

# Panel Actuators and Indicators

## Type PB

### Long-handle Selector Switches



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

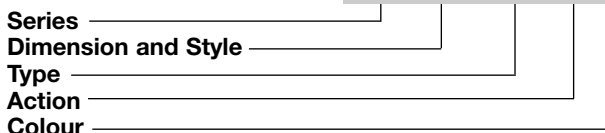


### Product description

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 LRS 32 R**



### Approvals



### Dimensions and styles

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

### Type

LRS = Long-handle selector switch

### Actions

(the arrows indicate the spring return function)

- |                            |                             |
|----------------------------|-----------------------------|
| 21 = Two positions L R     | 32 = Three positions ↙ C ↘R |
| 22 = Two positions ↙ C R   | 33 = Three positions ↙ C R  |
| 23 = Two positions C ↘R    | 34 = Three positions L C ↘R |
| 31 = Three positions L C R |                             |

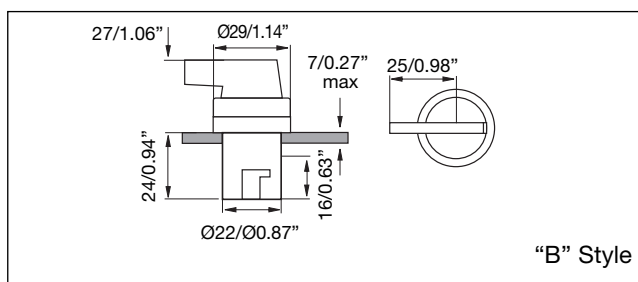
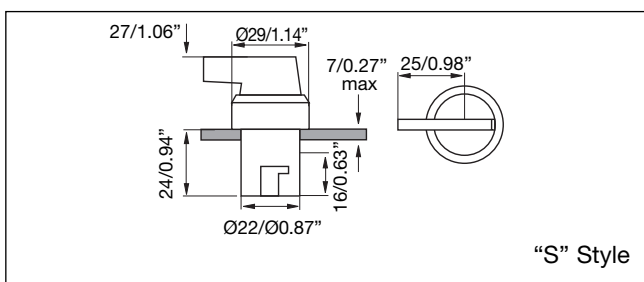
### Colours

R = Red                                  Y = Yellow  
 K = Black                                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



# Panel Actuators and Indicators

## Type PA2

### Contact Block

CARLO GAVAZZI



- 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

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

## Terminals

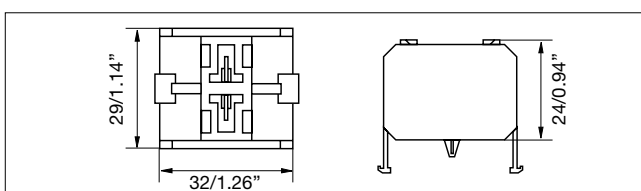
### Screw terminals

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

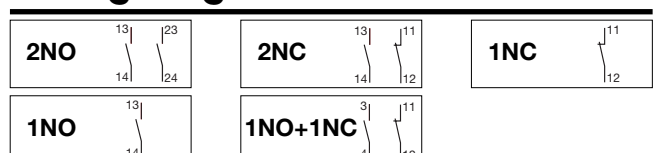
Contact configuration	Contact code
2 NO contacts (DPST)	200
2 NC contacts (DPST)	020
1 NC contact (SPST)	010
1 NO contact (SPST)	100
1 NC + 1 NO contacts (DPST)	110

## Contact characteristics


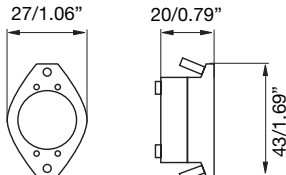

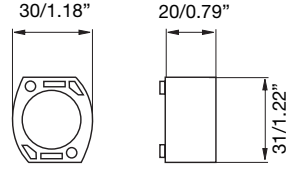

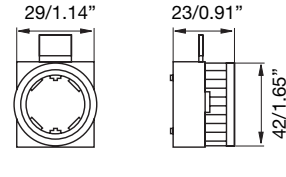
Contact Rating AC1	10A @ 250VAC		
Contact Rating	AC15	DC13	
(acc. to IEC 60947-5-1)			
@ 24V	10A	6A	
@ 110V	8A	1A	
@ 220V	6A	0.5A	
@ 380V	4A	-	
@ 500V	2.5A	-	
AC Contact Rating (acc. to UL 508)	A600	B600	
B600 (all snap codes)	6A	3A	
A600 (all slow codes)	240V	3A	1.5A
@ 480V	1.5A	0.75A	
@ 600V	1.2A	0.6A	
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
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

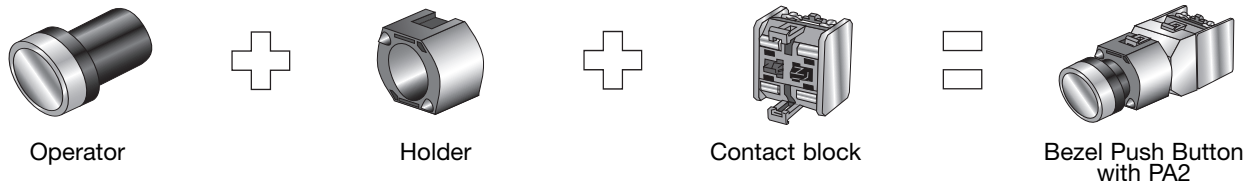


## Holders

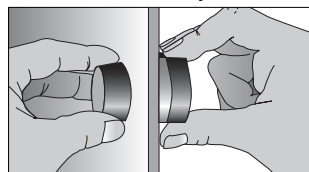
	<b>Holder type "M"</b>	<p><b>Code</b> PB MB M</p> <p><b>Material</b> Zn + PBT</p>	
	<b>Holder type "P"</b>	<p><b>Code</b> PB MB P</p> <p><b>Material</b> PBT</p>	
	<b>Holder type "N"</b>	<p><b>Code</b> PB MB N</p> <p><b>Material</b> PC</p>	

## Assembling and Mounting

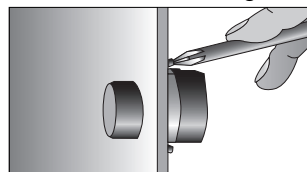
It come easy to get a complete product. Just to choose the operator, the holder, the lamp element and the contact block (up to 3).



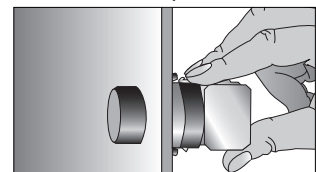
To install it, the only tool needed is a screwdriver. The same used to wiring the contact block can be used to fix the push-button.



The operator will be inserted into the panel.





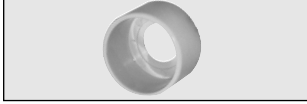



The holder will be secured at the back by two screws or nut.



The contact block is snapped on.

## Accessories for Panel Actuators

	<b>Terminal shield</b> Installed behind the wiring screws of the contact block to avoid electric shock.	PC		<b>PA 2 SHIELD</b>
	<b>Mounting ring Ø22mm (0.87")</b> Installed on plastic panel to strengthen mounting.	FE		<b>PA MR 22</b>
	<b>Mounting ring Ø25mm (0.98")</b> When the mounting hole is Ø25mm (0.98"), it should be add to the panel.	FE		<b>PA MR 25</b>
	<b>Label frame</b> Hang it on the push button or pilot light, for symbol or text explanation.	PC	10mm/0.39" 18mm/0.71"	<b>PA LBF 11</b> <b>PA LBF 18</b>
	<b>Yellow protection ring</b> To protect button and to prevent strike or mistaking operation.	ABS Rubber	Ø40mm/Ø1.57" Ø60mm/Ø2.36"	<b>PA YPR 4</b> <b>PA YPR 6</b>
	<b>Panel hole cap Ø22mm (0.87")</b> For blocking up prepared or useless holes on the panels.	ABS		<b>PA PHC 22</b>