

IL series

Sealed pushbutton switches for thick panels •
long bushing Ø 12 mm • momentary



DISTINCTIVE FEATURES

- Momentary pushbuttons for thick panels
- Illuminated or non-illuminated
- Tactile feedback
- Flat round actuator for optional marking
- Sealed to IP67 (standard models only)



ENVIRONMENTAL SPECIFICATIONS

- Front panel sealing according to IEC 60529 : IP67 (standard models)
IP54 (options X1242 and 234)
- Shock resistance : 100 g according to IEC 512-4, test 6c
- Vibration resistance : 10-500 Hz - 10 g according to IEC 512-4, test 6d
- Salt spray : IEC 512-6, test 11f
- Operating temperature : -40 °C to +85 °C (-40 °F to +185 °F)



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
2 A 24 VDC, 200,000 cycles
- Initial contact resistance : 50 mΩ max.
- Insulation resistance : 1 GΩ min. at 500 VDC
- Dielectric strength : 1,000 Vrms

LED COMPONENT SPECIFICATIONS

LED color	Forward current	Typ. forward voltage	Max. forward voltage
Super red (LOS)	20 mA	2.1 V	2.3 V
Yellow (LOY)	20 mA	2.1 V	2.3 V
Green (LOG)	20 mA	2.1 V	2.3 V
Blue (LOB)	20 mA	3.2 V	3.8 V
White (LOW)	20 mA	3.35 V	4.25 V
Red/Green (LSG)	20 mA	Red: 1.95 V / Green: 2.1 V	2.5 V
Yellow/green (LYG)	20 mA	Yellow: 2 V / green: 2.1 V	2.5 V

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

The company reserves the right to change specifications without notice.



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GENERAL SPECIFICATIONS

- Panel thickness : 1.50 mm (.059) min. 10 mm (.393) max.
- Total travel : 1.7 mm (.067) \pm 0.3 mm
- Typical operating force : 4 N \pm 2 N
- Low level or mechanical life : 1,000,000 cycles
- Torque (applied to nut) :
1 Nm max. with metal nut U166
1.5 Nm max. with plastic nut U4248
- Soldering : 300 °C (572 °F) max. for 3 seconds

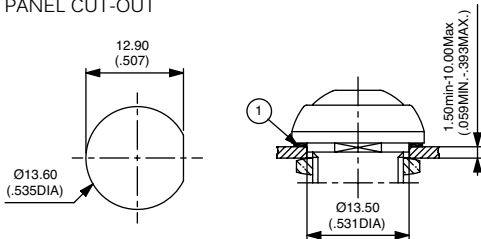
MATERIALS

- Case : thermoplastic UL94-V0
- Actuator : polyamide 6/6
- Bushing/bezel : polyamide 6/6
- Contacts : silver, gold plated
- Terminal seal : epoxy

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

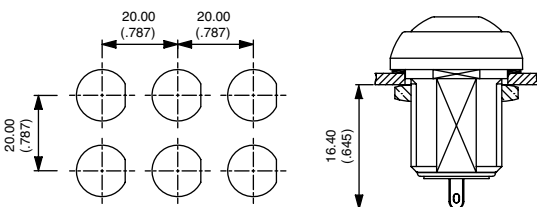
MOUNTING STANDARD BEZEL

PANEL CUT-OUT

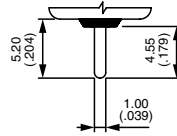


① - Flat seal

MATRIX MOUNTING - BACK OF PANEL SPACE REQUIREMENT

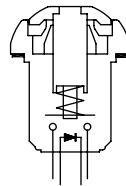


TERMINALS



Straight P

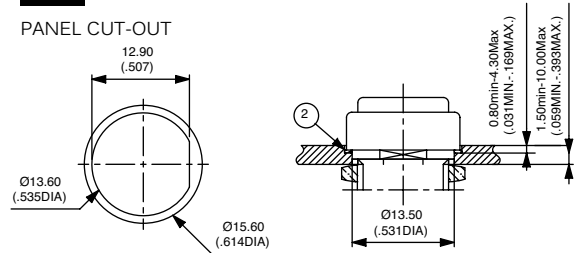
ELECTRICAL FUNCTION



Function 3 (NO)

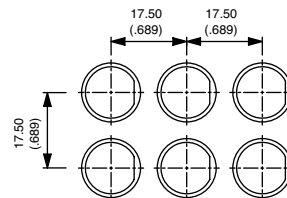
MOUNTING REDUCED MODEL

PANEL CUT-OUT



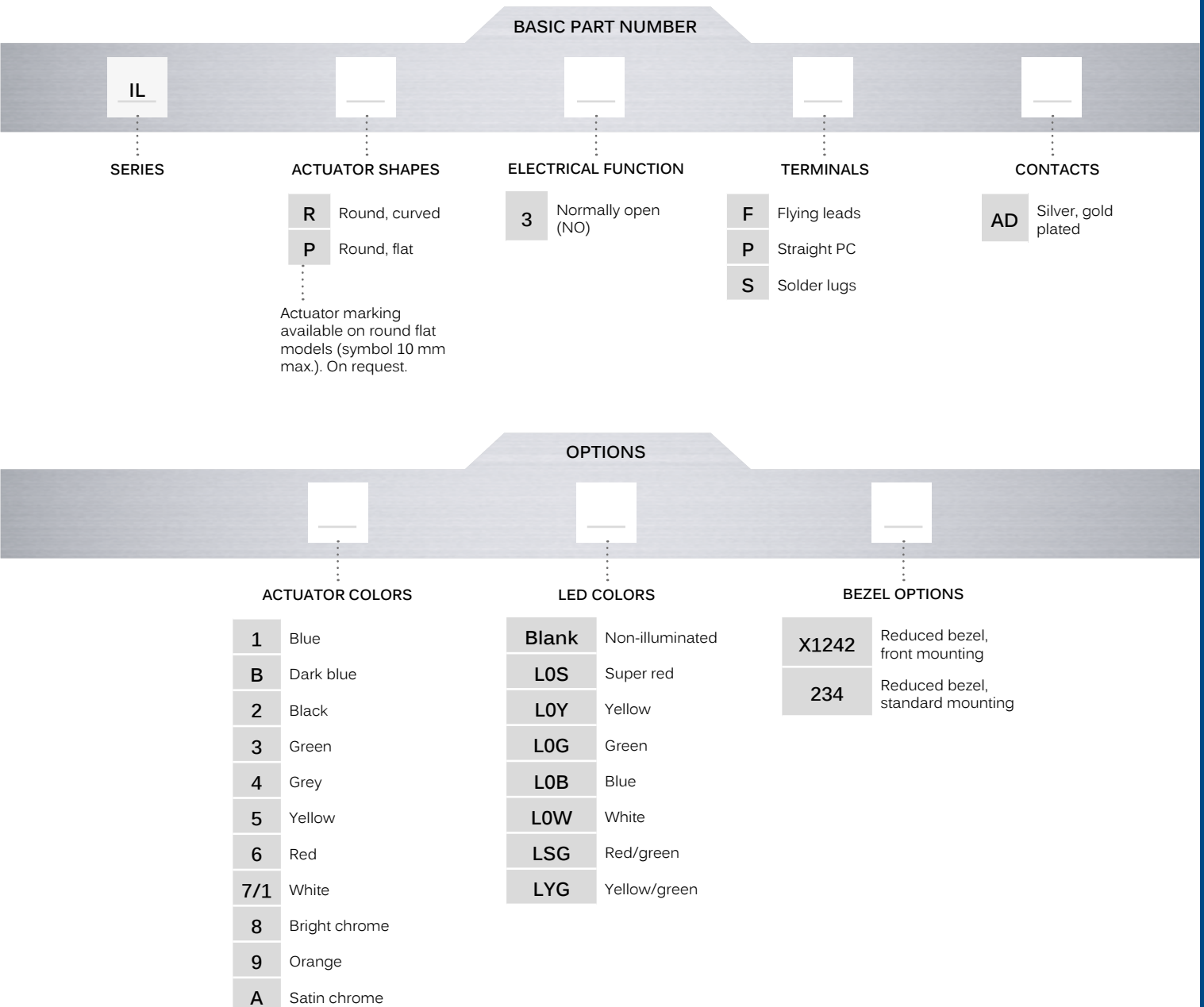
② - O-ring

MATRIX MOUNTING



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BUILD YOUR PART NUMBER



ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

- ⚠ **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). See "Sealing Boots" section of website.
- 🔩 **Mounting accessories** : Standard hardware supplied : 1 flat seal (standard bezel) or 1 O-ring (reduced bezel) and 1 metal hex nut 14 mm (.551) across flats. Hex nut part number U166. Plastic nut 17 mm (.669) across flats, thickness 4 mm (.157) available on request. Part number U4248.

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ILLUMINATED SOLDER LUG TERMINALS



Curved actuator
ILR3SAD Normally open

Flat actuator
ILP3SAD Normally open

Also available with straight PC terminals : **IL•3PAD**

ILLUMINATED SEALED FLYING LEAD TERMINALS



Curved actuator
ILR3FAD Normally open

Flat actuator
ILP3FAD Normally open

NON ILLUMINATED SOLDER LUG TERMINALS



Curved actuator
ILR3SAD Normally open

Flat actuator
ILP3SAD Normally open

Also available with straight PC terminals : **IL•3PAD**

NON ILLUMINATED FLYING LEAD TERMINALS

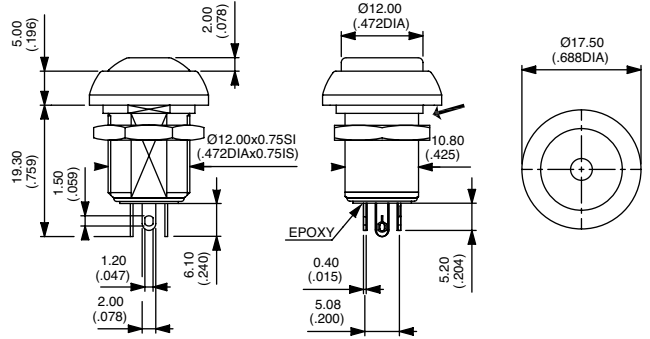


Curved actuator
ILR3FAD Normally open

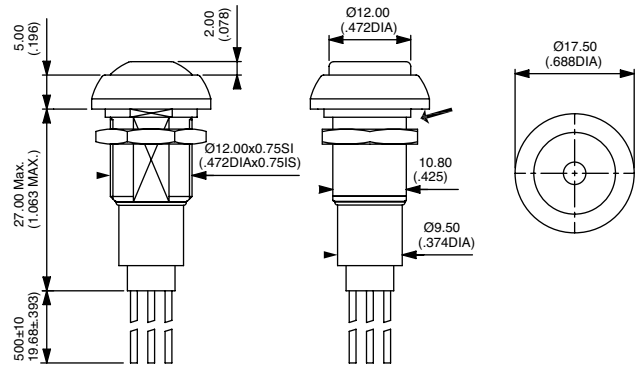
Flat actuator
ILP3FAD Normally open

Wire colors : black : NO contact, red : LED anode(+), blue : LED cathode(-)

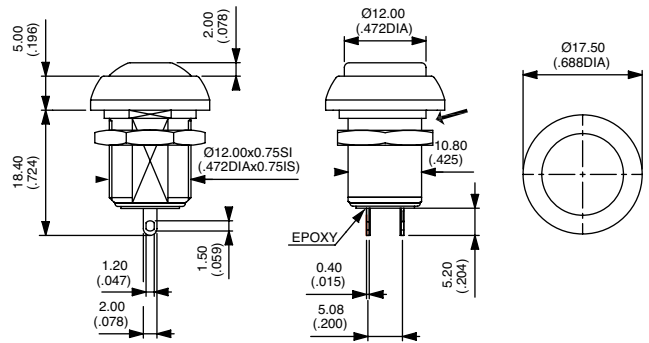
→ FLAT



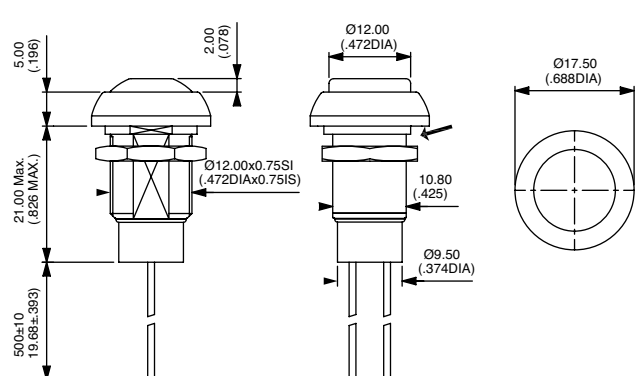
→ FLAT



→ FLAT



→ FLAT



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REDUCED BEZEL FOR COMPACT MATRIX MOUNTING - OPTION X1242

- Dia. 15 (.590) reduced bezel
- Mounting from the front into a threaded panel cut-out
- Matrix mounting : 16 x 16 mm (.630x.630)
- Illuminated or non-illuminated
- Same terminal options and colors as standard models
- Part numbers on request.



ILP3FAD...X1242

REDUCED BEZEL FOR COMPACT MATRIX MOUNTING - OPTION 234

- Dia. 15 (.590) reduced bezel
- Standard panel mounting
- Matrix mounting : 17.5 x 17.5 mm (.689x.689)
- Illuminated or non-illuminated
- Same terminal options and colors as standard models
- Part numbers on request.



ILP3FAD...234

ACTUATOR COLORS



- | | | | |
|---|-----------|-----|---------------|
| 1 | Blue | 6 | Red |
| B | Dark blue | 7/1 | White |
| 2 | Black | 8 | Bright chrome |
| 3 | Green | 9 | Orange |
| 4 | Grey | A | Satin chrome |
| 5 | Yellow | | |

LED COLORS



- | | |
|-------|-----------------|
| Blank | Non-illuminated |
| LOS | Super Red |
| LOY | Yellow |
| LOG | Green |
| LOB | Blue |
| LOW | White |
| LSG | Red/green |
| LYG | Yellow/green |

Mouser Electronics

Authorized Distributor

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Apem:

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[ILR3SAD2](#) [ILR3FAD2](#) [ILR3FAD2L0S](#) [ILR3SAD2L0W](#) [ILP3FAD2L0B](#) [ILP3PAD2L0S](#) [ILP3SAD2L0G](#) [ILR3SAD2L0G](#)
[ILP3FAD2L0G](#) [ILP3FAD2L0Y](#) [ILR3FAD2L0W](#) [ILR3PAD2L0B](#) [ILR3SAD2L0Y](#) [ILP3SAD2L0B](#) [ILR3PAD2L0W](#)
[ILR3FAD2L0Y](#) [ILR3SAD2L0S](#) [ILR3PAD2L0Y](#) [ILR3SAD2L0B](#) [ILR3PAD2L0G](#) [ILP3SAD2](#) [ILP3PAD2](#) [ILP3SAD2L0S](#)
[ILP3FAD2L0S](#) [ILP3PAD2L0G](#) [ILP3SAD2L0W](#) [ILR3PAD2](#) [ILP3PAD2L0Y](#) [ILR3FAD2L0B](#)