



# TPB1/TPL1 Push Button & Pilot Light

灵动系列  
AGILITY SERIES

# TAYEE Brand legend

Since our foundation in 1997, Shanghai TAYEE Electric Co., Ltd has been committed to the manufacturing of electrical control products, our company's plant in Songjiang Industrial District has an area of about 15000m to house the staff of 500+.

1997, we developed the brand new AD17 indicators, Indicator of AD17 series uses LED luminescence chip as light source, and then phased out the Incandescent lamp.

2002, LA42 push button became the famous and popular products, recognized by customers widely.

2007, TAYEE became the leading company in Master appliances field in China.

2012, it was a milestone, we decided to focus on the high-class OEM business.

2017, we became the joint venture, co-worked with Schneider tightly.

TAYEE keep forwarding by innovation and efficiency. Customers come first, this core enterprising culture make TAYEE be popular among the costumers. Currently, TAYEE has 6 Categories of Products, 50 product series, around 30000 product types. We have already served 12 major industries which have the most influence on Chinese economy. TAYEE is making the biggest contribution to Chinese Manufacturing Industry.



High quality

Stable  
&  
flexible



TAYEE has built up the long-term cooperation with Top-level brands,so we always be ahead of our competitors and know the real request of the costumers. TAYEE has accumulated rich experience in this field,we are qualified to provide the solution projects. So TAYEE always figure out what you want and provide the satisfied service.



Reliable

Elevator  
Transport  
Machinery  
Vehicle infrastructure

Military Project  
Machine Tool  
Shipping port  
Automation

Aerospace  
New energy  
Electric power  
Real estate

Professional



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## TPB1 Push button

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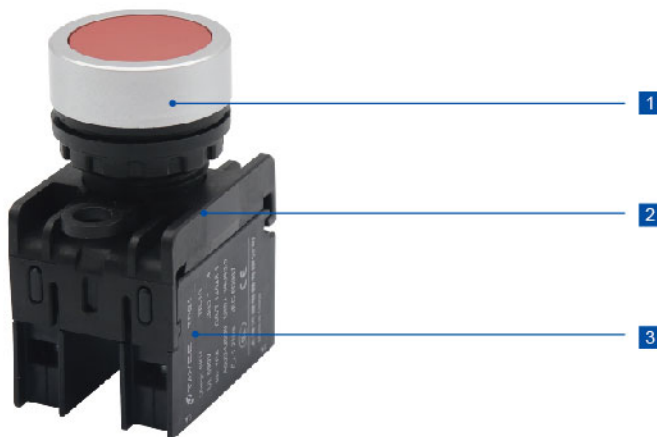
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## TPB1 series push button overview

TPB1 series push button is independently developed by the senior technical team of Tayee, which is suitable for various industries. TPB1 series push button complete types, rich color, economic and durable, convenient installation, superior performance. Automatic production, testing, more stringent quality control, quality assurance.

## Apperance instruction



### Specification:

- 1 Push button head
- 2 Connector
- 3 Contact module



- 4 Company logo
- 5 Rated impulse withstand: 6KV
- 6 Rated insulation voltage: AC690V
- 7 Conventional heating current: 10A
- 8 Electrical parameters
- 9 Screw tightening torque 1.2N.m
- 10 Wiring mark (1.2 means normally closed, 3.4 means normally open)
- 11 Contact module model and wiring mark
- 12 Executive standard: IEC 60947, GB/T 14048.1, GB/T 14048.5
- 13 Product certification mark

## Main Technical Parameters

Rated insulation voltage $U_i$	690V									
Conventional heating current $I_{th}$	10A									
Rated withstand impulse voltage $U_{imp}$	6KV									
Protection level	IP65									
Contact resistance	$\leq 30m\Omega$									
Power frequency withstand voltage	2500V/min									
Nominal rating	Usage category	Conventional heating current	When the rated working voltage is $U_e$ , the rated working current is $I_e$							Rated control capacity $V_A$
A600	AC-15	10A	120V	240V	380V	480V	500V	600V	Connect	No connecting
			6A	3A	1.9A	1.5A	1.4A	1.2A	7200	720
Q600	DC-13	2.5A	125V	250V	-	400V	500V	600V	Connect	No connecting
			0.55A	0.27A	-	0.15A	0.13A	0.1A	69	69

## Lamp module

Rated working voltage $U_e$	Rated working current $I_e$	Brightness
AC/DC220V、110V、48V、36V、24V、12V、6V AC380V、220V、110V	$\leq 20mA$	100 cd/m <sup>2</sup> w

## Mechanical life

Push button head category	Mechanical life (Unit: Ten thousand times)	Operation frequency (times/H)
Standard push button Mushroom push button	100	1200
Knob switch Key Type Option Switch	30	120
Emergency stop button Self-locking button	10	120

## Electrical life

Usage category	Electrical life (Unit: Ten thousand times)	Operation frequency (times/H)
AC-15	50	1200
DC-13	50	1200

## Certification&amp;Standard

Certification	Standard
CCC、CE、RoHS	GB/T 14048.1、GB/T 14048.5、IEC60947

## Use condition

Preservation temperature environment	-25°C ~ +70°C
Operating temperature environment	-15°C ~ +50°C
Relative humidity of air	$\leq 98\%$
The limit height of installation	$\leq 2000m$
Installation category	III
Pollution level	3
anti-vibration	10~2000Hz·1mm·15g
Tightening on terminal	0.8~1.2N.m
Tightening on screw thread ring	1.2~1.5N.m
Voltage fluctuation range	$\pm 10\%$

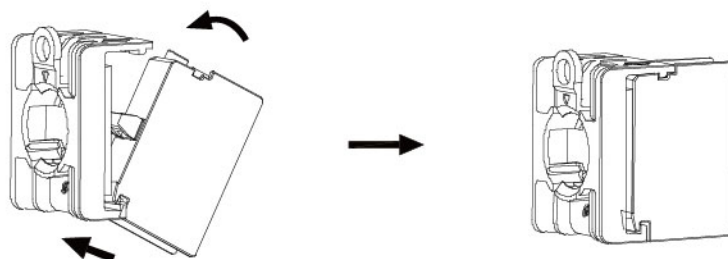


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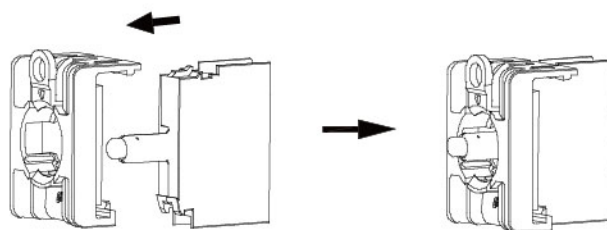
### Main Technical Parameters

TPB1 push button switch need to assemble on the board with  $\Phi 22\text{mm}$  hole, the hole is  $\Phi 22.3 \pm 0.40$ , the button could use the board with (1-5)mm thickness.

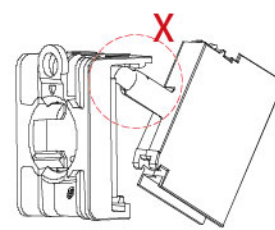
- The pics show how to assemble contacts module



- Assemble the plate with lamp

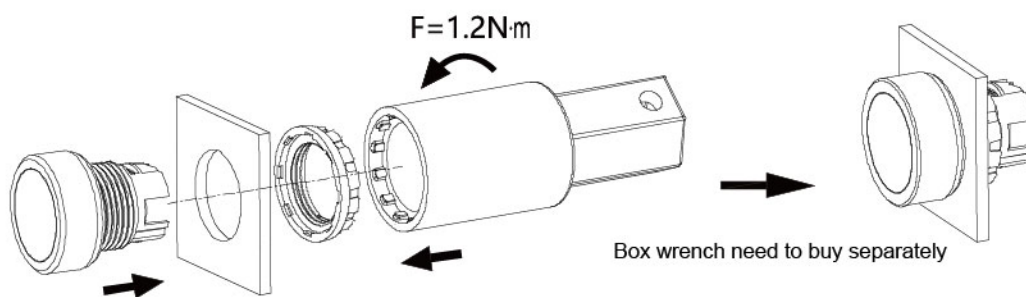


Right way to assemble

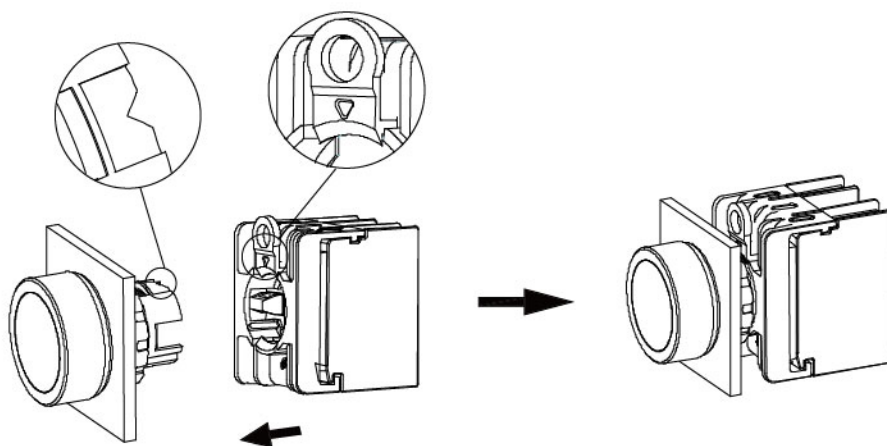


Wrong way to assemble: the head of the plate could not touch the link support

The button head assemble on the board



- Link support should assemble on the head of the button



Triangle logo of the button head should be corresponding to the triangle logo of the link support, then could press in.

# Opening hole on the board

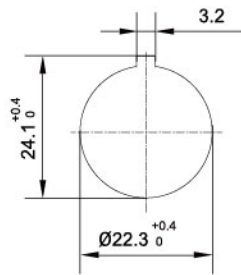


图 1

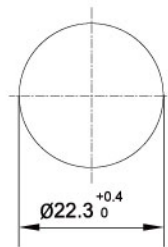


图 2

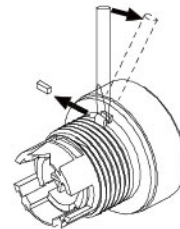
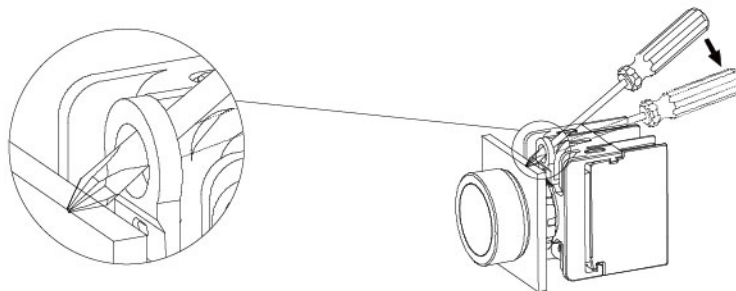


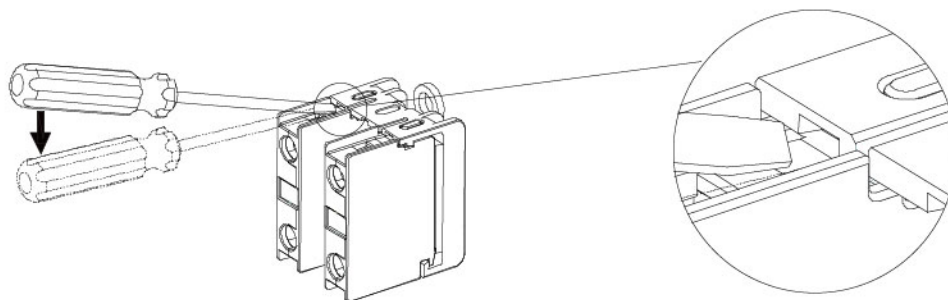
图 3

- Advise to open hole like the Pic 1
- If the opening hole like Pic2, then need to remove locating block like Pic 3. ( we don't advise to use this way)
- Remark: In case of the rotation of the button because of the wrong assembling, our standard products have the locating hole.

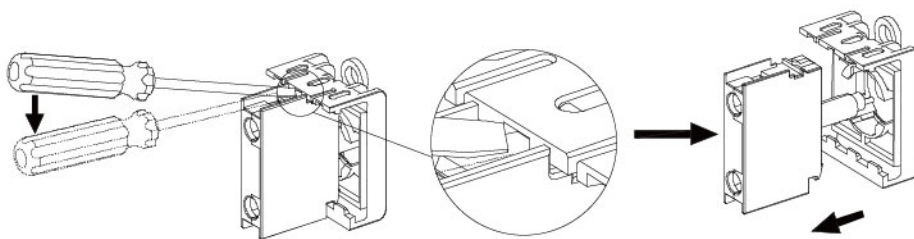
# Disassemble the link support



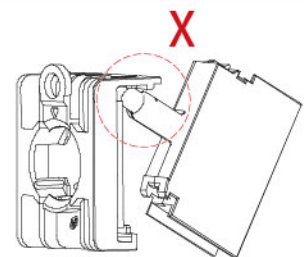
# Disassemble contact module



# Disassemble the plate with lamp



Right way to disassemble

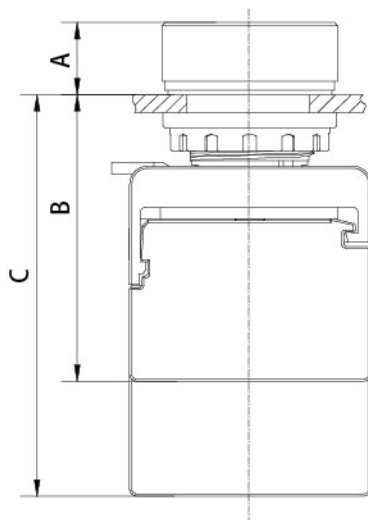

Wrong way to disassemble:  
the head of the plate could not touch  
the link support.



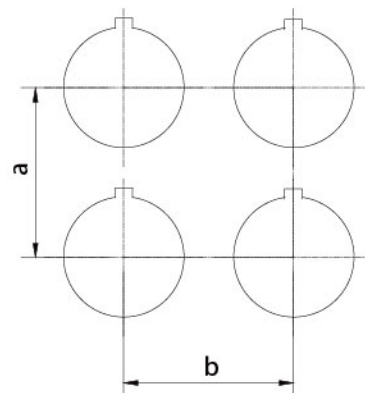
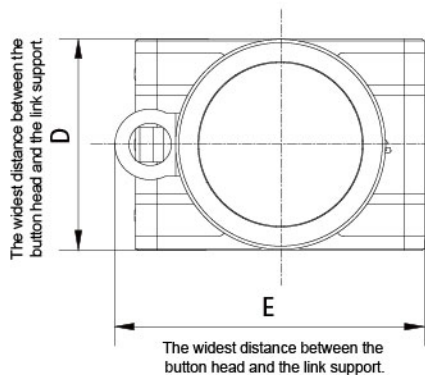
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### • Assembling dimension

- Pic4 and pic5 show the size of button and the assembling central distance. Pls find the related parameters in sheet1.



Pic4 TPB1 push button appearance



Pic5 The assembling central distance for TPB1 push button

- The sheet1 The size of the button and assembling central distance

(mm)

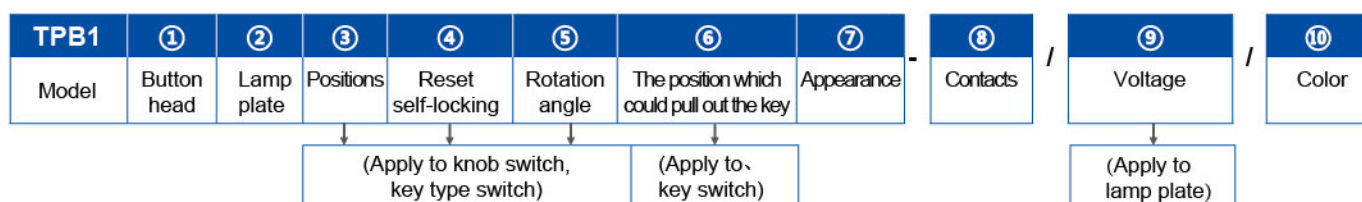
Name	A	B	C	D	E	a	b
Standard button	12.3	48.8	68.4	30	44	50	35
Illuminated button	12.3	48.8	68.4	30	44	50	35
Mushroom button	28	48.8	68.4	40	44	50	45
Illuminated Mushroom button	28	48.8	68.4	40	44	50	45
Self-locking button	12.3	48.8	68.4	30	44	50	35
Illuminated self-locking button	12.3	48.8	68.4	30	44	50	35
Short handle selector switch	27	48.8	68.4	30	44	50	35
Long handle selector switch	27	48.8	68.4	30	44	50	40
Illuminated short handle selector switch	27	48.8	68.4	30	44	50	35
Emergency stop button	28.8	48.8	68.4	40	44	50	45
Key selector switch	46	48.8	68.4	30	44	50	35

Remark: When a group of button switches are installed on the board side by side, the center distance A of installation hole in the same row and the center distance B of the installation holes in each row shall not be less than the values listed in Table 1.

● Selection of TPB1 push button



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- The push button model NO: TPB1 ①②③④⑤⑥⑦ - ⑧ / ⑨ / ⑩
- Push button attachment model No
- \* Pls see below details

### ① Push button head

Code	P	PS	X	XL	Y	J	M
Implication	Standard button	self-locking button	Short handle selector switch	Long handle selector switch	Key selector switch	Emergency stop button	Mushroom button

### ① ② Illuminated button head

Code	PD	PSD	XD	XLD	MD
Implication	Illuminated Button	Illuminated self-locking button	Illuminated short selector switch	Illuminated long selector switch	Illuminated Mushroom button

### ③ Position (apply to selector switch, Key selector switch)

Code	2	3
Implication	2 positions	3 positions

### ④ Reset, self-locking (apply to knob switch, key type switch)

Code	-	A	AL	AR
Implication	Self-locking on all positions	Reset on all the positions	Reset on the left position, self-locking on the right position	Reset on the right position, self-locking on the left position

### ⑤ Rotation angle (apply to selector switch, Key selector switch)

Code	-	9
Implication	45° or 60°	90°

### ⑥ The position which can pull out the key (apply to selector switch, Key selector switch)

Code	-	B
Implication	Only can pull out the key on the original position	Pull out the key on all the position

### ⑦ Appearance

Code	-
Implication	Circle

### ⑧ Contacts (□ Normally open □ Normally Close)

Code	01	02	03	10	20	30	11	12	21	22	33
Implication	1NC	2NC	3NC	1NO	2NO	3NO	1NO 1NC	1NO 2NC	2NO 1NC	2NO 2NC	3NO 3NC

### ⑨ Voltage (apply to lamp plate)

Code	AC380V	AC220V	AC110V	AC/DC220V	AC/DC110V
Code	AC/DC48V	AC/DC36V	AC/DC24V	AC/DC12V	AC/DC6V

### ⑩ The color of the push button head


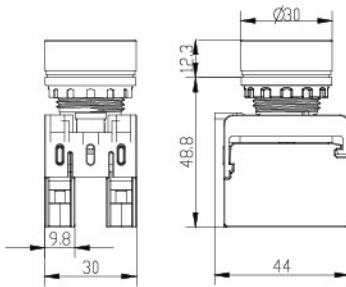

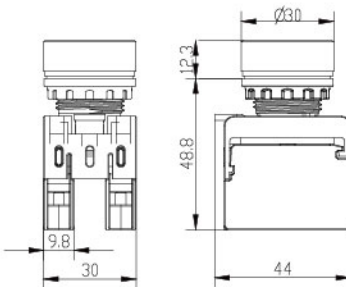

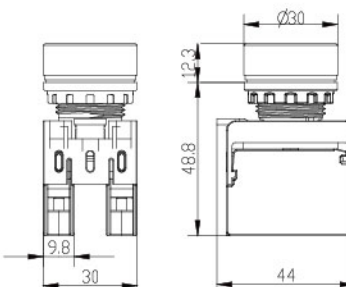

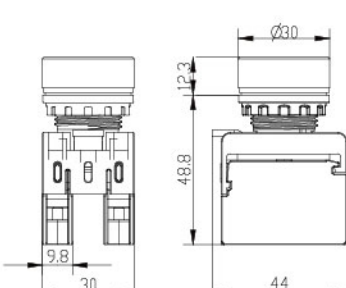
Code	R	G	Y	W	S	B	RG	BW
Implication	red	green	yellow	white	blue	black	red & green	black & white

Statement: 1. We have 5 kinds of the contacts in total (TB-01, TB-10, TB-11, TB-20, TB-02)

2. This page makes a statement of common push button. Applicability of different push button head with different color, contacts, voltage ... etc is different.




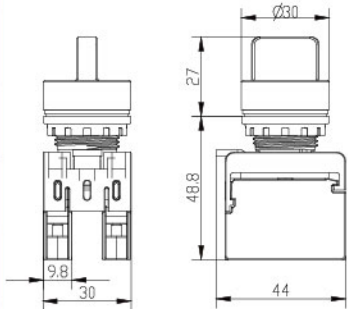

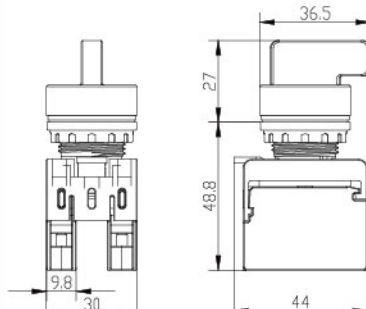

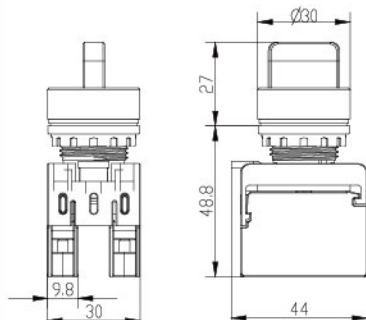
# Push button selection (Purchase the whole push button,only have one code)

Name/Product	Model	Example	Color	Size ( mm )
<p>Standard button</p> 	TPB1P- ⑧ / ⑩	TPB1P-11/R	<div>R</div> <div>G</div> <div>Y</div> <div>S</div> <div>W</div> <div>B</div>	
<p>Self-locking button</p> 	TPB1PS- ⑧ / ⑩	TPB1PS-11/S	<div>R</div> <div>G</div> <div>Y</div> <div>S</div> <div>W</div> <div>B</div>	
<p>Illuminated button</p> 	TPB1PD- ⑧ / ⑨ / ⑩	TPB1PD-11/AC/DC24V/R	<div>R</div> <div>G</div> <div>Y</div> <div>S</div> <div>W</div>	
<p>Illuminated self-locking button</p> 	TPB1PSD-⑧ / ⑨ / ⑩	TPB1PSD-11/AC/DC24V/S	<div>R</div> <div>G</div> <div>Y</div> <div>S</div> <div>W</div>	

Remark:Appearance tolerance ±0.2mm



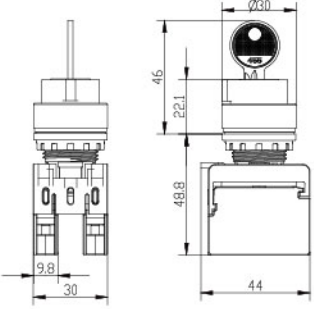









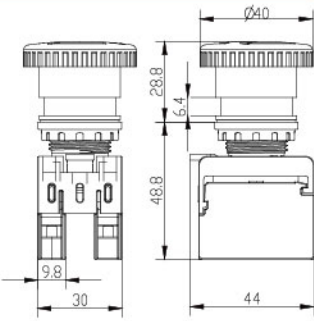

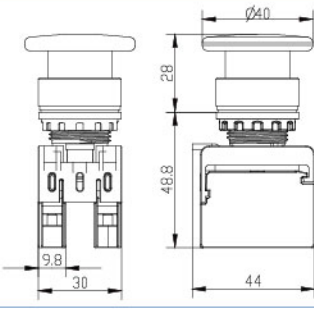

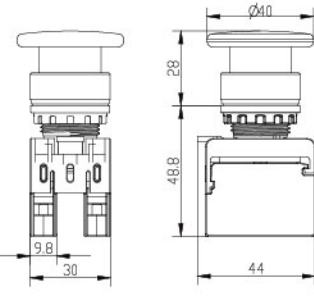
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## Push button selection (Purchase the whole push button,only have one code)

Name/Product	Model	Example	Gear position	Color	Size ( mm )
Short handle selector switch 	TPB1X ③④⑤ - ⑧ / ⑩	TPB1X2-11/B		B	
		TPB1X2A-11/B			
		TPB1X29-11/B			
		TPB1X2A9-11/B			
		TPB1X3-11/B			
		TPB1X3A-11/B			
		TPB1X3AR-11/B			
		TPB1X3AL-11/B			
Long handle selector switch 	TPB1XL ③④⑤ - ⑧ / ⑩	TPB1XL2-11/B		B	
		TPB1XL2A-11/B			
		TPB1XL29-11/B			
		TPB1XL2A9-11/B			
		TPB1XL3/B-11/B			
		TPB1XL3A/B-11/B			
		TPB1XL3AR-11/B			
		TPB1XL3AL-11/B			
Illuminated short handle selector switch 	TPB1XD ③④⑤ - ⑧ / ⑨ / ⑩	TPB1XD2-11/AC/DC24V/G		R G Y S W	
		TPB1XD2A-11/AC/DC24V/G			
		TPB1XD29-11/AC/DC24V/G			
		TPB1XD2A9-11/AC/DC24V/G			
		TPB1XD3-11/AC/DC24V/G			
		TPB1XD3A-11/AC/DC24V/G			

Statement: “-” means the position which could pull out the key  
 “ ” “ ” means self reset

# Push button selection (Purchase the whole push button, only have one code)

Name/Product	Model	Example	Gear position	Color	Size ( mm )
Key selector switch 	TPB1Y ③④⑤ ⑥-⑧ / ⑩	TPB1Y2-11/B		B	
		TPB1Y2B-11/B			
		TPB1Y2A-11/B			
		TPB1Y29-11/B			
		TPB1Y29B-11/B			
		TPB1Y2A9-11/B			
		TPB1Y3-11/B			
		TPB1Y3B-11/B			
		TPB1Y3A-11/B			
Emergency stop button 	TPB1J- ⑧ / ⑩	TPB1J-11/R	-	R	
Mushroom button 	TPB1M- ⑧ / ⑩	TPB1M-11/G	-	R G Y S W B	
Illuminated Mushroom button 	TPB1MD- ⑧ / ⑨ / ⑩	TPB1MD-11/ AC/DC24V/G	-	R G Y S W	


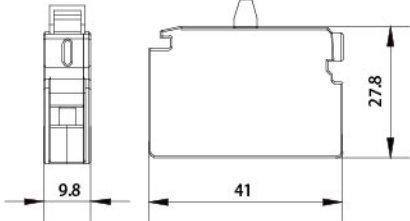


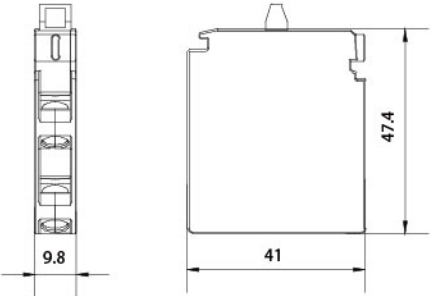


Statement: “-” means the position which could pull out the key

“↖”、“↗” means self reset


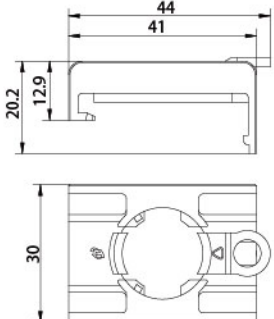

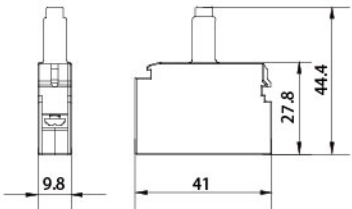

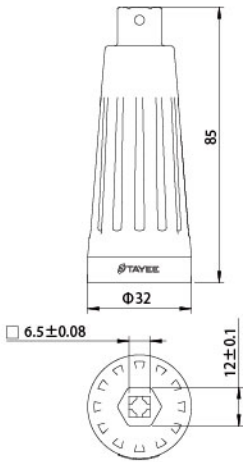





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### Push button selection-Part(Part:connector,contact,lamp plate)

Name/Product	Model	Example	Function	Size ( mm )
Contact 01 	TPB1-TB-01	-	-	
Contact 10 	TPB1-TB-10	-	-	
Contact 11 	TPB1-TB-11	-	-	
Contact 02 	TPB1-TB-02	-	-	
Contact 20 	TPB1-TB-20	-	-	

# Push button selection-Part

Name/Product	Model	Example	Function	Color	Size ( mm )
Link support 	TPB1-ZJ	-	-	-	
Plate with Lamp 	TPB1D-VI / ⑨ / ⑩	TPB1D-V / AC220V/R	-	R G Y S W	
Box wrench 	PT-T	-	Using box wrench for tightening screw thread ring	-	
Connecting rod 	PT-G1	-	Used to connect the wrench box with the electrical screw driver	-	Apply to triangle electric screw driver and hexagon socket electric screw driver Clamping range=6.35mm
Connecting rod 	PT-G2				Apply to 801 electric screw driver Clamping range=5mm
Connecting rod 	PT-G3				Apply to triangle electrical screw driver and hexagon socket electric screw driver Clamping range=6.35mm


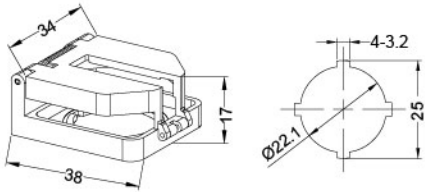

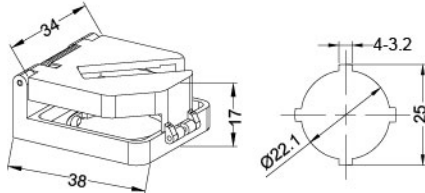

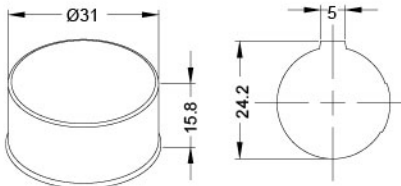

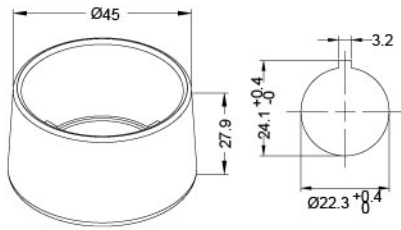

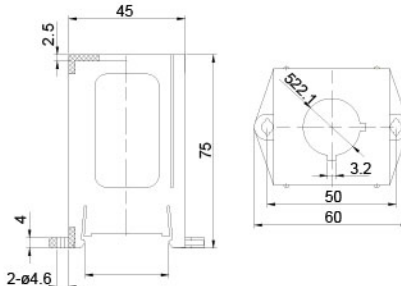
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### Push button selection - Part


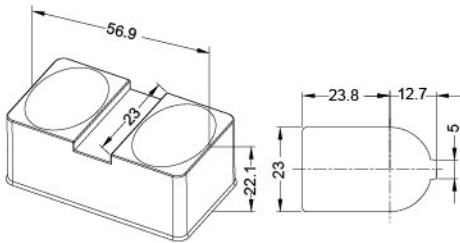

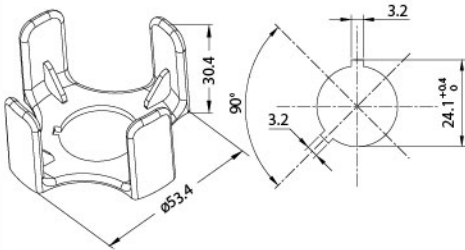

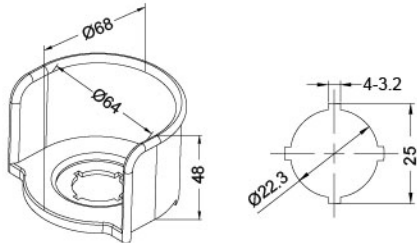

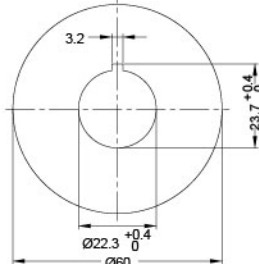
Name/Product	Model	Function	Size ( mm )
Plug For Panel 	PT-II / ■	In the case of having extra room of opening hole on the board, this plug as a filler to make the appearance better color: <b>B</b> <b>A</b>	
Protective cover 	PT-IV	Cover the head of the button, in case of the touching accidentally.	
Protective cover 	PT-VIII	Only apply to Standard button and Illuminated button	
Protective cover 	PT-VIII-A	Only apply to Standard button and Illuminated button	




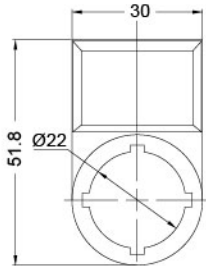

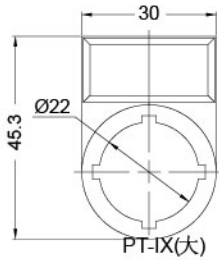

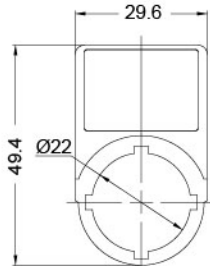

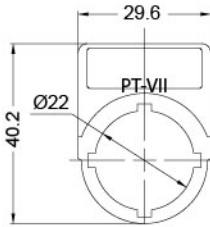
# Push button selection - Part

Name/Product	Model	Function	Size ( mm )
Protective cover 	PT-VIII-X	Only apply to selector switch and Illuminated selector switch (not 90°)	
Protective cover 	PT-VIII-X29	Only apply to 90° selector switch and 90° Illuminated selector switch	
Protective coating 	PT-III	Cover the push button head, make the ability stronger to against water and dust (Up to IP67 Level) Only apply to Standard button and Illuminated button.	
Mushroom protective cover 	J-III	Apply to LA42(V)M LA42(V)MD	
Bracket for assembling the rail 	DZ-1		

# Push button selection - Part

Name/Product	Model	Function	Size ( mm )
Two-position button protective cover 	PT-X1	In order to increase the ability against the dust and water, it's better cover the button head	
Protective ring for emergency stop button 	J-V	Avoid touching accidentally Apply to LA42 (V) J LA42 (V) JT	
Protective cover for emergency stop button 	J-IX	Avoid touching accidentally Apply to LA42 (V) J LA42 (V) JT	
Emergency stop marker 	J-I	Assembling under the emergency stop button head for attracting attention. Diameter is 60mm	

## Push button selection - Part

Name/Product	Model	Function	Size ( mm )
Sign board 	PT-I (big)	-	
Sign board 	PT-I (small)	-	
Graved sign board 	PT-IX (big)	-	
Graved sign board 	PT-IX (small)	-	

Note: PT-I can be embedded by the user with printing paper sheet or entrust our company to process.  
 For PT- IX (exclusive equipment is needed for lettering), users can provide characters to our company for processing.  
 In the column of Model, "■"note the color.

## 21 TPB1/TPL1 Push Button & Pilot Light

### TPL1 Pilot light introduction

TPL1 series indicator use LED as light source, apply to machine, machinetool, electricity, vessel, metallurgy and chemical industry with 50HZ or 60HZ (we can do the customized frequency according to your requirement), Voltage up to AC 440V and DC 380V.

### Using condition

Using environment	-25℃ ~ +60℃	Installation level	Ⅲ
The humidity of the air	≤98%	Pollution level	3

### Main technical data sheet

Power frequency withstand voltage	2.5KV (Test voltage is AC effective value)
insulation resistance	≥2MΩ
Allowable voltage fluctuation	Voltage ≤ 48V Allowable fluctuation ±5%, Voltage > 48V Allowable fluctuation ±20%
Brightness	≥75mcd
Ultra high brightness	≥150mcd
Comparative Tracking Index	CTI ≥ 100
The product with "TH" logo can work normally at wet and hot environment (protection level is IP65)	

### Model meaning

<b>TPL1</b>	-	<b>①</b>	/	<b>②</b>	<b>③</b>
Model		head type		Voltage	Color

#### ① Head Type

Code	KA	DB	JB	RB	SG	TB	WB	FM/FML	SM/SML
Meaning	KA Indicator	Circuit breaker indicator	Ground signal indicator	State indicator	Flash light	double-color indicator	Isolator position indicator	buzzer	Flash buzzer

#### ② Voltage


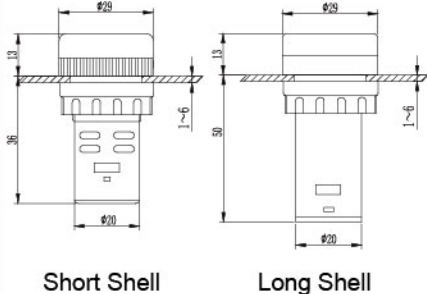

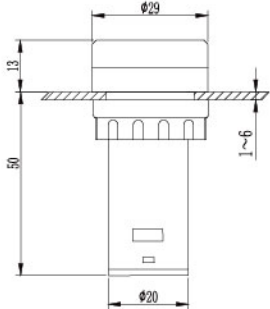

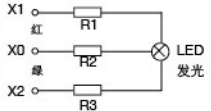
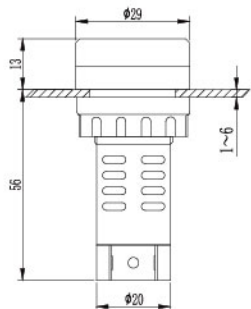

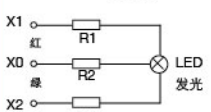
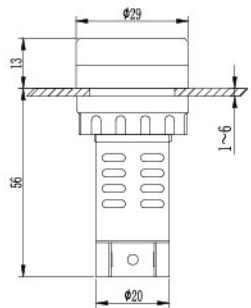
Code	DC 24V	DC 36V	DC 48V	DC 110V	DC 220V	AC 110V	AC 220V	AC 380V
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#### ③ Color

Code	R	G	Y	W	S
Meaning	red	green	yellow	white	blue


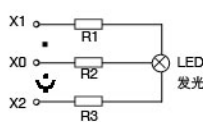

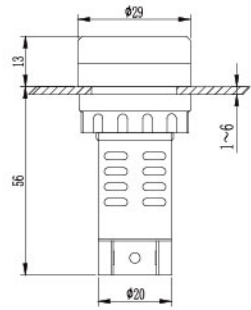


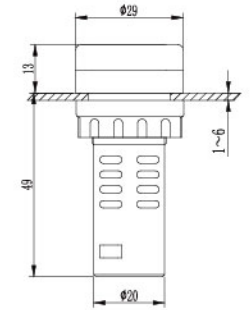

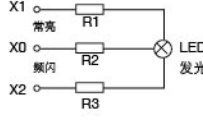

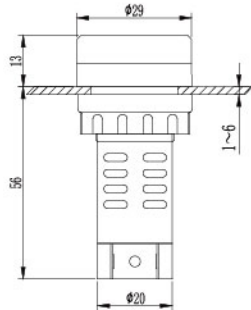


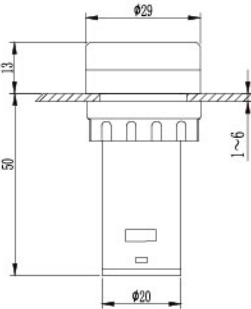



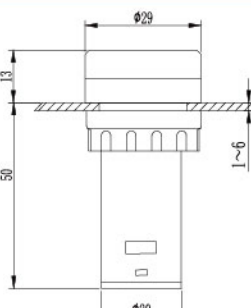


# Indicator selection

Name/Product	Model & specification	Voltage	Color	Size ( mm )
<p>KA type indicator</p> 	<p>TPL1-KA/②③ TPL1-KA/②③"H"</p>	<p>Short Shell AC/DC 6V、12V、 24V、36V、48V AC 110V、220V、 380V</p> <p>Long Shell DC(AC)110V DC(AC)220V DC(AC)380V</p>	<p>R G Y S W</p>	 <p>Short Shell      Long Shell</p>
<p>Flash light</p> 	<p>TPL1-SG/②③</p>	<p>AC/DC 12V、24V、 36V、48V、110V</p> <p>AC 110V、220V、 380V</p>	<p>R G Y S W</p>	
<p>Double-color indicator</p> 	<p>TPL1-TB/②③</p> 	<p>AC/DC 12V、24V、 36V、48V、110V、 220V</p> <p>AC 110V、220V、 380V</p>	<p>R   G</p>	
<p>Isolator position indicator</p> 	<p>TPL1-WB/②③</p> 	<p>AC/DC 12V、24V、 36V、48V、110V、 220V</p> <p>AC 110V、220V、 380V</p>	<p>+ R.G + R + G</p>	

## 23 TPB1/TPL1 Push Button & Pilot Light

### Indicator selection

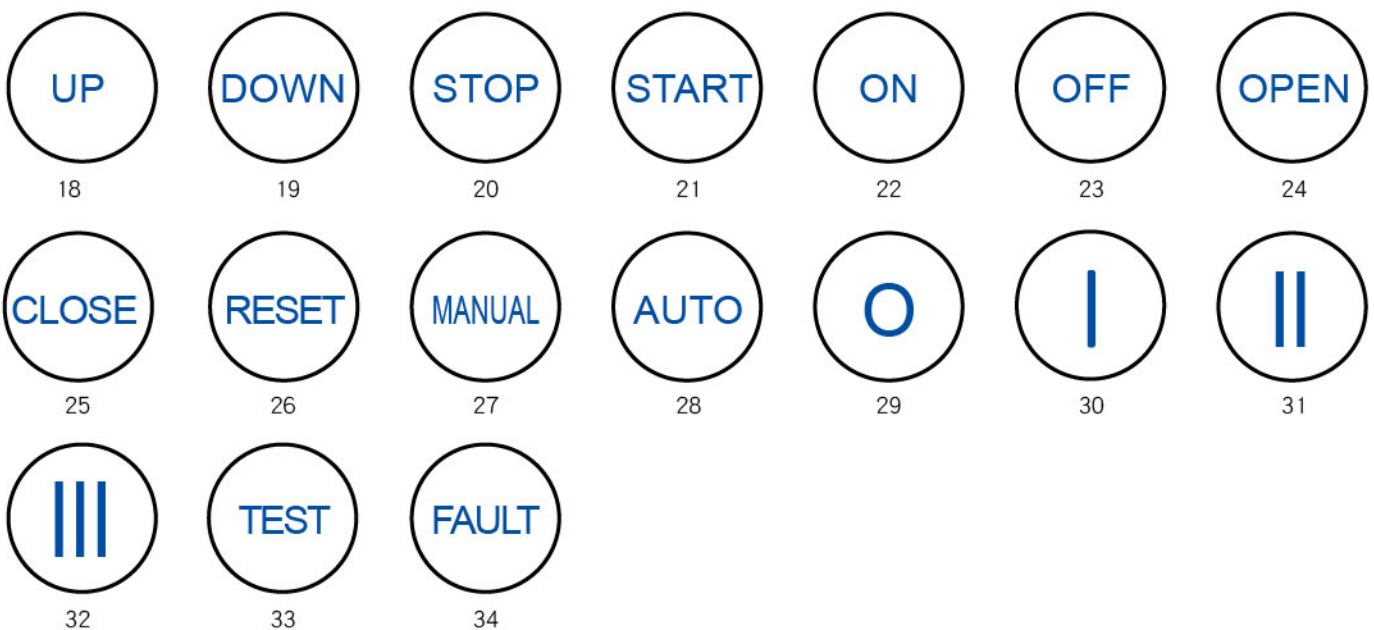
Name/Product	Model & specification	Voltage	Color	Size ( mm )
Breaker position indicator 	TPL1-DB/ ② ③ 	AC/DC 24V、36V、 48V、110V、220V  AC 110V、220V、 380V		
Ground indicator 	TPL1-JB/ ② ③	AC/DC 12V、24V、 36V、48V、110V、 220V  AC 110V、220V、 380V		
Condition indicator 	TPL1-RB/ ② ③ 	AC/DC 12V、24V  AC 220V		
Buzzer 	TPL1-FM/②③ Disconnected sound TPL1-FML/②③ Consecutive Sound Volume of the buzzer is 10cm/80 decibel, current is 15-20mA	AC/DC 12V、24V、 36V、48V、110V  AC 110V、220V、 380V		
Flash buzzer 	TPL1-SM/ ② ③ (Disconnected sound) TPL1-SML/ ② ③ (Consecutive sound) Volume of sound and flashing is 10cm/80decibel, current is 15-20mA	AC/DC 12V、24V、 36V、48V  AC 110V、220V、 380V	 	

## Signs

## Chinese signs

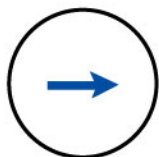


## Standard signs

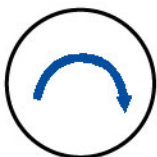


Remark: Print black sign on the white button head, Print white sign on other color button's head, If have special requirement, could do the customized.

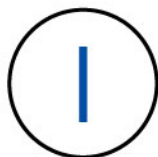
ISO Signs



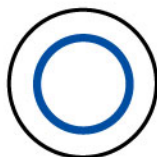
35 Move In Line



36 turn



37 start



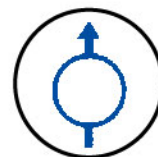
38 stop



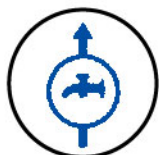
39 start Stop



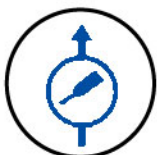
Inch (inching)



41 Pump



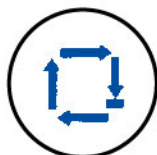
42 Cooling pump



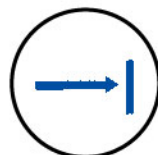
43 Lubricating pump



44 Hydraulic pump



45 Automatic Or Automatic Circulation



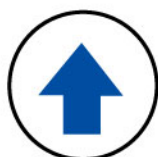
46 Limited Linear Movement



47FJ001



48FJ002



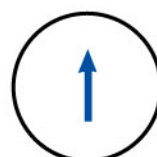
49FJ003



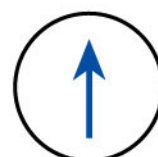
50FJ004



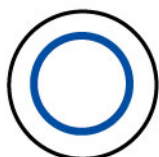
51FJ005



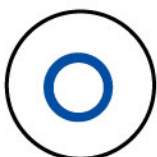
52FJ006



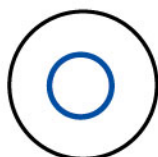
53FJ007



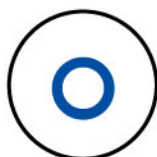
54FY001



55FY002





56FY003



57FY004



## The regulation for assembling contact module

Ways to assemble contact module			
Assembling contact module	Ways to assemble contact module	Remark	
	Use a piece of small contact	All push button heads	
	Use 2 pieces of small contacts	All push button heads	
	Use a piece of small contact+ a piece of big contact	All push button heads	
	Use 2 pieces of big contacts	All push button heads	
	Use a piece of small contact +2 pcs of big contacts	Don't apply to Illuminated push button, Mushroom push button, 2 position button	
		These is a crossbeam for Two-position knob switch	
	Use 3 pcs of big contacts	Three-position knob switch need 2 metal crossbeam (if have special requirement, pls contact us)	

## The state of assembling contacts module

	01	02	03	04	05	06
10	11	12	13	14	15	
20	21	22	23	24		
30	31	32	33			
40	41	42				
50	51					
60						

Statement:

The first digit means the amount of normal open contacts.

The second digit means the amount of normal close contacts.

For example:

10 means 1 normal open contact and 0 normal close contact.

21 means 2 normal open contacts and 1 normal close contact.



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**Shanghai TAYEE Electric Co.,Ltd.**

Address: 101 Beimin Road,Songjiang District,Shanghai, Postal Code: 201611

Tel: 86-21-57776240

<http://www.tayee.com.cn>

**Service Hotline: 400 820 4217**

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