



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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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 = Illuminated¹ extended round

¹ = 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

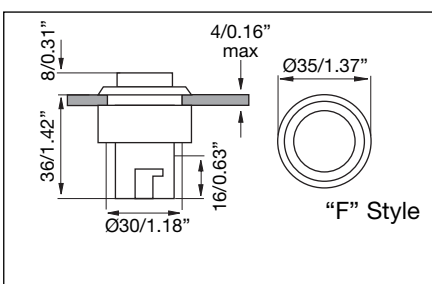
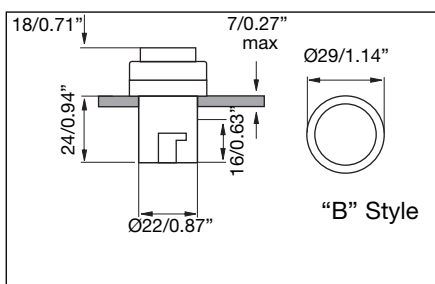
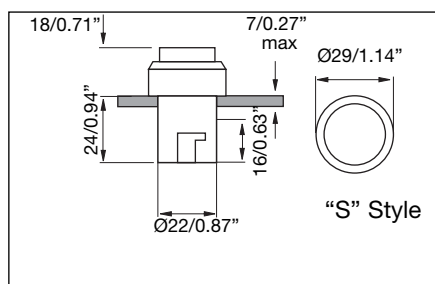
Actions

0 = Spring return
 1 = Maintained

General data

Peripheral of actuator	AL
Actuator	Pa
Mechanical life	≥ 3 x 10 ⁶ 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



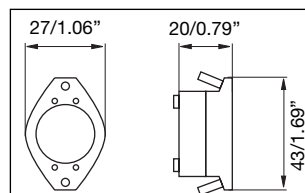
Holder type "M"

Code

Material

PB MB M

Zn + PBT



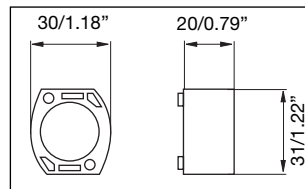
Holder type "P"

Code

Material

PB MB P

PBT



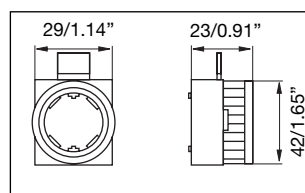
Holder type "N"

Code

Material

PB MB N

PC



Lamp Element



Ordering key

PALAMP R 220A

Type _____
 Colour _____
 Voltage _____

Approvals



Colours

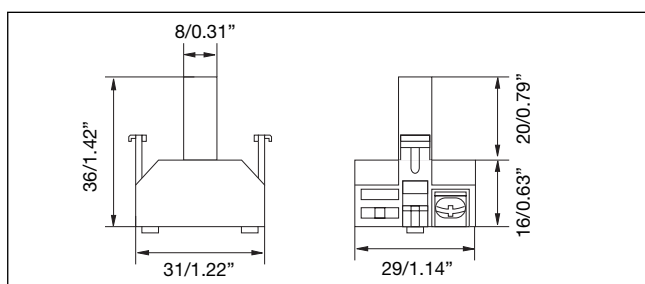
R = Red
 W = Clear/White
 B = Blue

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 ² (≥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



- 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 2.5mm² (0.004sq.inch)**
 Max. section stranded wire **2 x 1.5mm² (0.002sq.inch)**
 Copper conductor wire **14 AWG**
 Terminal tightening torque **1.2Nm (10.6in.lb.)**

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)

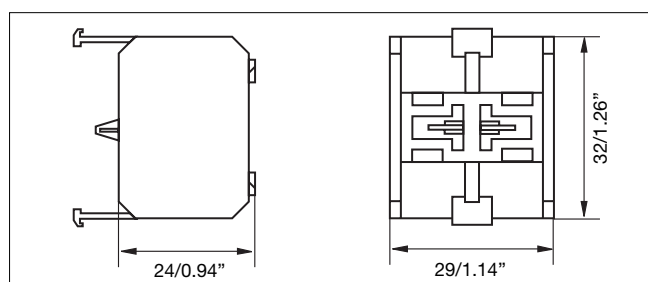
Contact code

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

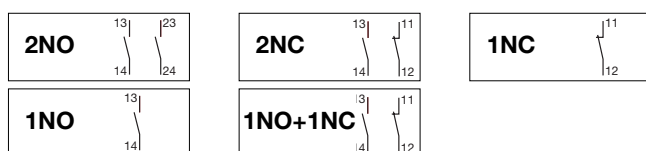
Contact characteristics

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	-	
Thermal Contact Rating	10A (A600)	5A (B600)	
(acc. to UL 508)			
	2.5A (Q600/Q300)		
AC Contact Rating (acc. to UL 508)	A600	B600	
B600 (all snap codes)			
A600 (all slow codes)			
@ 120V	6A	3A	
@ 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)			
Q600 (100, 200 slow codes)			
Q300 (010, 020, 110 slow codes)			
@ 125V	0.55A	0.55A	
@ 250V	0.27A	0.27A	
@ 480V	0.10A	-	
@ 600V	0.10A	-	

Dimensions mm/inches

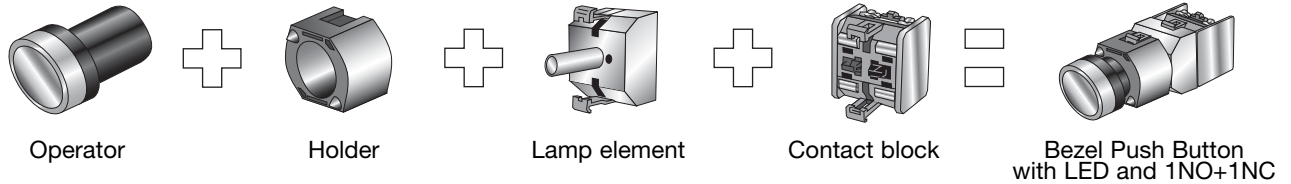


Wiring diagram

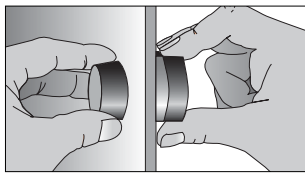


Assembling and Mounting

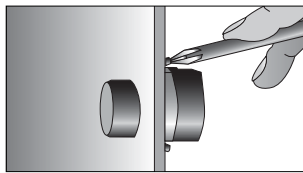
It come easy to get a complete product. Just to choose the operator, the holder, the lamp element if illuminated function is required and the contact block (up to 3).



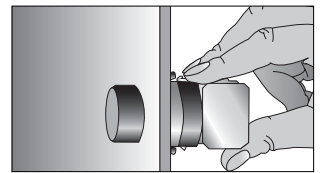
To install it, the only tool needed is a screwdriver. The same used to wiring the contact block can be used to fix the push-button.



The operator will be inserted into the panel.



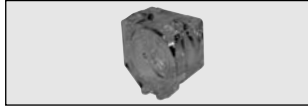










The holder will be secured at the back by two screws or nut.



The contact block is snapped on.

Accessories for Panel 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