

Piezo Switch for Explosive Environments



PSE M16 EX



Description

- Piezo switch certified according to ATEX and IECEx
- Assembly by mounting with nut
- Pins, Crimp Terminal male, AMP

Approvals

- EMC: EMC directive 2004/108/EWG
- ATEX Approval Test Report:
 - SEV 13 ATEX 0170
 - IECEX SEV 13.0011
- ATEX Approval Marking:
 - Ex II 2 GD
 - Ex ib IIC T6...T5 Gb
 - Ex ib IIC T85°C...T100°C Db
- MIL-STD Certificate Number: 202F Method 107G, 202F Method 204D, 202F Method 213B, 416D Method RS103, 810E Method 501.3, 810E Method 502.3, 810E Method 507.3
- VDE Certificate Number: DIN EN 61000-4-2, DIN EN 61000-4-4

Characteristics

- Housing material types: aluminum, brass chrome-plated or stainless steel
- High reliability, long lifetime with more than 20 mill. actuations
- Easy to clean due to a tightly closed surface (IP 69K)
- for use in harsh environments, in potentially explosive applications and environments where volatile fumes, gases and dust are present

References

- Alternative: Standard version
- Alternative: Other diameter

Weblinks

[html-datasheet](#), [General Product Information](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [CAD-Drawings](#), [Product News](#), [Detailed request for product](#), [Microsite](#)

Technical Data

Electrical Data

| | |
|---|--|
| Switching Function | N.O. |
| Switching Voltage | Ui max. 24 / 24 VAC/DC |
| Switching Current | Ii max. 40 mA |
| Rated Breaking Capacity (Temperature Class T5/T100°C) | Pi max. 0.96 W |
| Rated Breaking Capacity (Temperature Class T6/T85°C) | Pi max. 0.7 W |
| Lifetime | 20 million at Rated Switching Capacity |
| Switch Resistance OFF | > 10 kΩ |
| Switch Resistance ON | < 20 mΩ |
| Capacity | 5 pF |
| N.O. Closing Impulse Duration | 20- 1000 ms |
| Contact Configuration | free polarity |

Mechanical Data

| | |
|-------------------|------------------------------|
| Actuating Force | ≤ 3 N at ambient temperature |
| Actuating Travel | 0.002 mm |
| Shock Protection | IK 02 |
| Tightening Torque | 2.5 Nm |

Climatical Data

| | |
|-----------------------|---|
| Operating Temperature | -20 to +60 °C |
| Storage Temperature | -20 to +60 °C |
| IP-Protection | IP 67 acc. to IEC 60529, IP 69K acc. to DIN 40050-9 |

| | |
|--------------------------|---|
| Environmental Assessment | 55°C / 93% r.h. acc. to DIN EN 60068-2-30 |
|--------------------------|---|

| | |
|--|-----------------------------------|
| Salt Spray Test (acc. to DIN 50021-SS) | 24 h / 48 h / 96 h Residence Time |
|--|-----------------------------------|

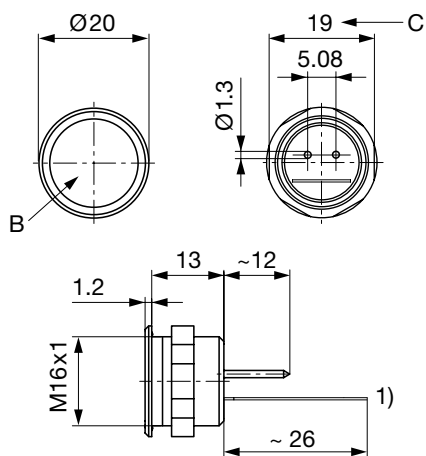
Material

| | |
|-----------------------------|---|
| Housing (depending on type) | Stainless Steel, Aluminium anodized, Polyamide, Chromed Brass |
|-----------------------------|---|

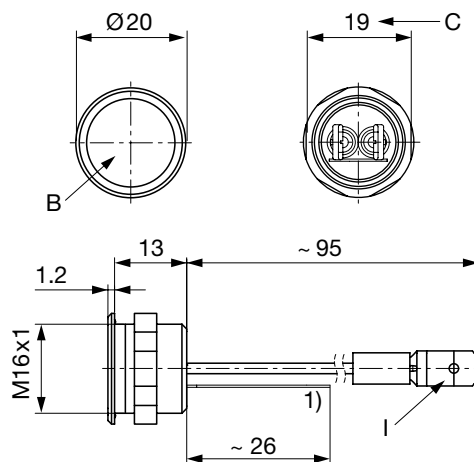
Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [General Product Information](#)

Dimension

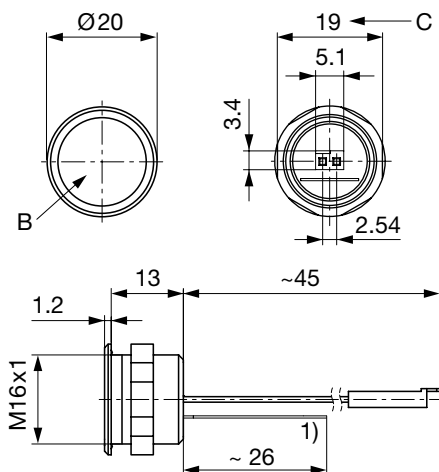
PSE M16 with Pins



PSE M16 with Crimp Terminal male



PSE M16 with AMP



Legend:

1) = Type label

B = Actuating area

C = Width across flats

I = Crimp terminal male 3.6 x 0.8

- Wire (Standard: 0.14 mm² / 200 mm wire-length)

- Pins (with connection terminal 0701.9225)

- AMP

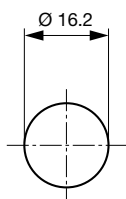
Lettering:

- Either with/without lettering

- Position of the connections with respect to the position of the lettering is not defined

Dimension

PSE M16



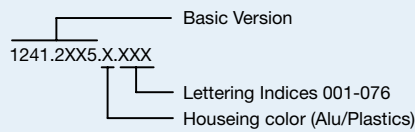
Drilling diagram

Lettering

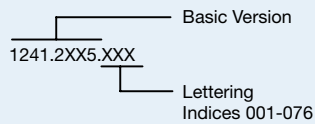
The last three digits in the order number define the lettering:

| | |
|---------|----------------------|
| 001-076 | Standard Lettering |
| 101- | Customized Lettering |

Lettering - Aluminium / Plastic Material



Lettering - Stainless Steel



Lettering Colour of Laser Lettering

| Material | Lettering Colour | |
|----------------------------|------------------|---|
| Stainless Steel | black | Filled letters |
| Aluminum natural anodized | light grey | Filled letters (only after customer approval) |
| Aluminum coloured anodized | light grey | Filled letters |

Order Index Lettering

| Laser Marking | | | |
|----------------|----------------|---------------------|---------------------|
| 001 = A | 021 = U | 041 = ÷ | 061 = EIN |
| 002 = B | 022 = V | 042 = * | 062 = AUS |
| 003 = C | 023 = W | 043 = = | 063 = AUF |
| 004 = D | 024 = X | 044 = # | 064 = AB |
| 005 = E | 025 = Y | 045 = ↔ | 065 = ON |
| 006 = F | 026 = Z | 046 = † | 066 = OFF |
| 007 = G | 027 = 0 | 047 = → | 067 = UP |
| 008 = H | 028 = 1 | 048 = ← | 068 = DOWN |
| 009 = I | 029 = 2 | 049 = ↓ | 069 = HIGH |
| 010 = J | 030 = 3 | 050 = ↑ | 070 = LOW |
| 011 = K | 031 = 4 | 051 = % | 071 = ON/OFF |
| 012 = L | 032 = 5 | 052 = √ | 072 = START |
| 013 = M | 033 = 6 | 053 = CTRL | 073 = RESET |
| 014 = N | 034 = 7 | 054 = RETURN | 074 = |
| 015 = O | 035 = 8 | 055 = SHIFT | 075 = |
| 016 = P | 036 = 9 | 056 = LOCK | 076 = |
| 017 = Q | 037 = + | 057 = STOP | 077 = |
| 018 = R | 038 = - | 058 = ENTER | |
| 019 = S | 039 = . | 059 = BACK | |
| 020 = T | 040 = x | 060 = LINE | |

All Variants

| Mounting Diameter [mm] | Terminal | Housing Material | Colour of Housing | Config. Code | Order Number |
|------------------------|----------|------------------|-------------------|----------------|-----------------------------|
| 16 | Pins | Aluminum | gold | PSE M 16 EX EX | 1241.2415.1 |
| 16 | Pins | Aluminum | red | PSE M 16 EX EX | 1241.2415.3 |
| 16 | Pins | Aluminum | green | PSE M 16 EX EX | 1241.2415.5 |
| 16 | Pins | Aluminum | Alu natural | PSE M 16 EX EX | 1241.2415.8 |

| Mounting Diameter [mm] | Terminal | Housing Material | Colour of Housing | Config. Code | Order Number |
|------------------------|----------|------------------|-------------------|--------------|--------------|
|------------------------|----------|------------------|-------------------|--------------|--------------|

Annotation to the protection type:

- The explosion protected piezo switch element (PSE EX) has the function of a NO (normally open) switch.
- Permissible voltage and current of the PSE EX are limited, so that the PSE EX is intrinsically safe in accordance with EN60079-11 (see Technical Data).
- The use of the PSE EX is permitted in areas where the formation of explosive atmospheres caused by gases, fumes, mist or dust mixing with air occurs occasionally. The explosion protected PSE is classified according to EN 60079-0 in the device group II, category 2.

Attention:

- The permissible operating temperature is - 20°C to 60°C.
- The approval will cease when the type label is removed.
- The switch has to be installed and used according to IEC/EN 60079-14 and IEC/EN 60079-25.

The listed item numbers represent a selection of the range of piezo switches.

Other mounting diameters, materials, colors, connections and symbols are available on request.

Special materials for use in salt and chlorinated environment on request.

Availability for all products can be searched real-time: <http://www.schurter.com/en/Stock-Check/Stock-Check-SCHURTER>

Packaging unit 10 in cardboard box packed in air cushion bag with instruction manual



- Actuating elements in ESD safe packaging
- Screw nuts and sealing rings in a bag (enclosed in the box)

Accessories

Description



Connecting Terminal PSE
Connecting Terminal