

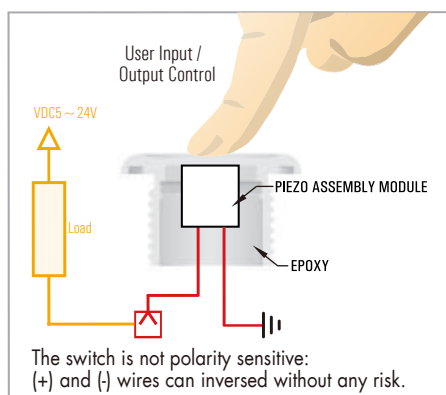


 **LANGIR**
Piezo Switch
www.piezo-switch.com

About Piezo Switches

Conventional electromechanical switches have moving parts that inevitably wear out. The reliability of the electromechanical switches can be reduced by contaminants such as moisture and dust that will foul contact points. The solution is a Piezo Switch with no moving parts.

How a Piezo switch works:



In LANGIR piezo switches, a force applied to the switch surface transfers to the piezo disk creating an electrical pulse. This electrical signal is converted to an expected electrical output through a customizable electronic circuit. The duration of the electrical signal depends on the speed, force and duration of actuation.

The output of the switch is closed for a specified pulse duration depending on the electrical function chosen (see next page).

Main Applications:



Shower
(IP68 sealing)



Bath
(IP68 sealing, customization)



Car wash
(IP68 sealing, long life)



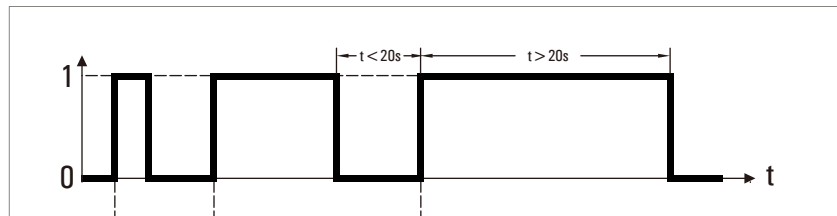
Marine
(IP68 sealing, design)



Medical
(easy to clean surface, no retention area)

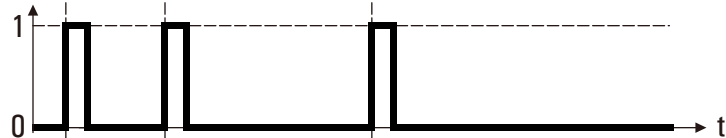
FINGER PRESSURE applied to switch

1 = pressure
0 = no pressure

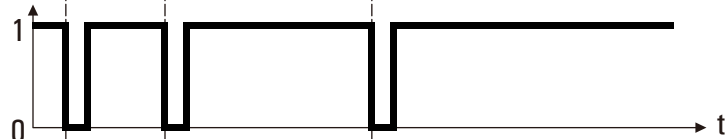


OUTPUT

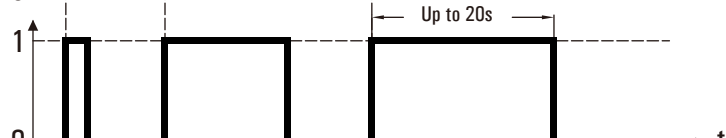
- Momentary NO (pulse)
No external power supply required



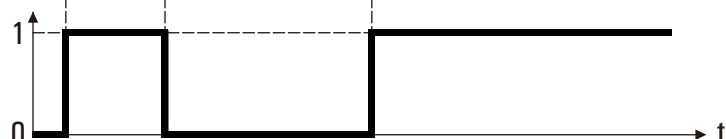
- Momentary NC (pulse)
No external power supply required



- Momentary NO
prolongated pulse
No external power supply required



- Latching (ON - OFF)
Requires external power supply



1 = closed output 0 = open output

Wiring diagrams

	Non-illuminated	1 LED *	2 LEDs	3 LEDs
Momentary NO				
Momentary NC				
Momentary NO prolonged pulse				
Latching (ON - OFF)				

Legend: B = black, A = same colour as LED

* LED colour is indicated by the bottom of the product.

- ❑ Sealed to IP 68 and IP69K (switches mounted on panel)
- ❑ Easy to clean metal surface
- ❑ Very long life expectancy
- ❑ Ring or dot illumination

ENVIRONMENTAL SPECIFICATIONS

- Sealing : IP68 per IEC 529, IP69K per DIN 40050-9 (switches mounted on panel or not)
- Vibration resistance : 10-500 Hz / 10 g per IEC 60068-2-6
- Operating temperature : -40°C to +75°C
- EMC compatibility according to EN 61058-1 for the whole range
- EMC compatibility according to EN 61000-4 & EN61000-6-2 for model 1A (code 002)

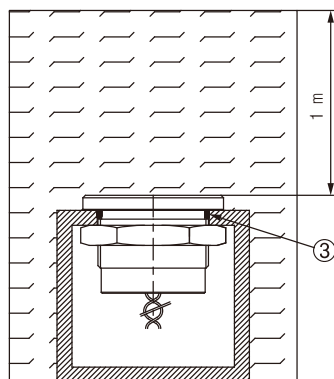
MATERIALS

- Case : aluminium, anodized or stainless steel 316L or brass, chrome plated
- Multi-wire leads section AWG24 length 300 mm, twisted by pair
- Cable, length 300 mm, section depending on switch model
- PC terminals : Gold or Tin plated

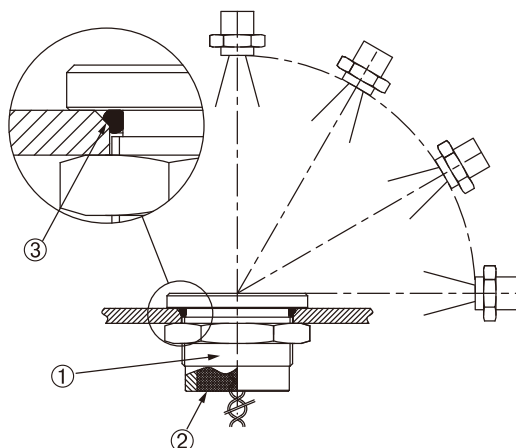
ELECTRICAL AND GENERAL SPECIFICATIONS

- Max. current/voltage rating : 200mA 5~24VAC/DC
- Switch resistance ON : 10Ωmax.
- Switch resistance OFF : 5MΩ min.
- Operating force : 6 to 15N
- Life expectancy : 50 million cycles
- LED consumption : Illuminated dot : 10mA - Illuminated ring : 20mA

SEALING IP68



SEALING IP69K



- ① One-piece bushing
- ② Epoxy sealed terminals
- ③ O-ring

Continuous immersion in water

IP68 test conditions

Continuous immersion in water
(1m, 24 hours)

High pressure, high temperature wash down

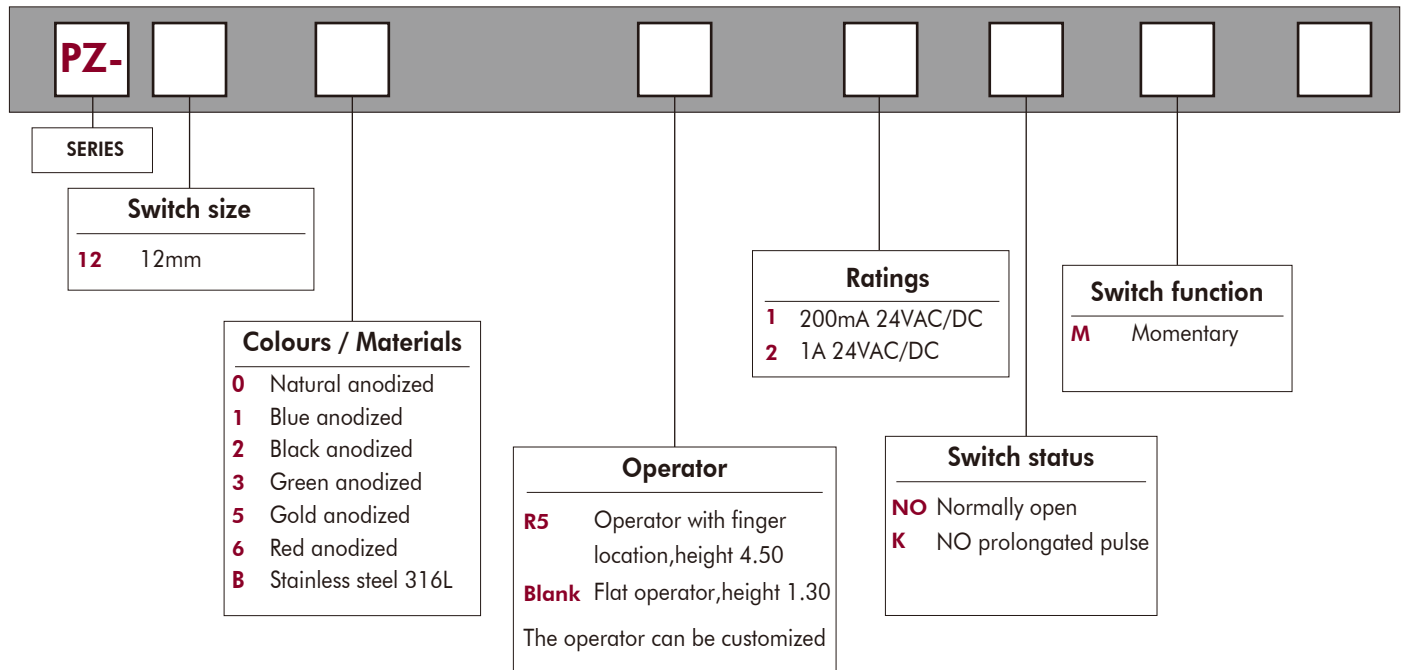
IP69K test conditions

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

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

Tolerance: The general tolerance for dimensions in this brochure is ± 0,3 (.012).

Dimensions, specifications and data shown in this brochure are subject to change without notice.



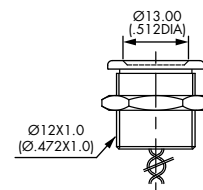
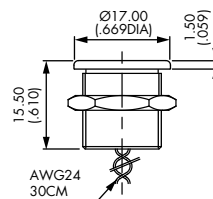
Non-illuminated



Flat

Finger location

PZ1251NOM



R5

Colours / Materials:



0

1

2

3

5

6

B



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



Packaging 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.

Piezo switch Ø 16 (.630)

PZ-

SERIES

Switch size

16 16mm

Colours / Materials

0

 Natural anodized

1

 Blue anodized

2

 Black anodized

3

 Green anodized

5

 Gold anodized

6

 Red anodized

B

 Stainless steel 316L

Operator

R5

 Operator with finger location,height 4.50

R6

 Operator with finger location,height 1.30

R1

 Flat operator,height 4.50

Blank

 Flat operator,height 1.30

The operator can be customized

Terminals

F

 Flyingleads

C

 Cable

Ratings

1

 200mA 24VAC/DC

2

 1A 24VAC/DC

Switch function

M

 Momentary

L

 Latching

latching for single & double color only

Switch status

NO

 Normally open

NC

 Normally closed

K

 NO prolonged pulse

LED colours

Blank

 Non-illum.

B

 Blue

G

 Green

R

 Red

Y

 Yellow

W

 White

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

Type of illum. / Voltage

Blank

 Non-illuminated

A

 Standard ring-5VDC

N

 Standard ring-12VDC

K

 Standard ring-24VDC

D

 Standard dot-5VDC

E

 Standard dot-12VDC

S

 Standard dot-24VDC

LED colours(continued)

3A

 Red/green/blue

3B

 Red/green/yellow

3D

 Red/green/white

3E

 Red/blue/yellow

3F

 Red/blue/white

3G

 Red/yellow/white

3H

 Green/blue/yellow

3I

 Green/blue/white

3J

 Green/yellow/white

3K

 Blue/yellow/white

LED Colours:



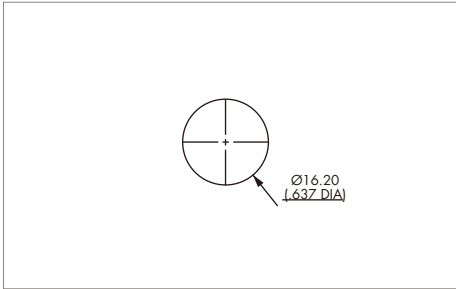
Colours / Materials:



- 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
- Packaging 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.

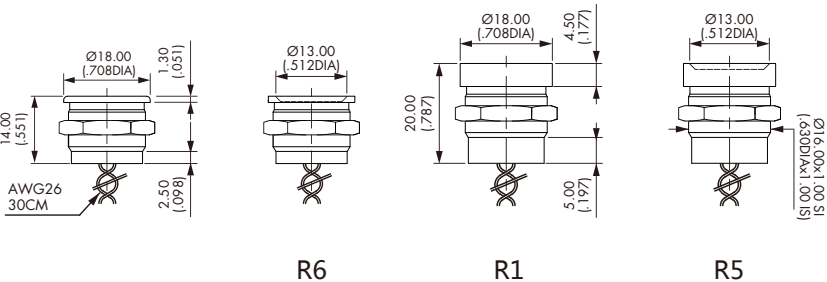
Non-illuminated



PZ166F1NOM

Flat

Finger location

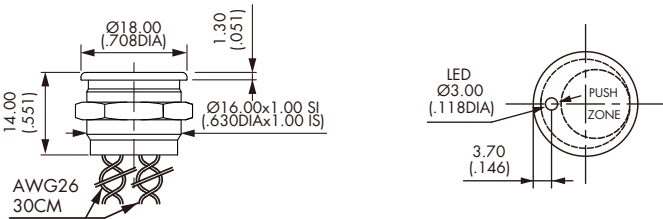


Dot-illuminated



PZ16BFS1NOMB

Flat

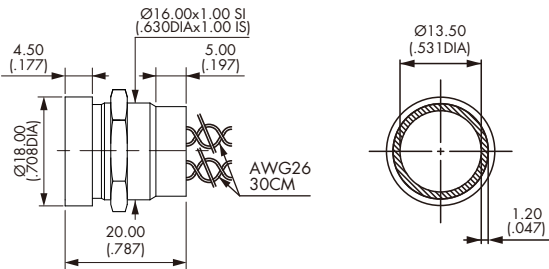


Ring illuminated



PZ160R1FN1NOMAG

Flat operator, height 4,50 (.177)



Piezo switch Ø 19 (.748)

PZ-

SERIES

Switch size

19 19mm

Colours / Materials

0 Natural anodized
1 Blue anodized
2 Black anodized
3 Green anodized
5 Gold anodized
6 Red anodized
B Stainless steel 316L

Operator

RA Operator with finger location,height 3.00
R2 Flat operator,height 3.00
Blank Flat operator,height 1.30

The operator can be customized

Terminals

F Flyingleads
C Cable

Ratings

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

Switch function

M Momentary
L Latching
latching for single & double color only

Switch status

NO Normally open
NC Normally closed
K NO prolonged pulse

LED colours

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

Type of illum. / Voltage

Blank Non-illuminated
A Standard ring-5VDC
N Standard ring-12VDC
K Standard ring-24VDC
D Standard dot-5VDC
E Standard dot-12VDC
S Standard dot-24VDC

LED Colours:



Colours / Materials:



LEDcolours(continued)	
3A	Red/green/blue
3B	Red/green/yellow
3D	Red/green/white
3E	Red/blue/yellow
3F	Red/blue/white
3G	Red/yellow/white
3H	Green/blue/yellow
3I	Green/blue/white
3J	Green/yellow/white
3K	Blue/yellow/white

- 

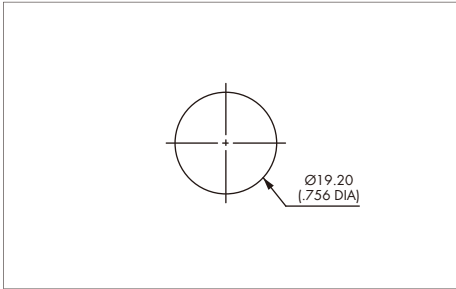
NOTICE : please note that not all combinations of above numbers are available.
Refer to the following pages for further information.
- 

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

Packaging 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.



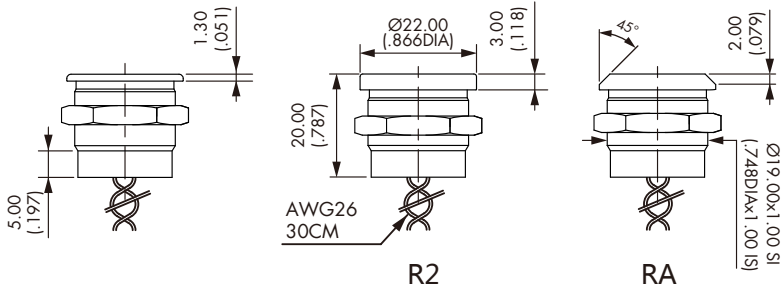
Shown with flying lead terminals.

Non-illuminated



PZ192F1NOM

Flat
Chamfer

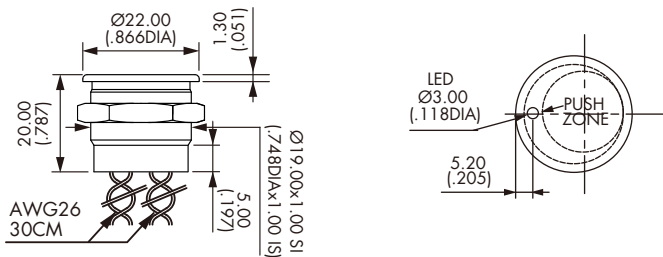


Dot-illuminated



PZ19BE1NOMR

Flat

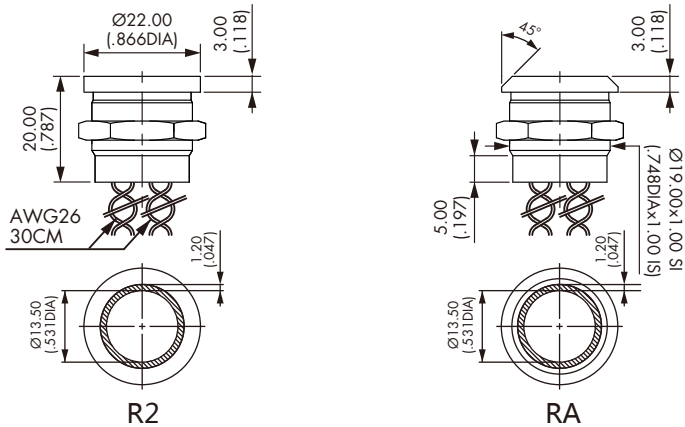


Ring illuminated



PZ19BRAFKNOMR

Flat
Chamfer



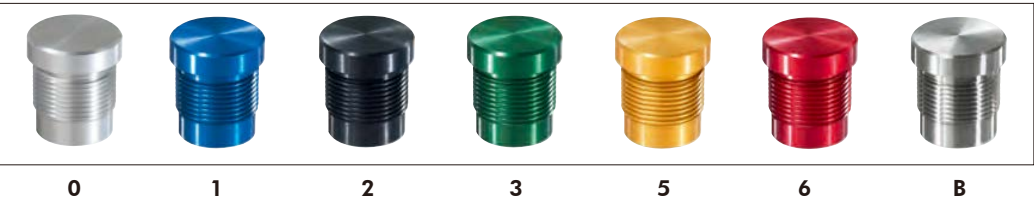
Piezo switch
Ø 22(.866), Ø 25(.984) and Ø 30(1.181)

PZ-									
SERIES		Switch size		Terminals		Ratings		Switch function	
		22	22mm	F Flyingleads		1	200mA 24VAC/DC	M Momentary	
		25	25mm	C Cable		2	1A 24VAC/DC	L Latching	
		30	30mm					latching for single & double color only	
Colours / Materials		Switch status		LED colours		Type of illum. / Voltage			
0 Natural anodized		NO Normally open		Blank Non-illum.		Blank Non-illuminated		B Blue	
1 Blue anodized		NC Normally closed		B Blue		A 13.5 Large ring-12VDC		G Green	
2 Black anodized		K NO prolonged pulse		G Green		N 13.5 Large ring-12VDC		R Red	
3 Green anodized				R Red		K 13.5 Large ring-24VDC		Y Yellow	
5 Gold anodized				Y Yellow		P 16.5 Thin ring-5VDC		W White	
6 Red anodized				W White		J 16.5 Thin ring-12VDC		RG Red/green	
B Stainless steel 316L				RG Red/green		Y 16.5 Thin ring-24VDC		RY Red/yellow	
Operator									
R2 Flat, operator height 3 mm (.118)									
Not available with illuminated ring.									
R6 With finger location, operator height 3mm (.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									

LED Colours:



Colours / Materials:



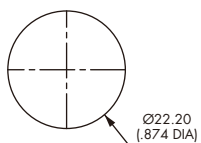
NOTICE : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

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

Packaging 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.

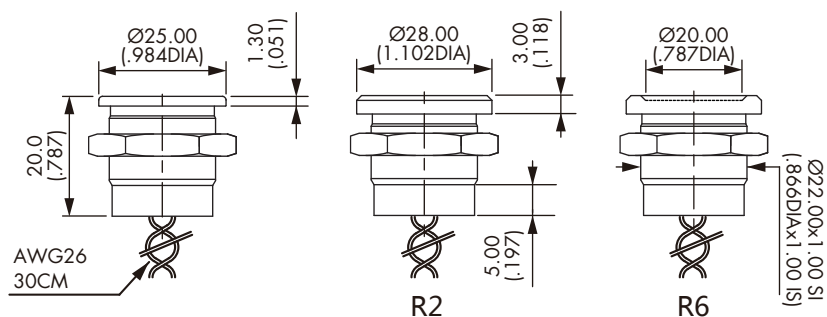
Non-illuminated



PZ226F1NOM

Flat

Finger location



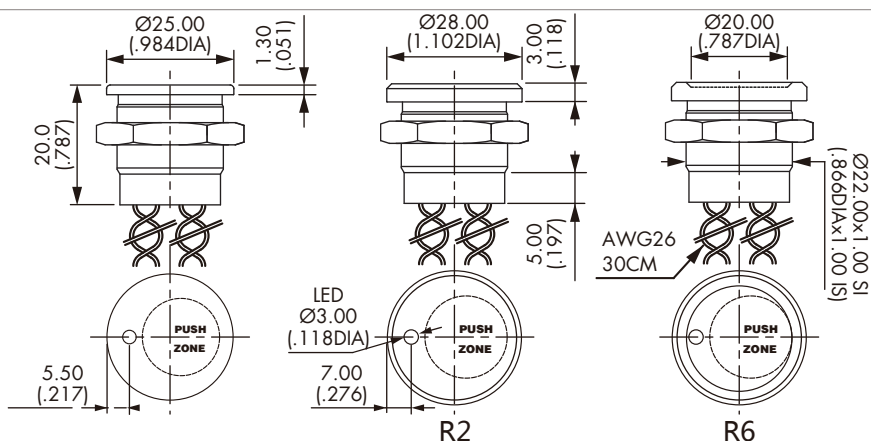
Dot illuminated



PZ22BE1NOMR

Flat

Finger location



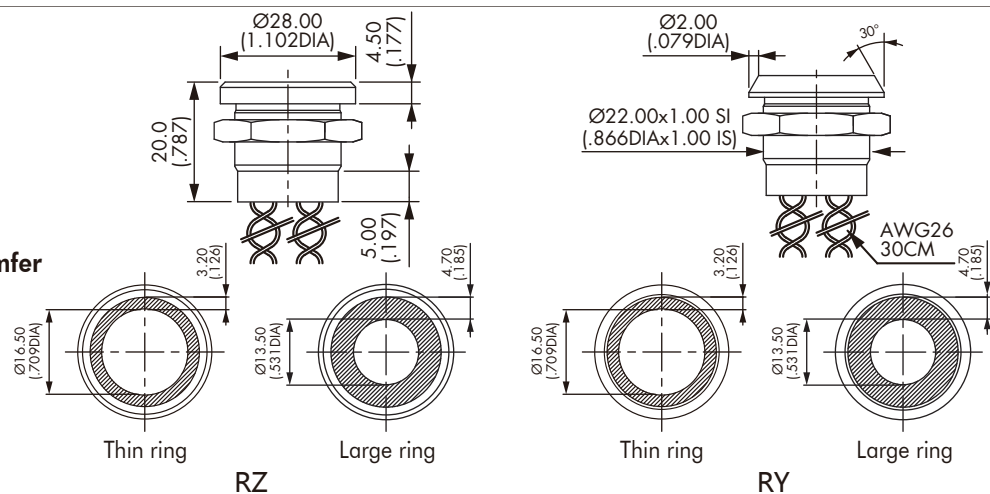
Ring illuminated



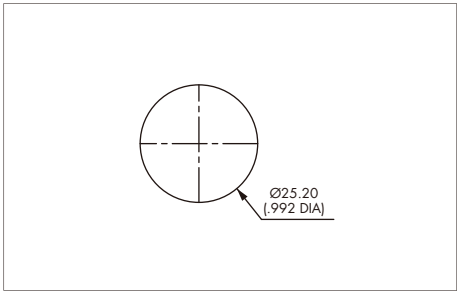
PZ22BRYJ1NOMR

Flat

Chamfer



Piezo switch Ø 25(.984)



Shown with flying lead terminals.

PIEZO SWITCH

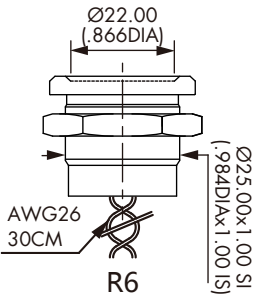
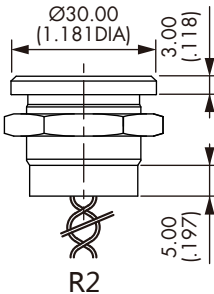
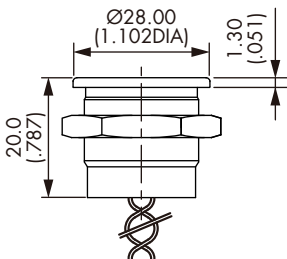
Non-illuminated



PZ25BF1NOM

Flat

Finger location



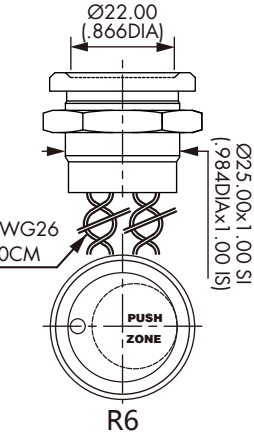
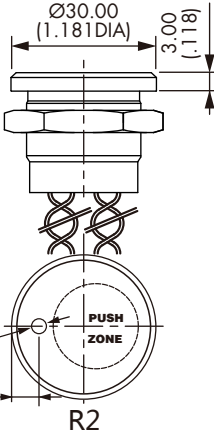
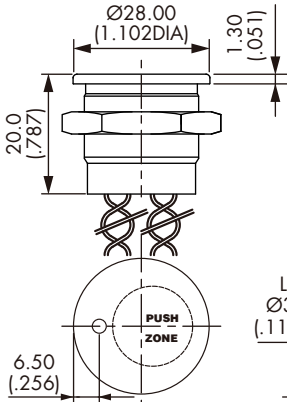
Dot illuminated



PZ25BFE1NOMR

Flat

Finger location



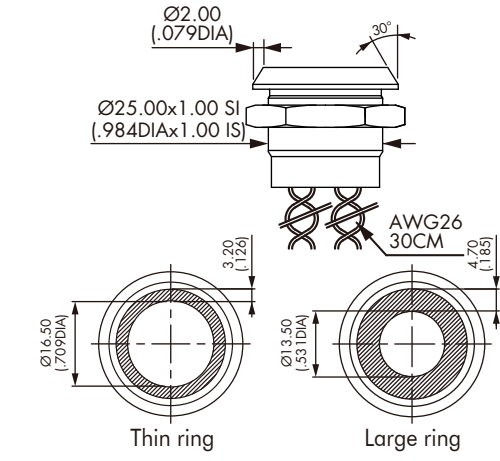
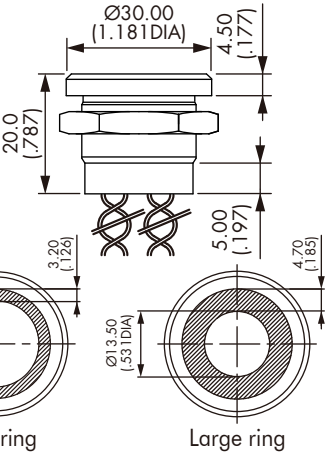
Ring illuminated

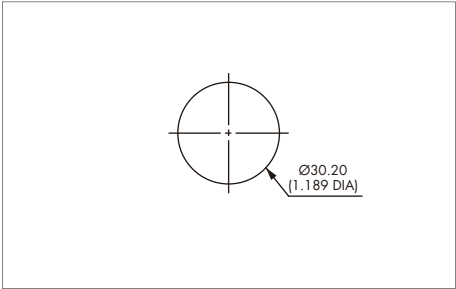


PZ25BRYN1NOMB

Flat

Chamfer





Shown with flying lead terminals.

