

# Piezo Switch

Leaders in engineering,  
innovation and quality

SOCOJE brings  
piezo technology to  
perfection



- Shower
- Bath
- Marine
- Yacht controls
- Railway
- Industrial controls
- Electromedicine
- Access control
- Car wash device
- Bike system
- Parking



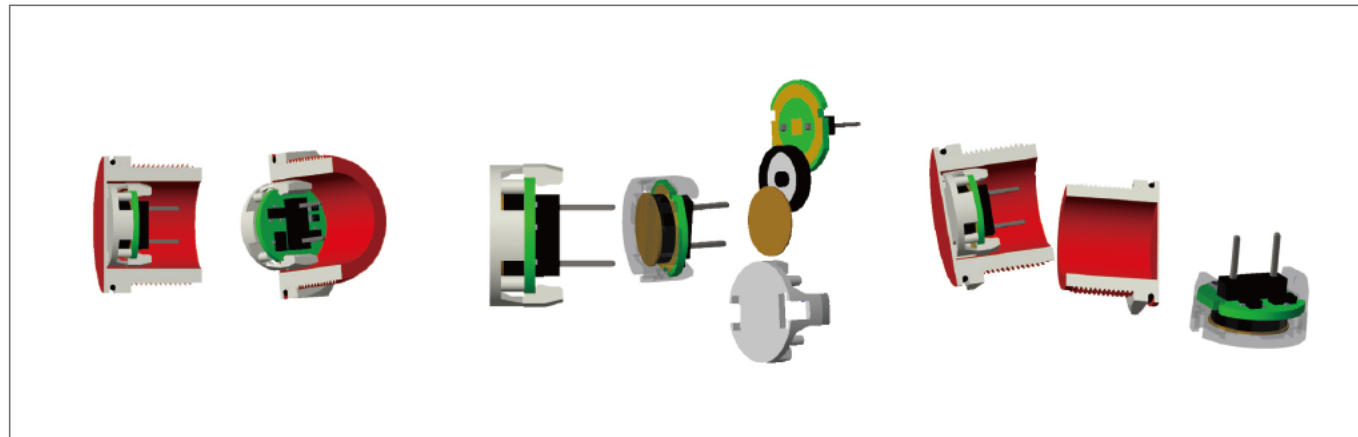


# Piezo Switch

## Technology

### The LSOCOJE VPM (Versatile Piezo Module)

The principle behind the SOCOJE Piezo technology is the assembly of all the necessary components into a single unit (the Module) which eliminates the need to handle multiple components for every single Push Point Manufactured.



The VPM is a solid state (no moving parts), stand alone module which may be easily arranged in any configuration by simply clicking it in to the housing. The VPM also features a few significant advantages:

### No Soldering No Adhesive

Unlike other common Piezo electric technologies, the VPM is a mechanically assembled structure. It features a very stable structure unaffected by extreme temperature fluctuations and not prone to deterioration of components.

No adhesive is used in the assembly process and there is no need for soldering wires directly to the sensitive Piezo ceramic.

Dependency on employee skills and workmanship is greatly reduced and the module, placed behind a 0.6mm thick metal membrane, is extremely durable and reliable.

## Specifications

### Distinctive Features

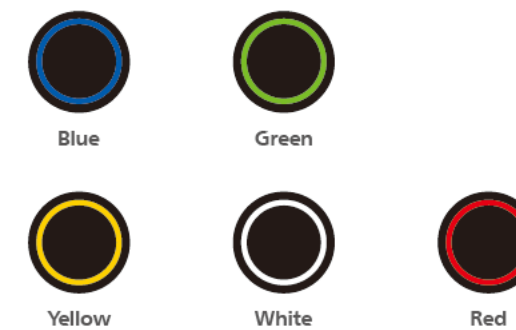
- Bushing diameter: 16 (.630), 19 (.748), 22 (.866) or 30 mm (1.181)
- Sealed to IP68 and IP69K (switches mounted on panel)
- Easy to clean metal surface
- Very long life expectancy
- Illumination or Non-illumination

### Materials

- Case: aluminum, anodized or stainless steel 316L
- Multi-wire leads section 0.22mm<sup>2</sup> length 300mm, twisted by pair
- Case, length 300mm, section depending on switch model
- PC terminals : bronze, tin plated

Note : to maintain the ESD performance, always add a ground washer when the panel is made of non-conductive material (PVC, polycarbonate).

### Color



### General Specifications

- Operating force: 2 to 6 N
- Torque : 2.5 Nm min. -3 Nm max.

### Environmental Specifications

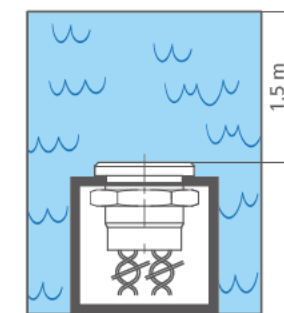
- Sealing: IP68 per IEC 60529, IP69K per DIN 40050-9 (switches mounted on panel)
- Vibration resistance : 10-500 Hz / 10 g per IEC 60068-2-6
- Operating temperature : -40°C to +75°C (-40°F to +167°F)
- EMC compatibility according to EN 61058-1 for the whole range
- EMC compatibility according to EN 61000-4 & EN61000-6-2 for 1A

### Electrical Specifications

- Max. current / voltage rating with resistive load:
  - Function NO : standard 200 mA 24 VAC / DC, 1 A 24 VAC / DC or request
  - Function NC : standard max. 600 mA 24 VAC / DC
- Switch resistance ON : 10Ω max.
- Switch resistance OFF : 5MΩ max.
- Life expectancy : 50 million cycles
- LED consumption: illuminated dot 10mA - illuminated ring 20mA

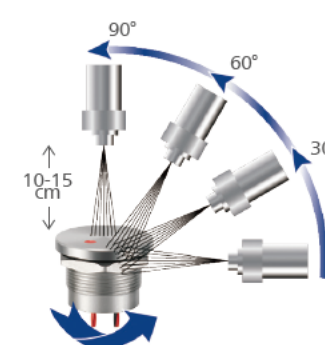
### Sealing

#### SEALING IP68



Continuous immersion in water  
IP68 test conditions  
Continuous immersion in water (1.5m, 24 hours)

#### SEALING IP69K



High pressure, high temperature wash down IP69K test conditions

- Pressure : 80-120 bars
- Distance : 15cm
- Temperature : 80°C ± 5°C (176°F ± 41°F)
- Flow : 14-16 l/mn
- Duration : 30 seconds per position

## Specifications



### Electrical Functions

**FINGER PRESSURE applied to switch**

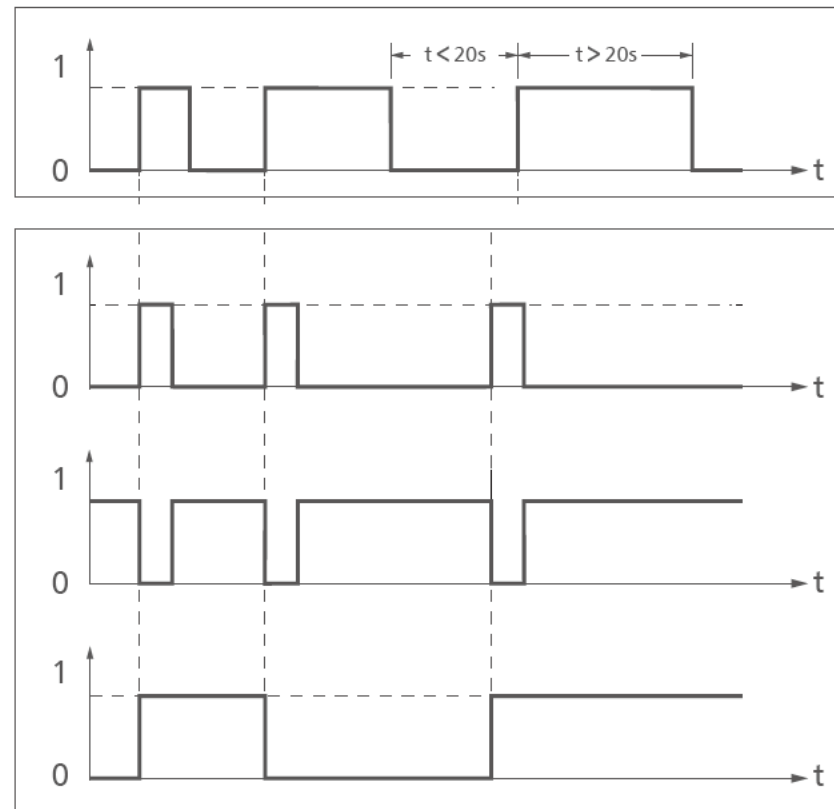
1 = pressure  
0 = no pressure

### OUTPUT

Momentary NO (pulse)  
No external power supply required

Momentary NC (pulse)  
No external power supply required

Latching (ON - OFF)  
Requires external power supply



1 = closed output 0 = open output



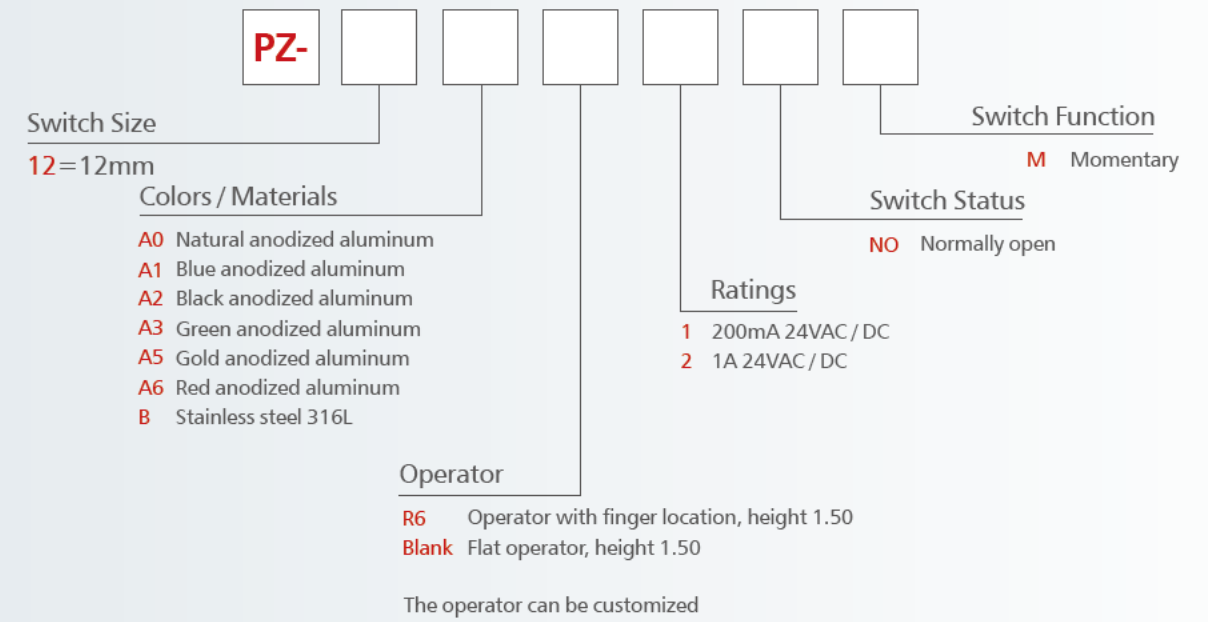
### Wiring Diagrams

Function	Non-illuminated	1 LED*	2 LEDs	3 LEDs
Momentary NO				
Momentary NC				
Momentary NO Prolongated Pulse				
Latching (ON - OFF)				BR brown +V BK black GND BL blue output

Legend: B = black, A = same colour as LED  
\*LED colour is indicated by the bottom of the product.

## Piezo Switch

## Piezo Switch Ø12 (.480)



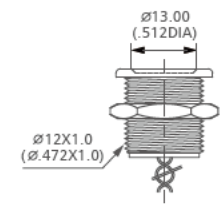
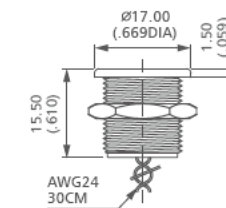
### Non-illuminated



PZ12A01NOM

Flat

Finger location



R6



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



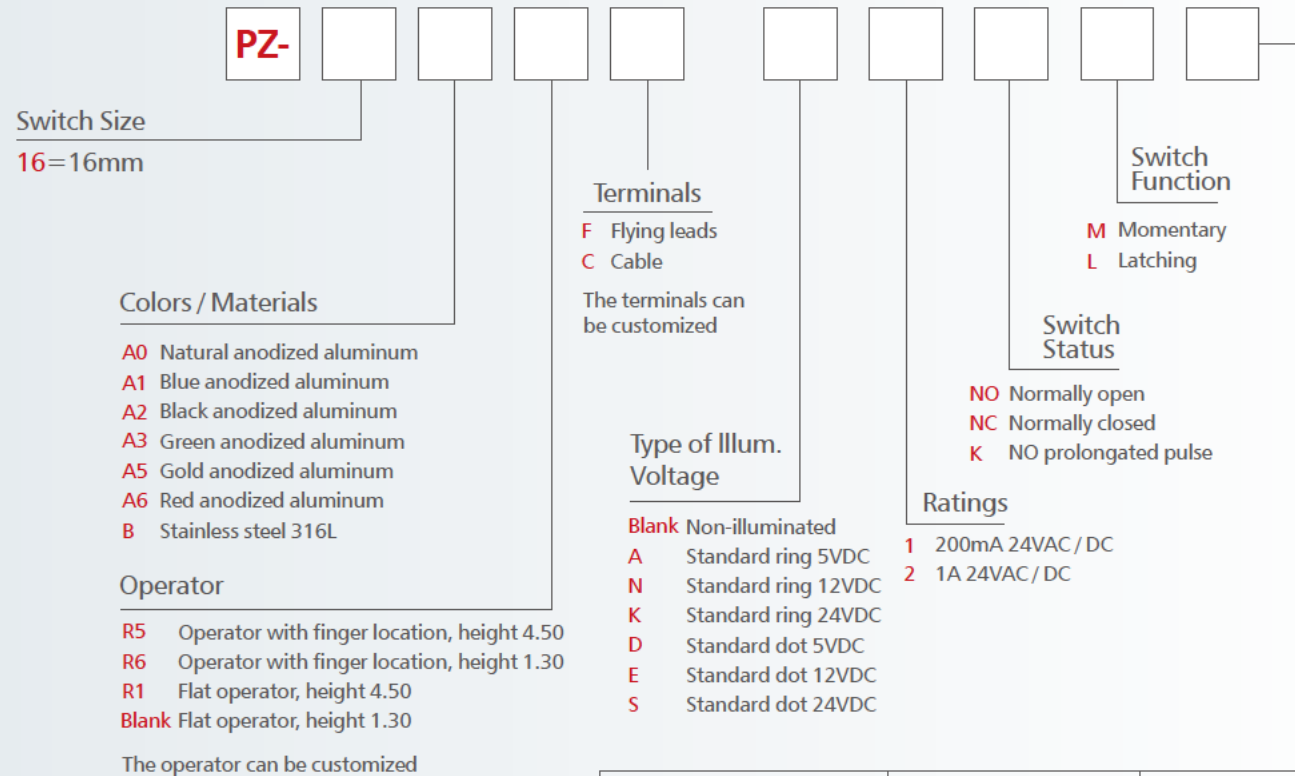
Mounting accessories standard hardware supplied :1 hex nut and 1 O-ring



Packing unit: 20 pieces

Piezo Switch

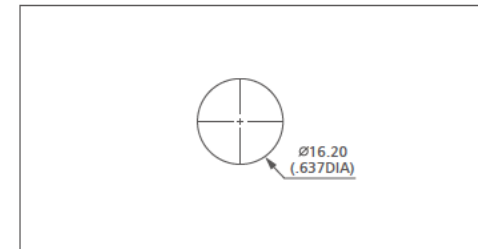
Piezo Switch Ø 16 (.630)



Tri-color		Double Color		Single Color	
<b>Blank</b>	Non-illum.	<b>Blank</b>	Non-illum.	<b>Blank</b>	Non-illum.
<b>TA</b>	Red/green/blue	<b>RG</b>	Red/green	<b>B</b>	Blue
<b>TB</b>	Red/green/yellow	<b>RY</b>	Red/yellow	<b>G</b>	Green
<b>TD</b>	Red/green/white	<b>RB</b>	Red/blue	<b>R</b>	Red
<b>TE</b>	Red/blue/yellow	<b>RW</b>	Red/white	<b>Y</b>	Yellow
<b>TF</b>	Red/blue/white	<b>GB</b>	Green/blue	<b>W</b>	White
<b>TG</b>	Red/yellow/white	<b>GY</b>	Green/yellow		
<b>TH</b>	Green/blue/yellow	<b>GW</b>	Green/white		
<b>TI</b>	Green/blue/white	<b>BY</b>	Blue/yellow		
<b>TJ</b>	Green/yellow/white	<b>BW</b>	Blue/white		
<b>TK</b>	Blue/yellow/white	<b>YW</b>	Yellow/white		

- 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 hex nut and 1 O-ring
- Packing unit: 20 pieces

Piezo Switch



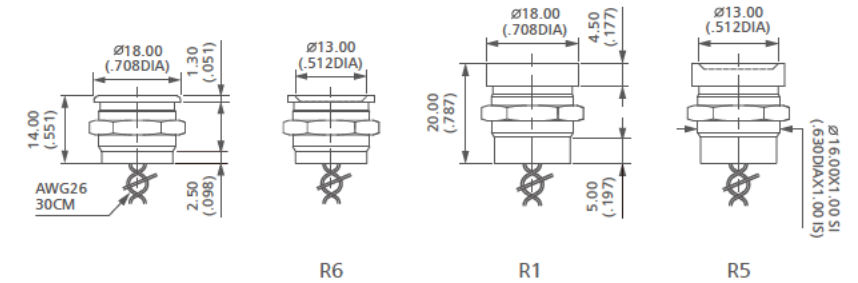
Shown with flying lead terminals.

Non-illuminated



PZ16A6R1F1NOM

Flat  
Finger location

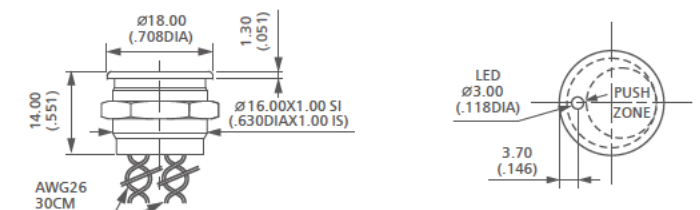


Dot illuminated



PZ16BFS1NOMG

Flat

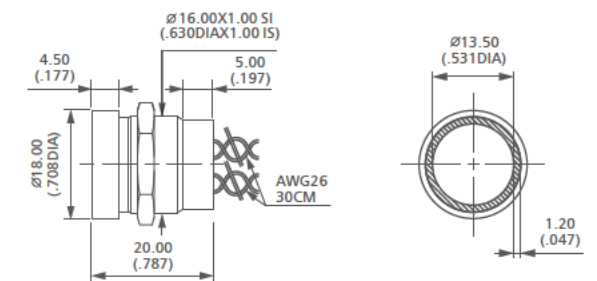


Ring illuminated



PZ16BR1FN1NOMR

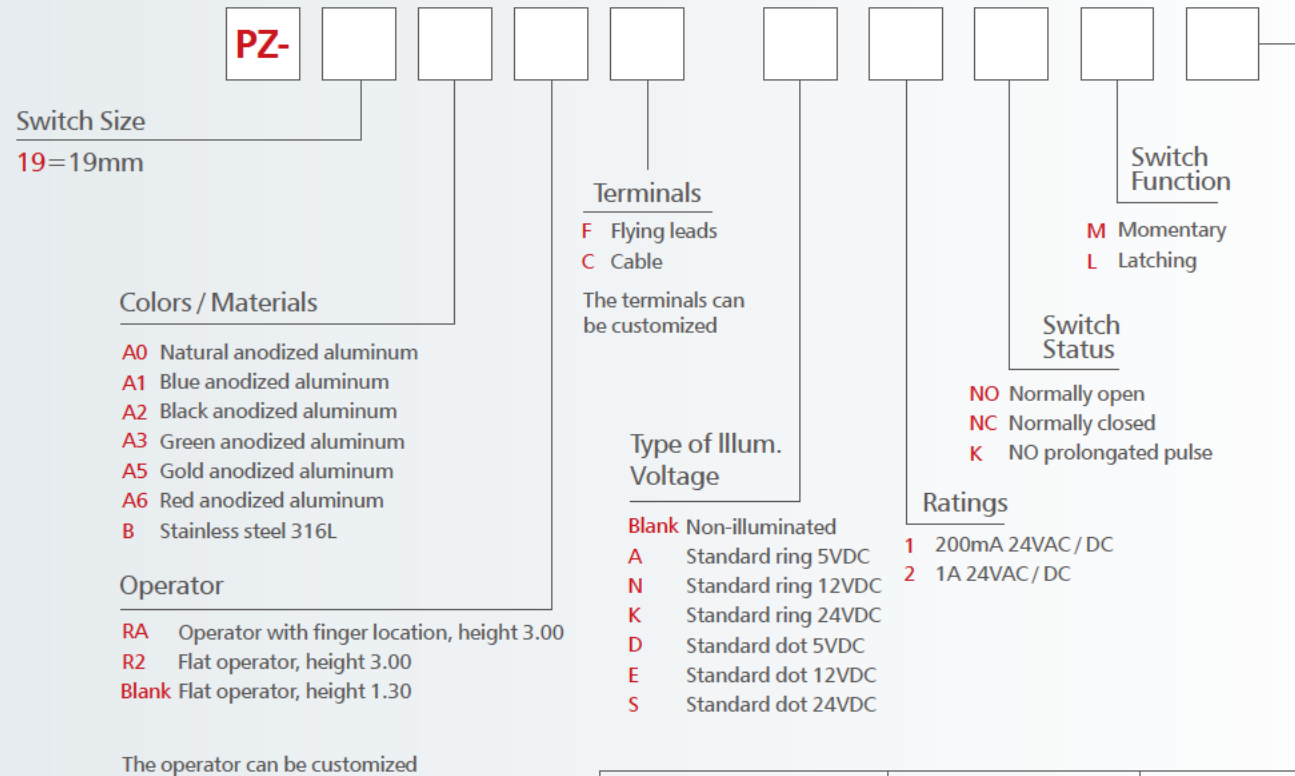
Flat operator, height 4,50 (.177)





# Piezo Switch

# Piezo Switch Ø 19 (.748)

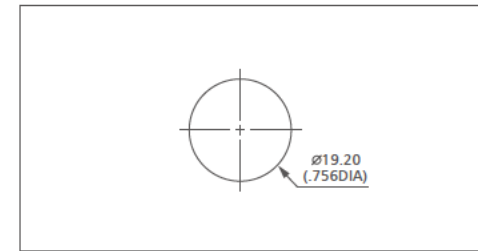


Tri-color		Double Color		Single Color	
Blank	Non-illum.	Blank	Non-illum.	Blank	Non-illum.
TA	Red/green/blue	RG	Red/green	B	Blue
TB	Red/green/yellow	RY	Red/yellow	G	Green
TD	Red/green/white	RB	Red/blue	R	Red
TE	Red/blue/yellow	RW	Red/white	Y	Yellow
TF	Red/blue/white	GB	Green/blue	W	White
TG	Red/yellow/white	GY	Green/yellow		
TH	Green/blue/yellow	GW	Green/white		
TI	Green/blue/white	BY	Blue/yellow		
TJ	Green/yellow/white	BW	Blue/white		
TK	Blue/yellow/white	YW	Yellow/white		

The operator can be customized

- 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 hex nut and 1 O-ring
- Packing unit: 20 pieces

# Piezo Switch



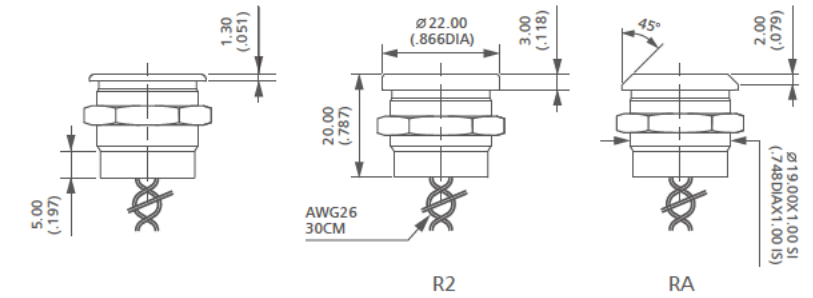
Shown with flying lead terminals.

## Non-illuminated



PZ19A3F1NOM

Flat  
Chamfer

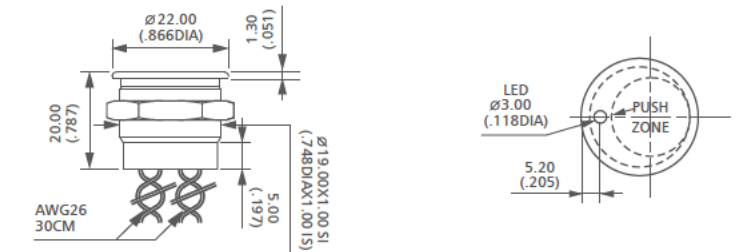


## Dot illuminated



PZ19BE1NOMG

Flat

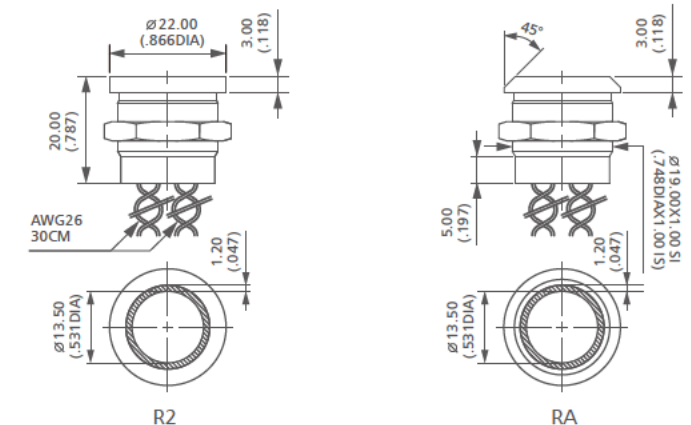


## Ring illuminated



PZ19BRAFK1NOMR

Flat  
Chamfer



Piezo Switch

Piezo Switch Ø22 (.866) Ø25 (.984) Ø30 (1.181)

**PZ-**

Switch Size  
**22**=22mm  
**25**=25mm  
**30**=30mm

Colors / Materials  
**A0** Natural anodized aluminum  
**A1** Blue anodized aluminum  
**A2** Black anodized aluminum  
**A3** Green anodized aluminum  
**A5** Gold anodized aluminum  
**A6** Red anodized aluminum  
**B** Stainless steel 316L

Operator  
**R2** Flat, operator height 3.0mm (.118)  
 Not available with illuminated ring.  
**R6** With finger location, operator height 3.0mm (.118).  
 Not available with illuminated ring.  
**RY** With chamfer, operator height 4.5 mm (.177).  
 Available with thin or large illuminated ring only.  
**RZ** Flat, operator height 4.5 mm (.177).  
 Available with thin or large illuminated ring only.

**Blank** Flat operator, height 1.30  
 The operator can be customized

Terminals  
**F** Flying leads  
**C** Cable  
 The terminals can be customized

Type of Illum. Voltage  
**Blank** Non-illuminated  
**A** 13.5 Large ring 5VDC  
**N** 13.5 Large ring 12VDC  
**K** 13.5 Large ring 24VDC  
**P** 16.5 Thin ring 5VDC  
**J** 16.5 Thin ring 12VDC  
**Y** 16.5 Thin ring 24VDC  
**D** Standard dot 5VDC  
**E** Standard dot 12VDC  
**S** Standard dot 24VDC

Switch Function  
**M** Momentary  
**L** Latching

Switch Status  
**NO** Normally open  
**NC** Normally closed  
**K** NO prolonged pulse

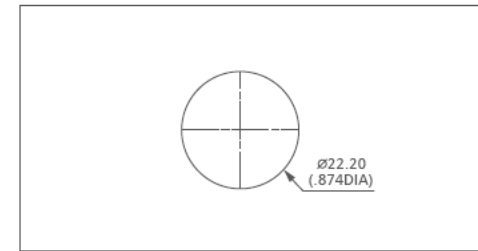
Ratings  
**1** 200mA 24VAC / DC  
**2** 1A 24VAC / DC

Tri-color	Double Color	Single Color
<b>Blank</b> Non-illum.	<b>Blank</b> Non-illum.	<b>Blank</b> Non-illum.
<b>TA</b> Red/green/blue	<b>RG</b> Red/green	<b>B</b> Blue
<b>TB</b> Red/green/yellow	<b>RY</b> Red/yellow	<b>G</b> Green
<b>TD</b> Red/green/white	<b>RB</b> Red/blue	<b>R</b> Red
<b>TE</b> Red/blue/yellow	<b>RW</b> Red/white	<b>Y</b> Yellow
<b>TF</b> Red/blue/white	<b>GB</b> Green/blue	<b>W</b> White
<b>TG</b> Red/yellow/white	<b>GY</b> Green/yellow	
<b>TH</b> Green/blue/yellow	<b>GW</b> Green/white	
<b>TI</b> Green/blue/white	<b>BY</b> Blue/yellow	
<b>TJ</b> Green/yellow/white	<b>BW</b> Blue/white	
<b>TK</b> Blue/yellow/white	<b>YW</b> Yellow/white	

- 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 hex nut and 1 O-ring
- Packing unit: 20 pieces

Piezo Switch

Piezo Switch Ø 22 (.866)



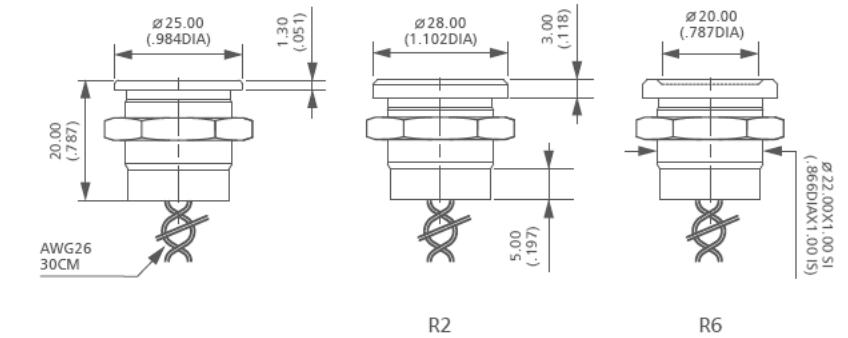
Shown with flying lead terminals.

Non-illuminated



PZ22A6R6F1NOM

Flat  
 Finger location

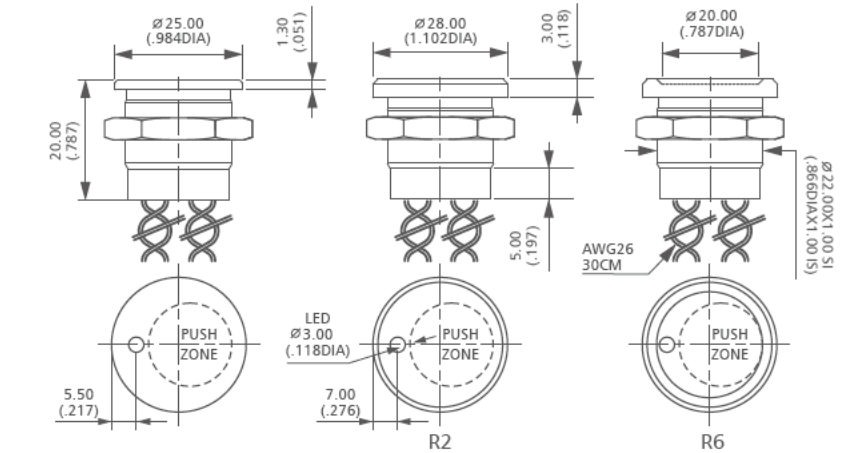


Dot illuminated



PZ22A0R2FD1NOMR

Flat  
 Finger location

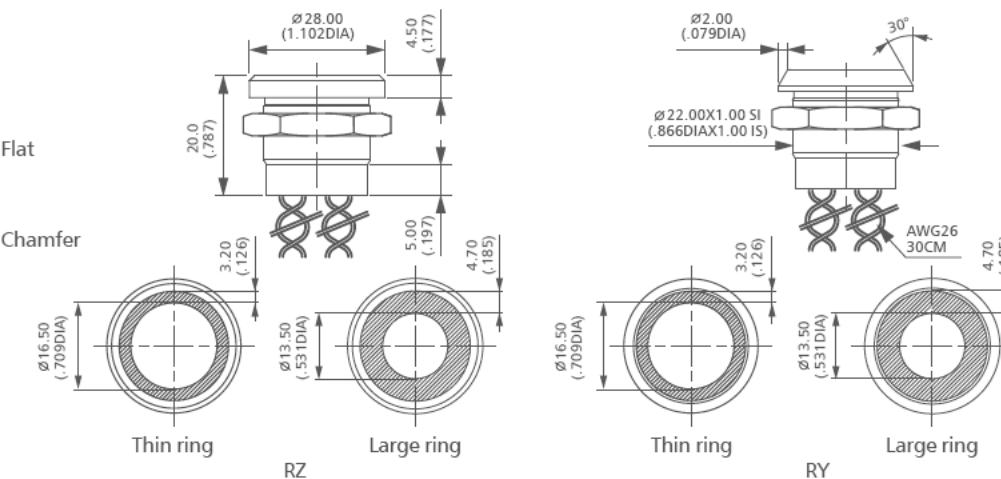


Ring illuminated



PZ22BRYFJ1NOLW

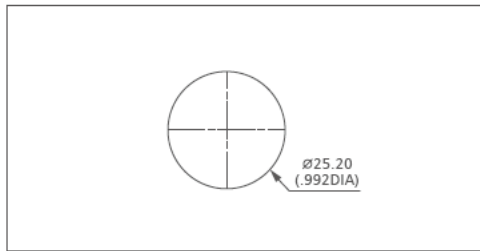
Flat  
 Chamfer





Piezo Switch

Piezo Switch Ø 25 (.984)



Shown with flying lead terminals.

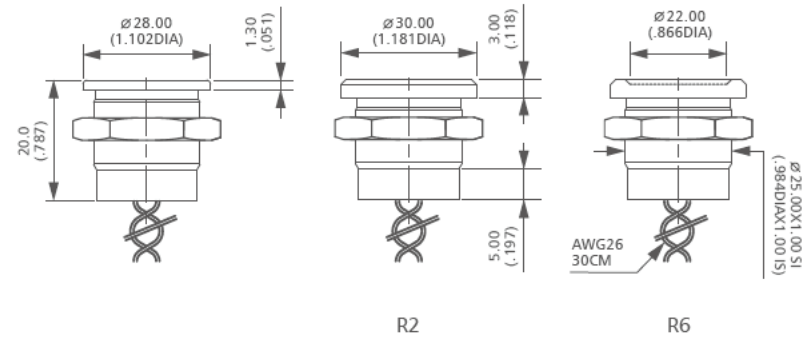
Non-illuminated



PZ25BF1NOM

Flat

Finger location



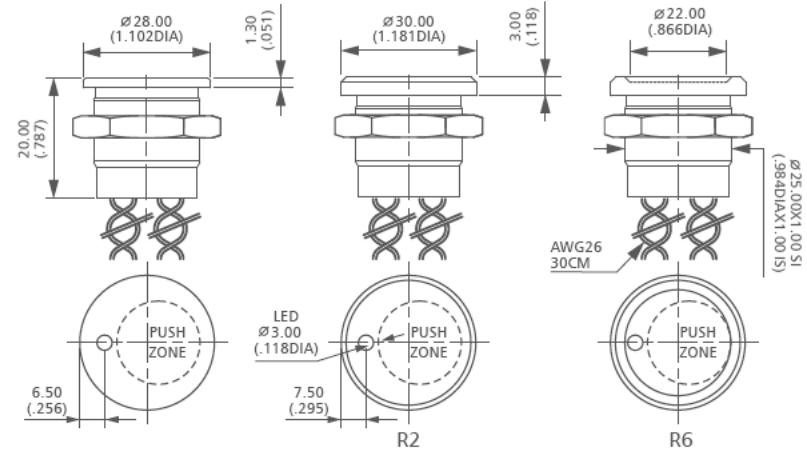
Dot illuminated



PZ25BR2FS1NOLG

Flat

Finger location



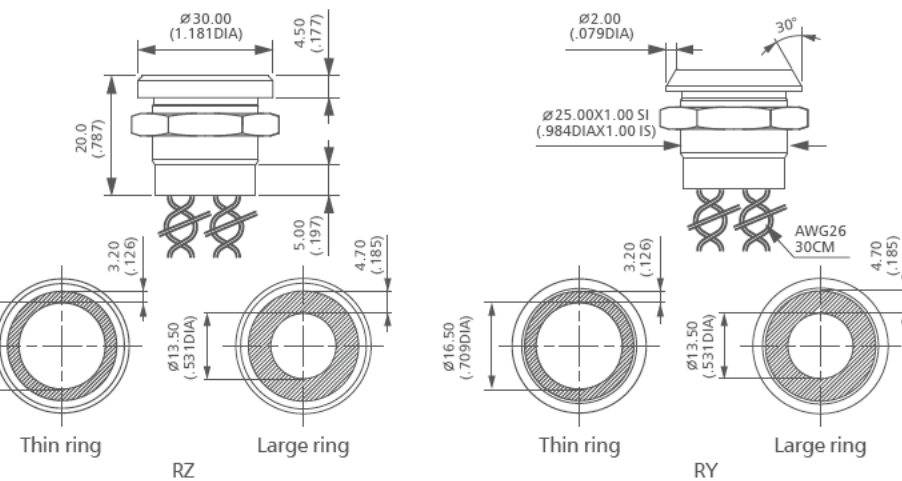
Ring illuminated



PZ25BRZFN1NOLG

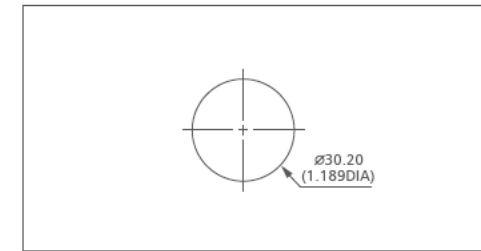
Flat

Chamfer



Piezo Switch

Piezo Switch Ø 30 (1.181)



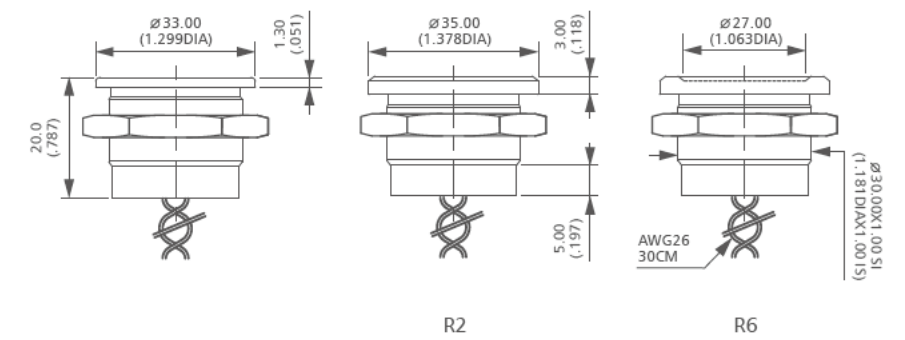
Shown with flying lead terminals.

Non-illuminated



PZ30BR2F1NOM

Flat



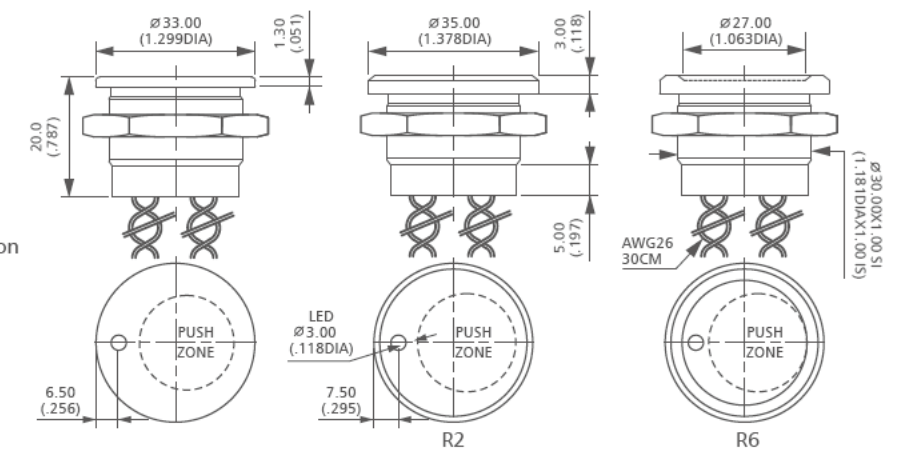
Dot illuminated



PZ30BFE1NOMG

Flat

Finger location



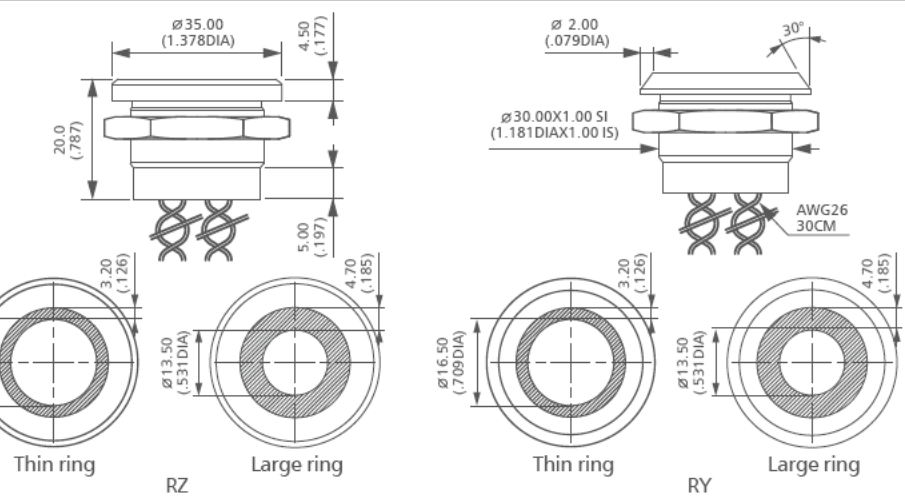
Ring illuminated



PZ30A2RYFJ1NOMRY

Flat

Chamfer





# Plastic Piezo Switch

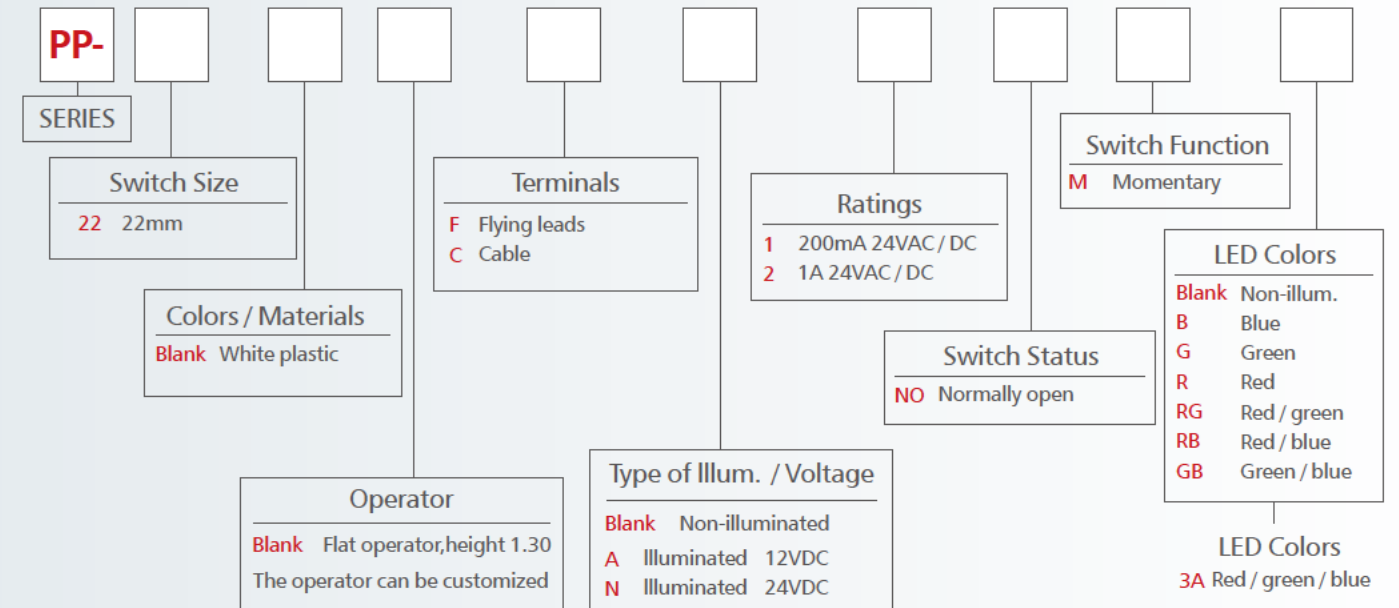
Leaders in engineering, innovation and quality

SOCOJE brings piezo technology to perfection



## Piezo Switch

## Plastic Piezo Switch Ø22 (.866)



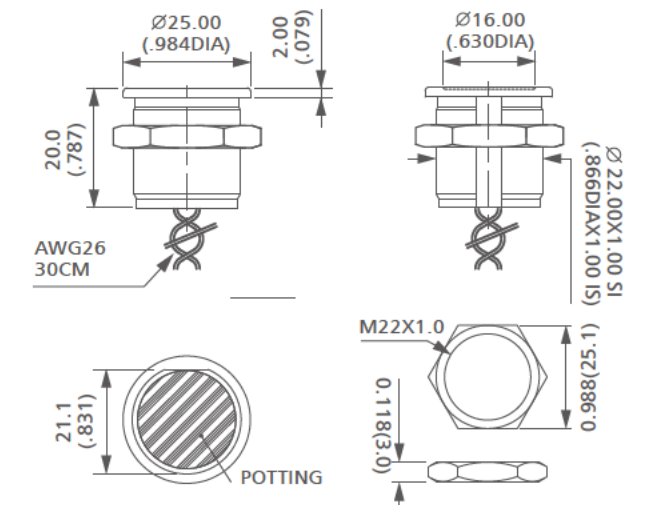
Plastic piezo switches offering rugged, sealed tamper and vandal proof solid stated switching. Exceptional durability and reliability. Fitted with red, green and blue LED's for illumination.

- 25mm diameter actuator
- 22.2mm diameter mounting hole
- Normally open, momentary action
- Make impulse time of 125-300 msec
- Recessed face
- Wire termination
- IP68 Sealed
- Available in 12V and 24V LED's

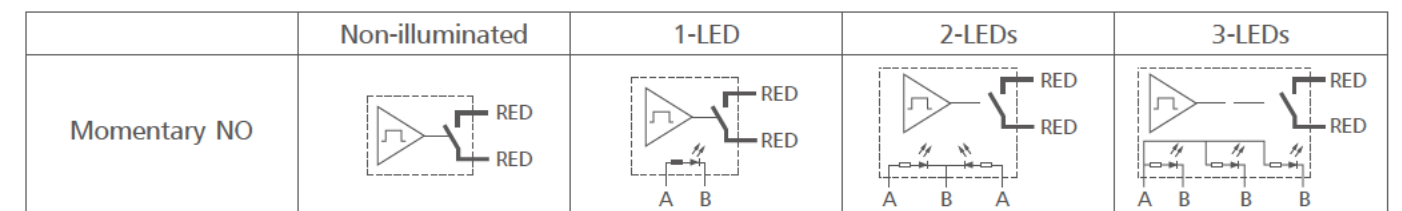
### Specifications

Operating voltage:	1-24V AC / DC	
Switching current	0.2A(standard) / 1A options	
Actuation force	3-5N	
Operating temperature	-20°C ~ +70°C	
LED operating voltage	12DC max OR 24V DC max	
LED max current consumption:	(12V)	(24V)
Red	18mA	18mA
Green	9mA	9mA
Blue	27mA	16mA
Ingress Protection	IP68	
Life time	50 million operations	
Material	POM	

### Dimension



### Wiring Diagrams



Legend: B=black, A=same color as LED \*LED color is indicated by the bottom of the product.



