000
CT-200-4C	CT-200B-4C	203	8"	4.6	55	50	22		13,000
CT-250-4C	CT-250B-4C	250	10"	4.8	74	50	22		12,000
CT-280-4C	CT-280B-4C	280	11"	4.8	81	50	22		10,000
CT-300-7C	CT-300B-7C	300	11 7/8"	7.6	88	120	55		5,000
CT-310-4C	CT-310B-4C	310	12"	4.8	89	50	22		10,000
CT-340-7C	CT-340B-7C	340	13 1/2"	7.6	98	120	55		5,000
CT-380-7C	CT-380B-7C	380	15"	7.6	110	120	55		4,500
CT-385-4C	CT-385B-4C	385	15 3/16"	4.8	116	50	22		9,000
CT-450-8C	CT-450B-8C	450	17 3/4"	8.0	135				3,500
CT-550-8C	CT-550B-8C	550	21 11/16"	8.0	165				2,500
CT-610-9C	CT-610B-9C	610	24"	9.0	185				2,000
CT-710-9C	CT-710B-9C	710	28"	9.0	220				1,800
CT-762-9C	CT-762B-9C	762	30"	9.0	236				1,000
CT-812-9C	CT-812B-9C	812	32"	9.0	246				1,000
CT-914-9C	CT-914B-9C	914	36"	9.0	270				1,500
CT-1168-9C	CT-1168B-9C	1168	46"	9.0	360				1,100
CT-1219-9C	CT-1219B-9C	1219	48"	9.0	380				1,000

Item no.	L (mm.)	L (inch)	W (mm.)	Max. Bundle die	Min.Tensile Strength lbs	Min.Tensile Strength Kgs	Packing per/bag	Packing per/box
CT-100-2 BL/G/R/Y	100	4"	2.5	18	18	8	100 pcs	60,000
CT-140-3C BL/R/Y	140	5 2/4"	3.2	3.2	40	18		28,000
CT-150-3 BL/G/R/Y	150	6"	2.5	39	40	18		25,000
CT-200-3 BL/G/R/Y	203	8"	3.2	55	40	18		22,000
CT-250-4 BL/G/R/Y	250	10"	4.8	74	50	22		12,000
CT-310-4 BL/G/R/Y	310	12"	4.8	89	50	22		10,000
CT-380-7C BL	380	15"	7.6	110	120	55		4,500

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

BANDEX CABLE TIE AND ACCESSORIES
เคเบิ้ลไทร์ และอุปกรณ์เสริม

MOUNT TIE



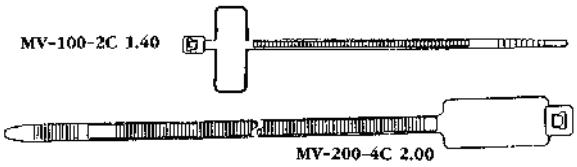
Item no.	Old Item no.	mm.	mm.	Max. bundle dia	Min. tensile strength	Packing
MT-155-3C	CV-155	155	3.7	40	40 lbs	100 pcs
MT-205-4C	CV-205	205	4.2	60	50 lbs	

+ Material : Nylon 6/6 specifications as same as former page.
+ Color : Natural white (Available in black)
+ The cable tie can be secured to panel with a single bolt.



For application where fixation of cable bundle is required

MARKER TIE

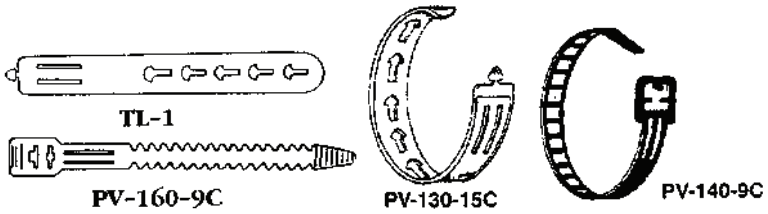




Cat. no.	Size	Market size	Bundle diameter	Tensile strength	Packing
MV-100-2C	100 x 2.5	25 x 8	25	18 lbs	100 pcs
MV-110-2C	110 x 2.5	25 x 8	20	18 lbs	
MV-200-4C	200 x 4.8	28 x 13	50	50 lbs	

WIRE COLLECT TIE



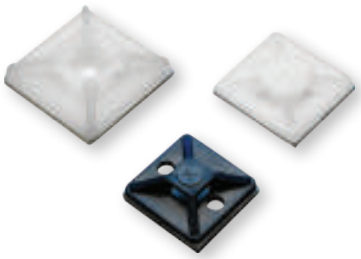


- Wrap electrical cords for shipping and packing.
- Inexpensive.
- Material : Polyethylene.
- Color : Clear

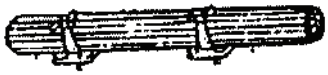
Part no.	Size mm.	Tensile strength	Max. bundle mm.
PV-130-15C (TL-1)	130 x 15	8	35
PV-160-9C	160 x 9	8	38

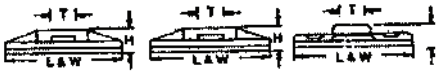
BANDEX CABLE TIE AND ACCESSORIES
เคเบิ้ลไทร์ และอุปกรณ์เสริม

SELF-ADHESIVE TIE MOUNTS



- Material : Contructed of nylon and backed with high quality self-adhesive type.
- SELF-ADHESIVE TIE MOUNTS is designed to support Light Weight wire bundles when properly applied on any clean, smooth, grease-free surface. For heavey support. Mounting Hole is provided for screws.
- To apply, simply peel off backing paper and apply Mount To surface, After that, cable ties can inseted to secure wire bundles.





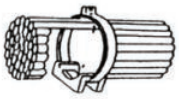
TM-2121 TM-2828-4 TM-2828-2

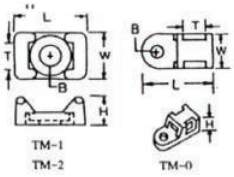
Item no.	L	W	H (without tape)	Mounting	T	Packing
TM-2121-4	21	21	3.5	-	4.7	100 pcs/bag
TM-2828-4	28	28	4	5.0	5.0	
TM-2828-2	28	28	2	5.0	5.0	

SADDLE TYPE TIE MOUNTS



- MATERIAL: Nylon in natural color. Saddle design provide maximum stablility to wire bundles. To apply, simply fix mount with a screw and secure wire bundles with nylon cable ties.





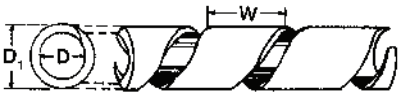
TM-1 TM-2 TM-0

Item no.	H	L	W	T	B	Packing
TM - 0	5	19	9.5	5	3.4	100 pcs/bag
TM - 1	7	15	10	5	3	
TM - 2	9	23	16	9	5	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

BANDEX SPIRAL WRAPPING BAND
ไส้ไก่

- MATERIAL : Made from P.E. material.
- Excellent in insulation and binding strength.
- Color : Standard in natural. Black and color available upon request.
- Flexible construction enables bands to follow wire ways easily.
- Durable, reusable with retained spiral strength.
- Fix ends of band with cable ties and spiral wire bundles in clockwise direction to complete works.
- Expand spiral range almost without limit.
- Black color available.



An economical way of cable binding. Easily applied to electric harness cables and wire bundles. Cut-to-fit versatillity in convenient roll-form.



Item no. white	Item no. black	D	D1	W	Wrapping range (mm.)	Packing
SW-06	SW-06B	4	6	7.0	4 - 50	10 m per plastic bag
SW-08	SW-08B	6	8	10.8	6 - 60	
SW-10	SW-10B	7.5	10	11.4	7.5 - 60	
SW-12	SW-12B	9	12	13.9	9 - 65	
SW-15	SW-15B	12	15	15	12 - 75	
SW-19	SW-19B	15	19	18.2	15 - 100	
SW-24	SW-24B	20	24	19.6	20 - 130	

SLIT WRAPPING BAND



Item no.	D	T	W	Wrapping range (mm.)	Packing
KL-8	8	0.8	9	10	1.5 M
KL-15	15	0.8	13	16	
KL-20	20	0.9	15	22	
KL-25	25	1.3	18	27	

BANDEX FLEXIBLE CORRUGATED AUTOMOTIVE CONDUIT

ท่ออ่อนลูกฟูกชนิดผ่า ใช้กับรถยนต์

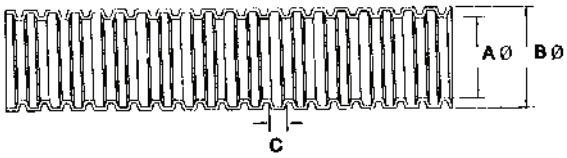
Only for car
Black

Material : PP (Black)

- All sizes in mm unless otherwise stated.
- ID or OD can vary +0.4 mm
- Manufactured from P.P. (Black)
- Cut to requested length available
- Please contact our office with your requirements.



unit : mm



Part no.		Inner dia	Outside dia	C	Standard packing
Split design	Close design	AØ (mm)	BØ (mm)	10.0	17.9
CR-07P	CRS-07P	7.4 ± 0.4	10.2 ± 0.4	2.60	300 M
CR-11SP	CRS-11SP	10.7 ± 0.4	14.0 ± 0.4	1.10	200 M
CR-11P	CRS-11P	10.7 ± 0.4	16.0 ± 0.4	3.30	
CR-13P	CRS-13P	13.8 ± 0.4	17.5 ± 0.4	3.10	
CR-15P	CRS-15P	15.0 ± 0.4	19.5 ± 0.4	3.50	100 M
CR-17P	CRS-17P	17.2 ± 0.4	22.0 ± 0.4	3.10	
CR-19P	CRS-19P	19.3 ± 0.4	23.8 ± 0.4	3.50	
CR-22P	CRS-22P	21.2 ± 0.4	25.8 ± 0.4	3.10	
CR-24P	CRS-24P	24.3 ± 0.4	32.0 ± 0.4	3.61	50 M
CR-25P	CRS-25P	25.0 ± 0.4	30.0 ± 0.4	4.10	
CR-28P	CRS-28P	28.0 ± 0.4	34.0 ± 0.4	3.10	
CR-32P	CRS-32P	31.2 ± 0.4	40.0 ± 0.4	4.12	
CR-35P	CRS-35P	34.9 ± 0.4	42.0 ± 0.4	3.10	
CR-40P	CRS-40P	39.6 ± 0.5	50.0 ± 0.5	4.85	
CR-48P	CRS-48P	47.5 ± 0.4	54.5 ± 0.5	2.00	
*CR-52P	*CRS-52P	52.0 ± 0.5	60.0 ± 0.5	5.80	
*CR-62P	*CRS-62P	62.0 ± 0.5	76.0 ± 0.5	5.80	
*CR-80P	*CRS-80P	80.0 ± 0.5	89.0 ± 0.5	5.80	

*สินค้าสามารถเลือกสีได้ สอบถามรายละเอียดกับพนักงาน

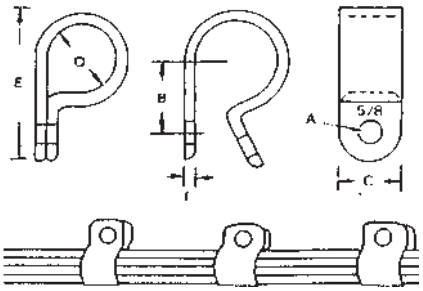
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

BANDEX CABLE CLAMP AND CABLE CLIP
เคเบิ้ลแคลม และก๊ิบตอกสายไฟ

- MATERIAL : Nylon (Natural) Max. service temp. : 80°C
- CABLE CLAMP are designed to holed cables, tubes, and component in domestic applicance, electronics and electric appraratus generally.
- Interion edgges are radiused to pretect cable insulation.
- To apply, just clamp down on loosen cable and screw to chassis.
- Black color available



Item no.	A	B	C	D	E	F	Packing
CC-03	5.0	9.5	9.6	3.2 (1/8")	19.8	1.4	100 pcs
CC-05	4.6	10.5	9.6	4.8 (3/16")	19.8	1.4	
CC-06	5.0	12.0	10.0	6.7(1/4")	22.0	1.4	
CC-08	4.6	12.0	10.0	7.9(5/16")	22.0	1.5	
CC-10	4.6	15.2	12.0	9.5 (3/8")	24.0	1.5	
CC-13	4.6	12.5	12.0	12.7 (1/2")	31.0	1.5	
CC-16	4.6	18.2	12.0	15.8 (5/8")	34.3	1.5	
CC-19	4.6	18.2	12.0	19.4 (3/4")	35.0	1.5	
CC-25	4.6	22.0	12.0	25.4 (1")	43.0	1.8	
CC-32	4.6	26.2	12.0	31.8(1 1/4")	46.2	1.8	
CC-38	4.6	30.0	12.0	36.7 (1 1/2")	50.0	1.8	

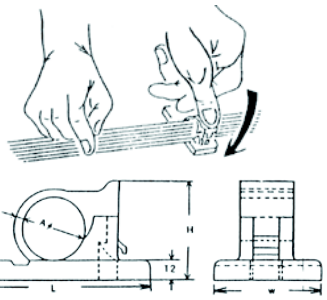


SELF-ADHESIVE CABLE CLAMP



- Material: Nylon (Black)
- Backed with a high quality pad. Designed to secuer wire bundles where Fixing holes are impactical. Can be quickly applied to almost any clean, (Also provided with a mounting hole)

Part no.	Aø	Bø	T1	T2	L	W	H	Packing
4p-s	6	4.4	1.1	2	25.8	13.4	9.1	100 pcs
6p-s	9	4.4	1.1	3	29.4	13.4	14.0	
8p-s	12	4.4	1.5	3	35.5	16.4	16.5	
10p-s	14	4.4	1.5	3	36.5	16.4	18.5	
11p-s	16	4.4	1.5	3	38.5	16.4	20.5	
12p-s	18	4.4	1.5	3	42.0	16.4	22.5	



CABLE CLIP

Item no.	W (mm.)	Nail (mm.)	Standard packing
NK-4 (NC-0.4N)	4	2.5 x18	100 pcs
NK-6 (NC-1N)	6	2.5 x18	
NK-8 (NC-2N)	8	2.5 x 22	
NK-10 (NC-3N)	10	2.5 x 25	
NK-12 (NC-4N)	12	2.5 x 27	
NK-14 (NC-6N)	14	3.0 x 35	
NK-16 (NC-7N)	16	3.2 x 38	
NK-22 (NC-8N)	22	3.2 x 42	
NK-25 (NC-9N)	25	3.2 x 47	
NK-32 (NC-10N)	32	3.6 x 56	50

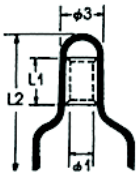


- Meterial : Impact Resistant PP (Gray) Applied for general round cables.
- NC Type Without Nails Been Deleted.
- All Clips Are NK Type Now With Nails
- Item No Were Changed Into Ie. NC-1 N Means With Nails. It Is Equal To NK-6.

BANDEX CLOSE END WIRE CONNECTOR / VINYL WIRE END CAP

หัวหมวกต่อสายไฟ / ปลอกหุ้มหางปลา



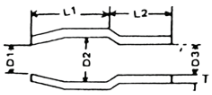


- The above size will be changed without notice if necessary.
- Material: UL approved NYLON 66,94v-2. Nylon insulated close-end wire connectors.
- To apply, insert pre-strippe wires into connector tube and crimp it with crimping tool to hold wires firmly even in vibration.

Cat. no.	ø1	ø2	ø3	L1	L2	Norminal sectional area	A.W.G	Suitable wire Straing mm^ 2 d	Packing
CE-1	2.4	7.8	5.1	7.5	20.0	1.25	22 -16	0.5 -1.75	100 pcs
CE-2	3.0	7.8	5.7	7.5	20.0	2.0	16 -14	1.0 -3.0	
CE-5	3.8	10.5	7.3	8.5	25.3	5.5	12 -10	2.5 -6.0	
CE-8	4.7	12.0	9.3	9.5	27.2	8.0	8.0	4.0 -9.0	

VINYL WIRE END CAP







- Material: Soft P.V.C
- Maximum service temp: 80°C
- For the insulation works of wire end terminal. Performing the work with a simple one-touch to tigten and seal againt. Dirt, moisture and water.
- Standard color : Red, white, blue, yellow, black. (Green, brown available on special request)

ปลอกหุ้มหางปลาสีมาตรฐาน แดง (Red), ขาว (White), น้ำเงิน (Blue), เหลือง (Yellow), ดำ (Black), เขียว (Green)

Item no.	Wire suitable	D1	D2	D3	L1	L2	T	Packing
BVC-001	600V 1.25 mm2, 12.5 mm2	2.8	3.3	3.1	6	7	0.6	100 PCS
BVC-002	600V 2.0 mm2, 2.0 mm2, 1.2 mm2, Single, 1.6 mm2 Single	3.3	4.5	3.7	7	7	0.7	
BVC-003	600V 3.5 mm2	4.8	5.7	4.1	9	8	0.8	
BVC-005	600V 5.5 mm2, 2.6 mm Single	4.8	5.7	5.2	9	8	0.8	
BVC-008	600V 8.0 mm2, 3.2 mm Single	6.2	7.2	6.2	10	9	1.0	
BVC-014	600V 14 mm2	8.0	10.0	8.0	13	11	1.1	
BVC-022	600V 22 mm2	9.5	12.0	9.5	15	14	1.2	
BVC-038	600V 38 mm2	11.8	14.0	11.8	17	16	1.5	
BVC-060	600V 60 mm2	13.5	16.8	13.5	20	19	1.5	
BVC-080	600V 80 mm2	16.0	19.0	16.0	25	21	1.6	
BVC-100	600V 100 mm2	18.0	22.0	18.0	30	24	1.7	50 PCS
BVC-125	600V 125 mm2	20.0	24.0	20.0	32	25	1.8	
BVC-150	600V 150 mm2	22.0	24.4	22.0	34	31	1.81	
BVC-200	600V 200 mm2	28.0	32.0	24.0	35	30	2.0	20 PCS
BVC-250	600V 250 mm2	32.0	36.0	25.0	40	35.5	2.0	
BVC-325	600V 325 mm2	34.3	38.0	28.5	40	36.5	2.01	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

BANDEX CABLE GLAND
เคเบิ้ลแกลน



Part No.	To Suite Panel Hole mm	To Suite Cable Die. mm			Length of Thread	Packing
		A	B	C		
KB-1(BG-19)	19	6	8	10	13	50
KB-2(BG-22)	22	10	13	15	17.5	50

- Manufactured from soft pvc (black)
- Interior diameter of each gland is available in three sizes. (A, B, C) cut unnecessary part (s) away to fit your different cable diameters.

STANDARD CABLE GLAND



Part no.	Size mm	Size mm	Tensile strength	Max. bundle mm
NG-16	16 x 1.5	5 - 10	12	80
NG-20	20 x 1.5	6 - 13	13	50
NG-25	25 x 1.5	10 - 18	13	50
NG-32	32 x 1.5	16 - 22	15	25
NG-40	40 x 1.5	22 - 27	21	10
NG-50	50 x 1.5	30 - 41	23	10
NG-63	63 x 1.5	40 - 53	25	10

SUPREME-METRIC IP68



Part no.	Thread mm.	For cable dia.	Length of thread	Pack Qty
AG-12	12 x 1.5	3 - 6.5	8	50
AG-16	16 x 1.5	5 - 10	15	50
AG-20	20 x 1.5	10 - 14	15	50
AG-25	25 x 1.5	13 - 18	15	50
AG-32	32 x 1.5	18 - 25	15	25
AG-40	40 x 1.5	22 - 32	18	10
AG-50	50 x 1.5	30 - 38	18	10
AG-63	63 x 1.5	34 - 44	18	10
AG-63L	60.5 x 1.9	34 - 44	20	10

SUPREME-PG THREAD IP68



Part no.	Thread mm.	For cable dia.	Length of thread	Pack Qty
EG-7	PG-7	3 - 6.5	8	50
EG-9	PG-9	4 - 8	8	50
EG-11	PG-11	5 - 10	8	50
EG-13.5	PG-13.5	6 - 12	15	50
EG-16	PG-16	10 - 14	15	50
EG-21	PG-21	13 - 18	15	50
EG-29	PG-29	18 - 25	18	25
EG-36	PG-36	22 - 32	18	10
EG-42	PG-42	30 - 38	18	10
EG-48	PG-48	34 - 44	18	10

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

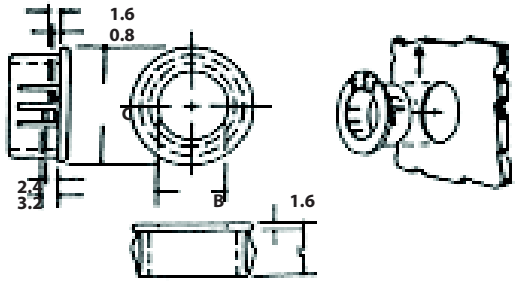
BANDEX BUSHING
บุชชิ่ง

SNAP BUSHING

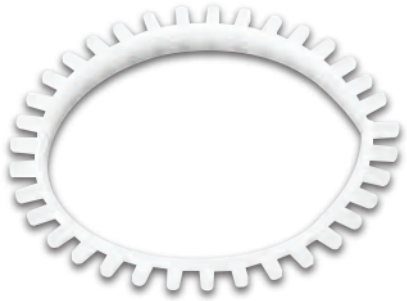
- Material: Nylon(Black)
- SNAP BUSHING smooth and insulate your raw-edged holes in metal chassis
- Locking into hole firmly with fingertip pressure.
- Protect electrical cables, ropes, utility lines through metal holes.
- Available in application for chassis thickness from 0.8 mm to 3.2 mm

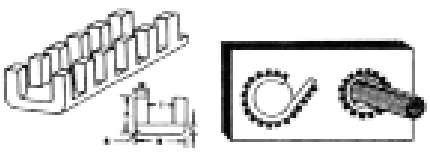


Item no.	Mouting hole mm				Pack Qty
	A	B	C	L	
SB-08	7.9	5.2	9.4	8.0	100 pcs
SB-10	9.5	6.3	12.0	10.3	
SB-13	13.0	8.2	14.5	10.3	
SB-16	15.9	12.2	18.6	10.3	
SB-19	18.9	14.3	21.5	10.3	
SB-22	22.0	17.3	23.8	11.5	
SB-26	25.1	19.1	28.0	11.5	
SB-30	29.7	24.1	32.5	11.5	
SB-38	38.1	29.0	41.2	11.4	



MOVABLE BUSHING





STANDARD

- P.E. Extruded movable bushing.
  10M per roll packed in a plastic bag.
- Cut to fill any hole size for protecting cords, wires, cables against damage from sharp panel edges.
- Available upon request
- Also available in moulded PE bushing.
  25 cm per piece and 40pcs packed per bag.

Part no.	T (mm)	Max. Chassis Thickness mm	Packing	Material
MB-010	1	1	10 M.	P.E.
MB-016	1.6	1.0 - 1.6		
MB-020	2	1.6 - 2.0		
MB-024	2.4	2.0 - 2.4		
MB-032	3.2	2.4 - 3.2		
MB-045	4.5	3.2 - 4.5		

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

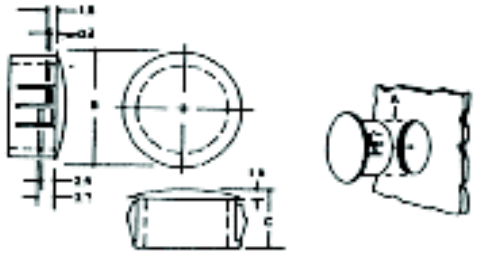
BANDEX HOLE PLUG / HEAT SHRINKING SLEEVE
โฮลปลั๊ก / ท่อหดหุ้มบัสบาร์

HOLE PLUGS

- Material: Nylon(Black)
- HOLE PLUG close your unneeded holes with fingertip pressure at own cost and assure good appearance.
- Available in application for chassis thickness from 0.8 mm to 3.2 mm.

Item no.	Mouting Hole mm			Pack Qty
	A	B	C	
HP-08	8.0	11.9	8.0	100 pcs
HP-10	10.0	13.0	10.5	
HP-13	13.0	16.9	10.5	
HP-16	16.0	19.8	10.5	
HP-19	19.0	22.9	10.5	
HP-22	22.0	24.9	11.3	
HP-25	25.0	28.3	11.5	
HP-30	30.0	34.2	11.5	
HP-45	44.5	49.1	11.1	





HEAT SHRINKING SLEEVE



R: RED W: White BL:Blue B: Black
G: Green Y: Yellow
BN : Brown LE : Light Blue
GY : Gray

- Material: Rigid Shrinkable P.V.C.
- Used for colour distinction and insulation of busbar in control panel. To be shrinked by blower or hot water.
- Maximum service temp : 80°C

Item no.	Lay flat dimension	Convert to dia.	Shrinkable range	For copper bus bar/size	Color	Packing
HS-20	20	13	21-11	1/2" x 1/8", 3/16" x 1/2"A, 1/2" x 1/4"	R, W, B, BK Y, G, BN, GN, LB	100 M
HS-30	30	19	31-16	3/4" x 1/8", 3/4" x 3/16", 3/4 x 1/4", 1" x 1/8", 1" x 3/16"		
HS-40	40	25	40-22	1 1/4" x 1/8", 1/14 x 3/16", 1 1/4" x 1/4", 1 1/2" x 1/8"		
HS-50	50	-	-	1 1/4" x 1/4", 1 1/2" x 3/16", 1 1/2" x 1/4, 1 1/2" x 3/8"		
HS-60	60	38	60-33	2" x 1/8", 2" x 3/16", 2" x 1/4", 2" x 3/8", 2" x 1/2"		
HS-70	70	44	70-37	2 1/2" x 1/8", 2 1/2" x 3/16", 2 1/2" x 1/4"		
HS-80	80	50	80-42	2 1/2" x 3/8", 3"x 1/4", 3" x 3/8", 3" x 1/8"		
HS-100	100	63	100-55	3" x 3/16", 3" x 1/4", 3" x 3/8", 3" x 1/2"		
HS-120	120	76	120-65	4" x 1/8", 4"x 3/8", 4" x 1/2"		
HS-150	150	95	150-90	5" x 1/8", 5"x 3/8", 5" x 1/2"		

Takamura MCCB BREAKER
เบรกเกอร์



SPECIFICATION

Frame (AF)	Type	Rated breaking capacity (KA)		Rated current (AMP) (AT)
		230V	380V	
NF30	CS	2.5	1.5	10, 15, 20, 30
NF63	CW/CV	7.5	5	10, 16, 20 , 25, 32, 40, 50, 63
NF125	CW/CV	30	10	50, 63, 80, 100
NF125	CW/CV	30	10	50, 63, 80, 100, 125
NF250	CW/CV	35	18	125, 150, 175, 200, 225, 250
NF400	CP/CW	50	40	250, 300, 350, 400
NF630	CP/CW	50	40	500, 600
NF800	SEP	50	40	800

SAFETY BREAKER



Type	A	V
TA-10A	10 A	240 A
TA-15A	15 A	240 A
TA-20A	20 A	240 A
TA-30A	30 A	240 A

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Takamura MAGNETIC CONTACTOR
แมกเนติก คอนแทกเตอร์

CE

SELECTION GUIDE

CONTACTORS S-N SERIES



S-N10



S-N11



S-N12



S-N20



S-N21

Type		S-N10	S-N11	S-N12
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	2.5 (3-1/4)	3.5 (4-1/2)	3.5 (4-1/2)
	380-440 V	4 (5-1/2)	5.5 (7-1/2)	5.5 (7-1/2)
	500 V	4 (5-1/2)	5.5 (7-1/2)	5.5 (7-1/2)
	660 V	4 (5-1/2)	5.5 (7-1/2)	5.5 (7-1/2)
Rated continuous current Ith A		20	20	20
Auxiliary contacts1	Standard	1NO	1NO	1NO + 1NC
	Special	1NC	1NC	2NO
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	1	1	1
	1NO + 1NC(side)	2	2	
	2NO + 2NC(front)	1	1	1
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	1	1	1

Type		S-N20	S-N21	S-N25	S-N35
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	5.5 (7-1/2)	5.5 (7-1/2)	7.5 (10)	11 (15)
	380-440 V	11 (15)	11 (15)	15 (20)	18.5 (25)
	500 V	11 (15)	11 (15)	15 (20)	18.5 (25)
	660 V	7.5 (10)	7.5 (10)	11 (15)	15 (20)
Rated continuous current Ith A		32	32	60	60
Auxiliary contacts1	Standard	1NO+1NC	2NO + 2NC	2NO + 2NC	2NO + 2NC
	Special	2NO	-	-	-
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	1	1	1	1
	1NO + 1NC(side)	2	2	2	2
	2NO + 2NC(front)	1	1	1	1
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	1	1	1	1

Takamura MAGNETIC CONTACTOR
แมกเนติก คอนแทกเตอร์

CE

SELECTION GUIDE

CONTACTORS S-N SERIES



S-N25



S-N35

Type		S-N50	S-N65	S-N80
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	15 (20)	18.5 (25)	22 (30)
	380-440 V	22 (30)	30 (40)	45 (60)
	500 V	25 (30)	37 (40)	45 (60)
	660 V	22 (30)	30 (40)	45 (60)
Rated continuous current Ith A		80	100	135
Auxiliary contacts1	Standard	2NO + 2NC	2NO + 2NC	2NO + 2NC
	Special	-	-	-
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	-	-	-
	1NO + 1NC(side)	-	-	2
	2NO + 2NC(front)	1	1	-
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	-	-	-



S-N50



S-N65

Type		SN-125	SN-150
Three-phases motor ratings IEC category AC3 kw(hp)	220-240 V	37 (50)	45 (60)
	380-440 V	60 (80)	75 (100)
	500 V	60 (80)	90 (125)
	660 V	60 (80)	90 (125)
Rated continuous current Ith A		150	200
Auxiliary contacts1	Standard	2NO + 2NC	2NO + 2NC
	Special	-	-
Number of additional auxiliary contact block for 3	1NO + 1NC(front)	-	-
	1NO + 1NC(side)	2	2
	2NO + 2NC(front)	-	-
	Low level signal (front) [1NO + 1NC (+standard 1NO + 1NC)]	-	-

Notes : 1. Numbers of auxiliary contacys shows that for non-reversing type. Twice of the auxiliary contacts are provided on reversing type.
2. (2NO + 2NC) x 2 auxiliary contacts are provided on reversing type and no additional contact can be mounted.
3. Front clip-on and side clip-on block should not by mounted both.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura THERMAL OVERLOAD RELAY
เทอร์มอล โอเวอร์โหลด รีเลย์

CE

STATERS (AC OPERATED)

Enclosed type (IP20)	MS - N10 (KP)	MS - N11 (KP)	MS - N12 (KP)		MS - N20 (KP)	MS - N21 (KP)	MS - N25 (KP)	MS - N35 (KP)
Open type (IP00)	MSO - N10 (KP) (CX)	MSO - N11 (KP) (CX)	MSO - N12 (KP) (CX)	MSO - N12 (KP) (CX)	MSO - N20 (KP) (CX)	MSO - N21 (KP) (CX)	MSO - N25 (KP) (CX)	MSO - N35 (KP) (CX)

THERMAL OVERLOAD RELAYS

Three heater types with phase failure protection	**TH-N12KP(CX)**	**TH-N20KP(CX)**	**TH-N20TAKP(CX)**
Two heater types	**TH-N12 (CX)**	**TH-N20 (CX)**	**TH-N20TA (CX)**
			
Heater setting range A (Ordering designation)	1.4~2(1.7A)	1.4~2(1.7A)	18~26(22A)
	1.7~2.5(2.1A)	1.7~2.5(2.1A)	24~34(29A)
	2~3(2.5A)	2~3(2.5A)	30~40(35A)[4]
	2.8~4.4(3.6A)	2.8~4.4(3.6A)	
	4~6(5A)	4~6(5A)	
	5.2~8(6.6A)	5.2~8(6.6A)	
	7~11(9A)	7~11(9A)	
	9~13(11A)[2]	9~13(11A)	
		12~18(15A)	
		16~22(19A)[3]	

Note : 1. Saturable reactors for thermal overload relays are available as a kit or equipped with the relay. The suffix R following the model name of the relay indicated it saturable reactor (ex. TH-N20KPR*5A) (Except for type TH-N12KP, TH-N18 and TH-N18KP)
2. Except for size N10.
3. For size N20 & N21 only.
4. For size N35 only
5. For size N95 only.

ราคาคอยล์และหน้าทองขาว

Type
S-N10
S-N11
S-N12
S-N20
S-N21
S-N25
S-N35
S-N50
S-N65





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

STATERS (AC OPERATED)

Enclosed type (IP20)	MS - N50 (KP)	MS - N65 (KP)	MS - N80 (KP)	MS - N95 (KP)	MS - N125 (KP)	MS - N150 (KP)
Open type (IP00)	MSO - N50 (KP)	MSO - N65 (KP)	MSO - N80 (KP)	MSO - N95 (KP)	MSO - N125 (KP)	MSO - N150 (KP)

THERMAL OVERLOAD RELAYS

Three heater types with phase failure protection	**TH-N60KP**	**TH-N60TAKP**	**TH-N120KP**	**TH-N120TAKP**
Two heater types	**TH-N60**	**TH-N60TA**	**TH-N120**	**TH-N120TA**
				
Heater setting range A (Ordering designation)	12~8 (15A)	54~80 (67A)	34~50 (42A)	85~125 (105A)
	18~26 (22A)	65~100 (82AA)[5]	43~65 (54A)	100~150 (125A)[6]
	24~34 (29A)	85~105 (95A)[5]	54~80 (67A)	
	30~40 (35A)		65~100 (82A)	
	34~50 (42A)			
	43~65 (54A)			

6. For size N150 only.
7. For size N220 only.
8. For size N400 only.
9. TH-N600(KP) must be used with the current transformers (to be supplied by the customer)
10. For size N800 only.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

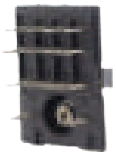
Takamura GENERAL PURPOSE RELAY
รีเลย์

MY2N (with LED & test button)
MY4N (with LED & test button)





MY2



MY4

DC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ± 10%
5	4.0	0.5	28
6	4.8	0.6	40
12	9.6	1.2	160
24	19.2	2.4	640
48	38.4	4.8	2560
110	88.0	11.0	12100

AC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ± 10%
6	4.8	1.8	12
12	9.6	3.6	42
24	19.2	7.2	168
48	38.4	14.4	675
110	96.0	36.0	3500
220/240	176.0	66.0	14000/16500

CONTACT SPECIFICATION

Contact from	2Z, 2H, 2D, 4Z, 4H, 4D
Contact resistance	<100MΩ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	2Z : 10A 250VAC / 30 VDC
	4Z : 5A 250VAC / 30 VDC

TECNICAL SPECIFICATION

Insulation resistance	≥500MΩ (500VDC)
Dielectric strength	Between coil and contact ≥1,500VAC 1min
	Between open contact ≥1,000VAC 1min
	Between contact of different poles ≥1,500VAC 1min
Operate / Release time	≤ 25ms / 25ms
Terminal type	PCB and socket mounting

MATCHED SOCKET PTF08A-E/PTF14A-E



PYF08A-E (MY2K)



PYF14A-E (MY4K)

COIL SPECIFICATION

Rated coil power	0.9 W / 1.2 VA

OUTLINE DIMENSION, MOUNTING HOLES (BOTTOM VIEW)

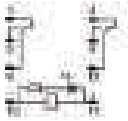
- MY2K Outline dimension & Mounting holes



- MY4K Outline dimension & Mounting holes

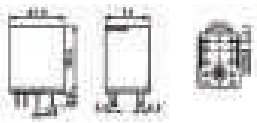


- MY2K Wiring diagram (Bottom view)



WIRING DIAGRAM (BOTTOM VIEW)

- MY2K Socket type outline dimension & Mounting holes



- MY4K Socket type outline dimension & Mounting holes



- MY4K Wiring diagram (Bottom view)



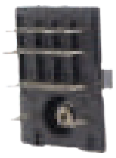
Takamura GENERAL PURPOSE RELAY
รีเลย์

MY2 (with test button)
MY4 (with test button)





MY2



MY4

DC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance ± 10%
5	4.0	0.5	28
6	4.8	0.6	40
12	9.6	1.2	160
24	19.2	2.4	640
48	38.4	4.8	2550
110	88.0	11.0	12100

AC COIL DATA

Nominal voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance ± 10%
6	4.8	1.8	12
12	9.6	3.6	42
24	19.2	7.2	168
48	38.4	14.4	670
110	96.0	36.0	3500
220/240	176.0	66.0	14000/16500

CONTACT SPECIFICATION

Contact from	2Z, 2H, 2D, 3Z, 3H, 3D, 4Z, 4H, 4D
Contact resistance	<100MΩ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	5A 250VAC / 30 VDC
	3A 250VAC / 30 VDC

TECNICAL SPECIFICATION

Insulation resistance	≥500MΩ (500VDC)
Dielectric strength	Between coil and contact ≥1,500VAC 1min
	Between open contact ≥1,000VAC 1min
	Between contact of different poles ≥1,500VAC 1min
Operate / Release time	≤ 25ms / 25ms
Terminal type	PCB and socket mounting



PYF08A-E (MY2K)



PYF14A-E (MY4K)

COIL SPECIFICATION

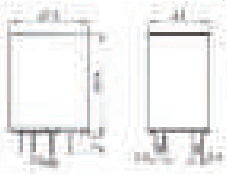
Rated coil power	0.9 W / 1.2 VA

OUTLINE DIMENSION, MOUNTING HOLES (BOTTOM VIEW)

- MY2 PCB type Outline dimension



- MY2 Socket type Outline dimension



- Mounting holes (Bottom view)



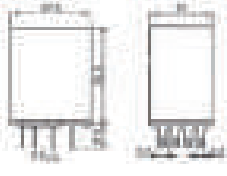
- Correct



- MY4 PCB type Outline dimension



- MY4 Socket type Outline dimension



- Mounting holes (Bottom view)

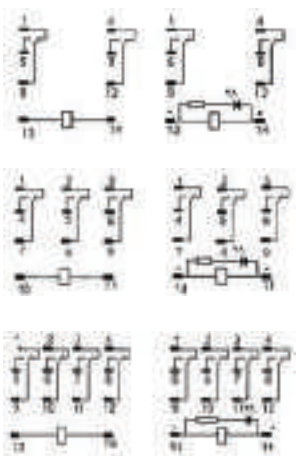


- Incorrect



WIRING DIAGRAM (BOTTOM VIEW)

- Wiring diagram (Bottom view)



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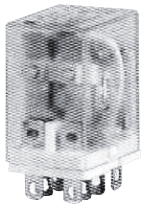
Takamura GENERAL PURPOSE RELAY
รีเลย์

LY2 (with Test Button)
LY2N (with LED & Test Button)





13F (LY2)

CONTACT SPECIFICATION

Contact from	1Z, 1H, 1D, 2Z, 2H, 2D
Contact resistance	<100MΩ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	15A 250VAC / 28VDC
	10A 250VAC / 28VDC

TECNICAL SPECIFICATION

Insulation resistance	≥500MΩ (500VDC)
	Between coil and contact ≥1,500VAC 1min
Dielectric strength	Between open contact ≥1,000VAC 1min
	Between contact of different poles ≥1,500VAC 1min
Operate / Release time	≤ 25ms / 25ms
Terminal type	PCB and socket mounting

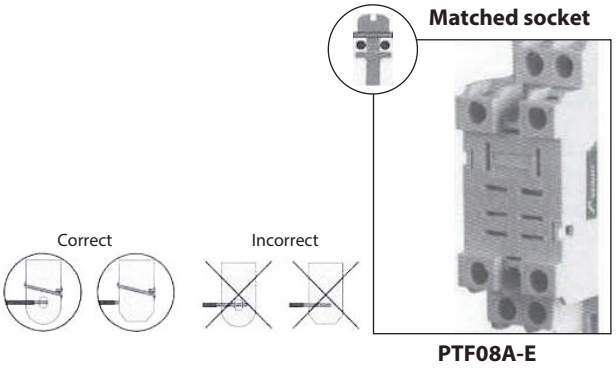
DC COIL DATA

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10%
5	4.0	0.5	28
6	4.8	0.6	40
12	9.6	1.2	160
24	19.2	2.4	640
48	38.4	4.8	2560
110	88.0	11.0	12100

AC COIL DATA

Nominal voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ω ±10%
6	4.8	1.8	12
12	9.6	3.6	42
24	19.2	7.2	168
48	38.4	14.4	675
110	96.0	36.0	3500
220/240	176.0	66.0	14000/16500

MATCHED SOCKET PTF08A-E



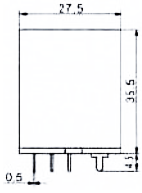
PTF08A-E

COIL SPECIFICATION

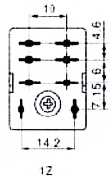
Rated coil power	0.9 W / 1.2 VA

Outline dimension, Mounting holes (Bottom view), Wiring diagram (Bottom view)

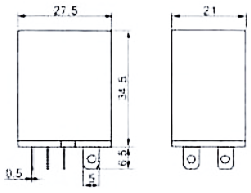
JOX-13F(LY2) PCB type Outline dimension



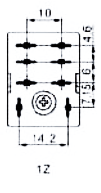
Mounting holes (Bottom view)



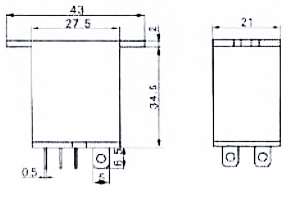
JOX-13F(LY2) Socket type Outline dimension



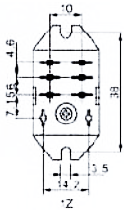
Mounting holes (Bottom view)



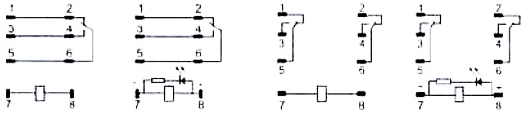
JOX-13F(LY2-S) Flange mounting type Outline dimension



Mounting holes (Bottom view)



Wiring diagram (Bottom view)

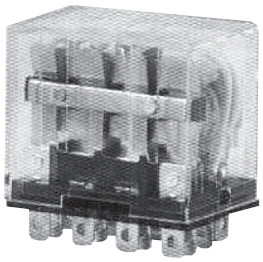


JOX-13F(LY1) JOX-13F(LY1)-L JOX-13F(LY2) JOX-13F(LY2)-L

Takamura GENERAL PURPOSE RELAY
รีเลย์

LY4 (with Test Button)

LY4N (with LED & Test Button)



CONTACT SPECIFICATION

Contact from	4Z, 4H, 4D
Contact resistance	<100MΩ (1A 6VDC)
Contact material	AgCdO AgSnO
Contact capacity	15A 250VAC / 28VDC
	10A 250VAC / 28VDC

TECNICAL SPECIFICATION

Insulation resistance	≥500MΩ (500VDC)
	Between coil and contact ≥1,500VAC 1min
Dielectric strength	Between open contact ≥1,000VAC 1min
	Between contact of different poles ≥1,500VAC 1min
Operate / Release time	≤ 25ms / 25ms
Terminal type	PCB and socket mounting

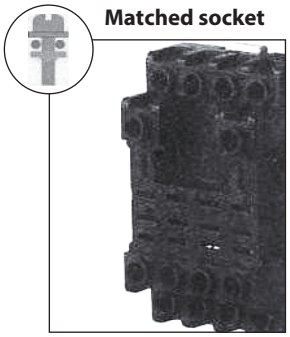
DC COIL DATA (LY4)

Nominal voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10%
5	4.0	0.5	16.6
6	4.8	0.6	24
12	9.6	1.2	100
24	19.2	2.4	360
48	38.4	4.8	1600
110	88.0	11.0	6900

AC COIL DATA (LY4)

Nominal voltage VAC	Operate voltage VAC	Release voltage VAC	Coil resistance Ω ±10%
6	4.8	1.8	5
12	9.6	3.6	20
24	19.2	7.2	78
48	38.4	14.4	320
110	96.0	36.0	2200
220/240	176.0	66.0	6700/9000

MATCHED SOCKET PTF-14A-EK



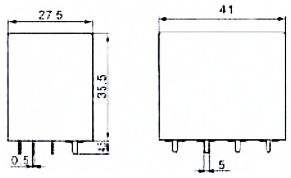
PTF-14A-EK

COIL SPECIFICATION

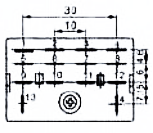
Rated coil power	1.5 W / 2.5 VA

Outline dimension, Mounting holes (Bottom view), Wiring diagram (Bottom view)

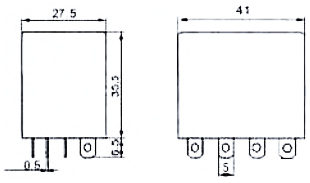
LY4 PCB type Outline dimension



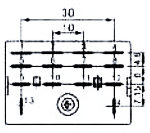
Mounting holes (Bottom view)



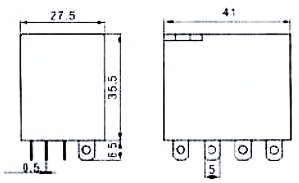
LY4 Socket type Outline dimension



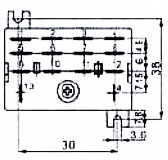
Mounting holes (Bottom view)



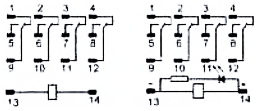
LY4 Flange mounting type Outline dimension



Mounting holes (Bottom view)

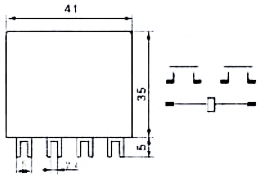


LY4 Wiring diagram (Bottom view)



LY4 (4Z)

JOX-981F PCB type Outline dimension



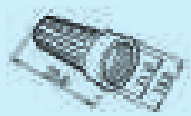
JOX-981F

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura SCREW-ON WIRE CONNECTOR
ไวร์นัท

- Tough thermoplastic, UL 94V-2 flame-retardant shell rated at 105°C (221°F).
- Zinc-plated square wire spring ensures a firm grip on conductors.
- Swept-back wing design provides finger-tip comfort and increases torquing power.
- Color-coded to industry standards for quick size identification.
- Rated to 600V max. for building wiring and 1000V max. in lighting fixtures / luminaires and signs.
- UL 486C listed and CSA C22.2 No.188 certified.
- Available in socket tools for easy installation of the connectors (see page 13).



Dimensions (mm)	Cat no.	Color	Rating & Wire range (Cu)	Packing	
				Bag	Carton
	**33-3**	Orange	300V max. / 600V max. 105°C (221°F) 22-14 AWG, cu max.4 #16w / 1 #20 min.1 #18 w / 1 #20	100	1,000 10 bags
	**44-3**	Yellow	300V max. / 600V max. 105°C (221°F) 22-10 AWG, cu max.2 #12w / 2 #14 min.3 #20 Sol	100	1,000 10 bags
	**66-3**	Red	300V max. / 600V max. 105°C (221°F) 22-10 AWG, cu max.2 #10w / 2 #12 Str min.3 #18	100	1,000 10 bags

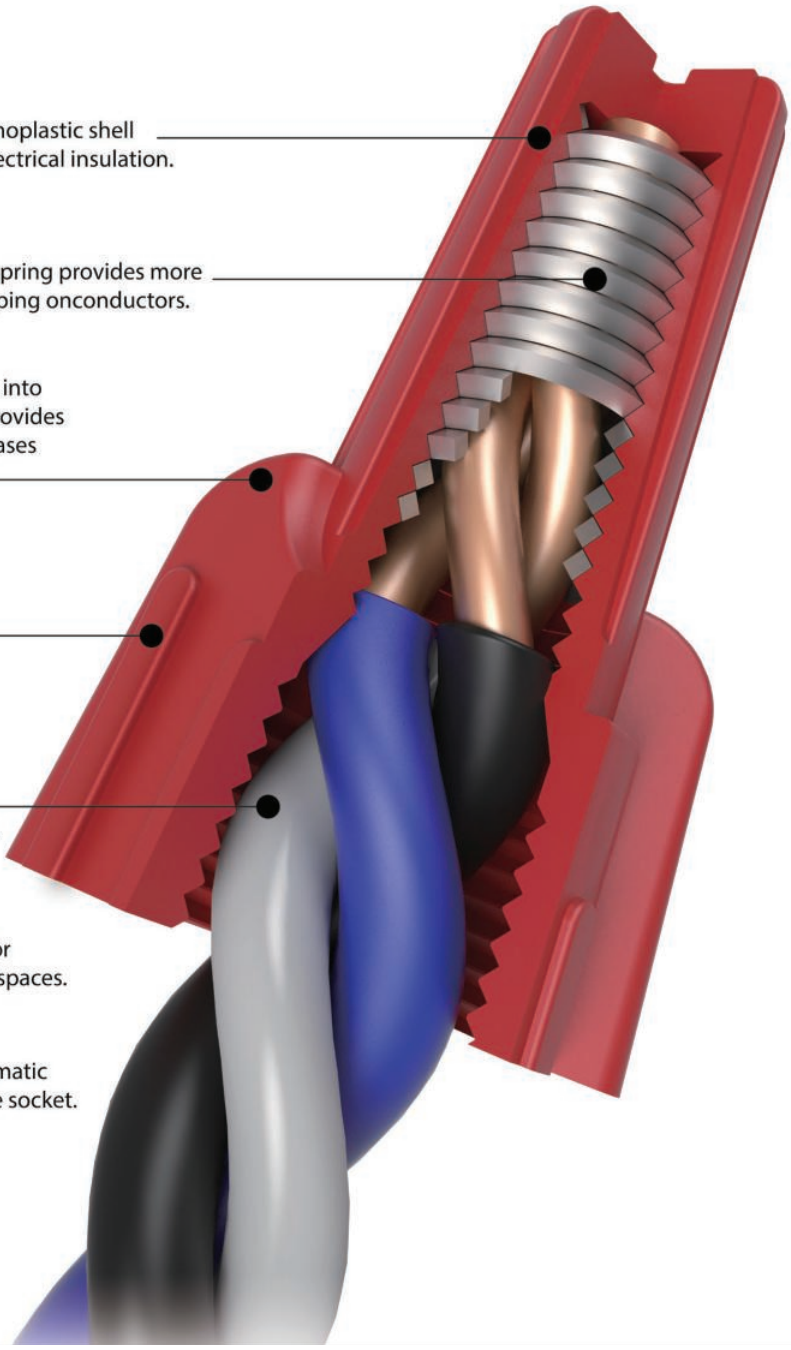
Takamura SCREW-ON WIRE CONNECTOR
ไวร์นัท







- Flame retardant themoplastic shell provides excellent electrical insulation.
- Square wire spring provides more securely gripping onconductors.
- Swept-back wing design fits into your fingers naturally and provides finger-tip comfort and increases torquing power.
- Gripping ribs on the surface of connector provide more grasp and reduce slip through your fingers.
- Deep skirt entry provides protection from flashover and shorts.
- Perfect sized design makes it easier for fingers twisting and working in tight spaces.
- Socket tools are available for fitting any pneumatic or electrical tool with a 1/4 inch chuck or drive socket.

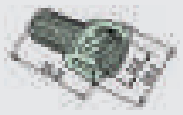
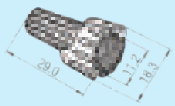
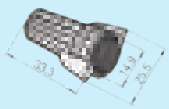


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura WINGED WIRE CONNECTOR
ไวร์นัทแบบมีปีก



- Tough thermoplastic, UL 94V-2 flame-retardant shell rated at 105°C (221°F).
- Zinc-plated square wire spring ensures a firm grip on conductors.
- Swept-back wing design provides finger-tip comfort and increases torquing power.
- Color-coded to industry standards for quick size identification.
- Rated to 600V max. for building wiring and 1000V max. in lighting fixtures / luminaires and signs.
- UL 486C listed and CSA C22.2 No.188 certified.
- Available in socket tools for easy installation of the connectors (see page 13).

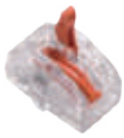
Dimensions (mm)	Cat no.	Color	Rating & Wire range (Cu)	Packing	
				Bag	Carton
	**P11V**	Yellow	300V max. / 600V max. 105°C (221°F) 18-10 AWG, cu max.2 #12w / 1 #14 min.3 #18	100	1,000 10 bags
	**P12**	Tan	600V max. 105°C (221°F) 22-18 AWG, cu max.4 #12 min.3 #22 sol	100	1,000 10 bags
	**P13**	Red	300V max. / 600V max. 105°C (221°F) 18-8 AWG, cu max.5 #12 sol min.3 #16	100	1,000 10 bags
	**P15**	Gray	600V max. 105°C (221°F) 18-8 AWG, cu max.3 #10 min.3 #14 w / 1 #18	50	1,000 20 bags

Takamura RELEASABLE WIRE CONNECTOR
ขั้วต่อสายแบบกอดออกได้

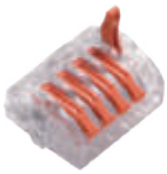
- Polycarbonate polyamide 66, UL 94V-0 flame-retardant shell rated at T85 (IEC), 105°C/ 221°F (UL).
- Spring force connector constructed from tinned copper plate and stainless spring steel.
- No tools required, just put the orange levers to 90° and insert conductors and then put the levers back in place.
- Accept any combination of solid, stranded and flexible conductors from 0,2 mm²/ 28 AWG up to4,0 mm²/12 AWG.
- Clear shell gives visual verification of connection.
- Rated to 600V max. for building wiring and 1000V max. in lighting fixtured/ luminaires and signs.
- IEC/ EN 60998 certified and UL 486C listed.

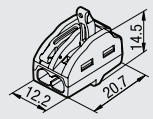
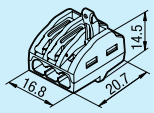
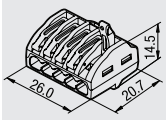


PC62 * SERIES







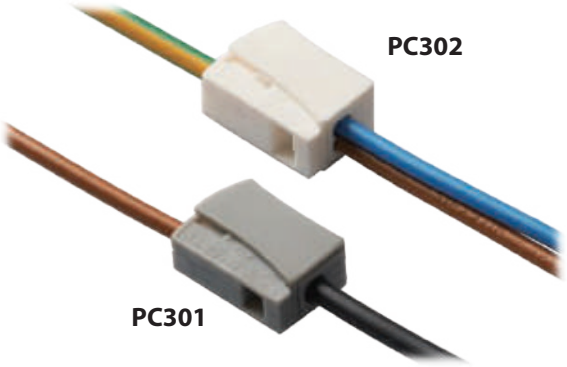
Dimensions (mm)	Cat no.	Color	Port	Electrical rating & wire range	Packing	
					Bag	Carton
	**PC622**	Clear + Orange	2	32A, 450V, T85°C 0, 2-4 mm², Rigid/ flexible	100	1,000 10 bags
	**PC623**	Clear + Orange	3		100	1,000 10 bags
	**PC625**	Clear + Orange	5	600V, 105°C (221°F) 28-14 AWG, Sol/ Str Cu 12 AWG, Sol Cu	100	1,000 10 bags

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

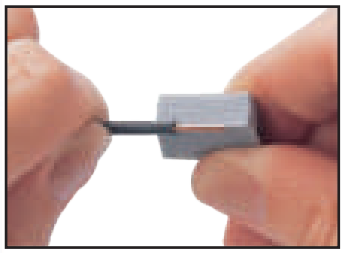
Takamura EASY-LINK LIGHTING CONNECTOR
ขั้วต่อสายแบบ EASY-LINK

NO TWISING JUST PUSH IN QUICK & SAFE REDUCE INSTALLATION COST

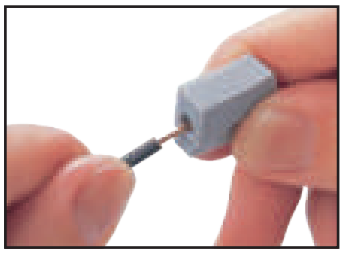
- Two side entries for connecting single/ dual conductor.
- Accept solid and stranded conductors up to 2, 5 mm²/ 18-16 AWG.
- Test slot permits easy testing your connectors with a voltage tester.
- Besides lighting fixtures, can be used in other applications utilizing solid and stranded
- conductors.



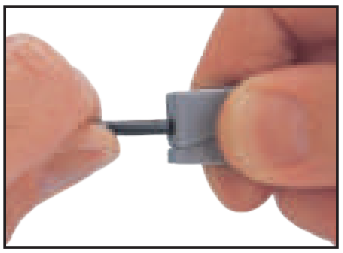
INSTALLATION SIDE (ROUND ENTRY) FOR SOLID WIRE :



- Strip wire 9-11 mm/ 0.35-0.43 in.

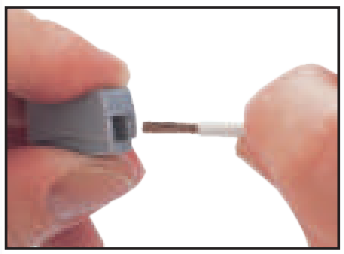


- To connect push stripped solid conductor into round entry hole fully to stop.

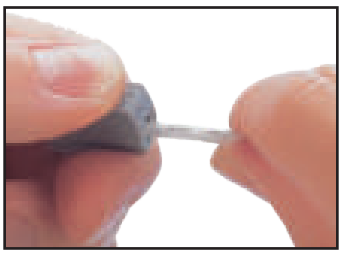


- To remove, hold conductor and twist connector alternately left and right while pulling on the conductor.

LIGHTING SIDE (SQUARE ENTRY) FOR SOLID/STRANDED WIRES :



- To connect, press button fully and insert stripped conductor into square entry and release.



- To remove, push button and withdraw conductor.



- Use a voltage tester to test your connector via separant slot.

Takamura MICRO METER / HOUR METER
ไมโครมิเตอร์ / มิเตอร์นับชั่วโมง

MICRO METER (ANALOG)







Code	Dimension (mm.)	Range (μA)	Packing
			Pcs / Box
AM-85C-200uA	85 x 85	0 - 200	1
AM-85C-300uA		0 - 300	
AM-85C-500uA		0 - 500	

HOUR METER (DIGITAL)



Code	Dimension (mm)	Range (hour)	Additional function	Packing
				Pcs / box
HM-D48	48 x 48	00 - 999	With check and reset button	1

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Takamura CURRENT TRANSFORMER
หม้อแปลงกระแส



RCT-35



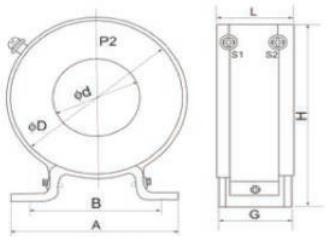
RCT-58



RCT-90



RCT-110



Model	Ød	A	B	ØD	G	H	L
RCT	35	95	80	78	45	90	54
	58	110	88	100	45	113	56
	90	110	88	135	38	147	40
	110	110	88	163	38	177	40

Type	Rated transformation ratio(A)	Busbar mounting hole size	Rated load (VA)	Accuracy class	Rated voltage(V)	Rated frequency(V)
RCT-35	10/5A	Ø35	1.5~2.5	1.0	660V	50 / 60
	20/5A					
	30/5A					
	50/5A					
	60/5A					
	100/5A					
	150/5A					
	200/5A					
	250/5A					
	300/5A					
	400/5A					
RCT-58	250/5A	Ø58	5~10		660V	50 / 60
	300/5A					
	400/5A					
	500/5A			0.5		
	600/5A					
	800/5A					
RCT-90	800/5A	Ø90	5~10		660V	50 / 60
	1000/5A					
	1200/5A					
	1500/5A					
RCT-110	1500/5A	Ø110	15~20		660V	50 / 60
	2000/5A					
	2500/5A					
	3000/5A					
	4000/5A					

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Takamura CURRENT TRANSFORMER
หม้อแปลงกระแส


MSQ-30


MSQ-40


MSQ-60


MSQ-100


MSQ-120

Model	Rated current (A)	Busbar mounting hole size	Rated load (VA)	Accuracy class	Rated voltage(V)	Rated frequency (Hz)
MSQ-30	10/5	30 x 10 mm	1.5 - 2.5	1.0	660V	50 / 60
	20/5					
	30/5					
	40/5					
	50/5					
	60/5					
	100/5					
	150/5					
	200/5					
MSQ-40	200/5	40 x 10 mm	5 - 10		660V	50 / 60
	250/5					
	300/5					
	400/5					
MSQ-60	400/5	60 x 20 mm	5 - 10		660V	50 / 60
	500/5					
	600/5					
	800/5					
MSQ-100	1000/5	100 x 30 mm	15	0.5	660V	50 / 60
	1,200/5					
	1,500/5					
	2,000/5					
	2,500/5					
	3,000/5					
MSQ-120	2,000/5	120 x 30 mm	15-20		660V	50 / 60
	2,500/5					
	3,000/5					
	4,000/5					

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Takamura SPECIFICATION

CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

CE



PERFORMANCE CHARACTERISTICS

- High-precision measurement of active powerand reactive power of single and three-phase grids.
- Provide digital tube or LCD display, local data query.
- Programmable current and voltage radio
- Auxiliary power supply : AC220V

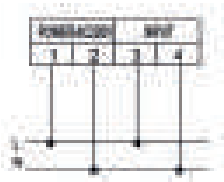
TECHNICAL INDICATORS

Measurement accuracy	
Active power	Level 0.5
Reactive power	Level 0.5
Inspecting power	Level 0.5

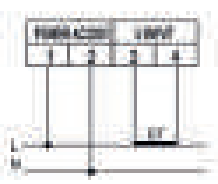
Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

Signal input	
Wiring	Single-phase, three-phase, four-wire, three-phase, three-wire
Rated voltage	AC 57.7V, AC 100V, AC 220V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1 second (instantaneous)
	Current : 1.2 times (continuous), 10 times / 5 second (instantaneous)
Power consumption	Voltage : <1VA / phase
	current : <0.4VA / phase
Impedance	Voltage : >300kΩ
	current : <20mΩ
Frequency	45~65Hz

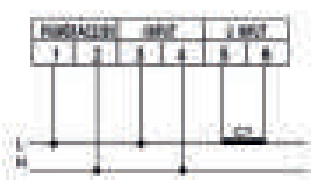
WIRING DIAGRAM



V and Hz wiring diagram



A wiring diagram



COS and W wiring diagram

Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER





PERFORMANCE CHARACTERISTICS

- High-precision measurement of three-phase voltage current or three-phase voltage.
- Provide digital tube display, local data query.
- Current radio programmable.
- Support RS-485 communication, modbus-RTU protocol
- Supports digital input, digital output, analog output
- Auxiliary power supply : AC/DC 80V~270V, AC220V, AC380V, AC100V
- A variety of shape options to meet the requirements of different cabinet electrical circuits.

TECHNICAL INDICATORS

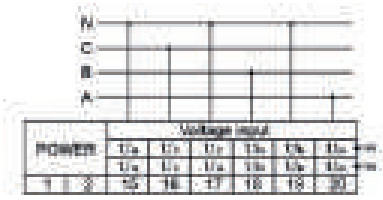
Measurement accuracy	
Current and voltage	Level 0.5

Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

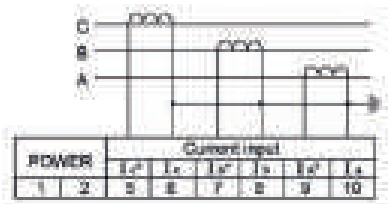
Three-phase current signal input	
Wiring	three-phase, four-wire, three-phase, three-wire
Rated current	AC 1A, AC 5A
Overload	1.2 times (continuous), 10 times / 5 second (instantaneous)
Power consumption	<0.4VA / phase
Impedance	<20mΩ
Frequency	45~65Hz

Three-phase voltage signal input	
Wiring	three-phase, four-wire, three-phase, three-wire
Rated current	AC 57.7V, AC 100A, AC 220V, AC 380V
Overload	1.2 times (continuous), 2 times / 1 second (instantaneous)
Power consumption	<1VA / phase
Impedance	<300mΩ
Frequency	45~65Hz

WIRING DIAGRAM



Three-phase voltage wiring diagram



Three-phase voltage wiring diagram

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Takamura SPECIFICATION

CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

CE





PERFORMANCE CHARACTERISTICS

- High-precision measurement of single-phase voltage, current, frequency or three-phase current and voltage.
- Provide digital tube or LCD display, local data query.
- Programmable current and voltage radio

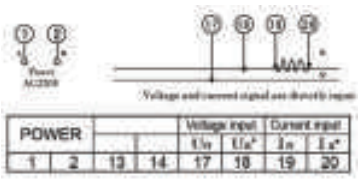
TECHNICAL INDICATORS

Measurement accuracy	
Active power	Level 0.5
Reactive power	Level 0.5
Frequency	±0.02Hz

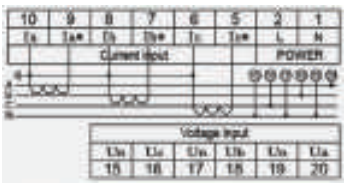
Auxiliary power	
The scope of work	AC220V
Power consumption	<4VA

Three-phase combined, single-phase combined signal input	
Wiring	three-phase four-wire, three-phase three-wire
Rated voltage	AC 57.7V, AC 100V, AC 220V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1 second (instantaneous)
	Current : 1.2 times (continuous), 10 times / 5 second (instantaneous)
Power consumption	Voltage : <1VA / phase
	current : <0.4VA / phase
Impedance	Voltage : >300kΩ
	current : <20mΩ
Frequency	45~65Hz

WIRING DIAGRAM



Single-phase combination meter wiring diagram



Three-phase combination meter wiring diagram

Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

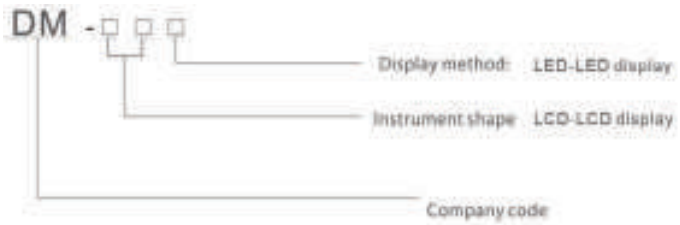




PRODUCT STANDARDS

- **GB/T 22264. 1-2008**
  Mounted digital display electrical measuring instruments - Part 1 : Difinitions and general requirements.
- **GB/T 22264. 7-2008**
  Mounted digital display electrical measuring instruments - Part 7 : Particular requirements.
- **GB/T 22264. 8-2008**
  Mounted digital display electrical measuring instruments - Part 8 : Recommended method.
- **GB/T 17215. 322-2008**
  Electrical measuring equipment - particular requirements - Part 22 : Static active energy meters (0.2s and 0.5s).
- **GB/T 17215. 323-2008**
  Electrical measuring equipment - particular requirements - Part 23 : Static reactive energy meters (2 and 3).
- **DL/T 614-2007**
  Multi-function electric energy meter.
- **GB 14287-2005**
  Electrical fire monitoring system.
- **GB500045-95**
  High-rise civilbuilding design fire protection specification.
- **GB500054-95**
  Low-voltage power distribution design specification.
- **GB500096**
  Residentail design code.
- **GB13955-2005**
  Installation and operation of residual current operated protection devide.
- **GB500016-2006**
  Architectural design code for fire protection.

MODEL NAME



Outline code	Face size (mm)	Hole size (mm)
9	96x96	91x91

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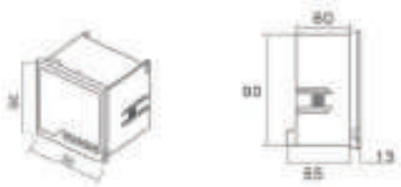
Takamura SPECIFICATION

CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

CE





PERFORMANCE CHARACTERISTICS

- High-precision measurement of single-phase current or voltage.
- Provide digital tube or LCD display, local data query.
- Current radio programmable.
- Auxiliary power supply : AC220V

Surroundings	
Operating temperature	-10℃ ~ +55℃
Storage temperature	-25℃ ~ +70℃
Relative humidity	≤93%, non-corrosive gas place
altitube	≤2500m

Safety	
Insulation resistance	>100MΩ
AC withstand voltage	AC 2KV

Safety	
Insulation resistance	>100MΩ
AC withstand voltage	AC 2KV

Electromagnatic compatibility	
Electrostatic discharge	level 4
Electric fast transient burst	level 4
Surge	level 4

TECHNICAL INDICATORS

Measurement accuracy	
Current and voltage	Level 0.5

Auxiliary power			
The scope of work	AC220V	Power consumption	<4VA

Current signal input	
Wiring	Simplex
Rated current	AC 1A, AC 5A, DC 20mA, DC 1A, DC 5A, DC 75 mV
Overload	1.2 times (continuous), 10 times / 5 seconds (instantaneous)
Power consumption	<0.4VA / phase
Impedance	<20mΩ
Frequency	45~65Hz

Voltage signal input	
Wiring	Simplex
Rated voltage	AC 200V, AC 380V
Overload	1.2 times (continuous), 2 times / 1 seconds (instantaneous)
Power consumption	<1VA / phase
Impedance	<300kΩ
Frequency	45~65Hz or DC

PRODUCT STANDARDS

- **GB/T 22264. 1-2008**
  Mounted digital display electrical measuring instruments - Part 1 : Difinitions and general requirements.
- **GB/T 22264. 2-2008**
  Mounted digital display electrical measuring instruments - Part 2 : Particular requirements of ammeters and voltmeters.
- **GB/T 22264. 3-2008**
  Mounted digital display electrical measuring instruments - Part 3 : Particular requirements for the power meter and reactive power meter.
- **GB/T 22264. 4-2008**
  Mounted digital display meter - Part 4 : particular for requirements frequency tables.
- **GB/T 22264. 5-2008**
  Mounted digital display electrical measuring instruments - Part 5 : particular requirements for phase meter and power factor meters.
- **GB/T 22264. 8-2008**
  Mounted digital display electrical measuring instruments - Part 8 : Recommended test methods.

MODEL NAME

DM-

Function code :
A-, V-, Hz-, W-, COS-

Dimention :

Company code

Outline code	Corresponding pointer table model	Face size (mm)	Hole size (mm)
96	96 square	96x96	91x91
80	80 square	80x80	76x76

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Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER



TECHNICAL INDICATORS

Measurement accuracy	
Frequency	±0.02Hz

Auxiliary power			
The scope of work	AC220V	Power consumption	<4VA

Signal input	
Wiring	Simplex
Rated current	45~65Hz
Overload	AC 57.7V, AC 100V, AC 220V, AC 380V
Power consumption	1.2 times(continuous), 2 times / 1second (instaneous)
Impedance	<1VA / phase
Frequency	>300K Ω

DM SERIES DIGITAL DISPLAY POWER FACTOR METER



TECHNICAL INDICATORS

Measurement accuracy	
Measurement accuracy	Level 0.5

Auxiliary power			
The scope of work	AC220V	Power consumption	<4VA

Signal input	
Wiring	Single-phase, three-phase three-wire
Rated voltage	AC 57.7V, AC 100V, AC 200V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1second (instaneous)
	Current : 1.2 times (continuous), 10 times / 5 seconds (instantaneous)
Power consumption	Voltage : <1 VA / phase
	Current : <0.4VA / phase
Impedance	Voltage : >300K Ω
	Current : 20m Ω
Frequency	45~65Hz

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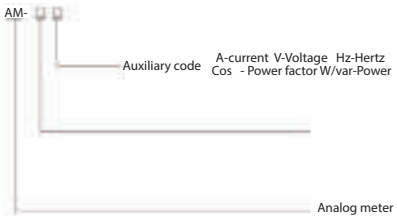
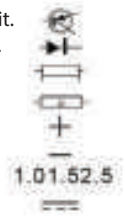
Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

TYPE DESCRIPTION



- Electronic device in a measure circuit.
- Rectifier (instrument with AC input).
- Shunt
- Additional terminal
- Positive terminal
- Negative terminal
- Class index
- DC



- AC
- Testing voltage higher than 2000V
- Vertical mounting (for example 50 deg.)
- Inclined mounted (for example 50 deg.)
- Moving coil for instruments
- Moving iron for instruments
- Bimetal instruments
- Vibrating reeds instruments



DIMENSIONS

Tipe code	Analog meter	Panel size (mm)	Hole size (mm)
96	96 square	96x96	91x91
80	80 square	80x80	76x76

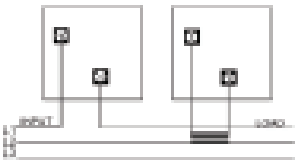
ANALOG PANEL METER 96x96 MM

- Accuracy class : 1.5, 2.5
- Operating frequency : 45-65Hz
- Dielectric test voltage : 2KV / 50Hz / 1 minute
- Overload AC voltage : x1.2 continuous (x2 for 5 seconds)
- AC current : x1.2 continuous (x10 for 5 seconds)

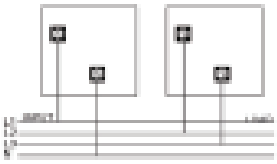
Power consumption

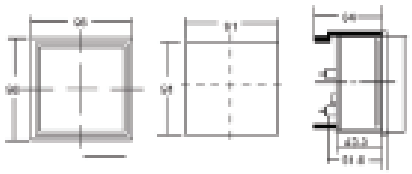
Voltage from 1 to 4VA : 1.8VA for 250V .3.3VA for 500V
Current from 0.3 to 1.5 VA for 1A.1.2A for 5A
Reference temperature : 23□ ±2℃
Operating temperature : -25□ to □40℃
Storage temperature : -40□ to 70□
Relative huminity : <85%

Amp meter



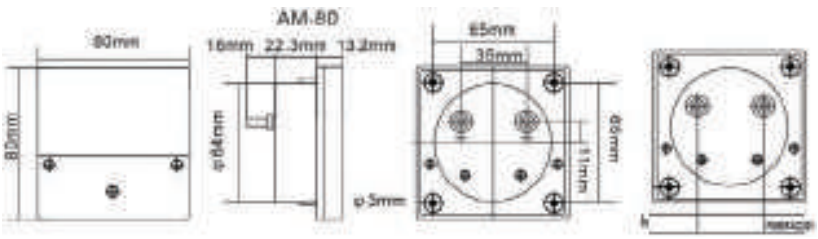
Volt meter





VOLT METER AND AMP METER 96x96 MM

Model	Connection	Measuring range		
AM-96V	Direct connector	0-300V . 0-500V		
AM-80V	Direct connector	0-300V . 0-500V		
AM-96A	Connect with CT X / 5A	5/5A	10/5A	15/5A
		20/5A	30/5A	40/5A
		50/5A	60/5A	80/5A
		100/5A	125/5A	150/5A
		200/5A	250/5A	300/5A
		400/5A	500/5A	600/5A
		800/5A	1000/5A	1200/5A
		1250/5A	1500/5A	1600/5A
		2000/5A	2500/5A	3000/5A
		3200/5A	4000/5A	5000/5A



Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER





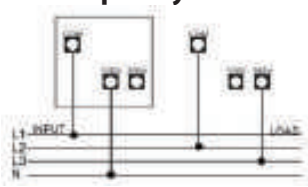
POWER FACTOR METER

Model	Input voltage	Accuracy class	Active	Input current	Measuring range
AM-96P	220V	2.5	1P	5A	Cap 0.5...1...0.5 IND
AM-96P	380V	2.5	1P	5A	Cap 0.5...1...0.5 IND

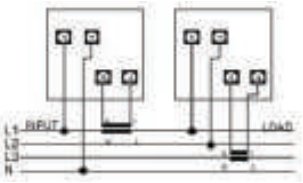
FREQUENCY METER

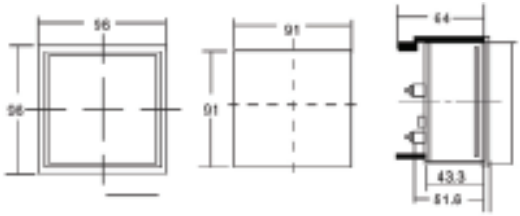
Model	Type	Accuracy class	Input current	Measuring range
AM-96FP	-	1.0	220V, 380V	45...55Hz, 45...65Hz
AM-96FR	-	1.5	220V, 380V	45...55Hz

Frequency meter



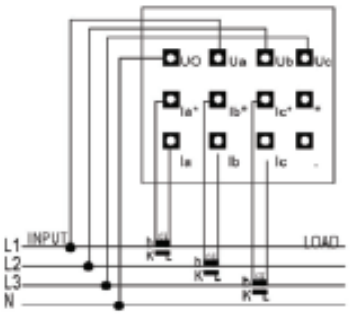
Power factor meter

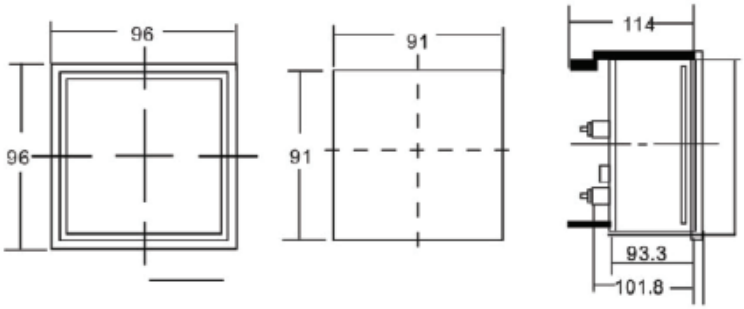




ACTIVE POWER METER

Model	Measuring range		
AM-96KW	0-3KW (CT5/5A)	0-60KW (CT100/5A)	0-600KW (CT1000/5A)
	0-8KW (CT10/5A)	0-100KW (CT150/5A)	0-800KW (CT1200/5A)
	0-10KW (CT15/5A)	0-150KW (CT200/5A)	0-1MW (CT1500/5A)
	0-15KW (CT20/5A)	0-160KW (CT250/5A)	0-12MW (CT1600/5A)
	0-20KW (CT30/5A)	0-200KW (CT300/5A)	0-1.5MW (CT2000/5A)
	0-25KW (CT40/5A)	0-250KW (CT400/5A)	0-1.6MW (CT2500/5A)
	0-30KW (CT50/5A)	0-300KW (CT500/5A)	0-2MW (CT3000/5A)
	0-40KW (CT60/5A)	0-400KW (CT600/5A)	0-2.5MW (CT4000/5A)
	0-50KW (CT 80/5A)	0-500KW (CT 800/5A)	0-3MW (CT 5000/5A)





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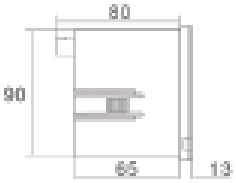
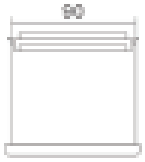
Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

PERFORMANCE CHARACTERISTICS





Side view



Upper view

Face size (mm)	Hole size (mm)
96	96 square
80	80 square

- High-precision measurement of three-phase voltage, three current, activepower, reactive power apparent power, power facter, frequency and other electrical parameters.
- Positive and negative active/reactive energy metering.
- Time-sharing energy metering, time-sharing energy meter reading.
- Measuring the total harmonic distorting rate (THD) of three-phase voltage and three-phase current, 2-31 odd harmonic components.
- Provide digital tube or LCD display, local data query.
- Intuitive menu, simple button operation.
- Programmable current and voltage ratio.
- Provide multi-loop leakage current monitoring.
- Provide multi-loop control node for alarm, trip, etc.
- Support fire linkage, remotely cut off fault loop.
- Support RS-485 communication, modbus-RUT protocol.
- Supports digital input, digital output, analog output, and energy pulse output.
- Easy installation, simple wiring and small amountmof engineering.
- Auxiliary power supply : AC/DC 80V~270V, AC220V, AC380V, AC100V
- Can complete the networking of multiple communication software in SCADA and PLC.

TECHNICAL INDICATORS

Measurement accuracy			
Voltage	0.5 or 0.2	Power factor	Level 0.5
Current	0.5 or 0.2	Frequency	+0.02Hz
Active power	Level 0.5	Active energy	0.5S or 0.2s
Reactive power	Level 0.5	Reactive energy	Level 1 or Level 2

Signal input	
Wiring	Three-phase four-wire, Three-phase three-wire
Rated voltage	AC 57.7V, AC 100V, AC220V, AC 380V
Rated current	AC 1A, AC 5A
Overload	Voltage : 1.2 times (continuous), 2 times / 1 second (instant aneous)
	Current : 1.2 times (contiuous), 10 times / 5 seconds (instantaneous)
Power consumption	Voltage : < 1VA/phase, current : <0.4VA/phase
Impedance	Voltage : >300k , current : <20m
Frequency	45~65Hz

Functional module	
Communication interface	Support 1 channel RS-485 communication, Modbus-RTU protocol
	Baud rate : 1200~9600 bps, default 2400 bps
Switch input	Support 4 dry node inputs
Switch output	Support 3 relay outputs, capacity : AC 250V/5A, DC 30V/5A
Transmitting output	Support 1 anolog output : 0/4~20mA or 0~5/10A
Power pulse output	Support 2 channels of energy pulse output, constant : 8000/KWh (KvaXD)

Auxiliary power			
The scope of work	AC/DC : 80V~270V	Power consumption	<4VA

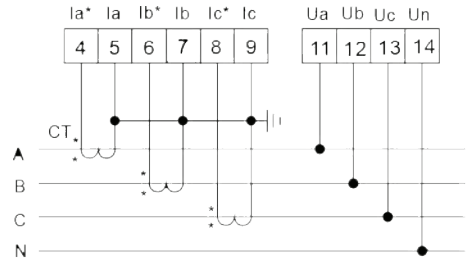
Takamura SPECIFICATION
CURRENT AND VOLTAGE FREQUENCY COMBINATION METER

Surroundings	
Operating temperature	-10 C ~ +55 C
Storage temperature	-25 C ~ 70 C
Relative humidity	<93% , non-corrosive gas place
Altitube	≤2,500m

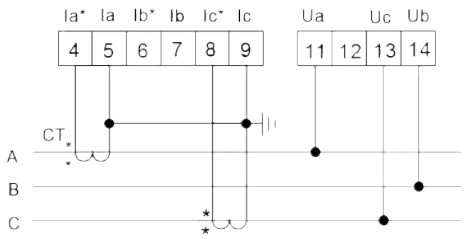
Safety	
Insulation resistance	>100M
AC withstand voltage	AC 2KV

Electromagnetic compatibility	
Electrostatic discharge	Level 4
Electrical fast transirnt burst	Level 4
Surge	Level 4

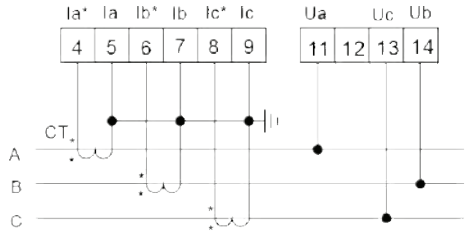
TYPICAL SIGNAL WIRING DIAGRAM



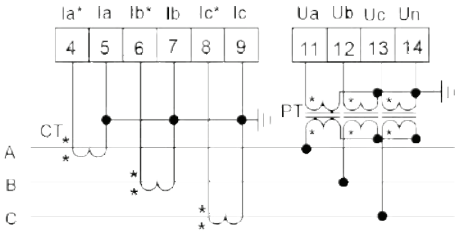
Low voltage: three-phase four-wire
(3CT without PT)



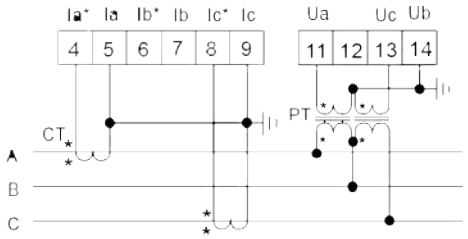
Low voltage: three-phase three-wire
(2CT without PT)



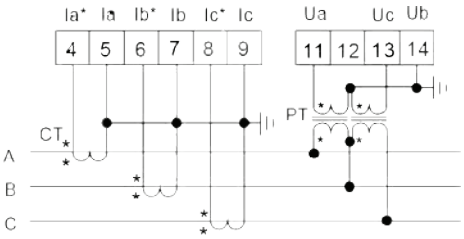
Low voltage: three-phase three-wire
(3CT without PT)



High voltage: three-phase four-wire
(3CT 3PT)



High voltage: three-phase three-wire
(2CT 2PT)



High voltage: three-phase three-wire
(3CT 2PT)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura AMMETER / VOLTMETER
แอมป์มิเตอร์ / โวลท์มิเตอร์

AMMETER
แอมป์มิเตอร์






Type	Code	Dimension	Specification
Analog แบบเข็ม	AM-80A-☐A	80 x 80 mm	ต่อตรง 5 10 15 20 30 40 50 60 100
	AM-80A-☐/5A		20 30 50 60 100 150
	AM-96A☐A		ต่อตรง 60A 100A
	AM-96A☐/5A	96 x 96 mm	10 20 30 40 50 60 100
			150 200 250 300 400 500 600 800 1000
			1200 1500 2000 2500 3000 4000
Digital แบบดิจิตอล	DM-80A	80 x 80 mm	0-60 A
	DM-96A		5A (set 0-9999A/)
	DM-96-3A	96 x 96 mm	3เฟส 5A (set 0-9999A/)

VOLTMETER
โวลท์มิเตอร์






Type	Code	Dimension	Specification
Analog แบบเข็ม	AM-80V-V AC	80 x 80 mm	0-300V, 0-500V
	AM-96V-V AC	96 x 96 mm	0-300V - 0-500V
Digital แบบดิจิตอล	DM-80V	80 x 80 mm	80-500V
	DM-96V	96 x 96 mm	0-600V
	DM-96V-3V		3 เฟส V, 0-600V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura FREQUENCY METER / POWER FACTER METER
ไซเกิ้ลมิเตอร์ / เพาเวอร์แฟกเตอร์

FREQUENCY METER
ไซเกิ้ล





Type	Code	Dimension	Specification
Analog แบบเข็ม	AM-96Hz-45☐Hz	96 x 96 mm	45-55Hz, 45-65Hz 220V / 380V
Digital แบบดิจิตอล	DM-96Hz		45-65Hz 220V / 380V

POWER FACTOR METER
เพาเวอร์แฟคเตอร์





Type	Code	Dimension	Specification
Analog แบบเข็ม	AM-96COS 3P3W 5A	96 x 96 mm	380V 5A (0-9999A/)
Digital แบบดิจิตอล	DM-96COS		0-500V 5A (0-9999A/)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura MULTIFUNCTION METER
มัลติมิเตอร์

MULTIFUNCTION METER
มัลติมิเตอร์









Type	Code	Dimension	Specification
ดิจิตอลวัตมิเตอร์	DM-96W	96 x 96 mm	
ดิจิตอล V A F	DM-96VAF		0-600V 5A (0-9999A/) 45-55Hz
ดิจิตอล V A (3 เฟส)	DM-96VA		0-600V 5A (0-9999A/) 3 เฟส
ดิจิตอล V A F Hz	PM-96LED		0-600V 5A (0-9999A/) 45-65Hz

MULTIFUNCTION METER
มัลติมิเตอร์ หน้าปัด LCD



Type	Code	Dimension	Specification
V A Hz (LCD)	PM-96LCD	96 x 96 mm	0-600V 5A (0-9999A/) 45-55Hz

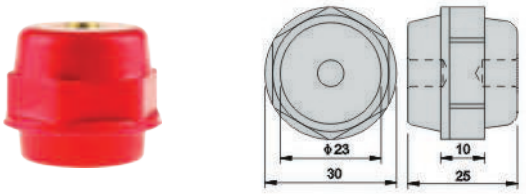
Takamura INSULATORS
อินซูเลเตอร์

SPECIFICATION

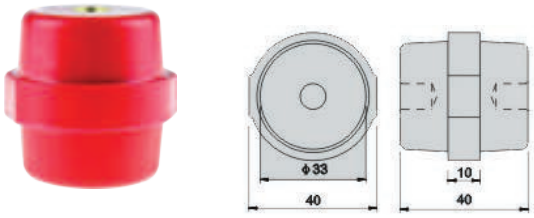
Item	SM25	SM30	SM35	SM40	SM51	SM76
Tensile strength (LBS)	500	550	600	650	1000	1500
Voltage withstand (KV)	6	8	10	12	15	25
Torgue strength (FT LBS)	6	8	10	12	20	40
Screw (mm)	6	8	8	8	8	10
Screw depth (mm)	9	11	11	11	14	20
Packing (pcs./box)	10	10	10	10	10	10

DIMENTION

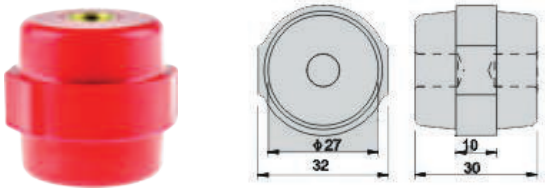
SM25



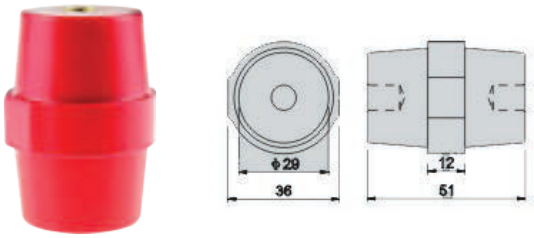
SM40



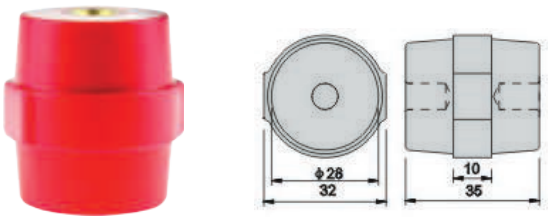
SM30



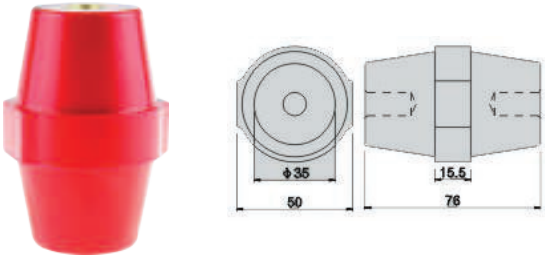
SM51



SM35



SM76



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura INSULATORS
อินซูเลเตอร์

DIMENSION

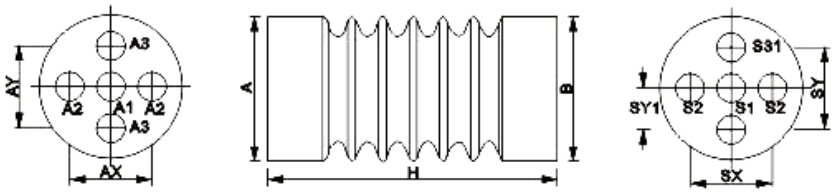
Dimension	
Material	Bluk molding compound, unsaturated polyester
Nut inserts	Brass, various specification are available
Test specifications	JIS C3801 and JIS C3851
Color	Dark red
Dimension and characteristics	Shown below

SPECIFICATION

Item			EL-3M	EL-6M	EL-12	EL-15	EL-24	EL-30N
End diameters (A/B) mm.			70	70	58	70	70	100
Height / (H) mm.			60	90	130	142	210	310
Surface leakage distance mm.			88	125	172	210	356	630
Rated voltage. kV			3.6	7.2	12	15	24	36
Low frequency dielectric strenght kV			16	22	36	50	60	75
Impule voltage resistance			60	75	95	110	125	200
Persistent bending strength, 1 min, kg			400	400	300	400	300	500
Tensile strength, kg.			>1,200	>1,200	>2,000	>1,500	>1,500	>3,000
Torgue strength, kg-m			>25	>25	>25	>25	>25	>25
Inseris arrangement	Top	A1	M10	M10	M10	M8/M10	M10/M12	M16
		A2	M8	M8	M8	-	-	M8
		A3	-	-	-	M6/M8	M6/M8	-
		AX	40	40	36	-	-	40
		AY	-	-	-	36/40	36/40	-
		S1	M10	M10	M10/M16	M10/M12/M16	M10/M12/M16	M16
	Bottom	S2	-	-	-	-	-	-
		S3	-	-	-	-	-	M4
		S31	-	-	-	-	-	-
		SX	-	-	-	-	-	-
		SY	-	-	-	-	-	-
		SY1	-	-	-	-	-	30
Packing (pcs/Box)			3	2	1	1	1	1

Takamura INSULATORS
อินซูเลเตอร์

DIMENTION



EL-3M



EL-15



EL-6M



EL-24



EL-12



EL-30N

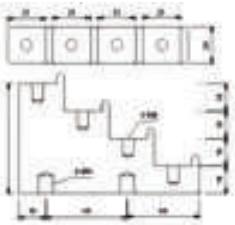


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

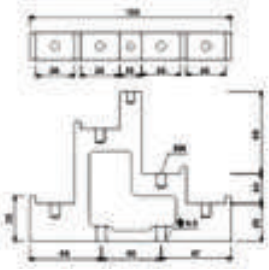
Takamura INSULATORS
อินซูเลเตอร์

DIMENSION

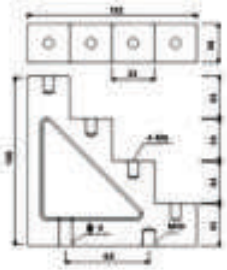
CT4-20

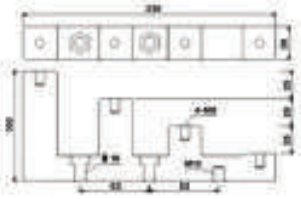
CT5-25

CT4-30

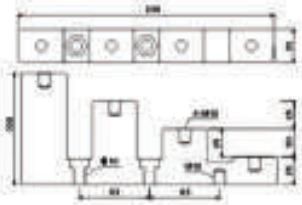
CJ4-30

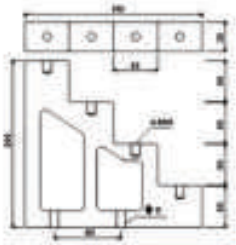
CT4-40




CJ4-40

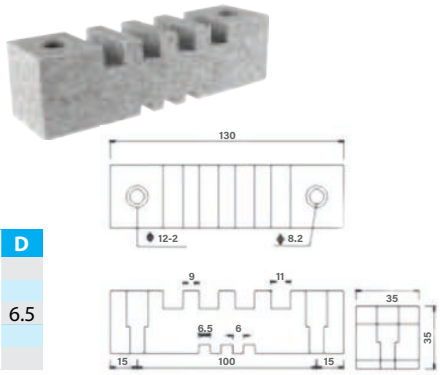
CT4-50

Takamura BUS-BAR SUPPORTS
บัสบาร์ซัพพอร์ท

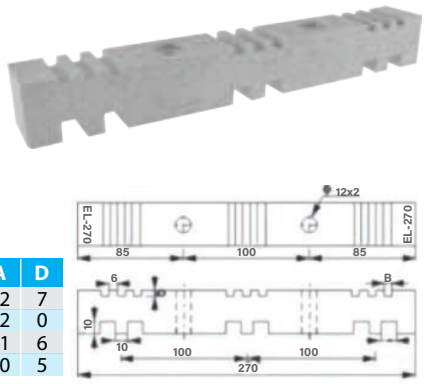
DIMENSION

EL-130



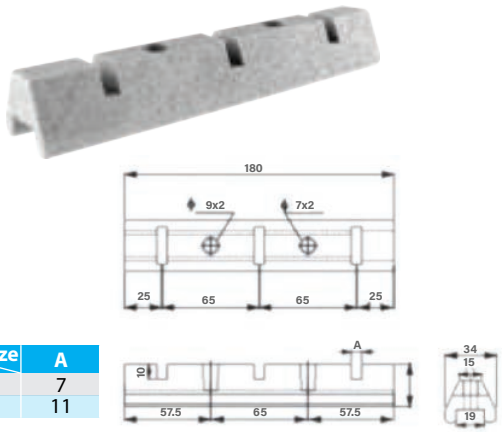
No. \ Size	A	D
1	11	
2	10	
3	7	6.5
4	6	
5	5	

EL-270



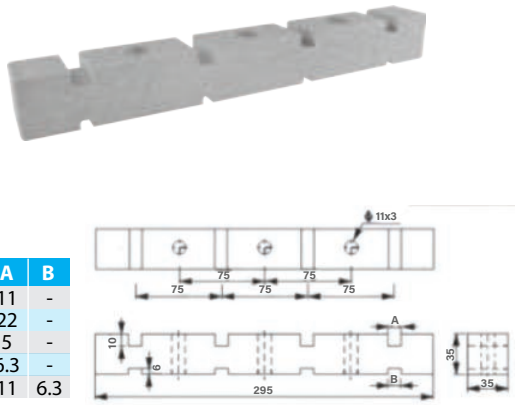
No. \ Size	A	D
1	12	7
2	12	0
3	11	6
4	10	5

EL-180



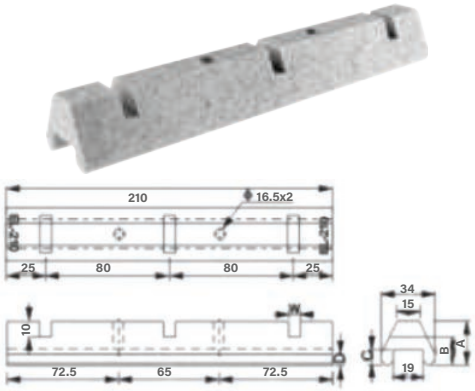
No. \ Size	A
1	7
2	11

EL-295



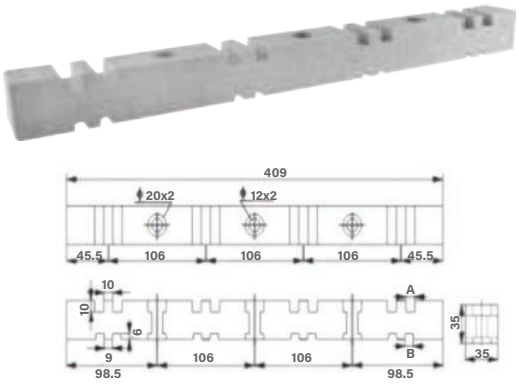
No. \ Size	A	B
1	11	-
2	22	-
3	5	-
4	6.3	-
5	11	6.3

EL-210



No. \ Size	A	B	C	D	W
2	28	18	10	7	7.5
3	28	18	10	7	11.5
4	28	18	10	7	10
12	31	21	13	10	7.5
13	31	21	13	10	11.5
14	31	21	13	10	10

EL-409



No. \ Size	A	B
1	11	0
2	11	6.3
3	15	0
4	10	0

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura STAINLESS CABLE TIE
เคเบิ้ลไทร์สแตนเลส





- **MATERIAL:** 316 STAINLESS STEEL
- **TEMPERATURE:** -80 °C TO 500 °C

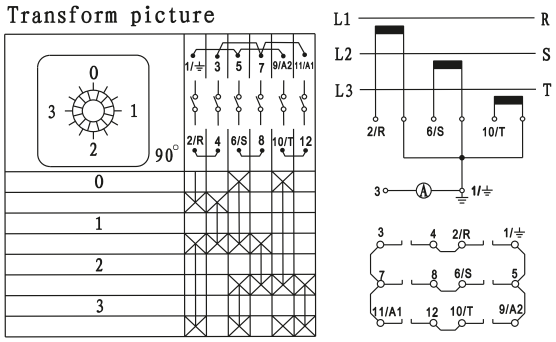
- **DIMENSION**

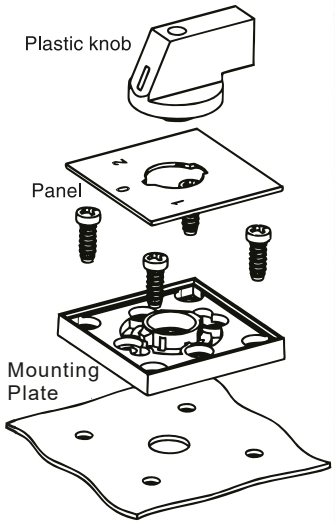
Code	Thickness	Length (L)	Width (W)	Max.Bundle diameter	Min loop tensile kg / lbs	Packing Pcs / Bag
4.6 x 100	0.25	100	4.6	25	46 / 100	50
4.6 x 150		150		37		50
4.6 x 200		200		50		50
4.6 x 300		300		76		50
4.6 x 400		400		102		50
4.6 x 500		500		128		25
4.6 x 600		600		154		25
4.6 x 700		700		180		25
4.6 x 850		850		196		25
7.9 x 200		200	7.9	50	65 / 100	50
7.9 x 300		300		76		50
7.9 x 400		400		102		50
7.9 x 500		500		128		25
7.9 x 600		600		154		25
7.9 x 700		700		180		25
7.9 x 850		850		196		25
7.9 x 1050		1050		206		25

Takamura CAM SWIYCH
แคมสวิตช์

แอมมิเตอร์แคมสวิทช์ (AMMETER CAM SWITCH)



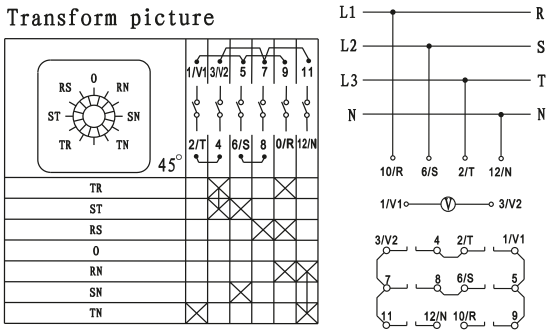


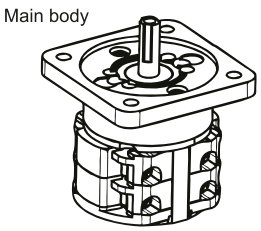


Type	Panel Size	Current @AC-21A/B	Angle	Panel Marking	Color		
					Knob	Plate	Body
ACS-20	48x60 mm	20A	90	0-1-2-3	Red	Yellow	Red
	64x80 mm						

โวลต์มิเตอร์แคมสวิทช์ (VOLTMETER CAM SWITCH)







Type	Panel Size	Current @AC-21A/B	Angle	Panel Marking	Color		
					Knob	Plate	Body
VCS-20	48x60 mm	20A	45	TR-ST-RS-O-RN-SN-TN	Red	Yellow	Red
	64x80 mm						

Ratings : IEC 60947

Utilization category	Rated operational current and voltage	
AC-3	11A	220-240V AC/3kW
	11A	380-440V AC/5.5kW
AC-23A	15A	220-240V AC/3.7kW
	15A	380-440V AC/7.5kW
AC-21A	20A	220-240V AC
	20A	380-440V AC
AC-15	5A	220-240V AC
	4A	380-440V AC

Conventional thermal current (Ith)	20 A
Rated insulation voltage (Ui)	690 V
Rated impulse withstand voltage (Uimp)	2.5 KV
Overvoltage category	II
Rated duty	Uninterrupted duty
Pollution degree	3
Rated frequency (Hz)	50Hz
Rated short-time withstand current 1cw	180, 1S
Rated short-time making capacity 1cm	254 A
Tightening torque, main circuit (Nm)	0,5 Nm (M3x7-6,8x7)
Degree of protection	IP20 (after installation)
Type of termination	Screw terminals
Ambient temperature	-5°C...+40°C

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura PHOTO ELECTRIC CONTROL
สวิตช์แสงแดด

AUTO LIGHTER

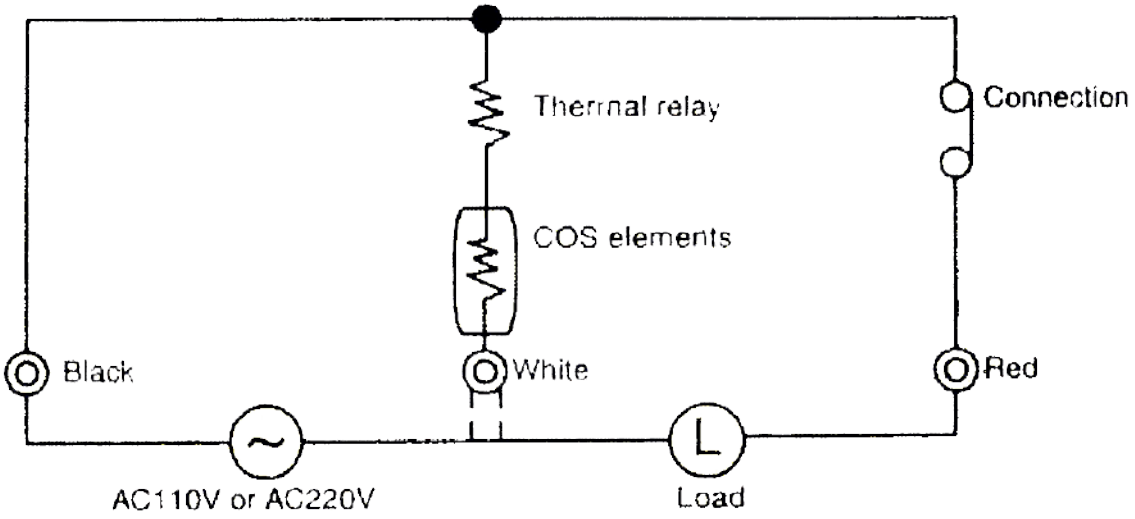
1.Standard lighting : 31.5 - 125 Lux
(Under conditions at rated voltage and surroundings temperature 20 C)
2.Standard unlighting : Below 5 times of lighting
(Under conditions at rated voltage and surroundings temperature 20 C)
3.Suitable surroundings temperature range : -10 C ~ +40 C
4.Service life time : more than 2,000 times
(operational condition : rated voltage and surroundings temperature 20 C)
5.Rated frequency : for both 50 Hz / 60 Hz





Item	3 AP	6 AP	3 AB	6 AB	10 A
	แบบแพ็คแขวน		แบบกล่อง		
Rated voltage (V)	220				
Rated current (A)	3	6	3	6	10
Frequency	50, 60 Hz				
Intensity for ON	31.5 Lux				
Intensity for OFF	125 Lux				

DIMENTION



Takamura FIBER GLASS FISH TAPE
ฟิชเทปไฟเบอร์กลาส



HOW FISH TAPE WORKS?

- 1. Push the fish tape through the cable conduit.
- 2. Tape the cables onto the fish tape.
- 3. Pull the fish tape through the conduit.
- 4. Do it slowly to ensure the cables stay attache

FIBERGLASS FISH TAPE WITH NYLON COATED IN WINDER CASE

- Fiberglass with nylon coated is specially designed fish tape for safe installation. Featuring a non-conductive fiberglass core with anouter nylon coating reduces jamming, friction and abrasion, which is perfect for using in the office environments.

APPLICATION

- For installation of telecommunications, data communication, and electric cables throught walls, above suspended ceilings, and under floors.Fish tape has been designed to put the cables pass through the inside of the conduit.

WARNING

- Fish tape is designed to pull thought guide string only.Using it to directly pull the target wire can damage the fish tape.
- Tensil strength decreases with inceasing time and temperature DO NOT use any fish tape near or ob live circuits.Use extreme caution when working near any electrical equipment.Wear approved eye protection when feeding, pulling, or rewinding fish tape.

Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
FF-15	3.8 mm	15 mm	100 kg	120 kg
FF-30	3.8 mm	30 mm	100 kg	120 kg
FF-45	3.8 mm	45 mm	100 kg	120 kg
FF-60	3.8 mm	60 mm	100 kg	120 kg

- Non-conductive and anti-corrosive fiberglass tape designed for use around live circuits with lowfriction coating for faster and easier fishing.
- High tensile strength provides excellent performance.
- Special design for longer life and greater pushing power.
- Smooth nylon jacket provides great handling around bends.
- Perfect for fishing in conduit with wire or cable present.
- Advanced non-slip handle and fingertip grooves provide secure grip for added handling comfort and reduced fatigue.
- Excutive, unique, lightweight reel for widing and rewinding easier which also increases the stability for better winding control.
- Impact-resistant plastic case and durable handle withstands rugged job site conditions.

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura FLAT STEEL FISH TAPE
ฟิชเทปเหล็ก



FLAT STEEL FISH TAPE IN WINDERCASE

- Flat steel is the industry standard for strength and durability, it offers rust resistrance and improved toughness.A flexible, non-curling design makes it easy to handle and reduces labor.

Model	Width	Trickness	Length	Tensile strength	
				Safety load	Max. load
SF-15	3.2 mm	1.6 mm	15 m	200 kg	220 kg
SF-30	3.2 mm	1.6 mm	30 m	200 kg	220 kg
SF-60	3.2 mm	1.6 mm	60 m	200 kg	220 kg

- High flexibility by special heat treatment, excellent for multiple bends. For wide range use especially in narrow environment.
- Durable flash steel tape resist kinking, breaking and corrosion.
- High tensile strength provides excellent performance.
- High quality flat steel for longer lift and easier pulling.
- Advanced non-slip handle and fingertip grooves provide secure grip for added handling comfort and reduced fatigue.
- Excutive, unique, lightweight reel for widing and rewinding easier which also increases the stability for better winding control.
- Impact-resistant plastic case and durable handle withstands rugged job site conditions.

Takamura NYLON FISH TAPE / POM FISH TAPE
ฟิชเทปไฟเบอร์กลาส / ฟิชเทป POM

NYLON Ø4MM (RED)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
N0415	4 mm	15 m	100 kg	120 kg
N0430	4 mm	30 m	100 kg	120 kg

POM Ø4.5MM (YELLOW)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
P4515	4.5 mm	15 m	80 kg	130 kg
P4530	4.5 mm	30 m	80 kg	130 kg
P4550	4.5 mm	50 m	80 kg	130 kg

POM WITH STEEL WIRE Ø5.5MM (WHITE)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
PS5515	5.5 mm	15 m	250 kg	400 kg
PS5530	5.5 mm	30 m	250 kg	400 kg
PS5550	5.5 mm	50 m	250 kg	400 kg

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura PET FISH TAPE
ฟิชเทป PET

PET SINGLE-TWISTED Ø4.0 MM (PINK)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
S0415	4 mm	15 m	200 kg	250 kg
S0430	4 mm	30 m	200 kg	250 kg
S0450	4 mm	50 m	200 kg	250 kg

PET SINGLE-TWISTED Ø4.5 MM (ORANGE)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
S4515	4.5 mm	15 m	250 kg	300 kg
S4530	4.5 mm	30 m	250 kg	300 kg
S4550	4.5 mm	50 m	250 kg	300 kg

PET SINGLE-TWISTED Ø5.2 MM (YELLOW)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
S5215	5.2 mm	15 m	350 kg	400 kg
S5230	5.2 mm	30 m	350 kg	400 kg
S5250	5.2 mm	50 m	350 kg	400 kg

PET SINGLE-TWISTED Ø6.2 MM (GREEN)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
S6215	6.2 mm	15 m	500 kg	550 kg
S6230	6.2 mm	30 m	500 kg	550 kg
S6250	6.2 mm	50 m	500 kg	550 kg

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Takamura PET FISH TAPE
ฟิชเทป PET

PET TRI-TWISTED Ø6 MM (BLACK/ORANGE)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
T0615	6 mm	15 m	400 kg	600 kg
T0630	6 mm	30 m	400 kg	600 kg
T0650	6 mm	50 m	400 kg	600 kg

PET TRI-TWISTED Ø7 MM (BLACK/YELLOW)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
T0715	7 mm	15 m	500 kg	700 kg
T0730	7 mm	30 m	500 kg	700 kg
T0750	7 mm	50 m	500 kg	700 kg

PET TRI-TWISTED WITH STEEL CORE Ø7 MM (RED/YELLOW)



Model	Diameter	Length	Tensile strength	
			Safety load	Max. load
TS0715	7 mm	15 m	600 kg	750 kg
TS0730	7 mm	30 m	600 kg	750 kg
TS0750	7 mm	50 m	600 kg	750 kg

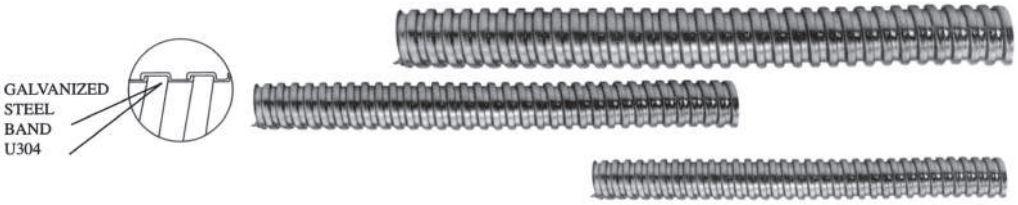
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TEEFLEX ZINC-PLATING METAL HOSE(TF TYPE) / ANGLE LIQUID-TIGHT BOX CONNECTOR
ท่อโลหะชุบสังกะสี / คอนเนคเตอร์โค้ง

ท่ออ่อนเหล็กชุบสังกะสี (TF Type)

TF TYPE เป็นชนิดของท่ออ่อนเหล็กที่มีการรู้จักกันอย่างแพร่หลาย เนื่องจากลักษณะของตัวท่อที่มีความยืดหยุ่นสูง และราคาไม่สูงนัก การยึดตัวของท่ออ่อนเหล็กชนิดนี้ เกิดจากการที่เหล็กชุบสังกะสีเกี่ยวกันในลักษณะเป็นมุมฉาก เพื่อที่จะยึดกันให้แน่น แต่มีความยืดหยุ่นได้ ท่ออ่อนเหล็กชุบสังกะสี ถูกนำไปใช้อย่างกว้างขวางในงานด้านสถาปัตยกรรม การก่อสร้างต่างๆ และงานทางด้านเครื่องจักร

- TF Type light flexible conduits is a universal product with low self-cost. Crankle the galvanized steel band into rectangle to lock together, then it can produce conduits. This product is widely used in architecture, mechanism.
- The product specification is common specification. If need different specifications, please place an order.
- The size can be according to customer's requirement (OEM).



Catalogue no.	Size	In diameter		Out diameter		Weight (g / m)	Coil length (m)
		Min (mm.)	Max (mm.)	Min (mm.)	Max (mm.)		
TF 1/2"	1/2"	12.0	13.0	15.1	15.9	85	50
TF 3/4"	3/4"	19.8	20.1	22.5	23.0	125	50
TF 1"	1"	25.5	26.5	29.5	30.5	180	30
TF 1 1/4"	1.1/4"	32.3	32.5	36.5	37.6	255	15
TF 1 1/2"	1.1/2"	39.0	39.5	39.8	44.2	285	15
TF 2"	2"	51.0	51.8	56.5	58.5	435	15
TF 2 1/2"	2.1/2"	63.2	64.2	68.5	69.5	590	10
TF 3"	3"	73.0	74.0	80.0	81.0	704	10
TF 4"	4"	101.0	102.0	108.0	109.0	1,000	10

ANGLE LIQUID-TIGHT BOX CONNECTOR

LB
คอนเนคเตอร์โค้ง 90° สำหรับท่ออ่อนกันน้ำชนิดลอน
90°Angle liquid-tight box connector



- **Applying**

The connector is applied to connect the flexible. Conduits with the box and the electric motor at on angle of 90° degree.

Item no.	Size	Inch	Metric screw thread	Dimensions		
				S	D	L
LB-15	15	1/2"	M24 x 1.5	12	33.6	54
LB-20	20	3/4"	M30 x 2	13	40.0	65
LB-25	25	1"	M36 x 2	14	51.5	71
LB-32	32	1 1/4"	M48 x 2	17	67.0	84
LB-38	38	1 1/2"	M60 x 2	19	73.0	-
LB-51	51	2"	M76 x 2	-	-	-
LB-64	64	2 1/2"	-	-	-	-
LB-75	75	3"	-	-	-	-
LB-100	100	4"	-	-	-	-

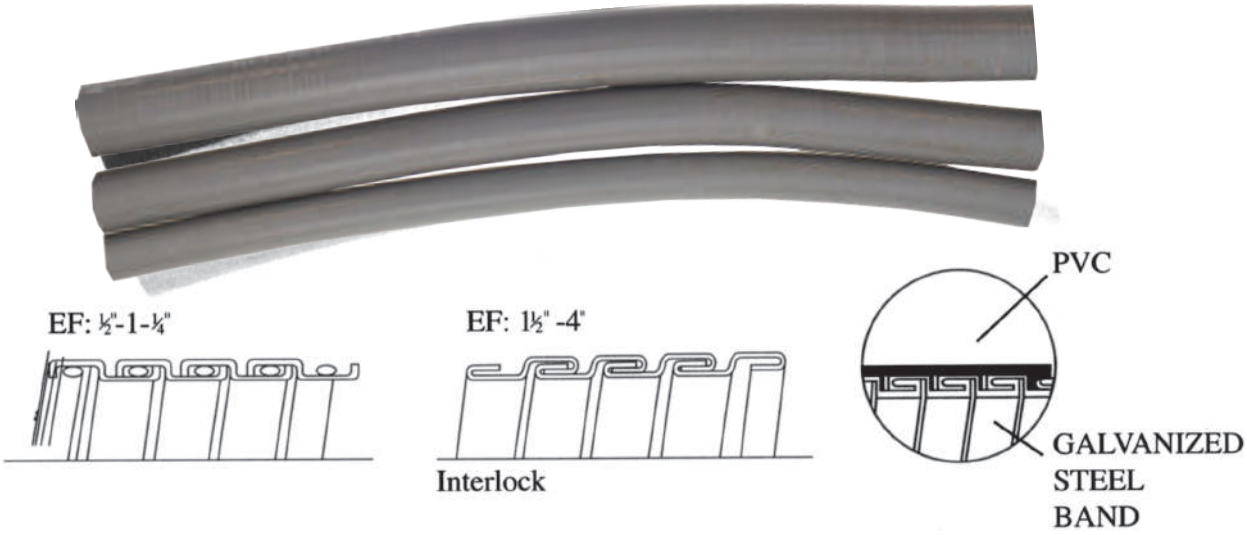
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TEEFLEX HIGH-GRADE WATERPROOF HOSE FLAT PIPE
ท่ออ่อนกันน้ำคุณภาพสูง

ท่ออ่อนกันน้ำคุณภาพสูง (EF TYPE)

ท่ออ่อนกันน้ำชนิด EF ทำจากท่อเหล็กชุบสังกะสีและนำมาหุ้มด้วย PVC คุณภาพดีโดยรอบ ท่ออ่อนกันน้ำชนิดนี้ สามารถถูกนำไปใช้ได้ในการก่อสร้างสถานีดับเพลิง โรงงานไฟฟ้าปรมาณู โรงงานเคมี และอื่นๆ ท่อ EF ยังสามารถถูกนำไปใช้ในสภาพแวดล้อมที่มีอุณหภูมิต่ำและบริเวณที่โดนแสงอาทิตย์ส่องโดยตรง

- EF TYPE is made of winding galvanized steel strip to rectangle interlock, coated with good character PVC on the chip of the hose. It can be used as hose in equipment installation in fire power station, atomic power station, chemical factory etc. It can also be used in low temperature and the places directly shined by the sun. Additionally, to its performance, the heat aging, oxygen index, anti-tandioactivity and hydrogen chloride gas are in consideration. It can also be made from PVC if users request.
- Best flexibility and absolutely waterproof effect 1/2" to 1 1/4 " filled with cotton yarn, 1 1/2" to 4" produced in upside down structure.
- The size can be made according to customer's requirement (OEM).



Catalogue no.	Size	In diameter		Out diameter		Coil length ft.
		Min (Inch.)	Max (Inch.)	Min (Inch.)	Max (Inch.)	
EF 1/2"	1/2"	0.622	0.642	0.732	0.765	200
EF 3/4"	3/4"	0.820	0.840	0.930	0.960	100
EF 1"	1"	1.041	1.066	1.201	1.226	100
EF 1 1/4"	1.1/4"	1.380	1.410	1.540	1.570	50
EF1 1/2"	1.1/2"	1.575	1.600	1.735	1.770	50
EF 2"	2"	2.020	2.045	2.180	2.215	50
EF2 1/2"	2.1/2"	2.480	2.505	2.640	2.675	25
EF 3"	3"	3.070	3.100	3.295	3.335	25
EF 4"	4"	4.000	4.040	4.220	4.280	25

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

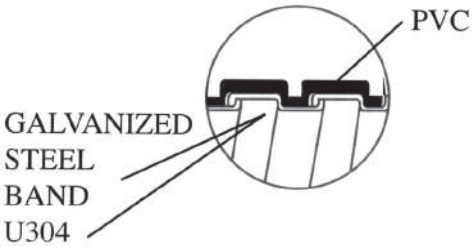
TEEFLEX WATERPROOF METAL HOSE WAVE PIPE
ท่ออ่อนกันน้ำชนิดลอน

■ ท่ออ่อนกันน้ำชนิดลอน (TEEFLEX TYPE)

ท่ออ่อนกันน้ำ ชนิด BS เกิดจากการนำเอา PVC มาหุ้มท่อชนิด TF ซึ่งเป็นแกนหลักให้รอบโดยให้เนื้อ PVC ติดแน่นเข้าไปทั้งส่วนที่เว้าเข้าและส่วนที่นูนออกจากผิวท่อ ท่ออ่อนกันน้ำ ชนิด BS มีน้ำหนักที่เบา มีความยืดหยุ่นดี สามารถกันน้ำมันและกันน้ำ รวมไปถึงความสะดวกในการใช้ร่วมกับ accessories อื่น ๆ ท่ออ่อนกันน้ำชนิดท่อลอน สามารถนำไปใช้ได้ดีกับพื้นที่แคบๆ

- การนำไปใช้ ในพื้นที่ความเย็นจัด เนื้อ PVC ที่หุ้มภายนอก สามารถเปลี่ยนไปเป็น PVC ชนิดที่สามารถใช้ได้กับอุณหภูมิถึง -45˚C. กรุณาบอกจุดประสงค์ในการนำไปใช้ให้แน่ชัด ขณะสั่งซื้อ
- หากต้องการเพิ่ม ความสามารถในการทนไฟ เพื่อที่จะนำไปใช้ในสภาวะพิเศษ คุณสามารถเลือก PVC ชนิดที่ดัชนีของก๊าซออกซิเจนมากกว่าหรือเท่า ≥ 30 กรุณาบอกจุดประสงค์ในการนำไปใช้ให้แน่ชัด ขณะสั่งซื้อ

- BS TYPE model light type hose is to cover a lay of PVC for cable on TF TYPE pipe core and tightly stick them along concave and convex face of the wall core. It applies to any narrow space of its advantages of light weight, good flexibility, connection strength to accessories, electric performance, oil resistance and water splash-proof, etc.
- To be used in frigid area, the outer cover can be changed into PVC with shock brittle temperature of -45˚C Please give clear indication when make an order.
- To improve the fire resistance when used in special situation you may choose PVC with oxygen-used index ≥ 30. Please give clear indication when make an order. The size can be according to customer's requirement (OEM).





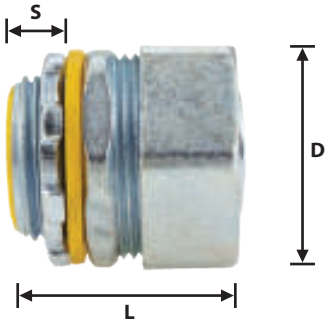
Item no.	Size		Inside diameter min (mm.)	Out diameter (mm.)	Plastic thickness (mm.)	Min bending diameter (mm.)	Coil length (m.)
	mm.	Inch.					
TEEFLEX-F-3/8"	12	3/8″	11.65	16.3 ± 0.35	0.35	55	50
TEEFLEX-F-1/2″	15	1/2″	14.65	20.0 ± 0.35	0.40	60	50
TEEFLEX-F-3/4″	20	3/4″	19.60	25.3 ± 0.40	0.40	80	50
TEEFLEX-F-1″	25	1″	24.55	31.3 ± 0.45	0.45	140	50
TEEFLEX-F-1 1/4″	32	1 1/4″	31.50	38.0 ± 0.50	0.45	200	30
TEEFLEX-F-1 1/2″	38	1 1/2″	37.40	47.2 ± 0.60	0.50	280	25
TEEFLEX-F-2″	51	2″	50.00	69.3 ± 1.00	0.50	360	20
TEEFLEX-F-2 1/2″	64	2 1/2″	63.50	75.2 ± 1.50	0.55	480	10
TEEFLEX-F-3″	75	3″	73.00	86.2 ± 2.00	0.55	560	10
TEEFLEX-F-4″	100	4″	97.00	111.2 ± 3.00	0.60	640	10

TEEFLEX STRAIGHT LIQUID-TIGHT BOX CONNECTOR
คอนเนคเตอร์ท่ออ่อนกันน้ำ

CN
คอนเนคเตอร์ท่ออ่อนกันน้ำชนิดลอน
Straight liquid-tight box connector



- **Material**
  Die-cast of zine alloy, with zine plated.
- **Applying**
  This product can used to connect the flexible conduits with box, and so on.
- **Feature**
  The product has inseparatable constitution. High intensity, elegant appearance, no blow holes. Can be conlidenly connected with conduits.



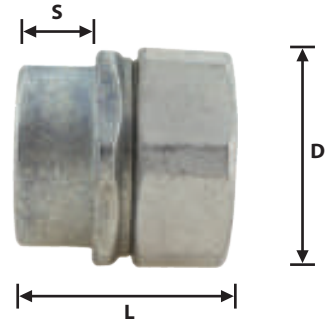
Item no. ใช้กับท่อสีดำ	Size	Inch	Dimensions		
			S	D	L
CN-15-Y	15	1/2"	12	33.6	34
CN-20-Y	20	3/4"	13	40.0	37
CN-25-Y	25	1"	14	51.5	44
CN-32-Y	32	1 1/4"	17	67.0	52
CN-38-Y	38	1 1/2"	19	73.0	55
CN-51-Y	51	2"	23	90.0	65
CN-64-Y	64	2 1/2"	25	107	69
CN-75-Y	75	3"	25	122	69
CN-100-Y	100	4"	30	160	83



Item no. ใช้กับท่อสีดำ	Size	Inch	Dimensions		
			S	D	L
CN-12-B	12	3/8"	10	30.3	32
CN-15-B	15	1/2"	12	33.6	34
CN-20-B	20	3/4"	13	40.0	37
CN-25-B	25	1"	14	51.5	44
CN-32-B	32	1 1/4"	17	67.0	52
CN-38-B	38	1 1/2"	19	73.0	55
CN-51-B	51	2"	23	90.0	65
CN-64-B	64	2 1/2"	25	107	69
CN-75-B	75	3"	25	122	69
CN-100-B	100	4"	30	160	83

CP
คุปปิ้งสำหรับท่ออ่อนกันน้ำชนิดลอน
Female – thread liquid-tight combination coupling

- **Applying**
  The connector is applied to connect the flexible conduits with steel conduits which has a screw thread.



Item no. ใช้กับท่อสีดำ	Size	Inch	Metric screw thread	Dimensions		
				S	D	L
CP-15	15	1/2"	M24 x 1.5	12	33.6	34
CP-20	20	3/4"	M30 x 2	13	40.0	37
CP-25	25	1"	M36 x 2	14	51.5	44
CP-32	32	1 1/4"	M48 x 2	17	63.0	52
CP-38	38	1 1/2"	M60 x 2	19	73.0	55
CP-51	51	2"	M75 x 2	23	90.0	65
CP-64	64	2 1/2"	M90 x 2	25	107	69
CP-75	75	3"	M90 x 2	25	122	69
CP-100	100	4"	M108 x 2	30	160	83

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

TEEFLEX CABLE GLAND
เคเบิ้ลแกลน M, PG, NPT





Material: Brass Nickel Plated

Thread	ID. Thread	OD. Thread	Length	Cable Range
	mm	mm	mm	Ø
PG7	3.6 - 5	5	19	12.55
PG9	4 - 8	6	20	15.2
PG11	5 - 10	6	21	18.6
PG13.5	6 - 12	6.5	22	20.4
PG16	10 - 14	6.5	23	22.5
PG19	11 - 15	8	-	24
PG21	13 - 18	7	25	28.3
PG29	18 - 25	8	29	37
PG36	22 - 32	8	35	47
PG42	32 - 38	9	37	54
PG48	37 - 44	10	38	59.3

Material: 304 Stainless Steel

Thread	ID. Thread	OD. Thread	Length	Cable Range
	mm	mm	mm	Ø
M-12	7	15	26	3-6.5
M-16	9	18	30	5-10
M-20	13	22	38	10-14
M-25	19	29	38	13-18
M-32	23	35	43	18-25
M-40	31	44	47	22-32
M-50	37	54	50	30-38
M-63	47	67	57	34-44
PG-7	7	15	26	3-6.5
PG-9	9	18	30	4-8
PG-11	11	20	30	5-10
PG-13.5	13	22	33	6-12
PG-16	15	24	33	10-14
PG-21	19	29	38	13-18
PG-29	27	39	47	18-25
PG-36	37	54	52	22-32
PG-42	39	59	52	30-38
PG-48	46	66	57	37-44
NPT 3/8"	9	19	30	4-8
NPT 1/2"	13	23	32	6-12
NPT 3/4"	19	29	38	13-18

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion

มาตรฐานที่เหนือกว่า
ของงานไฟฟ้า

คีเนียน หางปลาคุณภาพ
มาตรฐานสหรัฐอเมริกา

UL LISTED E514350



สินค้าที่ได้รับการรับรอง UL

หางปลาทรงยุโรป	หางปลาหัวแฉกแบบเปลือย	หางปลาก้านไม้ขีด รุ่นกลมหุ้ม
หางปลาหัวกลมแบบเปลือย	หางปลาหัวแฉกแบบหุ้ม	หางปลาก้านไม้ขีด รุ่นแบนหุ้ม
หางปลาหัวกลมแบบหุ้ม	สลิปต่อสายแบบเปลือย	ข้อต่อย้ำปลายสายแบบเดี่ยวหุ้ม
ข้อต่อย้ำปลายสายแบบเดี่ยวเปลือย	สลิปต่อสายแบบหุ้ม	ข้อต่อย้ำปลายสายแบบคู่หุ้ม

Kenion

Confirmation Letter

UL CUSTOMER TEERACHAIPHAISARN CORPORATION CO LTD
555 MOO 13, BANGKAEW, BANGPLEE
SAMUTPRAKARN, 10540 Thailand

UL CUSTOMER FILE # E514350
CATEGORY Wire Connectors and Soldering Lugs Certified for Canada | ZMVV7

August 28, 2020

As of the above date, UL LLC confirms that TEERACHAIPHAISARN CORPORATION CO LTD is the party associated with UL File # E514350 that appears in the UL Product iQ platform. Public information contained in UL File # E514350 can be viewed using the following link:

https://iq.ulprospector.com/en/profile?e=1410102

The appearance of a company's name or a specific product/component designation in the UL Product iQ platform does not in itself mean that product or component so specified or identified is subject to UL's Surveillance Program.

The manufacturer's products are not covered under UL's Surveillance Program unless they bear the authorized UL Mark. Therefore, only those products bearing the appropriate authorized UL Mark or UL Recognized Component Mark, the authorized company name, tradename, trademark and product designation shall be considered as being covered by UL's Listing, Classification, or Recognition Service.

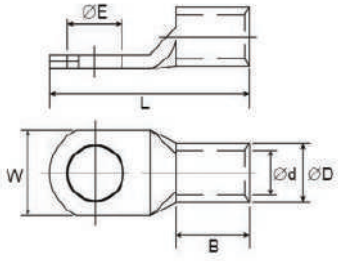
If you have questions regarding this letter, please contact the UL Customer Experience Center at cec@ul.com.

Sincerely,

Leadership & Governance Team
UL Product iQ

UL LLC
333 Pfingsten Road, Northbrook, IL 60062-2096 USA
T: 847.272.8800 / F: 847.272.8129 / W: UL.com

Kenion ST CABLE LUG
หางปลาทรงยุโรป





Item no.	Wire size mm²	Dimensions mm						Pcs/Bag	Bags/Box	Pcs/Box	Pcs/Carton
		ØE	ØD	Ød	W	B	L				
ST1.5-3	1.5	3.2	3.7	1.8	8.0	5.0	16.0	100	25	2,500	25,000
ST1.5-4		4.2	3.7	1.8	8.0	5.0	16.0	100	25	2,500	25,000
ST1.5-5		5.2	3.7	1.8	10.0	5.0	17.0	100	20	2,000	20,000
ST1.5-6		6.5	3.7	1.8	10.0	5.0	18.0	100	20	2,000	20,000
ST2.5-3	2.5	3.2	4.0	2.4	8.0	7.0	18.0	100	20	2,000	20,000
ST2.5-4		4.2	4.0	2.4	8.0	7.0	18.0	100	20	2,000	20,000
ST2.5-5		5.2	4.0	2.4	10.0	7.0	20.0	100	20	2,000	20,000
ST2.5-6		6.5	4.0	2.4	10.0	7.0	20.0	100	20	2,000	20,000
ST2.5-8		8.4	4.0	2.4	12.5	7.0	23.0	100	15	1,500	15,000
ST4-4	4	4.2	4.8	3.1	10.0	7.0	20.0	100	15	1,500	15,000
ST4-5		5.2	4.8	3.1	10.0	7.0	20.0	100	15	1,500	15,000
ST4-6		6.5	4.8	3.1	10.0	7.0	20.0	100	15	1,500	15,000
ST4-8		8.4	4.8	3.1	12.5	7.0	23.0	100	13	1,300	13,000
ST6-4	6	4.2	5.5	3.8	10.0	9.0	23.0	100	10	1,000	10,000
ST6-5		5.2	5.5	3.8	10.0	9.0	24.0	100	10	1,000	10,000
ST6-6		6.5	5.5	3.8	12.0	9.0	24.0	100	10	1,000	10,000
ST6-8		8.4	5.5	3.8	12.5	9.0	26.0	100	10	1,000	10,000
ST6-10		10.5	6.2	4.0	15.0	9.0	28.0	100	7	700	7,000
ST10-5	10	5.2	6.2	4.5	10.0	8.5	25.0	100	7	700	7,000
ST10-6		6.5	6.2	4.5	10.0	8.5	25.0	100	7	700	7,000
ST10-8		8.4	6.2	4.5	12.6	9.0	25.0	100	7	700	7,000
ST10-10		10.5	6.2	4.5	15.0	9.0	29.0	100	6	600	6,000
ST10-12		13.0	6.2	4.2	17.0	9.0	31.0	100	6	600	6,000
ST16-5	16	5.2	7.1	5.4	12.0	12.0	30.0	100	5	500	5,000
ST16-6		6.5	7.1	5.4	10.0	12.0	30.0	100	5	500	5,000
ST16-8		8.4	7.1	5.4	12.5	12.0	30.0	100	5	500	5,000
ST16-10		10.5	7.1	5.4	16.0	12.0	33.0	100	5	500	5,000
ST16-12		13.0	7.1	5.4	17.0	12.0	35.0	100	4	400	4,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion ST CABLE LUG
หางปลาทรงยุโรป

Item no.	Wire size mm²	Dimensions mm						Pcs/Bag	Bags/Box	Pcs/Box	Pcs/Carton
		ØE	ØD	Ød	W	B	L				
ST25-6	25	6.5	8.8	6.8	13.0	12.0	30.0	100	3	300	3,000
ST25-8		8.4	8.8	6.8	13.0	11.0	30.0	100	3	300	3,000
ST25-10		10.5	8.8	6.8	15.0	12.0	31.0	100	3	300	3,000
ST25-12		13.0	8.8	6.8	18.0	12.0	35.0	100	3	300	3,000
ST35-6	35	6.5	10.6	8.2	16.0	14.0	38.0	100	2	200	2,000
ST35-8		8.4	10.6	8.2	16.0	14.0	38.0	100	2	200	2,000
ST35-10		10.5	10.6	8.2	18.0	14.0	39.0	100	2	200	2,000
ST35-12		13.0	10.6	8.2	19.0	14.0	40.5	100	2	200	2,000
ST50-6	50	6.5	12.4	9.5	17.8	16.0	45.0	50	2	100	1,000
ST50-8		8.4	12.4	9.5	17.8	16.0	45.0	50	2	100	1,000
ST50-10		10.5	12.4	9.5	17.8	16.0	45.0	50	2	100	1,000
ST50-12		13.0	12.4	9.5	20.0	16.0	45.0	50	2	100	1,000
ST70-6	70	6.5	14.7	11.2	21.0	20.0	52.0	50	2	100	1,000
ST70-8		8.4	14.7	11.2	21.0	20.0	52.0	50	2	100	1,000
ST70-10		10.5	14.7	11.2	21.0	20.0	52.0	50	2	100	1,000
ST70-12		13.0	14.7	11.2	21.0	20.0	52.0	50	2	100	1,000
ST70-14		15.0	14.7	11.2	21.0	20.0	52.0	40	2	80	800
ST70-16		17.0	14.7	11.2	21.0	20.0	53.0	40	2	80	800
ST95-8	95	8.4	17.4	13.5	25.0	23.0	58.0	25	2	50	500
ST95-10		10.5	17.4	13.5	25.0	23.0	58.0	25	2	50	500
ST95-12		13.0	17.4	13.5	25.0	23.0	58.0	25	2	50	500
ST95-14		15.0	17.4	13.5	25.0	23.0	58.0	25	2	50	500
ST95-16		17.0	17.4	13.5	25.0	23.0	58.0	25	2	50	500
ST120-8	120	8.4	19.4	15.0	28.0	22.0	63.0	20	2	40	400
ST120-10		10.5	19.4	15.0	28.0	22.0	63.0	20	2	40	400
ST120-12		13.0	19.4	15.0	28.0	22.0	63.0	20	2	40	400
ST120-14		15.0	19.4	15.0	28.0	22.0	63.0	20	2	40	400
ST120-16		17.0	19.4	15.0	28.0	22.0	63.0	20	2	40	400
ST150-8	150	8.4	21.2	16.5	30.5	26.0	70.0	15	2	30	300
ST150-10		10.5	21.2	16.5	30.5	26.0	70.0	15	2	30	300
ST150-12		13.0	21.2	16.5	30.5	26.0	70.0	15	2	30	300
ST150-14		15.0	21.2	16.5	30.5	26.0	70.0	15	2	30	300
ST150-16		17.0	21.2	16.5	30.5	26.0	70.0	15	2	30	300
ST150-20		21.0	21.2	16.5	30.5	26.0	70.0	15	2	30	300

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

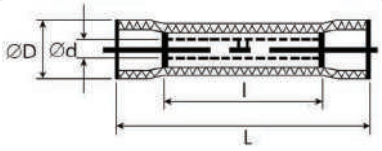
Kenion ST CABLE LUG หางปลาทรงยุโรป

Item no.	Wire size mm²	Dimensions mm						Pcs/Bag	Bags/Box	Pcs/Box	Pcs/Carton
		ØE	ØD	Ød	W	B	L				
ST185-10	185	10.5	23.5	18.5	34.0	32.0	75.0	10	3	30	300
ST185-12		13.0	23.5	18.5	34.0	32.0	75.0	10	3	30	300
ST185-14		15.0	23.5	18.5	34.0	32.0	75.0	10	3	30	300
ST185-16		17.0	23.5	18.5	34.0	32.0	75.0	10	3	30	300
ST185-20		21.0	23.5	18.5	34.0	32.0	75.0	10	3	30	300
ST240-10	240	10.5	26.5	21.0	38.5	38.0	90.0	5	3	15	150
ST240-12		13.0	26.5	21.0	38.5	38.0	90.0	5	3	15	150
ST240-14		15.0	26.5	21.0	38.5	38.0	90.0	5	3	15	150
ST240-16		17.0	26.5	21.0	38.5	38.0	90.0	5	3	15	150
ST240-20		21.0	26.5	21.0	38.5	38.0	90.0	5	3	15	150
ST300-12	300	13.0	30.0	23.5	43.0	42.0	98.0	5	2	10	100
ST300-14		15.0	30.0	23.5	43.0	42.0	98.0	5	2	10	100
ST300-16		17.0	30.0	23.5	43.0	42.0	98.0	5	2	10	100
ST300-18		19.0	30.0	23.5	43.0	42.0	98.0	5	2	10	100
ST300-20		21.0	30.0	23.5	43.0	42.0	98.0	5	2	10	100
ST400-12	400	13.0	36.5	28.5	52.0	44.0	110.0	2	4	8	80
ST400-14		15.0	36.5	28.5	52.0	44.0	110.0	2	4	8	80
ST400-16		17.0	36.5	28.5	52.0	44.0	110.0	2	4	8	80
ST400-20		21.0	36.5	28.5	52.0	44.0	110.0	2	4	8	80
ST500-16	500	17.0	39.0	30.0	56.0	48.0	120.0	2	3	6	60
ST500-20		21.0	39.0	30.0	56.0	48.0	120.0	2	3	6	60

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion BUTT CONNECTOR
สลิปต่อสาย

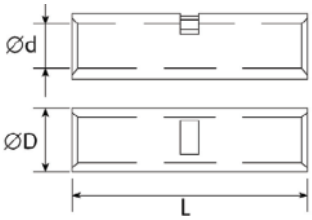
INSULATED BUTT CONNECTORS
สลิปต่อสาย แบบหุ้ม





Item no.	Dimensions mm				Wire range				Pcs/Bag	Bags/Box	Pcs/Box	Pcs/Carton
	ØD	Ød	L	I	Single mm	Twine mm^2	AWG	Color				
BF1.25	5.6	2.0	23.0	15.0	0.57-1.44	0.57-1.25	22-16	Red	100	10	1,000	10,000
BF2	6.2	2.4	23.5	15.0	1.44-1.82	1.25-2	16-14	Blue	100	10	1,000	10,000
BF5.5	8.1	3.6	25.5	15.0	1.82-2.98	2.65-6.64	12-10	Yellow	100	5	500	5,000

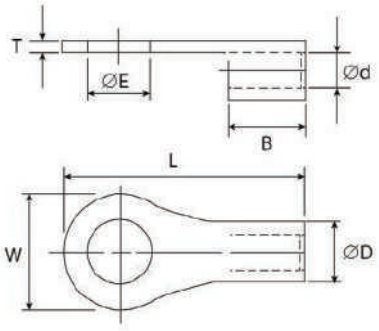
NON-INSULATED BUTT CONNECTORS
สลิปต่อสาย แบบเปลือย

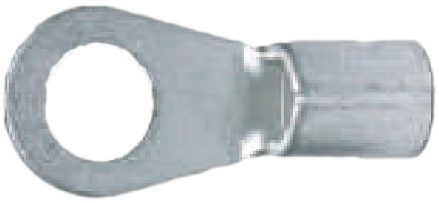




Item no.	Wire size mm^2	Dimensions mm			Pcs/Bag	Bags/Box	Pcs/Box	Pcs/Carton
		ØD	Ød	L				
L1.5*20	1.5	3.7	1.8	20	100	20	2,000	20,000
L2.5*20	2.5	4	2.4	20	100	15	1,500	15,000
L4*20	4	4.8	3.1	20	100	10	1,000	10,000
L6*20	6	5.5	3.8	20	100	10	1,000	10,000
L10*25	10	6.2	4.5	25	100	7	700	7,000
L16*33	16	7.1	5.4	33	100	4	400	4,000
L25*33	25	8.8	6.8	33	100	3	300	3,000
L35*38	35	10.6	8.2	38	50	3	150	1,500
L50*46	50	12.4	9.5	46	50	2	100	1,000
L70*53	70	14.7	11.2	53	30	2	60	600
L95*58	95	17.4	13.5	58	25	2	50	500
L120*63	120	19.4	15	63	20	2	40	400
L150*72	150	21.2	16.5	72	15	2	30	300
L185*82	185	23.5	18.5	82	10	2	20	200
L240*96	240	26.5	21	96	6	2	12	120
L300*105	300	30	23.5	105	5	2	10	100
L400*105	400	36.5	28.5	105	2	4	8	80
L500*105	500	39	30	105	2	3	6	60

Kenion NON-INSULATED RING TERMINAL
หางปลาหัวกลม แบบเปลือย





Item no.		Wire range		Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
		AWG/ MCM	mm^2	ØE	ØD	Ød	W	B	L	T				
1.25-3	1.5-3	22~16	0.25~1.65	3.7	3.4	1.7	5.5	4.5	11.5	0.8	100	25	2,500	25,000
1.25-3M	1.5-3M			3.7	3.4	1.7	6.6	4.5	14.4		100	25	2,500	25,000
1.25-4	1.5-4			4.3	3.4	1.7	8.0	4.5	15.8		100	25	2,500	25,000
1.25-4M	1.5-4M			4.3	3.4	1.7	6.6	4.5	14.4		100	25	2,500	25,000
1.25-5	1.5-5			5.3	3.4	1.7	8.0	4.5	15.8		100	25	2,500	25,000
2-3	2.5-3	16~14	1.04~2.63	3.7	4.0	2.3	8.5	4.8	16.8	0.8	100	25	2,500	25,000
2-3M	2.5-3M			3.7	4.0	2.3	6.6	4.8	14.4		100	25	2,500	25,000
2-4	2.5-4			4.3	4.0	2.3	8.5	4.8	16.8		100	25	2,500	25,000
2-4M	2.5-4M			4.3	4.0	2.3	6.6	4.8	14.4		100	25	2,500	25,000
2-5	2.5-5			5.3	4.0	2.3	9.5	4.8	16.8		100	25	2,500	25,000
2-6	2.5-6			6.4	4.0	2.3	12.0	4.8	21.8		100	20	2,000	20,000
2-8	2.5-8			8.4	4.0	2.3	12.0	4.8	21.8		100	15	1,500	15,000
3.5-4	4-4	12~10	2.63~4.60	4.3	5.0	3.2	9.5	6.8	20.0	0.8	100	15	1,500	15,000
3.5-5	4-5			5.3	5.0	3.2	9.5	6.8	20.0		100	15	1,500	15,000
3.5-6	4-6			6.4	5.0	3.2	12.0	6.8	21.4		100	15	1,500	15,000
5.5-4	6-4	8	4.60~6.64	4.3	5.6	3.5	9.5	6.8	19.8	1.0	100	15	1,500	15,000
5.5-5	6-5			5.3	5.6	3.5	9.5	6.8	19.8		100	15	1,500	15,000
5.5-6S	6-6S			6.4	5.6	3.5	12.0	6.8	22.5		100	10	1,000	10,000
5.5-8	6-8			8.4	5.6	3.5	15.0	6.8	28.0		100	8	800	8,000
5.5-10	6-10			10.5	5.6	3.5	15.0	6.8	28.0		100	8	800	8,000
8-6	10-6	8	6.64~10.52	6.4	7.0	4.5	11.0	8.0	22.5	1.15	100	8	800	8,000
8-8	10-8			8.4	7.0	4.5	14.0	8.0	27.0		100	5	500	5,000
8-10	10-10			10.5	7.0	4.5	18.0	8.0	30.0		100	5	500	5,000

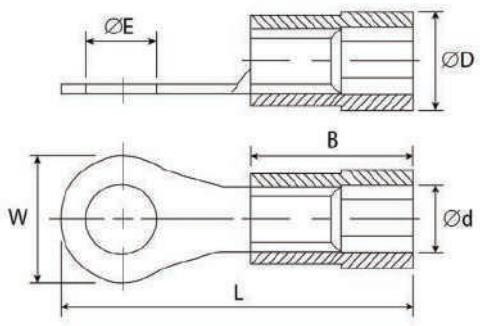
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

NON-INSULATED RING TERMINAL
หางปลาหัวกลม แบบเปลือย

Item no.		Wire range		Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
		AWG/ MCM	mm^2	ØE	ØD	Ød	W	B	L	T				
14-6	16-6	6	10.52~16.78	6.4	8.5	5.9	11.0	11.0	25.5	1.2	100	5	500	5,000
14-8	16-8			8.4	8.5	5.9	14.0	11.0	31.0		100	4	400	4,000
14-10	16-10			10.5	8.5	5.9	18.0	11.0	33.0		100	3	300	3,000
14-12	16-12			13.0	8.5	5.9	18.0	11.0	33.0		100	3	300	3,000
22-6	25-6	4	16.78~26.66	6.4	11.0	7.8	12.0	11.0	31.0	1.5	100	3	300	3,000
22-8	25-8			8.4	11.0	7.8	16.0	11.0	34.0		100	2	200	2,000
22-10	25-10			10.5	11.0	7.8	18.0	11.0	35.0		100	2	200	2,000
22-12	25-12			13.0	11.0	7.8	18.0	11.0	35.0		100	2	200	2,000
30-6	35-6	2	26.66~42.42	6.4	12.0	9.0	15.0	12.0	33.5	1.6	100	2	200	2,000
30-8	35-8			8.4	12.0	9.0	16.0	12.0	34.0		100	2	200	2,000
30-10	35-10			10.5	12.0	9.0	18.0	12.0	36.0		100	2	200	2,000
30-12	35-12			13.0	12.0	9.0	22.0	12.0	42.0		100	2	200	2,000
38-6	50-6	2	26.66~60.57	6.4	13.0	9.6	15.3	14.0	37.7	1.6	100	2	200	2,000
38-8	50-8			8.4	13.0	9.6	15.3	14.0	37.7		100	2	200	2,000
38-10	50-10			10.5	13.0	9.6	15.3	14.0	37.7		100	2	200	2,000
38-12	50-12			13.0	13.0	9.6	22.0	14.0	43.0		50	3	150	1,500
60-6	70-6	0	42.42~60.57	6.4	15.3	11.9	22.0	17.0	44.0	1.7	50	2	100	1,000
60-8	70-8			8.4	15.3	11.9	22.0	17.0	44.0		50	2	100	1,000
60-10	70-10			10.5	15.3	11.9	22.0	17.0	44.0		50	2	100	1,000
60-12	70-12			13.0	15.3	11.9	22.0	17.0	44.0		50	2	100	1,000
70-6	95-6	00	60.51~76.28	6.4	17.5	13.5	27.0	19.0	52.5	2.0	25	3	75	750
70-8	95-8			8.4	17.5	13.5	27.0	19.0	52.5		25	3	75	750
70-10	95-10			10.5	17.5	13.5	27.0	19.0	52.5		25	3	75	750
70-12	95-12			13.0	17.5	13.5	27.0	19.0	52.5		25	2	50	500
80-6	120-6	000	76.28~96.30	6.4	19.4	14.8	27.0	20.0	54.2	2.2	25	2	50	500
80-8	120-8			8.4	19.4	14.8	27.0	20.0	54.2		25	2	50	500
80-10	120-10			10.5	19.4	14.8	27.0	20.0	54.2		25	2	50	500
80-12	120-12			13.0	19.4	14.8	27.0	20.0	54.2		25	2	50	500
80-14	120-14			15.0	19.4	14.8	27.0	20.0	54.2		25	2	50	500
80-16	120-16			17.0	19.4	14.8	27.0	20.0	54.2		25	2	50	500
100-8	150-8	000	96.3~117.2	8.4	21.7	16.4	28.5	21.0	55.6	2.5	20	2	40	400
100-10	150-10			10.5	21.7	16.4	28.5	21.0	55.6		20	2	40	400
100-12	150-12			13.0	21.7	16.4	28.5	21.0	55.6		20	2	40	400
100-14	150-14			15.0	21.7	16.4	28.5	21.0	55.6		20	2	40	400
100-16	150-16			17.0	21.7	16.4	28.5	21.0	55.6		20	2	40	400

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion INSULATED RING TERMINAL
หางปลาหัวกลม แบบหุ้ม

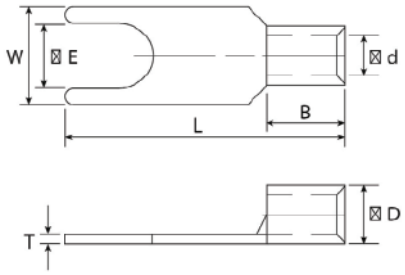




Item no.	Wire range		Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	AWG/ MCM	mm^2	ØE	ØD	Ød	W	B	L	Color				
VF1.25-3	22~16	0.25~1.65	3.7	4.0	1.7	5.5	10.4	17.3	Red	100	15	1,500	15,000
VF1.25-3M			3.7	4.0	1.7	6.6	10.4	20.3		100	15	1,500	15,000
VF1.25-4			4.3	4.0	1.7	8.0	10.4	21.8		100	15	1,500	15,000
VF1.25-4M			4.3	4.0	1.7	6.6	10.4	20.3		100	15	1,500	15,000
VF1.25-5			5.3	4.0	1.7	8.0	10.4	21.8		100	15	1,500	15,000
VF2-3	16~14	1.04~2.63	3.7	4.6	2.3	8.5	10.4	22.3	Blue	100	13	1,300	13,000
VF2-3M			3.7	4.6	2.3	6.6	10.4	19.8		100	13	1,300	13,000
VF2-4			4.3	4.6	2.3	8.5	10.4	22.3		100	13	1,300	13,000
VF2-4M			4.3	4.6	2.3	6.6	10.4	19.8		100	13	1,300	13,000
VF2-5			5.3	4.6	2.3	9.5	10.4	22.3		100	12	1,200	12,000
VF2-6			6.4	4.6	2.3	12.0	10.4	27.3		100	10	1,000	10,000
VF2-8			8.4	4.6	2.3	12.0	10.4	27.3		100	8	800	8,000
VF3.5-4	12~10	2.63~4.60	4.3	5.6	3.2	9.5	13.3	26.3	Green	100	8	800	8,000
VF3.5-5			5.3	5.6	3.2	9.5	13.3	26.3		100	8	800	8,000
VF3.5-6			6.4	5.6	3.2	12.0	13.3	27.7		100	7	700	7,000
VF5.5-4	12~10	4.60~6.64	4.3	6.6	3.5	9.5	13.5	26.5	Yellow	100	5	500	5,000
VF5.5-5			5.3	6.6	3.5	9.5	13.5	26.5		100	5	500	5,000
VF5.5-6			6.4	6.6	3.5	12.0	13.5	32.5		100	5	500	5,000
VF5.5-8			8.4	6.6	3.5	15.0	13.5	34.5		100	5	500	5,000
VF5.5-10			10.5	6.6	3.5	15.0	13.5	34.5		100	5	500	5,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion NON-INSULATED SPADE TERMINAL
หางปลาหัวแฉก แบบเปลือย

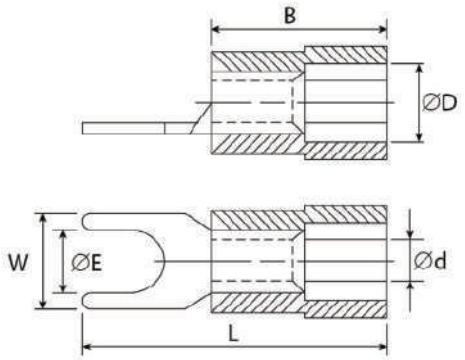




Item no.	Wire range		Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	AWG/ MCM	mm^2	ØE	ØD	Ød	W	B	L	T				
1.25-3YS	22~16	0.25~1.65	3.7	3.4	1.7	5.7	4.5	16.0	0.8	100	35	3,500	35,000
1.25-3YW			3.7	3.4	1.7	6.2	4.5	16.0		100	30	3,000	35,000
1.25-4YS			4.3	3.4	1.7	6.4	4.5	16.0		100	30	3,000	35,000
1.25-4YW			4.3	3.4	1.7	7.2	4.5	16.0		100	30	3,000	35,000
1.25-5Y			5.3	3.4	1.7	8.0	4.5	16.0		100	30	3,000	35,000
2-3YS	16~14	1.04~2.63	3.7	4.0	2.3	5.7	4.5	16.0	0.8	100	25	2,500	25,000
2-3YW			3.7	4.0	2.3	6.2	4.5	16.0		100	25	2,500	25,000
2-4YS			4.3	4.0	2.3	6.4	4.5	16.0		100	25	2,500	25,000
2-4YW			4.3	4.0	2.3	7.2	4.5	16.0		100	25	2,500	25,000
2-5Y			5.3	4.0	2.3	8.0	4.5	16.0		100	20	2,000	20,000
3.5-4Y	12~10	2.63~4.60	4.3	5.0	3.2	8.0	6.3	18.0	0.8	100	18	1,800	18,000
3.5-5Y			5.3	5.0	3.2	8.0	6.3	18.0		100	18	1,800	18,000
5.5-4Y	12~10	4.60~6.64	4.3	5.6	3.5	8.2	6.5	19.5	1.0	100	10	1,000	10,000
5.5-5Y			5.3	5.6	3.5	9.0	6.5	19.5		100	10	1,000	10,000
5.5-6Y			6.4	5.6	3.5	12.0	6.5	24.0		100	10	1,000	10,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion INSULATED SPADE TERMINAL
หางปลาหัวแฉก แบบหุ้ม

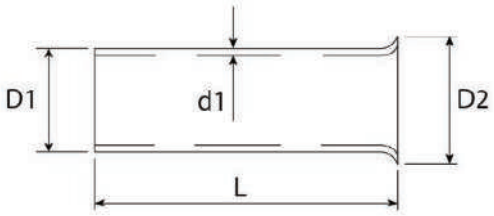




Item no.	Wire range		Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	AWG/ MCM	mm²	ØE	ØD	Ød	W	B	L	Color				
VF1.25-3YS	22~16	0.25~1.65	3.7	4.0	1.7	5.7	10.4	21.8	Red	100	15	1,500	15,000
VF1.25-4YS			4.3	4.0	1.7	6.4	10.4	21.8		100	15	1,500	15,000
VF1.25-5Y			5.3	4.0	1.7	8.0	10.4	21.8		100	15	1,500	15,000
VF2-3YS	16~14	1.04~2.63	3.7	4.6	2.3	5.7	10.4	21.8	Blue	100	13	1,300	13,000
VF2-4YS			4.3	4.6	2.3	6.4	10.4	21.8		100	13	1,300	13,000
VF2-5Y			5.3	4.6	2.3	8.0	10.4	21.8		100	12	1,200	12,000
VF3.5-4Y	12~10	2.63~4.60	4.3	5.6	3.2	8.0	13.3	24.8	Green	100	8	800	8,000
VF3.5-5Y			5.3	5.6	3.2	8.0	13.3	24.8		100	8	800	8,000
VF5.5-4Y	12~10	4.60~6.64	4.3	6.6	3.5	8.2	13.6	26.5	Yellow	100	5	500	5,000
VF5.5-5Y			5.3	6.6	3.5	9.0	13.6	26.5		100	5	500	5,000
VF5.5-6Y			6.4	6.6	3.5	12.0	13.6	31.5		100	5	500	5,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

NON-INSULATED CORD-END TERMINAL
ข้อต่อย้ำปลายสาย แบบเดี่ยวเปลือย

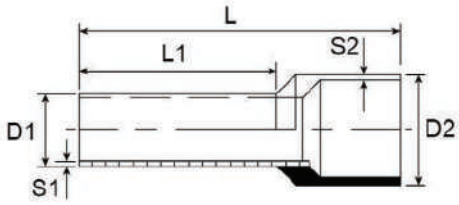




Item no.	Conductor mm²	Dimensions mm						Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
		L	Tolerance	d1	Tolerance	D1	D2				
LN05008	0.50	8.0	±1.5	1.0	±0.14	1.3	1.8	1,000	30	30,000	300,000
LN07508	0.75	8.0	±1.5	1.2	±0.14	1.5	2.3	1,000	25	25,000	250,000
LN10008	1.00	8.0	±1.5	1.4	±0.14	1.7	2.5	1,000	20	20,000	200,000
LN15008	1.50	8.0	±1.5	1.7	±0.25	2.0	2.8	1,000	15	15,000	150,000
LN15012	1.50	12.0	±1.5	1.4	±0.25	2.0	2.5	1,000	10	10,000	100,000
LN25008	2.50	8.0	±1.5	2.2	±0.25	2.5	3.4	1,000	10	10,000	100,000
LN40010	4.00	10.0	±1.5	2.8	±0.25	3.2	4.0	1,000	6	6,000	60,000
LN60012	6.00	12.0	±1.5	3.5	±0.30	3.9	4.7	1,000	3	3,000	30,000
LN100012	10.00	12.0	±2.0	4.5	±0.30	4.9	5.8	1,000	2	2,000	20,000
LN160012	16.00	12.0	±2.0	5.8	±0.30	6.2	7.5	500	3	1,500	15,000
LN250016	25.00	16.0	±2.0	7.3	±0.40	7.7	9.5	400	2	800	8,000
LN350016	35.00	16.0	±2.0	8.3	±0.40	8.7	10.5	250	2	500	5,000
LN500025	50.00	25.0	±2.0	10.3	±0.40	10.9	13.0	100	2	200	2,000
LN700025	70.00	25.0	±2.0	13.5	±0.40	14.3	15.30	50	3	150	1,500
LN950025	95.00	25.0	±2.0	14.5	±0.40	15.50	16.60	50	2	100	1,000
LN120030	120.00	30.0	±2.0	16.7	±0.40	17.60	18.60	30	2	60	600
LN150032	150.00	32.0	±2.0	19.5	±0.40	20.50	21.50	25	2	50	500

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

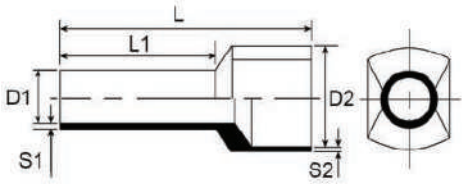
Kenion INSULATED CORD-END TERMINAL
ข้อต่อย้ำปลายสาย แบบเดี่ยวหุ้ม





Item no.	Conductor mm²	Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
		D1	D2	L	L1	S1	S2	Color				
LT05008	0.50	8.0	2.60	14	8	0.15	0.30	White	500	15	7,500	75,000
LT07508	0.75	8.0	2.80	14	8	0.15	0.30	Blue	500	10	5,000	50,000
LT10008	1.00	8.0	3.00	14	8	0.15	0.30	Red	500	10	5,000	50,000
LT15008	1.50	8.0	3.50	14	8	0.15	0.30	Black	500	8	4,000	40,000
LT25008	2.50	12.0	4.20	14	8	0.15	0.30	Grey	500	6	3,000	30,000
LT40010	4.00	8.0	4.80	17	10	0.20	0.35	Orange	500	4	2,000	20,000
LT40012	4.00	10.0	4.80	20	12	0.20	0.40	Orange	500	3	1,500	15,000
LT60012	6.00	12.0	6.30	20	12	0.20	0.40	Green	500	2	1,000	10,000
LT100012	10.00	12.0	7.60	20	12	0.20	0.40	Brown	300	2	600	6,000
LT160012	16.00	12.0	8.80	24	12	0.20	0.40	Ivory	250	2	500	5,000
LT250016	25.00	16.0	11.20	28	16	0.20	0.40	Black	50	3	150	1,500
LT350016	35.00	16.0	12.70	30	16	0.20	0.40	Red	50	3	150	1,500
LT350025	35.00	25.0	12.70	39	25	0.20	0.40	Red	50	3	150	1,500
LT500025	50.00	25.0	15.00	40	25	0.30	0.50	Blue	40	2	80	800

TWIN CORD-END TERMINALS
ข้อต่อย้ำปลายสาย แบบคู่หุ้ม



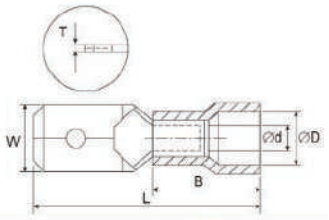


Item no.	Conductor mm²	Dimensions mm							Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
		D1	D2	L	L1	S1	S2	Color				
CT207508	2X0.75	1.80	2.8/5.0	15.0	8.0	0.15	0.25	White	500	6	3,000	30,000
CT210008	2X1.00	2.05	3.4/5.4	15.0	8.0	0.15	0.30	Yellow	500	5	2,500	25,000
CT215008	2X1.50	2.30	3.6/6.6	16.0	8.0	0.15	0.30	Red	500	4	2,000	20,000
CT225010	2X2.50	2.80	4.2/7.8	18.5	10.0	0.20	0.30	Blue	500	3	1,500	15,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Kenion

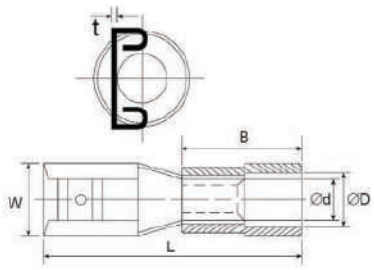
INSULATED MALE CONNECTOR
หางปลาเสียบตัวผู้ ตัวเมีย รุ่นแบบหุ้ม





Item no.	Dimensions mm						Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	W	L	T	Ød	ØD	B	Twine mm²	AWG					
RM250	6.3	21.1	0.8	1.8	3.8	10.0	0.25~1.65	22-16	Red	100	15	1,500	15,000
BM250	6.3	21.1	0.8	2.3	4.2	10.0	1.04~2.63	16-14	Blue	100	10	1,000	10,000
YM250	6.3	24.0	0.8	3.5	5.4	10.0	2.63~6.64	12-10	Yellow	100	10	1,000	10,000

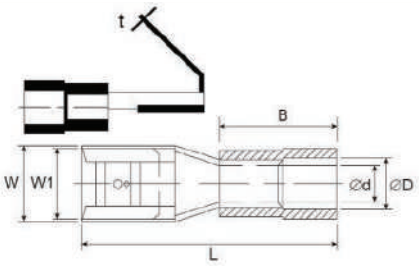
INSULATED FEMALE CONNECTORS
หางปลาเสียบตัวเมีย รุ่นแบบหุ้ม





Item no.	Dimensions mm						Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	W	L	T	Ød	ØD	B	Twine mm²	AWG					
RF250	6.6	20.3	0.4	1.8	3.8	10.0	0.25~1.65	22-16	Red	100	12	1,200	12,000
BF250	6.6	20.3	0.4	2.4	4.2	10.0	1.04~2.63	16-14	Blue	100	10	1,000	10,000
YF250	6.6	23.3	0.4	3.5	5.4	13.0	2.63~6.64	12-10	Yellow	100	8	800	8,000

INSULATED PIGGY BACK CONNECTORS
หางปลาเสียบตัวผู้-ตัวเมีย รุ่นแบบหุ้ม

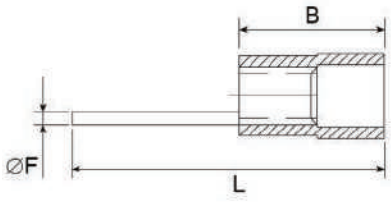




Item no.	Dimensions mm						Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	W	L	T	Ød	ØD	B	Twine mm²	AWG					
MF1.25F	6.8	6.3	22.0	1.8	3.9	10.0	0.25~1.65	22-16	Red	100	7	700	7,000
MF2F	6.8	6.3	22.0	2.3	4.2	10.0	1.04~2.63	16-14	Blue	100	6	600	6,000
MF5.5F	6.8	6.3	22.5	3.5	5.5	13.5	2.63~6.64	12-10	Yellow	100	5	500	5,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

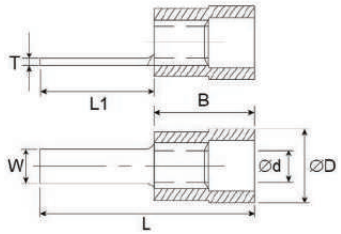
Kenion INSULATED PIN CONNECTOR
หางปลาก้านไม้ขีด รุ่นกลมหุ้ม





Item no.	Dimensions mm				Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	ØF	L	B	Single mm	Twine mm	AWG					
PIN1.25	2.0	22.5	10.0	0.57~1.44	0.25~1.65	22-16	Red	100	12	1,200	12,000
PIN2	2.0	22.9	10.0	1.44~1.82	1.04~2.63	16-14	Blue	100	12	1,200	12,000
PIN5.5	2.7	27.3	14.0	1.82~2.98	2.63~6.64	12-10	Yellow	100	7	700	7,000

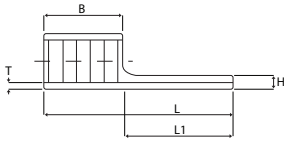
INSULATED BLADE TERMINALS
หางปลาก้านไม้ขีด รุ่นแบนหุ้ม

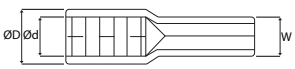




Item no.	mm²	Dimensions mm							Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
		W	ØD	Ød	T	B	L	L1					
PIN1.25F-10/2.3	1.25	2.3	2.3	1.7	0.8	10.4	20.4	10.0	Red	100	12	1,200	12,000
PIN1.25F-18/2.3		2.3	2.3	1.7	0.8	10.4	28.4	18.0		100	12	1,200	12,000
PIN2F-10/2.3	2	2.3	2.3	2.3	0.8	10.4	23.4	10.0	Blue	100	12	1,200	12,000
PIN2F-18/2.3		2.3	2.3	2.3	0.8	10.4	28.4	18.0		100	12	1,200	12,000
PIN5.5F-10/3	5.5	3.0	3.0	3.5	1.0	13.5	27.5	10.0	Yellow	100	7	700	7,000
PIN5.5F-18/3		3.0	3.0	3.5	1.0	13.5	31.5	18.0		100	6	600	6,000

NON-INSULATED PIN TERMINALS
หางปลาก้านไม้ขีด รุ่นกลมเปลือย





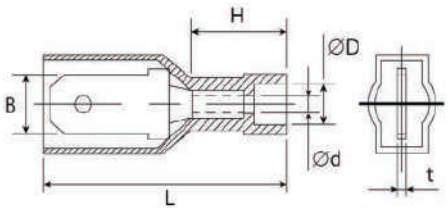


Item no.	TIS WIRE SIZE mm²	DIMENSION								AWG	DIN mm²	QTY in box
		B	L	L1	Ød	ØD	W	H	T			
KS10-12	10	8	22	14	4.5	6.9	4.3	2.4	1.1	8	10	1,000
KS16-13	16	10	26	16	5.9	8.4	5.5	2.6	1.2	6	16	600
KS25-15	25	13.5	33.5	20	7	9.5	6.8	2.6	1.2	4	25	300
KS35-20	35	16	40.5	24.5	8.7	11.8	8	3.2	1.5	2	35	200
KS50-20	50	19	45	26	9.8	13.6	9.5	3.8	1.8	1/0	50	150
KS70-25	70	24	55	31	11.6	15.8	11	4.2	2	2/0	70	100
KS95-25	95	24	55	31	13.7	18.9	12.5	5.2	2.5	4/0	95	50

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

NYLON FULLY INSULATED MALE CONNECTOR

หัวเสียบไนล่อนตัวผู้ ตัวเมีย รุ่นแบบหุ้มเต็ม

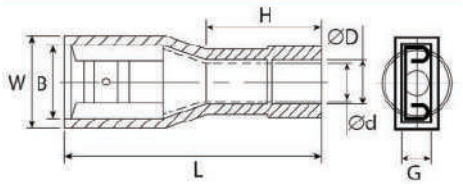




Item no.	Dimensions mm						Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	B	L	T	Ød	ØD	H	Twine mm²	AWG					
RM250FLP	6.3	22.0	0.8	3.9	3.9	10.0	0.75~1.25	18~16	Red	100	5	500	5,000
BM250FLP	6.3	22.0	0.8	4.2	4.2	10.0	1.25~2.00	16~14	Blue	100	5	500	5,000
YM250FLP	6.3	22.5	0.8	5.5	5.5	13.5	2.63~6.64	12~10	Yellow	100	3	300	3,000

NYLON FULLY INSULATED FEMALE CONNECTORS

หัวเสียบไนล่อนตัวเมีย รุ่นแบบหุ้มเต็ม

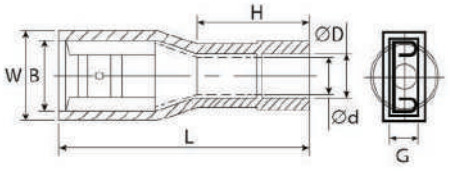




Item no.	Dimensions mm							Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	B	W	L	Ød	ØD	G	H	Twine mm²	AWG					
RF250FLP	6.8	9.6	23.7	1.8	3.9	6.4	7.4	0.75~1.25	18~16	Red	100	6	600	6,000
BF250FLP	6.8	9.6	23.7	2.3	4.2	6.4	7.4	1.25~2.00	16~14	Blue	100	5	500	5,000
YF250FLP	6.8	9.6	24.1	3.5	5.5	6.4	7.4	2.63~6.64	12~10	Yellow	100	5	500	5,000

PVC FULLY INSULATED FEMALE CONNECTORS

หางปลาพีวีซีตัวเมีย รุ่นแบบหุ้มเต็ม

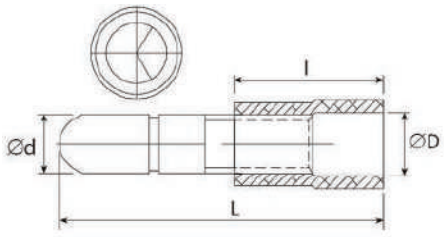




Item no.	Dimensions mm							Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	B	W	L	Ød	ØD	G	H	Twine mm²	AWG					
RF250F	6.8	9.6	23.7	1.8	3.9	6.4	7.4	0.57~1.25	18~16	Red	100	7	700	7,000
BF250F	6.8	9.6	23.7	2.3	4.2	6.4	7.4	1.25~2.00	16~14	Blue	100	5	500	5,000
YF250F	6.8	9.6	24.1	3.5	5.5	6.4	7.4	2.63~6.64	12~10	Yellow	100	5	500	5,000

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

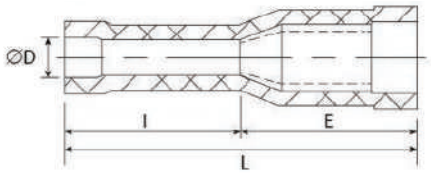
Kenion INSULATED BULLET CONNECTOR
หางปลาตัวต่อสาย ตัวผู้ รุ่นกลมหุ้ม





Item no.	Dimensions mm				Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	Ød	ØD	I	L	Twine mm²	AWG					
F1.25A	3.96	3.9	11.0	22.0	0.57~1.25	18~16	Red	100	15	1,500	15,000
F2A(5)	4.96	4.2	11.0	22.0	1.25~2.00	16~14	Blue	100	14	1,400	14,000
F5.5A(5)	4.96	5.0	13.7	25.1	2.63~6.64	12~10	Yellow	100	6	600	6,000

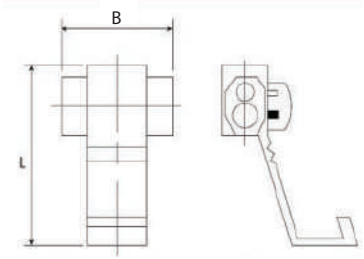
INSULATED SOCKET CONNECTORS
หางปลาตัวต่อสายตัวเมีย รุ่นกลมหุ้ม





Item no.	Dimensions mm				Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	E	I	L	ØD	Twine mm²	AWG					
F1.25B	14.0	10.0	24.0	3.9	0.57~1.25	18~16	Red	100	9	900	9,000
F2B(5)	14.0	11.0	25.0	4.2	1.25~2.00	16~14	Blue	100	6	600	6,000
F5.5B(5)	13.5	12.0	25.5	5.0	2.63~6.64	12~10	Yellow	100	5	500	5,000

QUICK SPLICE CONNECTORS
ตลับหนีบสาย



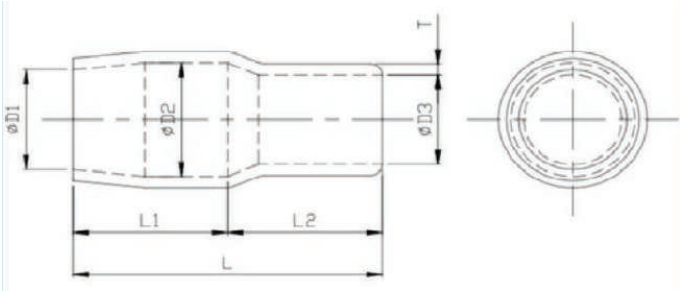


Item no.	Dimensions mm		Wire range		Color	Pcs/ Bag	Bags/ Box	Pcs/ Box	Pcs/ Carton
	L	B	Twine mm²	AWG					
3MR	20	32.0	0.25~1.65	22~16	Red	50	3	150	1,500
3MB	20	32.0	1.04~2.63	16~14	Blue	50	3	150	1,500
3MY	21	32.0	2.63~6.64	12~10	Yellow	40	2	80	800

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

NISSEI VINYL WIRE END CAP
ปลอกหุ้มหางปลา





Standard
- UL Standard (file no. : E81260)
- CSA Standard (file no. : LR76687)
- Standard product

Materials
- NTT 108 (General)
- IM-104/no.4 (UL and USA)

Colors
- **Standard color**
  B = Black, G = Green, R = Red, W = White, Y = Yellow, BL=Blue
- **Special color**
  BR = Brown, GR = Gray, LL = Light Blue

Unit : mm

Part no.	ØD1	ØD2	ØD3	L	L1	L2	T (UL/CSA)	Packing/Pcs
				± 2.0	± 1.0	± 1.0	± 0.3/-0.2	
VC-001	2.8	3.3	3.1	13.0	6.0	7.0	1.0	100
VC-002	3.3	4.5	3.7	14.0	7.0	7.0	1.0	100
VC-003	4.2	5.7	4.1	17.0	9.0	8.0	1.0	100
VC-005	4.8	5.7	5.2	17.0	9.0	8.0	1.0	100
VC-008	6.2	7.2	6.2	19.0	10.0	9.0	1.0	100
VC-014	7.5	10.0	8.0	25.0	14.0	11.0	1.0	100
				± 2.4	± 1.2	± 1.2	± 0.3	
VC-022	10.5	12.0	9.5	29.0	15.0	14.0	1.2	100
VC-038	12.5	14.0	11.8	33.5	17.5	16.0	1.2	100
VC-060	15.0	16.0	13.0	39.0	20.0	19.0	1.5	100
VC-080	17.0	19.0	16.0	46.0	25.0	21.0	1.5	100
				± 3.0	± 1.5	± 1.5	± 0.5	
VC-100	19.0	22.0	18.0	54.0	30.0	24.0	1.7	50
VC-125	21.0	24.0	20.0	57.0	32.0	25.0	1.8	50
VC-150	23.0	24.4	22.0	65.0	35.0	30.0	1.8	50
VC-200	27.0	32.2	24.0	65.0	35.0	30.0	2.0	20
VC-250	29.0	38.0	26.5	75.0	35.0	40.0	2.0	20
VC-325	29.0	38.0	29.0	77.0	37.0	40.0	2.0	20

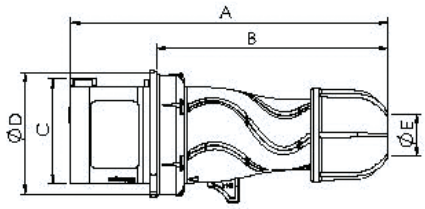
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

INSDUSTRIAL PLUG-MOVABLE PLUG
ปลั๊กตัวผู้ IP67 IP44

ปลั๊กตัวผู้ IP44

- **16A-32A**





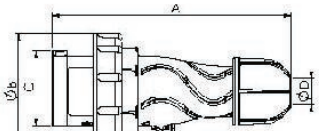
Amp	16A			32A		
Poles	3	4	5	3	4	5
A	142	142	142	168	168	168
B	106	106	106	122.5	122.5	122.5
C	46.5	53.5	60.5	62.5	62.5	69.5
D	56	60.5	68	72	72	69
E	6-15	6-15	8-16	11.5-20	11.5-20	11.5-22

Poles	Amp	230V 50-60Hz	400V 50-60Hz	Box
3	16	9213	-	10/150
4	16	-	9214	10/150
5	16	-	9215	8/120
3	32	9413	-	5/75
4	32	-	9414	5/75
5	32	-	9415	4/60

ปลั๊กตัวผู้กันน้ำ IP67

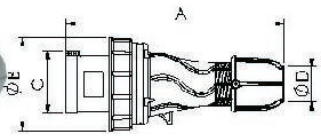
- **16A-32A**





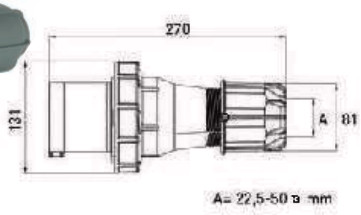
- **63A**





- **125A**





Poles	Amp	230V 50-60Hz	400V 50-60Hz	Box
3	16	8213	-	10/150
4	16	-	8214	8/120
5	16	-	8215	6/90
3	32	8413	-	4/60
4	32	-	8414	4/60
5	32	-	8415	3/45
3	63	-	9159P	10
4	63	-	9161P	10
5	63	-	9162P	10
4	125	-	9188P	2
5	125	-	9187P	2

Amp	16A			32A			63A		
Poles	3	4	5	3	4	5	3	4	5
A	142	142	142	168	168	168	256	256	142
B	106	106	106	122.5	122.5	122.5	114	114	106
C	46.5	53.5	60.5	62.5	62.5	69.5	75	75	60.5
D	56	60.5	68	72	72	69	14.5-36	14.5-36	14.5-36

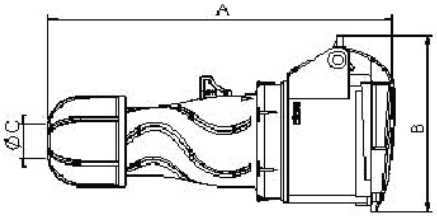
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

INSDUSTRIAL SOCKET-MOVABLE SOCKET
ปลั๊กตัวเมีย IP67 IP44

ปลั๊กตัวเมียกลางทาง IP44

- **16A-32A**





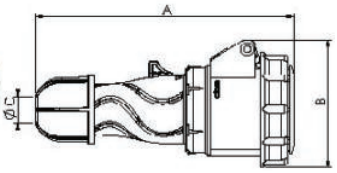
Amp	16A			32A		
Poles	3	4	5	3	4	5
A	154	-	-	177	-	-
B	81	-	-	99	-	-
C	6-15	-	-	11.5-20	-	-

Poles	Amp	230V 50-60Hz	400V 50-60Hz	Box
3	16	9223	-	10/150
4	16	-	9224	10/150
5	16	-	9225	5/75
3	32	9523	-	4/60
4	32	-	9524	4/60
5	32	-	9525	3/45

ปลั๊กตัวเมียกลางทางกันน้ำ IP67

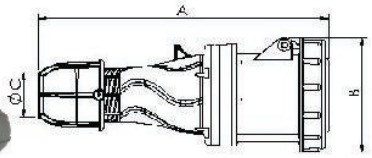
- **16A-32A**





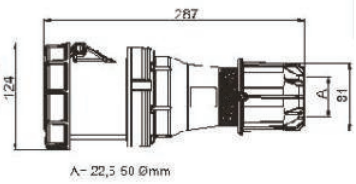
- **63A**





- **125A**





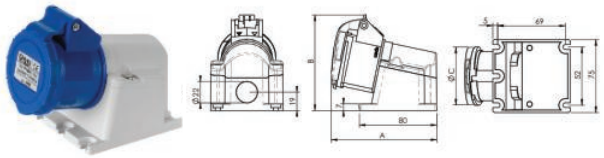
Poles	Amp	230V 50-60Hz	400V 50-60Hz	Box
3	16	8223	-	10/150
4	16	-	8224	8/120
5	16	-	8225	4/60
3	32	8523	-	3/45
4	32	-	8524	3/45
5	32	-	8525	3/45
3	63	-	9059P	10
4	63	-	9061P	10
5	63	-	9062P	10
4	125	-	9088P	2
5	125	-	9087P	2

Amp	16A			32A			63A		
Poles	3	4	5	3	4	5	3	4	5
A	155	154	180	185	185	187	275	275	275
B	79	85	95	97	99	106	111	111	111
C	6-15	6-15	8-16	11.5-20	11.5-20	11.5-22	14.5-36	14.5-36	14.5-36

INSDUSTRIAL SOCKET-WALL SOCKET
ปลั๊กตัวเมียลอย IP67 IP44

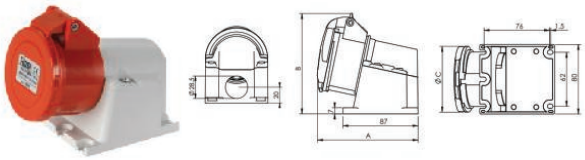
ปลั๊กตัวเมียลอย IP44

• 16A



Amp	16A			32A		
Poles	3	4	5	3	4	5
A	108	109	117	127	127	130
B	110	112	116	118	118	121
C	60	68	76	81	81	89

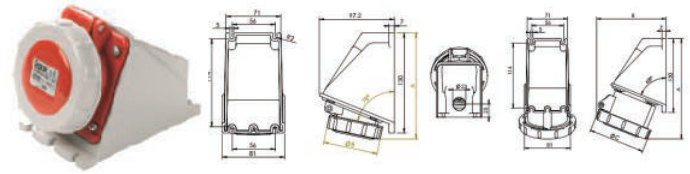
• 32A



Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	2532	-	10
4	16	-	2535	10
5	16	-	2545	6
3	32	2541	-	6
4	32	-	2546	6
5	32	-	2547	6

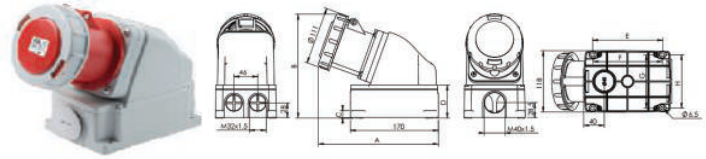
ปลั๊กตัวเมียลอยกันน้ำ IP67

• 16A-32A

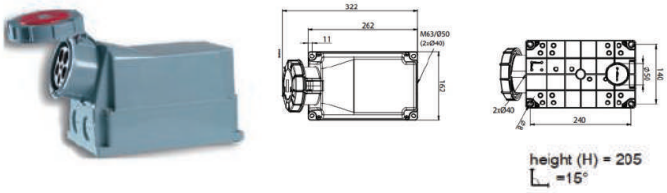


Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	2552	-	3/45
4	16	-	2555	3/45
5	16	-	2565	3/45
3	32	2561	-	2/30
4	32	-	2566	2/30
5	32	-	2567	2/30
3	63	1263P	-	3
4	63	-	1268P	3
5	63	-	1269P	3
4	125	-	1277P	1
5	125	-	1276P	1

• 63A



• 125A



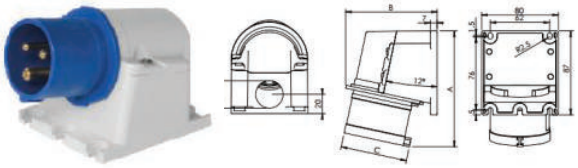
Amp	16A			32A			63A		
Poles	3	4	5	3	4	5	3	4	5
A	138	138	140	175	175	177	232	232	232
B	71	77	87	121	121	123	200	200	200
C	-	-	-	92	92	98	14	14	14
D	-	-	-	-	-	-	63.5	63.5	63.5
E	-	-	-	-	-	-	136	136	136
F	-	-	-	-	-	-	134	134	134
G	-	-	-	-	-	-	102.5	102.5	102.5
H	-	-	-	-	-	-	103.5	103.5	103.5

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

INSDUSTRIAL PLUG-WALL PLUG
ปลั๊กตัวผู้ลอย IP67 IP44

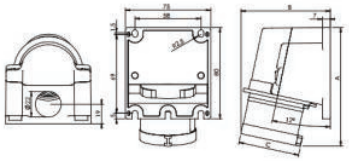
ปลั๊กตัวผู้ลอย IP44

- **16A**



Amp	16A			32A		
Poles	3	4	5	3	4	5
A	108	109	117	127	127	130
B	110	112	116	118	118	121
C	60	68	76	81	81	89

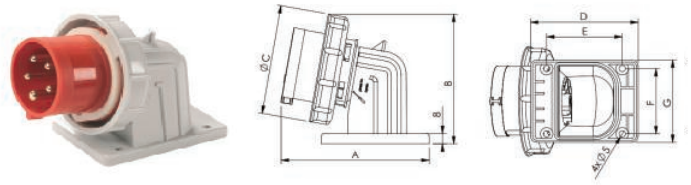
- **32A**



Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	1177	-	10/10
4	16	-	1181	10/10
5	16	-	1182	6/6
3	32	1179	-	6/6
4	32	-	1183	6/6
5	32	-	1184	6/6

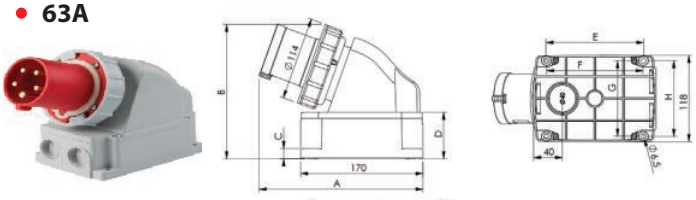
ปลั๊กตัวผู้ลอยกันน้ำ IP67

- **16A-32A**

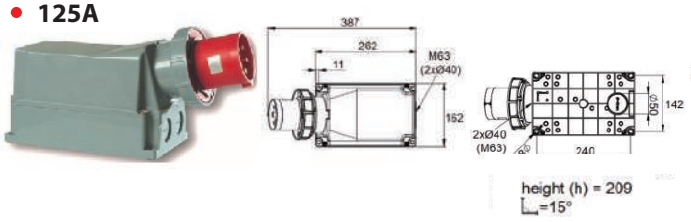


Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	1052	-	4/60
4	16	-	1055	4/60
5	16	-	1065	2/30
3	32	1061	-	2/30
4	32	-	1066	2/30
5	32	-	1067	2/30
3	63	1063P	-	3
4	63	-	1068P	3
5	63	-	1069P	3
4	125	-	1082P	1
5	125	-	1083P	1

- **63A**



- **125A**



Amp	16A			32A			63A		
Poles	3	4	5	3	4	5	3	4	5
A	118	118	118	160	160	160	227.5	227.5	227.5
B	97	99	104	108	108	110	184	184	184
C	71	77	87	92	92	98	14	14	14
D	86	86	86	101	101	101	63.5	63.5	63.5
E	60.5	60.5	60.5	85	85	85	136	136	136
F	52	52	52	78	78	78	134	134	134
G	65.5	65.5	65.5	91	91	91	102.5	102.5	102.5
H	-	-	-	-	-	-	103.5	103.5	103.5

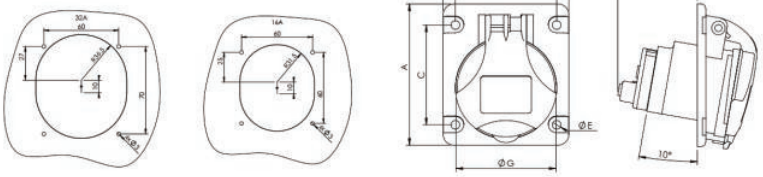
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

INSDUSTRIAL SOCKET-PANEL SOCKET
ปลั๊กตัวเมียฝัง IP67 IP44

ปลั๊กตัวเมียฝัง IP44

- 16A-32A



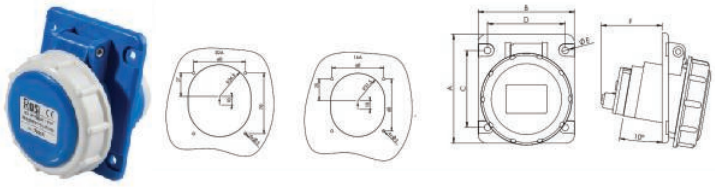


Amp	16A			32A		
Poles	3	4	5	3	4	5
A	85	85	85	95	95	98
B	75	75	75	80	80	80
C	60	60	60	70	70	70
D	60	60	60	60	60	60
E	5.2	5.2	5.2	5.5	5.5	5.5
F	47	47	47	54	54	56
G	60	68	76	81	81	88

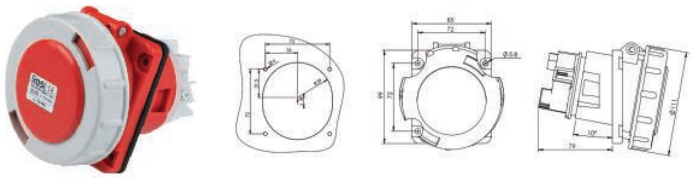
Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	6001Q	-	10/150
4	16	-	6002Q	10/150
5	16	-	6003Q	8/120
3	32	6004Q	-	5/75
4	32	-	6005Q	5/75
5	32	-	6006Q	5/75

ปลั๊กตัวเมียฝังกันน้ำ IP67

- 16A-32A



- 63A



Amp	16A			32A		
Poles	3	4	5	3	4	5
A	85	85	85	95	95	98
B	75	75	75	80	80	80
C	60	60	60	70	70	70
D	60	60	60	60	60	60
E	5.2	5.2	5.2	5.5	5.5	5.5
F	47	47	47	54	54	56
G	71	77	87	92	92	98

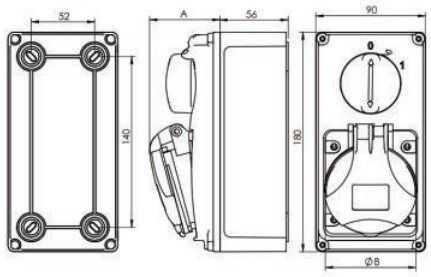
Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	7001Q	-	10/150
4	16	-	7002Q	8/120
5	16	-	7003Q	8/120
3	32	7004Q	-	5/75
4	32	-	7005Q	5/75
5	32	-	7006Q	5/75
3	63	7016Q	-	10
4	63	-	7018Q	10
5	63	-	7019Q	10

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

INTERLOCKED SOCKET WITH SWITCH
ปลั๊กตัวเมียพร้อมอินเตอร์ล็อค IP67 IP44

ปลั๊กตัวเมียพร้อมอินเตอร์ล็อค มีสวิตช์ปิด-เปิด(ชนิดลอย) IP44



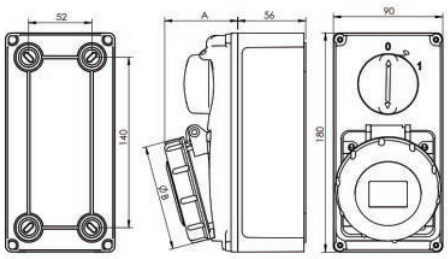


Amp	16A			32A		
Poles	3	4	5	3	4	5
A	53	55	57	60	60	62
B	60	68	76	81	81	89

Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	19.3214B6	-	1/10
4	16	19.3314R6	-	1/10
5	16	-	19.3414R6	1/10
3	32	19.3234B6	-	1/10
4	32	-	19.3334R6	1/10
5	32	-	19.3434R6	3/45

ปลั๊กตัวเมียพร้อมอินเตอร์ล็อค มีสวิตช์ปิด-เปิด(ชนิดลอยกันน้ำ) IP67





Amp	16A			32A		
Poles	3	4	5	3	4	5
A	53	56	60	62	62	64
B	71	77	87	92	92	98

Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	19.3216B6	-	1/10
4	16	19.3316R6	-	1/10
5	16	-	19.3416R6	1/10
3	32	19.3232B6	-	1/10
4	32	-	19.3332R6	1/10
5	32	-	19.3432R6	3/45

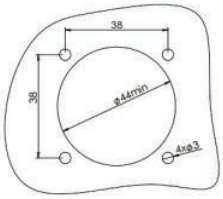
SCHUKO SERIES-PANEL SOCKET
ปลั๊กตัวเมียฝังรุ่นหน้าตรง IP54 IP44 IP67

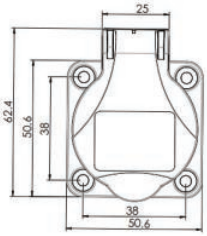
SCHUKO SOCKET IP54

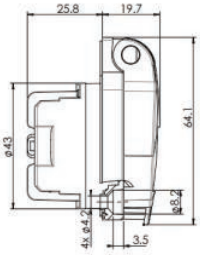
- 16A 2P+TTL 250V
- Standard Color: Blue
- Standard : side connection

REF.	Connessione connection	Protezione bambini children protection	Packing
83111		✓	25/200









SCHUKO SERIES - RUBBER PLUGS AND SOCKETS

SCHUKO RUBBER PLUG IP44



REF.	P	A	V	Color	Packing
RS1144	2P+TTL	16	250	Black	30

SCHUKO RUBBER SOCKET IP44

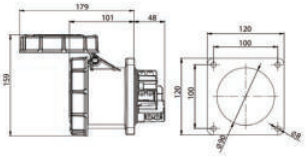


REF.	P	A	V	Color	Packing
RS256	2P+TTL	16	250	Black	30

INDUSTRIAL SOCKET - PANEL SOCKET

ปลั๊กตัวเมียฝังรุ่นหน้าตรง IP67





Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
4	125	-	1375P	2
5	125	-	1376P	2

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

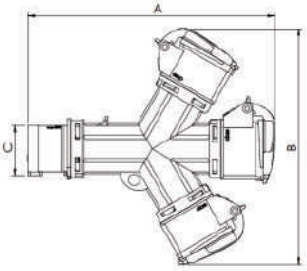
MULTIPLIES 3 WAYS
ปลั๊ก 3 ทาง IP67 IP44

3 WAYS PLUGS IP44

- Serie 13
- 3 Ways
- Plug : 50/60 Hz
- IP44



Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	1402	-	3
4	16	-	1405	3
3	32	1411	-	4
4	32	-	1416	4



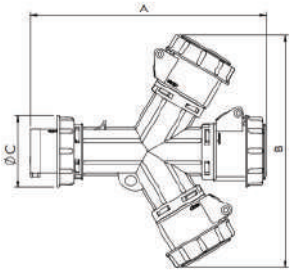
Amp	16A			32A		
Poles	3	4	5	3	4	5
A	229	230	266	287	257	287
B	220	224	256	277	277	281
C	46.5	53.5	60.5	62.5	62.5	69.5

3 WAYS PLUGS IP67

- Serie 13
- 3 Ways
- Plug : 50/60 Hz
- IP67



Poles	Amp	230V 50-60Hz	400V 50-60Hz	Packing
3	16	1452	-	3
4	16	-	1455	3
3	32	1461	-	4
4	32	-	1466	4



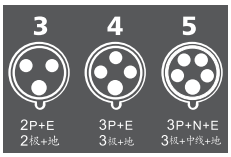
Amp	16A			32A		
Poles	3	4	5	3	4	5
A	231	230	268	286	286	286
B	228	234	266	284	284	288
C	71	77	87	92	92	98

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS SOCKET AND PLUG
ปลั๊กกลางทางตัวเมีย IP67 IP44

■ ปลั๊กกลางทางตัวเมีย SOCKET IP 44

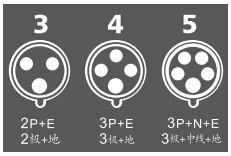




Type	Poles	Rate A.	IP	Volt
213-6	3P	16A	IP 44	230V
214-6	4P	16A	IP 44	400V
215-6	5P	16A	IP 44	400V
223-6	3P	32A	IP 44	230V
224-6	4P	32A	IP 44	400V
225-6	5P	32A	IP 44	400V

■ ปลั๊กกลางทางตัวเมียกันน้ำ WATERPROOF SOCKET IP 67

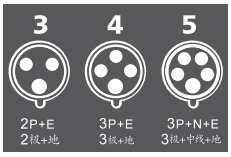




Type	Poles	Rate A.	IP	Volt
2132-6	3P	16A	IP 67	230V
2142-6	4P	16A	IP 67	400V
2152-6	5P	16A	IP 67	400V
2232-6	3P	32A	IP 67	230V
2242-6	4P	32A	IP 67	400V
2252-6	5P	32A	IP 67	400V

■ ปลั๊กกลางทางตัวเมียกันน้ำ WATERPROOF SOCKET IP 67





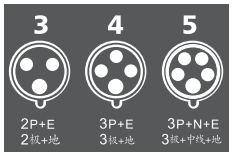
Type	Poles	Rate A.	IP	Volt
233-6	3P	63A	IP 67	230V
234-6	4P	63A	IP 67	400V
235-6	5P	63A	IP 67	400V
244-6	4P	125A	IP 67	400V
245-6	5P	125A	IP 67	400V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS SOCKET AND PLUG
ปลั๊กตัวผู้ IP67 IP44

■ ปลั๊กตัวผู้ PLUG IP 44

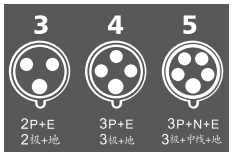




Type	Poles	Rate A.	IP	Volt
013-6	3P	16A	IP 44	230V
014-6	4P	16A	IP 44	400V
015-6	5P	16A	IP 44	400V
023-6	3P	32A	IP 44	230V
024-6	4P	32A	IP 44	400V
025-6	5P	32A	IP 44	400V

■ ปลั๊กตัวผู้กันน้ำ WATERPROOF PLUG IP 67

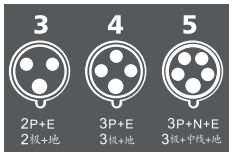




Type	Poles	Rate A.	IP	Volt
0132-6	3P	16A	IP 67	230V
0142-6	4P	16A	IP 67	400V
0152-6	5P	16A	IP 67	400V
0232-6	3P	32A	IP 67	230V
0242-6	4P	32A	IP 67	400V
0252-6	5P	32A	IP 67	400V

■ ปลั๊กตัวผู้กันน้ำ WATERPROOF PLUG IP 67





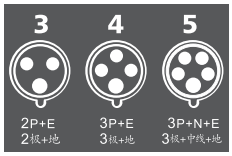
Type	Poles	Rate A.	IP	Volt
033-6	3P	63A	IP 67	230V
034-6	4P	63A	IP 67	400V
035-6	5P	63A	IP 67	400V
043-6	3P	125A	IP 67	230V
044-6	4P	125A	IP 67	400V
045-6	5P	125A	IP 67	400V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS WALL SOCKET
ปลั๊กตัวเมียลอย IP67 IP44

■ ปลั๊กตัวเมียลอย WALL SOCKET IP 44

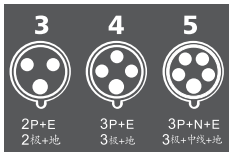




Type	Poles	Rate A.	IP	Volt
113-6	3P	16A	IP 44	230V
114-6	4P	16A	IP 44	400V
115-6	5P	16A	IP 44	400V
123-6	3P	32A	IP 44	230V
124-6	4P	32A	IP 44	400V
125-6	5P	32A	IP 44	400V

■ ปลั๊กตัวเมียลอยกันน้ำ WATERPROOF WALL SOCKET IP 67

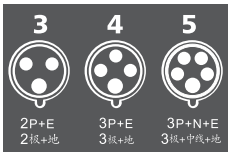




Type	Poles	Rate A.	IP	Volt
1132-6	3P	16A	IP 67	230V
1142-6	4P	16A	IP 67	400V
1152-6	5P	16A	IP 67	400V
1232-6	3P	32A	IP 67	230V
1242-6	4P	32A	IP 67	400V
1252-6	5P	32A	IP 67	400V

■ ปลั๊กตัวเมียลอยกันน้ำ WATERPROOF WALL SOCKET IP 67





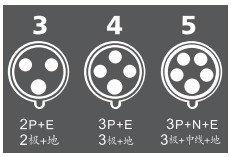
Type	Poles	Rate A.	IP	Volt
133-6	3P	63A	IP 67	230V
134-6	4P	63A	IP 67	400V
135-6	5P	63A	IP 67	400V
143-6	3P	125A	IP 67	230V
144-6	4P	125A	IP 67	400V
145-6	5P	125A	IP 67	400V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS PANEL SOCKET
ปลั๊กตัวเมียฝังรุ่นหน้าตรง IP67 IP44

■ ปลั๊กตัวเมียฝังรุ่นหน้าตรง STRAIGHT PANEL SOCKET IP44

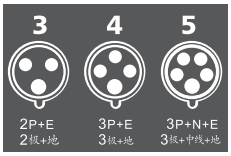




Type	Poles	Rate A.	IP	Volt
313-6FT7	3P	16A	IP 44	230V
314-6FT7	4P	16A	IP 44	400V
315-6FT7	5P	16A	IP 44	400V
323-6FT7	3P	32A	IP 44	230V
324-6FT7	4P	32A	IP 44	400V
325-6FT7	5P	32A	IP 44	400V

■ ปลั๊กตัวเมียฝังกันน้ำรุ่นหน้าตรง WATERPROOF STRAIGHT PANEL SOCKET IP67

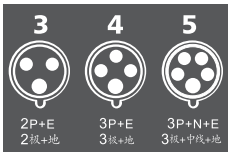




Type	Poles	Rate A.	IP	Volt
3132-6	3P	16A	IP 67	230V
3142-6	4P	16A	IP 67	400V
3152-6	5P	16A	IP 67	400V
3232-6	3P	32A	IP 67	230V
3242-6	4P	32A	IP 67	400V
3252-6	5P	32A	IP 67	400V

■ ปลั๊กตัวเมียฝังกันน้ำรุ่นหน้าตรง WATERPROOF STRAIGHT PANEL SOCKET IP67



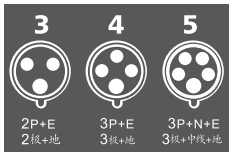


Type	Poles	Rate A.	IP	Volt
333-6	3P	63A	IP 67	230V
334-6	4P	63A	IP 67	400V
335-6	5P	63A	IP 67	400V
343-6	3P	125A	IP 67	230V
344-6	4P	125A	IP 67	400V
345-6	5P	125A	IP 67	400V

APEKS PANEL SOCKET
ปลั๊กตัวเมียฝังรุ่นหน้าเฉียง และปลั๊กตัวผู้ลอย IP67 IP44

■ ปลั๊กตัวเมียฝังรุ่นหน้าเฉียง SLOPING PANEL SOCKETS IP44

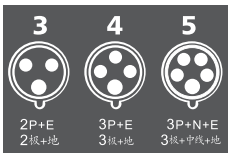




Type	Poles	Rate A.	IP	Volt
413-6	3P	16A	IP 44	230V
414-6	4P	16A	IP 44	400V
415-6	5P	16A	IP 44	400V
423-6	3P	32A	IP 44	220V
424-6	4P	32A	IP 44	400V
425-6	5P	32A	IP 44	400V

■ ปลั๊กตัวเมียฝังกันน้ำรุ่นหน้าเฉียง WATERPROOF SLOPING PANEL SOCKET IP67

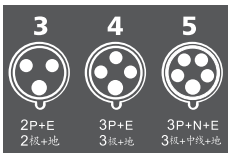




Type	Poles	Rate A.	IP	Volt
4132-6	3P	16A	IP 67	230V
4142-6	4P	16A	IP 67	400V
4152-6	5P	16A	IP 67	400V
4232-6	3P	32A	IP 67	230V
4242-6	4P	32A	IP 67	400V
4252-6	5P	32A	IP 67	400V

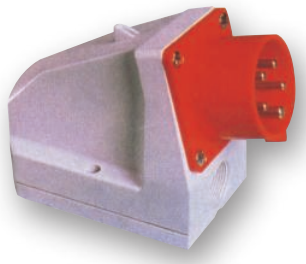
■ ปลั๊กตัวเมียฝังกันน้ำรุ่นหน้าเฉียง WATERPROOF SLOPING PANEL SOCKET IP67

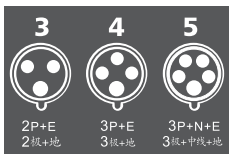




Type	Poles	Rate A.	IP	Volt
433-6	3P	63A	IP 67	230V
434-6	4P	63A	IP 67	400V
435-6	5P	63A	IP 67	400V

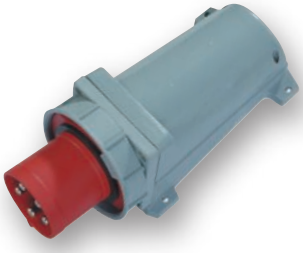
■ ปลั๊กตัวผู้ลอย WALL MOUNTED PLUG IP44

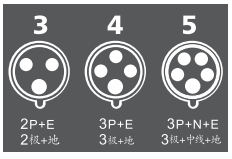




Type	Poles	Rate A.	IP	Volt
513-6	3P	16A	IP 44	230V
514-6	4P	16A	IP 44	400V
515-6	5P	16A	IP 44	400V
523-6	3P	32A	IP 44	230V
524-6	4P	32A	IP 44	400V
525-6	5P	32A	IP 44	400V

■ ปลั๊กตัวผู้ลอยกันน้ำ WATERPROOF WALL MOUNTED PLUG IP67



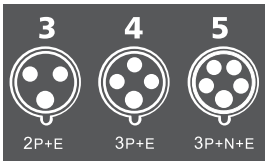


Type	Poles	Rate A.	IP	Volt
533-6	3P	63A	IP 67	230V
534-6	4P	63A	IP 67	400V
535-6	5P	63A	IP 67	400V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS SWITCH INTERLOCKED SOCKET
ปลั๊กตัวเมียพร้อมสวิตช์อินเตอร์ล็อก IP67 IP44

TO DIN VDE 0623,EN/IEC 60309-2
Other voltages and frequencies available on request



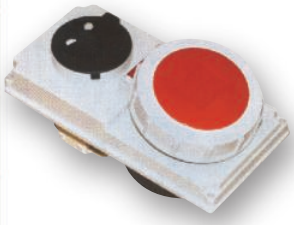
AMPER 电流	110V 50a.60Hz	230V 50a.60Hz	400V 50a.60Hz	500V 50a.60Hz	>50-500v 100-300Hz	>50-500v 300-500Hz	STD.PACK.QTY.
POLES 极数	3-pole 4h, 4-pole 4h, 5-pole 4h	3-pole 6h, 4-pole 9h, 5-pole 9h	3-pole 9h, 4-pole 6h, 5-pole 6h	3-pole 7h, 4-pole 7h, 5-pole 7h	3-pole 10h, 4-pole 10h, 5-pole 10h	3-pole 2h, 4-pole 2h, 5-pole 2h	WEIGHT G/EA.



IP44 Switched interlocked socket-panel mounting

■ ปลั๊กตัวเมียพร้อมสวิตช์อินเตอร์ล็อค (ชนิดฝัง) IP44

Type No.	Pole	Amp
601316	3	16
601416	4	16
601516	5	16
602316	3	32
602416	4	32
602516	5	32



IP67 Switched interlocked socket-panel mounting

■ ปลั๊กตัวเมียพร้อมสวิตช์อินเตอร์ล็อค (ชนิดฝัง) กันน้ำ IP67

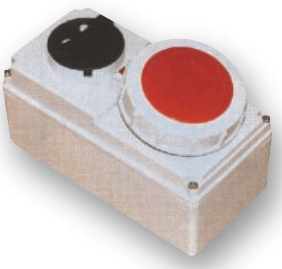
Type No.	Pole	Amp
601326	3	16
601426	4	16
601526	5	16
602326	3	32
602426	4	32
602526	5	32



IP44 Switched interlocked socket-wall mounting

■ ปลั๊กตัวเมียพร้อมสวิตช์อินเตอร์ล็อค (ชนิดลอย) IP44

Type No.	Pole	Amp
611316	3	16
611416	4	16
611516	5	16
612316	3	32
612416	4	32
612516	5	32



IP67 Switched interlocked socket-wall mounting

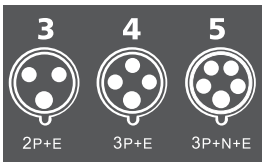
■ ปลั๊กตัวเมียพร้อมสวิตช์อินเตอร์ล็อค (ชนิดลอย) กันน้ำ IP67

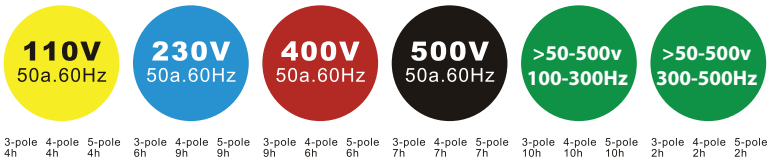
Type No.	Pole	Amp
611326	3	16
611426	4	16
611526	5	16
612326	3	32
612426	4	32
612526	5	32

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS SCHUKO SERIES-PLUG AND SOCKET
ปลั๊กตัวผู้ และปลั๊กตัวเมียรุ่น SCHUKO

TO DIN VDE 0623, EN/IEC 60309-2
Other voltages and frequencies available on request







Type No.	Amp	Pole
101316	16	3
101416	16	4

IP44 Multiple-outlet sockets



Type No.	Amp	Pole
101326	16	3
101426	16	4

IP67 Multiple-outlet sockets



TO DIN VDE 49440-1
16A, 230V, 2P+E



Type No.	Color	Amp	Pole	Packing
11011	Blue	16	2	100

IP54 Schuko socket

Type No.	Color	Amp	Pole	Packing
10843	Blue	16	2	100

Schuko socket



Type No.	Color	Amp	Pole	Packing
10838	Blue	16	2	100

IP44 Schuko socket



Type No.	Type
96703	3Pcs Socket

Socket Strip

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

APEKS ISOLATING SWITCH
ไอโซเลทติ้งสวิตช์

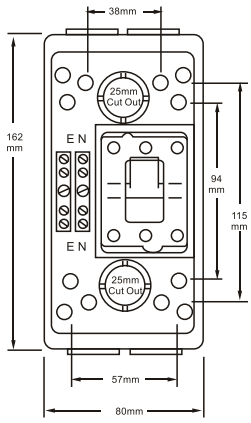
TO DIN VDE 0623, EN/IEC 60309-2 • Other Voltages and Frequencies Available request

■ **Weather protected isolating switches**









Products		IP Rtaing
APK1-20	20A 250V Single pole surface switch. Terminals accommodate 16 mm² cable. M Rating 200.	56
APK1-32	35A/63A 250V Single pole. Terminals accommodate 16 mm² cable. M Rating 220.	56
APK1-63		

Products		IP Rtaing
APK2-20	20A 440V Double pole. Terminals accommodate 16 mm² cables. M Rating 180.	56
APK2-32	35A 440V Double pole. Terminals accommodate 16 mm² cables. M Rating 180.	56
APK2-63	63A 440V Double pole. Terminals accommodate 16 mm² cables. M Rating 160.	56

Products		IP Rtaing
APK3-20	20A 440V Triple pole. Terminals accommodate 16 mm² cables. M Rating 180.	56
APK3-33	35A 440V Triple pole. Terminals accommodate 16 mm² cables. M Rating 180.	56
APK3-63	55A 440V Triple pole. Terminals accommodate 16 mm² cables. M Rating 160.	56
APK4-20	20A 440V Triple pole. Terminals accommodate 16 mm² cables. M Rating 180.	56
APK4-32	35A 440V Triple pole. Terminals accommodate 16 mm² cables. M Rating 180.	56
APK4-63	55A 440V Triple pole. Terminals accommodate 16 mm² cables. M Rating 160.	56
APK3-32CE	55A 440V Triple pole. With 32mm conduit entry at each end Terminals accommodate 16 mm² cables. M Rating 160.	56
APK3-32CE	63A 440V Triple pole. With 32mm conduit entry at each end Terminals accommodate 16 mm² cables. M Rating 160.	56
APK3-80-CE	80A 440V Triple pole. With 32mm conduit entry at each end Terminals accommodate 16 mm² cables. M Rating 150.	56

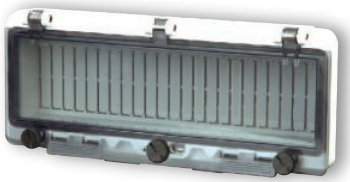
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

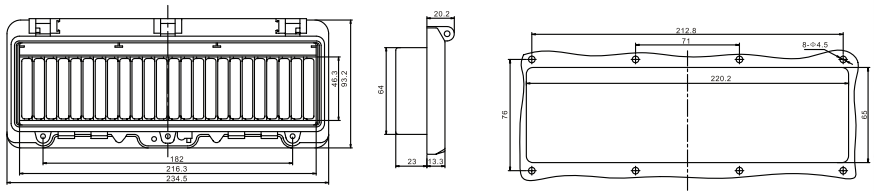
APEKS CEE DISTRIBUTION BOX
กล่องกระจายไฟ

TO DIN VDE 0623,EN/IEC 60309-2
Other voltages and frequencies available on request

■ **Hinge windows with protective cover**
Material : Polycarbonate non-corrosive and UV stabilised, V2

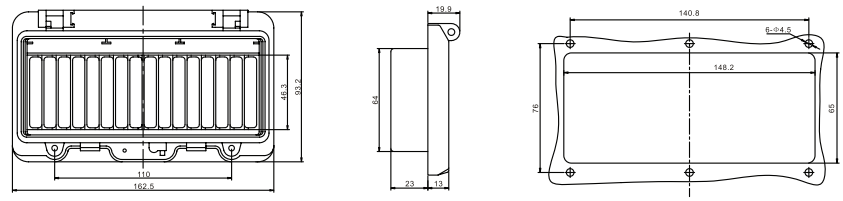
IP65





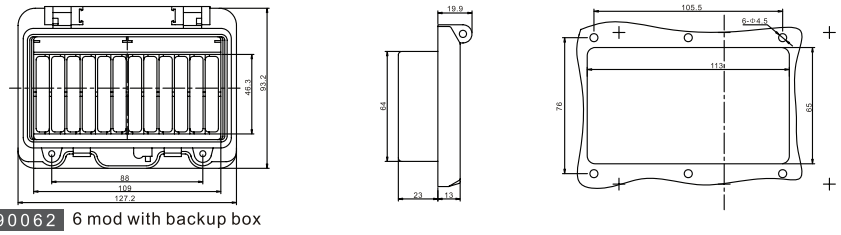
90122 12 mod with backup box





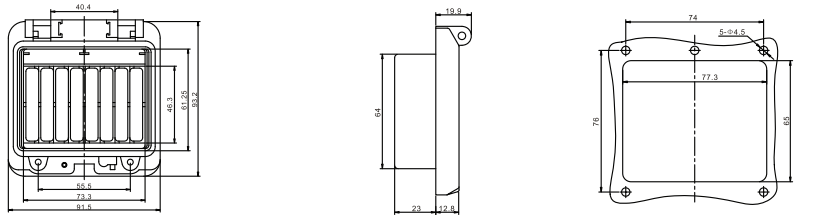
90082 8 mod with backup box





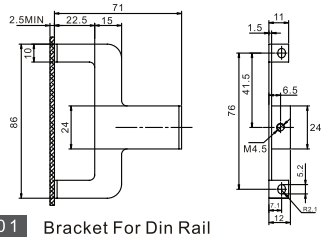
90062 6 mod with backup box





90042 4 mod with backup box



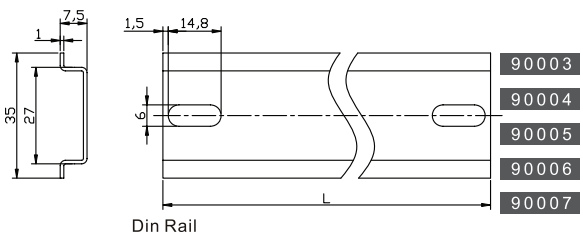


90001 Bracket For Din Rail



90002





Din Rail

Item	Length
2 Mod	54
4 Mod	88
6 Mod	120
8 Mod	155
12 Mod	227

90003
90004
90005
90006
90007

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

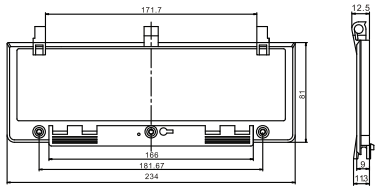
APEKS CEE DISTRIBUTION BOX
กล่องกระจายไฟ

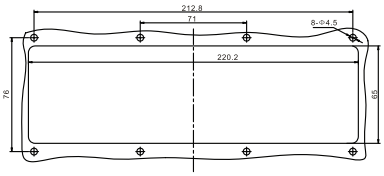
TO DIN VDE 0623,EN/IEC 60309-2
Other voltages and frequencies available on request

■ **Hinge windows with protective cover**
Material : Polycarbonate non-corrosive and UV stabilised, V2

IP65

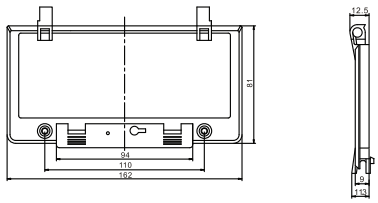


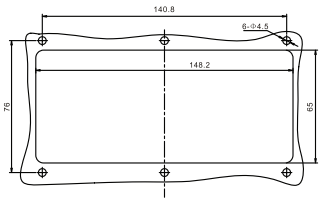




90123 12 mod without back up box

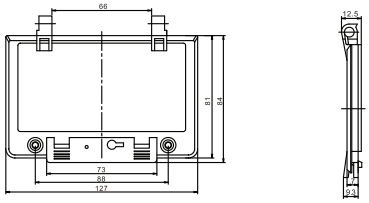


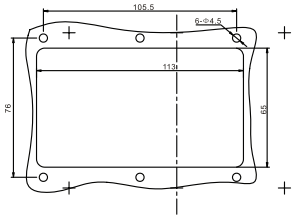




90083 8 mod without backup box

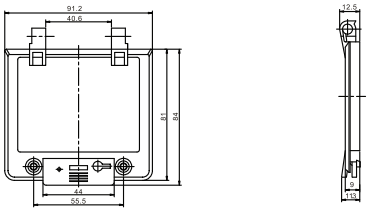


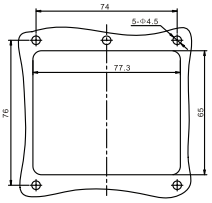




90063 6 mod without backup box

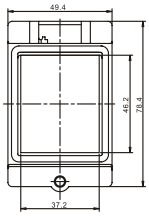


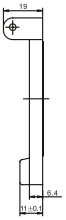


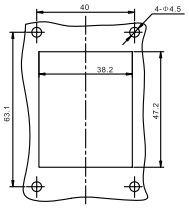


90043 4 mod without backup box









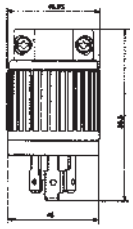
90023 2 mod without backup box

LOCKING TYPE PLUG, RECEPTECTACLE AND CONNECTOR
ปลั๊ก เต้ารับ และขั้วต่อ แบบล็อค

Locking plug 3P


LK-6322

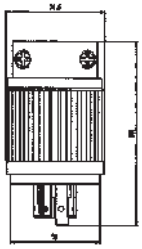

LK-6324*



Locking plug 4P


LK-6421

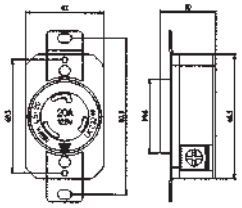

LK-6424*



Locking receptacle 3P


LK-2322F

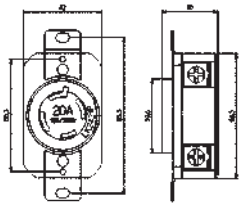

LK-2324F*



Locking receptacle 4P


LK-2421F

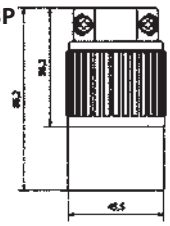

LK-2424F*



Locking cord connector 3P


LK-7322

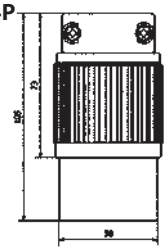

LK-7324*



Locking cord connector 4P


LK-7421


LK-7424*



Item no.	Description	Configuration
LK-6322	Locking plug NEMA L6-20P	3P 20A 250V
LK-6324*	Locking plug NEMA L8-20P	3P 20A 480V
LK-6421	Locking plug NEMA L14-20P	4P 20A 125/250V
LK-6424*	Locking plug NEMA L16-20P	4P 20A 480V
LK-2322F	Locking receptacle NEMA L6-20R	3P 20A 250V
LK-2324F*	Locking receptacle NEMA L8-20R	3P 20A 480V
LK-2421F	Locking receptacle NEMA L14-20R	4P 20A 125/250V
LK-2424F*	Locking receptacle NEMA L16-20R	4P 20A 480V
LK-7322	Locking cord connector NEMA L6-20C	3P 20A 250V
LK-7324*	Locking cord connector NEMA L8-20C	3P 20A 480V
LK-7421	Locking cord connector NEMA L14-20C	4P 20A 125/250V
LK-7424*	Locking cord connector NEMA L16-20C	4P 20A 480V

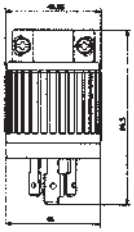
*** Not UL Certification**

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

LOCKING TYPE PLUG, RECEPTECTACLE AND CONNECTOR
ปลั๊กตัวผู้ IP67 IP44

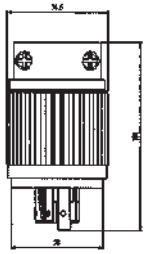
Locking plug 3P


LK-6332 LK-6334*



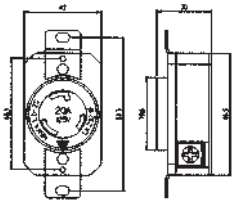
Locking plug 4P


LK-6431 LK-6436*



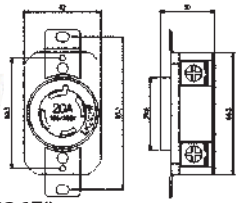
Locking receptacle 3P


LK-2332F LK-2334F*



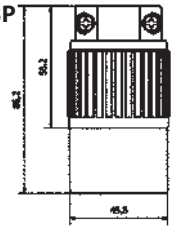
Locking receptacle 4P


LK-2431F LK-2434F* LK-2436F*



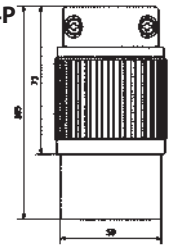
Locking cord connector 3P


LK-7332 LK-7334*



Locking cord connector 4P


LK-7431 LK-7334*



Item no.	Description	Configuration
LK-6332	Locking plug NEMA L6-30P	3P 30A 250V
LK-6334*	Locking plug NEMA L8-30P	3P 30A 480V
LK-6431	Locking plug NEMA L14-30P	4P 30A 125/250V
LK-6436*	Locking plug NEMA L17-30P	4P 30A 600V
LK-2332F	Locking receptacle NEMA L6-30R	3P 30A 250V
LK-2334F*	Locking receptacle NEMA L8-30R	3P 30A 480V
LK-2431F	Locking receptacle NEMA L14-30R	4P 30A 125/250V
LK-2434F*	Locking receptacle NEMA L16-30R	4P 30A 480V
LK-2436F*	Locking receptacle NEMA L17-30R	4P 30A 600V
LK-7332	Locking cord connector NEMA L6-30C	3P 30A 250V
LK-7334*	Locking cord connector NEMA L8-30C	3P 30A 480V
LK-7431	Locking cord connector NEMA L14-30C	4P 30A 125/250V
LK-7434*	Locking cord connector NEMA L16-30C	4P 30A 480V

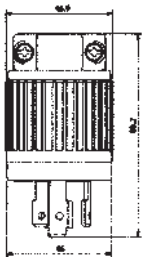
*** Not UL Certification**

LOCKING TYPE PLUG, RECEPTECTACLE(BAKELITE)
ปลั๊ก และเต้ารับ แบบล็อค (เบ็กไลต์)

Locking plug 3P



LK-6332B LK-6334B

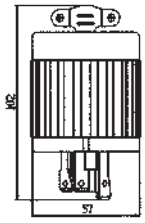


Item no.	Description	Configuration
LK-6332B (MH 2586)	Locking plug (Bakelite) L6-30P	3P 30A 250V
LK-6334B	Locking plug (Bakelite) L8-30P	3P 30A 480V

Locking plug 4P

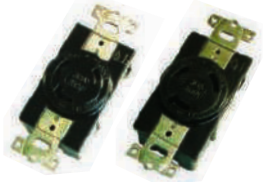


LK-6432B LK-6436B

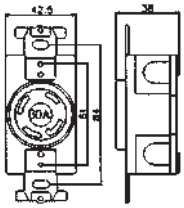


Item no.	Description	Configuration
LK-6432B (MH 2587)	Locking plug (Bakelite) L15-30P	4P 30A 250V
LK-6436B	Locking plug (Bakelite) L17-30P	4P 30A 600V

Locking receptacle 3P

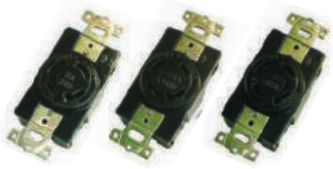


LK-2332FB LK-2334FB

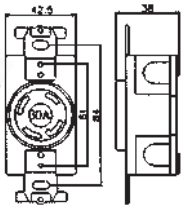


Item no.	Description	Configuration
LK-2332FB (MH 2878)	Locking receptacle (Bakelite) L6-30R	3P 30A 250V
LK-2334FB	Locking receptacle (Bakelite) L8-30R	3P 30A 480V

Locking receptacle 4P



LK-2432FB LK-2434FB LK-2436FB



Item no.	Description	Configuration
LK-2432FB (MH 2879)	Locking receptacle (Bakelite) L15-30R	4P 30A 250V
LK-2434FB (MH 2880)	Locking receptacle (Bakelite) L16-30R	4P 30A 480V
LK-2436FB	Locking receptacle (Bakelite) L17-30R	4P 30A 600V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

LOCKING TYPE PLUG, CONNECTOR (RUBBER)

ปลั๊ก และขั้วต่อ แบบล็อค (ยาง)

Locking plug 3P



LK-8332B LK-8334B



Locking plug 4P



LK-8432B LK-8434B LK-8436B



Locking connector 3P



LK-5332B LK-5334B



Locking connector 4P



LK-5432B LK-5434B LK-5436B



Item no.	Description	Configuration
LK-8332B (MH 2578)	Locking plug (Rubber) L6-30P	3P 30A 250V
LK-8334B	Locking plug (Rubber) L8-30P	3P 30A 480V
LK-8432B (MH 2579)	Locking plug (Rubber) L15-30P	4P 30A 250V
LK-8434B (MH 2580)	Locking pulg (Rubber) L16-30P	4P 30A 480V
LK-8436B (MH 2581)	Locking plug (Rubber) L17-30P	4P 30A 600V
LK-5332B (MH 2637)	Locking connector (Rubber) L6-30C	3P 30A 250V
LK-5334B	Locking connector (Rubber) L8-30C	3P 30A 480V
LK-5432B (MH 2638)	Locking connector (Rubber) L15-30C	4P 30A 250V
LK-5434B	Locking connector (Rubber) L16-30C	4P 30A 480V
LK-5436B	Locking connector (Rubber) L17-30C	4P 30A 600V

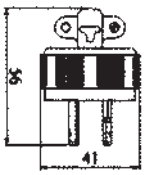
LOCKING TYPE PLUG, RECEPTECTACLE AND CONNECTOR
ปลั๊ก เต้ารับ และขั้วต่อ แบบล็อค

LOCKING TYPE PLUGS & RECEPTECTACLE (BAKELITE)

Locking plug (Bakelite)



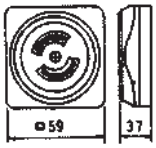
LK-6420 LK-6320 LK-6220



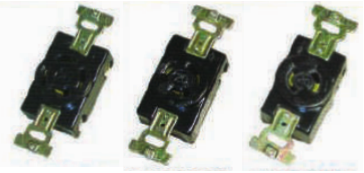
Locking surface receptacle (Bakelite)



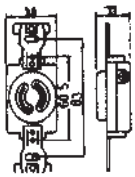
LK-2420K-1 LK-2320K-1 LK-2220K



Locking receptacle (Bakelite)



LK-2420F LK-2320F LK-2220F



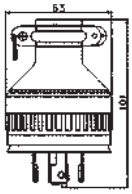
Item no.	Description	Configuration
LK-6420 (MH 2576)	Locking plug (Bakelite)	4P 20A 250V
LK-6320 (MH 2575)	Locking plug (Bakelite)	3P 20A 250V
LK-6220 (MH 2574)	Locking plug (Bakelite)	2P 20A 250V
LK-2420K-1 (MH 2887)	Locking surface receptacle (Bakelite)	4P 20A 250V
LK-2320K-1 (MH 2886)	Locking surface receptacle (Bakelite)	3P 20A 250V
LK-2220K (MH 2885)	Locking surface receptacle (Bakelite)	2P 20A 250V
LK-2420F-1 (MH 2876)	Locking receptacle (Bakelite)	4P 20A 250V
LK-2320F-1 (MH 2875)	Locking receptacle (Bakelite)	3P 20A 250V
LK-2220F-1 (MH 2874)	Locking receptacle (Bakelite)	2P 20A 250V

LOCKING TYPE PLUGS & CONNECTORS (RUBBER)

Locking plug (Rubber)



LK-8420 LK-8320 LK-8220



Locking connector (Rubber)



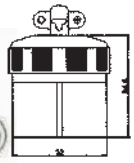
LK-5420 LK-5320 LK-5220



Locking connector (without Rubber)



LK-5420-1 LK-5320-1 LK-5220-1



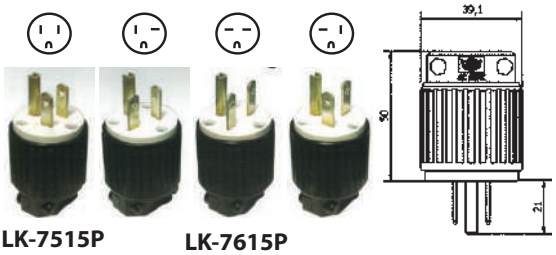
Item no.	Description	Configuration
LK-8420 (MH 2584)	Locking plug (Rubber)	4P 20A 250V
LK-8320 (MH 2583)	Locking plug (Rubber)	3P 20A 250V
LK-8220 (MH 2582)	Locking plug (Rubber)	2P 20A 250V
LK-5420 (MH 2634)	Locking connector (Rubber)	4P 20A 250V
LK-5320 (MH 2633)	Locking connector (Rubber)	3P 20A 250V
LK-5220 (MH 2632)	Locking connector (Rubber)	2P 20A 250V
LK-5420-1 (MH 2648)	Locking connector (Without Rubber)	4P 20A 250V
LK-5320-1 (MH 2649)	Locking connector (Without Rubber)	3P 20A 250V
LK-5220-1	Locking connector (Without Rubber)	2P 20A 250V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

STRAIGHT TYPE PLUG AND CONNECTOR / ANGLE TYPE PLUG
ปลั๊ก และขั้วต่อ แบบตรง / ปลั๊กแบบเฉียง

STRAIGHT TYPE PLUGS & CONNECTORS

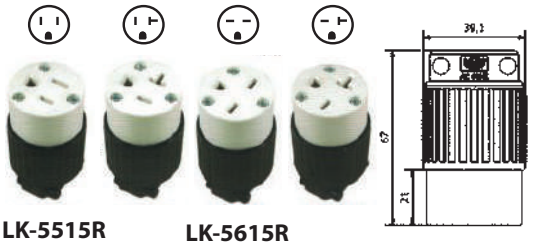
Straight plug



LK-7515P LK-7520P LK-7615P LK-7620P

Item no.	Description	Configuration
LK-7515P	Straight plug NEMA 5-15P	15A 125V
LK-7520P	Straight plug NEMA 5-20P	20A 125V
LK-7615P	Straight plug NEMA 6-15P	15A 250V
LK-7620P	Straight plug NEMA 6-20P	20A 250V

Straight connector

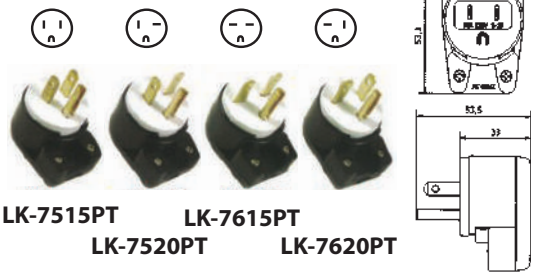


LK-5515R LK-5520R LK-5615R LK-5620R

Item no.	Description	Configuration
LK-5515R	Straight connector NEMA 5-15C	15A 125V
LK-5520R	Straight connector NEMA 5-20C	20A 125V
LK-5615R	Straight connector NEMA 6-15C	15A 250V
LK-5620R	Straight connector NEMA 6-20C	20A 250V

ANGLE TYPE PLUGS

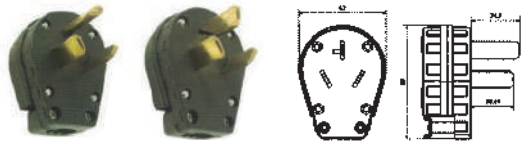
Angle plug 15A, 20A



LK-7515PT LK-7520PT LK-7615PT LK-7620PT

Item no.	Description	Configuration
LK-7515PT	Angle plug NEMA 5-15P	15A 125V
LK-7520PT	Angle plug NEMA 5-20P	20A 125V
LK-7615PT	Angle plug NEMA 6-15P	15A 250V
LK-7620PT	Angle plug NEMA 6-20P	20A 250V

Angle plug 30A, 50A



LK-3331 LK-3351

Item no.	Description	Configuration
LK-3331	Angle plug NEMA 10-30P	30A 125/250V
LK-3351	Angle plug NEMA 10-50P	50A 125/250V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

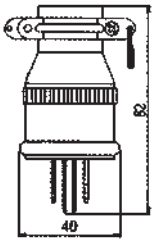
GROUNDING PLUG, CONNECTOR AND SOCKET / 2 POLE SOCKET

ปลั๊ก เต้ารับ และปลั๊กตัวเมียแบบมีกราวด์ / ปลั๊กตัวเมียแบบ 2 POLE

Grounding plug & connector



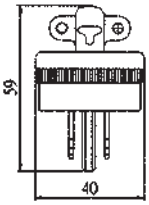
LK-7004 LK-5215



Grounding plug



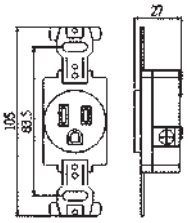
LK-7001



Grounding socket



LK-3021F LK-3224F

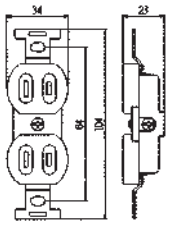


Item no.	Description	Configuration
LK-7004 (ME 2538)	Grounding plug (Rubber) 5-15P	15A 125V
LK-5215 (ME 2624)	Grounding connector (Rubber) 5-15C	15A 125V
LK-7001 (ME 2592) (1709)	Grounding plug (Bakelite) 5-15P	15A 125V
LK-3021F (ME 2816)	Grounding socket (Bakelite) 5-15R	15A 125V
LK-3224F (ME 2817) (827V, 827B)	Grounding duplex socket (Bakelite) 5-15R	15A 125V

2 POLE SOCKETS

LK-1031





LK-1031	2 Pole socket	15A 125V

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HYDRAULIC COMPRESSION HEAD
หัวย้ำ และลูกย้ำ

CO-400A ลูกย้ำตัวยู
เครื่องมือย้ำหางปลาไฮโดรลิค
ย้ำได้ตั้งแต่ 16 มม² ถึง 400 มม²



CO-400B ลูกย้ำหกเหลี่ยม
เครื่องมือย้ำหางปลาไฮโดรลิค
ย้ำได้ตั้งแต่ 16 มม² ถึง 400 มม²



CO-500B ลูกย้ำหกเหลี่ยม
เครื่องมือย้ำหางปลาไฮโดรลิค
ย้ำได้ตั้งแต่ 70 มม² ถึง 500 มม²



CO-630A ลูกย้ำหกเหลี่ยม
เครื่องมือย้ำหางปลาไฮโดรลิค
ย้ำได้ตั้งแต่ 70 มม² ถึง 630 มม²



CO-630B ลูกย้ำหกเหลี่ยม
เครื่องมือย้ำหางปลาไฮโดรลิค
ย้ำได้ตั้งแต่ 150 มม² ถึง 630 มม²



ราคาลูกย้ำ
CO-630A (ตัวผู้-ตัวเมีย)
CO-630B (ตัวผู้-ตัวเมีย)
CO-500B (ตัวผู้-ตัวเมีย)
CO-400A, CP0-400A (ตัวผู้-ตัวเมีย)
CO-400B, CPO-400B (ตัวผู้-ตัวเมีย)

CO-400A, CO-400B
- Single-action compression tool, lightweight, easy to operate and carry.
- The material of tool made of high carbon steel, heat treatment, not easily deformed.
- Shaped head, accessory dies can be replaced, point and hexagon compression type, compression maximum size up to 400mm².
- Need to coordinate with hydraulic pump (power pump: CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).
- Able to customize dies in any sizes.

CO-500B
- Single-action compression tool, lightweight, easy to operate and carry.
- The material of tool made of high carbon steel, heat treatment, not easily deformed.
- Shaped head, accessory dies can be replaced, hexagon compression type, compression maximum size up to 500mm²
- (which can be pressed aluminum cable sleeve). Need to coordinate with hydraulic pump (power pump: CTE-25AS,
- hand pump: CP-700-T, or foot pump: CFP-800). Able to customize dies in any sizes.

CO-630A
- Single-action compression tool, lightweight, easy to operate and carry.
- The material of tool made of high carbon steel, heat treatment, not easily deformed.
- П -shaped head, accessory dies can be replaced, hexagon compression type, compression maximum size up to 630mm²
- (which can be pressed aluminum cable sleeve). Need to coordinate with hydraulic pump (power pump: CTE-25AS,
- hand pump: CP-700-T, or foot pump: CFP-800). Able to customize dies in any sizes. Accessory a set of standard die, additional dies can be purchased separately.

- Single-action compression tool, lightweight, easy to operate and carry. The material of tool made of high carbon steel, heat treatment, not easily deformed.
- U-shaped head, accessory dies can be replaced, hexagon compression type, compression maximum size up to 630mm² (which can be pressed aluminum cable sleeve).
- Need to coordinate with hydraulic pump (power pump: CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800). Able to customize dies in any sizes.
- Accessory a set of standard die, additional dies can be purchased separately.

Item	Output (Ton)	Body weight (Kg)	Net weight (Kg)	JIS	AWG	DIN	Compressed die sizes (mm²)	Remark
CO-400A	17	4.3	6	325	750	400	Male 16-70,95-150,185-400 Female 16-25,35,50-70,95,120,150, 185-240,300,400	Point
CO-400B	17	4.3	7.7	325	750	400	16-25,35,50-70,95,120,150, 185-240,300,400	Hexagon
CO-500B	20	6.9	10.2	400	1,000	500	70,95,120-150,185,240,300,400,500	Hexagon
CO-630A	35	15.4	17.1	500	1,200	630	70-100,120-150,185-240,300,400, 500,630	Hexagon
CO-630B	30	9.9	10.1	500	1,200	630	150,185-240,300,400,500,630	Hexagon

หมายเหตุ : ปั๊ม CP-700-T = 13,800, ปั๊ม CP-700-2A = 16,500 รายละเอียดปั๊มดูที่หน้า 369

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HYDRAULIC CRIMPING TOOLS
เครื่องย้ำหางปลาไฮโดรลิค

CPO-400A
เครื่องมือย้ำหางปลาไฮโดรลิค แบบย้ำ ด้วยมือย้ำได้ตั้งแต่ 16 มม² ถึง 400 มม²



CPO-400B
เครื่องมือย้ำหางปลาไฮโดรลิค แบบย้ำ ด้วยมือย้ำได้ตั้งแต่ 16 มม² ถึง 400 มม²



CPO-150S
ใส่น้ำมัน 2 จังหวะถอนแรง โดยอัตโนมัติหัวย้ำสามารถปรับมุมได้ 180˚ย้ำได้ตั้งแต่ 16 มม²ถึง185 มม²



CYO-400B
เครื่องมือย้ำหางปลาไฮโดรลิค แบบย้ำด้วยมือย้ำได้ตั้งแต่ 16 มม² ถึง 400 มม



CPO-400A, CPO-400B

- High pressure direct type hydraulic compressed tool, manually operation entering oil by high and low two-stage output, the maximumoutput pressure is 700kgf / cm² (10000psi).
- Easy to operate and carry, suitable for high-altitude operations.
- Accessory dies can be replaced, point and hexagon compression type, compressionmaximum size up to 400mm².
- ㄇ-shaped and 180° rotatable head part, can make use of variety of angles.
- With the overload-protective device.
- Able to customize dies in any sizes.

CPO-150S

- High pressure direct type hydraulic compressed tool, manually operation entering oil by high and low two-stage output, the maximum output pressure is 700kgf / cm² (10000psi).
- Easy to operate and carry, suitable for high-altitude operations.
- Accessory dies can be replaced, point compression type, compression maximum size up to 185mm². 180° rotatable head part, can make use of variety of angles.
- With the overload-protective device.

CYO-400B

- Single-action compression tool, lightweight, easy to operateand carry. The material of tool made of high carbon steel, heat treatment, not easily deformed.
- C-shaped head, opening 30mm and 38mm, accessory dies can be replaced, hexagon compression type, compression maximum size up to 400mm². Also suitable for crimping brass, copper terminal and C-type, H-type terminals for overhead work especially outsideoperation for electricity conductors, power companies and general house wiring crimping.
- Need to coordinate with hydraulic pump (power pump : CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).
- Able to customize dies in any sizes.

SELECTION CHART (Applicable Range)

Item	Output (Ton)	Body weight (Kg)	Net weight (Kg)	JIS	AWG	DIN	Compressed die sizes (mm²)	Remark
CPO-400A	17	7	8.7	325	750	400	Male 16-70,95-150,185-400 Female 16-25,35,50-70,95, 120,150,185-240,300,400	Point
CPO-400B	17	7	10.4	325	750	400	16-25,35,50-70,95, 120,150,185-240,300,400	Hexagon
CPO-150S	10	4.6	4.7	150	300	185	Male 16-70,95-185 Female 16-25,35,50-70, 95,120,150,185	Point
CYO-400B	12	4.6	6.1	325	650	400	16,25,35,50,70,95, 120,150,185,240 300, 400	Hexagon

หมายเหตุ : - CYO-400B พร้อมลูกย้ำตั้งแต่ 50, 70, 95, 120, 150, 185, 240, 300, 400 มม. สำหรับ 16, 25, 35 มม. *ปั๊มต้องซื้อแยกต่างหาก*
- ปั๊ม CP-700-T = 13,800, ปั๊ม CP-700-2A = 16,500 **รายละเอียดปั๊มดูที่หน้า 369**

ราคาลูกย้ำ
CYO-400A/B
CO/CPO-400A
CO/CPO-400B

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HYDRAULIC COMPRESSION
คีมย้ำหางปลาไฮโดรลิค

TERMINALS UP TO 16 mm² – 240 mm²

CPO-240



- High pressure direct type hydraulic compressed tool, manually operation entering oil by high and low two-stage output, the maximum output pressure is 700kgf / cm² (10000psi).
- Easy to operate and carry, suitable for high-altitude operations.
- Accessory dies can be replaced, hexagon compression type, compression maximum size up to 240mm².
- H-shaped and 180° rotatable head part, can make use of variety of angles.
- With the overload-protective device.
- Able to customize dies in any sizes.

FEATURES

- Terminal pressed dies match DIN, AWG, JIS, standard. Head can revolve 180.
- One person operated and convenient in high altitude work. Have safe-protecting device.

COMPRESSED TYPE





- Figure of assembling and dismantling dies.



- Figure of returning oil switch.

Item	Output (Ton)	Body weight (Kg)	Net weight (Kg)	JIS	AWG	DIN	Compressed die sizes (mm²)	Remark
CPO-240	10	4.2	6.1	250	500	240	16,25,35,50,70,95, 120,150,185,240	Hexagon

HYDRAULIC COMPRESSION
คีมย้ำหางปลาไฮโดรลิค

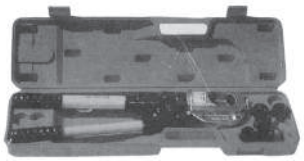
CYO-400A
Compressed head made with iron





APPLICATIONS
Designed to accommodate hexagonal, circular shell and indue type dies for applying compression fitting to copper, aluminum and ACSR conductors.

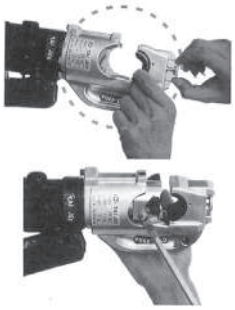


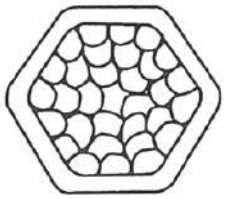


หมายเหตุ : CYO-400A พร้อมลูกย้ำตั้งแต่ 50, 70, 95, 120, 150, 185, 240, 300, 400 มม.^{2}
สำหรับ 16, 25, 35 มม.^{2} ต้องซื้อแยกต่างหาก

CHARACTERS
1. Two-section of high, low pressure, quick entering oil, easy operation and convenient returning oil. Using revolving type of compression to be quick returning oil.
2. When the pressure reaches up 700 kg/cm$_2$(12 ton) the design of safe releasing pin has the voice of "Ka Cha" for warning the operator to stop all actions.
3. The glass-fiber operative insulating club can resist voltage 20kv and keep five minuites, which has been tested by Taipai power company.
4. The compressed head can do 180° of revolution.
5. There is a pressure adjusting valve outside of the machine not to take off the structure.
6. Use the beautiful plastic box for packing.
7. C type of Ti-tanium alloy head is easy to convenient to operate in high altitudes high durability, high extension acid-resisting, acid-alkali, which is best matarial foraviation, submarine industy to use.

*** Opening 38 mm can press pincer compressed tube, LGF 35~95 mm^2**

HOW TO CHANGE DIES




Hexagon

- High pressure direct type hydraulic compressed tool, manually operation entering oil by high and low two-stage output, the maximum output pressure is 700kg/cm^2 (10000psi).
- Easy to operate and carry, suitable for high-altitude operations.
- C-shaped head, opening 30mm and 38mm, suitable for crimping brass, copper terminal and C-type, H-type terminals for overhead work; especially outside operation for electricity conductors, power companies and general house wiring crimping.
- The operating handle grips are FRP material, can insulated 20KV/ 5 minutes.
- Accessory dies can be replaced, hexagon compression type, compression maximum size up to 400mm^2. 180° rotatable head part, can make use of variety of angles.
- With the overload-protective device.
- Able to customize dies in any sizes.

Figure for Specifications

Model	CYO-400A
Compressed Capacity	16^2 ~ 400 mm^2 (enclosed 50-400 mm^2) 9 Sets
Ton	12
Strike	30 mm / 38 mm (CYO-400C)
Oil Capacity	145 cc
Voltage	20,000 V/5 min (Between Handle Grips)
Weight (Kg)	6.4 (Steel) / 5 (Ti) / 7.8 (CYO-400C)
Usable Oil	R32 Special circle oil

Item	Output (Ton)	Body weight (Kg)	Net weight (Kg)	JIS	AWG	DIN	Compressed die sizes (mm²)	Remark
CYO-400A	12	6.2	7.8	325	750	400	50,70,95,120,150, 185,240,300,400	Hexagon

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ANGLE-STEEL HYDRAULIC PUNCHING TOOLS

เครื่องมือเจาะรูแผ่นทองแดง, อลูมิเนียมระบบไฮโดรลิค

Single hole type : copper plate, aluminum plate, angle-steel separate type of drilling machine 31ton, 35ton 10,000 PSI

- Separate type of liquid pressure drilling machine which is available to L, H plate steel copper plate and aluminum plate for punching. There was designed plain seat on the bottom, very steady and smooth.
- Single-hole type of return oil, the dies were made with High-carbon Tungsten alloy steel, not easy to be damaged.

CH-60D



เครื่องมือเจาะรูแผ่นทองแดง, อลูมิเนียม, แผ่นเหล็ก ขนาดเจาะแผ่นเหล็กได้สูงสุด หนา 10 มม.

เจาะรูได้ตั้งแต่ขนาด 3/8", 1/2", 5/8", 3/4"

It is use for small copper plate 2mm thinkness and 500mm width

ราคาลูกเจาะ ชุดละ



CH-70-T



เครื่องมือเจาะรูแผ่นทองแดง, อลูมิเนียม, แผ่นเหล็กขนาดเจาะแผ่นเหล็กได้สูงสุดหนา 8 มม. เจาะลึกได้ 110 มม.

เจาะรูได้ตั้งแต่ขนาด 3/8", 1/2", 5/8", 3/4"

WxL Oval size

3/8"(11x19mm), 1/2"(14x21mm), 5/8"(17x24mm)

ราคาลูกเจาะ ชุดละ



CH-60D

- C-shaped designed, the cylinder and the body are firmly. Integrally molded of forged alloy steel, which possesses both high compression and tension.
- Light, portable, easy to place. Can precisely punch with few burrs.
- Applicable to angle steels, copper, aluminum, iron plate, H beams, and all other U-iron. Depth: 70mm. The max. punching capacity: Copper and aluminum plate - D20.5x12mm; Iron plate - D20.5x10mm. Need to coordinat with hydraulic pump (power pump: CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800). Able to customize dies in any sizes.

PS: We also offer an oval (rectangular-hole) die for this tool.

CH-70-T

- C-shaped designed, is firmly, integrally molded with cast iron.
- Portable, easy to place. Can precisely punch with few burrs.
- Applicable to angle steels, copper, aluminum, iron plate, H beams, and all other U-iron.
- Depth: 80mm. The max. punching capacity: Copper and aluminum - D20.5x12mm; Iron - D20.5x10mm.
- Need to coordinate with hydraulic pump (power pump: CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).
- Able to customize dies in any sizes.

PS: We also offer an oval (rectangular-hole) die for this tool.

Operation + power pump

Model	Tons	Hole Diameter	Iron plate / Copper plate	Depth(mm)	Weight (kg)
CH-60D	31	3/8"~3/4"	6mm / 10mm	70	20
CH-70-T	35	3/8"~3/4"	8mm / 12mm	85	28

Punching number for reference

Hole diameter (inch)	Working pressure (kg/cm²)	Time / Second
1"	600	35
3/4"	500	30
5/8"	450	28
1/2"	400	28

Hole diameter (inch)	Thick ness (mm)	Tons
1"	3.2-10	26.3
3/4"	3.2-12	35
5/8"	3.2-16	50
1/2"	3.2-25	100

Item	Output (TON)	Depth (mm)	Max. Punching Thickness (mm)	Standard Die (mm)	Weight (kg)
CH-60D	31	70	Copper and Aluminum 12 / Iron 10	3/8"(10.5), 1/2"(13.8), 5/8"(17), 3/4"(20.5)	19.5
CH-70-T	35	80	Copper and Aluminum 12 / Iron 10	3/8"(10.5), 1/2"(13.8), 5/8"(17), 3/4"(20.5)	31

*The standard equipment of this item is 4 sets of round hole dies; oval dies must be order separately.

CP-700-T



SLUG-BUSTER PUNCH DRIVER SETS PUNCHER
เครื่องมือเจาะรู

CC-104 I-T



ขนาด ½" – 2"

CC-104 I-T

- Applicable to electricity controlling boxes, switchboards, sheet metals, or modifying or adding additional holes.
- Fast punching without any burrs, notches, nor sparks, which improves the appearance and increases the value of the product.
- Light, portable, easily changing dies. The max. punching capacity: Iron – D60.8(2") x 3mm stainless steel – D60.8(2")x1.2mm.
- Need to coordinate with hydraulic pump (power pump : CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800). Able to customize dies in any sizes.

แกน
R-1
R-2
R-3

ขนาด
1/2"
3/4"
1"
1 1/4"
1 1/2"
2"
2 1/2"
3"
4"

CC-104 II-T (น๊อคเอาว์)



ขนาด 2 ½" – 4"

เครื่องมือเจาะรู (น๊อคเอาว์) เจาะได้ตั้งแต่ขนาด 1/2" - 4" เจาะแผ่นเหล็กได้หนาสุด3.2 มม. SLUG-BUSTER PUNCH DRIVER SETS.

CC-104 II-T

- Applicable to electricity controlling boxes, switchboards, sheet metals, or modifying or adding additional holes.
- Fast punching without any burrs, notches, nor sparks, which improves the appearance and increases the value of the product.
- Light, portable, easily changing dies.
- The max. punching capacity: Iron – D115.3(4")x 3mm stainless steel – D115.3(4") x1.2mm. Need to coordinate with hydraulic pump (power pump: CTE-25AS CP-700-T, or foot pump: CFP-800).
- Able to customize dies in any sizes.

Item	Output (ton)	Max. Punching Thickness (mm)	Standard Die (mm)	Weight (kg)
CC-104I-T	12	Iron 3 , Stainless Steel 1.2	1/2"(22), 3/4"(27.5), 1"(34.3), 1 11/4"(43), 1 1/2"(49), 2"(60.8)	10.8
CC-104II-T	-	Iron 3 , Stainless Steel 1.2	2 1/2"(76.6), 3"(89.4), 3 1/2"(102.6), 4"(115.3)	6.4

RATCHET PUNCH

MANUAL KNOCKOUT SET WITH RATCHET WRENCH

APPLICATIONS

- 1" Hex head Ratchet Wrench allows use with 3/8" (9.5mm) and ¾ " (19.1 mm) draw studs.
- Plastic carrying case. Mild steel 3.0 mm ½" – 2" Conduit Size Manual Slug – Buster Knockout Punch Set.

CC-104RW-T



Item	Output (TON)	Max. Puching Thickness (mm)	Standard Die (mm)	Weight (kg)
CC-104RW-T	-	Iron 3, Stainless Steel 1.2	1/2(22), 3/4"(27.5), 1"(34.3), 1 11/4"(43), 1 1/2"(49), 2"(60.8)	3.7

CC-104RW-T

- Starting with drilling a hole on the switchboard, then make the axis through the hole, matching the needed die size, and finishing with putting on the adjustable ratchet wrench, then rotate it.
- Fast punching without any burrs, notches, nor sparks, which improves the appearance and increases the value of the product.
- Saving effort, easily changing dies, light, portable, no need to coordinate with hydraulic pump or cylinder set.
- The max. punching capacity: Iron – D60.8(2")x3mm; Stainless steel – D60.8(2") x1.2mm. Able to customize molds in any sizes.

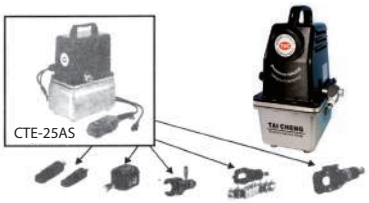
ขนาด(เฉพาะตัวน๊อคเอาว์)
1/2"
3/4"
1"
1 1/4"
1 1/2"
2"
ประแจ
สกรู น๊อต ขนาด 3/8"
สกรู น๊อต ขนาด 3/4"

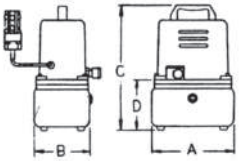
Hole : ½ (22mm), ¾" (27mm) **Size :** 1" (34.3mm), 1 ¼"(43mm), 1 ½ "(49mm), 2"(60.8mm)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

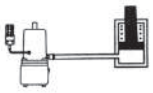
POWER PUMP
ปั๊มไฮโดรลิค

CTE-25AS

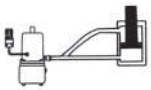




- **Single-action**



- **Double-action**



Two-speed operation

- 200 cu in/min @ 0-200 PSI
- 20 cu in/min @ 200 – 10,000 PSI
- 220 volt, 110 volt 60/50 #cycle.
- 3/8 " NPTF return to tank Pot.
- High Pressure Hose 2M.

Applications

- The nice outward appearance cast with gravitation and coated to finish; use a carbon-brushmotor output 0.4kw speed, torsion 700kg/cm 10,000 psi standard.
- Power pumps have many functions to contact a lot of functional need.
  For instant : Oil cylinder, compressed terminal iron plate, performed, cable, steel cuter, tube bender...etc.

Item	Max. output pressure (kg/cm²/psi)	Output pressure (kg/cm)2	Output Oil (L/min)	Motor (kw)	Oil storage (cc)	Net weight (kg)	Size: LxWxH (mm)
CTE-25AS	700/10,000	Low 0-20 High 20-700	Low 2.6 High 0.32	1	2,700	14.8	235x255x410

FOOT 700kg/cm 10,000 PSI
สวิตช์เท้าเหยียบ

CP-700-T



CFP-800



CP-700-2A



CFP-800-1



Features

- 10,000 PSI (700kg/cm) operation
- Two-speed operation
- High Pressure Hose 2M.
- 3/8" NPTF return to tank port.
- Aluminum Hand valve. Super cycle oil each half year, Ready to install oil pressure gauge to test the working pressure.

Selection Chart (applicable range)

Applications

- There are sing le and two stage designs for our hand pumps. General speaking two-stage is with higher effect more oil output and used by normal.
- **TYPE :** Hand and foot pump.
- **Output :** 700kg/cm 10,000 psi
- **Suggestion :** Esing hand type will be the must convenient and mom-power single acting must be change to double-action as well as equipment 4 way value to use.
- In order to design and match the requirement for large oil cylinder and longer stroke, the pump in itself must equip with a large oil tank. Have to explain on choice.

Item	Max. Output Pressure (kg/cm²/psi)	Output Pressure (kg/cm)²	Output Oil (L/min)	Oil Storage (cc)	Net Weight (kg)	Size : LxWxH (mm)
CP-700-T	700 / 10,000	Low 0 - 25 High 25-700	Low 13 High 2.3	900	8.3	520x135x150
CP-700-2A	700 / 10,000	Low 0 - 25 High 25-700	Low 13 High 2.3	2,100	12.2	610x150x150
CFP-800	700 / 10,000	Low 0 - 25 High 25-700	Low 13 High 2.3	1,200	12.6	480x155x250
CFP-800-1	700 / 10,000	Low 0 - 25 High 25-700	Low 13 High 2.3	400	10.4	480x155x250

HYDRAULIC CUTTER
คีมตัดสายไฮโดรลิค

The hydraulic cutting tool series cuts both hard and soft classes of wires. The hard wireclass including: ACSR aluminum wires with steel cores, soft copper-aluminum iron rods, steel strands, steel cables, reinforcing bars, etc. The soft wire class including: copper-aluminum cables, communication cables, and other wires (hard type tools can also cut the soft wires).

CPC-40A (Hard Type)



PS:Cutting steel core ACSR aluminum blade is better recommended 5 degrees.

- A one-shaped EHV-hydraulic cutting machine uses two-stage manual oil output – high and low voltages. The max. output pressure: 700kgf/cm^2 (10000psi).
- Lightweight, easy to carry and operate, suitable for working high above the ground.
- The special alloy steel blade is made for nicely cutting hard wires without breaking.
- The operating handle grips are made with FRP materials, so it can be insulated from 20KV voltage for 5 minutes.
- The max. cutting opening: D40mm.
- The head part can be rotated upto 180-degree; it is able to coordinate with various angles.

CPC-55A (Hard Type)



- A one-shaped EHV-hydraulic cutting machine uses two-stage manual oil output – high and low voltages. The max. output pressure: 700kgf/cm^2 (10000psi).
- Lightweight, easy to carry and operate, suitable for working high above the ground.
- The special alloy steel blade is made for nicely cutting hard wires without breaking.
- The operating handle grips are made with FRP materials, so it can be insulated from 20KV voltage for 5 minutes.
- The max. cutting opening: D55mm.
- The head part can be rotated upto 180-degree; it is able to coordinate with various angles.

CPC-85A (Soft Type)



- A one-shaped EHV-hydraulic cutting machine uses two-stage manual oil output – high and low voltages. The max. output pressure: 700kgf/cm^2 (10000psi).
- Lightweight, easy to carry and operate, suitable for working high above the ground.
- The special alloy steel blade is made for nicely cutting hard wires without breaking.
- The max. cutting opening: D85mm.
- The head part can be rotated upto 180-degree; it isable to coordinate with various angles.

Item	Output (Ton)	Opening (mm)	Cutting Capacity										Weight (kg)
			Steel Wire(mm)		Round Bar(mm)				Stranded Conduct(mm)			Telecom Cable (mm)	
			6x7	6x12	Soft Copper bar	Soft Aluminum bar	Soft Steel bar	Reinforce bar	Steel Aluminum strand	Copper Aluminum strand	Steel wire strand (1x9)		
CPC-40A	7.1	40	25	25	24	24	16	16	38	40	20	40	6
CPC-55A	7.1	55	25	25	24	24	16	18	38	55	20	55	6.5
CPC-85A	5	85	-	-	-	-	-	-	-	28/38	-	85	8.5

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HYDRAULIC CUTTER
คีมตัดสายไฮโดรลิค

CPC-85B(Soft Type)



- A single-loop cutter tool, lightweight, easy to carry and operate.
- The special alloy steel blade is made for nicely cutting soft wires without breaking.
- The max. cutting opening: D85mm.
- Need to coordinate with hydraulic pump (automatic: CTE-25AS, manual: CP-700-T, or pedal: CFP-800).

CPC-40B (Hard Type)



P.S. : It is recommended to use a 5-degree blade to cut an ACSR aluminum wire with steel core.

- A single-loop cutter tool, lightweight, easy to carry and operate.
- The special alloy steel blade is made for nicely cutting soft wires without breaking.
- The max. cutting opening: D40mm.
- Need to coordinate with hydraulic pump (automatic: CTE-25AS, manual: CP-700-T, or pedal: CFP-800).

CPC-55B (Hard Type)



- A single-loop cutter tool, lightweight, easy to carry and operate.
- The special alloy steel blade is made for nicely cutting soft wires without breaking.
- The max. cutting opening: D55mm.
- Need to coordinate with hydraulic pump (automatic: CTE-25AS, manual : CP-700-T, or pedal: CFP-800).

Item	Output (Ton)	Opening (mm)	Cutting Capacity									Telecom Cable (mm)	Weight (kg)
			Steel Wire(mm)		Round Bar(mm)				Stranded Conduct(mm)				
			6x7	6x12	Soft Copper bar	Soft Aluminum bar	Soft Steel bar	Reinforce bar	Steel Aluminum strand	Copper Aluminum strand	Steel wire strand (1x9)		
CPC-40B	7.1	40	25	25	24	24	16	16	38	40	20	40	5
CPC-55B	7.1	55	25	25	24	24	16	18	38	55	20	55	4.5
CPC-85B	5	85	-	-	-	-	-	-	-	28/38	-	85	6

หมายเหตุ : ปั๊ม CP-700-T = 13,800, ปั๊ม CP-700-2A = 16,500 รายละเอียดปั๊มดูที่หน้า 369

CC-50B-A



- A single-loop cutter tool, lightweight, easy to carry and operate.
- The special alloy steel blade is made for nicely cutting soft wires without breaking.
- The max. cutting opening: D50mm (630mm^2).
- Need to coordinate with hydraulic pump (automatic: CTE-25AS, manual: CP-700-T, or pedal: CFP-800).

Item	Output (Ton)	Opening (mm)	Cutting Capacity									Telecom Cable (mm)	Weight (kg)
			Steel Wire(mm)		Round Bar(mm)				Stranded Conduct(mm)				
			6x7	6x12	Soft Copper bar	Soft Aluminum bar	Soft Steel bar	Reinforce bar	Steel Aluminum strand	Copper Aluminum strand	Steel wire strand (1x9)		
CC-50B-A	12	50	-	-	-	-	-	-	-	50	-	50	5.4

หมายเหตุ : ปั๊ม CP-700-T , ปั๊ม CP-700-2A รายละเอียดปั๊มดูที่หน้า 369

BENDER
เครื่องมือดัดท่อ ดัดสายไฟ

CPB-3-T IMC, RSC 1/2" - 3"
เครื่องดัดท่อ



- Applicable to indoor electrical wires, water pipes, gas pipes, thick pipes, fire-fighng, and other bending engineer. It can bend and curve smoothly at different angles without wrinkles.
- The max. bending angle: 90 degrees. The max. bending diameter: 3". It can complete bending 1/2"~2" diameters at once; and approx. fivemes for the 2 1/2"~3" without depression.
- Meets the domesc piping demand, using aluminum alloy and ducle iron as alternaves for materials of bending dies.
- Need to coordinate with hydraulic pump (power pump: CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).

CPB-4-T IMC, RSC 1/2" - 4"





- Applicable to indoor electrical wires, water pipes, gas pipes, thick pipes, fire-fighng, and other bending engineer. It can bend and curve smoothly at different angles without wrinkles.
- The max. bending angle: 90 degrees. The max. bending diameter: 4". It can complete bending 1/2"~2" diameters at once; and approx. five mes for the 2 1/2"~4" without depression.
- Meets the domesc piping demand, using aluminum alloy and ducle iron as alternaves for materials of bending dies.
- Need to coordinate with hydraulic pump (power pump:CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).

Size
1/2"
3/4"
1"
1 1/4"
1 1/2"
2"
2 1/2"
3"
3 1/2"
4"

CP-700-2A



Item	Output (ton)	Thick Steel Tube (B)	Gas Pipe (SGP)	Weight (kg)
CPB-3-T	17	D16(1/2")~D82(3")	D15(1/2")~D80(3")	18.6
CPB-4-T	20	D16(1/2")~D104(4")	D15(1/2")~D100(4")	28.8

หมายเหตุ : ปั๊ม CP-700-T , ปั๊ม CP-700-2A รายละเอียดปั๊มดูที่หน้า 369

Standard Size Chart

Gas pipe (SGP)				
Pipe Size	Pipe's Outer Diameter	Pipe's Inner Diameter	Pipe's Thickness	Bending Radius
SGP-15(1/2)	21.7	16.1	2.8	60
SGP-20(3/4)	27.2	21.6	2.8	80
SGP-25(1)	34	27.6	3.2	100
SGP-32(1 1/4)	42.7	35.7	3.5	130
SGP-40(1 1/2)	48.6	41.6	3.5	160
SGP-50(2)	60.5	52.9	3.8	220
SGP-65(2 1/2)	76.3	67.9	4.2	320
SGP-80(3)	89.1	80.7	4.2	425
SGP-90(3 1/2)	101.6	93.2	4.2	550
SGP-100(4)	114.3	105.3	4.2	600

Thick steel tube (B)				
Pipe Size	Pipe's Outer Diameter	Pipe's Inner Diameter	Pipe's Thickness	Bending Radius
B16(1/2)	21	16.4	2.3	75
B22(3/4)	26.5	21.9	2.3	90
B28(1)	33.3	28.3	2.5	130
B36(1 1/4)	41.9	36.9	2.5	195
B42(1 1/2)	47.8	42.8	2.5	230
B54(2)	59.6	54	2.8	270
B70(2 1/2)	75.2	69.6	2.8	450
B82(3)	87.9	82.3	2.8	500
B92(3 1/2)	100.7	93.7	3.5	500
B104(4)	113.4	106.4	3.5	680

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

BENDER
เครื่องมือดัดท่อ ดัดสายไฟ

CPB-19A, CPB-25A, CPB-31A



- **Manual Bending E.M.T Pipe Tools (90-degree)**
- An aluminum gravity die casting has lightweight, high strength,
- smooth bending without wrinkling.
- A free bending E.M.T tube has the max. bending angle of 90 degrees.
- Attached with a handle that can easily make a one-time bending.

Item	Applicable E.M.T Tube Diameter (mm)	Bending Angle	Weight (kg)
CPB-19	D19	90	0.5
CPB-25A	D25	90	0.8
CPB-31	D31	90	1.5

CBH-90 เครื่องดัดสายไฟดัดได้ถึง 750 MCM (500) mm²



- **Manual Ratchet Cable Bending Tool**
- An aluminum gravity die casting has lightweight, high strength, smooth bending without wrinkling.
- A free bending E.M.T tube has the max. bending angle of 45 degrees.
- Attached with a handle that can easily make a one-time bending.
- Simplifies and cable installation.
- Bends copper or aluminum through 750 MCM (325)
- Packed in carrying case.
- 90 Bending Radius.

Item	Applicable bending range (mm)	Bending Angle	Weight (kg)
CBH-90	150 ~ 325	90	3.1

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

FEMAIL WIRE PROCESSING MACHINE
เครื่องมือดัด, ตัดแผ่นทองแดง, อลูมิเนียม ระบบไฮโดรลิค

Hydraulic, separate type to bend and cut the copper plate and aluminum plate.

- Available to switch case, distributed electricity-tray; be automatic to control the distributed cable of engineering use this item easily.
- The opening of copper plate cut by CWC-200V is smooth, which is the excellent item.

CWC-150, CWC-200



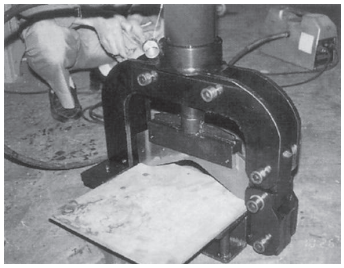
Tool for cutting copper plate

CWC-150V, CWC-200V



Tool for cutting copper plate,
V shape of copper clips

เครื่องตัดบัสบาร์ทองแดง, อลูมิเนียม ตัดได้สูงสุดหน้ากว้าง 150 มม. 10 มม.



- This series of tools has smaller volume and lighter weight, which is convenient for the users to carry around and operate outside. This series is able to use on processes copper, aluminum, iron, and all types of busbars.

CWC-150, CWC-200

Busbar Cutting Tool

- Applicable to manufacturing factories, on-off boxes, and switchboard auto-controlled industrial wiring work.
- The horizontal cutter design can avoid wasting material on extra busbar.
- The adjustable bolt helps preventing the busbar from titled during cutting.
- The max. cutting capacity – CWC-150: 150x10mm (CWC-200: 150x10mm).
- Need to coordinate with hydraulic pump (power pump : CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).

CWC-150V, CWC-200V

V-Shaped Busbar Cutting Tool

- Applicable to manufacturing factories, on-off boxes, and switchboard auto-controlled industrial wiring work.
- The V-shaped cutter design makes the cutting side smoother by avoiding cutting notches.
- The max. cutting capacity – CWC-150V: 150x10mm (CWC-200V: 150x10mm).
- Need to coordinate with hydraulic pump (power pump: CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).

Item	Output (ton)	Cutting Capacity (mm)	Weight (kg)
CWC-150	16	Copper, Aluminum 150x10m, Iron 150x6	26.5
CWC-200	35	Copper, Aluminum 200x10m, Iron 200x6	31.2
CWC-150V	20	Copper, Aluminum 150x10m, Iron 150x6	23
CWC-200V	20	Copper, Aluminum 200x10m, Iron 200x6	28.7

หมายเหตุ : ปั๊ม CP-700-T , ปั๊ม CP-700-2A = รายละเอียดปั๊มดูที่หน้า 369

CP-700-T

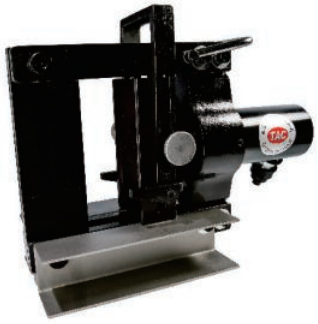


*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

FEMALE WIRE PROCESSING MACHINE
เครื่องมือดัด, ตัดแผ่นทองแดง, อลูมิเนียม ระบบไฮโดรลิค

- Available to switch case, distributed electricity-tray; be automatic to control the distributed cable of engineering use this item easily.
- The opening of copper plate cut by CWC-200V is smooth, which is the excellent item.

CB-150D



CB-150D
Copper Plate Blending Tool

- Applicable to manufacturing factories, on-off boxes, and switchboard auto-controlled industrial wiring work.
- The liftable design of this tool can easily take out a busbar by taking away the tenon if the busbar is too long or in a bended N-shaped or C-shape.
- The horizontal placement design prevents the busbar from twisted and avoids products leaning one side by firmly supporting the bracket to keep it balanced while bending. Provides angle and scale for controlling the bending angle easily. The max. bending capacity is 150x10mm.
- Need to coordinate with hydraulic pump (power pump:CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).

CB-200A-T



CB-200A-T
Busbar Straight-Band Tool

- Applicable to manufacturing factories, on-off boxes, and switchboard auto-controlled industrial wiring work.
- The use of the axis in large-area-bending design prevents the busbar from twisted while bending.
- Provides angle and scale for controlling the bending angle easily. The max. bending capacity is 200x10mm.
- Need to coordinate with hydraulic pump (power pump:CTE-25AS, hand pump: CP-700-T, or foot pump: CFP-800).

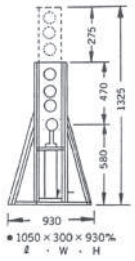
Item	Output (TON)	Bending Capacity (mm)	Weight (kg)
CB-150D	16	Copper, Aluminum 150x10	17.7
CB-200A-T	16	Copper, Aluminum 200x10	24

หมายเหตุ : ปั๊ม CP-700-T , ปั๊ม CP-700-2A **รายละเอียดปั๊มดูที่หน้า 369**

HYDRAULIC CABLE REEL STANDS AND SPINDLES
เครื่องมือยกล้อสายไฟไฮโดรลิค และชนิดธรรมดา

CRS-10 เครื่องมือยกสายไฟ-ไฮโดรลิค สามารถยกได้ 10 ตัน





- Using the hydraulic jacks, lift the cable tray up, use bearing drive the cable releasing, easy and effort-saving.
- Suitable for outdoor underground cable line and air-lines operations, house construction and other switchboard wiring.
- With fixed cable tray by wheel seats, so that the tray can keep balance.
- Max. load : 10 Tons.

CRS-46 ขายกล้อสายไฟไฮโดรลิค สามารถยกได้ 2 ตัน





- Using the hydraulic jacks, lift the cable tray up, use bearing drive the cable releasing, easy and effort-saving.
- Suitable for outdoor underground cable line and air-lines operations, house construction and other switchboard wiring.
- With fixed cable tray by wheel seats, so that the tray can keep balance.
- Max. load : 2 Tons.

Item	Tonnage (ton)	Stroke (mm)	Height (mm)	Iron bar (mm)	Single frame weight (kg)	Size (mm)
CRS-46	2	245	700	D45 x 1,500	16	600 x 260 x 455
CRS-10	10	245	1,325	D57 x 1,700	44	1,050 x 300 x 930

CABLE REEL STANDS AND SPINDLES

CRS-5



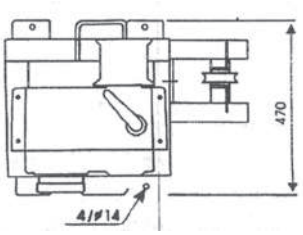
Weight : 800 kg
Dimension : 450 mm x 760 mm

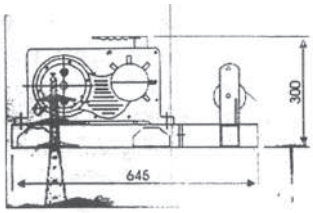
*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HYDRAULIC TOOLS
เครื่องมือไฮโดรลิค

CCP-2500 เครื่องดึงสายไฟ ชนิด 2 สปีด







เหมาะสำหรับการเดินสายไฟ, งานร้อยท่อ รวดเร็ว และประหยัดแรงงาน

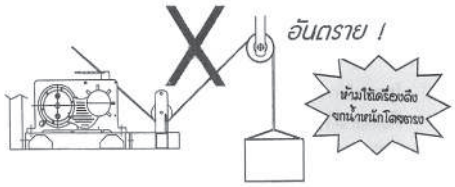
คุณสมบัติพิเศษ

- มีประโยชน์ในการใช้งานสูงเท่ากับแรงดึง 30 คนเสียงเครื่องรบกวนต่ำ
- มีระบบป้องกันอัตโนมัติจะตัดไฟเองเมื่อไฟมาผิดปกติมีความปลอดภัยสูง
- สามารถหมุนดึงสายไปข้างหน้าและหมุนกลับ เก็บสายได้สะดวก
- เลือกความเร็วได้ 2 สปีด

วิธีการใช้งานก่อนใช้งานควรปฏิบัติดังนี้

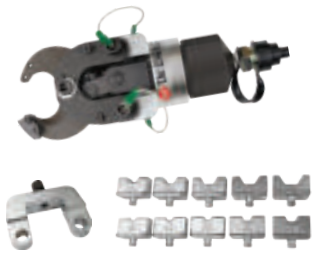
- นำเครื่องตั้งพื้นราบเสมอ
- ปรับสปีดความเร็ว หมุนด้ามปรับความเร็วถึงที่เหมาะสมแล้วปล่อยที่ตั้งลง ตรวจสอบการปรับความเร็วให้ถูกต้อง
- ตั้งสวิตช์ไว้ที่ RESET ตั้งสวิตช์ไว้ที่เดินหน้า
- ปล่อยกระแสไฟเข้า เปิดสวิตช์เท้าเหยียบ ล้อสายไฟจะหมุนตามนาฬิกาเหยียบอีกครั้งเครื่องจะหยุด

ความเร็ว	ความเร็วสูง 5 M/ min	ความเร็วต่ำ 3 M/ min
แรงดึง	1,500 kg 30 แรงคน	2,500 kg 50 แรงคน
มอเตอร์	400 W	
ไฟฟ้า	220 V	
น้ำหนัก	60 kg	
อุปกรณ์	สวิตช์ปิด-เปิดเท้าเหยียบ, ลวดสลิง	
อุปกรณ์เลือกซื้อ	ล้อเก็บสาย, แขนตั้ง	

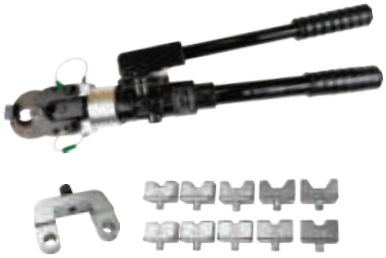


MULTIPLE TYPE
เครื่องมือไฮโดรลิค

CO-5250M+T250+250AT
ชุดเครื่องมือไฮโดรลิค ย้ำ และตัด
(ย้ำแบบ Hexagon ขนาด 16-240 mm²)



CYO5250M+T250+250AT
ชุดเครื่องมือไฮโดรลิค ย้ำ และตัด
(ย้ำแบบ Hexagon ขนาด 16-240 mm²)



250AT-104I
ชุดเสริม เจาะ
(ขนาด 1/2" ถึง 2")



250AT-104II
ชุดเสริม เจาะ
(ขนาด 2 1/2" ถึง 4")



*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

STRIPPER
คีมปอกสาย

MARLOW

■ WIRE STRIPPER คีมปอกสาย

ME-A.B.C

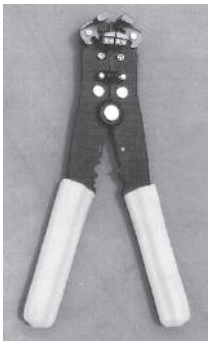


Model	ขนาดสาย
ME-A	0.5 - 2.0 mm^2
ME-B	1.0 - 3.2 mm^2
ME-E	8 - 22 mm^2

MS-107(KS-170)
คีมปอกสาย 0.5mm^2 - 6mm^2



MD-163(GD-163)
คีมปอกตัด-ย้ำ 1.5mm^2 - 6mm^2



■ CABLE STRIPPER มีดปอกสาย







Used thumb to press Stripper onto sheath | Make circular cur | Make longitudinal out | Peet away sheach

Old model	New model	ขนาดสาย
CS-16	**MS-16**	ø4 - 16 mm.
CS-25	**MS-25**	ø8 - 28 mm.

■ MPC 25 คีมตัด PVC
25 mm





Model	ขนาดสาย	
MPC-6	0 mm - 25 mm	ø3/4"

■ LY-104 AEG : 10, 12, 14, 16, 18 มีดปอก, ตัด, ย้ำสายไฟ



Old model	New model
LY-104A	**MT104I**

LY-104 = 7-in-1 Tool

1. Wire Stripper
2. Wire Cutter
3. Cutter (Solid Wire)
4. Pier
5. Wire Loop
6. Measure Scale
7. Crimp

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MARLOW

MULTIFUNCTION TOOLS
เครื่องมือมัลติฟังก์ชั่น

MK-80A (CYO-80A) คีมย้ำหางปลา
ย้ำได้ตั้งแต่ 1.5 - 150 มม²



■ Hand type of compressed tools

Ratchet type and pushing type of machine principle action.
Terminal compressed : point type min 1.25 mm², max. 150 mm², hexagonal type min. 6 mm², max. 150 mm²
European DIN 1.5 mm² ~ 150 mm²

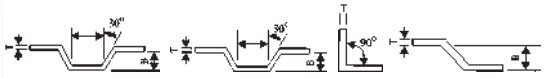
- Bare terminal, insulated-compressed terminal, rigidly precise, it not easy fall out.
- Compressed terminal have point type and hexagonal type (hexagonal one is positive at present).
- Wonderful coating and rust resisting - good quality of Chromium Vanadium-steel and machine body manufactured by ISO 9002 of wax-removed precise cast factory.
- Sincere heat treatment, the equipment of treatment controlled by computer comes from ISO 9002 company.

Old model	New model	Name	Size (mm)	Weight (g)	Compressed standard DIN mm²	Compressed
CYO-80A	**MK-80**	**Open terminal pincer**	570	3,160	10, 16, 25, 35, 50, 70, 95, 120	Point

MK-80B (CYO-80B) คีมดัดบัสบาร์และคีมย้ำหางปลา



Copper row hand tool with many functions.

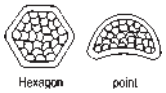


■ Copper Row Hand Tools Terminal Up To 10 mm²~ 50 mm²

- A copper row hand tool with many functions, it has five functions.
- The design for dies is replaceable type.
- Easy to operate, weight is only 3.1 kg.
- Suitable to electric rationed plate, electric distributed plate engineering operation convenient to carry.
- Packed with an iron box.
- The maximum standard to 100A of BH uses 3 mm of copper row, 50A-705A use 2 mm of copper row, below 50A use 1 mm of copper row.

Item number	A	B	T/mm
MK-1001	15	10	1
MK-1002	15	10	2
MK-1003	20	12	3
MK-1004	24	14	3
MK-1005	Terminal 10²~50² mm		

COMPRESSED TYPE



Old model	New model	Name	Size (mm)	Weight (g)	Compressed standard DIN mm²	Compressed
CYO-80B	**MK-80B**	**Bas Bar Benders Hand**		2,700	ดัดบัสบาร์ถึงขนาด กว้าง 20 มม หนา 3 มม	-

MK-150 (CYO-150) คีมย้ำหางปลา
ย้ำได้ตั้งแต่ 10 - 150 มม²



Old model	New model	Name	Size (mm)	Weight (g)	Compressed standard DIN mm²	Compressed
CYO-150	**MK-150**	**Compressed Tool 8-150 SM**	685	4,500	10, 16, 25, 35, 50-70, 95, 120-150	Point

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

CABLE AND STEEL ROPES CUTTING TOOLS
เครื่องมือตัดสายเคเบิ้ล และเชือกเหล็ก

MARLOW

Cable, steel ropes cutting tools คีมตัดสายไฟ

Cable 10 mm^2~ 500 mm^2, round bars Ø5 mm ~ Ø9 mm, steel ropes Ø9 mm ~ Ø14 mm

- The operated handle is made from alloy-aluminum metal, treated by T6 heat; strong, durable and handy.
- The blade is forged by Chromium-Vanadium-steel, which is sharp to save labor on cutting.
- Ratchet cable cutter MS-325, MS-520 specialize in cutting Copper and Aluminum AWG 750 MCM, 1,000 MCM, (325 mm^2, 500 mm^2)
- Couldn't cut steel rope and-or iron-bar materials; cable JIS cutters are suitable for IV. SV cables.

ME-22



ME-38



ME-60



ME-100



ME-400



ME-500



MS-325



MS-520



Wire Rope Cutter

Round bar wire rope cutter

- Specialize in cutting iron bars and steel ropes.
- The blade is forged by Tungsten steel.
- Type : MI-60, MI-200, MI-624

MI-60



MI-200



MI-624



Selection Chart (applicable range)

Old number	Item number	Length		Weight	Copper cable	
		mm	in	kg	DIN mm²	AWG
CC-22	**ME-22**	160	6 1/4"	0.193	25	# 4
CC-38	**ME-38**	210	8 1/4"	0.372	50	# 2
CC-60	**ME-60**	235	9 1/2"	0.510	60	# 1/0
CC-100	**ME-100**	320	12 5/8"	0.706	120	# 3/0
CC-250	**ME-250**	600	23 5/8"	1.634	300	500
CC-400	**ME-400**	690	26 3/4"	2.186	400	750
CC-500	**ME-500**	800	31 1/2"	2.960	630	1,000
CS-325	**MS-325**	255	9 1/2"	0.598	400	750
CS-520	**MS-520**	400	15 1/4"	1.534	630	1,000
-	**MI-60**	315	12 3/8"	0.734	round : ø5 mm / wire rope : ø5 mm	
-	**MI-200**	585	23"	1.644	round bar : ø9 mm / wire rope : ø10 mm	
-	**MI-624**	800	31 1/4"	5.142	steel wire : 1/2", ø12 mm	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MARLOW

HAND TYPE OF COMPRESSION TOOLS
คีมย้ำสายไฟ

Hand type of compression tools Capcity : 1.5 mm 2 ~ 150 mm² คีมย้ำสายไฟ

Hand pressed tool : Ratchet type and push type of machine motion

- Bare terminal, insulated terminal pressed; very tight and not easy to drop with good electric conducting.
- Pressed terminal have point type and hexagonal type (hexagonal type press is the most affirmative now)
- Wonderful coating and resistance rust treatment.
- excellent quality of chromium vanadium steel and cast iron for machine body. Manufacture by ISO 9002 precision cast mill.
- Strict heat treatment, computer control handle by ISO 9002.























Selection Chart (applicable range)

Old number	Item number	Length (mm)	Weight (kg)	Terminal sizes			Shape
				AWG/MCM	JIS mm²	DIN mm²	
MH-02	**MH-02**	200	0.23	# 22-16, 16-14	1.25-2.0	1.2, 2.5	Point
CT-08	**MH-08**	265	0.42	# 12-10, 8, 6	1.25-8	1.5, 2.5, 6.0, 10	Point
CT-14	**MH-14**	295	0.5	# 22-16, 16-14, 12-10, 8, 6	2.0-14	2.5, 6.0, 10, 16	Point
CT-25	**MH-22**	350	0.74	# 22-10, 8, 6, 4	5.5-22	4-6, 10, 16, 25	Point
	MH-38H	365	0.82	# 8, 6, 2	14-38	16, 25, 35, 50	Hexagon
MH-123A	**MH-123A**	263	0.45	-	-	1.5-2.5, 6	Point
CK-05	**MK-05**	380	1.05	# 12-10, 8, 6, 4, 2	6-70	6, 10, 16, 25, 35, 50, 70	Hexagon
CK-06	**MK-06**	650	2.972	# 8, 6, 4, 2, 1/0, 2/0, 3/0	8-80	10, 16, 25, 35, 50, 70, 95, 120	Hexagon
CT-38	**MT-38**	545	2.5	# 8, 6, 2	8-38	10, 16, 25, 50	Point
CT-80	**MT-80**	670	4.94	# 8, 6, 4, 2, 1/0-3/0	8-80	16, 25, 35, 50-70, 95-120	Point
CT-100	**MT-100**	670	4.94	# 4, 2, 1/0, 4/0	22-100	25, 35, 50-70, 95, 120	Point
CK-07	**MK-07**	650	3.0	-	-	25, 35, 50, 70, 95, 120, 150	Hexagon

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

SWITCH AND DISCONNECT STICK
ไม้ชักฟิวส์

ไม้ชักฟิวส์ HIGH VOLTAGE INSULATED TUBE



For operating and closing disconnect switches and cutouts, and also for installing and removing open-link fuse links.

- Test to CNS 9576.C4370. 90kV per feet for 5 minutes.
- Quick assemble, and easy to store these sticks in PVC bag.
- Stick is made of fiberglass, of diameter "1-1/4 and 1-1/2"
- Surface finish makes bright yellow color.
- Switch and disconnect head is made of high strength bronze.

Model	Pole dia. & length	No. piece
HOTS-8	1-1/4" x 8' x 1	1
HOTS-10	1-1/4" x 10' x 1	1
HOTS-12	1-1/4" x 12' x 1	1
HOTS-16	1-1/4" x 8' x 1 + 1-1/2" x 8' x 1	2
HOTS-18	1-1/4" x 8' x 1 + 1-1/2" x 10' x 1	2
HOTS-20	1-1/4" x 10' x 1 + 1-1/2" x 10' x 1	2
HOTS-24	1-1/4" x 12' x 1 + 1-1/2" x 12' x 1	2
HOTS-24-1	1-1/4" x 8' x 1 + 1-1/2" x 8' x 2	3

HIGH VOLTAGE INSULATED TUBE

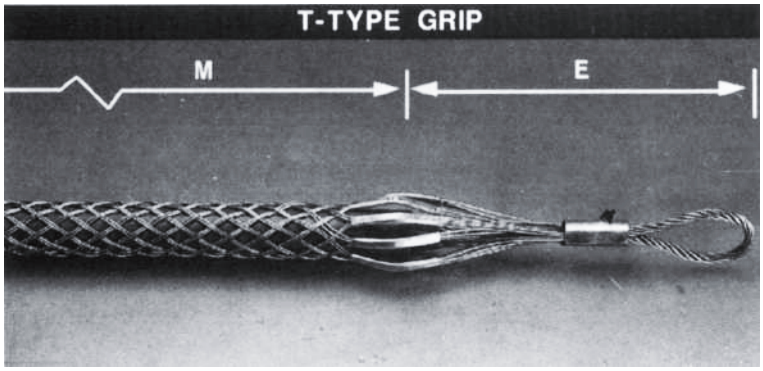


- Test to CNS 9576.C4370. 90kV per feet.
- Avoid any injury while working near the pole top, for safety purpose.
- Used for covering the cable line.
- Avoid any injury while working on the construction near the cable line, for safety purpose.

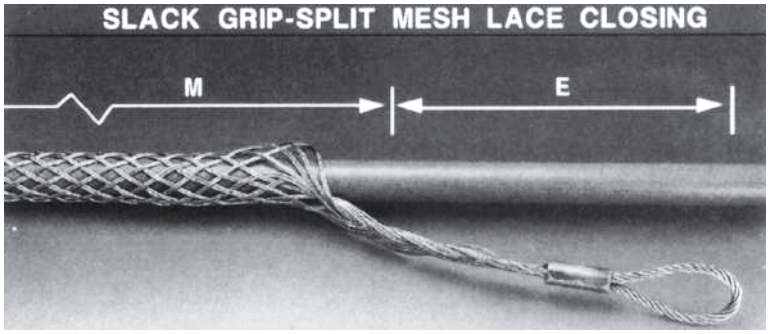
Model	Length	Diameter
IT-25M	2.5 M	35 mm
IT-3M	3 M	35 mm

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HARU® PULLING GRIPS
ตะกร้อดึงสายไฟ



Model number	Cable diameter range inches	Approx breaking strength lbs	E (mm)	M (mm)
Short				
TG-050-24	0.50 - 0.61	4,500	200	300
TG-062-24	0.62 - 0.74	5,600	200	500
TG-075-24	0.75 - 0.99	6,800	230	550
TG-100-24	1.00 - 1.49	9,600	230	600
TG-150-24	1.50 - 1.99	16,400	280	650
TG-200-24	2.00 - 2.49	18,500	300	700
TG-250-24	2.50 - 2.99	24,500	300	750
TG-300-24	3.00 - 3.49	24,500	350	800
TG-350-24	3.50 - 3.99	31,000	450	1,420
TG-350-36	3.50 - 3.99	31,000	350	1,050



STANDARD

DOUBLE WEAVE

Model number	Cable diameter range inches	Approx breaking strength lbs	E (mm)	M (mm)
SG-075A	0.75 - 0.99	2,500	127	600
SG-100A	1.00 - 1.24	3,500	127	700
SG-125A	1.25 - 1.49	4,000	152	800
SG-150A	1.50 - 1.74	4,000	229	900
SG-200A	2.00 - 2.49	4,000	254	900
SG-250A	2.50 - 2.99	4,000	305	1,000
SG-350A	3.50 - 3.99	4,000	305	1,100

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

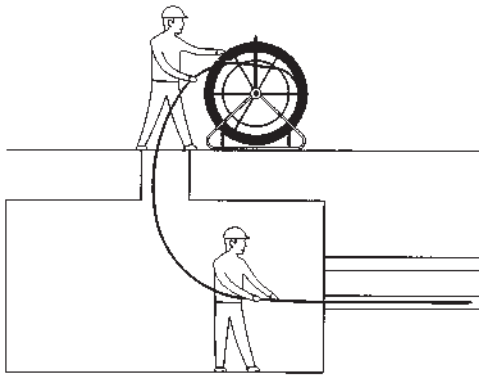
F.R.P. DUCT RODDER
ตัวนำดึงสายไฟ

- **Model 220-3**

  * For conduct and clean of the underground cable installation.

- **ตัวนำดึงสายไฟ**

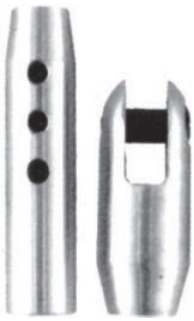




Item no.	Height	Max.	Storage
220-3-200	0.60 m	6 mm	200 mtr

- **Model 230-1**



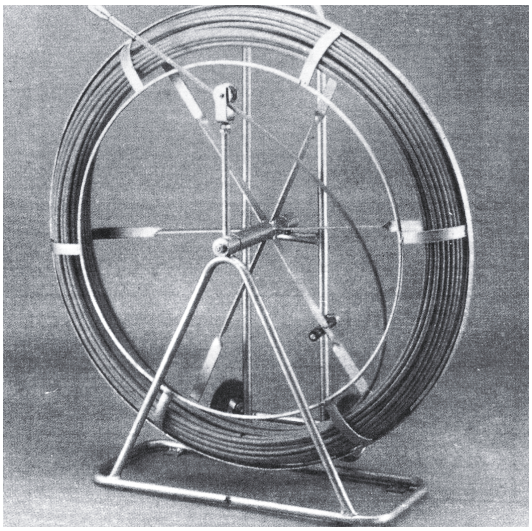


Item no.	Height	Max.	Storage
230-1-50	1 m	11 mm	50 mtr
230-1-150	1 m	11 mm	150 mtr
230-1-200	1 m	11 mm	200 mtr
230-1-300	1 m	11 mm	300 mtr
230-1-450	1.2 m	11 mm	450 mtr
230-1-300-14	1.3 m	11 mm	300 mtr

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HARU® F.R.P. CONDUIT SNAKE
ตัวนำดึงสายไฟ

- **Model 220-1**



- **ตัวนำดึงสายไฟ**

Reel : **Hight Ø1 M Weight 19 Kg.**
Hight Ø1.2 M Weight 22 Kg.

Length : **50m, 100m, 120m, 150m, 200m, 240m, 250m, 300m, or any length**

Item no.	Diameter	Length
FRP50	11 M/M	50M
FRP100	11 M/M	100M
FRP120	11 M/M	120M
FRP150	11 M/M	150M
FRP200	11 M/M	200M

CABLE PULLING

ตัวนำดึงสายไฟในท่อร้อยสาย



- ใช้ง่าย ไม่เกิดสนิมและทนแรงดึงได้ถึง 125 กิโลกรัม
- ปลอดภัย ไม่เป็นสื่อนำไฟฟ้า
- มีหัวตัวนำทางซึ่งเป็นอิสระหมุนได้รอบตัวทำให้ร้อยสายไฟฟ้าได้รวดเร็ว และคล่องกว่า

Item no.	Diameter	Length
NF-15	4.5 M/M	15 M
NF-30	4.5 M/M	30 M
NF-50	4.5 M/M	50 M

SURELY



- ใช้ง่าย ม้วนเก็บง่ายไม่เกิดสนิม
- ประกอบด้วยลวดสปริง 3 เส้น ทุกเส้นหุ้มด้วย PVC ทนแรงดึงได้ถึง 400 กิโลกรัม
- มีหัวตัวนำทำให้ร้อยสายไฟฟ้าได้อย่างรวดเร็ว

Item no.	Diameter	Length
LK-W15	6 M/M	15 M
LK-W30	6 M/M	30 M
LK-W50	6 M/M	50 M

HARU® GRIP
กริ๊บจับสายไฟ

SD WIRE GRIP
Also for Copper Messenger Wire



Model	Conductor dia.(mm)	Safe load	Weight kg
SD-1000C	2.6-15	1 TON	0.6

2 TON MIGHTY GRIP
Also for Copper Messenger Wire



Model	Conductor dia.(mm)	Safe load	Weight kg
S-2000C	4 - 22	2 TON	1.3

3 TON-L-GRIP
For Copper cable, covered condutor and messenger wire.



Model	Conductor dia.(mm)	Safe load	Weight kg
S-3000CL	16 - 32	3 TON	2.8

PAT NGK GRIPS



Model	Min-Max (mm)	Max. Safe Load lbs	Weight (kg)
1656-20	5.08 - 10.16	4500	1.36
1656-30	7.87 - 13.46	4500	1.7
1656-40	13.46 - 18.8	8000	3.4
1656-50	18.04 - 21.83	8000	3.4

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HARU® PULLER
พูลเลอร์

MODEL 1040



RATCHET PULLER SET 1 TON PULLER

Capacity	Weight (kg)
1 TON	5.2

MODEL 1506



RATCHET PULLER SET 1.5 TON PULLER

Capacity	Weight (kg)
1.5 TON	6.2

JAW & JAW



Model	Working load limit (kg)	Weight (kg)	Dia (mm)
HGS-3000	1000	0.25	24
HGS-8000	4000	0.9	38

HARU® SAFETY BELT
เข็มขัดนิรภัย

MODEL HC-12 (For single suspension only)



Working Limit 100 Kg.
EN Standard Safe Load
Nylon Life Line
dia. 13 mm, length 1,500 mm
Nylon Body Belt [twill fabric]
width 50 mm. length 1,200 mm
weight approx. 1.11 kgs.
Safety belt with 12 mm dia. Life line is also available.

MODEL HC-27 (For both U-shaped and single-line suspension)



Working Limit 100 Kg.
EN Standard Safe Load
Nylon Life Line
dia. 16 mm, length 2,200 mm
Nylon Inner Belt
width 75 mm. length 700 mm
Nylon Outlet Belt
width 45 mm. length 1,200 mm
weight approx. 2,000 g

MODEL HC-113 (For both U-shaped and single-line suspension)



Working Limit 100 Kg.
EN Standard Safe Load
Nylon life Line
dia. 16 mm, length 2,200 mm
Nylon Inner Belt
width 90 mm. length 700 mm
Nylon Outlet Belt
width 45 mm. length 1,200 mm
weight approx. 2,600 g

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HARU® SAFETY HARNESS / LANYARD
เข็มขัดแบบเต็มตัว / เชือกกันตก

*** Safety harness and lanyard are strongly recommend when working at height above 2 m.**

MODEL TH-201



Working Limit 100 Kg.
EN Standard Safe Load

MODEL HC-102



Working Limit 100 Kg.
EN Standard Safe Load

Model	Front	D Ring back	Side	Strap buckles			Special feature
				Chest	Shoukder	Leg	
TH-201	N	Y	N	Y	Y	Y	Simple: Light Weight, Easy to wear.
HC-102	N	Y	Y	N	Y	Y	Standard: D Ring on waist for snap hook.

LANYARD

*** Safety harness and lanyard are strongly recommend when working at height above 2 m.**

MODEL R150BC



Large Snap Hook + Karabiner	
Model	Lanyard specification
R150BC	14 mm Rope x 1.5 mtr

MODEL LA15



Large Snap Hook + Karabiner	
Model	Lanyard specification
LA15	Cushion Lanyard x 1.5 mtr

MODEL DLA15/DLA20



Large Snap Hook x2 + Karabiner	
Model	Lanyard specification
DLA15	Cushion Lanyard x 1.5mtr
DLA20	Cushion Lanyard x 2.0mtr

HARU® RETRACTABLE LIFELINE
รอกนิรภัย

*** The retract system helps individual protecting against falls work.**

MODEL HB-10



MODEL HB-15



MODEL HB-20



ANCHORAGE ROPE

Connect snap hook to the thimble and insert in the karabiner.

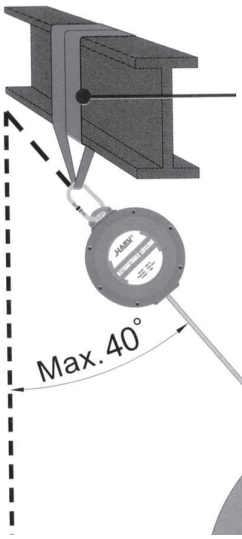


CONDUIT ROPE

When lifeline is fixed on the top, the confuit rope is used to bring down the cable for the user to connect the snap hook on the D-Ring of safety harness.



10m, 15m, 20m



** HB-10 used galvanized wire, HB-10(S) used stainless cable.

Model	Cable	Length	Wire breaking	Max. stop distance	Weight
HB-10 (S)	4 mm	10 m	1,250 kg up	1.5 m	4.6 kg
HB-15 (S)	4 mm	15 m	1,250 kg up	1.5 m	6.6 kg
HB-20 (S)	4 mm	20 m	1,250 kg up	1.5 m	8.6 kg

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

HARU® RETRACTABLE LIFELINE
รอกนิรภัย

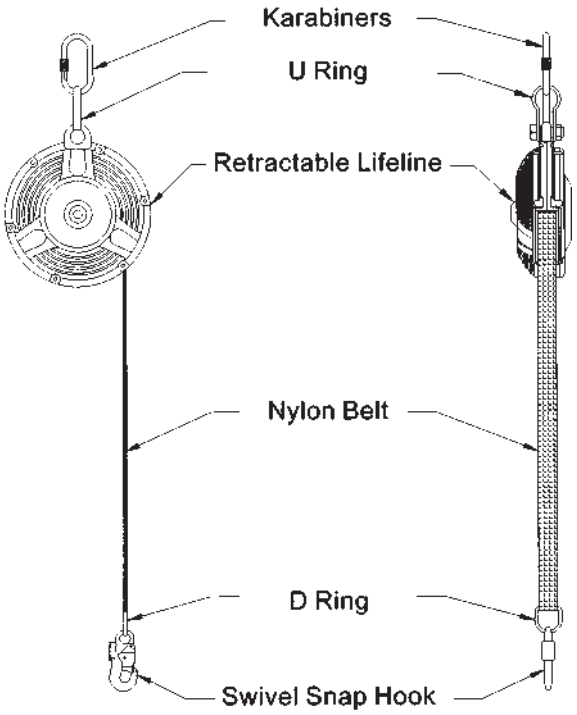
MODEL HB-6N

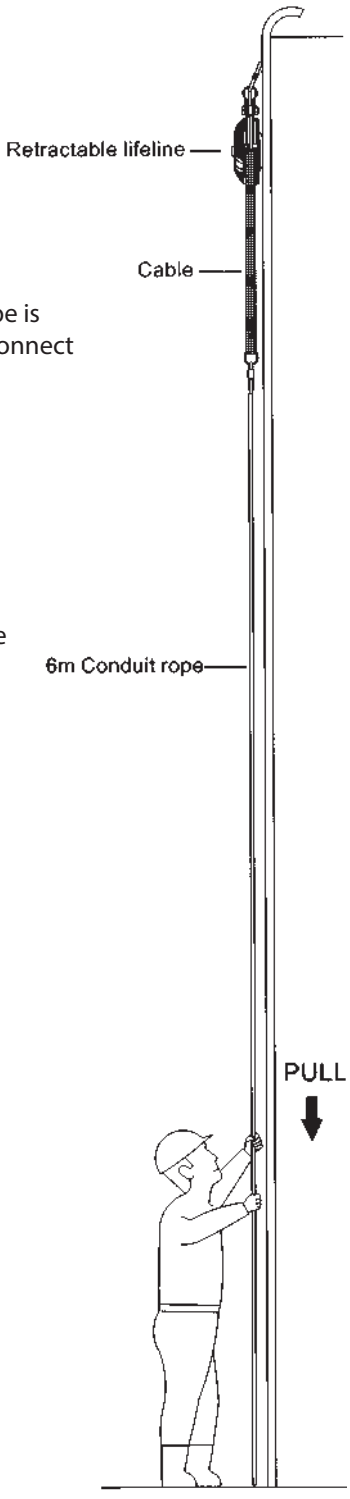


CONDUIT ROPE

When lifeline is fixed on the top, the conduit rope is used to bring down the cable for the user to connect the snap hook on the D-Ring of safety harness.







Model	Cable	Length	Wire breaking	Max. stop distance	Weight
HB-6N	25 mm	6 m	1,250 kg up	1.2 m	1.6 kg

CARBIDE TIPPED HOLE SAW
ดอกเจาะสำหรับเจาะสแตนเลส
FS-22

FS-22 Standard model
Size ranges : DIA. 15 mm - 100 mm



- **Size ranges**
  Ø15 mm - Ø100 mm (with variation of 1 mm)
- **Special features**
  For tough drilling on 5 mm thick
- **Stainless steel sheet.Low wear-off main applications**
  For drill operation on stainless steel sheet or square wares, cast iron. Iron plates and FRP formed products
- **Application**
  Stainless steel sheet, hollow-wire, pipe, square pipe etc. Electric control box, auto body, cast iron, FRP (fiberglass reinforced plastic). Aluminium window/ door frames, water tank made of stainless steel. Ship-byilding industry, plumbling industry etc.

Please adopt lower rmp for pipe and higher rmp for sheet

Dia. mm.	Stainless steel	Unhardened steel	Iron sheet
15 - 19	800 - 1000	450 - 800	1500 - 2000
20 - 29	480 - 800	315 - 420	1000 - 1400
30 - 39	320 - 530	250 - 350	650 - 950
40 - 49	240 - 400	195 - 250	470 - 720
50 - 59	200 - 320	160 - 195	380 - 570
60 - 69	150 - 250	120 - 160	300 - 500
70 - 79	100 - 150	100 - 120	200 - 350
over 80	under 100	under 100	under 200

ดอกเจาะสำหรับเจาะสแตนเลส

Size mm. ขนาด (มม.)	Size In. ขนาด (นิ้ว)	Size for conduit In. ใช้สำหรับท่อ (นิ้ว)
16	5 / 8	-
19	3 / 4	-
20	-	-
22	7 / 8	1 / 2
25	1	-
28	-	3 / 4
30	1 1/8	-
32	1 1/4	-
33	-	-
34	1 3/8	1
35	1 3/8	1
38	1 1/2	-
41	1 5/8	-
43	1 3/4	1 1/4
44	-	-
48	-	1 1/2
49	-	1 1/2
50	-	1 1/2
51	2	-
60	-	2
61	-	-
64	2 1/2	-
70	-	-
73	-	2 1/2
76	3	-
89	3 1/2	3

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

H.S.S. HOLE SAW
ดอกเจาะสำหรับเจาะเหล็ก

High speed steel hole saw
HS-16 Standard model
Size ranges : DIA. 16 mm - 76 mm



- **Material**
  High speed steel (SKH51)
- **Size ranges**
  Ø16 mm (5/8") - Ø76 mm (3") Diameter
- **Applications**
  For tough drilling on 1.6 mm thick iron plates
  User
- (A) Electric work :
  - Pipeing
  - Refrigeration machines

  (B) Iron work :
  - Sheet metal work
  - Drill hole installation

  Special features
  (A) Sharper teeth tip for easier cutting.
  (B) Longer product life, teeth stay sharp longer.
  (C) Better chip clearance.
  (D) For precision hole drilling
  Packing
  Each packed in a PVC box.
  Fixed with arbor and HSS pilot drill.

ดอกเจาะสำหรับเจาะเหล็ก

Size mm. ขนาด (มม.)	Size In. ขนาด (นิ้ว)	Size for conduit In. ใช้สำหรับท่อ (นิ้ว)
13	1 / 2	-
16	5 / 8	-
19	3 / 4	-
20	-	-
22	7 / 8	1 / 2
25	1	-
26	-	-
28	-	3 / 4
30	1 1/8	-
31	-	-
32	1 1/4	-
33	-	-
34	1 3/8	1
35	1 3/8	1
38	1 1/2	-
40	-	-
41	1 5/8	-
43	1 3/4	1 1/4
45	-	-
48	-	1 1/2
50	-	1 1/2
51	2	-
54	-	-
60	-	2
61	-	-
64	2 1/2	-
70	-	-
73	-	2 1/2
76	3	-

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

commax® WIRED INTERCOM
สายอินเตอร์คอม

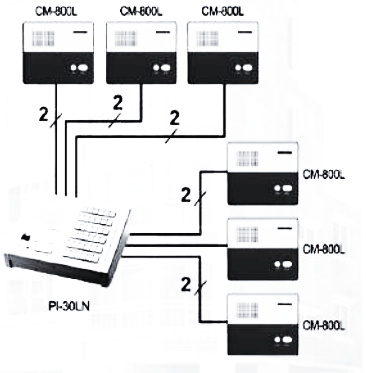
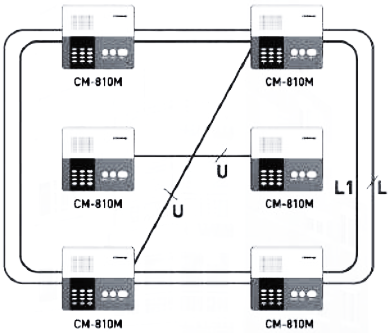
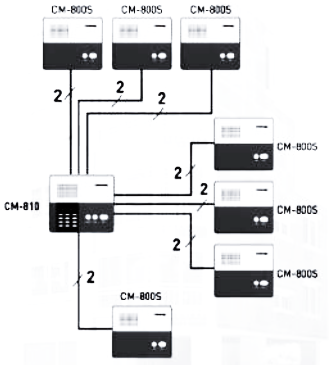
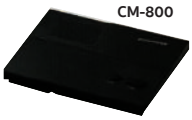
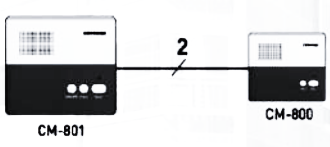
โทรศัพท์ภายในแบบตั้งโต๊ะหรือติดฝาผนัง

Type	Description
TP - 6KP (TP-6RC) 	ตัวแม่เรียกแม่อื่นได้ 6 จุด รวม 6 จุด ใช้หม้อแปลง รุ่น RF – 1A
TP -12RC 	ตัวแม่เรียกแม่อื่นได้ 10 จุด รวม 10 จุด ใช้ถ่าน DC 12V หรือหม้อแปลง หม้อแปลงใช้รุ่น RF – 1A
TP - 1K (TP-1L) 	ตัวแม่เรียกแม่อื่นได้ 2 จุด สามารถพูดได้ โดยไม่ต้องยกหูได้ 1 เครื่อง ใช้ถ่าน DC 6 V หรือหม้อแปลงรุ่น AP206
TP - 30 CN TP-20 CN **Private Intercom Complete Private** โทรศัพท์ภายในแบบยกหู, ตั้งโต๊ะ  • Choice of 20 or 30 stations capacity. • Selective ringing via soft-touch membrance deypad. • Buil-in all-station paging. • Extra loudspeaker paging. • Optional talkback paging.	MODEL NO : TP-20 CN ตัวแม่เรียกตัวอื่นได้ 19 จุด รวม 20 จุด หม้อแปลงใช้รุ่น RF-2A, DC 24V, 1A MODEL NO : TP-30 CN ตัวแม่เรียกตัวอื่นได้ 29 จุด รวม 30 จุด หม้อแปลงใช้รุ่น RF-2A, DC 24V, 1A

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

commax® DIGITALIZED INTERCOM
อินเตอร์คอมดิจิทัล

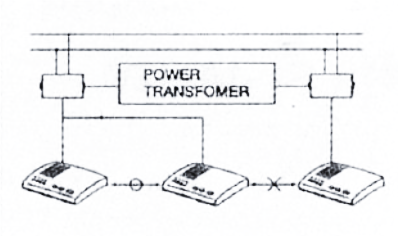
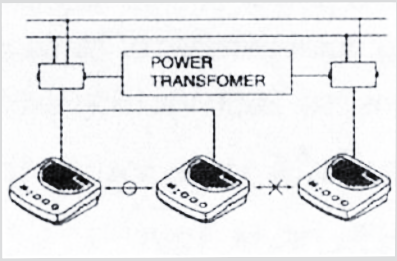
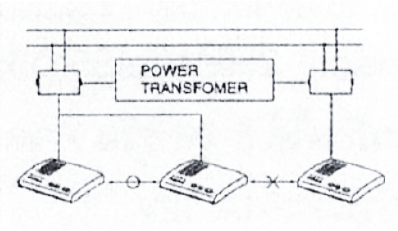
INTERCOM ระบบดิจิทัล

Type	Function	Diagram
CM-800L CM-800L  PI-30LN  Master : Slave	• ตัวลูกสำหรับตัวแม่ รุ่น PI-30LN	
CM-810M  Master : Master	• ตัวแม่เรียกตัวแม่อื่นรวม 6 จุด • เป็นระบบแม่กับแม่ทุกจุด • ใช้หม้อแปลง รุ่น RF-1A 12 V • มีจอแสดงบอกเรียกตำแหน่ง ตัวแม่อื่น • สามารถปรับเสียงดังค่อยได้ตาม ต้องการ	
CM-800S/810 CM-810  CM-800S  Master : Slave	• ตัวแม่สำหรับลูก 10 จุด • ตัวแม่เรียกลูกได้ 10 จุด • ใช้หม้อแปลง รุ่น RF-1A 12 V • มีจอแสดงบอกเรียกตำแหน่งตัวลูก • สามารถปรับเสียงดังค่อยได้ตาม ต้องการ • ใช้กับตัวลูกรุ่น CM-800S	
CM-801/800  CM-801  CM-800 Master : Slave	• ตัวแม่สำหรับลูก 1 จุด • ตัวแม่เรียกลูกได้ 1 จุด • ใช้หม้อแปลง รุ่น RF-1A 12 V • ใช้กับตัวลูกรุ่น CM-800	

commax® WIRELESS INTERCOM
อินเตอร์คอมไร้สาย

Designed for almost anywhere in the house, office or store where AC outlet is available Plug in the AC outlet and go!

INTERCOM โทรศัพท์ภายในระบบไร้สาย (ไม่ต้องเดินสายไฟ)

Type	Function	Diagram
WI-3SN **Wireless Intercom** 	• Allows for private conversation • Tremolo call sound • No installation : Just plug into an AC outlet and talk • Monitoring children room for safety • Dimension: 183 (W) × 130 (H) × 35 (D) mm โทรศัพท์ภายใน ชนิดไม่ต้องเดินสาย แบบตั้งโต๊ะ หรือติดผนัง ใช้ได้ถึง 3 สถานี ชนิดเปลี่ยนความถี่ 3 สถานี	
WI-2B **Wireless Intercom** 	• Allows for private conversation • No installation : Just plug into an AC outlet and talk • Monitoring children room for safety • Dimension: 143 (W) × 136 (H) ×40 (D) mm โทรศัพท์ภายใน ชนิดไม่ต้องเดินสาย แบบตั้งโต๊ะ หรือติดผนัง ใช้ได้ถึง 2 สถานี ชนิดเปลี่ยนความถี่ 2 สถานี	
WI-4C **Wireless Intercomt** 	• Allows for private conversation • Tremolo call sound • No installation : Just plug into an AC outlet and talk • Monitoring children room for safety • Dimension: 182 (W) × 140 (H) × 43 (D) mm โทรศัพท์ภายใน ชนิดไม่ต้องเดินสาย แบบตั้งโต๊ะ หรือติดผนัง ใช้ได้ถึง 4 สถานี ชนิดเปลี่ยนความถี่ 4 สถานี	

SPECIFICATIONS

Model	WI-2B	WI-3SN	WI-4C
Power	230 VAC		
Communication frequency	200 - 290 KHz		
R.F. output power	0.1W		
Audio output power	0.5W		

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

commax® TRANSFORMER
หม้อแปลง

หม้อแปลง

Type	Functin
RF-1A 	• Regulated power supply • AC 110/220 V 50/60 Hz • DC 12 V, 1 A **สำหรับรุ่น** TP-4XP, TP-6XP, TP-10XP, DP-2T, DP-6AP, TP-12AP, TP-6AC, TP-12AC, CM-805, CM-810, TP-6XN, TP-10XN
AP-206 	• Input AC 220 V, 50 Hz • Output DC 6 V, 300 mA **สำหรับรุ่น** CM-862, CM-864, CM-866, CM-866M, TP-1K

Advante WIRELESS DOOR BELL 220V



E-581P-2

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดกันน้ำ ใช้กับแบตเตอรี่ 1x12V 23A (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



X-571P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดกันน้ำ ใช้กับแบตเตอรี่ 1x3V CR2032 (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



I-581P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- เซ็นเซอร์ตรวจจับความเคลื่อนไหวใช้กับแบตเตอรี่ 3xAAA (ไม่รวมในชุด)
- สามารถใช้ได้ระหว่างตัวรับสัญญาณ และเซ็นเซอร์ห่างกันถึง 100 เมตร ในที่โล่งแจ้ง
- ระยะผ่านตัวเซ็นเซอร์ 6-8 เมตร
- มีระบบป้องการรบกวนจากสัญญาณอื่น ๆ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Advante WIRELESS DOOR BELL 220V



X2-2-535P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- X2 สวิตช์กดใช้กับแบตเตอรี่ 1x3V CR2032 (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



X2-537P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดใช้กับแบตเตอรี่ 1x3V CR2032 (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



FE-591P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดป้องกันน้ำระดับ IP44 ไม่ต้องใช้แบตเตอรี่ เป็นมิตรกับสิ่งแวดล้อม
- สามารถใช้ห่างกันได้สูงสุด 150 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



581P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สามารถใช้ได้ไกลถึง 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ

Advante WIRELESS DOOR BELL BATTERY



X2-532P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลีโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดไม่กันน้ำใช้กับแบตเตอรี่ 1x3V CR2032 (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องการรบกวนจากสัญญาณอื่น ๆ



X-218P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลีโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ
- สวิตช์กดกันน้ำใช้กับแบตเตอรี่ 1x3V CR2032 (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องการรบกวนจากสัญญาณอื่น ๆ



E-582P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลีโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดกันน้ำใช้กับแบตเตอรี่ 1x12V 23A (รวมในชุด)
- สามารถใช้ห่างกันได้สูงสุด 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องการรบกวนจากสัญญาณอื่น ๆ

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Advante WIRELESS DOOR BELL
BATTERY



X2-538P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดใช้กับแบตเตอรี่ 1x3V CR2032 (รวมในชุด)
- สามารถใช้ได้ไกลถึง 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



FE-592P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สวิตช์กดป้องกันน้ำระดับ IP44 ไม่ต้องใช้แบตเตอรี่ เป็นมิตรกับสิ่งแวดล้อม
- สามารถใช้ห่างกันได้สูงสุด 150 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



582P

- ประหยัดพลังงาน
- ปรับเปลี่ยนเสียงได้ถึง 32 เสียง พร้อม 24 เสียงแบบโพลิโฟนิค
- มีไฟ LED แสดงการทำงานที่ตัวรับสัญญาณ
- มีลำโพงในตัวรับสัญญาณ พร้อมปรับระดับเสียงได้
- สามารถใช้ได้ไกลถึง 100 เมตร ในที่โล่งแจ้ง
- มีระบบป้องกันการรบกวนจากสัญญาณอื่นๆ



EP

- สวิตช์กดใช้งานร่วมกับกระดิ่งไร้สายรุ่น 581P และ 582P
- ใช้แบตเตอรี่ 1x12V 23A

UNIVERSAL ADAPTER
ปลั๊กเดินทาง AA


AA 005


AA 005


AA 006


AA 006


AA 007

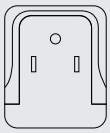
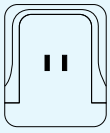
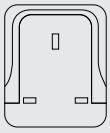
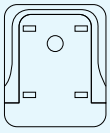
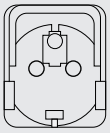

AA 007


AA 014


AA 014


AA 019


AA 019

Item no.	voltage	Frequency(Hz)	Model
AA 005	125V	50/60	
AA 006	250V	50/60	
AA 007	250V	50/60	
AA 014	250V	50/60	
AA 019	250V	50/60	

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ALION WATER LEVEL SWITCH
สวิตช์ลูกลอย

LEVEL REGULATOR HJ

- **HJ-31 (สีส้ม)**



- **HJ-33 (สีเหลือง)**

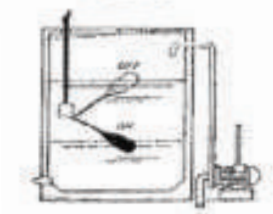


- **HJ-32 (สีน้ำเงิน)**

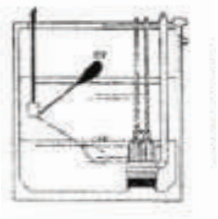


INSTRUCTIONS FOR INSTALLATION

FILLING



EMPTYING



ELECTRICAL CONNECTIONS

1. คอนแทคจะปิดเมื่อลูกลอย ลอยลง
2. คอนแทคจะเปิดเมื่อลูกลอย ลอยขึ้น

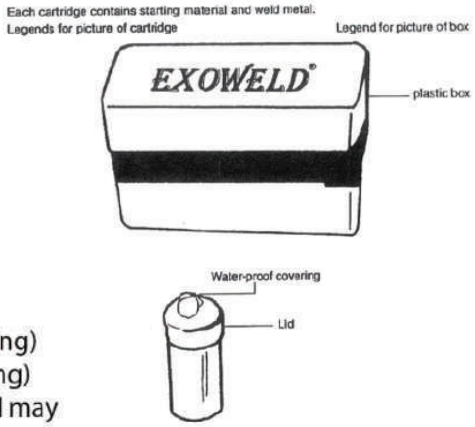
SPECIFICATIONS

Float material	Polypropylene
Cable material	Neoprene cable
Switch current max.	10 A
Switch Voltage max.	250V AC
Operating temp	0-60˚C
Contact model	1A1B 1C
Cable length	4m
if request cable length over 4m, Please do advise	

EXOWELD WELDING METAL
ผงเชื่อม

There are four types of weld metal each designed to meet specific application requirements.
The correct type of weld metal shall be applied in order to prevent excessive corrosion and oxidation.
The four types of weld metal are :

Type-A : for copper-to-copper and copper to steel plate
Type-B : for steel –rail grounding cables.
Type-CP : for cathodic protection applications
Type-C : for cast-iron connections.



Storage Duration : 18 months (with water-proof covering)
12 months (w/o water-proof covering)
Expired Weld Metal : Can be susceptible to moisture, and may lead to dangerous cracking and spillage.
Free Factory Re-Processing. With prior arrangement, expired weld metal stock can be returned to factory for re-processing at no charge. (Customer pays for shipping to/from the factory).

Weld metal packaged by weight.

■ TABLE OF PACKAGED WELDING METAL

Weld metal item number	Cable size	Packing per box
wm-045	16, 25, 35	20
wm-065	50, 70, 95, 120	20
wm-250	150 or more	10

All in few seconds for finishing one 100% connection. Simple tools, easy work, no power

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

EXOWELD ONE TIME MOLD
วันไทม์โมลด์

EXOWELD ONE TIME MOLD CERAMIC MOULD WITH POWER WELDING



Type CWE cable end to end

Code no.	Cable size
CWE 135	16-35
CWE 170	50-70
CWE 1120	95-120
CWE 1300	150-300



Type CGE cable to rod

Code no.	Cable size	Rod
CGE 135	16-35	5/8", 3/4"
CGE 170	50-70	
CGE 1120	95-120	
CGE 1300	150-300	



Type CWT cable run to top

Code no.	Cable size
CWT 235	16-35
CWT 270	50-70
CWT 2120	95-120
CWT 2300	150-300



Type CGT cable horizontal to rod

Code no.	Cable size	Rod
CGT 235	16-35	5/8", 3/4"
CGT 270	50-70	
CGT 2120	95-120	
CGT 2300	150-300	



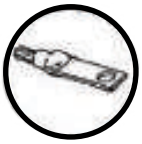
Type CWX cable cross

Code no.	Cable size
CWX 435	16-35
CWX 470	50-70
CWX 4120	95-120
CWX 4300	150-300



Type CNT cable run & tap to rod

Code no.	Cable size	Rod
CNT 335	16-35	5/8", 3/4"
CNT 370	50-70	
CNT 3120	95-120	
CNT 3300	150-300	



Type CPK cable to bar

Code no.	Cable size
CPK 135	16-35
CPK 170	50-70
CPK 1120	95-120
CPK 1300	150-300



Type CXT cable cross to rod

Code no.	Cable size	Rod
CXT 435	16-35	5/8", 3/4"
CXT 470	50-70	
CXT 4120	95-120	
CXT 4300	150-300	

CONTROLMAX TIMER
นาฬิกาตั้งเวลา

Type	Description	Specfication
DIGITAL TIMER **TE 102 สวิตช์ตั้งเวลาระบบดิจิทัล** 	• Home safety : plugged in lamp light any darkness room, hallway or passage. • Easy to use for home automation. • Set it and forgot it. • Variation for setting up every day. • Save time and energy.	**Input :** AC 110 -125V 50/60Hz or AC 220 - 240V 50/60Hz **Output :** 16A with resistive load **Time accuracy :** +_ minutes / years **Working temp :** + 5 C ~ 55 C **Min. setting time :** 7 days **Memory back-up :** Ni-Cd recharge battery. **Caution :** Wattage of appliances being controlled should not exceed the capacity of timer. For indoor use only. **TE102 :** Electronic timer with multiple program with back light. You can see current time clearly in darkness.
MACHANICAL TIMER **TM 106 D สวิตช์ตั้งเวลา 24 ชั่วโมง** 	• Home safety : plugged in lamp light any darkness room, hallway or passage. • Easy to use for home automation. • Set it and forgot it. • Variation for setting up every day. • Save time and energy.	**Input :** AC 110 -125V 60Hz **Output :** 7.2 A with resistive load **Time accuracy :** ±15 minutes/day (for daily type) ± 3.5 hours/week (for weekly type) **Working temp :** 65°C ~ 55°C **Min. setting time :** 30 minutes (for dialy type) 3.5 hours (for weekly type) **Caution :** Wattage of appliances being controlled should not exceed the capacity of timer. For indoor use only. **TM 106W :** Machanical time 24 hour
MACHANICAL TIMER **TM 106 W สวิตช์ตั้งเวลา 7 วัน** 	• Home safety : plugged in lamp light any darkness room, hallway or passage. • Easy to use for home automation. • Set it and forgot it. • Variation for setting up every day. • Save time and energy.	**Input :** AC 110 -125V 60Hz **Output :** 7.2 A with resistive load **Time accuracy :** ±15 minutes/day (for daily type) ± 3.5 hours/week (for weekly type) **Working temp :** 65°C ~ 55°C **Min. setting time :** 30 minutes (for dialy type) 3.5 hours (for weekly type) **Caution :** Wattage of appliances being controlled should not exceed the capacity of timer. For indoor use only. **TM 106W :** Machanical time 24 hour

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

WEEKLY PROGRAMMABLE TIME SWITCH
นาฬิกาตั้งเวลา 7 วัน

MODEL : WTS-3 นาฬิกาตั้งเวลา 7 วัน ชนิดมีแบตเตอรี่สำรอง



FEATURES

- Six ON/OFF setting
- 10 setting day for choice : (1)MO (2)TU (3)WE (4)TH (5)FR (6)SA (7)SU (8)MO+TU+WE+TH+FR (9)SA+SU (10)From MO TU SU
- Minimum setting inter val : 1 minute
- Supply votage : 100 - 250 V AC, 12V, 24V
- Output : 7A 250 V AC, 1 contact
- Max. load : 2,000 VA
- Inside battery : NI-CA D *1 PC (just for clock) running, not or output ON/OFF switch.

A. Setting present day and time

press Clock+Day — The day of a week will be changed from MO (monday to SU(sunday))
↓
release Clock+Day — The day of a weel will be set.
↓
press Clock+Hour — The hour will shift fast from 0 to 23.
↓
release Clock+Hour — The hour will be set.
↓
press Clock+Hour — The hour will shift fast from 0 to 23.
↓
release Clock+Hour — The hour will be set.

B. To set programs

press Timer key — Enter program mode (program 1 ON is ready for setting)
↓
press Day key — To select the setting day of a week. There are 10 choices for setting :
MO→TU→WE→TH→FR→SA→SU→MO+TU+WE+TH+FR→SA+SU→MO+TU+WE+TH+FR+SA+SU
↓
press Hour key — Set hour
↓
press Min key — Set minute
↓
press Timer again — Program 1 ON setting has been completed now Program 1 OFF is ready for setting
↓
Repeat the setting process (press Day key)

C. After programs setting

Press CLOCK key then return to present time (CLOCK MODE).

D. To reset it

Press RESET key.The previous setting time and programs will be cleared to intial.

E. To select ON/AUTO/OFF mode

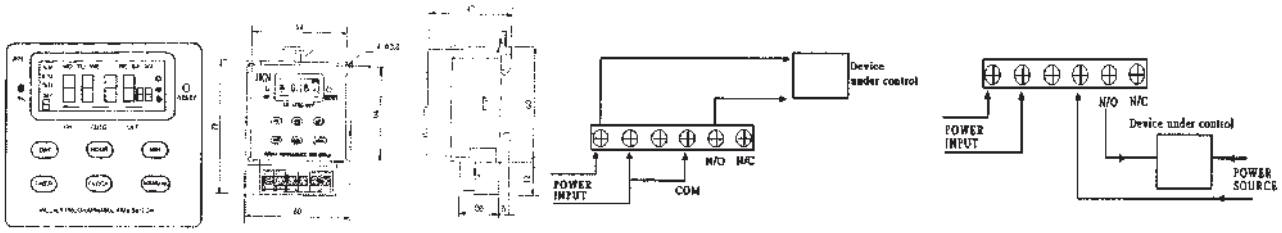
1.Press MANUAL key to select ON,AUTO or ON/OFF mode
2."ON" mode set output at on state
3."OFF" mode set output at OFF state
4."AUTO" mode set output to program mode.Relay contact will turn ON/OFF according to the program time.
5.After program setting is confirmed. It is necessary to press MANUAL key and change the mode to ensure the Timer working in correctprogram.Please check the present time. If it is in the duration of program ON setting time, then press MANUAL to make it from ON to AUTO mode.In case of the present time is now within program OFF setting time. then make it from OFF to AUTO mode. Because from ON to AUTO. relay contact will be turned to ON state until next OFF setting time coming.Contrary from OFF to AUTO, relay contact will be switched to OFF state and lasting until next ON setting time is coming.

F. Wire connection

Max. load : 2,000 VA
Applied voltage range : 100-250 V AC
Inside battery : NI-CAD *1 PC (just for clock running, not for output ON/OFF switching)

DIMENSIONS

After program 1 OFF is set completely, press Timer again to enter program 2 ON setting.And so on program 2 OFF > 3 OFF > 4 ON > 5 ON > 5 OFF > 6 ON > 6 OFF.There are 6 ON/OFF program for setting, But if you need only 2 or 3 programs, just ignore the rest programs.



PROTECTION RELAY / SELF-POWER VOLTAGE DETECTION
โวลล์, เฟส และโพรเทคชั่นรีเลย์

■ โวลล์, เฟส และโพรเทคชั่นรีเลย์ ใช้ป้องกันไฟตก, ไฟเกิน, ไฟขาดเฟส, ไฟสลับเฟส

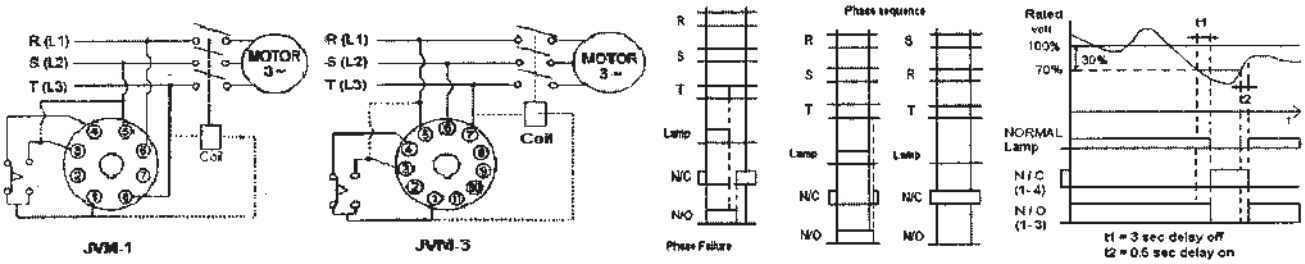
Classification \ Model no.		JVM-1	JVM-2	JVM-3	JVM-4
Appearance					
Features		Phase failure phase sequence	Phase failure phase sequence over voltage under voltage	Phase failure phase sequence	Phase failure phase sequence over voltage under voltage
Surface mounting		Socket base 8PFA	Socket base 8PFA	Socket base P2CF11	Socket base P2CF11
Output capacity		SPDT			
Response time of relay		Delay ON : 0.5 Sec.			
		Delay OFF : 3 Sec.			
Frequency		50 Hz or 60 Hz (Depend upon user's area)			
Rated voltage (Range : 85% ~ 110%)		3 Phases 220, 380, 415, 440V	3φ:220, 380, 415, 440 V 1φ : 110, 220, 380, 415, 440V	3 Phases 220, 380, 415, 440V	3φ:220, 380, 415, 440 V 1φ : 110, 220, 380, 415, 440V
Life	Mechanical	10,000,000 Times			
	Electrical AC220VPF=1	500,000 Times			
Accurancy	Repeat	-	± 2% Max	-	± 2% Max
	Setting	-	± 10% Max	-	± 10% Max
	Voltage	-	± 2% Max	-	± 2% Max
	Temperature	-	± 2% Max	-	± 2% Max
Reset time		0.2 Sec Max			
Ambient temp & humidity		- 10 ~ 55°C, 85% Max			

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

PROTECTION RELAY / SELF-POWER VOLTAGE DETECTION
โวลล์, เฟส และโพรเทคชั่นรีเลย์

CONNECTION & OPERATIONAL DIAGRAMS

TYPE : JVM-1 & JVM-3 (Phase failure / Phase sequence monitoring relay)



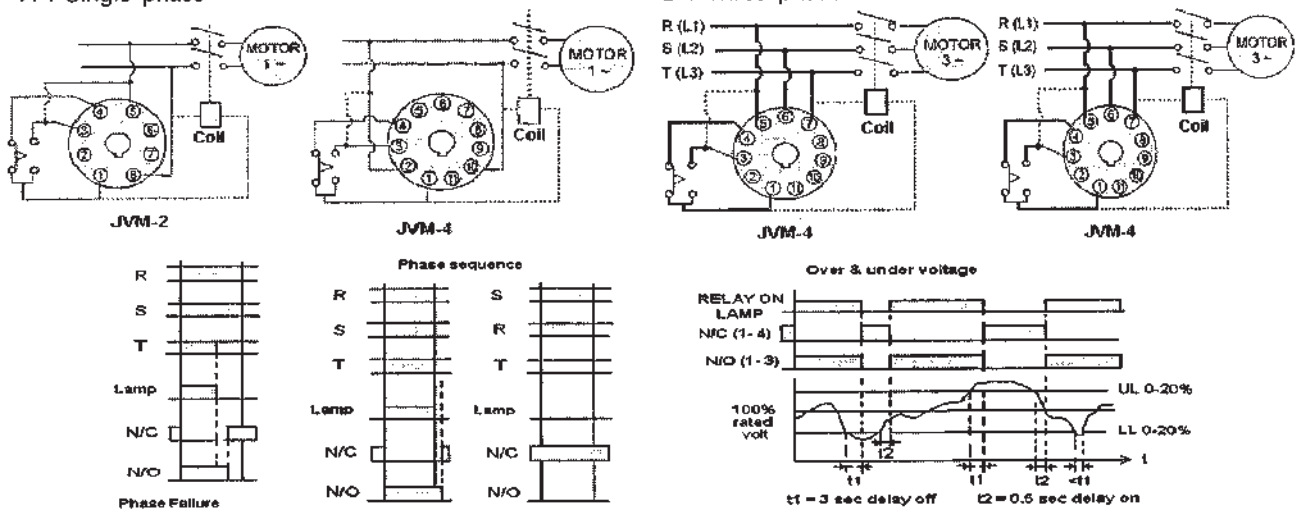
Output relay will be switched to ON (pin#1 & pin#3 close) immediately when power is applied to the unit with correct phase sequence and voltages

In case of any phase failure or voltage drops below 70% of the rated voltage which lasts for 3 seconds, then the output relay will return to its original position (pin#1 & pin#4 close) to cut power until 3 phases voltage and phase sequence are correct.

TYPE : JVM-2 & JVM-4 (Phase failure / Phase sequence / Under volt. monitoring relay)

A . Single phase

B . Three phase

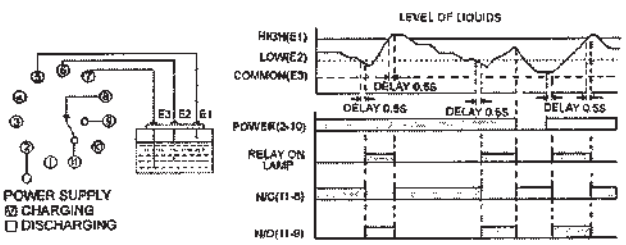


Output relay will operate to ON (pin#1 & pin#3 close) when power is applied to the unit normally, and simultaneously detect if supplied power voltages (single or three phases) are within the set voltage range, and phase in correct sequence for three phases type.

0% to 20% Knob-adjustable separately for over voltage and under voltage. If voltage is over or under than the setting voltage for over 3 second, then the output relay will be released to its original position (pin#1 & pin#4 close).

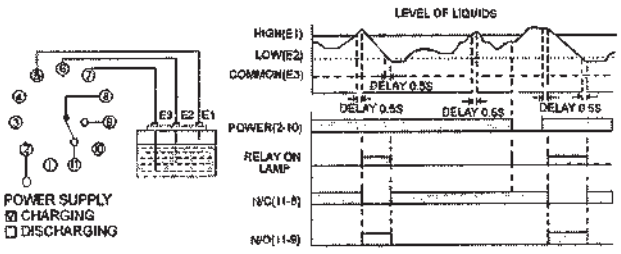
(2) JLC-2 (WATER SUPPLY)

Output relay will be switched to ON (pin#11& pin#9 connect) with 0.5 sec duration when liquid level is below than E2 (Low level) until level reaches E1 (High level) lasting for over 0.5 sec. And then relay OFF (pin#11-8).



(3) JLC-3 (WATER DRAINAGE)

When liquid level is higher than E1, output relay will be switch (pin#11-9 connect) after 0.5 sec duration, and simultaneously pump starts to drain until level is downward under E2 (Low level) for over 0.5 sec then relay turn OFF (pin#11-8 connect).



LEVEL CONTROL RELAYS
สวิตช์ควบคุมระดับน้ำ

สวิตช์ควบคุมระดับน้ำ

Classification \ Model no.		JLC-1	JLC-2	JLC-3
Appearance				
Features		Water supply or water drianage for controlling conductive liquids under 40 k Ω	Water supply or water drianage for controlling conductive liquids under 40 k Ω	Water supply or water drianage for controlling conductive liquids under 40 k Ω
Surface mounting		Socket base 8PFA	Socket base P2CF11	Socket base P2CF11
Output capacity		SPDT		
Response time of relay		Standard : 0.5 SEC		
Frequency		50 Hz or 60 Hz		
Rated voltage (Range : 85% -110%)		110 VAC, 220 VAC, 380 VAC, 415 VAC		
Life	Mechanical	10,000,000 Times		
	Electrical AC220VPF=1	500,000 Times		
Accurancy	Repeat	******		
	Setting	******		
	Voltage	******		
	Temperature	******		
Reset time		0.2 Sec Max.		
Ambient temp & humidity		- 10° ~ 55°C, 85% Max		

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

Sylvia WATERPROOF FLUORESCENT FITTING
โคมกันน้ำ IP65

DUSTPROOF POLYCARBONATE DIFFUSER

F7118

F7136

F7218

F7236



Code	Power W	Length	Width	Extrends
F7118	1X18 W	675	112	100
F7218	2X18 W	675	166	100
F7136	1X36 W	1278	112	100
F7236	2X36 W	1278	166	100

Injected diffuser ฝาครอบโพลีคาร์บอเนตท์
1x18 สำหรับหลอดไฟฟลูออเรสเซนส์ 1x18 วัตต์
2x18 สำหรับหลอดไฟฟลูออเรสเซนส์ 2x18 วัตต์
1x36 สำหรับหลอดไฟฟลูออเรสเซนส์ 1x36 วัตต์
2x36 สำหรับหลอดไฟฟลูออเรสเซนส์ 2x36 วัตต์

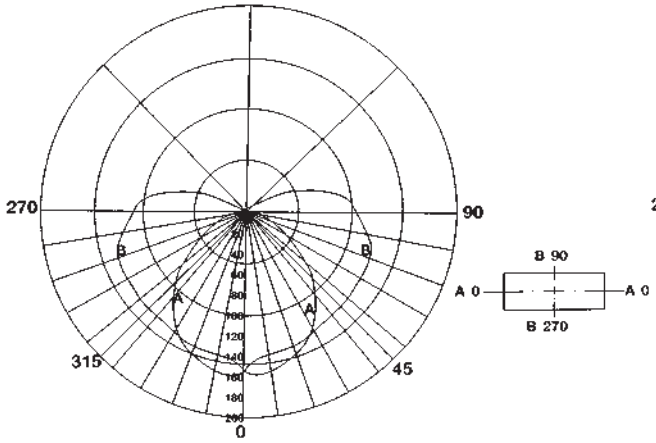
Injected diffuser ฝาครอบโพลีคาร์บอเนตท์
Polycarbonate clip คลิปล็อคโพลีคาร์บอเนต
Stainless steel clip คลิปล็อคสแตนเลส

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

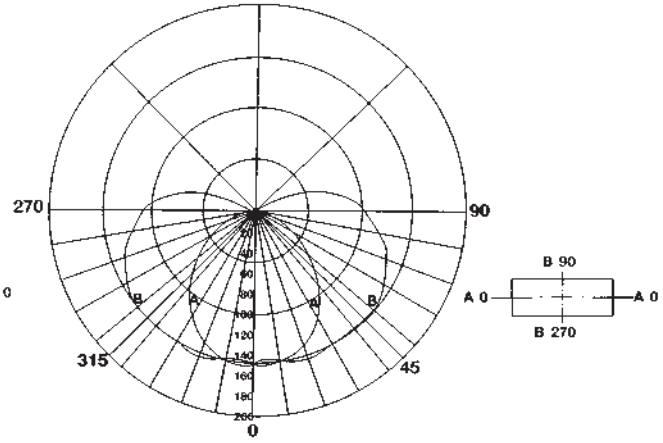
WATERPROOF FLUORESCENT FITTING
โคมกันน้ำ IP65

DUSTPROOF POLYCARBONATE DIFFUSER โคมกันน้ำ, กันฝุ่น ฝาครอบโพลีคาร์บอเนท IP-65

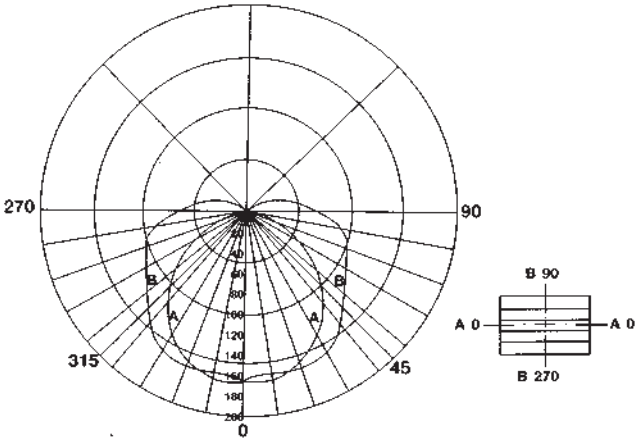
- **Body** : Heat & Shockproof ABS (Acrylonitrile-butadiene-styrene)
- **Diffuser plate** : Prismatic polycabonate
- **Reflector** : Steel sheet with epoxy-polyester powerder coating, at 200 deg.
- **Tightness** : Conform to IP 65 completed with lock clips, gasket and cover cap



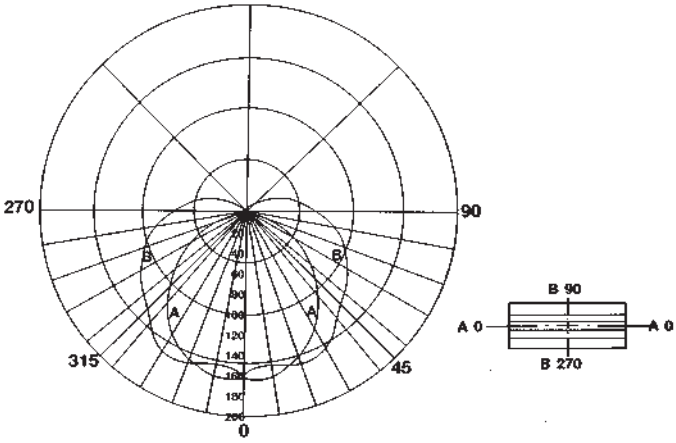
F7118



F7136



F7218



F7236

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

ROTATING LIGHT / OBSTRUTION MAKER LIGHT
ไฟสัญญาณ / ไฟหัวเสา

ROTATING LIGHT



•SPECIFICATIONS

Flash rate : 120/minute Dome color : Amber, blue,red

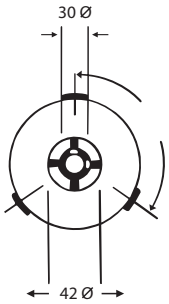
Item \ type	CG100-12	CG100-24	CG100-110	CG100-220
Voltage	DC 12V	DC 24V	AC 110V	AC 220V
Blub	12V 35W	24V 60W	110V 40W	220V 40W
Current	3.1A	2.5A	0.38A	0.19A

OBSTRUCTION MAKER LIGHT

CT-15 ไฟเสาสีแดง

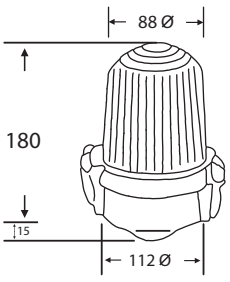
CT-15F ไฟเสาสีแดง (กะพริบ)





CT-25



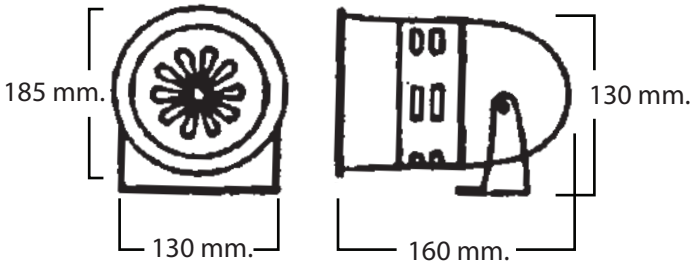


MOTOR SIRENS
ไซเรน

S-290 MOTOR SIREN

VOLTAGE : DC 12/24, AC 110/220





Model	Volt	A	รอบ/ นาที RPM	ความดัง dB	ขนาด (mm)
S290-12	12DC	3	4,700	**105 เดซิเบล**	4,700
S290-24	24DC	3	4,700	**105 เดซิเบล**	4,700
S290-220	220AC	3	4,700	**105 เดซิเบล**	4,700

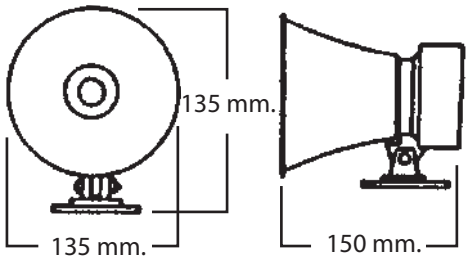
PW-235 ELECTRONIC SIREN

ความดัง-110 dB

12V
220V

Voltage : DC 12, AC 220

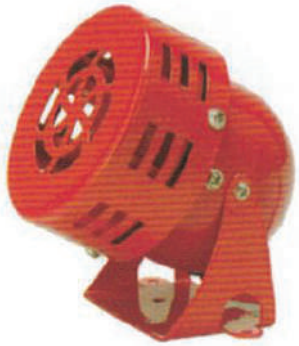




MINI MOTOR SIREN TYPE MS

ความดัง-135 dB

12V, 24V
110V, 220V



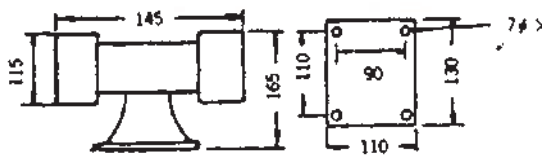
S-283 MOTOR SIREN

ความดัง-105 dB

Voltage : AV110V/230V

SOUND POWER 200W 400 Meters





*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MACCON WARNING LIGHT
ไฟหมุน






AU1

Specifications

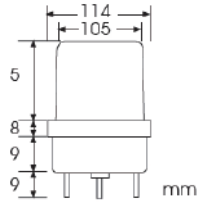
Flash Rate : 130/minute
Dome Color : Amber, Blue, Red

Item No. : AU1-12
Voltage : DC 12V
Bulb : 12V 10W
Current : 0.9A

Item No. : AU1-24
Voltage : DC 24V
Bulb : 24V 10W
Current : 0.5A

Item No. : AU1-220
Voltage : AC 220V
Bulb : 12V 8W
Current : 0.4A

Item No. : AU1-110
Voltage : AC 110V
Bulb : 12V 8W
Current : 0.08A



AU2

Specifications

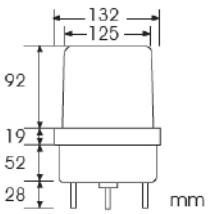
Flash Rate : 130/minute
Dome Color : Amber, Blue, Red

Item No. : AU2-12
Voltage : DC 12V
Bulb : 12V 21W
Current : 1.75A

Item No. : AU2-24
Voltage : DC 24V
Bulb : 24V 21W
Current : 0.9A

Item No. : AU2-220
Voltage : AC 220V
Bulb : 12V 10W
Current : 0.5A

Item No. : AU2-110
Voltage : AC 110V
Bulb : 12V 10W
Current : 0.1A



AU3

Specifications

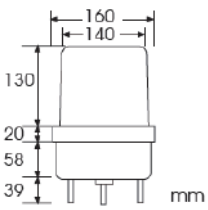
Flash Rate : 130/minute
Dome Color : Amber, Blue, Red

Item No. : AU3-12
Voltage : DC 12V
Bulb : 12V 35W
Current : 3A

Item No. : AU3-24
Voltage : DC 24V
Bulb : 24V 60W
Current : 2.5A

Item No. : AU3-220
Voltage : AC 220V
Bulb : 12V 35W/ 220V 40W
Current : 0.2A

Item No. : AU3-110
Voltage : AC 110V
Bulb : 12V 35W/ 110V 40W
Current : 0.4A



AU4

Specifications

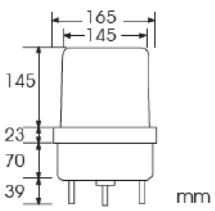
Flash Rate : 70/minute
Dome Color : Amber, Blue, Red

Item No. : AU4-12
Voltage : DC 12V
Bulb : 12V 35W
Current : 3A

Item No. : AU4-24
Voltage : DC 24V
Bulb : 24V 60W
Current : 2.5A

Item No. : AU4-220
Voltage : AC 220V
Bulb : 12V 35W/ 220V 40W
Current : 0.2A

Item No. : AU4-110
Voltage : AC 110V
Bulb : 12V 35W/ 110V 40W
Current : 0.4A



No.	Descriptions
B01	หลอดไฟ 12V 10W (ใช้กับรุ่น AU1)
B32	หลอดไฟ 12V (ใช้กับรุ่น AU2)
B02	หลอดไฟ 24V 10W (ใช้กับรุ่น AU1)
B39	หลอดไฟ 24V (ใช้กับรุ่น AU2)
B03	หลอดไฟ 12V 8W (ใช้กับรุ่น AU1 220V)

No.	Descriptions
B09	หลอดไฟ 12V 10W (ใช้กับรุ่น AU2 220V)
B05	หลอดไฟ 12V 35W (ใช้กับรุ่น AU3 AU4)
	หลอดไฟ 24V 35W (ใช้กับรุ่น AU3 AU4)
B08	หลอดไฟ 220V 40W (ใช้กับรุ่น AU3 AU4)

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MACCON COUNTER / BREAKER
เคาน์เตอร์นับจำนวน / เบรคเกอร์

COUNTER



Type no.	Description
LCF-4	เคาน์เตอร์นับจำนวน 4 หลัก



Type no.	Description
LCF-6	เคาน์เตอร์นับจำนวน 6 หลัก

BREAKER







NO FUSE BREAKER

Type	Pole	Amp	KA 240V	KA 380V	KA 500V
NF50-CS	2P	10, 15, 20, 30, 40, 50	5	5	2.5
NF60-CS	2P	60 A	5	5	2.5
NF100-CS	2P	50, 60, 75, 100	25	18	7.5
NF30-CS	3P	3, 5, 10, 15, 20, 30	2.5	1.5	-
NF50-CS	3P	10, 15, 20, 30, 40, 50	5	5	2.5
NF60-CS	3P	60 A	5	5	2.5
NF100-CS	3P	50, 60, 75, 100	25	18	7.5
NF250-CS	3P	125, 150, 175, 200, 225, 250	25	18	10

*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

MACCON SOLENOID / COOLING FAN
โซลินอยด์วาล์ว / พัดลมระบายความร้อน

SOLENOID



Model no.	Push or pull	Rated stroke (mm)	Rated pull (kg)	Rated service	Rated voltage (AC)	Rated cycles	LxWxH	Plunger weight (kg)	Total weight (kg)
TAS-05	Push pull Combined	10	0.5	Continuous	220	50/60Hz	84x33x38	0.062	0.20
TAS-05		15	1		220	50/60Hz	93x49x50	0.114	0.40
TAS-10		15	1.5		220	50/60Hz	93x53x50	0.138	0.45
TAS-15		15	2		220	50/60Hz	93x57x50	0.153	0.50
TAS-20		20	3		220	50/60Hz	130x70x63	0.302	1.15
TAS-25		20	4		220	50/60Hz	130x75x63	0.348	1.30
TAS-30		20	5		220	50/60Hz	130x80x63	0.393	1.45
TAS-40		30	6		220	50/60Hz	170x100x86	0.777	2.70
TAS-45		30	8		220	50/60Hz	170x110x86	0.957	3.10
TAS-50		40	10		220	50/60Hz	230x113x102	1.832	4.80

COLLING FAN



Code	Type	Description
FANS	Cooling fan	Model 120x120x38 220-240v 50/60Hz รวมตะแกรง
FANS-GUARD	ตะแกรง	

MAXIMUM CURRENT FOR PVC INSULATED WIRE TYPE-THW / ตารางเทียบสาย TW

Size	Cable construction		Ampacity	
AWG	MM	SQMM	Free air	In conduit
14	1/1.63	2.08	16	12
12	1/2.1	3.46	20	16
10	1/2.59	5.27	30	24
8	1/3.25	8.59	42	32
14	7/0.61	2.04	16	12
12	7/0.81	3.61	20	16
10	7/0.98	5.28	30	24
8	7/1.25	8.59	42	32
6	7/1.55	13.20	60	44
4	7/1.97	21.33	84	59
3	7/2.20	26.60	98	66
2	7/2.24	33.52	114	78
1	19/1.69	42.60	134	88
1/0	19/1.89	53.28	160	105

Size	Cable construction		Ampacity	
AWG	MM	SQMM	Free air	In conduit
2/0	19/2.13	67.67	186	120
3/0	19/2.40	85.91	220	135
4/0	19/2.68	107.13	250	158
250	37/2.09	126.87	274	1745
300	37/2.30	153.65	306	194
350	37/2.50	181.53	340	213
400	37/2.65	203.97	380	224
500	37/2.95	252.76	416	258
600	61/2.52	304.09	462	286
700	61/2.72	354.27	504	310
750	61/2.82	380.80	528	322
800	61/2.91	405.49	546	330
900	61/3.09	457.21	590	350
1000	61/3.25	505.79	626	364

MAXIMUM CURRENT FOR PVC INSULATED WIRE TYPE-THW / ตารางเทียบสาย TW

Size	Cable construction		Ampacity	
AWG	MM	SQMM	Free air	In conduit
14	1/1.63	2.08	16	11
12	1/2.10	3.46	26	18
10	1/2.59	5.27	36	25
8	1/3.25	8.59	58	40
14	7/0.61	2.04	17	11
12	7/0.81	3.61	26	18
10	7/0.98	5.28	36	25
8	7/1.25	8.59	58	40
6	7/1.55	13.2	80	55
4	7/1.97	21.33	110	75
3	7/2.20	26.60	126	86
2	7/2.24	33.52	147	102
1	19/1.69	42.60	170	115
1/0	19/1.89	53.28	200	133

Size	Cable construction		Ampacity	
AWG	MM	SQMM	Free air	In conduit
2/0	19/2.13(10.7)	67.67	237	156
3/0	19/2.40(12.0)	85.91	275	179
4/0	19/2.68(13.4)	107.13	300	205
250	37/2.09(14.6)	126.87	325	225
300	37/2.30(16.1)	153.65	363	233
350	37/2.50(17.5)	181.53	410	255
400	37/2.65(18.8)	203.97	450	270
500	37/2.95(20.7)	252.76	495	305
600	61/2.52(22.7)	304.09	558	340
700	61/2.72(24.5)	354.27	606	370
750	61/2.82(25.4)	380.80	632	383
800	61/2.91(26.2)	405.49	655	395
900	61/3.09(27.8)	457.21	702	417
1000	61/3.25(29.3)	505.79	754	438

MAXIMUM NUMBER OF CONDUCTORS IN CONDUIT OR TUBING / ตารางเทียบสายร้อยในท่อคอนดวด

AWG	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
18	13	24	38	68	93	152	-	-
16	11	19	31	55	75	123	176	270
14	5	10	16	29	40	65	93	143
12	4	8	13	24	32	53	76	117
10	1	6	11	19	26	43	61	95
8	1	4	6	11	15	25	36	56
6	1	2	4	7	10	16	23	36
4	1	1	3	5	7	12	17	27
3	1	1	2	4	6	10	16	23
2	1	1	1	4	5	9	13	20

AWG	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
1	-	1	1	2	4	6	9	14
1/0	-	1	1	2	3	5	8	12
2/0	-	1	1	1	3	4	7	10
3/0	-	-	1	1	2	4	5	9
4/0	-	-	1	1	1	3	5	7
250	-	-	-	1	1	2	4	6
300	-	-	-	1	1	2	3	5
350	-	-	-	1	1	1	3	4
400	-	-	-	1	1	1	2	4
500	-	-	-	-	1	1	1	3

ตารางเทียบสำหรับมอเตอร์สตาร์ทเตอร์ ขนาด 3 สาย
H.TABLE FOR DIMENSIONS FOR MOTOR STARTERS

The figures are based on normal 3 - phase motor for a.c. at 50 c. p.s. 1400-1450 r.p.m.

อัตราของมอเตอร์ใน HP โวลเทจทำงาน				อัตราของมอเตอร์สตาร์ทเตอร์ A แอมป์	ปรับระยะรีเลย์ A แอมป์	อัตราการใช้ฟิวส์ขนาดสูงสุด A แอมป์	การใช้สายไฟฟ้าขนาดต่ำสุดชนิด mm^2
220 V		380 V					
HP แรงม้า	อัตราการทำงานเต็มที่ของกระแสไฟ AMP	HP แรงม้า	อัตราการทำงานเต็มที่ของกระแสไฟ AMP				
		0.05		15	0.15 ~ 0.25	1	1.5
0.05		0.1		15	0.25 ~ 0.4	2	1.5
		0.15		15	0.4 ~ 0.65	4	1.5
0.1		0.2		15	0 ~ 0.65	4	1.5
0.15		0.25	0.6	15	0.6 ~ 1.0	6	1.5
0.25	1.1	0.5	1.0	15	1.0 ~ 1.6	6	1.5
		0.75	1.5	15	1.5 ~ 2.5	6	1.5
0.5	1.8	1.0	1.9	15	2.5 ~ 4	15(10)	1.5
0.75	2.5	1.5	2.6	15	2.5 ~ 4	25(15)	1.5
1.0	3.2	2	3.4	15	4 ~ 6.5	25(15)	1.5
1.5	4.4	2.5	4.2	15	4 ~ 6.5	25(20)	1.5
2.0	5.8	3	4.9	15	6 ~ 10	25(20)	1.5
2.5	7.3	4	6.3	15	6 ~ 10	35(25)	1.5
3	8.4	5	7.8	15	9 ~ 14	35(25)	1.5
4	11	6	9.3	15	9 ~ 14	35	1.5
5	13.5	7.5	11.5	15	13 ~ 20	35	1.5
		10	15	25	16 ~ 25	60	2.5
7.5	19.5	15	22	25	20 ~ 31	60	4
10	26	20	29	60	28 ~ 43	100	6
15	39	25	36	60	40 ~ 60	125	10
20	51	30	42	60	40 ~ 60	160	16
		35	50	60	40 ~ 60	160	16
		40	56	60	50 ~ 75	160	16
25	63	50	69	100	70 ~ 100	200	16
25	91	60	83	100	84 ~ 120	200	25
40	100	75	104	200	105 ~ 150	400	35
50	125	100	136	200	140 ~ 200	500	50
75	184	125	167	200	175 ~ 250	500	95
		150	200	350	175 ~ 250	600	120
100	245	175	235	350	175 ~ 300	600	120
120	295	200	268	350	280 ~ 400	850	150
150	370	250	335	600	350 ~ 500	850	240
175	425	300	400	600	350 ~ 500	1000	400
200	475	350	470	600	350 ~ 500	1000	400
225	540	400	535	600	420 ~ 600	1000	500