

# Panel Actuators and Indicators

## Type PB

### Extended Push Buttons



- Ø 22mm (Ø0.87") Standard and bezel style
- Ø 30mm (Ø1.18") Flush style
- Self-hold or spring return
- Button colour choice
- Illuminated version made by LED
- cULus and CE
- IEC/EN 60947-5-1, UL 508, IEC/EN 60073, IEC/EN 60529

### Product description

Pushbutton switches are mechanical switches that are pushed down to open or to close the electric contacts. They are mostly used to start/stop electric circuits or

devices like lamps, motors, etc. They should be ordered in parts (operator + holder + contact block) and installed in an enclosure.

### Ordering key

**PB 22S IE 0 R**

Series \_\_\_\_\_  
 Dimension and Style \_\_\_\_\_  
 Type \_\_\_\_\_  
 Action \_\_\_\_\_  
 Colour \_\_\_\_\_

### Approvals



### Types

E = Extended round  
 IE = Illuminated<sup>1</sup> extended round

<sup>1</sup> = Light function is obtained by the lamp element pg.19

### Colours

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

### Dimensions and styles

22S = Ø22mm (Ø0.87") Standard style  
 22B = Ø22mm (Ø0.87") Bezel style  
 30F = Ø30mm (Ø1.18") Flush style

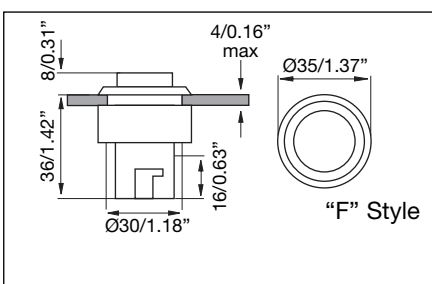
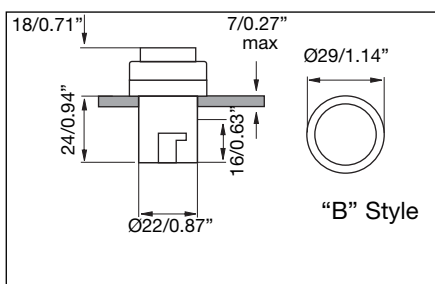
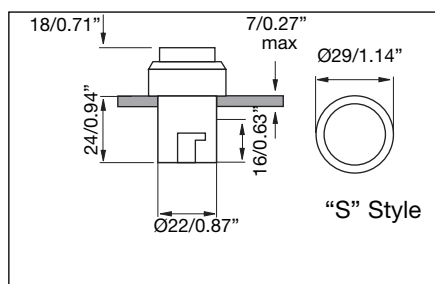
### Actions

0 = Spring return  
 1 = Maintained

### General data

Peripheral of actuator	AL
Actuator	Pa
Mechanical life	≥ 3 x 10 <sup>6</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



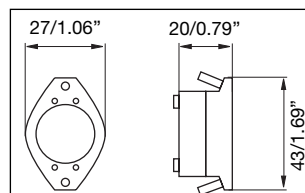
### Holder type "M"

Code

Material

**PB MB M**

**Zn + PBT**



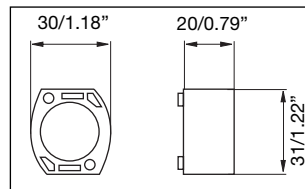
### Holder type "P"

Code

Material

**PB MB P**

**PBT**



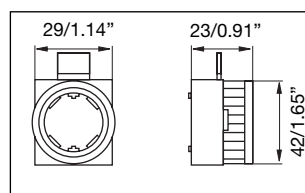
### Holder type "N"

Code

Material

**PB MB N**

**PC**



## Lamp Element



## Ordering key

**PALAMP R 220A**

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

## Approvals



## Colours

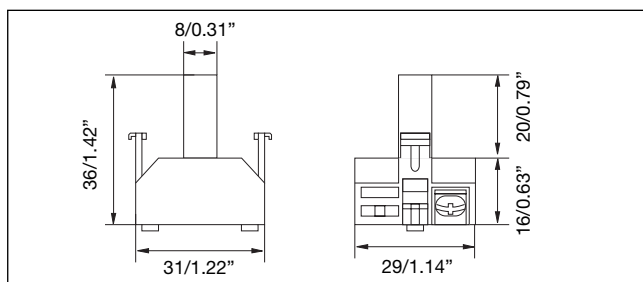
R = Red  
 W = Clear/White  
 B = Blue

Y = Yellow  
 G = Green

## 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



## 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)

# 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
- 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.

### Ordering key

**PA 2 110 / 1**

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

### Approvals



### Terminals

Screw terminals	
Max. section single-core wire	2 x 2.5mm <sup>2</sup> (0.004sq.inch)
Max. section stranded wire	2 x 1.5mm <sup>2</sup> (0.002sq.inch)
Copper conductor wire	14 AWG
Terminal tightening torque	1.2Nm (10.6in.lb.)

### 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

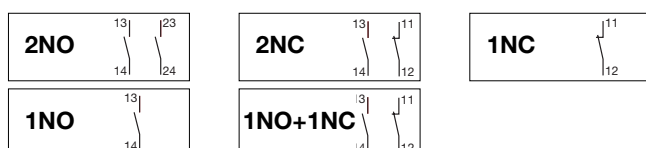
### Technical data

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)

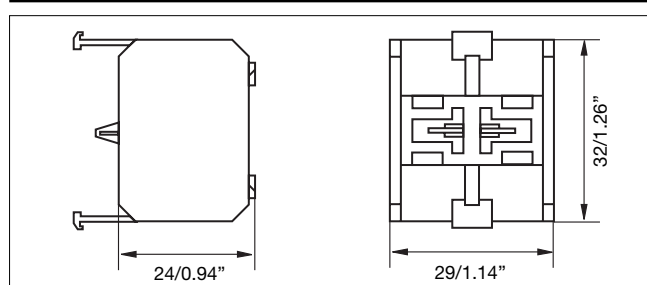
### Contact characteristics

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	-	
Thermal Contact Rating	10A (A600)	5A (B600)	
(acc. to UL 508)			
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	-	

### Wiring diagram

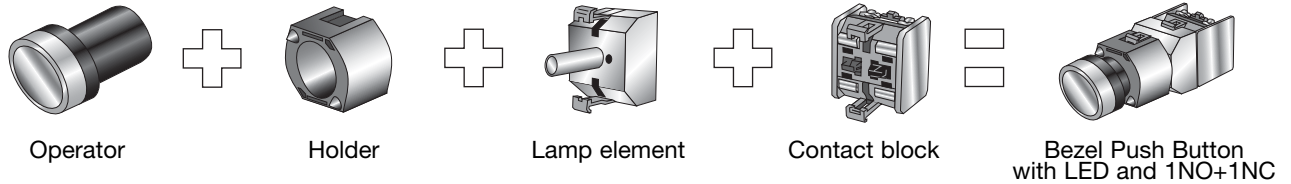


### Dimensions mm/inches

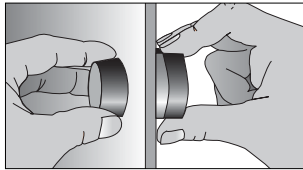


## Assembling and Mounting

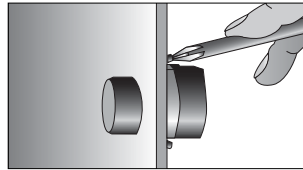
It come easy to get a complete product. Just to choose the operator, the holder, the lamp element if illuminated function is required and the contact block (up to 3).



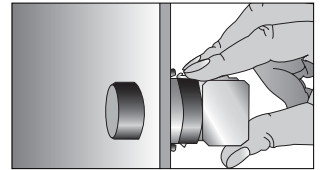
To install it, the only tool needed is a screwdriver. The same used to wiring the contact block can be used to fix the push-button.



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 Actuators



### Sealing cover IP67

Always on the head of operators, waterproof and dust, IP67.

Silicon rubber

PA SEAL COV

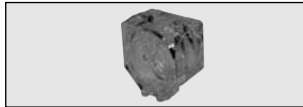


### Shield

Always on the head of button, prevent strike and mistaking operation.

Stainless steel

PA PB SHIELD



### Protection cover

Always on the head of button, prevent strike and mistaking operation. Lockable.

PC

PA PB COV



### 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



### Front bezel set Ø30mm (1.18")

For Ø30mm (1.18") panel hole, to have a thinner effect.

AL

PA FBZL 30



### 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



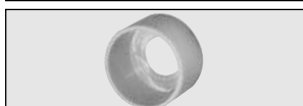
### Warning plate

For emergency stop push buttons. Thickness 1.5mm/0.059"

ABS

Ø60mm/Ø2.36"  
Ø90mm/Ø3.54"

PA WP 6  
PA WP 9



### 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