

# Panel Actuators and Indicators

## Type PB

### Short-handle Selector Switches



- Ø 22mm (Ø0.87") Standard and bezel style
- Self-hold or spring return
- Knob colour choice
- Two and three positions
- Illuminated version made by LED
- cULus and CE
- IEC/EN 60947-5-1, UL 508, IEC/EN 60073, IEC/EN 60529



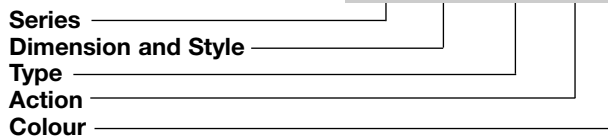
### Product description

Selector switches are mechanical switches that can be turned right, center or left to open or to close the electric contacts. They are mostly used to start/stop devices or

to switch between two/three electric circuits. They should be ordered in parts (operator + holder + contact block) and installed in an enclosure.

### Ordering key

**PB 22S ISRS 32 R**



### Approvals



### Types

- SRS** = Short-handle selector switch  
**ISRS** = Illuminated<sup>1</sup> short-handle selector switch  
<sup>1</sup> = Light function is obtained by the lamp element pg.19

### Dimensions and styles

- 22S** = Ø22mm (Ø0.87") Standard style  
**22B** = Ø22mm (Ø0.87") Bezel style

### Actions

(the arrows indicate the spring return function)

- 21** = Two positions L R  
**22** = Two positions L<sup>↔</sup> C  
not for illuminated  
**23** = Two positions C ↗R  
not for illuminated  
**31** = Three positions L C R  
**32** = Three positions L<sup>↔</sup> C ↗R  
not for illuminated  
**33** = Three positions L<sup>↔</sup> C R  
not for illuminated  
**34** = Three positions L C ↗R  
not for illuminated

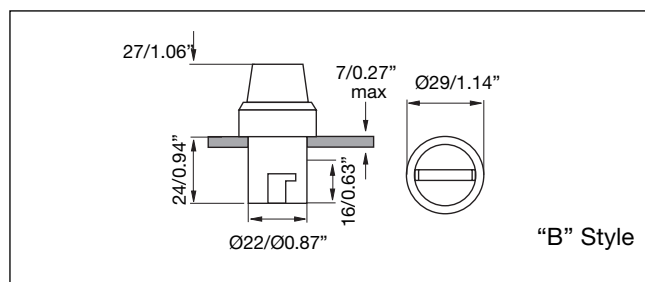
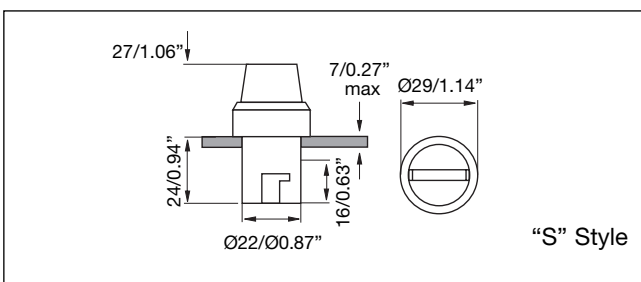
### Colours

- R** = Red  
**W** = Clear/White (only illuminated)  
**K** = Black (only not illuminated)  
**B** = Blue (only illuminated)  
**Y** = Yellow  
**G** = Green

### General data

Peripheral of actuator	AL
Actuator	Pa
Mechanical life	≥30 x 10 <sup>4</sup> cycles
Operating temperature	-25 to +70°C (-13 to +158°F)
Storage temperature	-30 to +80°C (-22 to +176°F)
Degree of protection	IP 65

### Dimensions - Push Buttons mm/inches



## Holders



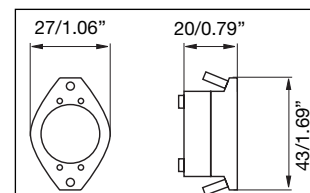
### Holder type "M"

Code

**PB MB M**

Material

**Zn + PBT**



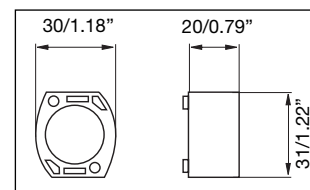
### Holder type "P"

Code

**PB MB P**

Material

**PBT**



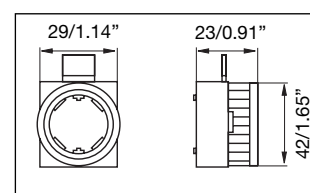
### Holder type "N"

Code

**PB MB N**

Material

**PC**



## Lamp Element



## Ordering key

**PALAMP R 220A**

Type \_\_\_\_\_  
 Colour \_\_\_\_\_  
 Voltage \_\_\_\_\_

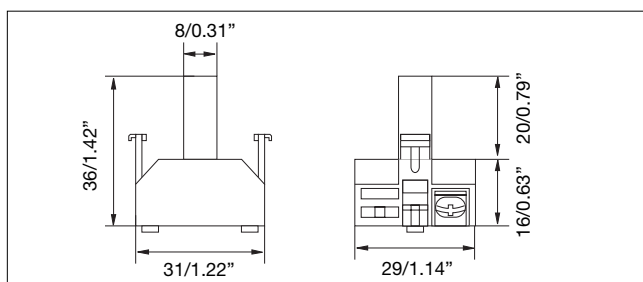
## Approvals



## Voltage

06 = 6VAC/DC	110 = 110VAC/DC
12 = 12VAC/DC	220D = 220VDC
24 = 24VAC/DC	220A = 220VAC
48 = 48VAC/DC	380A = 380VAC

## Dimensions mm/inches



## Colours

R = Red Y = Yellow  
 W = Clear/White G = Green  
 B = Blue

## Technical data

Rated imp. withstand voltage $U_{imp}$	2500VAC 50Hz 1min.
Rated insulation Voltage $U_i$	500VAC
Allowable voltage fluctuation	±20%
Continuous operating life	≥100.000h
Ultrahigh brightness	≥100cd/m <sup>2</sup> (≥9.29ftc)
Applying frequency	50-60Hz
Current consumption (AC/DC)	≤18mA
Operating temperature	-25 to +70°C (-13 to +158°F)
Storage temperature	-30 to +80°C (-22 to +176°F)

## Wiring Notes

- 1) Use 60°C or 75°C copper (CU) conductor and wire size range 18AWG, stranded or solid.
- 2) Terminal tightening torque 0.6Nm (5.3in.lb)
- 3) Recommended external fuse - listed or R/C fuses, Supplemental (JDYX, JDYX2) rated 3A maximum.

# Panel Actuators and Indicators

## Type PA2

### Contact Block



- High switching power
- Double switch
- Industrial applications
- 10A switching capacity
- Up to 500VAC
- Modular mounting (up to 3 elements)
- Screw terminals
- High reliability
- cULus and CE
- According to EN ISO 13850 (only NC slow action)
- IEC/EN 60947-5-1, IEC/EN 60947-5-5, UL 508

## Product description

Switching element equipped with two independent elements. Available in different switching configurations. Pole and throw configurations can be single pole single throw (SPST) or double pole single throw (DPST). Elements can be snapped to each other on the bottom, up to 3.

## Approvals



## Technical data

<b>Contact resistance</b>	≤50mΩ
<b>Travel</b>	5.8 ± 0.2mm (2.28" ± 0.08")
<b>Rated insulation Voltage U<sub>i</sub></b>	660VAC/DC (acc. to IEC 60947-5-1) 600VAC/DC (acc. to UL508)
<b>Rated imp. withstand voltage U<sub>imp</sub></b>	2500VAC 50Hz 1min.
<b>Minimum switching power</b>	
Min Current	100mA
Min Voltage	24V
<b>Switch housing</b>	PC
<b>Contact parts</b>	Cu
<b>Contact material</b>	
Standard	Hard silver
Optional	Gold/silver
Optional for aggressive atmospheres	Silver/palladium
<b>Operating temperature</b>	-25 to +70°C (-13 to +158°F)
<b>Storage temperature</b>	-30 to +80°C (-22 to +176°F)

## Terminals

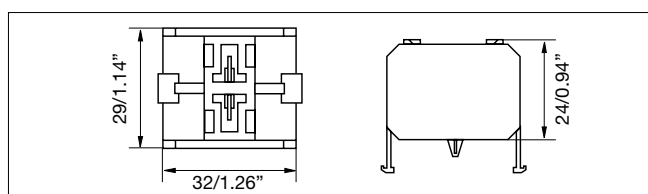
### Screw terminals

Max. section single-core wire  
Max. section stranded wire  
Copper conductor wire

2 x 2.5mm<sup>2</sup> (0.004sq.inch)  
2 x 1.5mm<sup>2</sup> (0.002sq.inch)  
14 AWG @ 60°C or 75°C  
CU conductor  
1.2Nm (10.6in.lb.)

Terminal tightening torque

## Dimensions mm/inches



## Ordering key

**PA 2 110 / 1**

Type \_\_\_\_\_  
Number of contacts \_\_\_\_\_  
Contact code \_\_\_\_\_  
Options ( 1 = Snap action  
2 = Slow action with forced opening ⊕ NC contact)

## Contact code

Contact configuration	Contact code
2 NO contacts (DPST)	200
2 NC contacts (DPST)	020
1 NC contact (SPST)	010
1 NO contact (SPST)	100
1 NC + 1 NO contacts (DPST)	110

## Contact characteristics

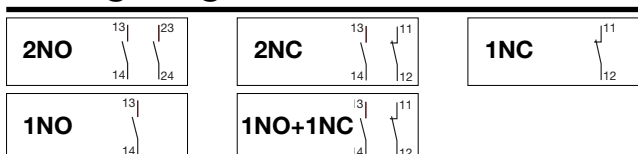
Contact Rating AC1	10A @ 250VAC		
Contact Rating	AC15	DC13	
(acc. to IEC 60947-5-1)	@ 24V 10A	6A	
	@ 110V 8A	1A	
	@ 220V 6A	0.5A	
	@ 380V 4A	-	
	@ 500V 2.5A	-	
AC Contact Rating (acc. to UL 508)	A600	B600	
B600 (all snap codes)	@ 120V 6A	3A	
A600 (all slow codes)	@ 240V 3A	1.5A	
	@ 480V 1.5A	0.75A	
	@ 600V 1.2A	0.6A	
DC Contact Rating (acc. to UL 508)	Q600	Q300	
Q600 (all snap codes)	@ 125V 0.55A	0.55A	
Q600 (100, 200 slow codes)	@ 250V 0.27A	0.27A	
Q300 (010, 020, 110 slow codes)	@ 480V 0.10A	-	
	@ 600V 0.10A	-	

Contact rating code designation	Thermal continuous test current, Amperes	Maximum current, amperes (acc. to UL508)								Maximum volt-amperes	
		120V		240V		480V		600V			
		Make	Break	Make	Break	Make	Break	Make	Break	Make	Break
A600	10	60	6.00	30	3.00	15	1.5	12	1.2	7200	720
B600	5	30	3.00	15	1.50	7.50	0.75	6	0.6	3600	360

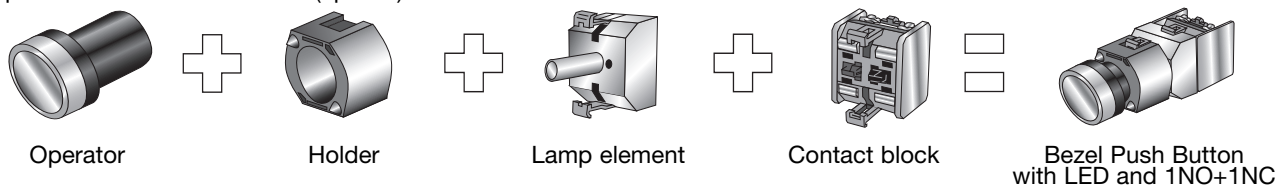
Contact rating code designation	Thermal continuous test current, Amperes	Maximum current, amperes (acc. to UL508)			Maximum make or break volt-amperes @ 300V or less
		125V	250V	301 to 600V	
Q600	2.5	0.55	0.27	0.10	69
Q300	2.5	0.55	0.27	-	69

## Wiring diagram

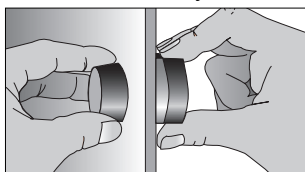


## Assembling and Mounting

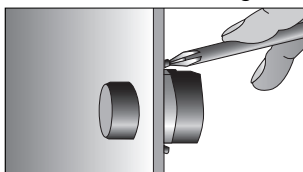
It come easy to get a complete product. Just to choose the operator, the holder, the lamp element if illuminated function is required and the contact block (up to 3).



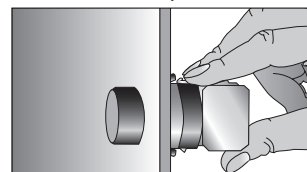
To install it, the only tool needed is a screwdriver. The same used to wiring the contact block can be used to fix the push-button.



The operator will be inserted into the panel.



The holder will be secured at the back by two screws or nut.



The contact block is snapped on.

## Accessories for Panel Actuator



### Terminal shield

Installed behind the wiring screws of the contact block to avoid electric shock. PC

PA 2 SHIELD



### Mounting ring Ø22mm (0.87")

Installed on plastic panel to strengthen mounting. FE

PA MR 22



### Mounting ring Ø25mm (0.98")

When the mounting hole is Ø25mm (0.98"), it should be add to the panel. FE

PA MR 25

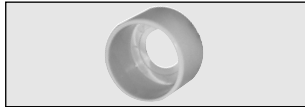


### Label frame

Hang it on the push button or pilot light, for symbol or text explanation. PC

10mm/0.39"  
18mm/0.71"

PA LBF 11  
PA LBF 18



### Yellow protection ring

To protect button and to prevent strike or mistaking operation. ABS Rubber

Ø40mm/Ø1.57"  
Ø60mm/Ø2.36"

PA YPR 4  
PA YPR 6



### Panel hole cap Ø22mm (0.87")

For blocking up prepared or useless holes on the panels. ABS

PA PHC 22