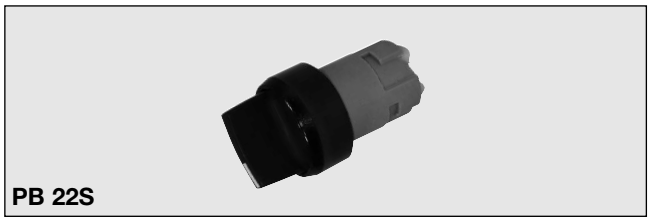
Panel Actuators and Indicators
Type PB
Short-handle Selector Switches


PB 22S


PB 22B

- **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

Series
Dimension and Style
Type
Action
Colour

Approvals

Dimensions and styles

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

Types

SRS = Short-handle selector switch
ISRS = Illuminated[1] short-handle selector switch

[1] = Light function is obtained by the lamp element pg.19

Actions (the arrows indicate the spring return function)

21 = Two positions L R
22 = Two positions L C
not for illuminated
23 = Two positions C R
not for illuminated
31 = Three positions L C R
32 = Three positions L C R
not for illuminated
33 = Three positions L C R
not for illuminated
34 = Three positions L C R
not for illuminated

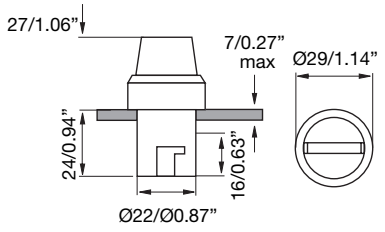
Colours

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

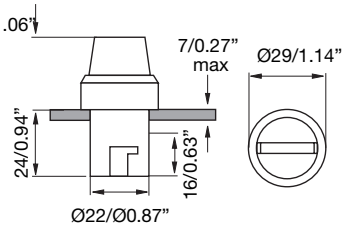
General data

Peripheral of actuator	**AL**
Actuator	**Pa**
Mechanical life	**≥30 x 10^4 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

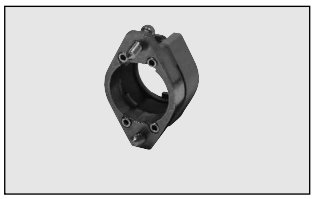


"S" Style



"B" Style

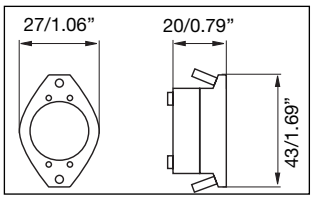
Holders

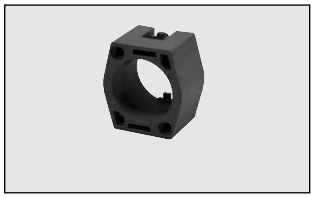


Holder type "M"

Code **PB MB M**

Material **Zn + PBT**

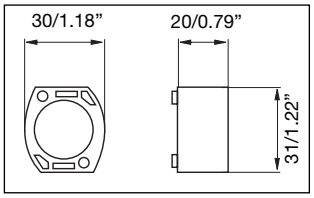


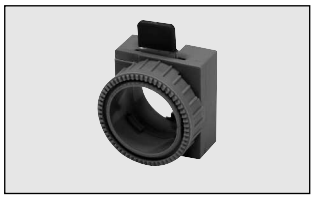


Holder type "P"

Code **PB MB P**

Material **PBT**

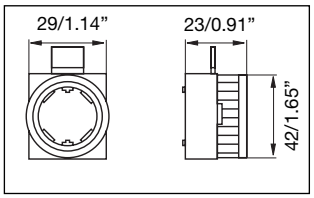




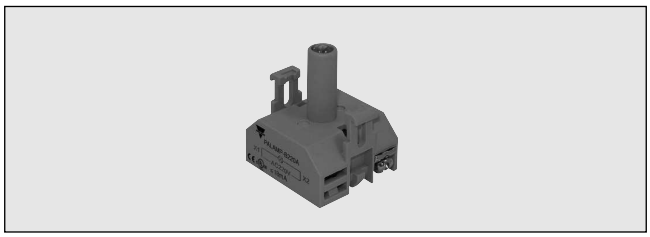
Holder type "N"

Code **PB MB N**

Material **PC**



Lamp Element



Ordering key

PALAMP R 220A

Type
Colour
Voltage

Approvals

c UL us LISTED 3MHG CE RoHS COMPLIANT

Colours

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

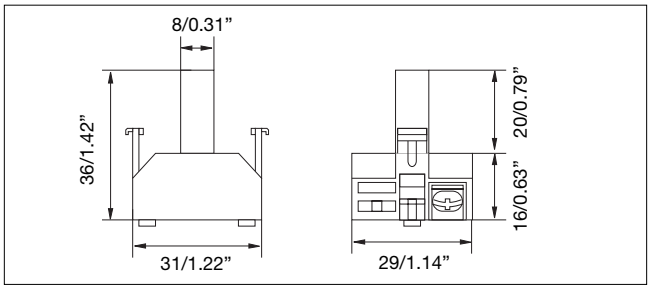
Voltage

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

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/m² (≥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)

Dimensions mm/inches



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 mmaximum.

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

c UL us LISTED 3MHG CE RoHS COMPLIANT

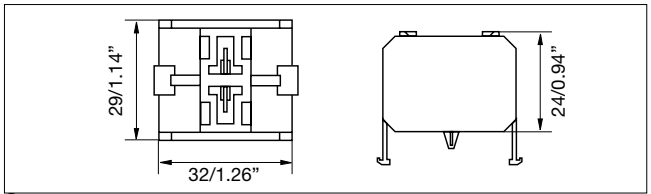
Technical data

Contact resistance	**≤50mΩ**
Travel	**5.8 ± 0.2mm (2.28" ± 0.08")**
Rated insulation Voltage U_i	**660VAC/DC** (acc. to IEC 60947-5-1) **600VAC/DC** (acc. to UL508)
Rated imp. withstand voltage U_{imp}	**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 sigle-core wire	**2 x 2.5mm² (0.004sq.inch)**
Max. section stranded wire	**2 x 1.5mm² (0.002sq.inch)**
Copper conductor wire	**14 AWG @ 60°C or 75°C CU conductor**
Terminal tightening torque	**1.2Nm (10.6in.lb.)**

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**	**-**

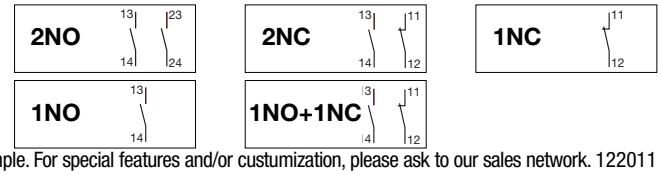
AC Contact Rating (acc. to UL 508)		**A600**	**B600**
B600 (all snap codes)	**@ 120V**	**6A**	**3A**
A600 (all slow codes)	**@ 240V**	**3A**	**1.5A**
	@ 480V	**1.5A**	**0.75A**
	@ 600V	**1.2A**	**0.6A**

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 continous 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

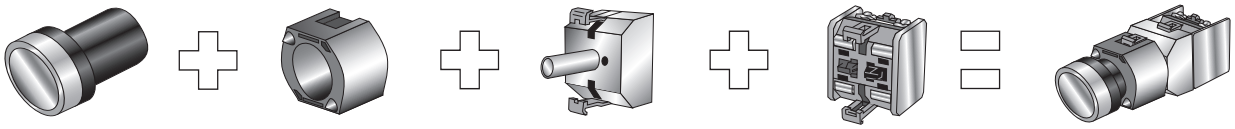
Contact rating code designation	Thermal continous test current, Amperes	Maximum current, amperes (acc. to UL508)			Maximum make or break volt-amperes @ 300V or less
		125V	250V	301 to 600V	
Q600	2.5	0.55	0.27	0.10	69
Q300	2.5	0.55	0.27	-	69

Wiring diagram



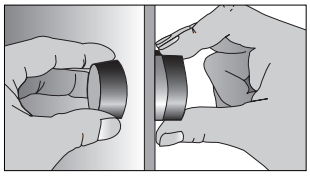
Assembling and Mounting

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).

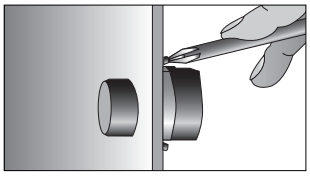


Operator | Holder | Lamp element | Contact block | Bezel Push Button with LED and 1NO+1NC

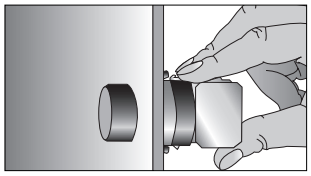
To install it, the only tool needed is a screwdriver. The same used to wiring the contact block can be used to fix the push-button.



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

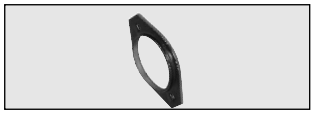
Installed behind the wiring screws of the contact block to avoid electric shock.

PC — **PA 2 SHIELD**

Mounting ring Ø22mm (0.87")

Installed on plastic panel to strengthen mounting.

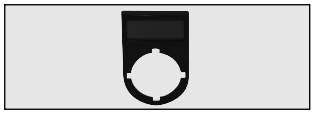
FE — **PA MR 22**



Mounting ring Ø25mm (0.98")

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

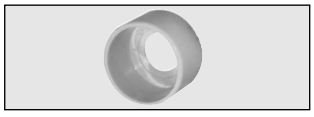
FE — **PA MR 25**



Label frame

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

PC — 10mm/0.39" **PA LBF 11**; 18mm/0.71" **PA LBF 18**



Yellow protection ring

To protect button and to prevent strike or mistaking operation.

ABS — Ø40mm/Ø1.57" **PA YPR 4**

Rubber — Ø60mm/Ø2.36" **PA YPR 6**

Panel hole cap Ø22mm (0.87")

For blocking up prepared or useless holes on the panels.

ABS — **PA PHC 22**