

Piezo Switch

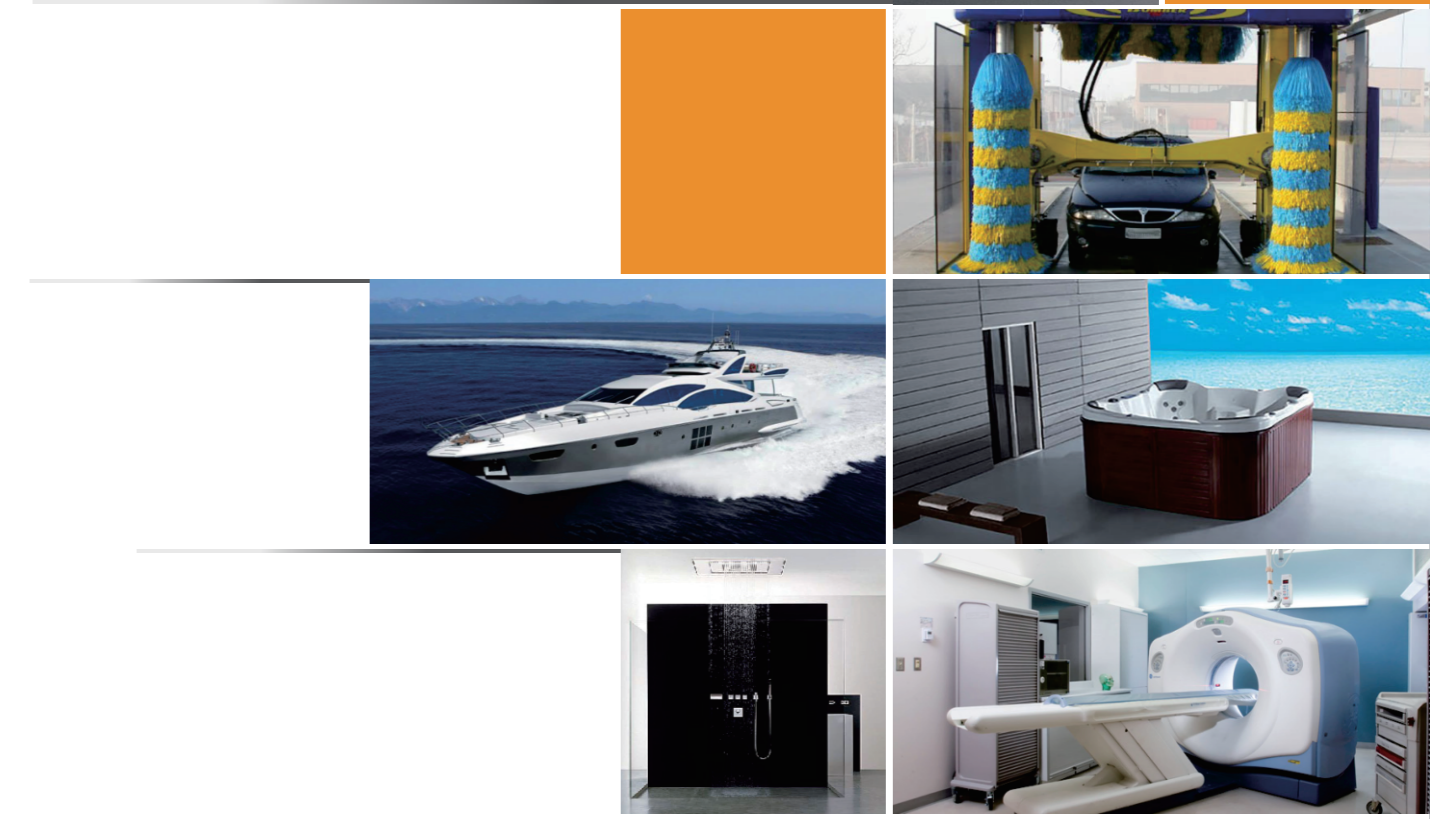
www.langir.com



**Leaders in engineering,
innovation and quality**

**LANGIR brings
piezo technology to
perfection**

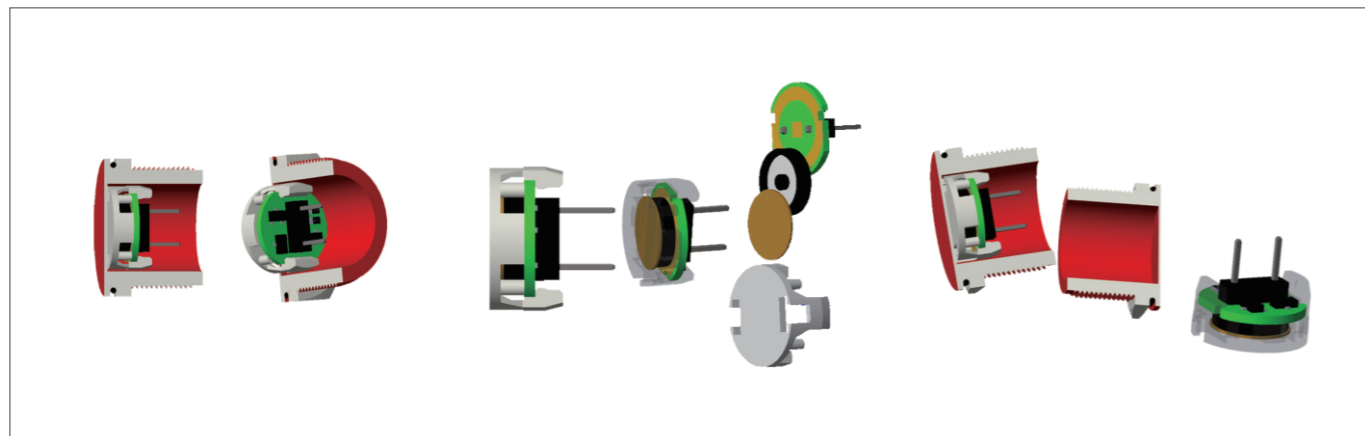
RoHS COMPLIANCE



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

The LANGIR VPM (Versatile Piezo Module)

The principle behind the Langir 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.

Distinctive Features

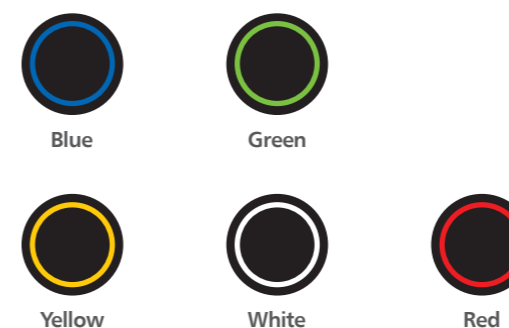
- Bushing diameter: 16 (.630), 19 (.748), 22 (.866) or 30 mm (1.181)
- Sealed to IP68 and IP69K (switches mounted on panel)
- Easy to clean metal surface
- Very long life expectancy
- Illumination or Non-illumination

Materials

- Case: aluminum, anodized or stainless steel 316L
- Multi-wire leads section 0.22mm² 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

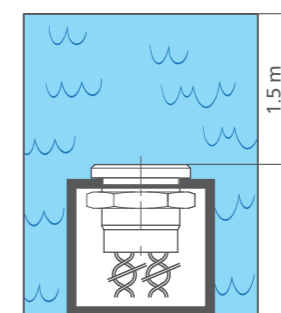
- Sealing: IP68 per IEC 60529, IP69K per DIN 40050-9 (switches mounted on panel)
- Vibration resistance : 10-500 Hz / 10 g per IEC 60068-2-6
- Operating temperature : -40°C to +75°C (-40°F to +167°F)
- EMC compatibility according to EN 61058-1 for the whole range
- EMC compatibility according to EN 61000-4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

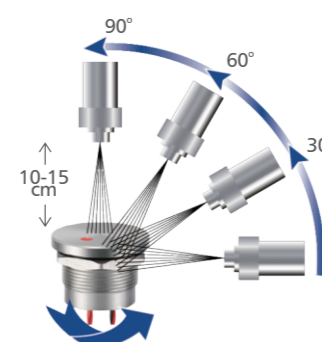
Sealing

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

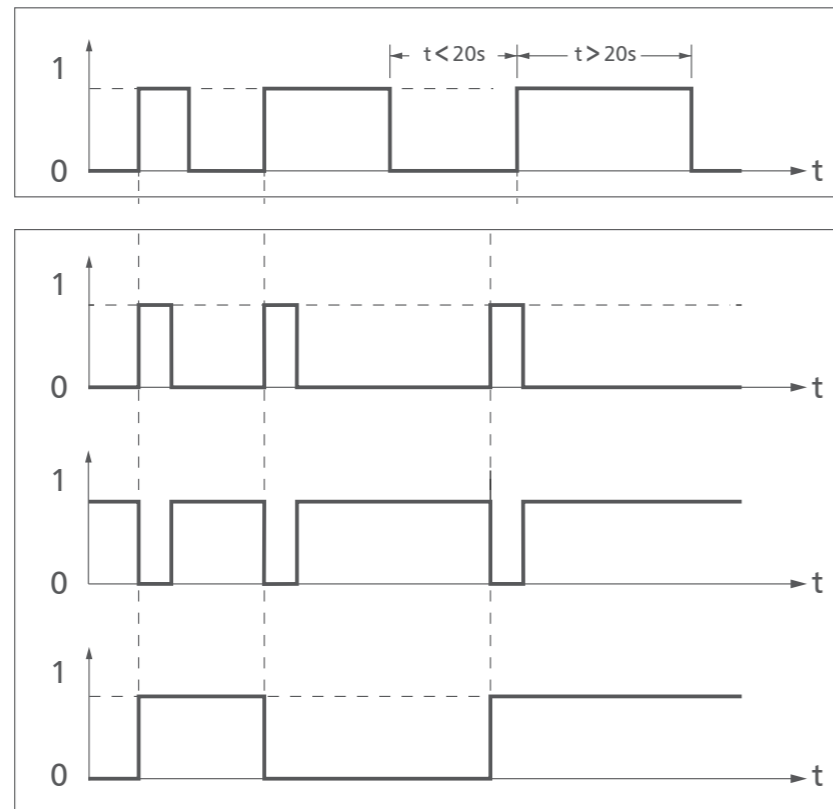
1 = pressure
0 = no pressure

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 Ø 12 (.480)



PZ-

Switch Size
12=12mm

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

Switch Function

- M Momentary

Switch Status

- NO Normally open

Ratings

- 1 200mA 24VAC / DC
- 2 1A 24VAC / DC

Operator

- R6 Operator with finger location, height 1.50
- Blank Flat operator, height 1.50

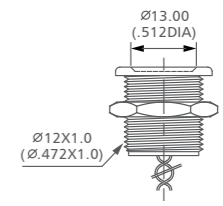
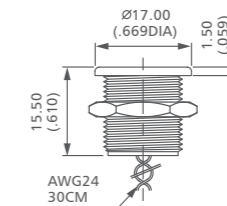
The operator can be customized

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



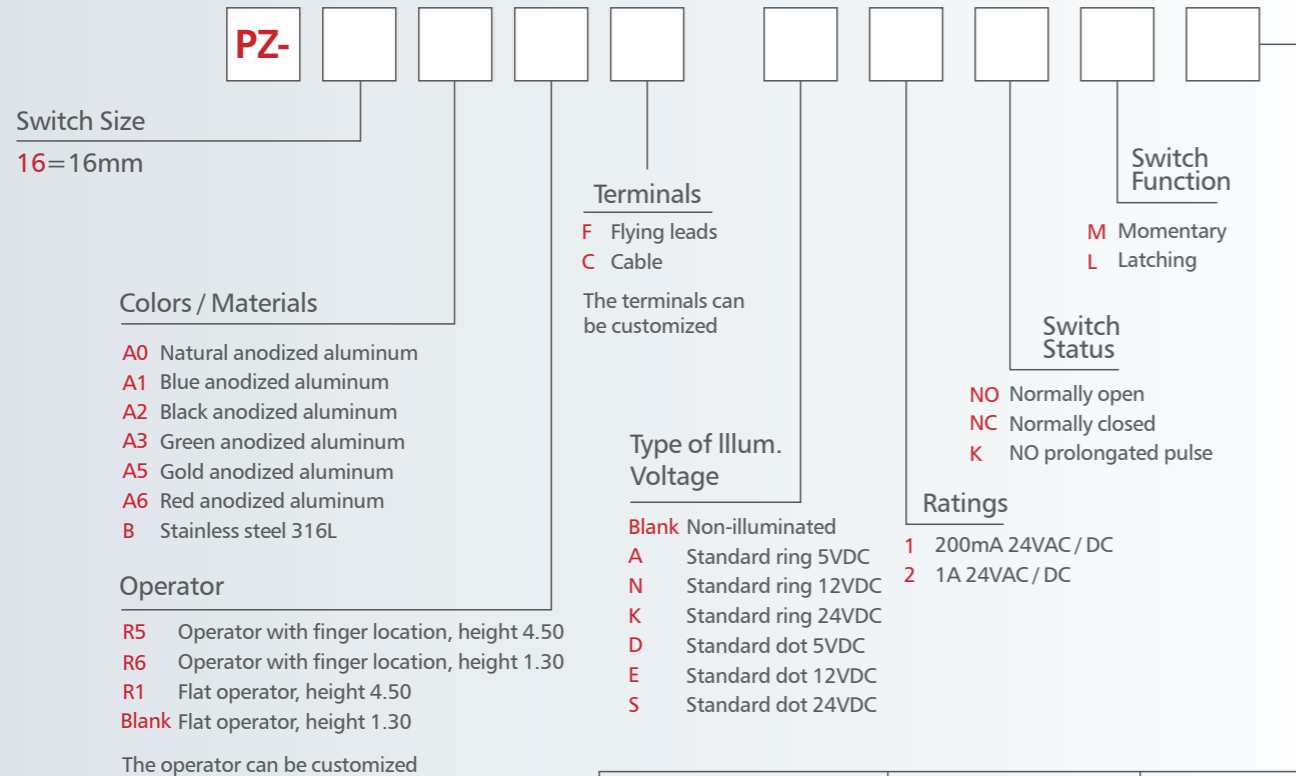
Packing unit: 20 pieces

For options not listed above, please contact LANGIR.

The appearance of the products listed on this file, color, parameters are for reference only, issued a kind of LANGIR Company shall prevail.

LANGIR Company reserves the right to modify or cancel the relevant parameters of this file does not advance notice.

If in doubt, please contact customer service hotline.



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	

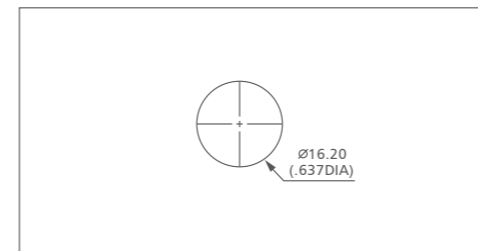
NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

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

Packing unit: 20 pieces

For options not listed above, please contact LANGIR.

The appearance of the products listed on this file, color, parameters are for reference only, issued a kind of LANGIR Company shall prevail. LANGIR Company reserves the right to modify or cancel the relevant parameters of this file does not advance notice. If in doubt, please contact customer service hotline.



Shown with flying lead terminals.

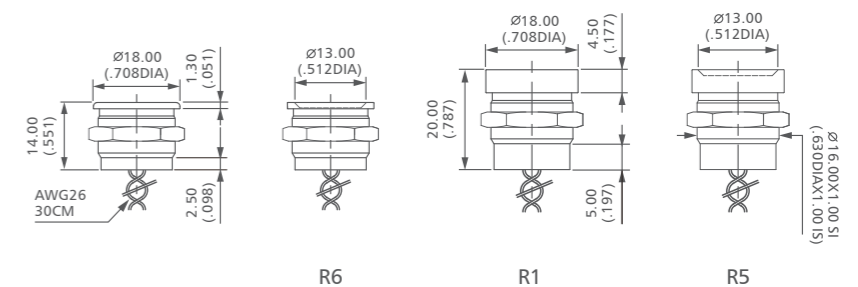
Non-illuminated



PZ16A6R1F1NOM

Flat

Finger location

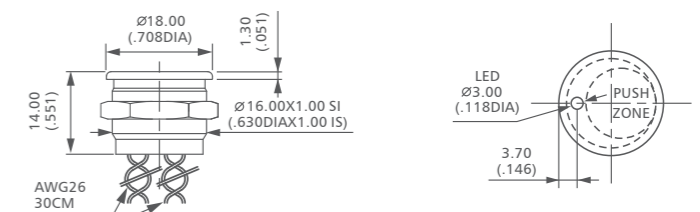


Dot illuminated



PZ16BFS1NOMG

Flat

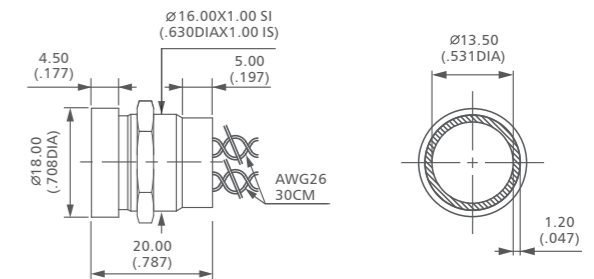


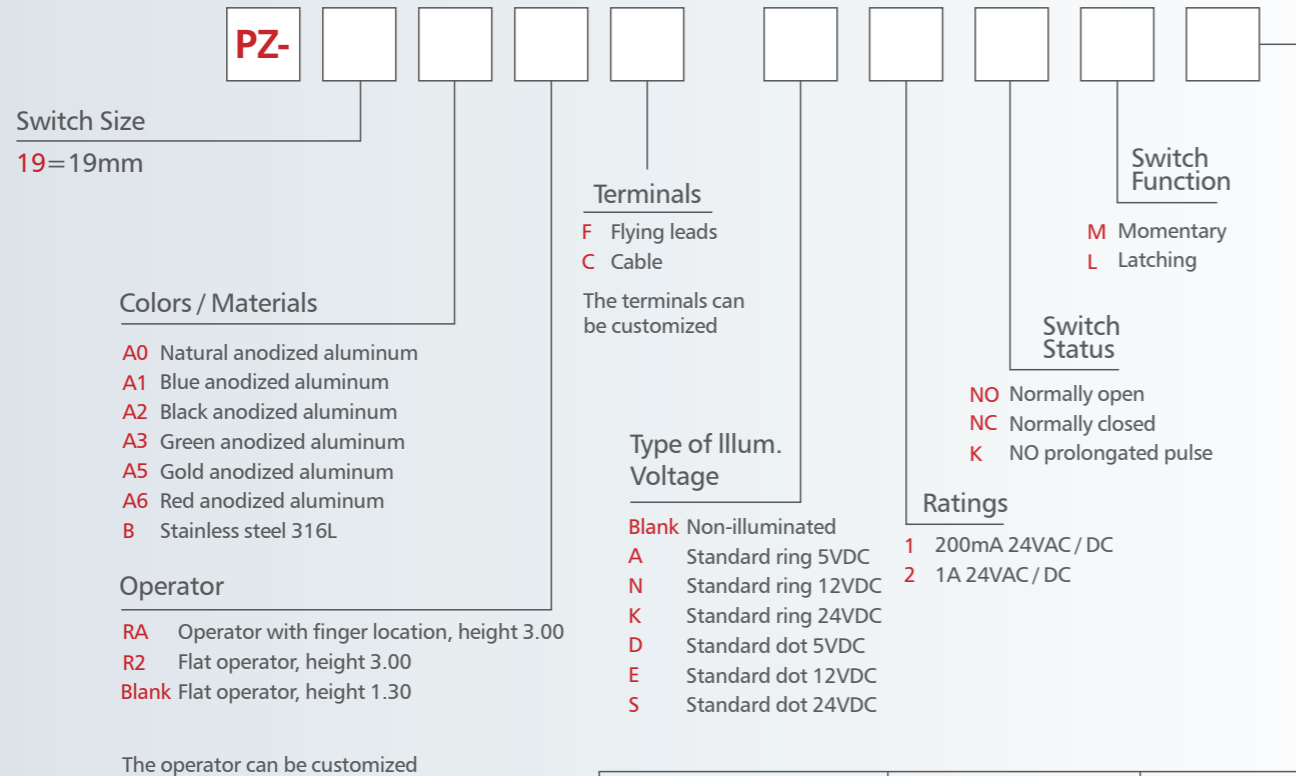
Ring illuminated



PZ16BR1FN1NOMR

Flat operator, height 4,50 (.177)





The operator can be customized

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		

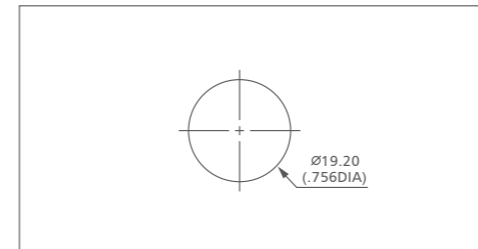
NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

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

Packing unit: 20 pieces

For options not listed above, please contact LANGIR.

The appearance of the products listed on this file, color, parameters are for reference only, issued a kind of LANGIR Company shall prevail. LANGIR Company reserves the right to modify or cancel the relevant parameters of this file does not advance notice. If in doubt, please contact customer service hotline.



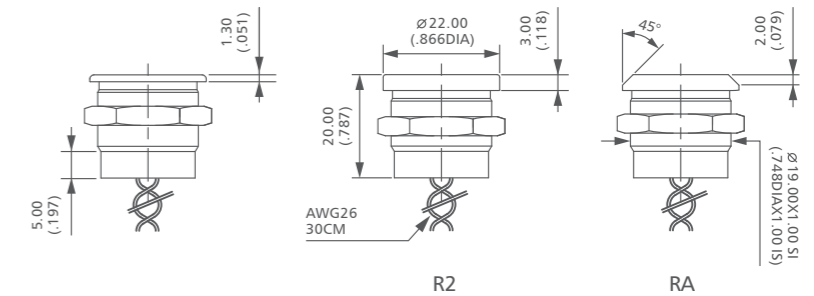
Shown with flying lead terminals.

Non-illuminated



PZ19A3F1NOM

Flat
Chamfer

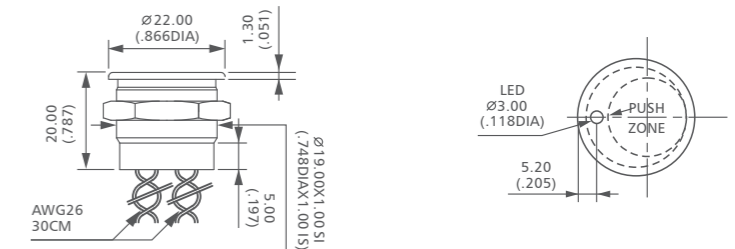


Dot illuminated



PZ19BE1NOMG

Flat

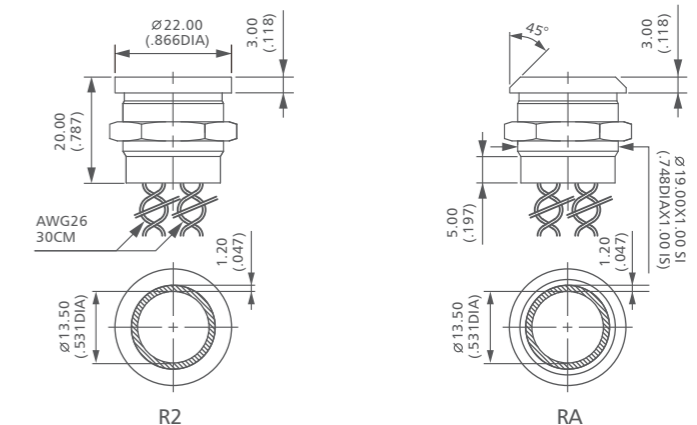


Ring illuminated



PZ19BRAFK1NOMR

Flat
Chamfer



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

Switch Function
M Momentary
L Latching

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

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

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

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

Tri-color
Blank Non-illum.
TA Red/green/blue
TB Red/green/yellow
TD Red/green/white
TE Red/blue/yellow
TF Red/blue/white
TG Red/yellow/white
TH Green/blue/yellow
TI Green/blue/white
TJ Green/yellow/white
TK Blue/yellow/white

Double Color
Blank Non-illum.
RG Red/green
RY Red/yellow
RB Red/blue
RW Red/white
GB Green/blue
GY Green/yellow
GW Green/white
BY Blue/yellow
BW Blue/white
YW Yellow/white

Single Color
Blank Non-illum.
B Blue
G Green
R Red
Y Yellow
W White

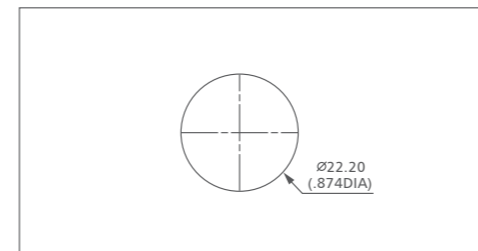
NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

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

Packing unit: 20 pieces

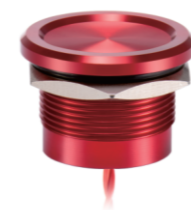
For options not listed above, please contact LANGIR.

The appearance of the products listed on this file, color, parameters are for reference only, issued a kind of LANGIR Company shall prevail. LANGIR Company reserves the right to modify or cancel the relevant parameters of this file does not advance notice. If in doubt, please contact customer service hotline.



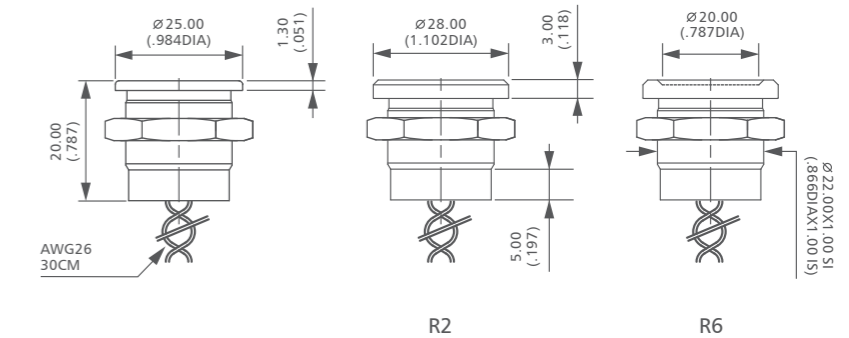
Shown with flying lead terminals.

Non-illuminated



PZ22A6R6F1NOM

Flat
 Finger location

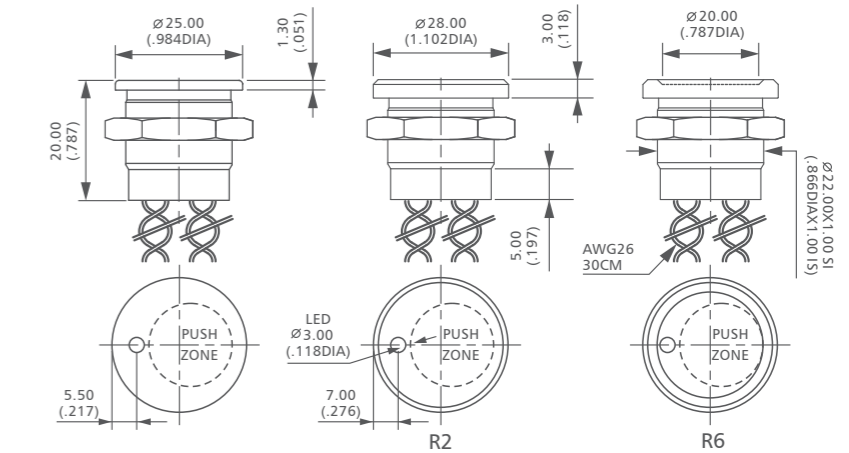


Dot illuminated



PZ22A0R2FD1NOMR

Flat
 Finger location

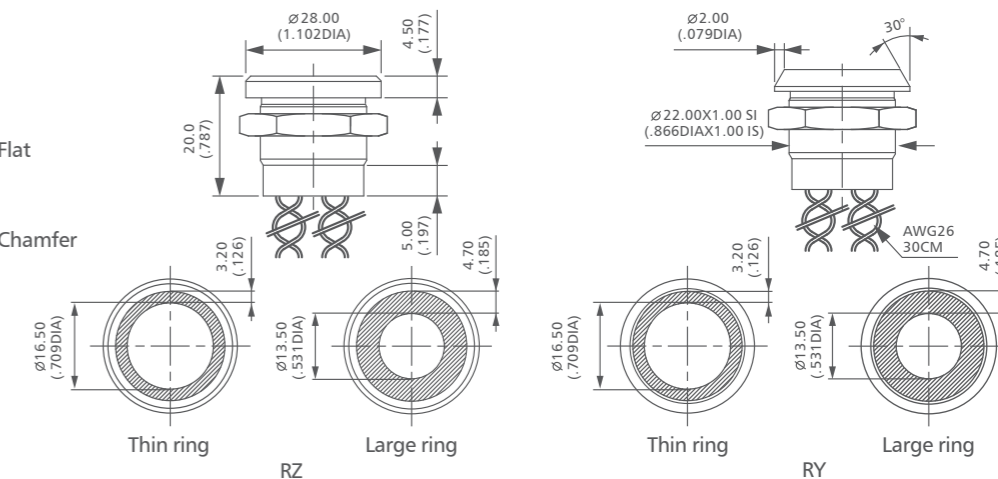


Ring illuminated



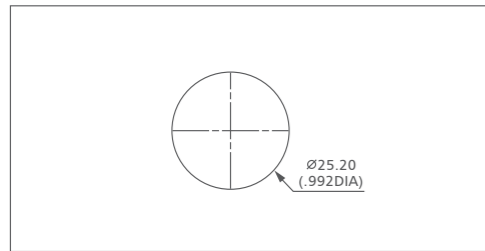
PZ22BRYFJ1NOLW

Flat
 Chamfer



Piezo Switch

Piezo Switch Ø 25 (.984)



Shown with flying lead terminals.

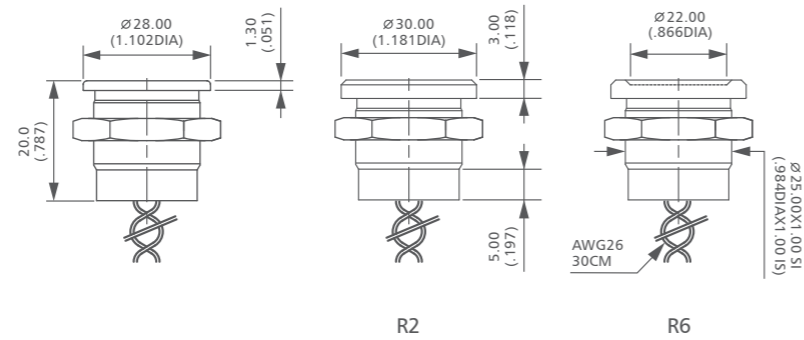
Non-illuminated



PZ25BF1NOM

Flat

Finger location



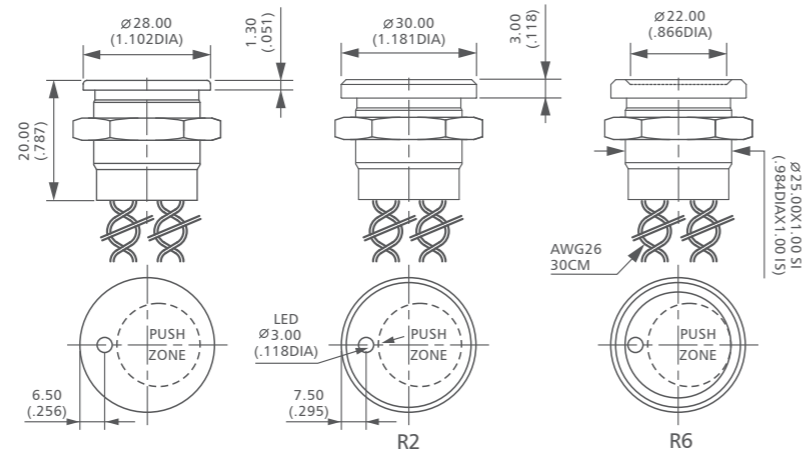
Dot illuminated



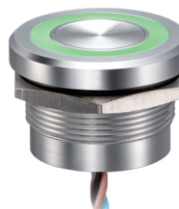
PZ25BR2FS1NOLG

Flat

Finger location



Ring illuminated



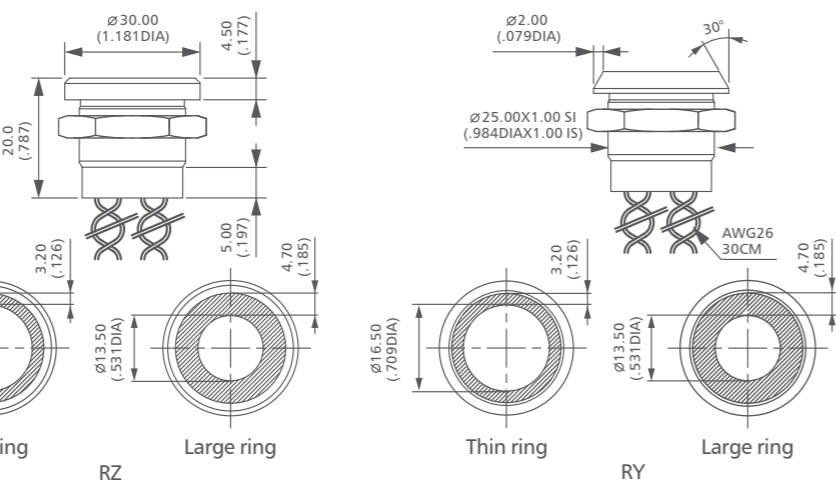
PZ25BRZFN1NOLG

Flat

Chamfer

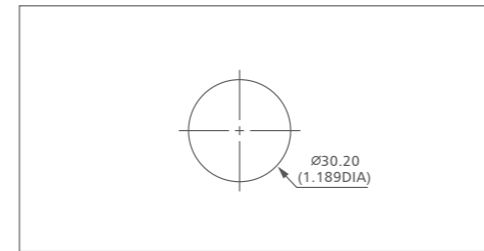
Thin ring

Large ring



Piezo Switch

Piezo Switch Ø 30 (1.181)



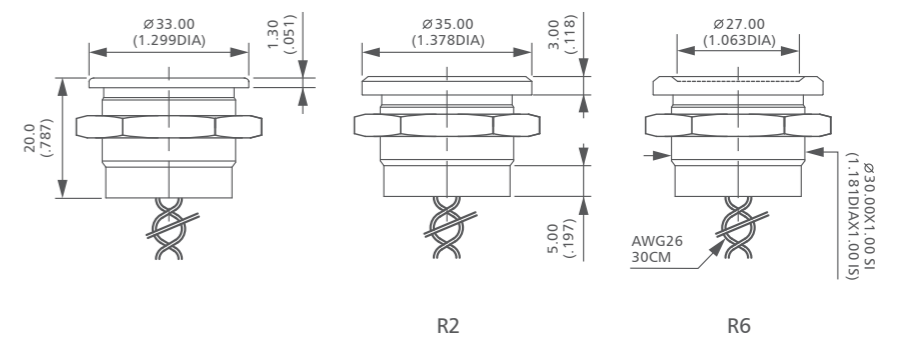
Shown with flying lead terminals.

Non-illuminated



PZ30BR2F1NOM

Flat



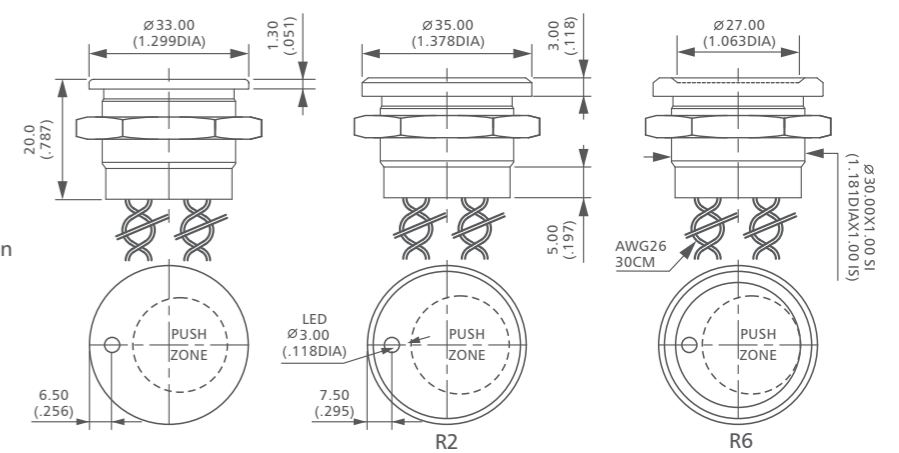
Dot illuminated



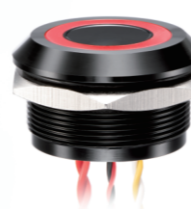
PZ30BFE1NOMG

Flat

Finger location



Ring illuminated



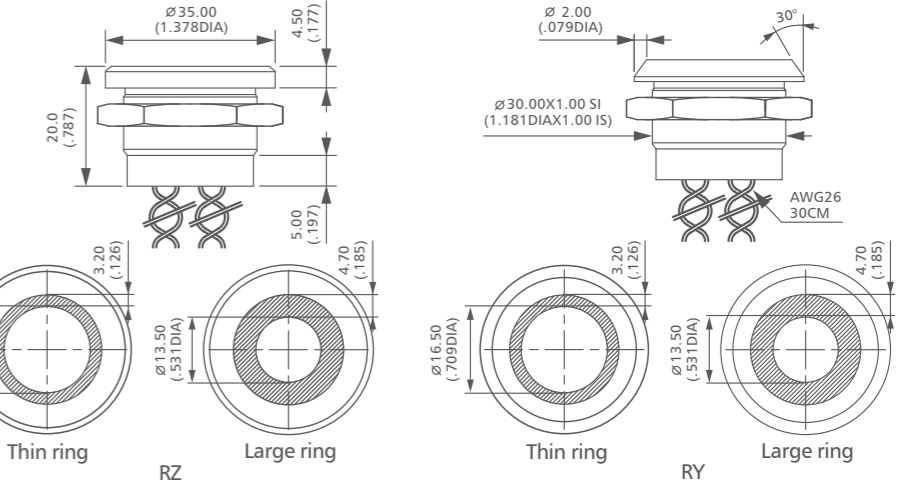
PZ30A2RYFJ1NOMRY

Flat

Chamfer

Thin ring

Large ring



Plastic Piezo Switch

www.langir.com

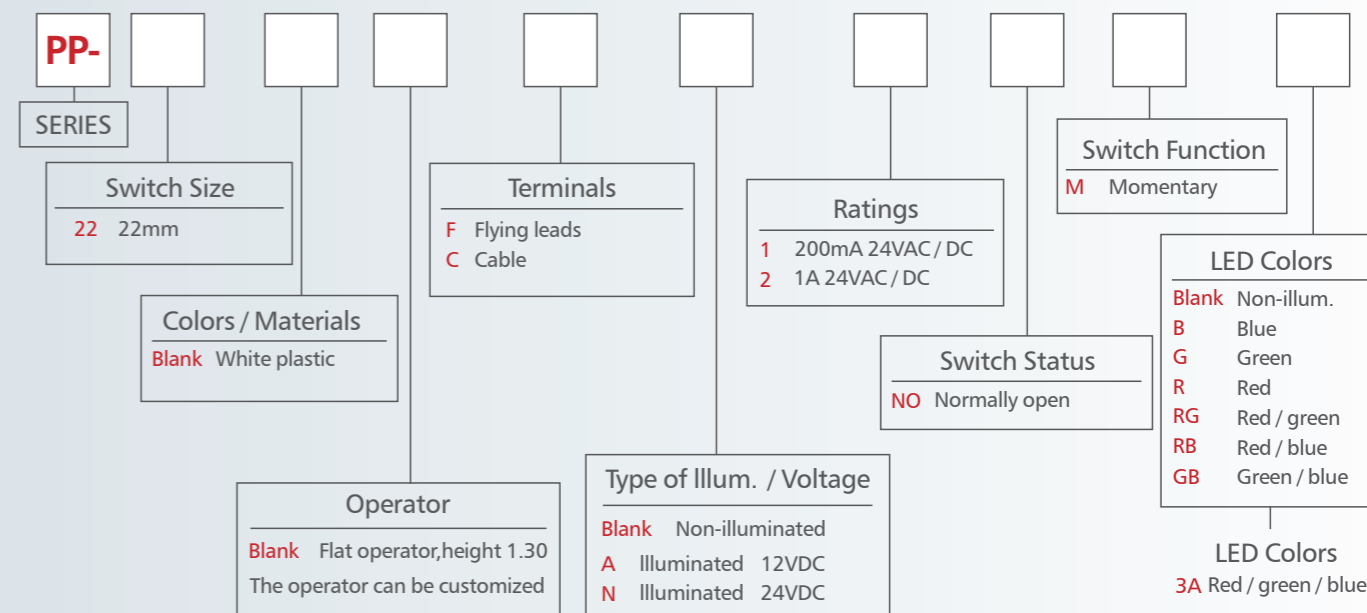
Leaders in engineering, innovation and quality

LANGIR brings piezo technology to perfection



Piezo Switch

Plastic Piezo Switch Ø22 (.866)



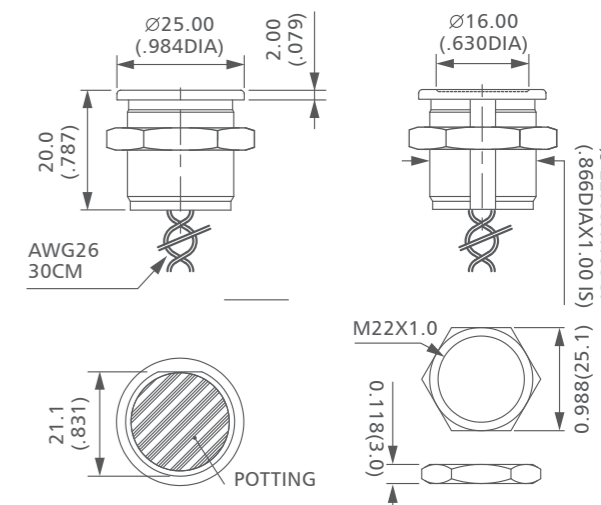
Plastic piezo switches offering rugged, sealed tamper and vandal proof solid stated switching. Exceptional durability and reliability. Fitted with red, green and blue LED's for illumination.

- 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

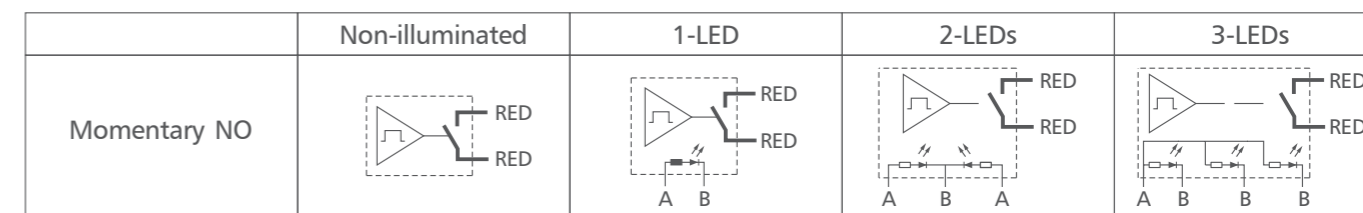
Specifications

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.