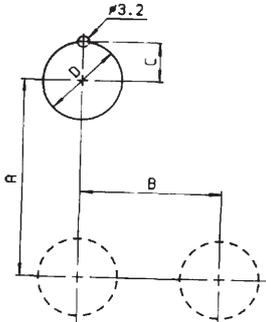
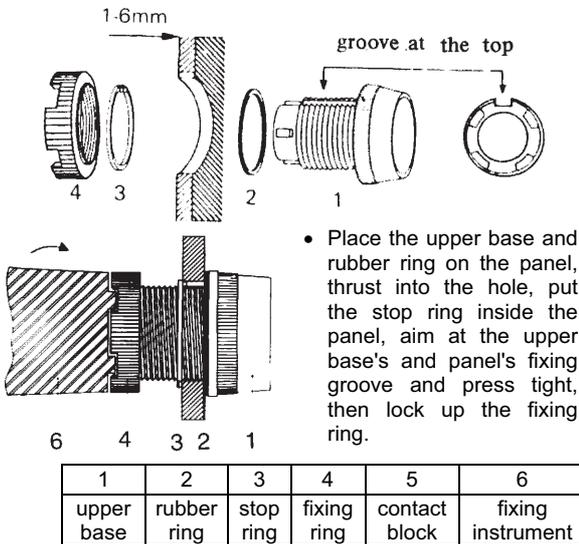


The upper base and contact block of this series of control components are detachable. IP65 (IEC144), the protection structure for this series except Twin-Touch push button (IP40), makes the components waterproof, oiltight, dustproof and suitable for use in worse environment.

PANEL CUT-OUT Ø22/Ø25/Ø30 Series



MOUNTING METHOD

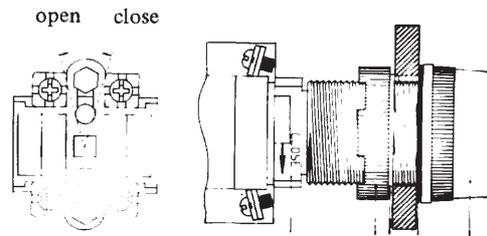


- Place the upper base and rubber ring on the panel, thrust into the hole, put the stop ring inside the panel, aim at the upper base's fixing groove and panel's fixing groove and press tight, then lock up the fixing ring.

DIMENSIONS

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
B	Metal plate	45	45	50
	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
037 Mushroom	38	38	40	

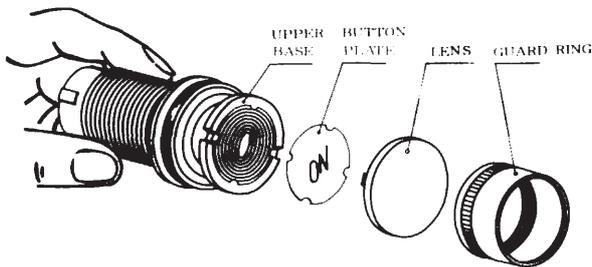
CONTACT BLOCK'S ASSEMBLY AND DISASSEMBLY



- 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".

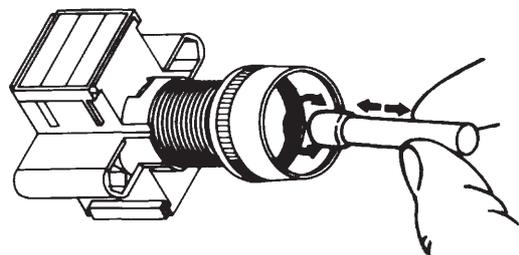
Indication of letters and symbols

Transparent printing paper (types: see p. 20)

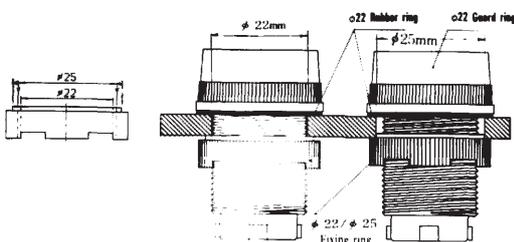


Method to replace lamp

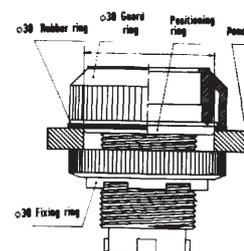
Put the fixing-disassembling tool into the lamp, turn clockwise and the lamp is fixed. If counter-clockwise, the lamp is disassembled.



Ø22mm/Ø25mm series are of same dimension and with common fixing ring.



The assembly method for Ø30mm series



CONTACT RATING

AC	Inductive load	AC125V	AC250V	AC440V	AC600V	DC	Inductive load	DC125V	DC250V	DC380V
		6A	4A	2A	1A			0.5A	0.2A	0.1A
	Resistive load	10A	6A	4A	1.5A		Resistive load	2A	0.6A	0.2A

CHARACTERISTICS

Ambient temperature	-20°C~+60°C	
Humidity	45 ~ 85% RH	
Contact resistance	50mΩ max. (initial value)	
Insulation resistance	100mΩ min. (at 500 VDC)	
Dielectric strength	2500VAC, 50/60HZ for 1 minute	
Service' life	Mechanically	Push Button/Illuminated Push Button (Momentary) 3,000,000, Others 500,000
	Electrically	500,000 operations

STANDARD CONTACT BLOCKS

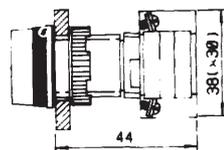
Type	TC-1A	TC-1B	TC-1C	TC-2A	TC-2B	TC-2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact Arrangement						
Type	TC-3A	TC-3B	TC-3C	TC-4A	TC-4B	TC-4C
Contact	3a	3b	3a3b	4a	4b	4a4b
Contact Arrangement						

STANDARD TYPES OF CONTACT BLOCK AND ASSEMBLY METHOD.

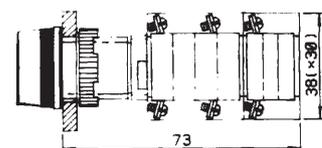
Short contact block is available in 1a, 1b, 1a1b, 2a, and 2b. The contact may be increased to 2a2b by replacing the short block with the long one. If more contacts are needed, just add the short one to the long one (The short one is not designed for being added by other block at its rear end). 3a, 3b, 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 BLOCKS DIMENSIONS

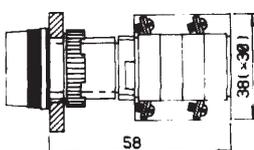
TC-1A-TC-1B-TC-1C
TC-2A • TC-2B



TC-3A • TC-3B • TC-3C TC-4A • TC-4B



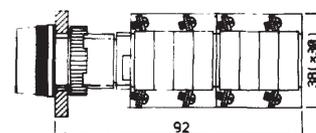
TC-2C



TC-4C



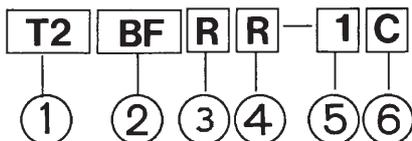
M3x55 SCREW 2PCS.
M3 NUT 2PCS.



PUSH BUTTON SWITCH (Ø22 / Ø25 / Ø30)

The contact block of this series of switches is standard. See page 2 for types, drawing of contacts and assembly dimension.

MODEL DESIGNATION

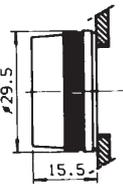
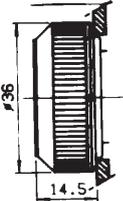
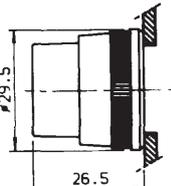
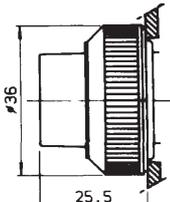
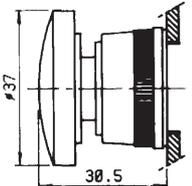
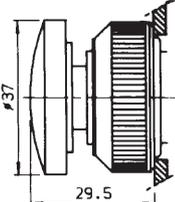
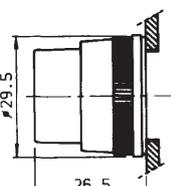
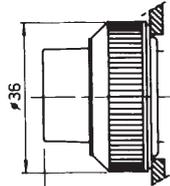


Designation	Signal	Description
1. Mounting Hole	T2 T3	Ø22mm/Ø25mm Ø30mm
2. Type	BF BL BM BA BB BK BT PB	Flat Head Long Head Mushroom Head Long Head (Alternate) Mushroom Head (Alternate) Push-Lock Twin-Touch Simple

Designation	Signal	Description
3. Shape	R S L	Round Square Rectangular
4. Lens Color	R G Y W B BL	Red Green Yellow White Black Blue
5. No. of Contact Blocks Fitted	1-4	1-4
6. Type of Contact Blocks fitted	A B C	1a 1b 1a1b

1. The upper base and contact block in simple type are of one unit, available with 1a1b contact, Ø22mm/Ø25mm fixing hole, round type only.
2. The mounting holes of square series are Ø22mm/Ø25mm available.
3. Twin-Touch Push Button is available with rectangular shape.

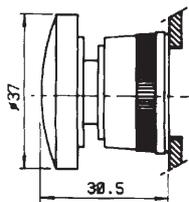
OPERATING HEADS DIMENSIONS

T2BFR  	T3BFR  
T2BLR  	T3BLR  
T2BMR  	T3BMR  
T2BAR  	T3BAR  

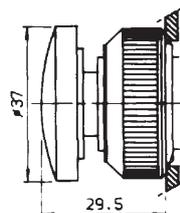
PUSH BUTTON SWITCH (ø22 / ø25 / ø30)

IEC144 IP65

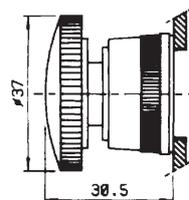
T2BBR



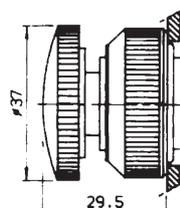
T3BBR



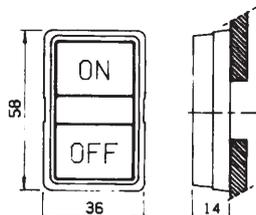
T2BKR



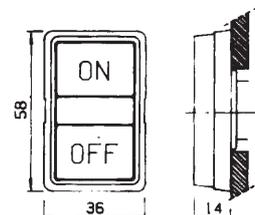
T3BKR



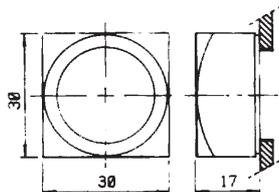
T2BTL



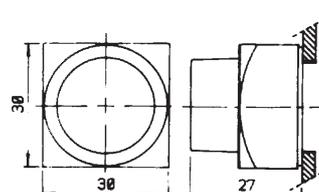
T3BTL



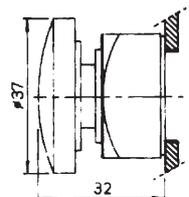
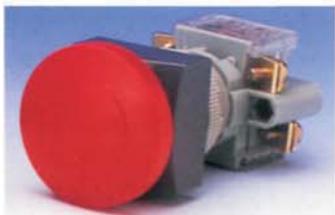
T2BFS



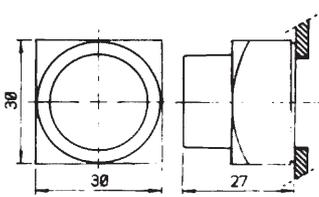
T2BLS



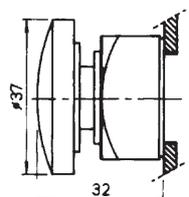
T2BMS



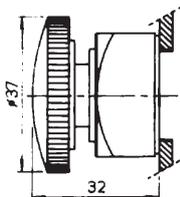
T2BAS



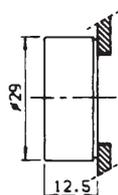
T2BBS



T2BKS



T2PB



ILLUMINATED PUSH BUTTON ($\varnothing 22$ / $\varnothing 25$ / $\varnothing 30$)

DIRECT POWER

IEC144 IP65

■ BULB TYPE AND CHARACTERISTICS BA9S - 11 X28mm - 1.2 W max.

• NEON BULB



Type	Voltage	Lamp Color	Lens Color
TS9-1R	110VAC	Red	Red lamps for use with red, orange, white lens.
TS9-1G		Green	
TS9-2R	220VAC	Red	
TS9-2G		Green	
TS9-3R	3 80 VAC	Red	Green lamps for use with green, blue lens.
TS9-3G		Green	
TS9-4R	440VAC	Red	
TS94G		Green	

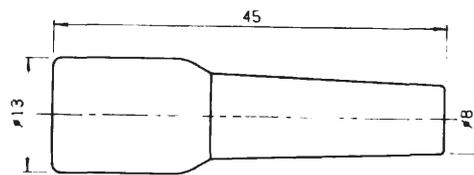
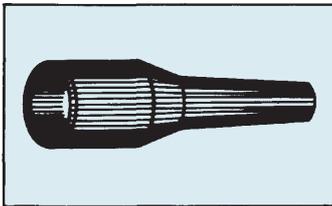
• FILAMENT BULB



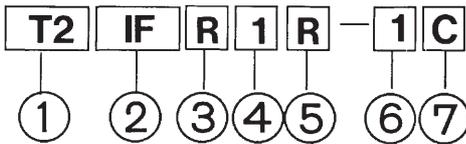
Type	Voltage
TS9-5	6V
TS9-6	18V
TS9-7	24V
TS9-8	30V
TS9-9	12V

• BULB EXTRACTOR

T2-A



■ MODEL DESIGNATION



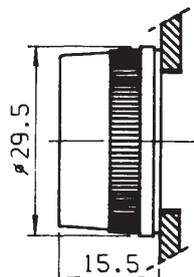
Designation	Signal	Description
1. Mounting Hole	T2 T3	$\varnothing 22\text{mm}/\varnothing 25\text{mm}$ $\varnothing 30\text{mm}$
2. Type	IF IL IM IA IB IK IT	Flat Head Long Head Mushroom Head Long Head (Alternate) Mushroom Head (Alternate) Push-Lock Twin-Touch
3. Shape	R S L	Round Square Rectangular

- The mounting holes of square series are $\varnothing 22\text{mm}/\varnothing 25\text{mm}$ available.
- Twin-Touch illuminated push button is available with rectangular shape, various colors, and transparent.

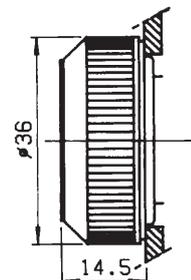
Designation	Signal	Description
4. Voltage	1	110VAC (Neon Bulb)
	2	220 " (")
	3	380 " (")
	4	440 " (")
	5	6V " (Filament Bulb)
	6	18V " (")
	7	24V " (")
	8	30V " (")
	9	12V " (")
5. Lens Color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
6. No. of Contact Blocks Fitted	1-3	1-3
	7. Type of Contact Blocks Fitted	A B C

■ OPERATING HEAD DIMENSIONS

T2IFR



T3IFR

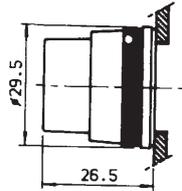


ILLUMINATED PUSH BUTTON ($\varnothing 22$ / $\varnothing 25$ / $\varnothing 30$)

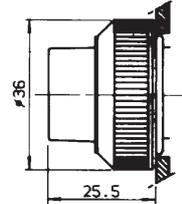
DIRECT POWER

IEC144 IP65

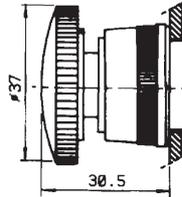
T21LR



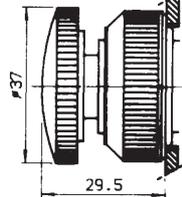
T31LR



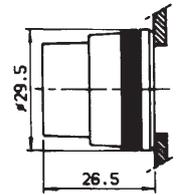
T21MR



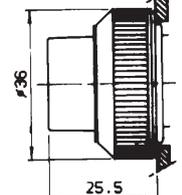
T31MR



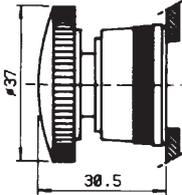
T21AR



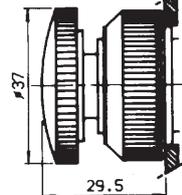
T31AR



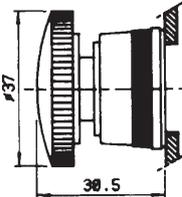
T21BR



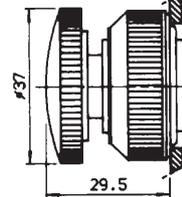
T31BR



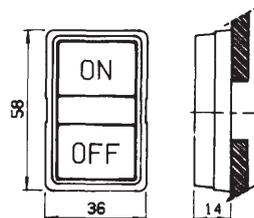
T21KR



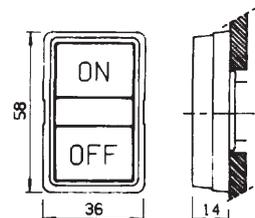
T31KR



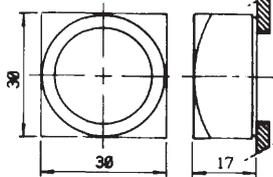
T21TL



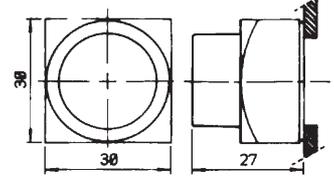
T31TL



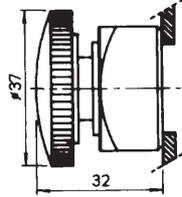
T21FS



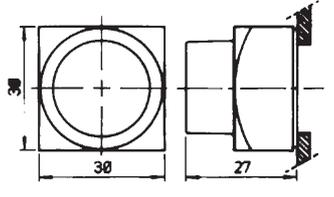
T21LS



T21MS



T21AS

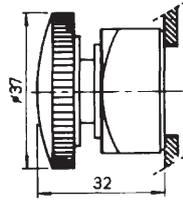


ILLUMINATED PUSH BUTTON ($\varnothing 22 / \varnothing 25 / \varnothing 30$)

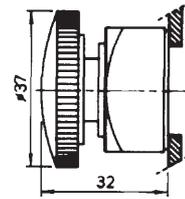
DIRECT POWER

IEC144 IP65

T2IBS



T2IKS



ILLUMINATED PUSH BUTTON (DIRECT POWER) CONTACT BLOCKS

Type	TC-I1A	TC-I1B	TC-I1C	TC-I 2A
Contact	1a	1b	1a1b	2a
Contact Arrangement				

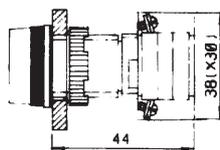
Type	TC-I2C	TC-I3A	TC-I3B	TC-I4A	TC-I3C
Contact	2a2b	3a	3b	4a	3a3b
Contact Arrangement					

TYPES 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 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). 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 BUTTON (DIRECT POWER) CONTACT BLOCKS DIMENSIONS

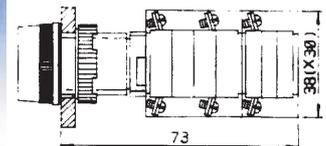
TC-I1A.TC-I1B



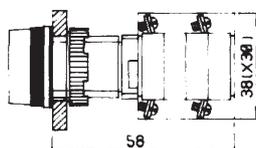
TC-I3A-TC-I3B
TC-I2C-TC-I4A



M3x44 SCREW 2PCS
M3 NUT 2PCS



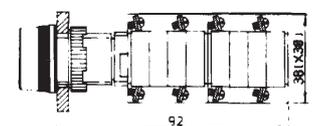
TC-I1C. TC-I2A



TC-I3C



M3x55 SCREW 2PCS
M3 NUT 2 PCS.

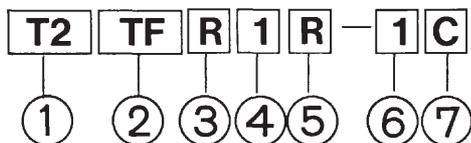


ILLUMINATED PUSH BUTTON ($\varnothing 22 / \varnothing 25 / \varnothing 30$) WITH TRANSFORMER

IEC144 IP65

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

MODEL DESIGNATION



Designation	Signal	Description
1. Mounting Hole	T2 T3	$\varnothing 22\text{mm}/\varnothing 25\text{mm}$ $\varnothing 30\text{mm}$
2. Type	IF IL IM IA IB IK IT	Flat Head Long Head Mushroom Head Long Head (Alternate) Mushroom Head (Alternate) Push-Lock Twin-Touch
3. Shape	R S L	Round Square Rectangular

Designation	Signal	Description
4. Voltage (50HZ~60HZ)	1 2	110/5VAC 220/5VAC
5. Lens Color	R G 0 W BL	Red Green Orange White Blue
6. No. of Contact Blocks Fitted	1-2	1-2
7. Type of Contact Blocks Fitted	A B C	1a 1b 1a1b

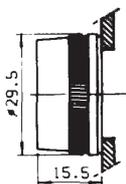
1. The mounting holes of square series are $\varnothing 22\text{mm}/\varnothing 25\text{mm}$ available.
2. Twin-Touch illuminated push button is available with rectangular shape, various colors, and transparent.
3. The voltages of illuminated push button are 110/5 VAC and 220/5VAC.

TYPES OF ILLUMINATED CONTACT BLOCK AND ASSEMBLY METHOD.

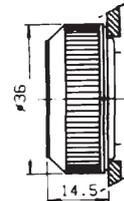
Long or short contact block is same as standard one. After disassembling the transformer base, the assembly method of contact block is same as that of standard type. See p. 2.

OPERATING HEADS DIMENSIONS

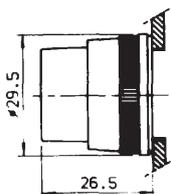
T2TFR



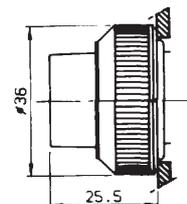
T3TFR



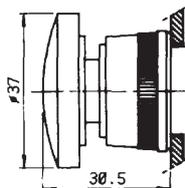
T2TLR



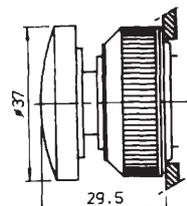
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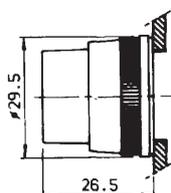
T2TMR



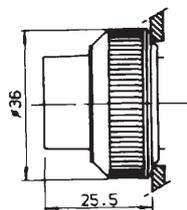
T3TMR



T2TAR



T3TAR

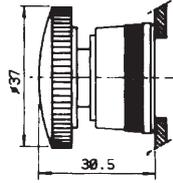


ILLUMINATED PUSH BUTTON (WITH TRANSFORMER)

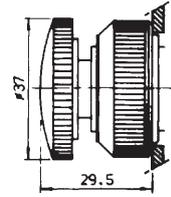
Ø22 / Ø25 / Ø30
WITH TRANSFORMER

IEC144 IP65

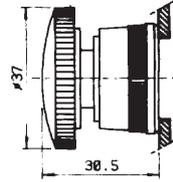
T2TBR



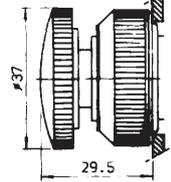
T3TBR



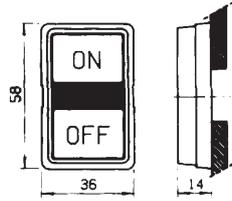
T2TKR



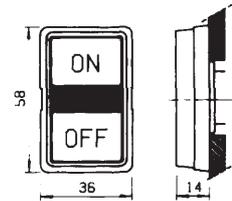
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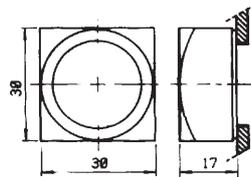
T2TTL



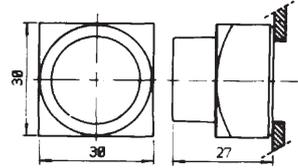
T3TTL



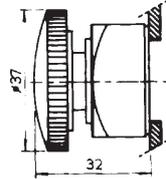
T2TFS



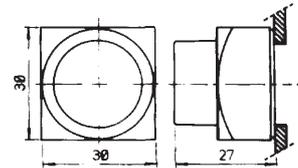
T2TLS



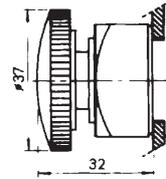
T2TMS



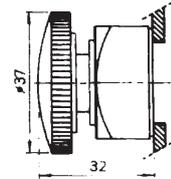
T2TAS



T2TBS



T2TKS

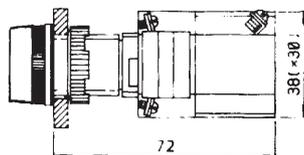


ILLUMINATED PUSH BUTTON CONTACT BLOCKS (WITH TRANSFORMER) DIMENSIONS

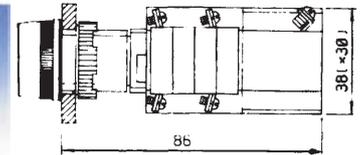
Type	TC-T1A	TC-T1B	TC-T1C	TC-T2A	TC-T2B	TC-T2C
Contact	1a	1b	1a1b	2a	2b	2a2b
Contact Arrangement						

ILLUMINATED PUSH BUTTON CONTACT BLOCKS (WITH TRANSFORMER) DIMENSIONS

TC-T1A TC-T1B TC-T1C
TC-T2A TC-T2B



TC-T2C

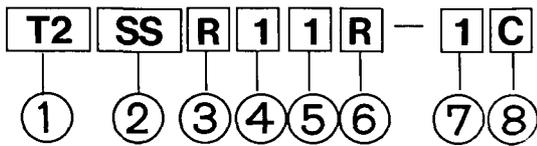


SELECTOR SWITCH (Ø22 / Ø25 / Ø30)

IEC144 IP65

The contact block of this series of switches is standard. See page 2 for assembly dimension.

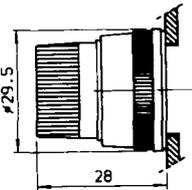
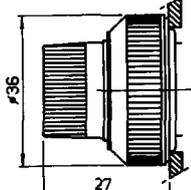
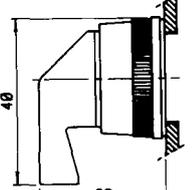
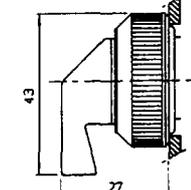
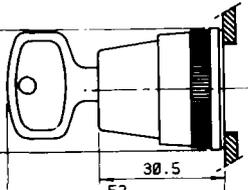
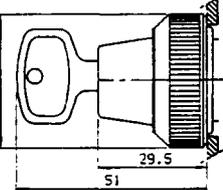
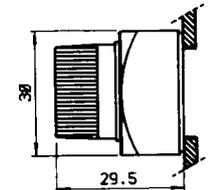
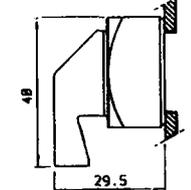
MODEL DESIGNATIONS



Designation	Signal	Description
1. Mounting Hole	T2 T3	Ø22mm/Ø25mm Ø30mm
2. Type	SS SH KS	Knob Operator Lever Operator Key Operator
3. Shape	R S	Round Square
4. Positions	1	45° 2-Position
	2	90° 2-Position
	3	45° 2-Position Spring return from right
	4	45°x2 3-Position
	5	45 x2 3-Position Spring return from right
	6	45°x2 3-Position Spring return from left
	7	45°x2 3-Position 2-Way spring return

Designation	Signal	Description	
5. Key Withdrawable	1	0.1 Key withdrawable	
	2	0 Key withdrawable	
	3	2-Position 1 Key withdrawable	
	4	0.1.2 Key withdrawable	
	5	3-Position 0 Key withdrawable	
6. Lens Color	R G B	Red Green Black	
7. No. of Contacts Fitted	1-4	1-4	
8. Type of Contact Blocks Fitted	A	2-Position	3-Position
	B	1a	-
	C	1b	-
		1a1b	1a 0 1a

OPERATING HEADS DIMENSIONS

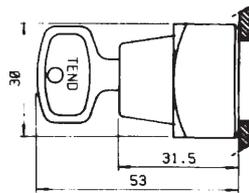
T2SSR  	T3SSR  
T2SHR  	T3SHR  
T2KSR  	T3KSR  
T2SSS  	T2SHS  

SELECTOR SWITCH (Ø22 / Ø25 / Ø30)

Ø22 / Ø25 / Ø30
DIRECT POWER

IEC144 IP65

T2KSS



SELECTOR SWITCH 2-POSITION CONTACT ARRANGEMENT

Type	TC-1A	TC-1B	TC-1C2	TC-2A	TC-2B	TC-2C2																																																						
Contact	1a	1b	1a1b	2a	2b	2a2b																																																						
Contact Arrangement	 <table border="1"> <tr><td>Contact</td><td>0</td><td>1</td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	23-24		x	 <table border="1"> <tr><td>Contact</td><td>0</td><td>1</td></tr> <tr><td>11-12</td><td>x</td><td></td></tr> </table>	Contact	0	1	11-12	x		 <table border="1"> <tr><td>Contact</td><td>0</td><td>1</td></tr> <tr><td>11-12</td><td>x</td><td></td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	11-12	x		23-24		x	 <table border="1"> <tr><td>Contact</td><td>0</td><td>1</td></tr> <tr><td>13-14</td><td></td><td>x</td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	13-14		x	23-24		x	 <table border="1"> <tr><td>Contact</td><td>0</td><td>1</td></tr> <tr><td>11-12</td><td>x</td><td></td></tr> <tr><td>21-22</td><td>x</td><td></td></tr> </table>	Contact	0	1	11-12	x		21-22	x		 <table border="1"> <tr><td>Contact</td><td>0</td><td>1</td></tr> <tr><td>11-12</td><td>x</td><td></td></tr> <tr><td>13-14</td><td></td><td>x</td></tr> <tr><td>21-22</td><td>x</td><td></td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	11-12	x		13-14		x	21-22	x		23-24		x
Contact	0	1																																																										
23-24		x																																																										
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11-12	x																																																											
13-14		x																																																										
21-22	x																																																											
23-24		x																																																										

SELECTOR SWITCH 3-POSITION CONTACT ARRANGEMENT

Type	TC-1C3	TC-2C3																								
Contact	1a 0 1a	2a 0 2a																								
Contact Arrangement	 <table border="1"> <tr><td>Contact</td><td>1</td><td>0</td><td>2</td></tr> <tr><td>13-14</td><td>x</td><td></td><td></td></tr> <tr><td>23-24</td><td></td><td></td><td>x</td></tr> </table>	Contact	1	0	2	13-14	x			23-24			x	 <table border="1"> <tr><td>Contact</td><td>1</td><td>0</td><td>2</td></tr> <tr><td>13-14</td><td>x</td><td></td><td></td></tr> <tr><td>23-24</td><td></td><td></td><td>x</td></tr> </table>	Contact	1	0	2	13-14	x			23-24			x
Contact	1	0	2																							
13-14	x																									
23-24			x																							
Contact	1	0	2																							
13-14	x																									
23-24			x																							

ILLUMINATED SELECTOR SWITCH (Ø22 / Ø25 / Ø30)

Ø22 / Ø25 / Ø30
DIRECT POWER

IEC144 IP65

The contact block of this series of switches is illuminated type. See page 2 for assembly dimension.

The type and specification of bulb used are same as those for direct type illuminated push button switch. See p. 5.

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 T3	Ø22mm/Ø25mm Ø30mm
2. Type	IS IH	Knob Operator Lever Operator
3. Shape	R S	Round Square
4. Positions	1	45° 2-Position
	2	90° 2-Position
	3	45° 2-Position Spring return from right
	4	45°x2 3-Position
	5	45°x2 3-Position Spring return from right
	6	45°x2 3-Position Spring return from left
	7	45°x2 3-Position 2-Way spring return

Designation	Signal	Description	
5. Voltage	1	110VAC (Neon Bulb)	
	2	220 " (")	
	3	380 " (")	
	4	440 " (")	
	5	6V " (Filament Bulb)	
	6	18V " (")	
	7	24V " (")	
	8	30V " (")	
	9	12V " (")	
6. Lamps Color	R	Red	
	G	Green	
	O	Orange	
	W BL	White Blue	
7. No. of Contact Blocks Fitted	1-3	1-3	
8. Type of Contact Blocks Fitted	A B C	2-Position	
		3-Position	
		1a	1a
		1b 1a1b	0 1a

• The mounting holes of square series are Ø22mm/Ø25mm available.

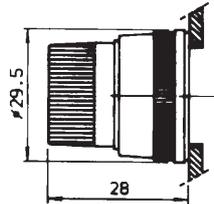
ILLUMINATED SELECTOR SWITCH (

Ø22 / Ø25 / Ø30
DIRECT POWER

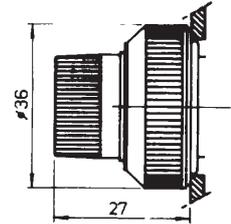
IEC144 IP65

OPERATING HEADS DIMENSIONS

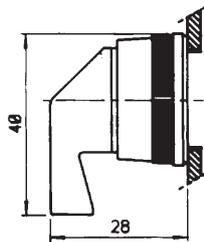
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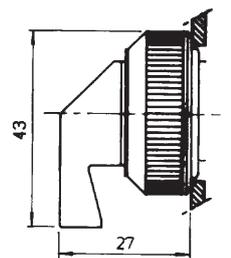
T3ISR



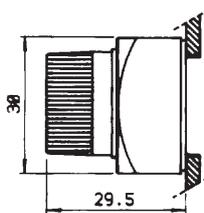
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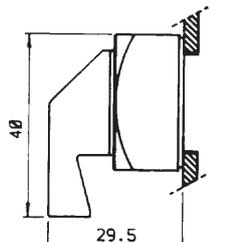
T3IHR



T2ISS



T2IHS



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

Type	TC-I1A	TC-I1B	TC I1C2	TC-I2A	TC-I2B	TC-I2C2																																																						
Contact	1a	1b	1a1b	2a	2b	2a2b																																																						
Contact Arrangement	 <table border="1"> <tr><th>Contact</th><th>0</th><th>1</th></tr> <tr><td>13-14</td><td></td><td>x</td></tr> </table>	Contact	0	1	13-14		x	 <table border="1"> <tr><th>Contact</th><th>0</th><th>1</th></tr> <tr><td>11-12</td><td>x</td><td></td></tr> </table>	Contact	0	1	11-12	x		 <table border="1"> <tr><th>Contact</th><th>0</th><th>1</th></tr> <tr><td>11-12</td><td>x</td><td></td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	11-12	x		23-24		x	 <table border="1"> <tr><th>Contact</th><th>0</th><th>1</th></tr> <tr><td>13-14</td><td></td><td>x</td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	13-14		x	23-24		x	 <table border="1"> <tr><th>Contact</th><th>0</th><th>1</th></tr> <tr><td>11-12</td><td>x</td><td></td></tr> <tr><td>21-22</td><td>x</td><td></td></tr> </table>	Contact	0	1	11-12	x		21-22	x		 <table border="1"> <tr><th>Contact</th><th>0</th><th>1</th></tr> <tr><td>11-12</td><td>x</td><td></td></tr> <tr><td>13-14</td><td></td><td>x</td></tr> <tr><td>21-22</td><td>x</td><td></td></tr> <tr><td>23-24</td><td></td><td>x</td></tr> </table>	Contact	0	1	11-12	x		13-14		x	21-22	x		23-24		x
Contact	0	1																																																										
13-14		x																																																										
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ILLUMINATED SELECTOR SWITCH (DIRECT POWER) 3-POSITION CONTACT ARRANGEMENT

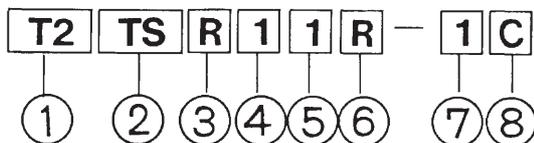
Type	TC-I1C3	TC-I2C3																								
Contact	1a 0 1a	2a 0 2a																								
Contact Arrangement	 <table border="1"> <tr><th>Contact</th><th>1</th><th>0</th><th>2</th></tr> <tr><td>13-14</td><td>x</td><td></td><td></td></tr> <tr><td>23-24</td><td></td><td></td><td>x</td></tr> </table>	Contact	1	0	2	13-14	x			23-24			x	 <table border="1"> <tr><th>Contact</th><th>1</th><th>0</th><th>2</th></tr> <tr><td>13-14</td><td>x</td><td></td><td></td></tr> <tr><td>23-24</td><td></td><td></td><td>x</td></tr> </table>	Contact	1	0	2	13-14	x			23-24			x
Contact	1	0	2																							
13-14	x																									
23-24			x																							
Contact	1	0	2																							
13-14	x																									
23-24			x																							

ILLUMINATED SELECTOR SWITCH ($\varnothing 22 / \varnothing 25 / \varnothing 30$) WITH TRANSFORMER

IEC144 IP65

The contact block of this series of switches is standard. See page 2 for assembly dimension.
This series of switches are equipped with transformers at the secondary voltage of 5V and TS9-5 (6V) bulb used. See p. 5.

MODEL DESIGNATION



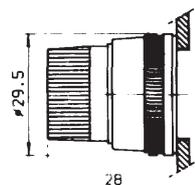
Designation	Signal	Description
1. Mounting Hole	T2 T3	$\varnothing 22\text{mm}/\varnothing 25\text{mm}$ $\varnothing 30\text{mm}$
2. Type	TS TH	Knob Operator Lever Operator
3. Shape	R S	Round Square
4. Positions	1	 45° 2-Position
	2	 90° 2-Position
	3	 45° 2-Position Spring return from right
	4	 45°x2 3-Position
	5	 45 x2 3 Position Spring return from right
	6	 45°x2 3-Position Spring return from left
	7	 45°x2 3-Position 2-Way spring return

Designation	Signal	Description	
5. Voltage (50-60HZ)	1 2	110/5 VAC 220/5 VAC	
6. Lens color	R G 0 W BL	Red Green Orange White Blue	
7. No. of Contact Blocks Fitted	1-2	1-2	
8. Type of Contact Blocks Fitted	A B C	2-Position	3-Position
		1a	-
		1b 1a1b	1a 0 1a

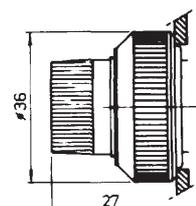
• The mounting holes of square series are 022mm/025mm available.

OPERATING HEADS DIMENSIONS

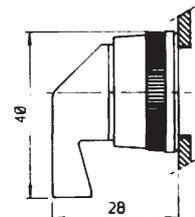
T2TSR



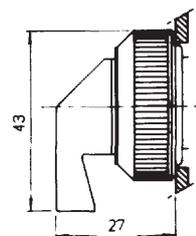
T3TSR



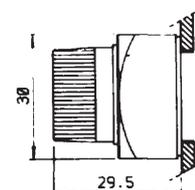
T2THR



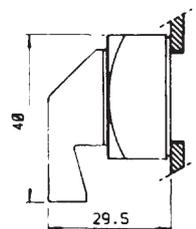
T3THR



T2TSS



T2THS



ILLUMINATED SELECTOR SWITCH ($\varnothing 22 / \varnothing 25 / \varnothing 30$) WITH TRANSFORMER

IEC144 IP65

ILLUMINATED SELECTOR SWITCH (TRANSFORMER) 2 POSITION CONTACT ARRANGEMENT

Type	TC-T1A	TC-T1B	TC-T1C2	TC-T2A	TC-T2B	TC-T2C2																																																						
Contact	1a	1b	1a1b	2a	2b	2a2b																																																						
Contact Arrangement	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>23-24</td> <td></td> <td>x</td> </tr> </table>	Contact	0	1	23-24		x	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>11-12</td> <td>x</td> <td></td> </tr> </table>	Contact	0	1	11-12	x		<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>11-12</td> <td>x</td> <td></td> </tr> <tr> <td>23-24</td> <td></td> <td>x</td> </tr> </table>	Contact	0	1	11-12	x		23-24		x	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>13-14</td> <td></td> <td>x</td> </tr> <tr> <td>23-24</td> <td></td> <td>x</td> </tr> </table>	Contact	0	1	13-14		x	23-24		x	<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>11-12</td> <td>x</td> <td></td> </tr> <tr> <td>21-22</td> <td>x</td> <td></td> </tr> </table>	Contact	0	1	11-12	x		21-22	x		<table border="1"> <tr> <td>Contact</td> <td>0</td> <td>1</td> </tr> <tr> <td>11-12</td> <td>x</td> <td></td> </tr> <tr> <td>13-14</td> <td></td> <td>x</td> </tr> <tr> <td>21-22</td> <td>x</td> <td></td> </tr> <tr> <td>23-24</td> <td></td> <td>x</td> </tr> </table>	Contact	0	1	11-12	x		13-14		x	21-22	x		23-24		x
Contact	0	1																																																										
23-24		x																																																										
Contact	0	1																																																										
11-12	x																																																											
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11-12	x																																																											
13-14		x																																																										
21-22	x																																																											
23-24		x																																																										

ILLUMINATED SELECTOR SWITCH (WITH TRANSFORMER) 3-POSITION CONTACT ARRANGEMENT

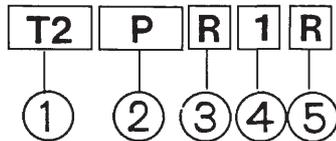
Type	TC-T1C3	TC-T2C3																								
Contact	1a 0 1a	2a 0 2a																								
Contact Arrangement	<table border="1"> <tr> <td>Contact</td> <td>1</td> <td>0</td> <td>2</td> </tr> <tr> <td>13-14</td> <td>x</td> <td></td> <td></td> </tr> <tr> <td>23-24</td> <td></td> <td></td> <td>x</td> </tr> </table>	Contact	1	0	2	13-14	x			23-24			x	<table border="1"> <tr> <td>Contact</td> <td>1</td> <td>0</td> <td>2</td> </tr> <tr> <td>13-14</td> <td>x</td> <td></td> <td></td> </tr> <tr> <td>23-24</td> <td></td> <td></td> <td>x</td> </tr> </table>	Contact	1	0	2	13-14	x			23-24			x
Contact	1	0	2																							
13-14	x																									
23-24			x																							
Contact	1	0	2																							
13-14	x																									
23-24			x																							

PILOT LAMP ($\varnothing 22 / \varnothing 25 / \varnothing 30$ DIRECT POWER)

IEC144 IP65

This series of bulbs used are same as those for direct type illuminated push button switch. See p. 5.

MODEL DESIGNATION

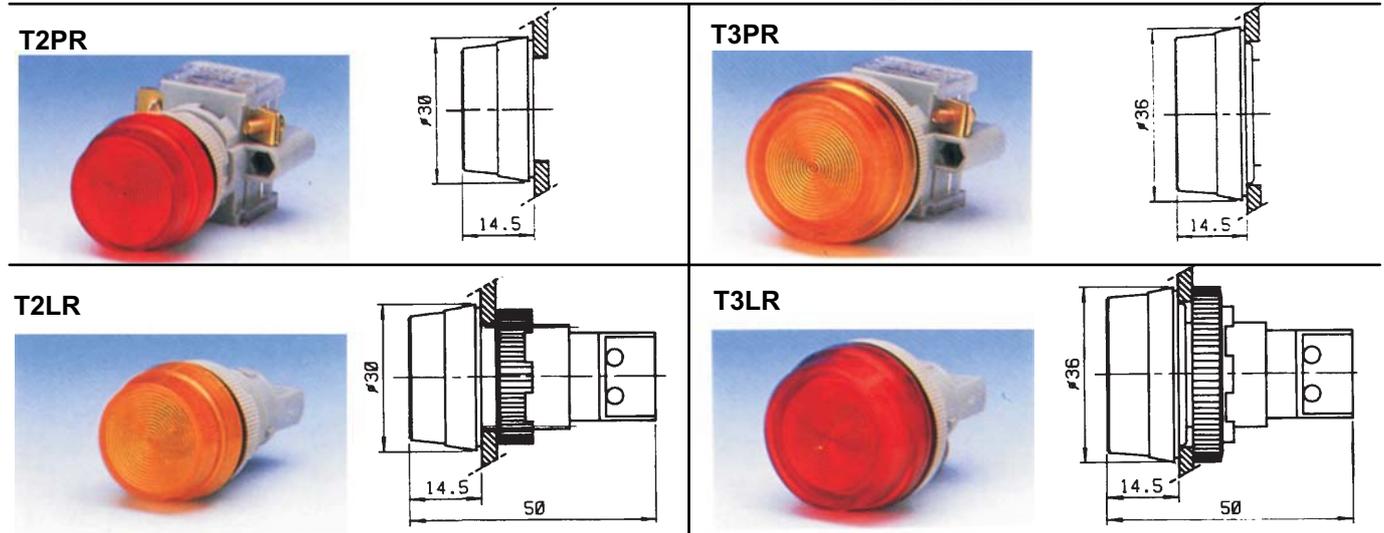


Designation	Signal	Description
1. Mounting	T2 T3	$\varnothing 22\text{mm} / \varnothing 25\text{mm} \varnothing 30\text{mm}$
2. Type	P L N	Direct Power Simple (Screw Terminal in the rear) Simple (Screw Terminal on the side)
3. Shape	R S	Round Square

4. Voltage	1	110VAC (Neon Bulb)
	2	220VAC (")
	3	380VAC (")
	4	440VAC (")
	5	6V (Filament Bulb)
	6	18V (")
	7	24V (")
	8	30V (")
	9	12V (")
5. Lens Color	R	Red Green Orange White Blue
	G	
	O	
	W	
	BL	

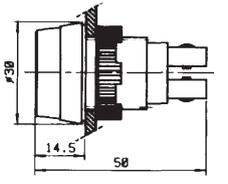
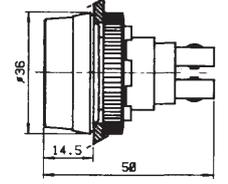
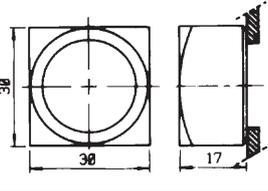
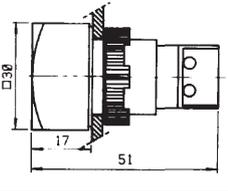
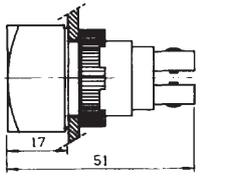
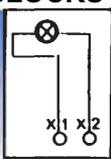
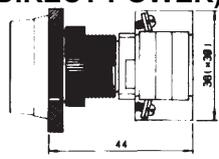
- The upper and lower bases of simple type pilot lamp are one unit and undetachable.
- The mounting holes of square series are $\varnothing 22\text{mm} / \varnothing 25\text{mm}$ available.

PILOT LAMP (DIRECT POWER) DIMENSIONS



PILOT LAMP (Ø22/Ø25/Ø30 DIRECT POWER)

IEC144 IP65

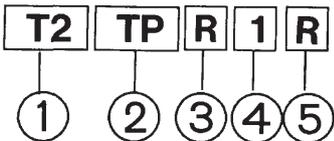
T2NR 		T3NR 	
T2PS 		T2LS 	
T2NS 		■ LAMP HOLDER BLOCKS (DIRECT POWER) TPS-1   	

PILOT LAMP (Ø22/Ø25/Ø30 WITH TRANSFORMER)

IEC144 IP65

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

■ MODEL DESIGNATIONS

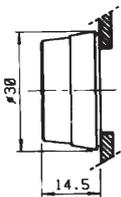
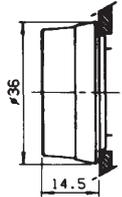
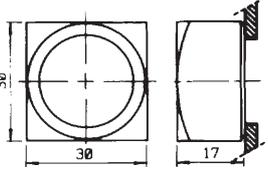


Designation	Signal	Description
1. Mounting Hole	T2 T3	Ø22mm/Ø25mm Ø30mm
2. Type	TP	With Transformer
3. Shape	R S	Round Square

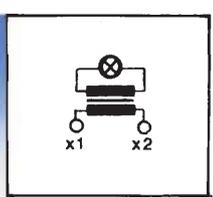
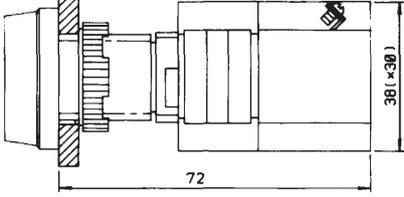
Designation	Signal	Description
4. Voltage (50-60Hz)	1	110/5VAC
	2	220/5VAC
5. Lens Color	R	Red
	G	Green
	O	Orange
	W BL	White Blue

• The mounting holes of square series are Ø22mm/Ø25mm available.

■ PILOT LAMP DIMENSIONS

T2TPR 		T3TPR 	
T2TPS 			

■ LAMP HOLDER BLOCKS (WITH TRANSFORMER)

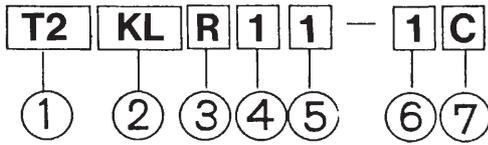
TPS-2 		
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KEY OPERATED PUSH BUTTON SWITCH (Ø22/Ø25/Ø30)

IEC144 IP65

The contact block of this series of switches is standard. See page 2 for types, drawing of contacts and assembly dimension.

MODEL DESIGNATION



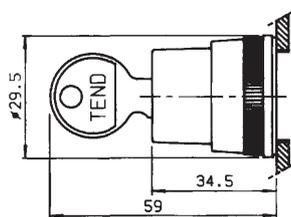
Designation	Signal	Description
1. Mounting Hole	T2 T3	Ø22mm/Ø25mm Ø30mm
2. Type	KL KM	Long Head Mushroom Head
3. Shape	R S	Round Square

1. The mounting holes of square series are Ø22mm/Ø25mm available.
2. The symbol for the position where the key is drawn out for key chain return type is blank.
3. The key's switching way is 2-section.

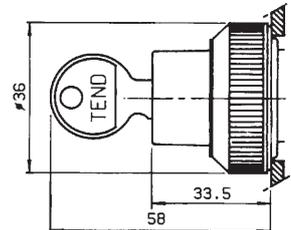
Designation	Signal	Description
4. Movement Way	1	1. Key Return Type 1) It can't be pressed down when it's in still. 2) It will become return type push button after being pressed down when the key is turned right.
		2. Key Chain Type 1) Press it down when it's in still and it'll become chain type push 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. 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
	B	1B
	C	1A1B

OPERATING HEAD DIMENSIONS

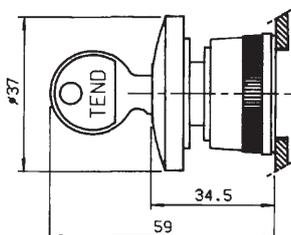
T2KLR



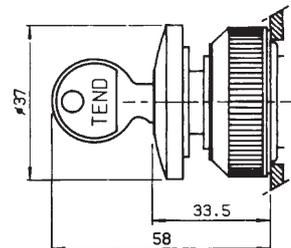
T3KLR



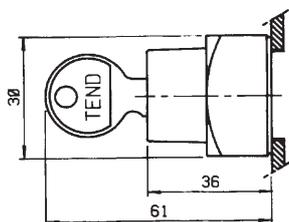
T2KMR



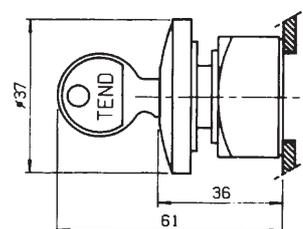
T3KMR



T2KLS



T2KMS



INSULATED ENCLOSURES (Ø22/Ø30)

IEC144 IP65

The mounting holes of this series of insulated enclosures are Ø22mm/Ø30mm. 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.

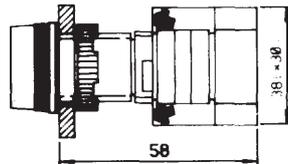
The dimension and type of the upper base are same as those of Ø22/Ø30 series control components. The symbol of this type is: by adding "B" to the type No. of Ø22/Ø30 series control components. For example: T2BFR stands for the upper base of Ø22 flat-head round type push button; and T2BFR-B refers to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

■ THE ASSEMBLY OF INSULATED ENCLOSURES AND SWITCH

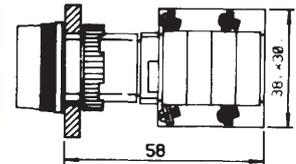
- 1) Take apart the upper cover and the lower base of the insulated enclosures.
 - 2) Fix the contact block on the lower base, and the upper base on the upper cover. (Standard contact block needs underneath packing)
 - 3) Connect the upper cover with the lower base into one kit.
- The protection structure 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

TC-B1A • TC-B1B • TC-B1C
TC-B2A • TC-B2B

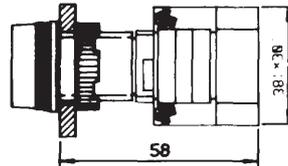


TC • B2C

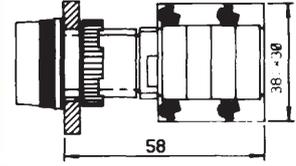


■ ILLUMINATED CONTACT BLOCK FOR INSULATED ENCLOSURES

TC-B11A • TC-B11B

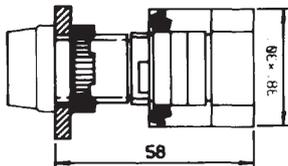


TC-B11C • TC-B12A



■ LAMP HOLDER BLOCKS (FOR INSULATED ENCLOSURES)

TPS-3



■ INSULATED ENCLOSURES DIMENSIONS T2: Ø22mm T3: Ø30mm

T2-B1
T3-B1



T2-B2
T3-B2



T2-B3
T3-B3



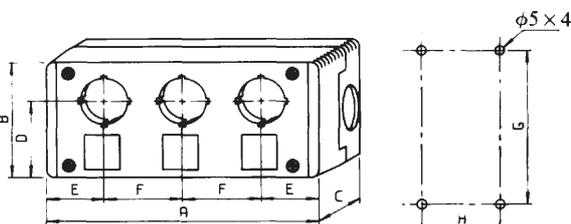
T2-B4
T3-B4



T2-B5
T3-B5



■ Mounting Dimensions.



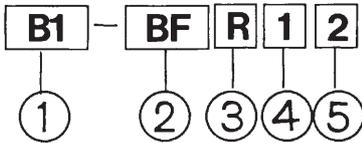
T2:Ø22 T3:Ø30

Type	A	B	C	D	E	F	G	H
T2-B1 T3-B1	82	72	63	42	41	-	63	54
T2-B2 T3-B2	127	72	63	42	41	45	108	54
T2-B3 T3-B3	172	72	63	42	41	45	153	54
T2-B4 T3-B4	217	72	63	42	41	45	198	54
T2-B5 T3-B5	262	72	63	42	41	45	243	54

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



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

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

ONE BUTTON

B1-BFR1

B1-IFR1



B1-BFG2

B1-IFG2



B1-BLR1

B1-ILR1



B1-BLG2

B1-ILG2



B1-BMR3

B1-IMR3



B1-BKR3

B1-IKR3



B1-KMR3



B1-S2B4



B1-S3B5



TWO BUTTONS



Type	Name Plate	Buttons	Voltage
B2-BF	ON OFF	2 Flat Head Push Buttons	
B2-IF2	" "	2 Flat Head Illuminated Push Buttons	220 VAC
B2-IF7	" "	"	24 V

■ THREE BUTTONS

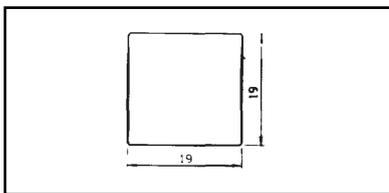


Type	Name Plate	Buttons
B3-BF	ON OFF ON	3 Flat Head Push Buttons
B3-IF	“ “ “	3 Flat Head Illuminated Push Buttons
B3-PF2	220V ON OFF	1 Pilot Lamp 2 Flat Head Push Buttons
B3-PF7	24V ON OFF	„

NAME PLATES (Ø22/Ø25/Ø30)

■ PLATES FOR ENCLOSURES

TBP



• 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
I ○	II I	II ○ I	III II I	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

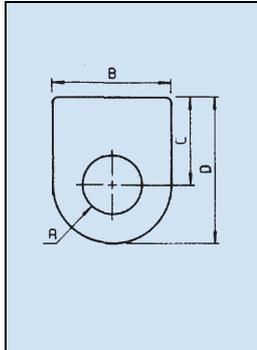
(Ø22) T22P

(Ø25) T25P

(Ø30) T30P

• 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 SELECTOR SWITCH T22P- T25P- T30P-

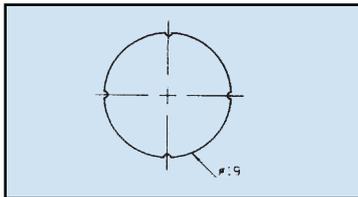
51	52	53	54	55	56	57	58
O	I	II	I O II	OFF ON	ON NO	ON OFF ON	FWD REV

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

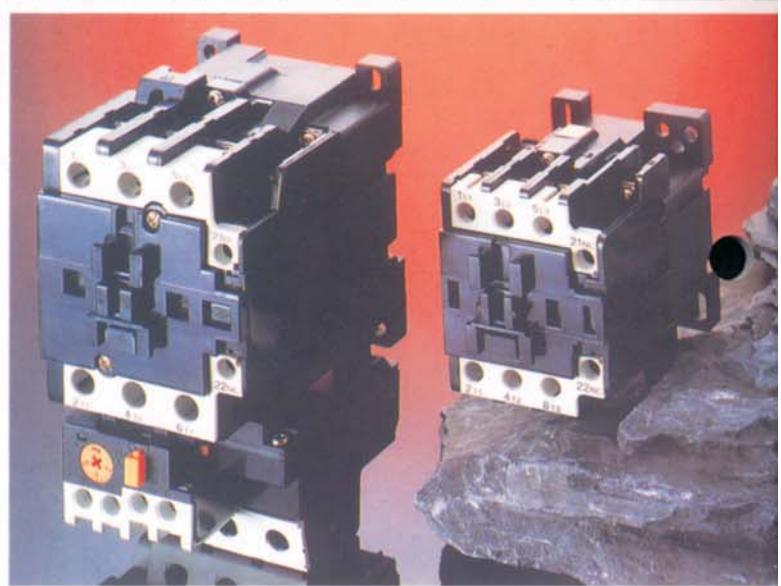
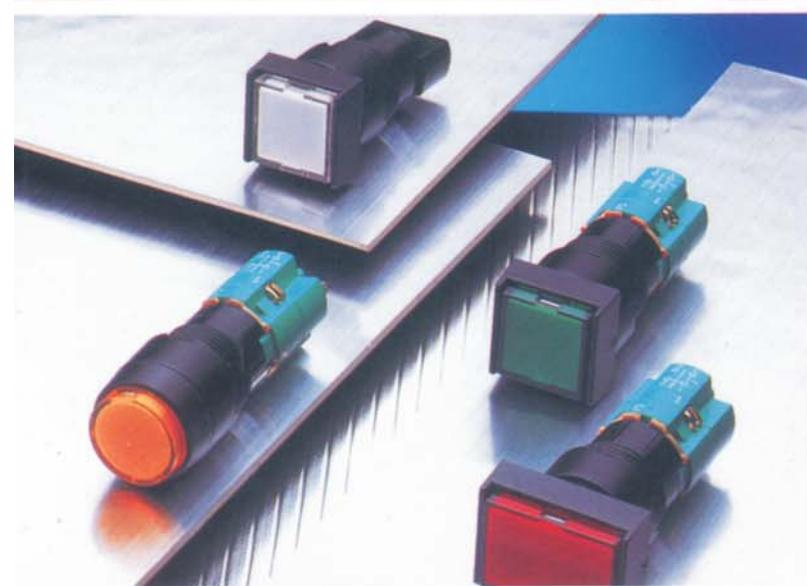
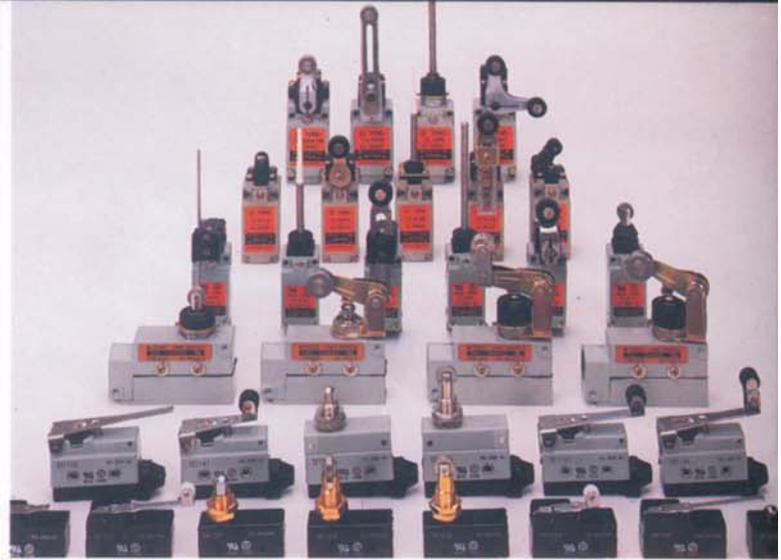
TYPE	DIMENSIONS			
	A	B	C	D
T22P	Ø22	31	27	42
T25P	Ø25	31	27	42
T30P	Ø30	38.5	32.5	52

■ 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
O	I	II	III	IV	ON	OFF	START	STOP	UP
TPP-11	TPP-12	TPP-13	TPP-14	TPP-15	TPP-16	TPP-17	TPP-18	TPP-19	TPP-20
DOWN	SOURCE	HAND	AUTO	RUN	FWD	REV	CLOSE	OPEN	FAST
TPP-21	TPP-22	TPP-23	TPP-24	TPP-25	TPP-26	TPP-27	TPP-28	TPP-29	TPP-30
SLOW	RESET	INCH	12V	24V	30V	110V	220V	B	1
TPP-31	TPP-32	TPP-33	TPP-34	TPP-35	TPP-36	TPP-37	TPP-38		
2	3	4	5	6	7	8	9		



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