

IP series

Pushbutton switches for harsh environments - bushing Ø 12 mm - latching

Distinctive features and specifications



- Latching action**
Actuator remains in the low position when "ON".
- Illuminated or non-illuminated**
- Compact**
Behind-panel depth less than 20 mm (.787)
- Flat round actuator for optional marking**
- Sealed to IP67**

ENVIRONMENTAL SPECIFICATIONS

- Front panel sealing : IP67 according to IEC 60529
- 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) : IK06 according to EN 50102 (1 joule)
- Operating temperature : -40°C to +85°C

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
4A 12VDC, 200.000 cycles
1A 48VDC, 200.000 cycles
2A 48VDC, 100.000 cycles
3A 48VDC, 75.000 cycles
1A 72VDC, 15.000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1 GΩ min. at 500VDC
- Dielectric strength : 1.500 Vrms between terminals
1.000 VAC rms between terminals and frame

LED COMPONENT SPECIFICATIONS

LED colour	Forward current	Typ. forward voltage	Max. forward voltage
Super red (LOS)	20mA	1,95V	1,95V
Yellow (LOY)	20mA	2V	2,05V
Green (LOG)	20mA	2,1V	2,5V
Blue (LOB)	20mA	3,2V	4V

A resistor must be series-connected by the user.
Resistor value = $\frac{\text{supply voltage} - \text{LED forward voltage}}{\text{LED forward current}}$

GENERAL SPECIFICATIONS

- Panel thickness : 1,5 mm (.059) min.
5,5 mm (.217) max.
- Total travel : 2,5 mm (.098) +/- 0,3 mm
- Typical operating force : 5 N +/- 2N
- Mechanical life : 200.000 cycles
- Torque : 1,5 Nm max. applied to nut
- Soldering : 320°C max. for 3 sec.

MATERIALS

- Case : thermoplastic, UL 94-V0
- Actuator : polyamide 6/6
- Bushing/bezel : zinc die-cast (zamak), black painted
- Contacts : silver, gold plated
- Multi-wire lead AWG20, section 0,6 mm²
- LED wire : AWG26, section 0,12 mm²
- Lens : polycarbonate
- Terminal seal : epoxy

AGENCY APPROVAL



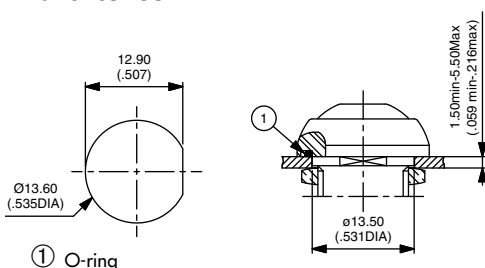
2A 125VAC/250VAC
File E83438

Availability : consult factory for details of approved models.

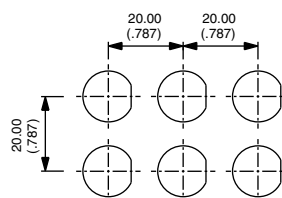
Marking : to order switches marked UL, complete appropriate box of ordering format.

MOUNTING

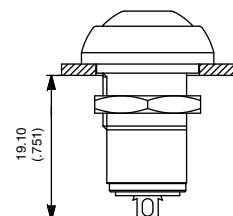
Panel cut-out



Matrix mounting



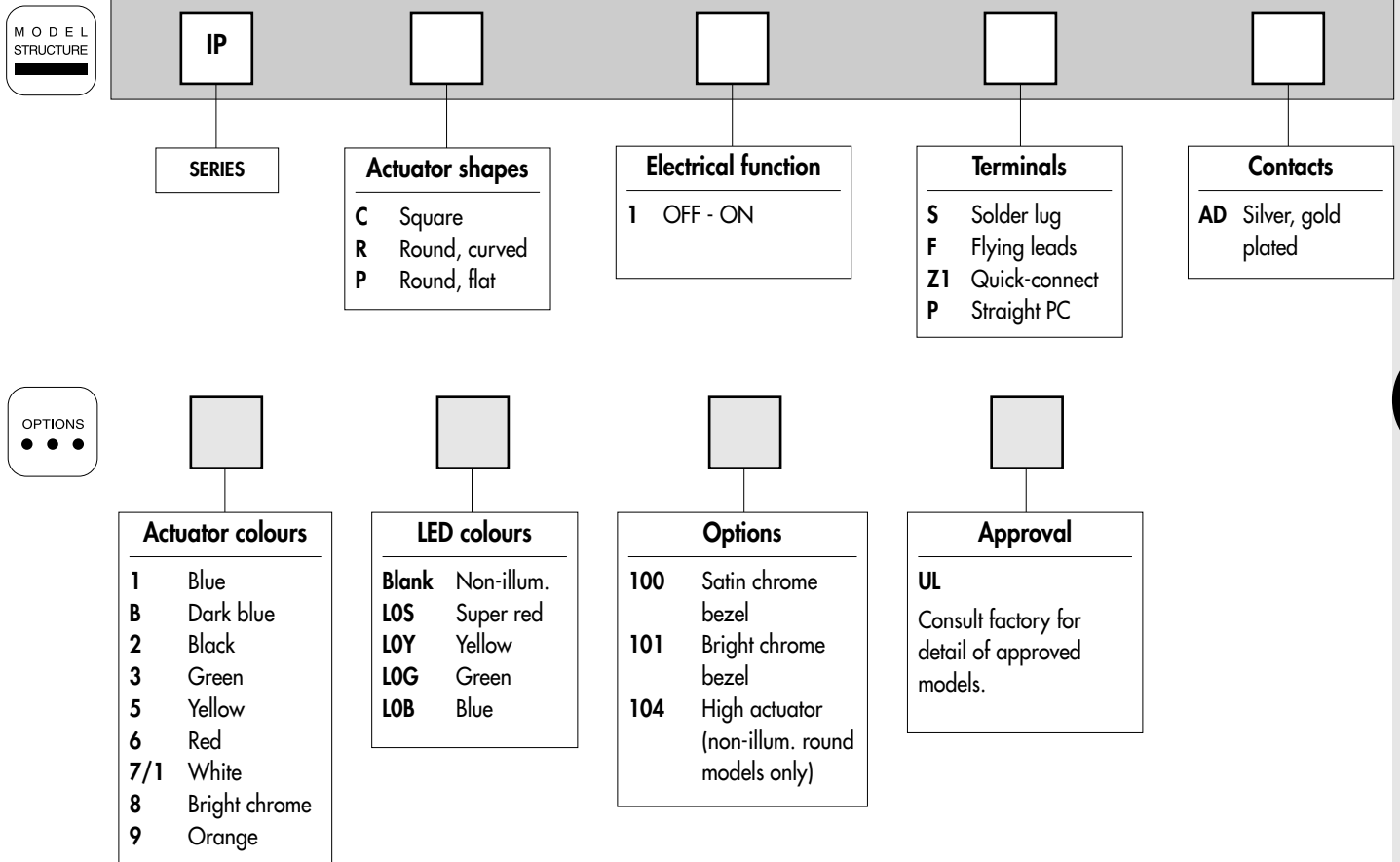
Back of panel space requirement



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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 bracketed 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 after the IA series and in section H.



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

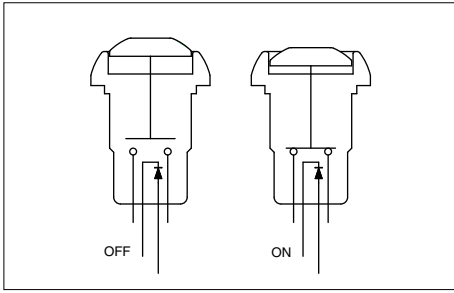


Packaging unit : 25 pieces

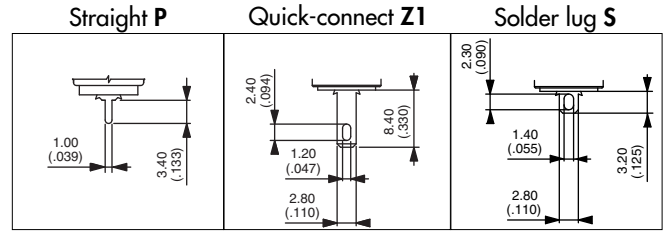
IP series

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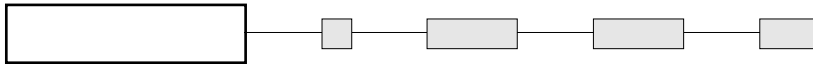
Square or round - illuminated



- Four LED colours
- Tin plated LED terminals



MODEL STRUCTURE



B

Square models

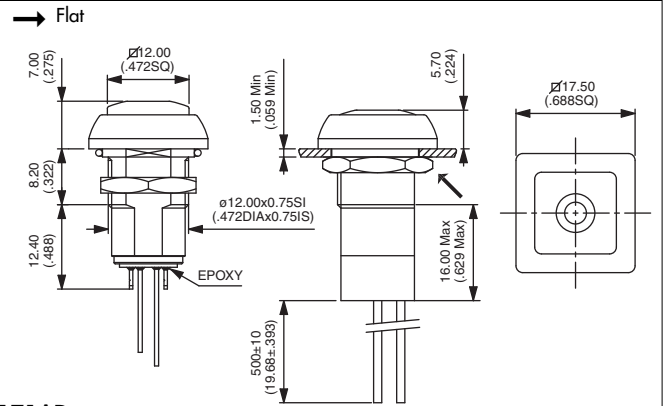


Solder lug terminals
IPC1SAD

OFF - ON

Flying lead terminals
IPC1FAD

OFF - ON



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

Round models

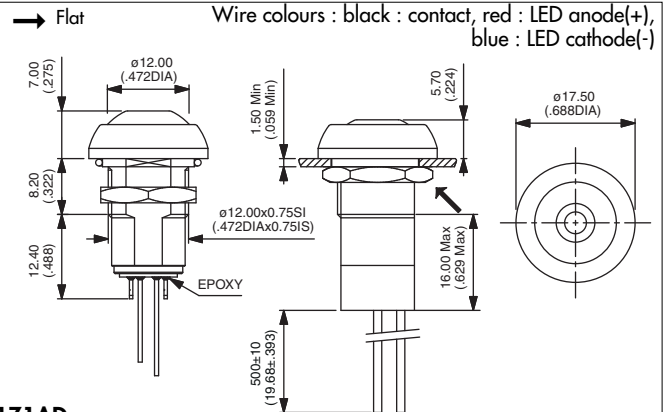


Solder lug terminals
IPR1SAD

OFF - ON

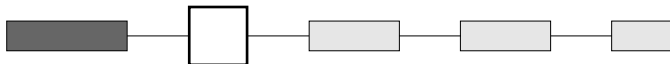
Flying lead terminals
IPR1FAD

OFF - ON



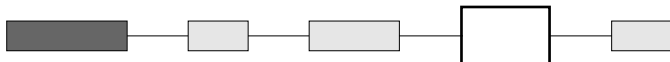
Also available with straight PC : **IPR1PAD** or quick-connect terminals : **IPR1Z1AD**

ACTUATOR COLOURS



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

OPTIONS



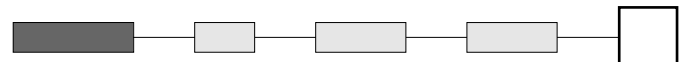
100 : Satin chrome bezel
101 : Bright chrome bezel

LED COLOURS



LOS : super red - LOY : yellow - LOG : green - LOB : blue

APPROVAL



UL

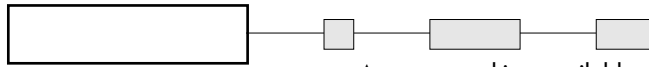
Consult factory for details of approved models. To order switches marked UL, complete above box with "UL".

IP series

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Square or round - non-illuminated

MODEL STRUCTURE



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

Square models



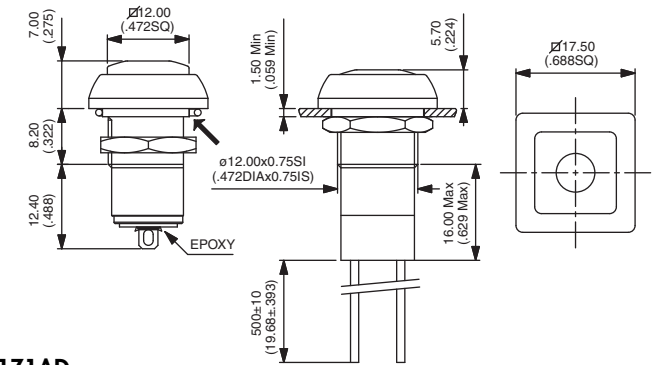
Solder lug terminals
IPC1SAD

OFF - ON

Flying 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

Flying lead terminals
IPR1FAD

OFF - ON

FLAT ACTUATOR

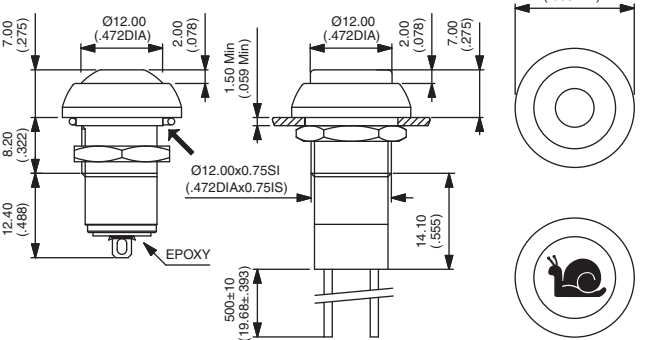
Solder lug terminals
IPP1SAD

OFF - ON

Flying lead terminals
IPP1FAD

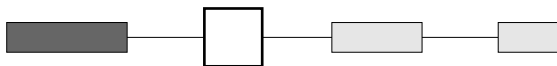
OFF - ON

→ Flat



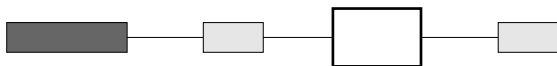
Also available with straight PC : **IP•1PAD** or quick-connect terminals : **IP•1Z1AD**

ACTUATOR COLOURS

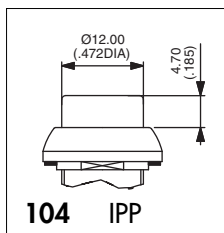
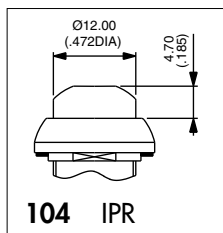


1 : blue - B : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7/1 : white - 8 : bright chrome - 9 : orange

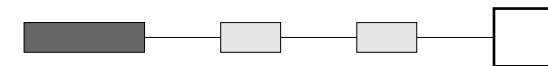
OPTIONS



100 : Satin chrome bezel
101 : Bright chrome bezel
104 : High actuator (for round model only)



APPROVAL



UL

Availability : consult factory for details of approved models.

Marking : to order switches marked UL, complete above box with "UL".