

PBA series

Piezo switches Ø 30 mm



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

Ring illumination: flush or prominent ring



ENVIRONMENTAL SPECIFICATIONS

- Sealing : IP68 per IEC 60529, IP69K per DIN 40050-9 (switches mounted on panel)
- Operating temperature : -40 °C to +75 °C (-40 °F to + 167 °F)
- Extreme thermal shock may briefly trigger the switch



ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 1 A 24 VAC/DC
- Switch resistance ON : 10 Ω max.
- Switch resistance OFF : 5 MΩ min.
- Life expectancy : 50 million cycles
- LED consumption : 20 mA max.



GENERAL SPECIFICATIONS

- Operating force : 6 to 12 N
- Torque : 1.5 Nm min. - 10 Nm max.



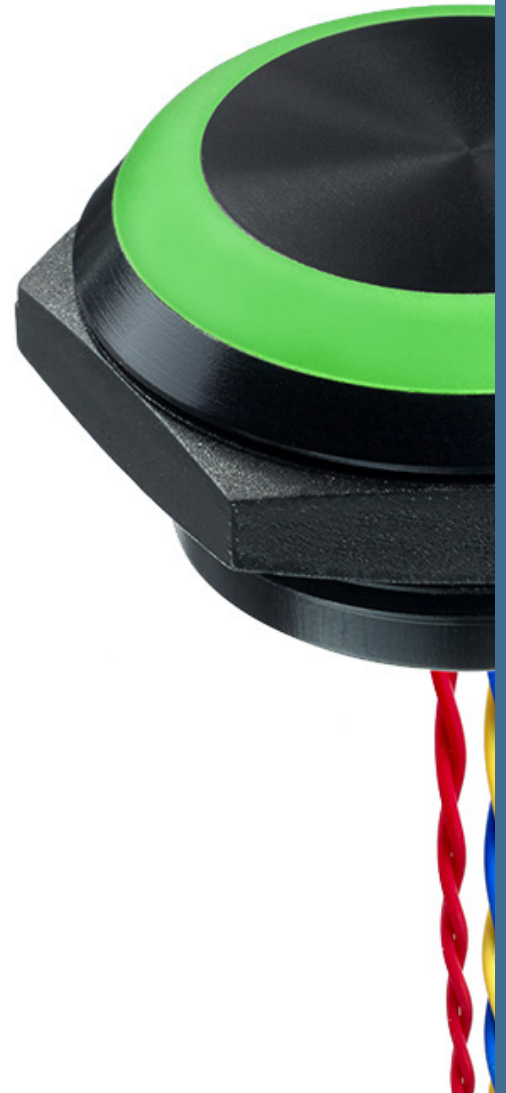
MATERIALS

- Case : aluminum, anodized or stainless steel 316L
- Multi-wire leads section 0.22 mm² length 300 mm, twisted by pair
- Cable, length 300 mm, section depending on switch model

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

Note : to maintain the ESD performance, always add a ground washer when the panel is made of non-conductive material (PVC, polycarbonate). For part numbers, see "Mounting accessories" on the following pages.

The company reserves the right to change specifications without notice.

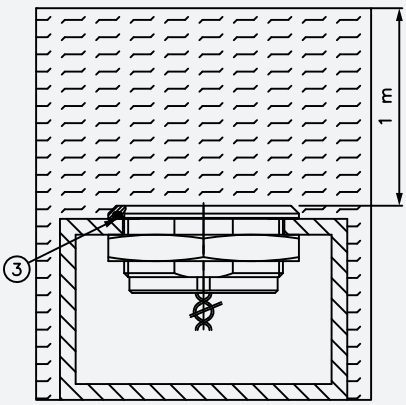


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Piezo switches Ø 30 mm

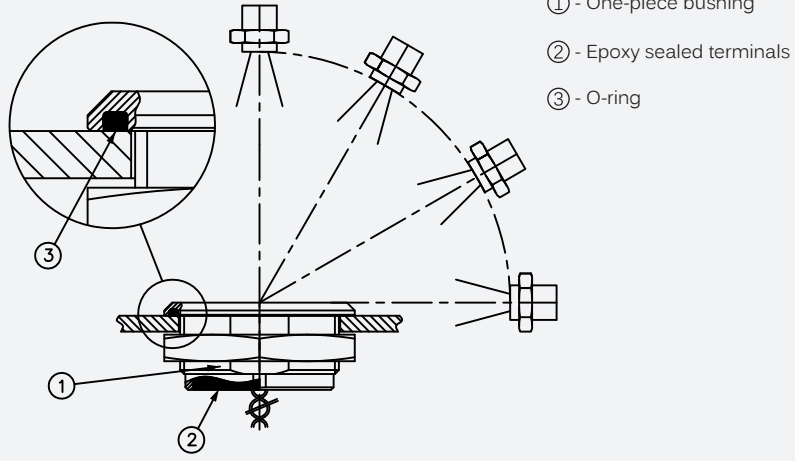
SEALING

SEALING IP68



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

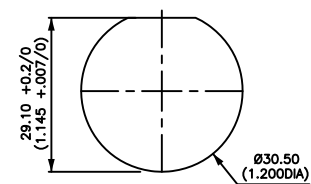
SEALING IP69K



**High pressure, high temperature wash down
IP69K test conditions**

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

PANEL CUT-OUT

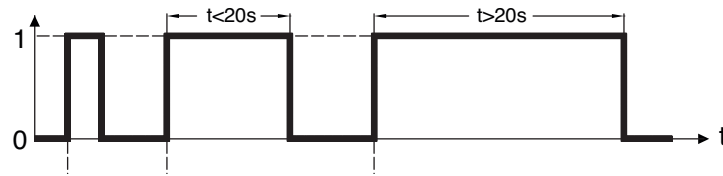




ELECTRICAL FUNCTIONS

FINGER PRESSURE APPLIED TO SWITCH

1 : pressure / 0 : no pressure

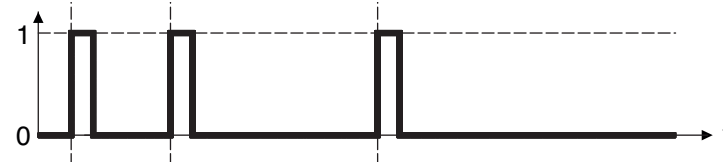


OUTPUT

1 : closed output / 0 : open output

Momentary NO (pulse)

No external power supply required



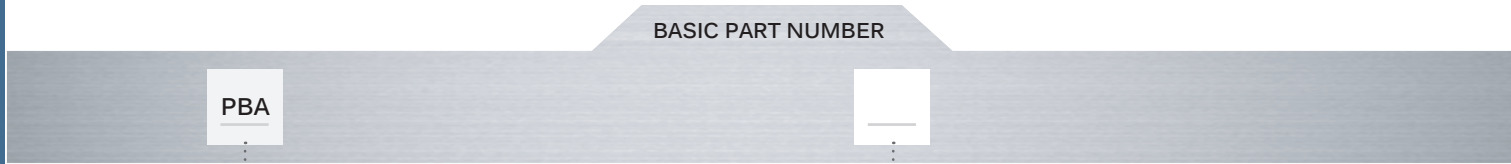
WIRING DIAGRAMS

	Non-illuminated	1 LED *	2 LEDs	3 LEDs
Momentary NO				
Legend : C : yellow, D : blue, B : black, A : same color as LED		* LED color is indicated by the bottom of the product.		

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BUILD YOUR PART NUMBER



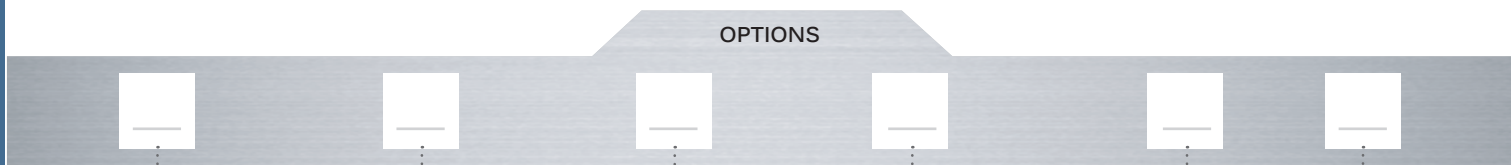
BASIC PART NUMBER

PBA
SERIES

BUSHING / OPERATOR

All models with Ø 30 mm (1.181) bushing and Ø 36 mm (1.417) operator

M1	Operator height 2.5 mm (.098) Non-illuminated	M4	Operator height 5.5 mm (.216) Illuminated, prominent translucent ring
M2	Operator height 2.5 mm (.098) Illuminated, flush translucent ring	M5	Operator height 5.5 mm (.216) Illuminated, prominent colored ring (same color as LED)
M3	Operator height 2.5 mm (.098) Illuminated, flush colored ring (same color as LED)		



OPTIONS

ELECTRICAL FUNCTIONS

A NO (pulse)

TERMINALS

F Flying leads
C Cable

COLORS / MATERIALS

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

Bold = standard

RATINGS

002 1 A 24 VAC/DC

LED VOLTAGE

Blank Non-illuminated
C 5 VDC
D 12 VDC
E 24 VDC

LED COLORS

Blank	Non-illum.	2A	Red/green
0B	Blue	2B	Red/yellow
0G	Green	2C	Red/blue
0S	Red	2D	Red/white
0Y	Yellow	2E	Green/blue
0W	White	2F	Green/yellow

LED COLORS (CONTINUED)



2G	Green/white	3A	Red/green/blue	3H	Green/blue/ yellow
2H	Blue/yellow	3B	Red/green/yellow	3I	Green/blue/white
2I	Blue/white	3D	Red/green/white	3J	Green/yellow/ white
2K	Yellow/white	3E	Red/blue/yellow	3K	Blue/yellow/white
		3F	Red/blue/white		
		3G	Red/yellow/white		

Bicolor or tricolor, order with translucent ring (M2 or M4)

For options not listed above, please contact APEM.

ABOUT THIS SERIES

On the following pages, you will find successively basic part numbers of switches and options in the same order as in above chart.

-  **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 U6730 (36 mm ac. flats) and 1 O-ring. Always add a ground washer U7340 when the panel is non-conductive (PVC, polycarbonate).

PBA series

Piezo switches \varnothing 30 mm

NON-ILLUMINATED
OPERATOR HEIGHT 2.50 MM (.098)



PBAM1

FLUSH ILLUMINATED RING
OPERATOR HEIGHT 2.50 MM (.098)



Translucent ring

PBAM2

Colored ring

PBAM3

PROMINENT ILLUMINATED RING
OPERATOR HEIGHT 5.50 MM (.216)



Translucent ring

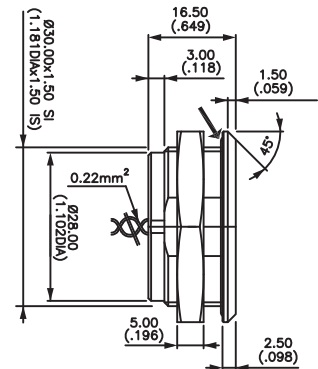
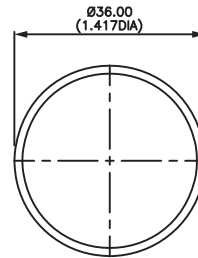
PBAM4

Colored ring

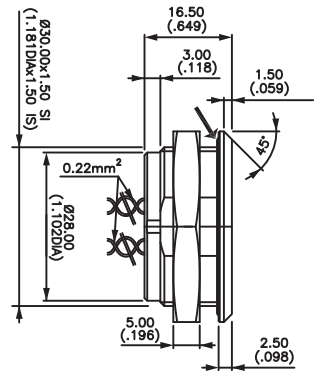
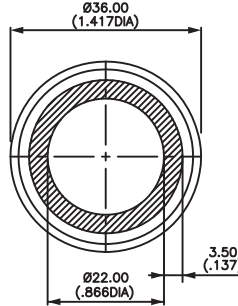
PBAM5

Wire colors : see "Wiring diagrams".

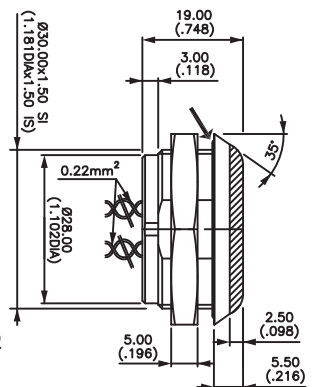
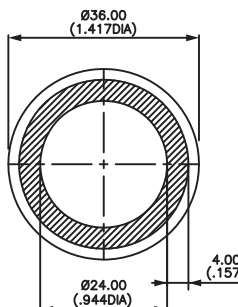
→ O-RING



→ O-RING



→ O-RING



ELECTRICAL FUNCTION



A NO pulse

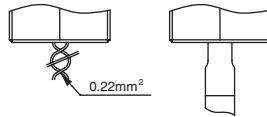
PBA series

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TERMINALS



- F Flying leads
- C Cable



CASE COLORS / MATERIALS



- | | |
|------------------------------------|-------------------------------|
| 0 Natural anodized aluminum | 5 Gold anodized aluminum |
| 1 Blue anodized aluminum | 6 Red anodised aluminum |
| 2 Black anodised aluminum | B Stainless steel 316L |
| 3 Green anodized aluminum | Bold = standard |

RATINGS



002 1 A 24 VAC or DC

LED VOLTAGE



- Blank Non-illuminated
- C 5 VDC
- D 12 VDC
- E 24 VDC

LED COLORS



Blank Non-illuminated Integrated LED resistor

Illuminated 1 LED *

0B : blue - 0G : green - 0S : red - 0Y : yellow - 0W : white

Illuminated 2 LEDs (with translucent ring)

2A : red/green - 2B : red/yellow - 2C : red/blue - 2D : red/white - 2E : green/blue - 2F : green/yellow - 2G : green/white
2H : blue/yellow - 2I : blue/white - 2K : yellow/white

Illuminated 3 LEDs (with translucent ring)

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 color is indicated by protective resin color on bottom of unit.