

# IP series

## Latching action pushbutton switches for harsh environments

*Distinctive features and specifications*



- ☐ **Latching action**  
Actuator remains in the low position when "ON".
- ☐ **Illuminated and non-illuminated**
- ☐ **Compact**  
Behind-panel depth less than 20 mm (.787)
- ☐ **Flat round actuator for optional marking**
- ☐ **Sealed to IP 67**

### ENVIRONMENTAL SPECIFICATIONS

- Degree of protection : IP 67 - See details page B36.
- Shock resistance : 100 g according to IEC 512-4, test 6c
- Vibration resistance : 10-500Hz - 10 g according to IEC 512-4, test 6d
- Salt spray : IEC 512-6, test 11f
- Robustness (non-illuminated sw.) : IK06 according to EN 50102 (1 joule)
- Operating temperature : -40°C to +85°C

### ELECTRICAL AND GENERAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :  
100mA 24VDC - life expectancy 200 000 cycles  
2A 125VAC - life expectancy 10 000 cycles (tested according to UL 1054)
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1 GΩ min. at 500VDC
- Dielectric strength : 1.500 VAC rms between terminals  
1.000 VAC rms between terminals and frame
- Panel thickness : 1,5 mm (.059) min. - 5,5 mm (.217) max.
- Total travel : 2,5 mm (.098)
- Operating force : 5,5 N +/- 1N
- Contact bounce : 10 ms
- Torque : 1,5 Nm applied to nut
- Soldering : 320°C max. for 3 seconds

#### LED COMPONENT SPECIFICATIONS

| LED colour      | Forward current | Forward Voltage | Max. lumin. intensity |
|-----------------|-----------------|-----------------|-----------------------|
| Super red (LOS) | 20mA            | 2V              | 180 mcd               |
| Yellow (LOY)    | 20mA            | 2V              | 280 mcd               |
| Green (LOG)     | 10mA            | 2V              | 28 mcd                |
| Blue (LOB)      | 10mA            | 3,5V            | 22 mcd                |

A resistor must be series-connected by the user.

Resistor value =  $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

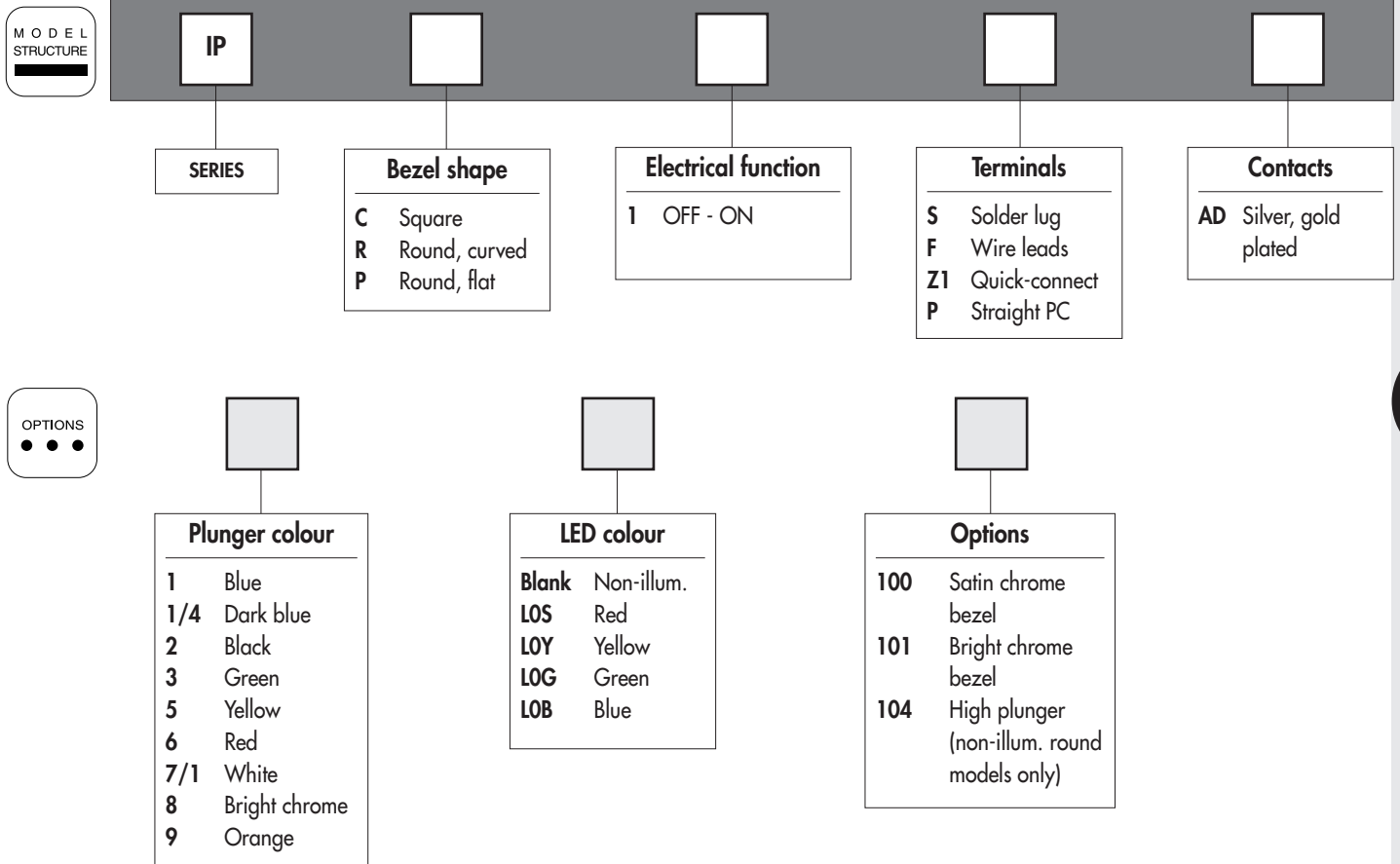
### MATERIALS

- Case : PA-6T, UL 94-V0
- Plunger : polyamide 6/6
- Bushing/bezel : zinc die-cast (zamak), black painted
- Contacts : silver, gold plated
- Multi-wire lead AWG20, section 0,6 mm<sup>2</sup>, UL approved
- LED wire : AWG26
- Lens : polycarbonate
- Terminal seal : epoxy

# IP series

Latching action pushbutton switches for harsh environments

Overview



## ABOUT THIS SERIES

On the following pages, you will find successively :  
model structure of switches and options in the same order as in above chart

**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.



**NOTICE** : please note that not all combinations of above numbers are available.  
Refer to the following pages for further information.



**A sealing boot** is available to protect the switches against frost and sand (P/N U5125).  
It is presented at the end of the IP series and in section H.

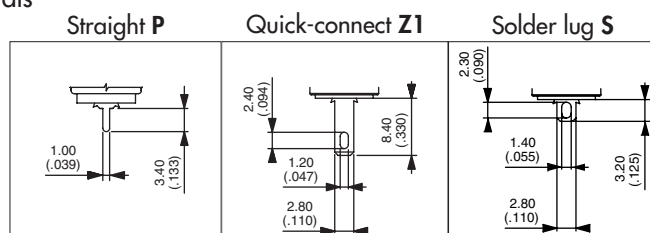


**Mounting accessories** : Standard hardware supplied : 1 hex nut 14 mm (.551) across flats and 1 O-Ring.

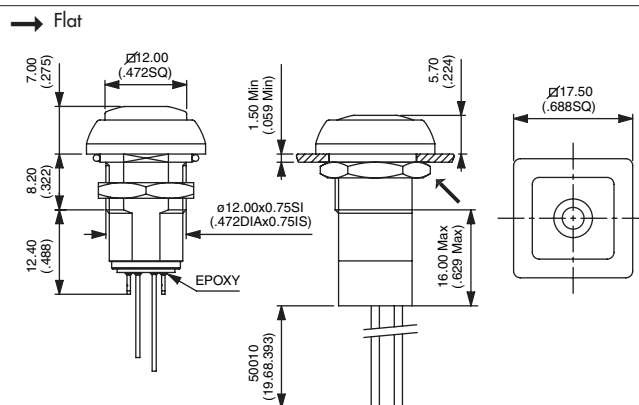


**Packaging unit** : 25 pieces

*Square or round - illuminated*

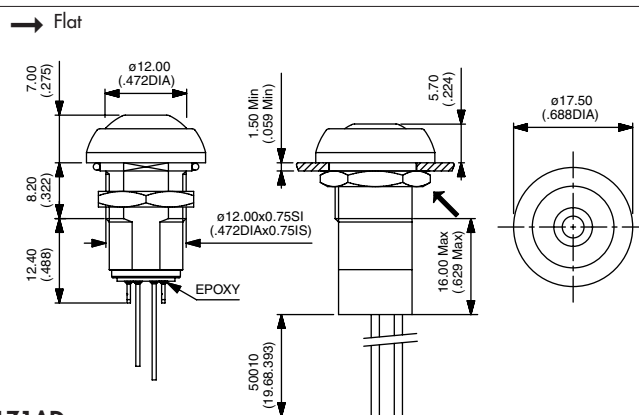


OFF - ON



Also available with straight PC : **IPC1PAD** or quick-connect terminals : **IPC1Z1AD**

## OFF - ON



Also available with straight PC : **IPR1PAD** or quick-connect terminals : **IPR1Z1AD**

Wire colours : black : contact, red : LED anode(+), blue : LED cathode(-)



## OPTIONS



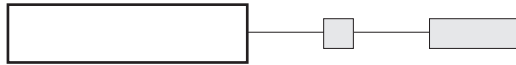
**100** : Satin chrome bezel  
**101** : Bright chrome bezel

# IP series

Latching action pushbutton switches for harsh environments

Square or round - non-illuminated

## MODEL STRUCTURE



### Square models



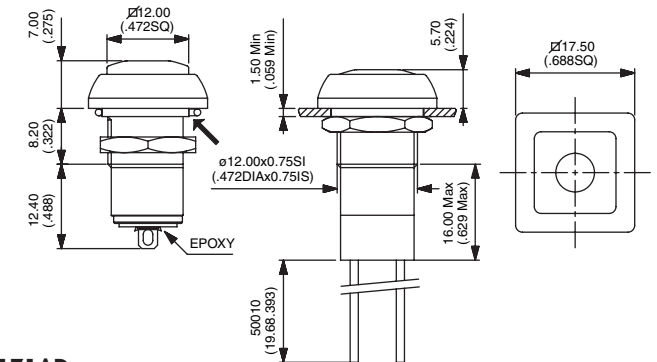
Solder lug terminals  
**IPC1SAD**

OFF - ON

Wire lead terminals  
**IPC1FAD**

OFF - ON

→ Flat



Also available with straight PC : **IPC1PAD** or quick-connect terminals : **IPC1Z1AD**

### Round models



CURVED ACTUATOR

Solder lug terminals  
**IPR1SAD**

OFF - ON

Wire lead terminals  
**IPR1FAD**

OFF - ON

FLAT ACTUATOR

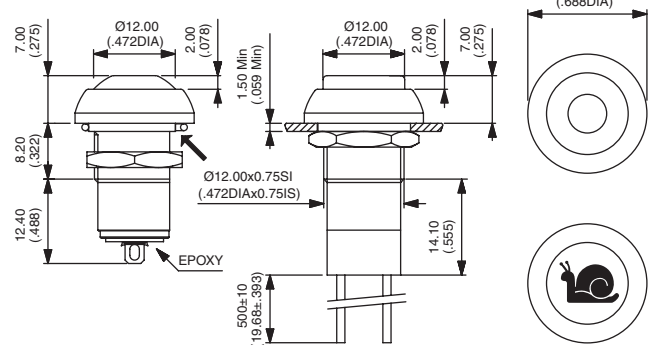
Solder lug terminals  
**IPP1SAD**

OFF - ON

Wire lead terminals  
**IPP1FAD**

OFF - ON

→ Flat

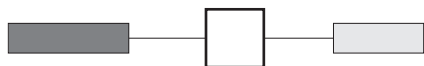


Also available with straight PC : **IP•1PAD** or quick-connect terminals : **IP•1Z1AD**

## PLUNGER COLOUR

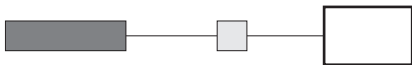


Plunger marking available on IPP models (symbol 10 mm max.). On request.



1 : blue - 1/4 : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7/1 : white - 8 : bright chrome - 9 : orange

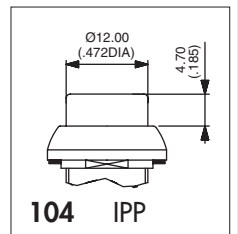
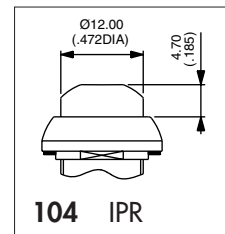
## OPTIONS



100 : Satin chrome bezel

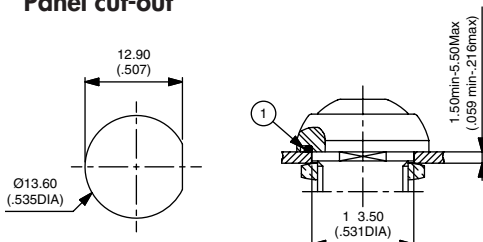
101 : Bright chrome bezel

104 : High plunger (for round model only)

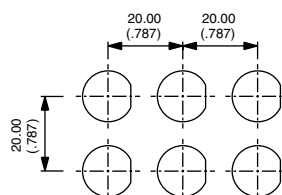


## MOUNTING

### Panel cut-out



### Matrix mounting



### Back of panel space requirement

