# 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 (L0S) | 20 mA | 2.1 V | 2.3 V |
| Yellow (L0Y) | 20 mA | 2.1 V | 2.3 V |
| Green (L0G) | 20 mA | 2.1 V | 2.3 V |
| Blue (L0B) | 20 mA | 3.2 V | 3.8 V |
| White (L0W) | 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.

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

The company reserves the right to change specifications without notice.

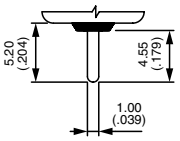
# IL series

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

## GENERAL SPECIFICATIONS

- Panel thickness : 1.50 mm (.059) min. 10 mm (.393) max.
- Total travel : 1.7 mm (.067) ± 0.3 mm
- Typical operating force : 4 N ± 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

## TERMINALS



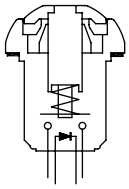

Straight **P**

## 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.

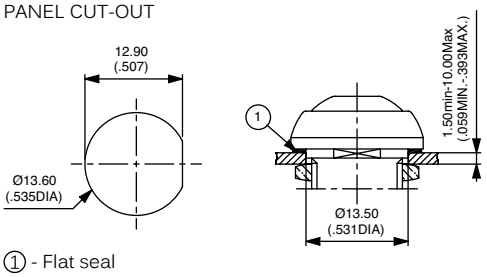
## ELECTRICAL FUNCTION



Function **3 (NO)**

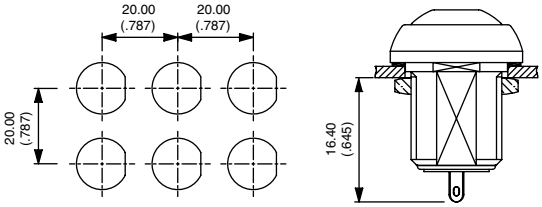
## MOUNTING STANDARD BEZEL

PANEL CUT-OUT



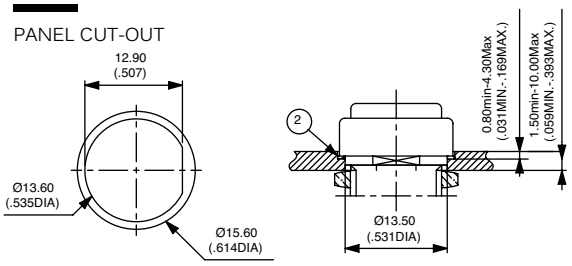

① - Flat seal

MATRIX MOUNTING - BACK OF PANEL SPACE REQUIREMENT



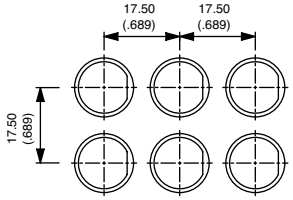

## MOUNTING REDUCED MODEL

PANEL CUT-OUT




② - O-ring

MATRIX MOUNTING



# IL series

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

## BUILD YOUR PART NUMBER

### BASIC PART NUMBER

IL _ _ _ _ _

**SERIES**

**ACTUATOR SHAPES**

| | |
|---|---|
| R | Round, curved |
| P | Round, flat |

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

**ELECTRICAL FUNCTION**

| | |
|---|---|
| 3 | Normally open (NO) |

**TERMINALS**

| | |
|---|---|
| F | Flying leads |
| P | Straight PC |
| S | Solder lugs |

**CONTACTS**

| | |
|---|---|
| AD | Silver, gold plated |

### OPTIONS

**ACTUATOR COLORS**

| | |
|---|---|
| 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 |

**LED COLORS**

| | |
|---|---|
| Blank | Non-illuminated |
| L0S | Super red |
| L0Y | Yellow |
| L0G | Green |
| L0B | Blue |
| L0W | White |
| LSG | Red/green |
| LYG | Yellow/green |

**BEZEL OPTIONS**

| | |
|---|---|
| X1242 | Reduced bezel, front mounting |
| 234 | Reduced bezel, standard mounting |

## 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.

# IL series

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

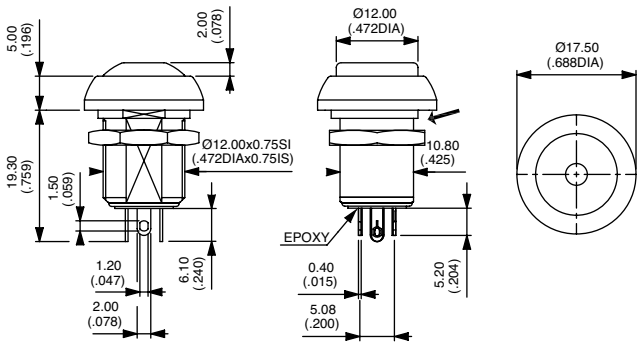
## ILLUMINATED SOLDER LUG TERMINALS

Curved actuator
**ILR3SAD** Normally open

Flat actuator
**ILP3SAD** Normally open

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

→ FLAT

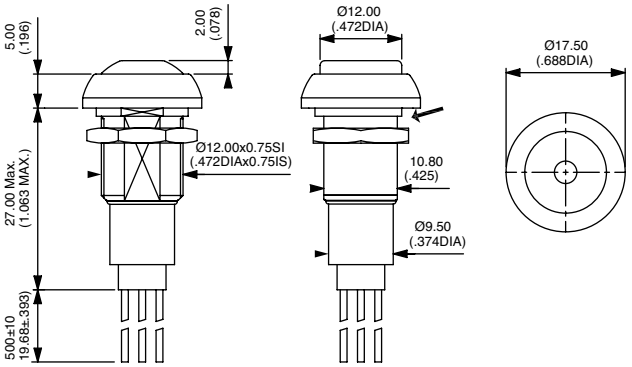



## ILLUMINATED SEALED FLYING LEAD TERMINALS

Curved actuator
**ILR3FAD** Normally open

Flat actuator
**ILP3FAD** Normally open

→ FLAT



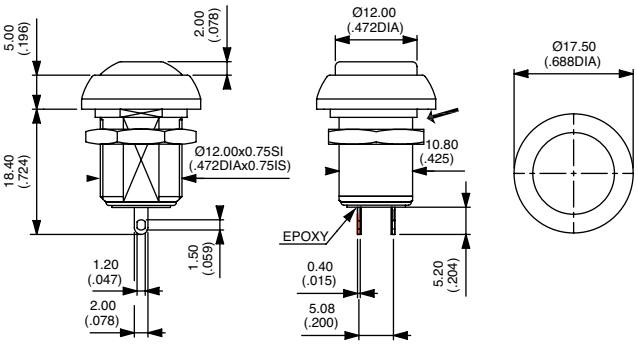

## NON ILLUMINATED SOLDER LUG TERMINALS

Curved actuator
**ILR3SAD** Normally open

Flat actuator
**ILP3SAD** Normally open

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

→ FLAT



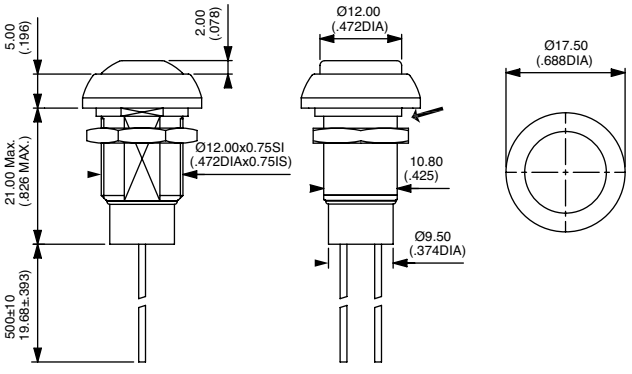

## NON ILLUMINATED FLYING LEAD TERMINALS

Curved actuator
**ILR3FAD** Normally open

Flat actuator
**ILP3FAD** Normally open

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

→ FLAT



# IL series

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

## 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

BASIC P/N

| | | | |
|---|---|---|---|
| **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

BASIC P/N

| | |
|---|---|
| **Blank** | Non-illuminated |
| **L0S** | Super Red |
| **L0Y** | Yellow |
| **L0G** | Green |
| **L0B** | Blue |
| **L0W** | White |
| **LSG** | Red/green |
| **LYG** | Yellow/green |

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001
Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

**Данный компонент на территории Российской Федерации**

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

**Офис по работе с юридическими лицами:**

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:
moschip.ru
moschip.ru_4
moschip.ru_6
moschip.ru_9