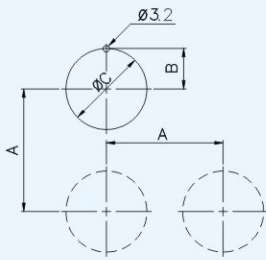


PANEL CUT-OUT Ø22/Ø25 series



DIMENSIONS (mm)

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

CONTACT RATING

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

CHARACTERISTICS

Operating frequency	Mechanically	Push button (momentary) 60 cycles / min., Others 30 cycles / min
	Electrically	30 cycles / min.
Service life	Mechanically	Push button (momentary) 3,000,000 operations., Others 300,000 operations
	Electrically	Push button (momentary) 500,000 operations., Others 200,000 operations
Shock	Durability	1000m/s ²
	Malfunction	Push button(momentary)1000m/s ² , Others 250m/s ²
Vibration	Malfunction	10~55Hz double amplitude 1.5mm
Contact resistance	50mΩ max. (Initial value)	
Insulation resistance	100MΩ min.(500VDC)	
Dielectric strength	2500VAC,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					

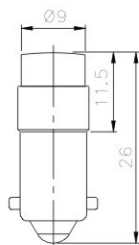
BULB TYPE AND CHARACTERISTICS

BA9S-11X28mm - 1.2 W max.

Lamp Type	Signal	Rated Voltage	Signal	Operating Voltage	Rated Current	Color Code	Signal	Designation
LED	L	6V AC/DC	6	6V AC/DC	9~13mA	Red Blue	R BL	L-110 R
		12V AC/DC	12	12V AC/DC	9~13mA			
		24V AC/DC	24	24V AC/DC	8~13mA	Green White	G W	
		110V AC	110	110V AC	3~5mA	Orange	O	
		220V AC	220	220V AC	3~5mA			

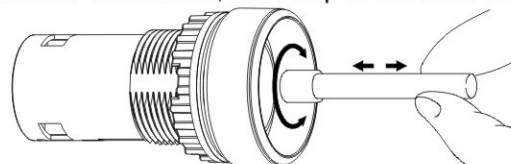
DIMENSIONS OF BULB

LED Bulb



Method to replace lamp:

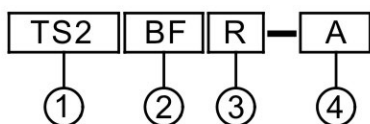
Put the fixing-disassembling tool into the lamp , turn clockwise and the lamp is fixed. If counter-clockwise, the lamp is disassembled.



tend PUSH BUTTON SWITCH (TS2 Ø22/Ø25)

TS2

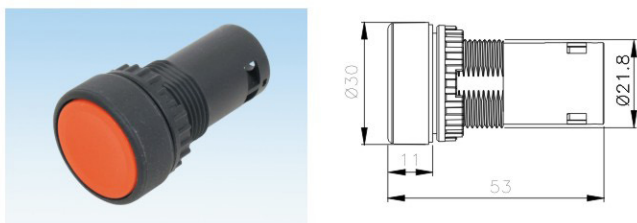
MODEL DESIGNATIONS



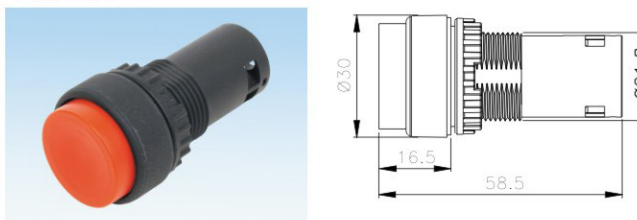
Designation	Signal	Description
1. Mounting Hole	TS2	Ø22mm/Ø25mm
2. Type	BF BL BM	Flat Head Long Head Mushroom Head
3. Lens Color	R G Y W B	Red Green Yellow White Black
4. Type of contact Block Fitted	A B C 2A 2B	1a 1b 1a1b 2a 2b

OPERATING HEADS DIMENSIONS

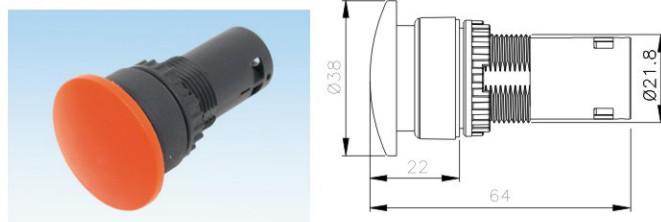
TS2BF



TS2BL



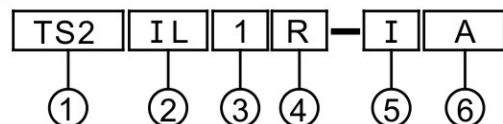
TS2BM



tend ILLUMINATED PUSH BUTTON (TS2 Ø22/Ø25 DIRECT POWER)

TS2

MODEL DESIGNATIONS



Designation	Signal	Description
4. Lens Color	R G O W BL	Red Green Orange White Blue
5. No. of Contacts Fitted	I L	Incandescent LED
6. Type of contact Block Fitted	A B	1a 1b

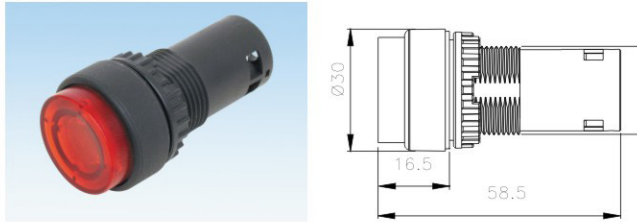
Designation	Signal	Description
1. Mounting Hole	TS2	Ø22mm/Ø25mm
2. Type	IL IM	Long Head Mushroom Head
3. Voltage	1 2 5 6 7 8 9	110VAC LED 220VAC LED 6VAC/DC Incandescent · LED 18VAC/DC Incandescent 24VAC/DC Incandescent · LED 30VAC/DC Incandescent 12VAC/DC Incandescent · LED

ILLUMINATED PUSH BUTTON (DIRECT POWER) CONTACT BLOCKS

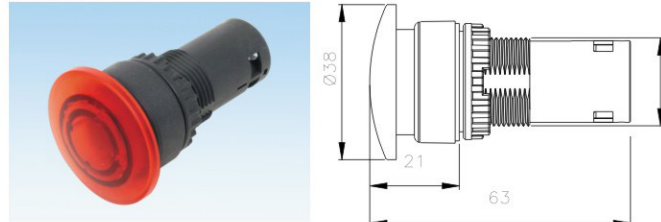
Type	TN2-A	TN2-B
Contact	1a	1b
Contact Arrangement		

OPERATING HEAD DIMENSIONS

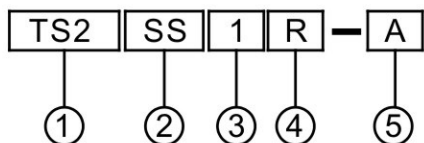
TS2IL



TS2IM



MODEL DESIGNATIONS

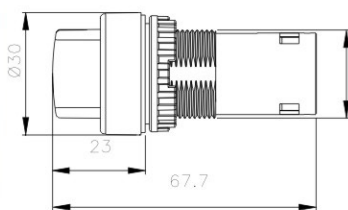


Designation	Signal	Description
1. Mounting Hole	TS2	Ø22mm/Ø25mm
2. Type	SS SH	Knob Operator Lever Operator

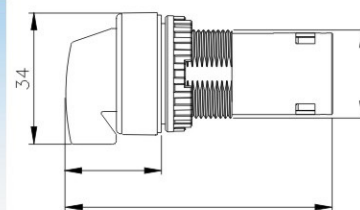
Designation	Signal	Description	
3. Positions	1		90°X2-Position
	2		45°X2 3-Position
	3		45°X2 3-Position spring return from right
	4		45°X2 3-Position spring return from left
	5		45°X2 3-Position 2-Way spring return
4. Lens Color	R	Red	
	G	Green	
	B	Black	
5. Type of contact Block Fitted		2-Position	3-Position
	A	1a	—
	B	1b	—
	C	1a1b	1a 0 1a
	2A	2a	—
	2B	2b	—

OPERATING HEADS DIMENSIONS

TS2SS



TS2SH

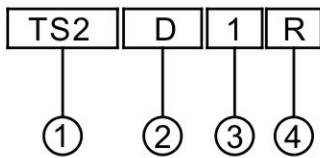


SELECTOR SWITCH 2-POSITION CONTACT ARRANGEMENT

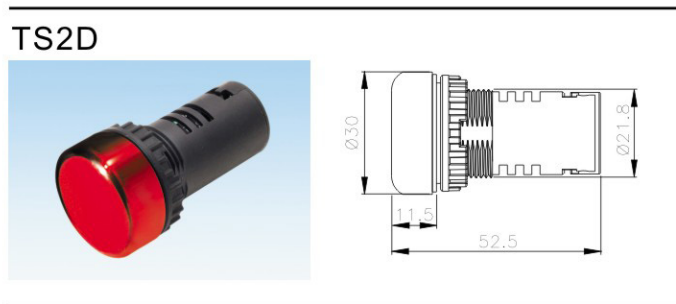
SELECTOR SWITCH 3-POSITION CONTACT ARRANGEMENT

Type	TS2-A	TS2-B	TS2-C	TS2-2A	TS2-2B	Type	TS2-C																																																
Contact	1a	1b	1a1b	2a	2b	Contact	1a 0 1a																																																
Contact Arrangement						Contact Arrangement																																																	
	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>3-4</td> <td></td> <td>X</td> </tr> </table>	Contact	0	1	3-4			X	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>1-2</td> <td>X</td> <td></td> </tr> </table>	Contact	0	1	1-2	X		<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>1-2</td> <td>X</td> <td></td> </tr> <tr> <td>3-4</td> <td></td> <td>X</td> </tr> </table>	Contact	0	1	1-2	X		3-4		X	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>3-4</td> <td></td> <td>X</td> </tr> </table>	Contact	0	1	3-4		X	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>1-2</td> <td>X</td> <td></td> </tr> <tr> <td>1-2</td> <td>X</td> <td></td> </tr> </table>	Contact	0	1	1-2	X		1-2	X		<table border="1"> <tr> <td>Contact</td> <td>1</td> <td>0</td> <td>2</td> </tr> <tr> <td>3-4</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>3-4</td> <td></td> <td></td> <td>X</td> </tr> </table>	Contact	1	0	2	3-4	X			3-4			X
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MODEL DESIGNATIONS



PILOT LAMP (DIRECT POWER) DIMENSIONS

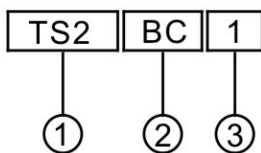


Designation	Signal	Description
1. Mounting Hole	TS2	Ø22mm/Ø25mm
2. Type	D	LED Continuous light
	F	LED Flashing light
3. Voltage	1	110VAC
	2	220VAC
	3	380VAC
	4	440VAC
	7	24VAC/DC
	9	12VAC/DC
4. Lens Color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue

tend BUZZER AND BUZZER PILOT LAMP (TS2 Ø22 Ø25)

- The color of lens for Buzzer pilot lamp is Red.
- The color of lens for Buzzer is Black.

MODEL DESIGNATIONS



Designation	Signal	Description
1. Mounting Hole	TS2	Ø22mm/Ø25mm
2. Type	BC	Continuous Buzzer
	BI	Intermittence Buzzer
	BCL	Continuous Light with Audible Alarm
	BIL	Flashing Light with Audible Alarm
3. Voltage	1	110VAC
	2	220VAC
	7	24VAC/DC
	9	12VAC/DC

BUZZER AND BUZZER PILOT LAMP DIMENSIONS

