Rear mounted sealed pushbutton switches - bushing Ø 16 mm - metal - momentary

Distinctive features and specifications



- ☐ Rear mounting for easier installation
- Momentary metal models
- ☐ Fixed or variable panel thickness
- □ Screw version available up to 4A
- ☐ Sealed to IP67
- Illuminated or non-illuminated
- ☐ Flat 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

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
- Gold plated silver contacts (code 4): 200mA 48VDC
- Silver contacts (code 2) screw terminals : 4A 48VDC
- Electrical life at full load: 500.000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance: 1 GΩ min. at 500VDC
- Dielectric strength: 1.000 Vrms 50 Hz

LED COMPONENT SPECIFICATIONS					
LED colour	Forward current	Typ. forward voltage	Max. forward voltage		
Super red (LOS)	20mA	2,1V	2,3V		
Yellow (LOY)	20mA	2,1V	2,3V		
Green (LOG)	20mA	2,1V	2,3V		
Blue (LOB)	20mA	3,2V	3,8V		
White (LOW)	20mA	3,35V	4,25V		

A resistor must be series-connected by the user. Resistor value = <u>supply voltage - LED forward voltage</u>

LED forward current

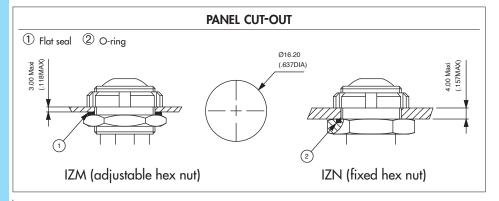
On flying lead versions, the LED resistor can be integrated by APEM on request.

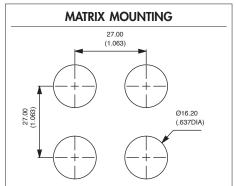
GENERAL SPECIFICATIONS

- Panel thickness :
 - IZM : 3 mm (.118) max.
- IZN : 4 mm (.157) max.
- Total travel : 1,8 mm (.070) +/- 0,3 mm
- Typical operating force: 6N +/- 2N
- Low level or mechanical life : 1.000.000 cycles
- Torque : IZN : 1 Nm max.
 - IZM: 0,7 Nm max. applied to nut
- Soldering: 320°C max. for 3 sec.

MATERIALS

- Case: thermoplastic UL94-V0
- Plunger : polyamide
- Bushing/bezel : brass, nickel plated
- Contacts :
 - 4 : silver, gold plated
- 2 : silver (screw terminals)
- Multi-wire lead AWG20, section 0,6 mm²
- LED wire: AWG26, section 0,12 mm²
 Lens: polycarbonate
- Terminal seal : epoxy (except
 - screw terminals)

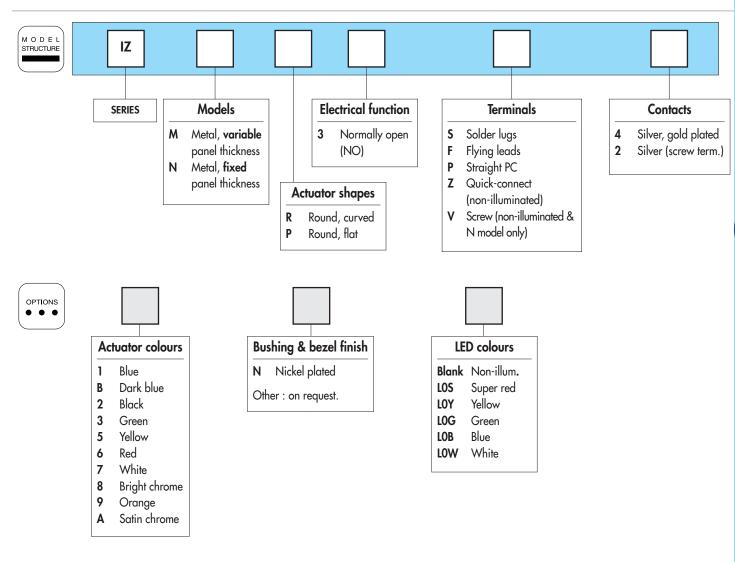






Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - metal - momentary

Overview



ABOUT THIS SERIES

On the following pages, you will find successively: model structure of switches and options in the same order as in above chart

Dimensions: first dimensions are in mm while inches are shown as bracketed numbers.



NOTICE: please note that not all combinations of above numbers are available. Refer to the following pages for further information.



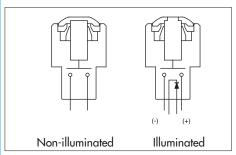
Mounting accessories: Standard hardware supplied:

- IZM: 1 castellated nickel plated brass nut U6915 + 1 silicone flat seal + 1 hex nut 19 mm (.748) across flats U4116.
- IZN: 1 castellated nickel plated brass nut U6915 + 1 O-ring

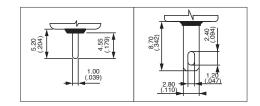


Rear mounted sealed pushbutton switches - bushing Ø 16 mm - metal - momentary

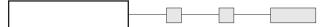
For variable panel thickness: IZM



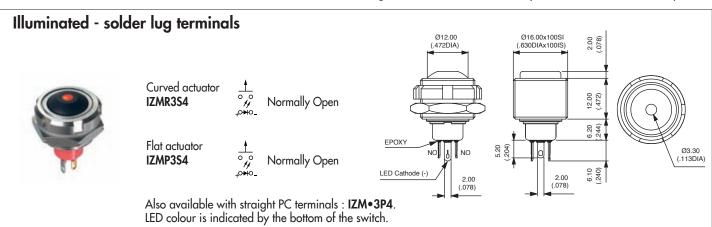
- Five LED colours
- Tin plated LED terminals
- Gold plated contacts

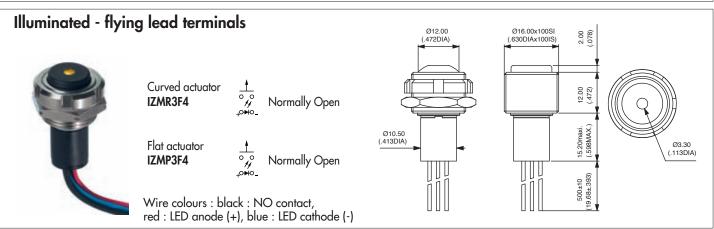


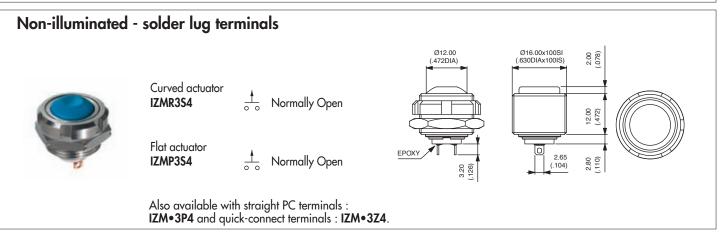
MODEL STRUCTURE



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

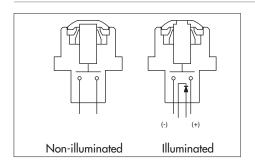




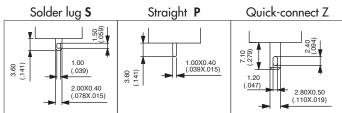


Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - metal - momentary

For fixed panel thickness: IZN



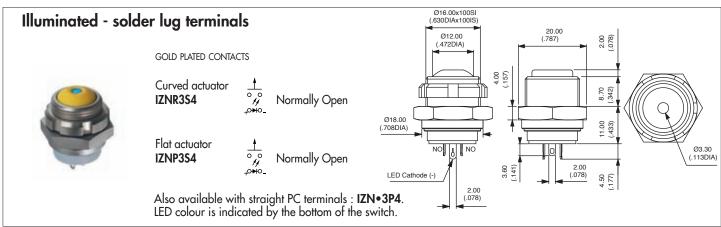
- Five LED colours
- Tin plated LED terminals

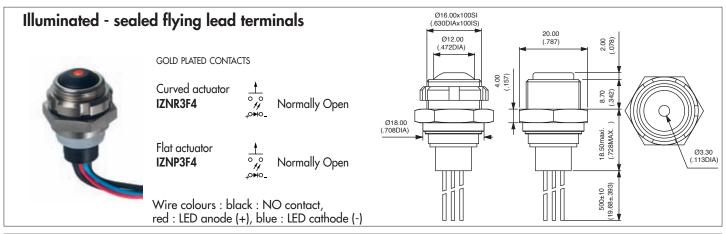


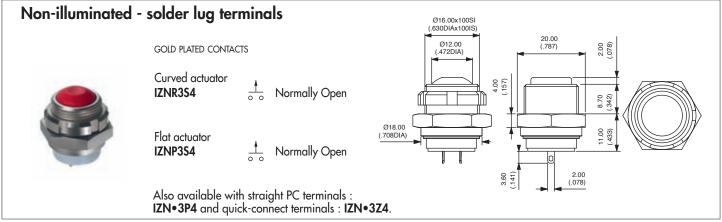




Actuator marking available on IZNP models (symbol 10 mm max.). On request.

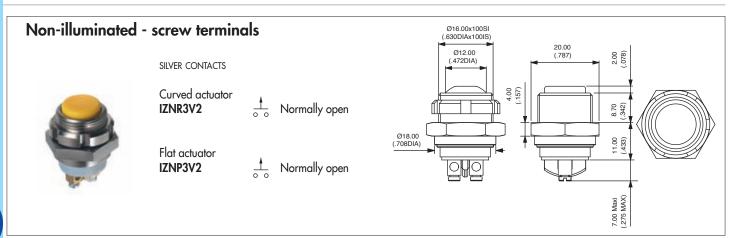






Rear mounted sealed pushbutton switches - bushing Ø 16 mm - metal - momentary

For fixed panel thickness: IZN - options



ACTUATOR COLOURS



1 : blue - B : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7 : white - 8 : bright chrome - 9 : orange A : satin chrome

BUSHING AND BEZEL COLOURS



N : nickel plated (standard) Other : on request.

LED COLOURS



Blank: non-illuminated

LOS: super red - LOY: yellow - LOG: green

LOB: blue - LOW: white



Rear mounted sealed pushbutton switches - bushing Ø 16 mm - metal - latching

Distinctive features and specifications



- Rear mounting for easier installation
- Latching action metal models
- ☐ Fixed or variable panel thickness
- ☐ Sealed to IP67
- ☐ Illuminated or non-illuminated
- ☐ Flat 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
- Robustness (non-illuminated): IKO6 according to EN 50102 (1 joule)
- Operating temperature : -40°C to +85°C

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 100mA 24VDC - 200.000 cycles
- Initial contact resistance : $100 \text{ m}\Omega$ max.
- Insulation resistance : 1 $G\Omega$ min. at 500VDC
- Dielectric strength: 1.500 Vrms between terminals

1.000 Vrms between terminals and frame

LED COMPONENT SPECIFICATIONS					
LED colour	Forward current	Typ. forward voltage	Max. forward voltage		
Super red (LOS)	20mA	1,95V	1,95V		
Yellow (LOY)	20mA	2V	2,05V		
Green (L0G)	20mA	2,1V	2,5V		
Blue (LOB)	20mA	3,2V	4V		

A resistor must be series-connected by the user. Resistor value = <u>supply voltage - LED forward voltage</u> LED forward current

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

GENERAL SPECIFICATIONS

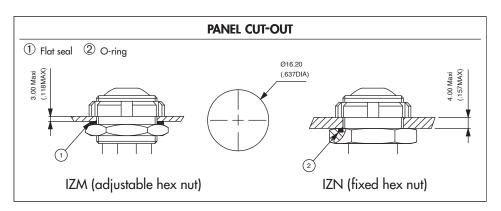
Panel thickness:

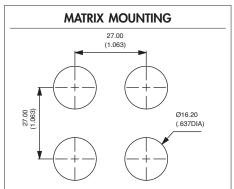
- IZM : 3 mm (.118) max. - IZN : 4 mm (.157) max.

- Total travel : 2,5 mm (.098) +/-0,3 mm
- Typical operating force: 5N +/- 2N
 Low level or mechanical life:
- 200.000 cycles
- Torque : IZŃ : 1 Nm max.
- IZM: 0,7 Nm max. applied to nut
- Soldering: 320°C max. for 3 sec.

MATERIALS

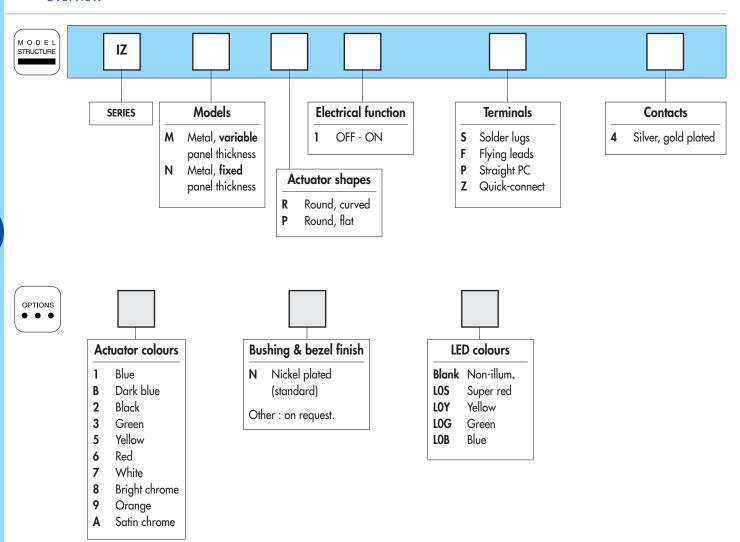
- Case: thermoplastic UL94-V0
- Plunger : polyamide
- Bushing/bezel : brass, nickel plated
- Contacts: silver, gold plated
- Multi-wire lead AWG20, section 0,6 mm²
- LED wire: AWG26, section 0,12 mm²
 • Lens : polycarbonate
- Terminal seal : epoxy





Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - metal - latching

Overview



ABOUT THIS SERIES

On the following pages, you will find successively: model structure of switches and options in the same order as in above chart

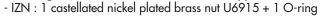
Dimensions: first dimensions are in mm while inches are shown as bracketed numbers.



NOTICE: please note that not all combinations of above numbers are available. Refer to the following pages for further information.



Mounting accessories: Standard hardware supplied:

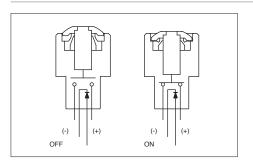


- IZM: 1 castellated nickel plated brass nut U6915 + 1 silicone flat seal + 1 hex nut 19 mm (.748) across flats U4116.

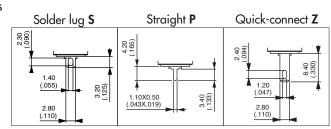


Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - metal - latching

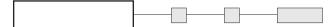
For variable panel thickness : IZM



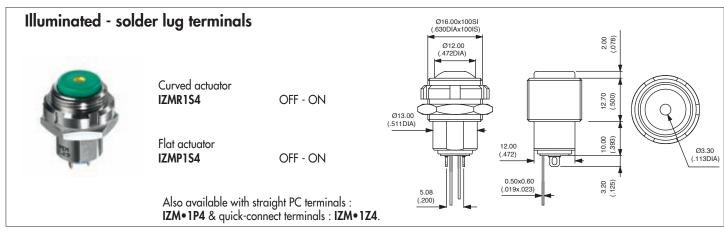
- Four LED colours
- Tin plated LED terminals
- Gold plated contacts

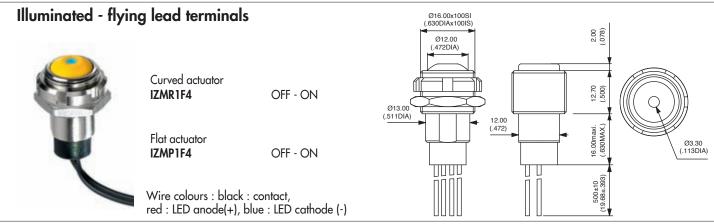


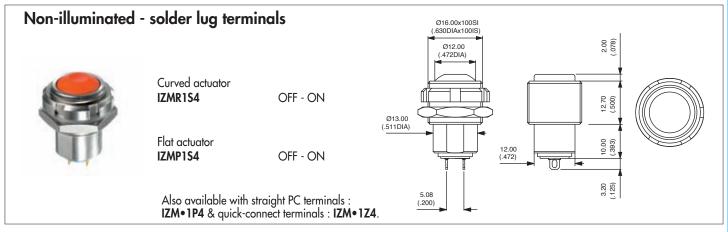
MODEL STRUCTURE



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

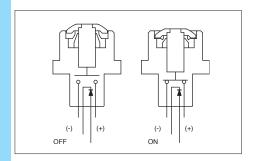




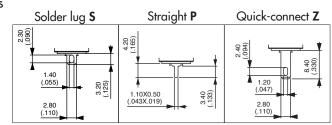


Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - metal - latching

For fixed panel thickness: IZN



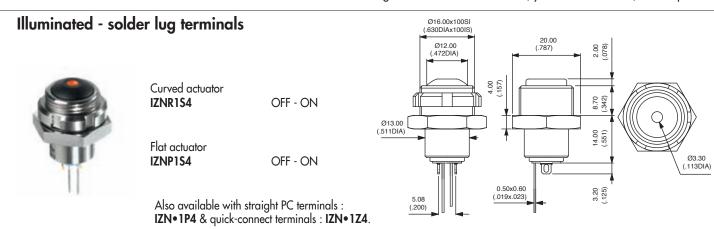
- Four LED colours
- Tin plated LED terminals
- Gold plated contacts

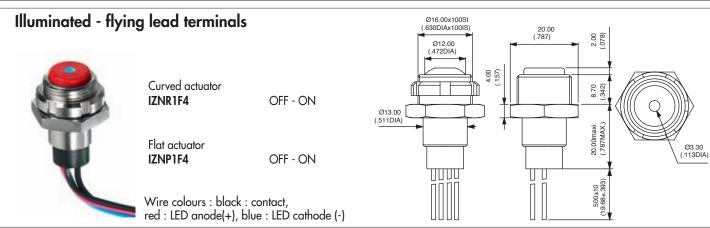


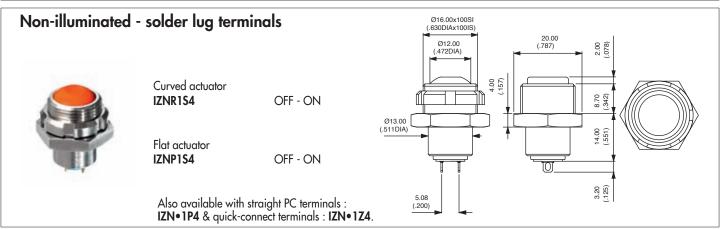
MODEL STRUCTURE



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









Rear mounted sealed pushbutton switches - bushing Ø 16 mm - metal - latching

Options

ACTUATOR COLOURS



1 : blue - B : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7 : white - 8 : bright chrome - 9 : orange

A: satin chrome

BUSHING AND BEZEL COLOURS



N: nickel plated (standard)

Other: on request.

LED COLOURS



Blank: non-illuminated

LOS: super red - LOY: yellow - LOG: green LOB: blue

Rear mounted sealed pushbutton switches - bushing Ø 16 mm - momentary

Distinctive features and specifications



- Rear mounting for easier installation
- Momentary models
- Screw version available up to 4A
- ☐ Sealed to IP67
- ☐ Illuminated or non-illuminated
- ☐ Flat 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

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
- Gold plated silver contacts (code 4): 200mA 48VDC
- Silver contacts (code 2) screw terminals : 4A 48VDC
- Electrical life at full load : 500.000 cycles
- Initial contact resistance : 100 mΩ max.
- Insulation resistance : 1 G Ω min. at 500VDC
- Dielectric strength: 1.000 Vrms 50 Hz

LED COMPONENT SPECIFICATIONS				
LED colour	Forward current	Typ. forward voltage	Max. forward voltage	
Super red (LOS)	20mA	2,1V	2,3V	
Yellow (LOY)	20mA	2,1V	2,3V	
Green (L0G)	20mA	2,1V	2,3V	
Blue (LOB)	20mA	3,2V	3,8V	
White (LOW)	20mA	3,35V	4,25V	

A resistor must be series-connected by the user. Resistor value = <u>supply voltage - LED forward voltage</u>

LED forward current

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

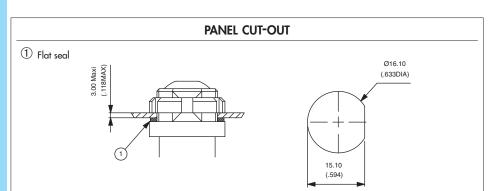
GENERAL SPECIFICATIONS

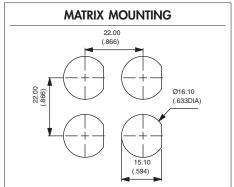
- Panel thickness: 3 mm (.118) max.
- Total travel : 1,8 mm (.070) +/- 0,3 mm
- Typical operating force: 6N +/- 2N
- Low level or mechanical life : 1.000.000 cycles
- Torque: 0,7 Nm max. applied to nut
- Soldering: 320°C max. for 3 sec.

MATERIALS

- Case: thermoplastic UL94-V0
- Plunger : polyamide
- Bushing/bezel : polyamide
- Contacts :
 - 4 : silver, gold plated
 - 2 : silver (screw terminals)
- Multi-wire lead AWG20, section 0,6 mm²
- LED wire: AWG26,
- section 0,12 mm²
 Lens : polycarbonate
- Terminal seal : epoxy (except

screw terminals)

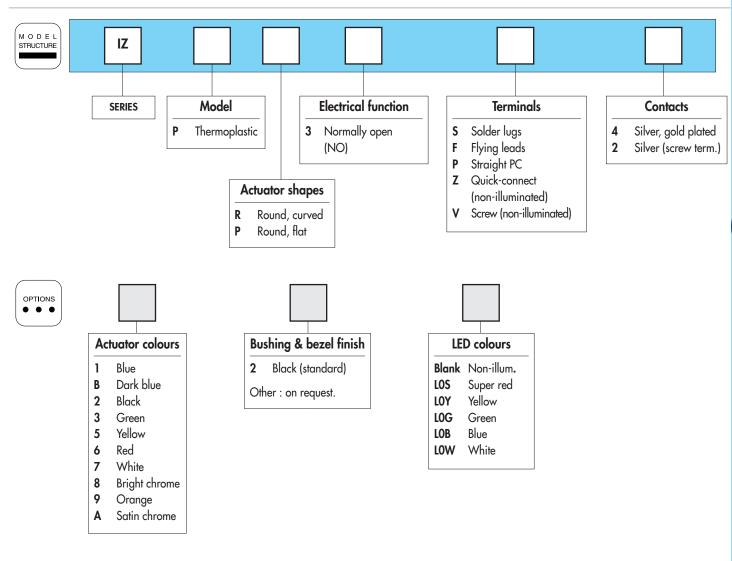






Rear mounted sealed pushbutton switches - bushing Ø 16 mm - momentary

Overview



ABOUT THIS SERIES

On the following pages, you will find successively: model structure of switches and options in the same order as in above chart

Dimensions: first dimensions are in mm while inches are shown as bracketed numbers.



NOTICE: please note that not all combinations of above numbers are available. Refer to the following pages for further information.

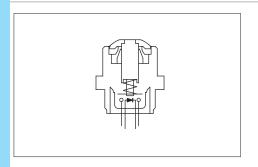


Mounting accessories: Standard hardware supplied: 1 castellated black plastic nut U4249 and 1 silicone flat seal.

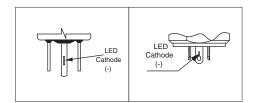


Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - momentary

Illuminated



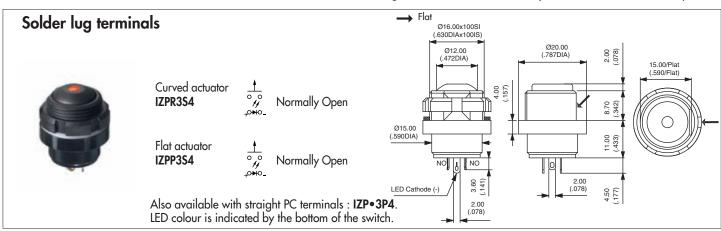
- Five LED colours
- Tin plated LED terminals
- Gold plated contacts

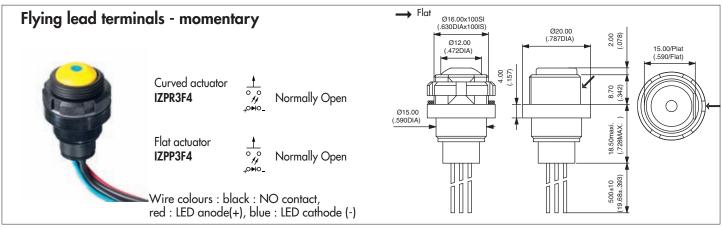


MODEL STRUCTURE

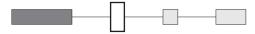


Actuator marking available on IZPP models (symbol 10 mm max.). On request.



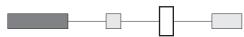


ACTUATOR COLOURS



1 : blue - B : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7 : white - 8 : bright chrome - 9 : orange A : satin chrome

BUSHING AND BEZEL COLOURS



2 : black (standard) Other : on request.

LED COLOURS

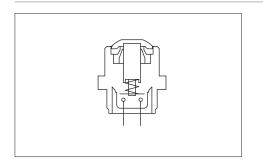


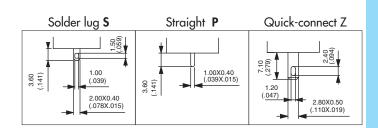
LOS: super red - LOY: yellow - LOG: green

LOB: blue - LOW: white

Rear mounted sealed pushbutton switches - bushing Ø 16 mm - momentary

Non-illuminated

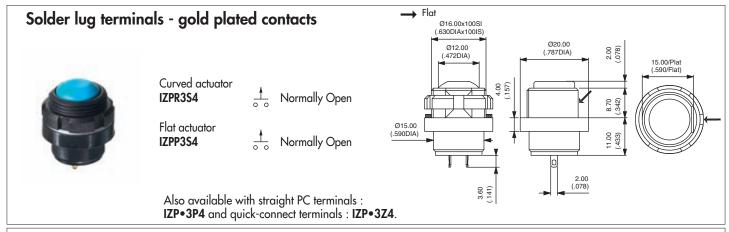


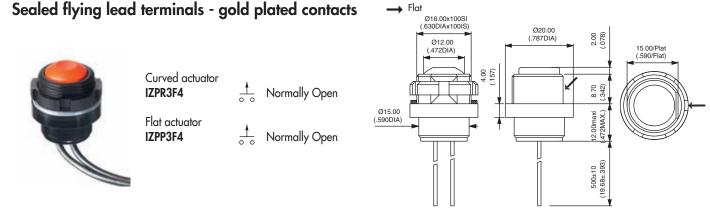


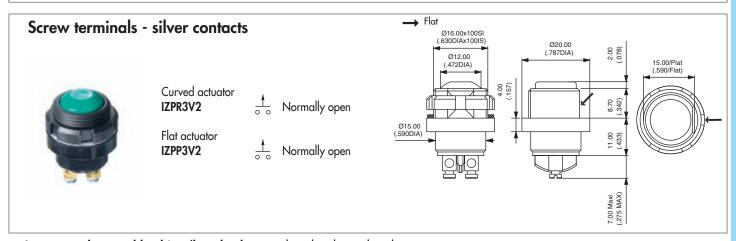
MODEL STRUCTURE



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







Actuator colour and bushing/bezel colour: select the desired codes on previous page.

Rear mounted sealed pushbutton switches - bushing Ø 16 mm - latching

Distinctive features and specifications



- ☐ Rear mounting for easier installation
- Latching action models
- □ Sealed to IP67
- Illuminated or non-illuminated
- ☐ Flat 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

ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 100mA 24VDC - 200.000 cycles
- Initial contact resistance : $100 \text{ m}\Omega$ max.
- Insulation resistance : 1 $G\Omega$ min. at 500VDC
- Dielectric strength: 1.500 Vrms between terminals

LED COMPONENT SPECIFICATIONS					
LED colour	Forward current	Typ. forward voltage	Max. forward voltage		
Super red (LOS)	20mA	1,95V	1,95V		
Yellow (LOY)	20mA	2V	2,05V		
Green (L0G)	20mA	2,1V	2,5V		
Blue (LOB)	20mA	3,2V	4V		

A resistor must be series-connected by the user. Resistor value = <u>supply voltage - LED forward voltage</u>

LED forward current

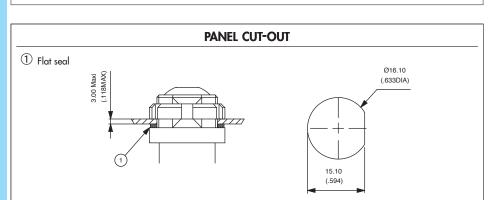
On flying lead versions, the LED resistor can be integrated by APEM on request.

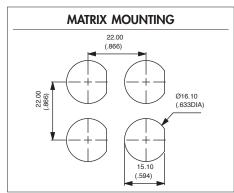
GENERAL SPECIFICATIONS

- Panel thickness: 3 mm (.118) max.
- Total travel : 2,5 mm (.098) +/- 0,3 mm
- Typical operating force: 5N +/- 2N
- Low level or mechanical life :
- 200.000 cycles
 Torque : 0,7 Nm max. applied to nut
- Soldering: 320°C max. for 3 sec.

MATERIALS

- Case: thermoplastic UL94-V0
- Plunger : polyamide
- Bushing/bezel : polyamide
- Contacts: silver, gold plated
- Multi-wire lead AWG20, section 0,6 mm²
- LED wire: AWG26, section 0,12 mm²
- Lens : polycarbonate
- Terminal seal : epoxy



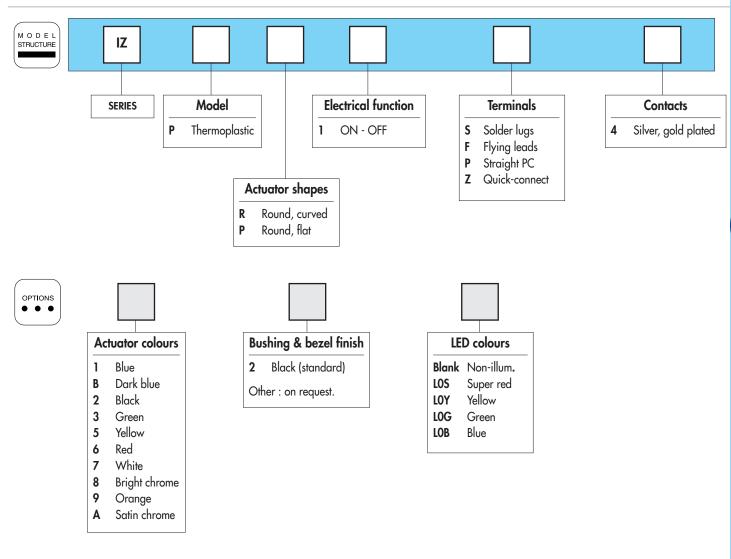


B1-62 **APEM** www.apem.com



Rear mounted sealed pushbutton switches - bushing \emptyset 16 mm - latching

Distinctive features and specifications



ABOUT THIS SERIES

On the following pages, you will find successively: model structure of switches and options in the same order as in above chart

Dimensions: first dimensions are in mm while inches are shown as bracketed numbers.



NOTICE: please note that not all combinations of above numbers are available. Refer to the following pages for further information.

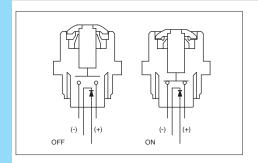


Mounting accessories: Standard hardware supplied: 1 castellated black plastic nut U4249 and 1 silicone flat seal.

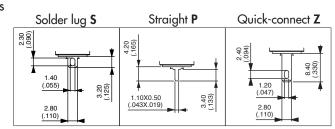


Rear mounted sealed pushbutton switches - bushing Ø 16 mm - latching

Illuminated



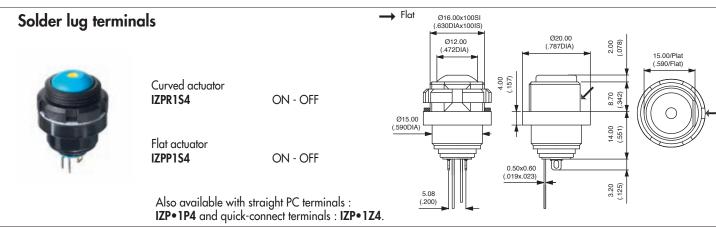
- Four LED colours
- Tin plated LED terminals
- Gold plated contacts

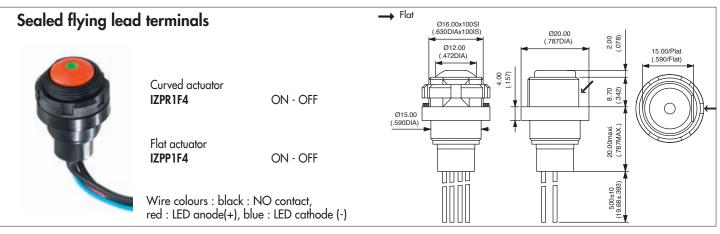


MODEL STRUCTURE

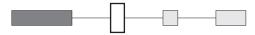


Actuator marking available on IZPP models (symbol 10 mm max.). On request.



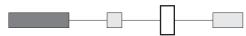


ACTUATOR COLOURS



1 : blue - B : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7 : white - 8 : bright chrome - 9 : orange A : satin chrome

BUSHING AND BEZEL COLOURS



2 : black (standard) Other : on request.

LED COLOURS



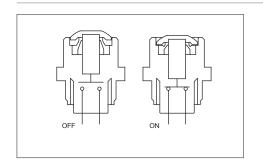
LOS: super red - LOY: yellow - LOG: green

LOB : blue

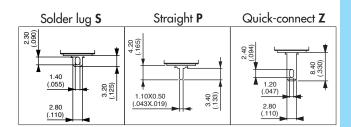


Rear mounted sealed pushbutton switches - bushing Ø 16 mm - latching

Non-illuminated



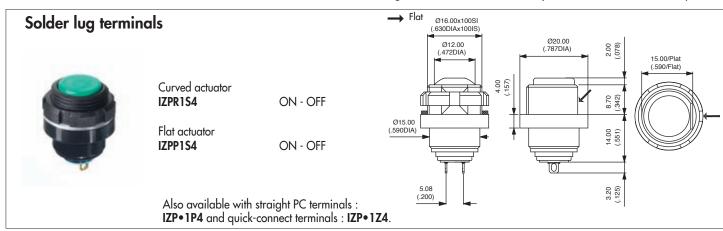
Gold plated contacts

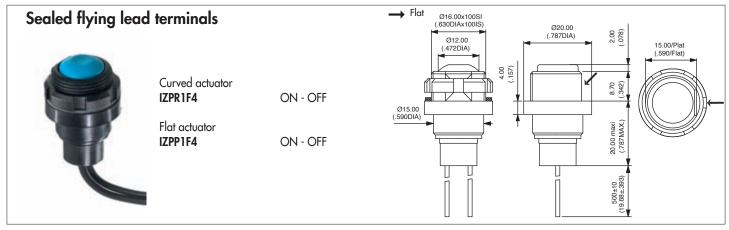






Actuator marking available on IZPP models (symbol 10 mm max.). On request.





ACTUATOR COLOURS



1 : blue - B : dark blue - 2 : black - 3 : green - 5 : yellow - 6 : red - 7 : white - 8 : bright chrome - 9 : orange A : satin chrome

BUSHING AND BEZEL COLOURS



2 : black (standard) Other : on request.