TACTHILL by Kynoppe

Série LUPO

SENSITIVE PUSH BUTTONS • PIEZOELECTRIC TECHNOLOGY

DISTINCTIVE FEATURES

piezoelectric technology
IP68 / IP69K
no moving parts
momentary or maintained
NO or NC contact
laser-engraved logo on request

Conventional electromechanical buttons contain moving parts that inevitably wear out. Their reliability can be reduced by contaminants such as moisture and dust, which foul the contact points. Thanks to their IP68 & IP69K sealing, our piezoelectric buttons address these issues, and their very long service life (over 50 million operations) makes them ideal for applications where reliability is essential.

Our buttons LUPO are perfectly suited to humid environments or sectors requiring regular cleaning of control panels (medical settings, food industry...).

ELECTRICAL CHARACTERISTICS

Current: 200mA 24VAC/DC - 1A 24VAC/DC
ON contact resistance: 10 Ω max
OFF contact resistance: 5 MΩ min
Electrical life: 50,000,000 cycles, nominal
Switch consumption: none
LED consumption: 10 to 20 mA max

MECHANICAL CHARACTERISTICS

Mechanical life: 50,000,000 cycles min.
Body material: see order guide on next page

ENVIRONMENTAL CHARACTERISTICS

Operating temperature = -40°C to +75°C

Front-panel sealing:
IP68 per IEC529, IP69K per DIN40050-9

Vibration resistance:
10-500 Hz / 10g per IEC60068-2-6

EMC compatibility:
200mA version: per EN61058-1
1A version: per EN61000-4 and EN61000-6-2

GENERAL CHARACTERISTICS

Typical panel cut-out: depending on version
Panel thickness: 0.5 to 4.5mm depending on version

Max nut tightening torque: 11.5 Kgf/cm

IDEAL FOR...

Showers, Bathrooms | Spas & Pools | Car wash | Marine | Medical | and so much more!



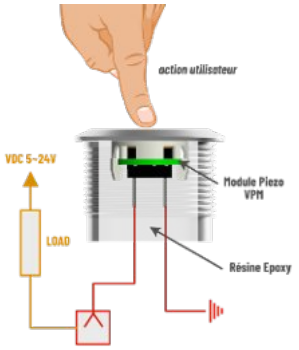
CE Reach friendly RoHS

OPERATING PRINCIPLE

The piezoelectric effect (from the Greek «Piezein», to press) was first demonstrated in 1881 by the Curie brothers.

This is the property of certain materials (such as quartz, topaz, ceramic, certain crystals and polymers) to become electrically polarised under the action of a deforming force (Direct effect); and conversely to deform when an electric field is applied to them (Indirect effect).

It is this Direct effect that is applied in piezoelectric buttons: the pressure of a finger applied to the button's surface very slightly "bends" the piezo element installed beneath it (imagine a drum skin). The piezo crystal converts this mechanical change of state into an electrical signal, which is amplified by the electronics built into the button body. This brief "on"-type pulse can vary depending on the pressure applied; higher pressures generate higher voltages that take longer to dissipate. A capacitor can be used to store the charge in order to extend the circuit's closing time constant, and therefore the length of the pulse. The technology used in Lupo buttons is based on a single VPM mechanically assembled without the use of adhesives, glues or solder - which age over time and with environmental variations (ambient temperature, humidity level...). The VPM is encapsulated in a custom-designed, industry-standard one-block metal housing, giving our buttons one of the best levels of reliability and durability on the market.



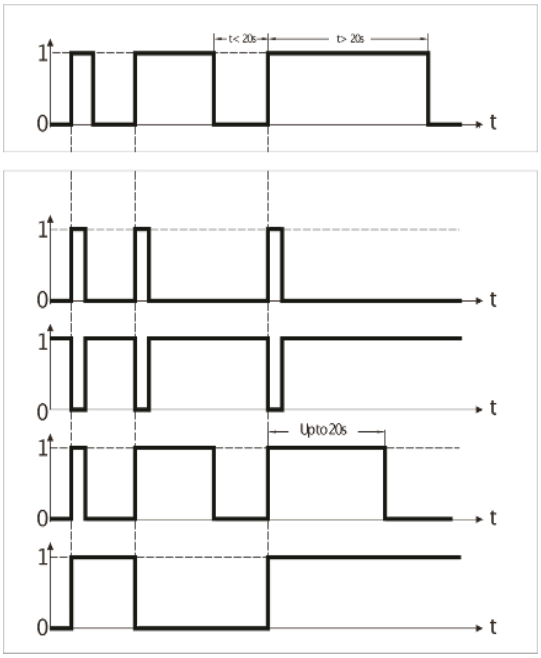


OPERATING DIAGRAMS

These diagrams show the circuit opening/closing when the button is pressed

Finger actuation
1 = finger actuation
0 = no finger actuation

Contact state
1 = closed contact
0 = open contact



Momentary NO OFF-(ON)

Momentary NC ON-(OFF)

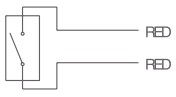
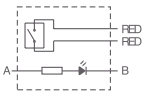
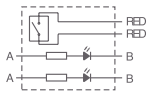
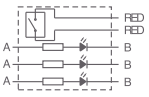
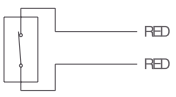
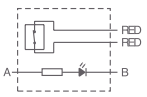
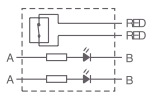
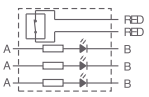
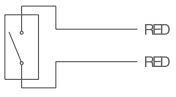
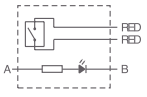
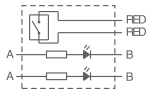
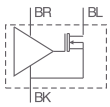
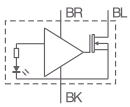
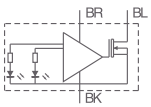
Momentary NO OFF-(ON)
extended actuation (version K)

Maintained ON - OFF
(external power supply required)

CONCEPT & DESIGN

1. Illumination by lit ring (single, dual or tri-colour), or illuminated dot.
2. No moving parts: IP68/IP69K sealing guaranteed, no mechanical wear.
3. Extremely robust one-block metal body in 316L stainless steel or anodised aluminium. From 16mm to 30mm cut-out diameter.
4. *Resin potting ensuring protection of the piezo module and onboard electronics, as well as IP67 rear sealing*
5. Wire connection as standard: 1 pair for the contact / 1, 2 or 3 pairs for the illumination function. Optional: cable or connector
6. *Versatile Piezo Module and onboard electronics ensuring a service life of over 50 million cycles*

ELECTRICAL INTEGRATION

	Non-illuminated	1 LED *	2 LEDs	3 LEDs
Momentary NO OFF-(ON)				
Momentary NC ON-(OFF)				
Momentary NO Extended OFF-(ON)				***momentary:*** *RED (red wires): contact* *B (black wires): LED common* *A (LED colour wires): +V*
Maintained OFF- ON				***maintained:*** *BROWN (brown wire): +V* *BLACK (black wire): GND* *BLUE (blue wire): contact*

ORDER GUIDE

Family	Diameter	Body material	Actuator	Output	Illumination	Version	Contact type	Actuation	LED colour(s)
SOPZ	22	C	RY	F	Y	1	NO	M	3A

Cut-out diameter

12	12 mm
16	16 mm
19	19 mm
22	22 mm
25	25 mm
30	30 mm

Material

S	316L stainless steel
C	Natural aluminium
R	Red anodised aluminium
G	Green anodised aluminium
K	Black anodised aluminium
B	Blue anodised aluminium
D	Gold anodised aluminium

Actuator Type

-	height 1.3, flush (non-illuminated version only)
R1	height 4.5, flush (dia.16mm only)
R2	height 3.0 mm, flush (dia.19, 22, 25, 30 mm only)
R5	height 4.5, recessed (dia.12, 16 mm only)
R6	height 1.3, recessed (dia.16, 22, 25, 30 mm only)
RA	height 3.0, recessed (dia.19 mm only)
RY	height 4.5, chamfered (dia.22, 25, 30 mm with illuminated ring *only)*
RZ	height 4.5, flush (dia.22, 25, 30 mm with illuminated ring *only)*

Output

F	Wires
C	Cable1

Illumination

-	Non-illuminated
A	illuminated ring 5 VDC
N	illuminated ring 12 VDC
K	illuminated ring 24 VDC
D	illuminated dot 5 VDC
E	illuminated dot 12 VDC
S	illuminated dot 24 VDC
P[2]	thin illuminated ring 5 VDC
J[2]	thin illuminated ring 12 VDC
Y2	thin illuminated ring 24 VDC

Contact Rating

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

Contact Type

NO	Normally Open
NC	Normally Closed
K	Normally Open Extended Actuation

Actuation

M	Momentary
L[3]	Maintained

Led Colours

-	Non-illuminated
R	Red
G	Green
Y	Yellow
B	Blue
W	White
C	Cyan
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
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

ABOUT THIS SERIES

1 U.DESIGN service: custom wiring to specification, subject to MOQ.

2 diameters 22mm, 25mm and 30mm only.

3 maintained actuation version: max 2 colours illumination, incompatible with extended actuation

Our buttons are supplied as standard with a nickel-plated brass hex nut and sealing gasket.

⚠ SOME CONFIGURATIONS MAY NOT BE AVAILABLE OR MAY BE SUBJECT TO A M.O.Q.

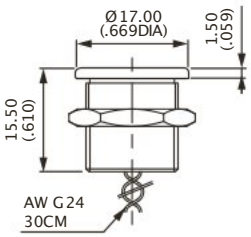
FOR ALL YOUR CUSTOM REQUESTS, CONTACT US !
sales@kynoppe.com

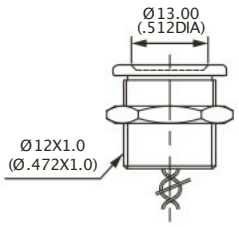
CONFIGURATION EXAMPLES

DIAMETER 12 - NON-ILLUMINATED

SOPZ12SF1NOM





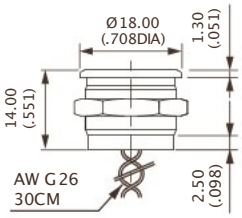


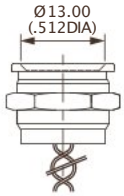
R5

DIAMETER 16 - NON-ILLUMINATED

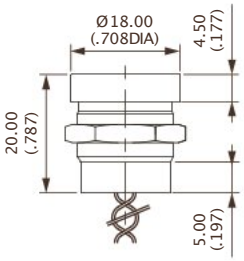
SOPZ16RF1NOM



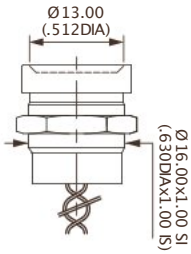




R6



R1

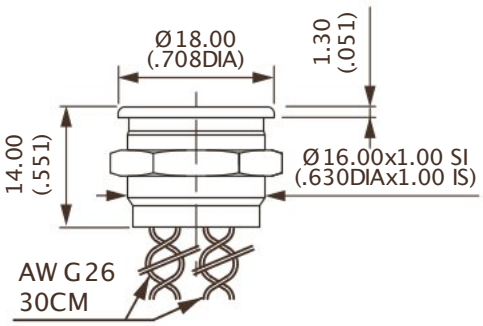


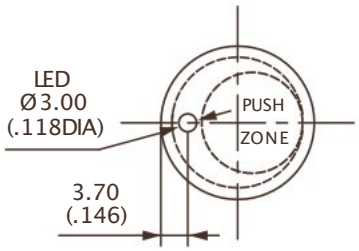
R5

DIAMETER 16 - ILLUMINATED DOT

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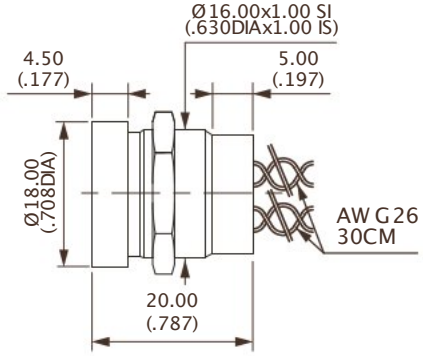


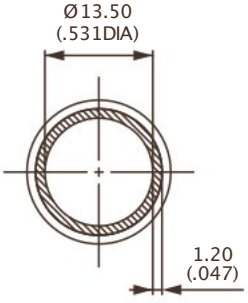


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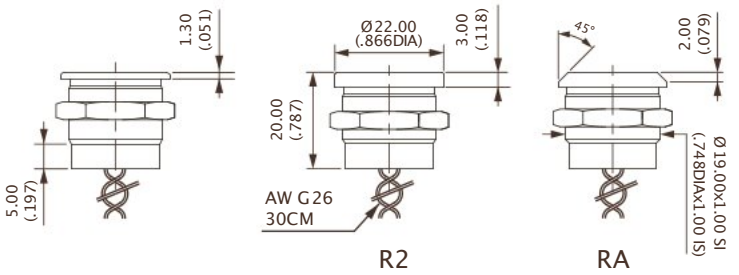




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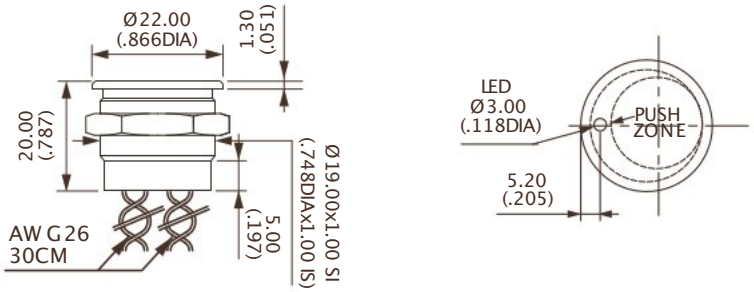




DIAMETER 19 - ILLUMINATED DOT

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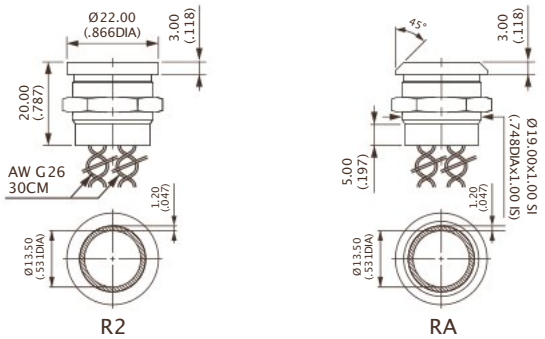




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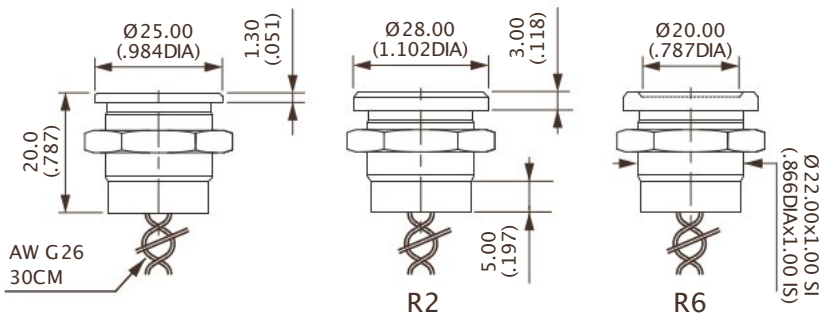




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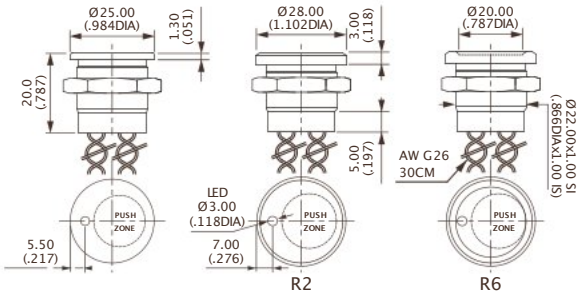




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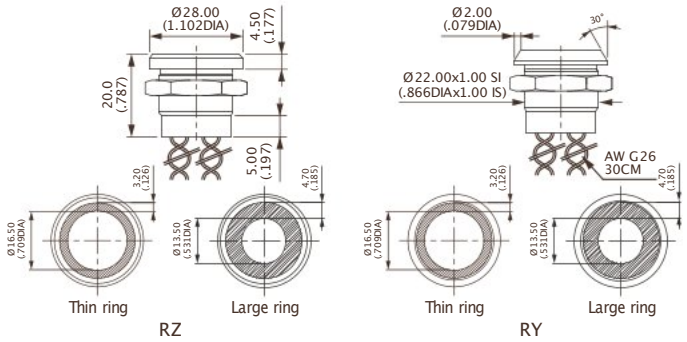




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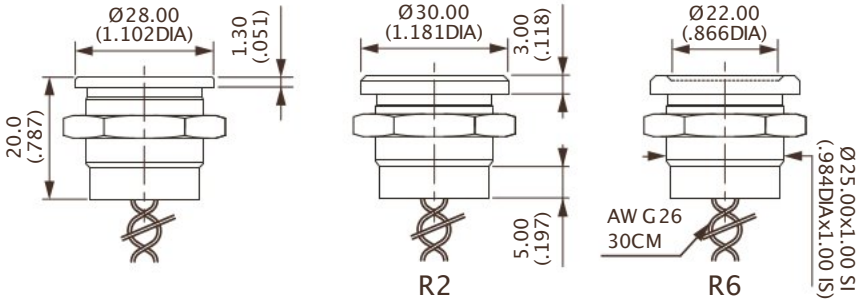




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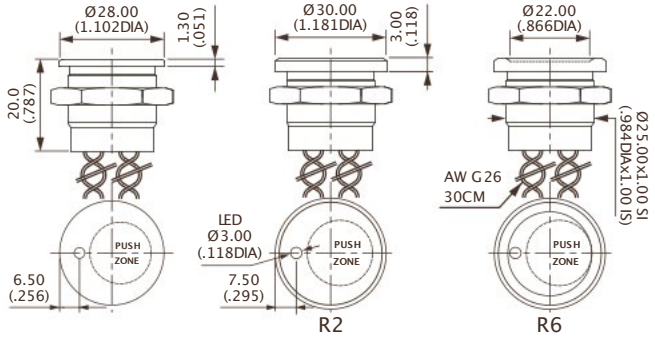




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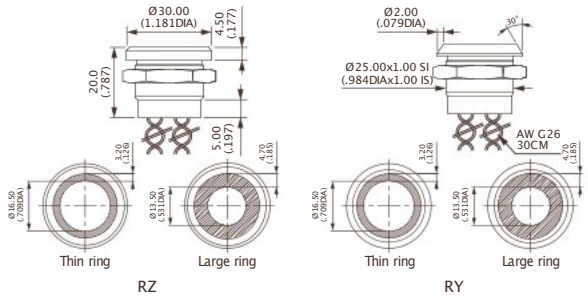




DIAMETER 25 - ILLUMINATED RING

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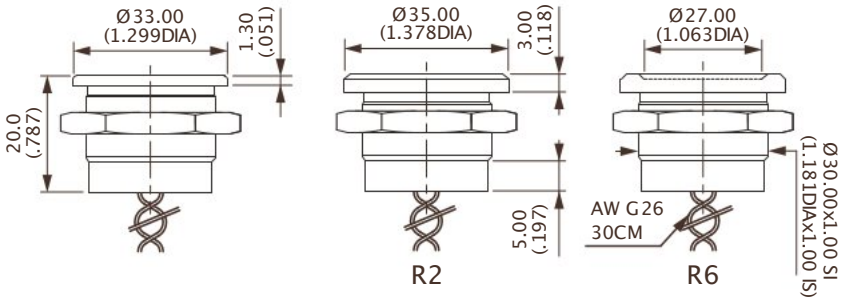




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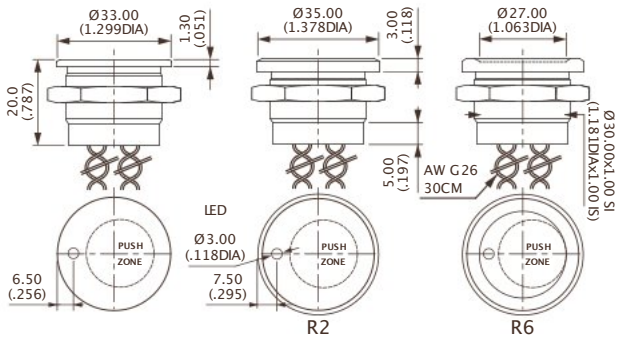




DIAMETER 30 - ILLUMINATED DOT

SOPZ30SFE1NOMG





DIAMETER 30 - ILLUMINATED RING

SOPZ30KRYFJ1NOMRY



