

# IR series

Sealed pushbutton switches • bushing Ø 16 mm • momentary • standard version



## DISTINCTIVE FEATURES

- Screw version up to 4 A
- Tactile feedback
- Sealed to IP67
- Illuminated or non-illuminated
- Flat round actuator for optional marking



## 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
- Operating temperature : -40°C to +85°C (-40 °F to +185 °F)



## ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - Gold plated contacts: Code 4 : 200 mA 48 VDC, 500,000 cycles  
Code 7 : 5 A 28 VDC, 70,000 cycles
  - Silver contacts (code 2) - screw terminals : 4 A 48 VDC, 500,000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1 GΩ min. at 500 VDC
- Dielectric strength : 1,500 Vrms



### LED COMPONENT SPECIFICATIONS

LED color	Forward current	Typ. forward voltage	Max. forward voltage
Super red (0S)	20 mA	2.1 V	2.3 V
Yellow (0Y)	20 mA	2.1 V	2.3 V
Green (0G)	20 mA	2.1 V	2.3 V
Blue (0B)	20 mA	3.2 V	3.8 V
White (0W)	20 mA	3.35 V	4.25 V
Red/Green (SG)	20 mA	Red: 1.95 V / green: 2.1 V	2.5 V
Yellow/green (YG)	20 mA	Yellow: 2 V / green: 2.1 V	2.5 V

A resistor must be series-connected by the user.  

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

On flying lead versions, the LED resistor can be integrated by APEM on request.

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## GENERAL SPECIFICATIONS

- Panel thickness : 8 mm (.314) max.
- Total travel : 1.6 mm (.062) ± 0.3 mm
- Typical operating force : 4 N ± 2 N
- Low level or mechanical life : 1,000,000 cycles
- Torque : 0.8 Nm max. applied to nut
- Soldering : 320 °C (608 °F) max. for 3 sec.

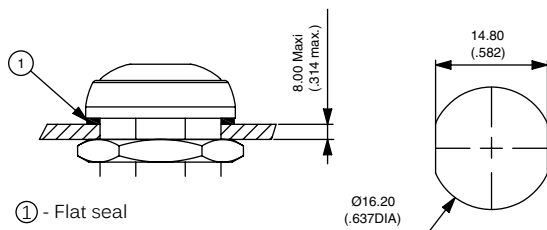
## MATERIALS

- Case : thermoplastic UL94-V0
- Actuator : polyamide 6/6
- Bushing/bezel : polyamide 6/6
- Contacts : 4 and 7 : silver, gold plated  
2 : silver (screw terminals)
- Multi-wire lead AWG20, section 0.6 mm<sup>2</sup>
- LED wire : AWG26, section 0.12 mm<sup>2</sup>
- Lens : polycarbonate
- Terminal seal : epoxy

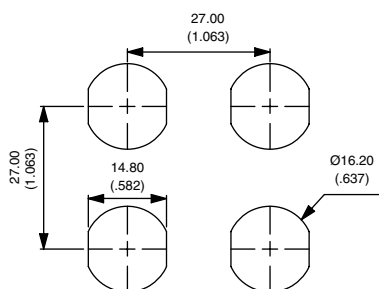
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

## MOUNTING

### PANEL CUT-OUT

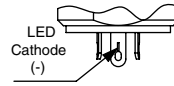


### MATRIX MOUNTING

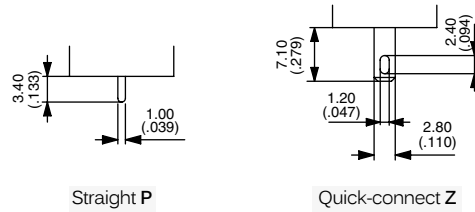


## TERMINALS

### ILLUMINATED MODELS

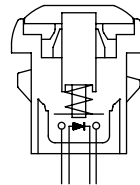


### NON-ILLUMINATED MODELS



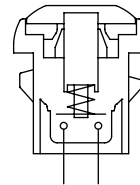
## ELECTRICAL FUNCTIONS

### ILLUMINATED MODELS



Function 3 (NO)

### NON-ILLUMINATED MODELS

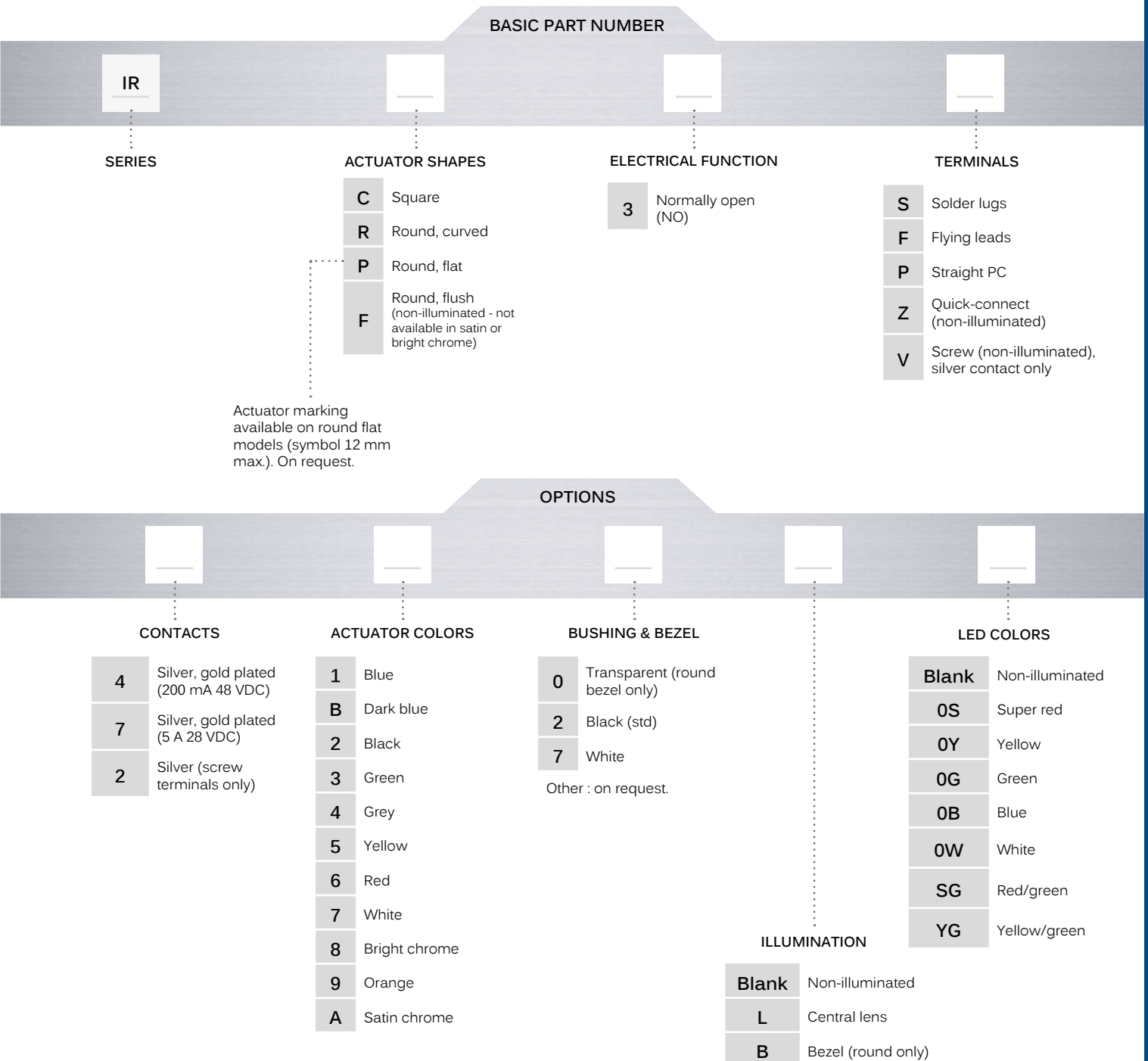


Function 3 (NO)

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## BUILD YOUR PART NUMBER



## ABOUT THIS SERIES

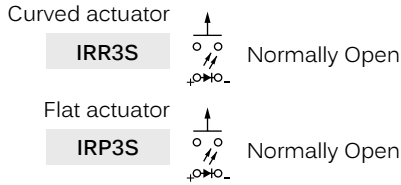
On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

- ⚠ **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 U7125). Round models only. See "Sealing Boot" section of website.
- 🔧 **Mounting accessories** : Standard hardware supplied : 1 hex nut 19 mm (.748) across flats and 1 flat seal. Hex nut P/N U6715.

# IR series

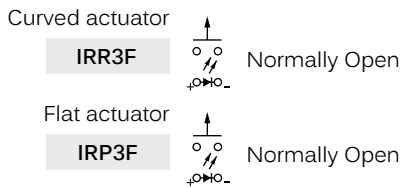
Sealed pushbutton switches • bushing Ø 16 mm • momentary • standard version

## ROUND - ILLUMINATED SOLDER LUG TERMINALS



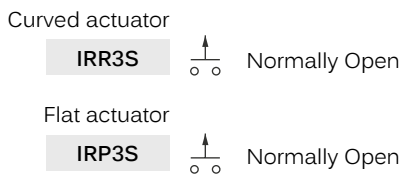
Also available with straight PC terminals : **IR•3P**.  
 LED color is indicated by the bottom of the switch.

## ROUND - ILLUMINATED FLYING LEAD TERMINALS



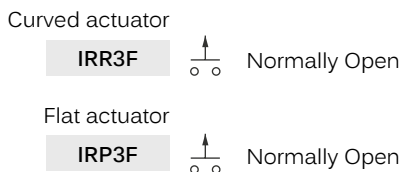
Wire colors : black : NO contact, red : LED anode (+), blue : LED cathode (-)

## ROUND - NON-ILLUMINATED SOLDER LUG TERMINALS

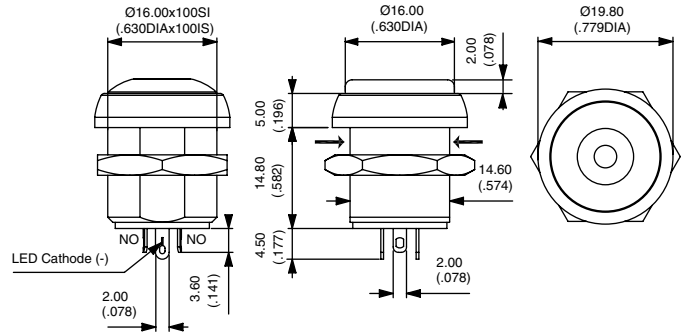


Also available with straight PC terminals : **IR•3P**  
 and quick-connect terminals : **IR•3Z**.

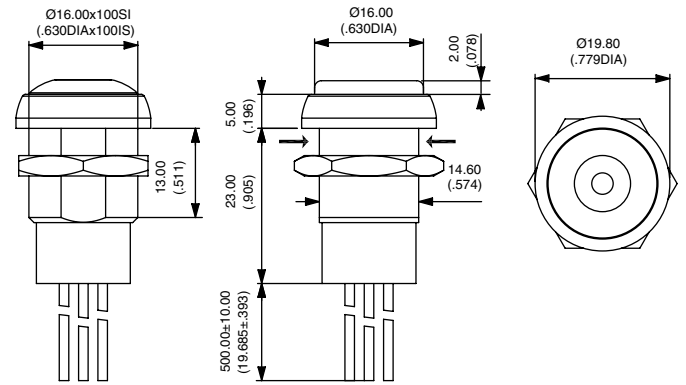
## ROUND - NON-ILLUMINATED FLYING LEAD TERMINALS



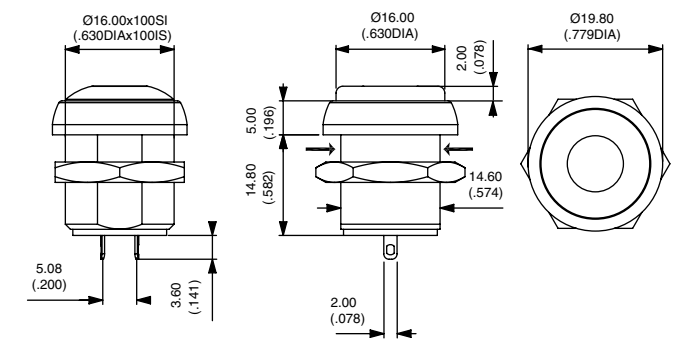
→ FLAT



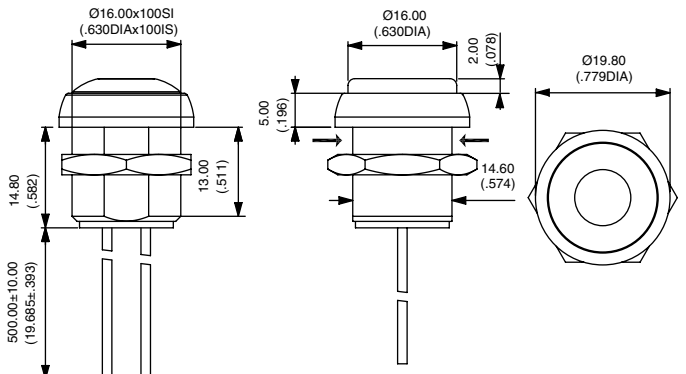
→ FLAT



→ FLAT



→ FLAT



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## ROUND - NON-ILLUMINATED SCREW TERMINALS



Curved actuator

**IRR3V**



Normally Open

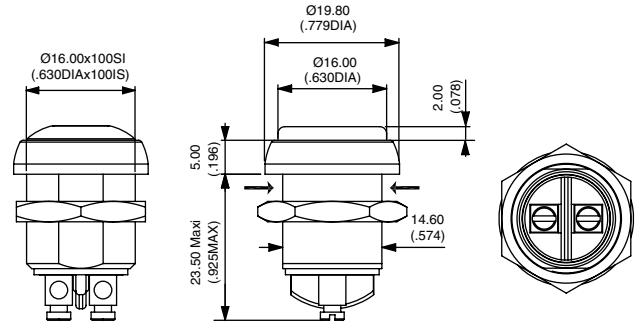
Flat actuator

**IRP3V**



Normally Open

→ FLAT



## SQUARE - ILLUMINATED SOLDER LUG TERMINALS

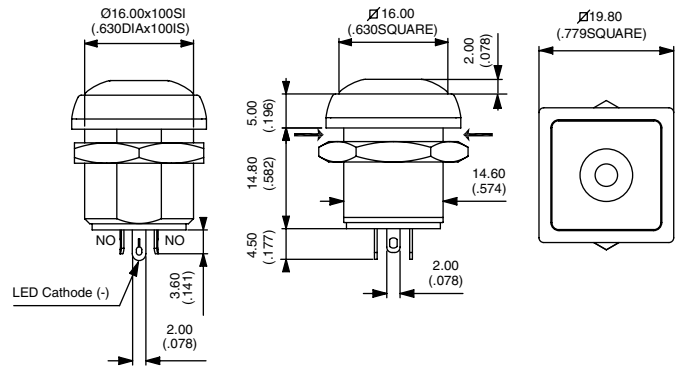


**IRC3S**



Normally Open

→ FLAT



Also available with straight PC terminals : **IRC3P**.  
LED color is indicated by the bottom of the switch.

## SQUARE - ILLUMINATED FLYING LEAD TERMINALS

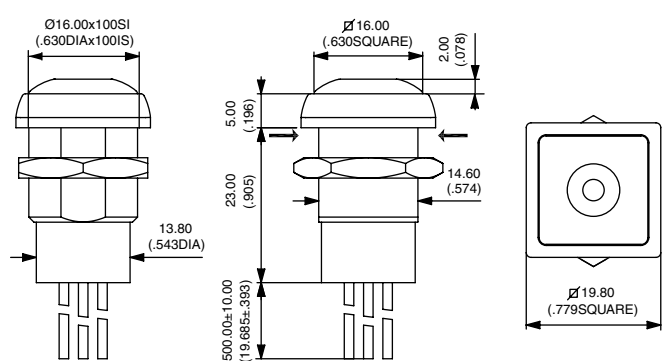


**IRC3F**



Normally Open

→ FLAT



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

## SQUARE - NON-ILLUMINATED SOLDER LUG TERMINALS

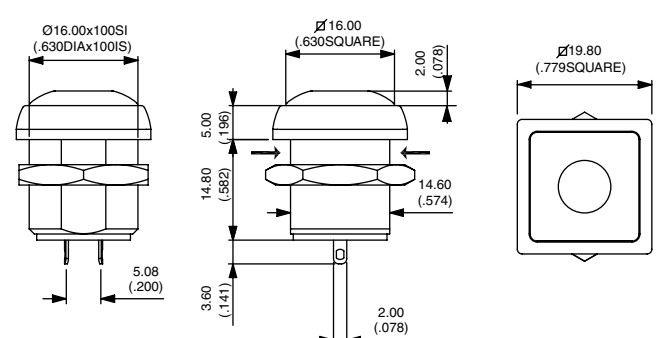


**IRC3S**



Normally Open

→ FLAT



Also available with straight PC terminals : **IRC3P**  
and quick-connect terminals : **IRC3Z**.

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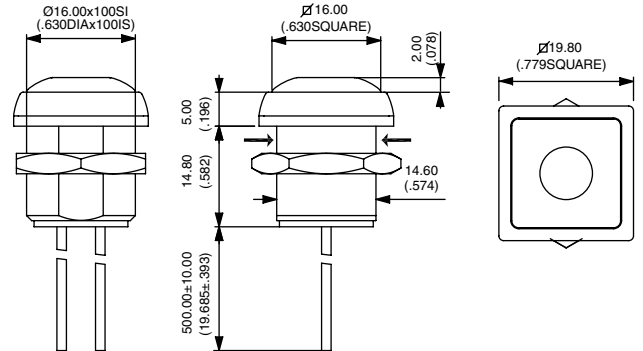
## SQUARE - NON-ILLUMINATED FLYING LEAD TERMINALS



IRC3F

Normally Open

→ FLAT



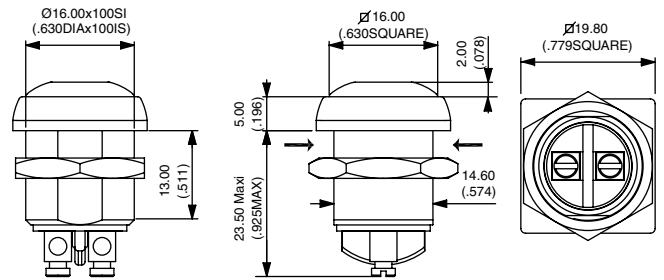
## SQUARE - NON-ILLUMINATED SCREW TERMINALS



IRC3V

Normally Open

→ FLAT



### CONTACTS

BASIC P/N

- 4 Silver, gold plated (200 mA 48 VDC)
- 7 Silver, gold plated (5 A 28 VDC)
- 2 Silver (screw terminals only)

### ACTUATOR COLORS

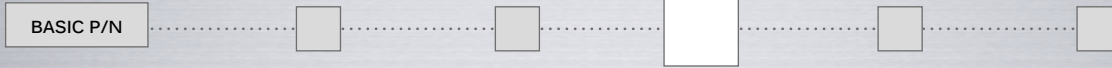
BASIC P/N

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

# IR series

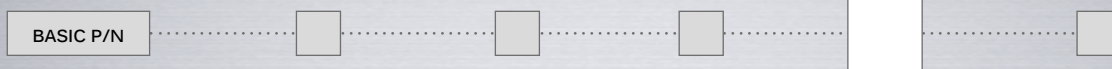
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## BUSHING AND BEZEL



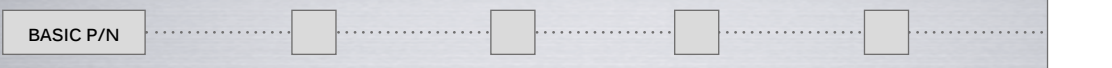
- 2 Black (standard)
- 7 White
- 0 Transparent (round bezel only)

## ILLUMINATION



- L Central lens
- B Bezel (round only)

## LED COLORS



- 0S Super red
- 0Y Yellow
- 0G Green
- 0B Blue
- 0W White
- SG Red/green
- YG Yellow/green