

TEND

BANDEX

TAKAMURA

TEEFLEX

KENION

NISSEI

ROSI

APEKS

LKEW

TAC

MARLOW

HARU

WIND  
SPEED

COMMAX

ADVANTE

UNIVERSAL  
ADAPTER

ALION

EXOWELD

CONTROL  
MAX

JKN

SYLVIA

WANG

MACCON

NIZING

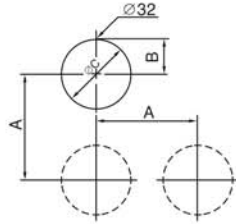
RISESUN

UNITUBE

**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**

AC	AC11 Inductive load	AC24V	AC110V	AC220V	AC380V	AC440V	DC	DC11 Inductive load	DC24V	DC110V	DC220V	DC380V
	AC14 Inductive load	7.5A	4.5A	3A	2A	2A		DC14 Inductive load	1.5A	0.5A	0.2A	0.1A
	7.5A	7.5A	4.5A	4A	4A		10A	2A	0.6A	0.2A		

**CHARACTORISTICS**

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

**WIRING DIAGRAM**

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

**BULB TYPE AND CHARACTORISTICS**

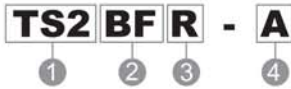
Lamp type	Signal	Rated voltage	Signal	Operating voltage	Rated current	Color code	Signal	Designation
Incandescent	I	6V AC/ DC	6	6V AC/ DC	150 mA	None	None	I - 6
		12V AC/ DC	12	12V AC/ DC	100 mA			
		18V AC/ DC	18	18V AC/ DC	66 mA			
		24V AC/ DC	24	24V AC/ DC	50 mA			
		30V AC/ DC	30	30V AC/ DC	40 mA			
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	2S - 9TL - □□	LED bulb
	6V 15.- 12V 18.- 18V 18.- 30V 22.-		G, W, BL, R, O 82.-

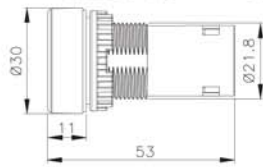
\*ขอสงวนสิทธิ์ในการเปลี่ยนแปลงราคา

#### MODEL DESIGNATIONS

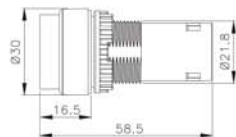


#### OPERATING HEAD DIMENSIONS

TS2BF สวิตช์กดหัวเรียบ 22/25 มม. TS2BF-2A, 2B 90.-  
TS2BF-1A, 1B 80.- TS2BF-1C 90.-

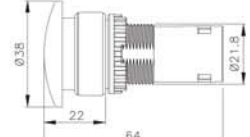


TS2BL สวิตช์กดหัวมน 22/25 มม. TS2BL-2A, 2B 100.-  
TS2BL-1A, 1B 90.- TS2BL-1C 100.-



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
B		1b (1NC)
C		1a1b (1NO 1NC)
2A		2a (2NO)
2B		2b (2NC)

TS2BM สวิตช์กดหัวเห็ด 22/25 มม. TS2BM-2A, 2B 110.-  
TS2BM-1A, 1B 105.- TS2BM-1C 110.-



### ILLUMINATED PUSH BUTTON (TS2 Ø22 / Ø25) Direct Power

#### MODEL DESIGNATION

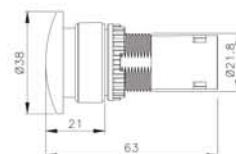
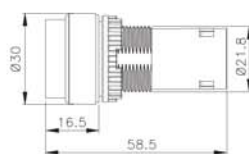


Designation	Signal	Description
1.Mounting hole	TS2	Ø22 mm / Ø25 mm
2.Type	IL	long head
	IM	Mushroom head
3.Voltage	1	110V AC LED
	2	220V AC LED
	5	6V AC/ DC incandescent - LED
	6	18V AC/ DC incandescent
	7	24V AC/ DC incandescent - LED
	8	30V AC/ DC incandescent
	9	12V AC/ DC incandescent - LED

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 สวิตช์กดหัวมนมีแอมป์ 22/25 มม. TS2IL-L(R, O, G, W, BL) 215.-  
TS2IL-I 160.- TS2IM-I 185.- TS2IM-L(R, O, G, W, BL) 240.-

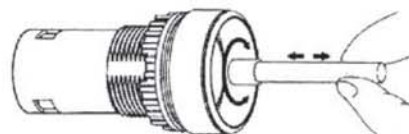


#### ILLUMINATED PUSH BUTTON (DIRECT POWER) CONTACT BLOCKS

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.

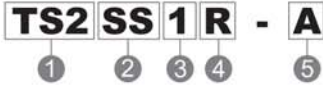







# tend SELECTOR SWITCH

## สวิตช์ลูกศร

### Ø22 / Ø25

#### MODEL DESIGNATIONS



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

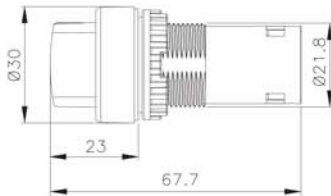
Designation	Signal	Description	
4.Lens color	R	Red	
	G	Green	
	B	Black	
5.Type of contact block fitted		<b>2-Positions</b>	<b>3-Positions</b>
	A	1a (1NO)	----
	B	1b (1NC)	----
	C	1a1b (1NO 1NC)	1a 0 1a
	2A	2a (2NO)	----
	2B	2B (2NC)	----

#### OPERATING HEAD DIMENSIONS

TS2SS สวิตช์ลูกศร



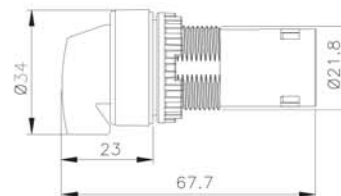
TS2SS-1A,1B	120.-
TS2SS-1-1C	130.-
TS2SS-1-2A,2B	130.-
TS2SS-2-2A	130.-
TS2SS-3-2A	130.-
TS2SS-4-2A	130.-
TS2SS-5-2A	130.-



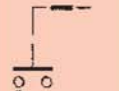
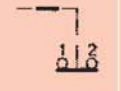
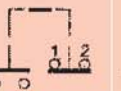
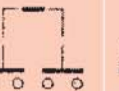

TS2SH สวิตช์ลูกศร



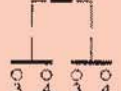
TS2SH-1A,1B	130.-
TS2SH-1-1C	145.-
TS2SH-1-2A,2B	145.-
TS2SH-2-2A	145.-
TS2SH-3-2A	145.-
TS2SH-4-2A	145.-
TS2SH-5-2A	145.-



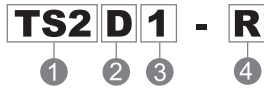
#### SELECTOR SWITCH 2-POSITIONS CONTACT ARRANGEMENT

Type	TS2-A	TS2-B	TS2-C	TS2-2A	TS2-2B
Contact	1a	1b	1a1b	2a	2b
Contact arrangement					
Contact	0 1	0 1	0 1	0 1	0 1
	3-4	1-2	1-2	3-4	1-2
	X	X	X	X	X

#### SELECTOR SWITCH 3-POSITIONS CONTACT ARRANGEMENT

Type	TS2-C
Contact	1a 0 1a
Contact arrangement	
Contact	1 0 2
	3-4
	X
	X

#### MODEL DESIGNATIONS



#### PILOT LAMP (DIRECT POWER)

#### DIMENSIONS

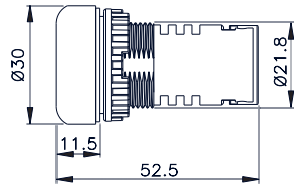
TS2D ไฟลือตแลมปี (ใช้หลอด LED)

• ชนิดติดต่อเนื่อง  
**TS2D**  
 (R, O, G, W, BL)

85.-

• ชนิดติดกะพริบ  
**TS2F**  
 (R, O, G, W, BL)

135.-



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
4.Lens color	9	12V AC/ DC
	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

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

### ออดไฟฟ้า

#### MODEL DESIGNATIONS



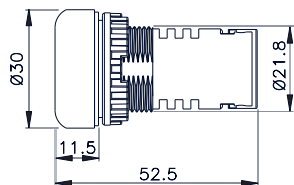
- The color of lens for buzzer pilot lamp is red.
- The color of lens for buzzer is black.

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

#### ออดชนิดมีแลมปี (LED)

TS2BCL ออดชนิดดังต่อเนื่องมี LED แลมปี 270.-  
 TS2BIL ออดชนิดดังไม่ต่อเนื่องมี LED แลมปี 270.-



#### ออดชนิดไม่มีแลมปี

TS2BC ออดชนิดดังต่อเนื่อง 245.-  
 TS2BI ออดชนิดดังไม่ต่อเนื่อง 245.-

