

# 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

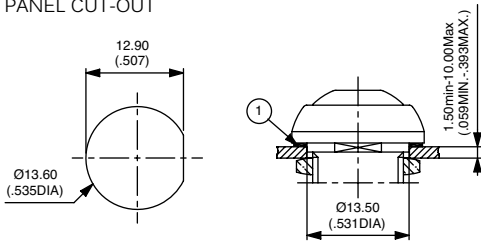
## MATERIALS

- 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.

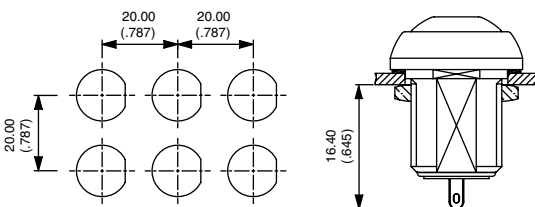
## MOUNTING STANDARD BEZEL

### PANEL CUT-OUT

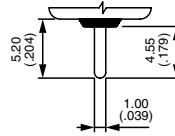


① - Flat seal

### MATRIX MOUNTING - BACK OF PANEL SPACE REQUIREMENT

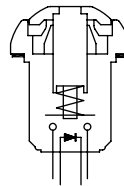


## TERMINALS



Straight P

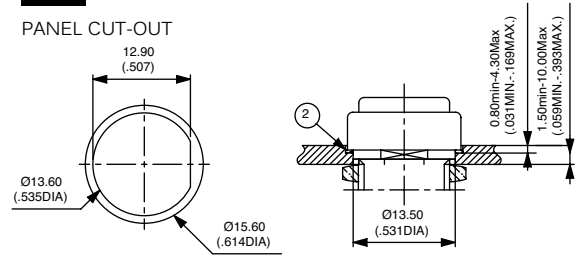
## ELECTRICAL FUNCTION



Function 3 (NO)

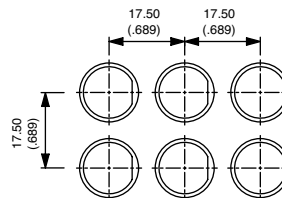
## MOUNTING REDUCED MODEL

### PANEL CUT-OUT



② - O-ring

### MATRIX MOUNTING

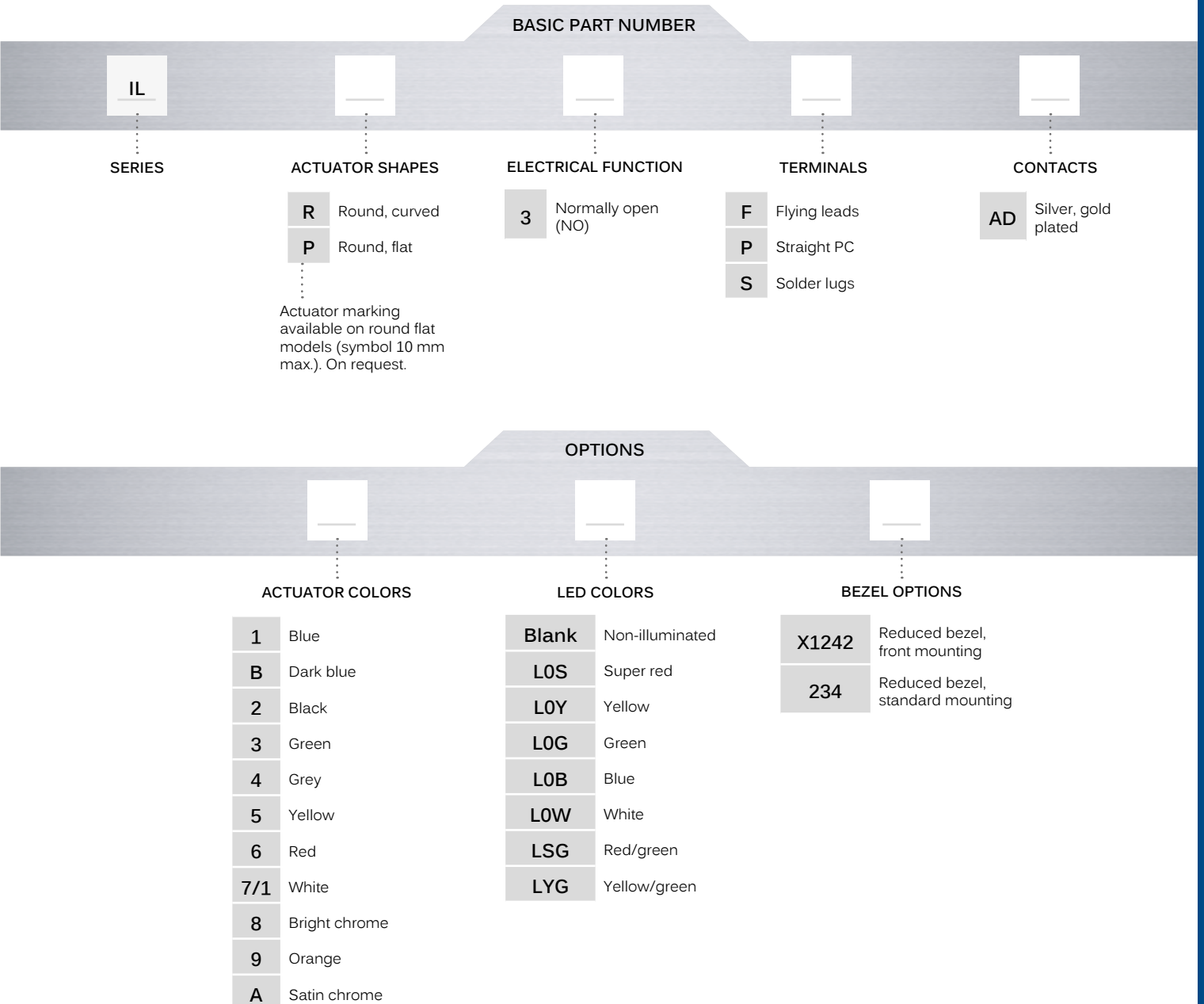


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## BUILD YOUR PART NUMBER



## 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

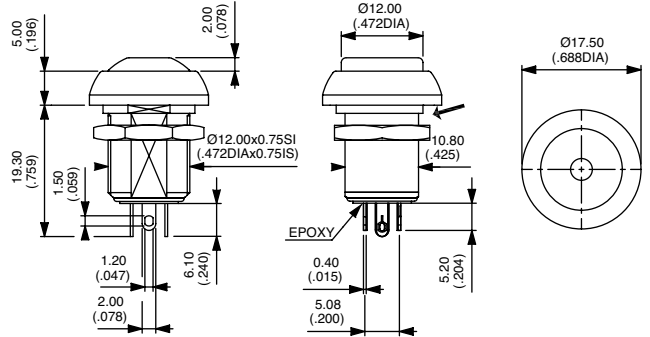


Curved actuator  
**ILR3FAD**  Normally open

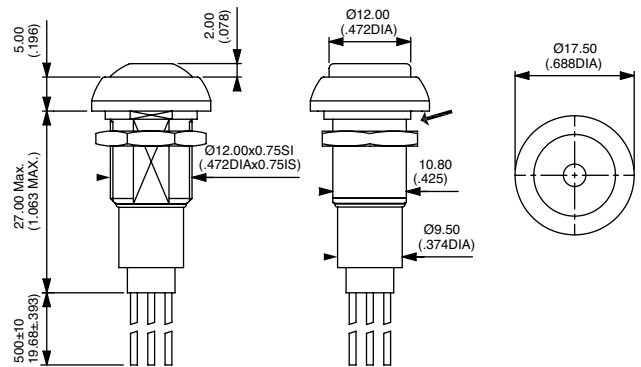
Flat actuator  
**ILP3FAD**  Normally open

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

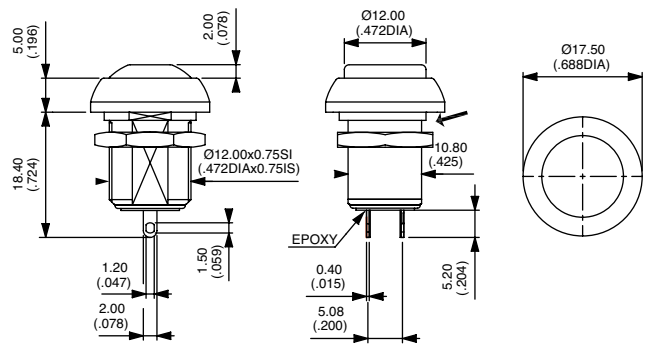
→ FLAT



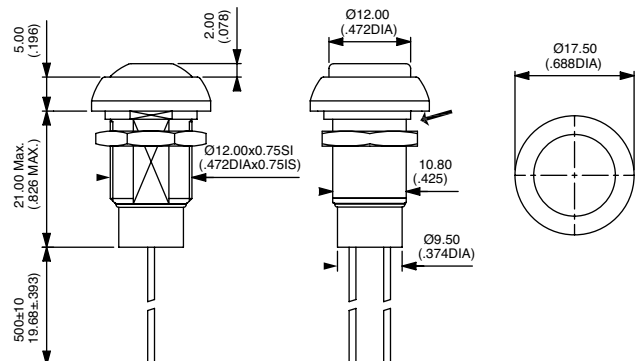
→ FLAT



→ 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

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Apem:

[ILP3SAD2L0Y](#) [ILP3FAD2L0W](#) [ILR3PAD2L0S](#) [ILP3PAD2L0B](#) [ILR3FAD2L0G](#) [ILP3FAD2](#) [ILP3PAD2L0W](#)  
[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](#) [ILR3SAD1L0B](#)  
[ILR3SAD5L0Y](#) [ILP3FAD6L0YX1242](#) [ILR3FADA](#) [ILR3SAD3L0G](#) [ILP3FAD3L0YX1242](#)