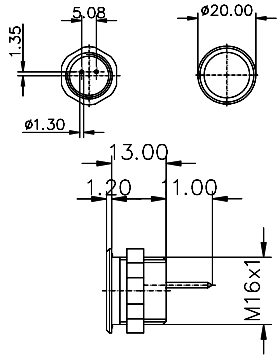
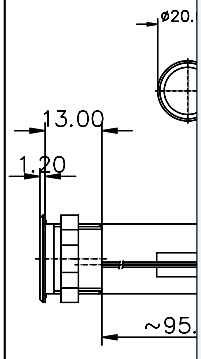
Vandal-Proof Piezo Switches

From a lower cost plastic version to the “EX” version the range is impressively complete. A special feature is the Piezo switch with mechanical stroke. All switches are available in a variety of colors and housing materials.



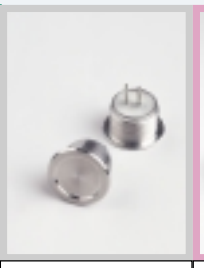
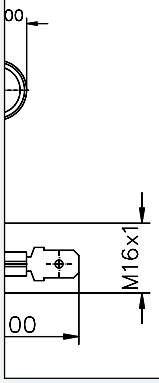
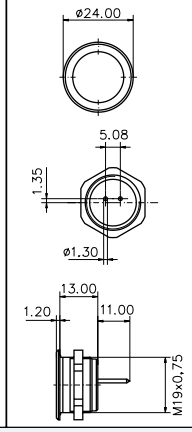
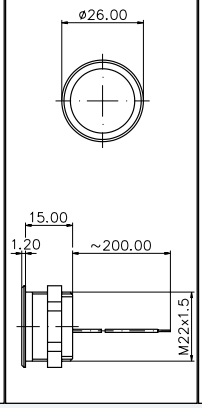
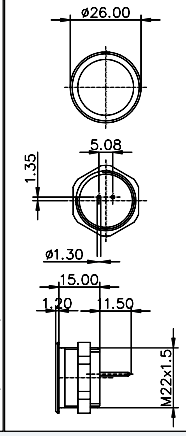
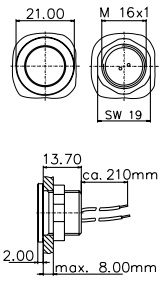
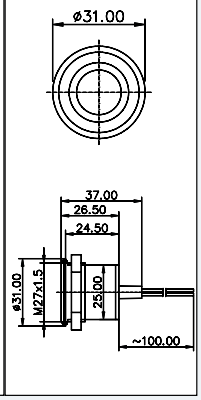

Standard Versions All other types as well as labeling are available on request.	M16 plastic housing (pins)	M16 metal housing (pins)	M16 intrinsic safe Ex	M16 prolonged signal*1
Features				
Housing material (stainless steel on request)	plastic (PBT, UL 94)	aluminum	aluminum	aluminum
Switching function	N.O.	N.O.	N.O.	N.O.
Terminals Faston	available on request	see M16 Faston	available on request	●
Pins	●	●	●	—
Wires (200 mm)	—	—	—	—
Accessories Screwing clip for terminal pins*2	●	●	●	—
0701.9225				
Nut and O-ring seal	All switches are supplied with nut and O-ring seal			
Part numbers				
Color of housing red	1241.2350	1241.2411.3	—	—
white	1241.2351	—	—	—
natural	1241.2352	1241.2411.8	1241.2415.8	1241.2434.8
black	1241.2353	1241.2411.7	—	—
green	—	1241.2411.5	—	—
blue	—	1241.2411.4	—	—
gold	—	1241.2411.1	—	—
Dimensions				

Ex The explosion-proof type of our PSE switches was specifically designed for potentially explosive areas and is tested to type of production "i" according to DIN EN 50014/20 (Eex ib IICT4). Due to contactless circuitry there is no danger of igniting explosive goods.

*1 Prolonged signal means that the signal stays on as long as the switch is actuated. Make impulse time: 0,2 – 50 sec. (depending on actuating force).

*2 The clamp for the threaded terminal end must be ordered separately. Part no. 0701.9225

Changes for technical improvement are subject to change.

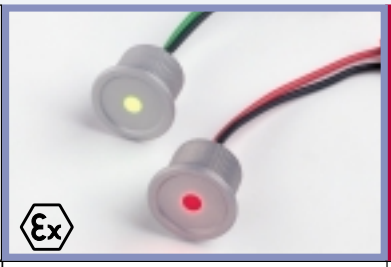
					
M16 faston	M19 pins	M22 Prolonged signal*[1] with temperature compensation*[3]	M22 pins	M16 with tactile feedback	M27 mechanical stroke
Features					
aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
N.O.	N.O.	N.O.	N.O.	N.O.	N.O.
●	—	—	available on request	—	—
—	●	—	●	—	—
●	—	● 200 mm	—	● 210 mm	● Wire 100 mm
—	●	—	●	—	—
All switches are supplied with nut and O-ring seal					
Part numbers					
1241.3000	—	—	1241.3005	—	1241.2625.3
—	—	—	—	—	—
1241.3003	1241.3123	1241.3998	1241.3008	1241.5200.8.093	1241.2625.8
1241.3002	—	—	1241.3007	with red foil	1241.2625.7
1241.3001	—	—	1241.3006	—	1241.2625.5
—	—	—	—	—	1241.2625.4
—	—	—	—	—	1241.2625.1
					

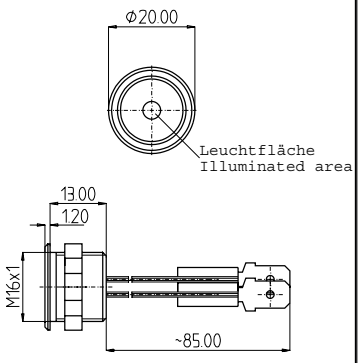
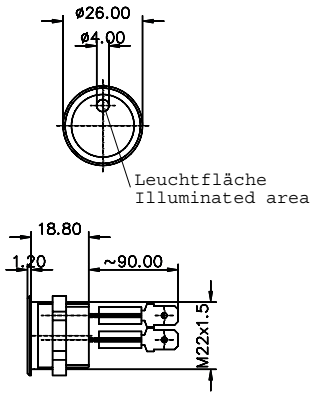
*1 Extended impulse means that the signal is shown as long as the key is pressed.
Duration of actuation: 0.2 – 50 sec. (depending upon actuating force, time and velocity).

*3 In case the pyroeffect occurs due to large temperature jumps a special circuit ensures functional safety of the switch.

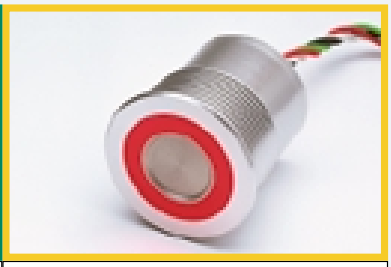
Illuminated Vandal-Proof Piezo Switches

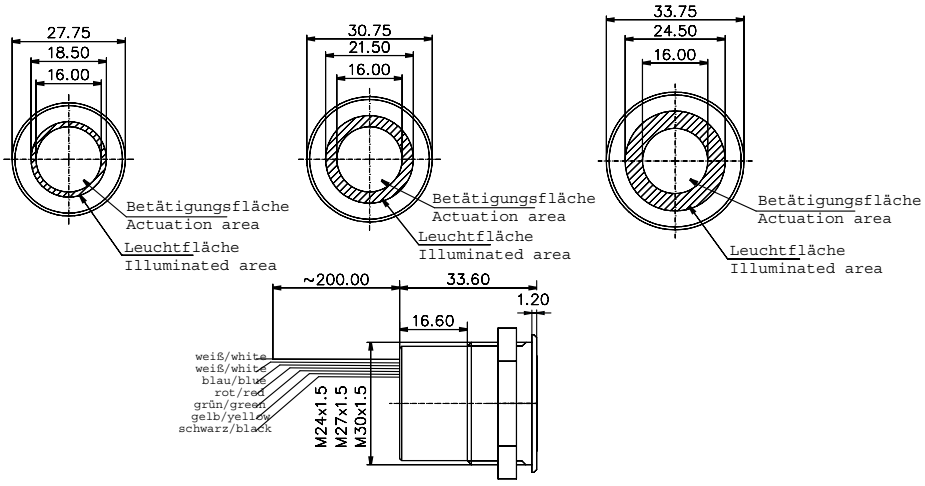
The illuminated piezo switches complement the piezo range for applications which require optical feedback. Illumination can be either point or ring type. The M16 version also includes an indicator without switching function for explosion-proof applications.



Standard Versions Other versions (as well as laser labeling) on request (see page 8).	M16 indicator without switching function faston	M22 point illuminated faston
Housing material	**aluminum**	**aluminum**
Switching function	**none**	**N.O.**
Terminals Faston	●	●
Pins	—	—
Wires (200mm)	—	—
Illumination Point illumination	● **LED 2 V* without built-in resistor**	● **LED red, 24 V***
Ring illumination	—	—
Nut and O-ring seal	**All switches are supplied with nut and O-ring seal**	
Part numbers		
Color of housing natural	**1241.3033 LED red**	**1241.3020**
natural	**1241.3034 LED green**	—
natural	**1241.3035 LED yellow**	—
red	**1241.3036 LED red**	—
green	**1241.3037 LED green**	—
gold	**1241.3038 LED yellow**	—
Dimensions		

* cf. LED-Data p. 1

		
M24 ring illuminated wires	M27 ring illuminated wires	M30 ring illuminated wires
Features		
aluminum	**aluminum**	**aluminum**
N.O.	**N.O.**	**N.O.**
—	—	—
—	—	—
● 200 mm	**● 200 mm**	**● 200 mm**
—	—	—
● LEDs red/green, 24 V*	**● LEDs red/green, 24 V***	**● LEDs red/green, 24 V***
All switches are supplied with nut and O-ring seal		
Part numbers		
—	—	—
1241.3010	**1241.3011**	**1241.3012**
—	—	—
—	—	—
—	—	—
—	—	—



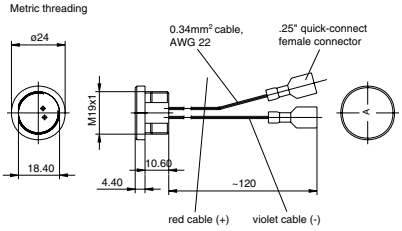
Piezo Electronic Switches With Extended Temperature

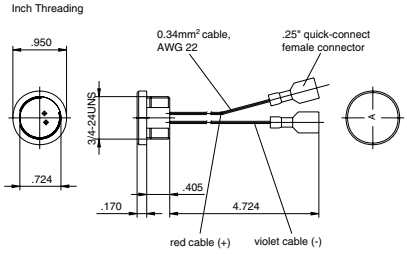
The switch with extended temperature range can be used under critical climatic conditions. The operating temperature is from -40 to + 85° C.

Standard Versions
Other versions on request.

M19
with extended temperature range

Features		
Housing material	**aluminum**	**aluminum**
Switching function	**N.O.**	**N.O.**
Terminals	**Faston receptacle with wire 0.34 mm²**	**Faston receptacle with wire 0.34 mm²**
Nut	**Supplied with nut**	
Part numbers		
Color of housing (natural)	**1241.5003**	**1241.5002**





Technical Data

Electrical data

Switching voltage max.	50 VDC
Switching current max.	15 A
Breaking capacity max.	0,4 W
Lifetime at rated breaking capacity	>10 Mio. cycles
Isolation resistance (OFF = not actuated)	not testet
Initial contact resistance (ON = actuated)	< 7,5 Ω
Capacity	25 pF
N.O. make impulse time*1	min. 40 ms

Mechanical data

Min. actuating force	0,6 N
Switching travel	0,002 mm
Degree of protection	IP 67
Max. starting torque	250 N/cm

Climatic data

Operating temperature / storage temperature	-40°C to +85°C

*1 depending on actuating force, time and speed

SCHURTER

Technical Data For Piezo Switches

Electrical data

	general	prolonged signal	Ex version
Switching voltage max.	60 VDC	60 VDC	24 VDC
	42 VAC	42 VAC	24 VAC
Switching current max.	0,1 A	2,6 A	0,04 A
Breaking capacity max.	1 W	15,6 W	0,96 W
Lifetime at rated breaking capacity	> 20 · 10^6 cycles	> 20 · 10^6 cycles	> 20 · 10^6 cycles
Isolation resistance (OFF = not actuated)	> 10 M	> 10 M	> 10 M
Initial contact resistance (ON = actuated)	< 20	< 5	< 20
Capacity	30 pF	30 pF	30 pF
NO make impulse time	20 – 1000 ms	20 – 50000 ms	20 – 1000 ms
(depending on actuating force, time and speed)			

Mechanical data

Min. actuating force	1,5 – 3 N (4,25 N for PSE with mechanical stroke)
Contact travel	0,002 mm
Degree of protection (sealed)	67 IP
Max. starting torque	250 N/cm
Mechanical life	1 Mio actuations
	(applies to piezo switches with tactile feedback)

Climatic data

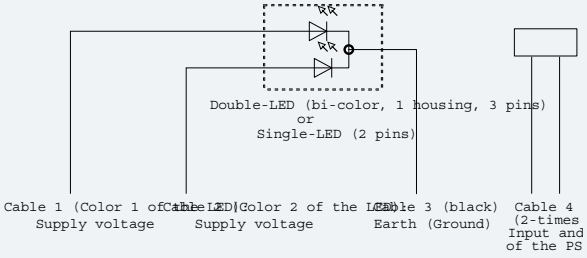
Operating temperature	-20°C to +60°C
Storage temperature	-20°C to +60°C

LED Data For Illuminated Versions

Point illumination:

Color	Current I_F = mA	Remark
red	20	
green	20	
yellow	20	
red/green	20	bi-colored

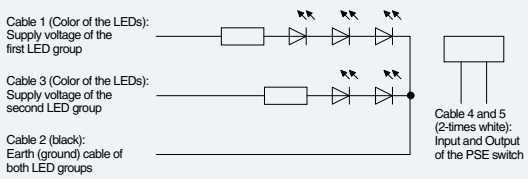
All LEDs have a nominal diameter of 5 mm.



For the illumination either a one color LED (2 pins) or a bi-color LED (3 pins) is used. Cable 2 is not needed if a one color LED will be used. Color switching can be achieved through a corresponding drive current.

Ring illumination:

Color	Current I_F = mA
signal yellow	20
signal red	20
signal blue	20
signal green	20



CONFIGURATION GUIDE FOR PIEZO VARIATION

Example: M27, aluminum nature, with fingergrip, ring illumination, with 3 yellow LEDs, for 5 V closer (NO) –