

# IR series

Sealed pushbutton switches •  
bushing Ø 16 mm • latching



## DISTINCTIVE FEATURES

Latching action models

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 : 100 mA 24V DC, 200,000 cycles
  - Code 7 : 4 A 12 VDC, 200,000 cycles
  - 1 A 48 VDC, 200,000 cycles
  - 3 A 48 VDC, 75,000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1 GΩ min. at 500 VDC
- Dielectric strength : 1,500 Vrms between terminals



### LED COMPONENT SPECIFICATIONS

LED color	Forward current	Typ. forward voltage	Max. forward voltage
Super red (0S)	20 mA	1.95 V	1.95 V
Yellow (0Y)	20 mA	2 V	2.05 V
Green (0G)	20 mA	2.1 V	2.5 V
Blue (0B)	20 mA	3.2 V	4 V

A resistor must be series-connected by the user.  
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.

The company reserves the right to change specifications without notice.

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## GENERAL SPECIFICATIONS

- Panel thickness : 8 mm (.314) max.
- Total travel : 2.5 mm (.098) ± 0.3 mm
- Typical operating force : 5 N ± 2 N
- Low level or mechanical life : 200,000 cycles
- Torque : 0.8 Nm max. applied to nut
- Soldering : 320 °C (608 °F) max. for 3 sec.

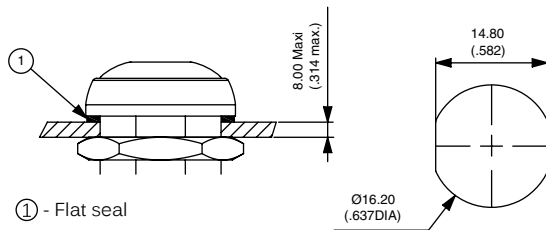
## MATERIALS

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

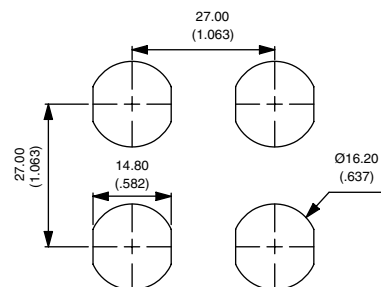
APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

## MOUNTING

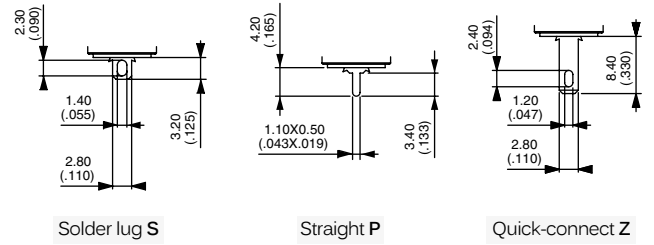
### PANEL CUT-OUT



### MATRIX MOUNTING

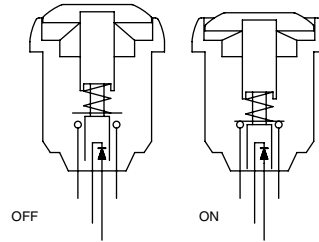


## TERMINALS

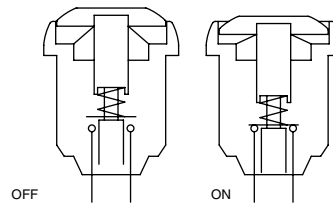


## ELECTRICAL FUNCTIONS

### ILLUMINATED MODELS



### NON-ILLUMINATED MODELS

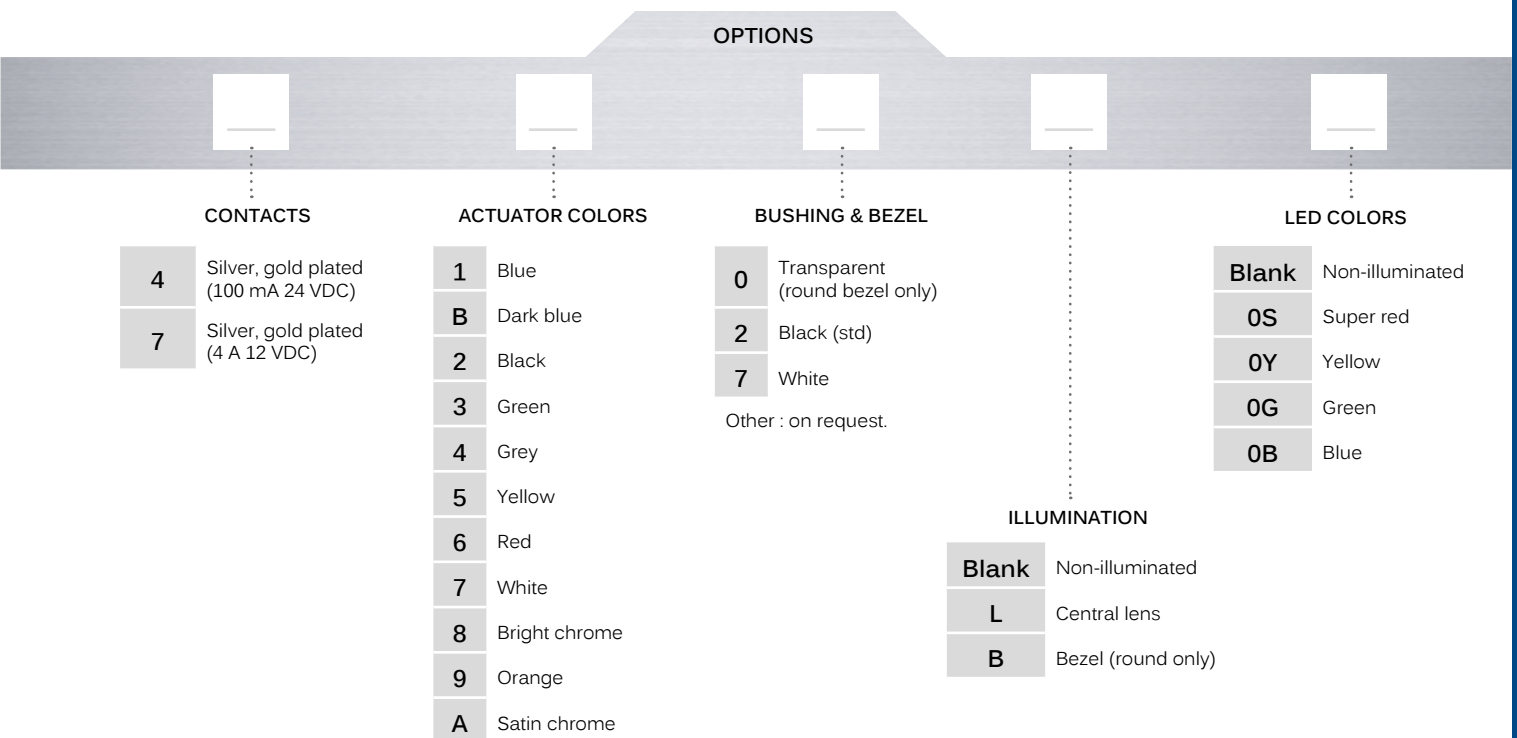
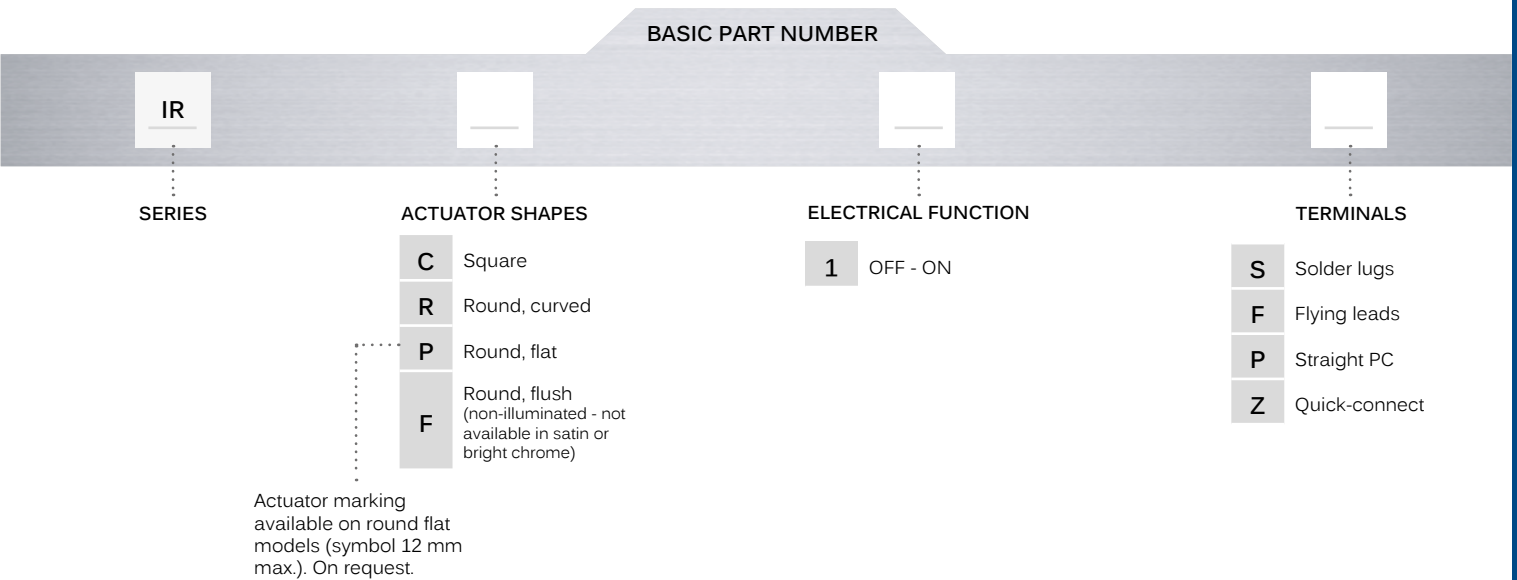


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## BUILD YOUR PART NUMBER



## 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 Boots" 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.

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## ROUND - ILLUMINATED SOLDER LUG TERMINALS



- Curved actuator
  - IRR1S** OFF - ON
- Flat actuator
  - IRP1S** OFF - ON

Also available with straight PC terminals : **IR•1P**  
& quick-connect terminals : **IR•1Z**.

## ROUND - ILLUMINATED FLYING LEAD TERMINALS



- Curved actuator
  - IRR1F** OFF - ON
- Flat actuator
  - IRP1F** OFF - ON

Wire colors : black : contact, red : LED anode (+), blue : LED cathode (-)

## ROUND - NON-ILLUMINATED SOLDER LUG TERMINALS



- Curved actuator
  - IRR1S** OFF - ON
- Flat actuator
  - IRP1S** OFF - ON

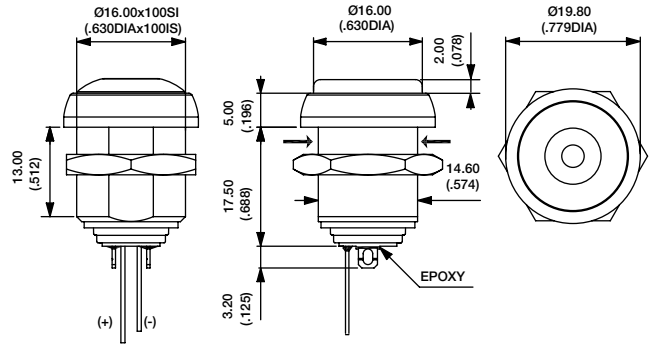
Also available with straight PC terminals : **IR•1P**  
& quick-connect terminals : **IR•1Z**.

## ROUND - NON-ILLUMINATED FLYING LEAD TERMINALS

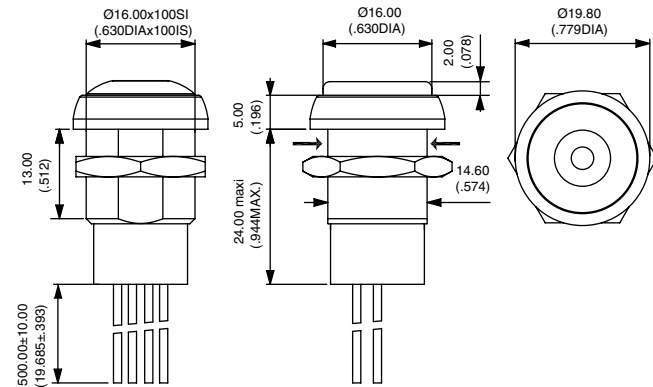


- Curved actuator
  - IRR1F** OFF - ON
- Flat actuator
  - IRP1F** OFF - ON

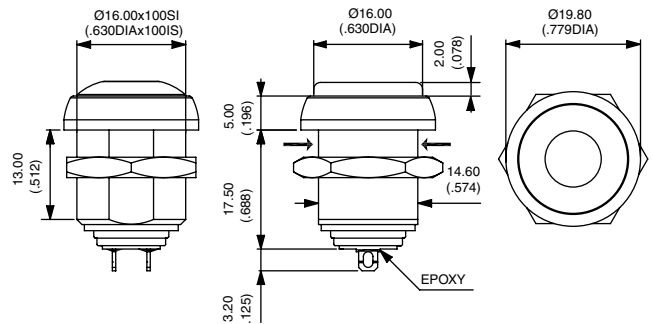
→ FLAT



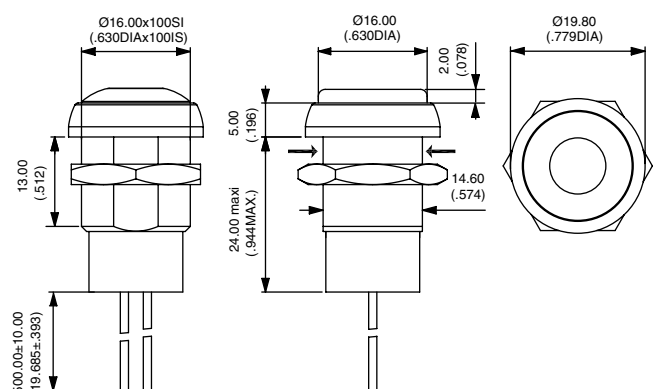
→ FLAT



→ FLAT



→ FLAT



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## SQUARE - ILLUMINATED SOLDER LUG TERMINALS



Curved actuator  
**IRC1S** OFF - ON

Also available with straight PC terminals : **IR•1P**  
& quick-connect terminals : **IR•1Z**.

## SQUARE - ILLUMINATED FLYING LEAD TERMINALS



Curved actuator  
**IRC1F** OFF - ON

Wire colors : black : contact, red : LED anode(+), blue : LED cathode (-)

## SQUARE - NON-ILLUMINATED SOLDER LUG TERMINALS



Curved actuator  
**IRC1S** OFF - ON

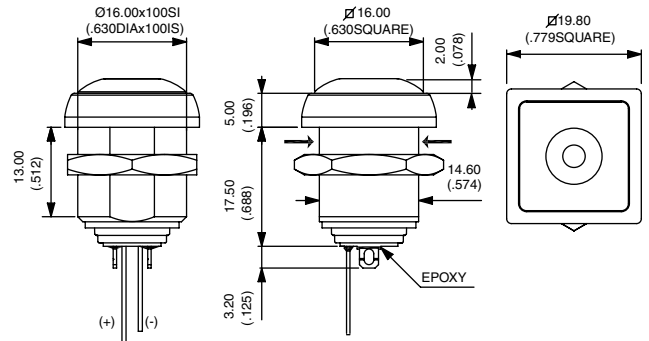
Also available with straight PC terminals : **IRC1P4**  
& quick-connect terminals : **IRC1Z4**.

## SQUARE - NON-ILLUMINATED FLYING LEAD TERMINALS

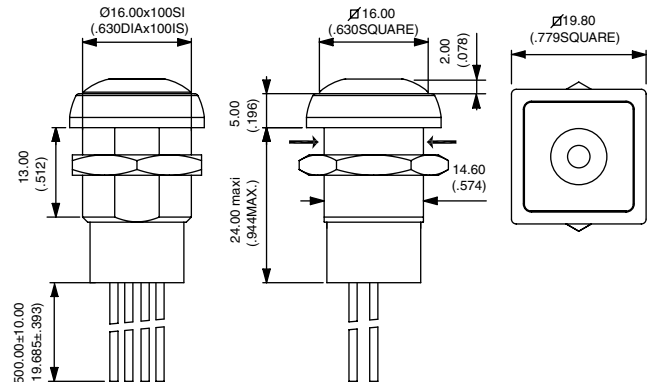


Curved actuator  
**IRC1F** OFF - ON

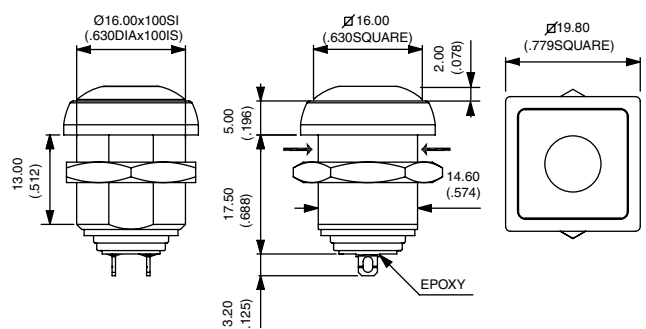
→ FLAT



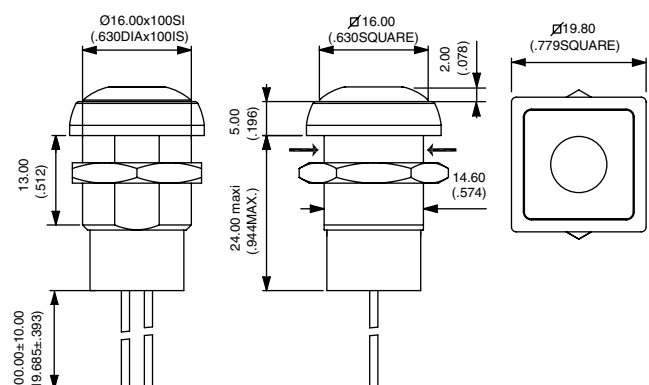
→ FLAT



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## ACTUATOR COLORS



- 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

## BUSHING AND BEZEL



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

## ILLUMINATION



- Blank Non-illuminated
- L Central lens
- B Bezel (round only)

## LED COLORS



- Blank Non-illuminated
- 05 Super red
- 0Y Yellow
- 0G Green
- 0B Blue