

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): IKO6 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

For W terminals, current has to be limited to 400mA.

• Initial contact resistance : $100 \text{ m}\Omega$ max. • Insulation resistance : $1 \text{ G}\Omega$ min. at 500VDC• Dielectric strength : 1.500 Vrms between terminals

1.000 Vrms 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 (L0G)	20mA	2,1V	2,5V
Blue (LOB)	20mA	3,2V	4V

A resistor must be series-connected by the user. Resistor value = supply voltage - LED forward voltage LED forward current

GENERAL SPECIFICATIONS

UG1410A

• 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
Low level/mech. 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
 Output wires (flying lead terminals):
 F version: AWG20, section 0,6 mm² W version: AWG24, section 0,23 mm²

• LED wires :

F version: AWG26, section 0,12 mm² W version: AWG24, section 0,23 mm²

• Lens : polycarbonate • Terminal seal : epoxy

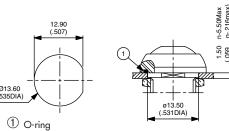
AGENCY APPROVAL

2A 125VAC/250VAC File E83438

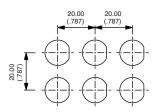
See following pages.

MOUNTING

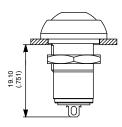
Panel cut-out



Matrix mounting



Back of panel space requirement



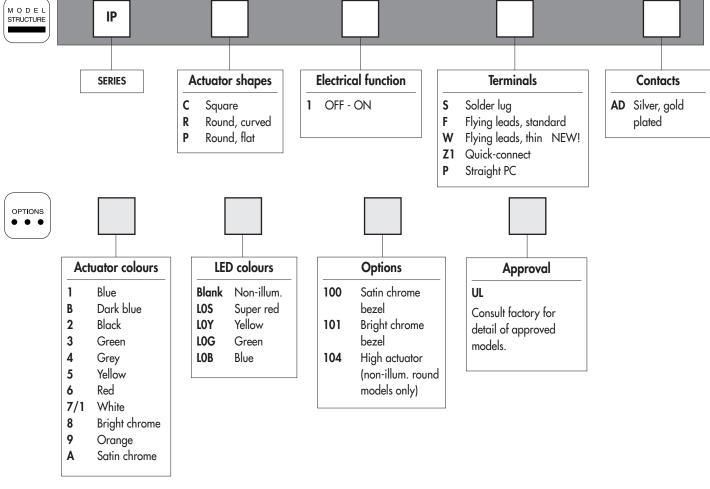
APEM B1-21 www.apem.com

IP series

B1

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ΙP



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.

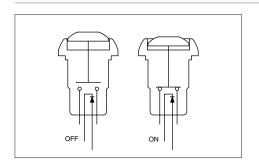


Packaging unit: 25 pieces

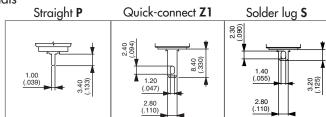


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Square or round - illuminated

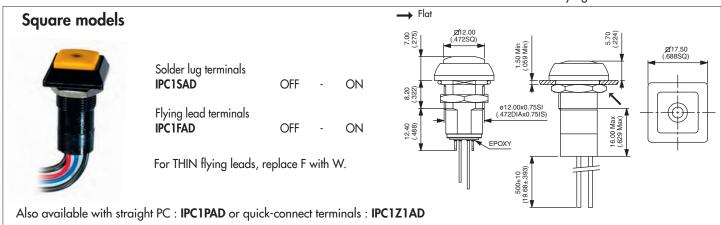


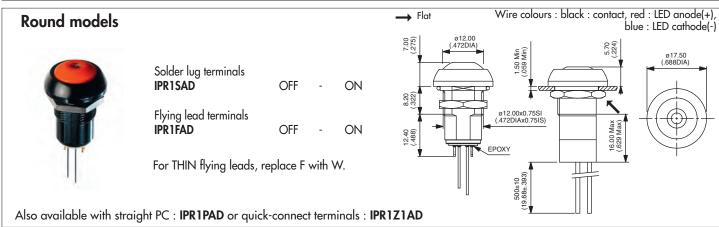
- Four LED colours
- Tin plated LED terminals





Shown with standard flying lead terminals.





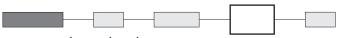




1: blue - B: dark blue - 2: black - 3: green - 4: grey 5: yellow - 6: red - 7/1: white - 8: bright chrome

9 : orange - A : satin chrome

OPTIONS



100 : Satin chrome bezel101 : 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

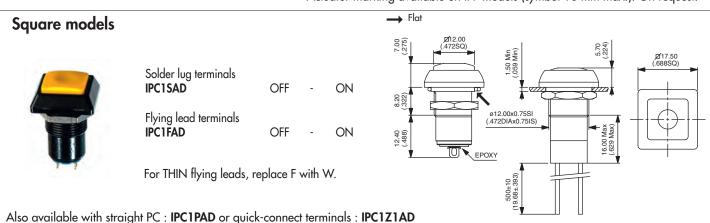
Pushbutton switches for harsh environments - bushing Ø 12 mm - latching

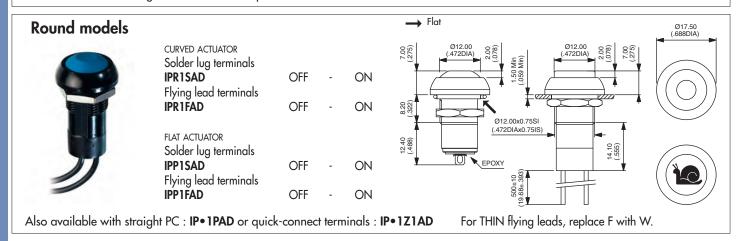
Square or round - non-illuminated

MODEL STRUCTURE

Shown with standard flying lead terminals.

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





ACTUATOR COLOURS



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

9: orange - A: satin chrome

OPTIONS



100 : Satin chrome bezel101 : Bright chrome bezel

104: High actuator (for round model only)





APPROVAL



UL

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