

# Beck.

## The factory-set pressure switches in Ex zones



# Pressure switch 901..Ex

with factory-set pressure setting for Ex zones 1, 2 and 21, 22



## Application

Factory-set pressure switch monitoring overpressure, vacuum or differential pressure of liquid and gaseous – also aggressive – media .

Pressure setting and switching differential are factory-set by the manufacturer.

## Temperature range

Ambient and media temperature from –20°C to +85°C

## Diaphragm material

Depending on media NBR, Silicone, FKM, EPDM  
For 901.30Ex Silicone, others upon request

## Electrical rating

max. 100 mA / 24 VAC, 30 mA / 24 VDC

## Electrical connection

Tab terminal 6.3 mm x 0.8 mm in accordance with DIN 46244 or push-on screw terminals

## Cable conduit

M16x1.5 with integrated cable strain relief

## Life

Mechanically more than 10<sup>6</sup> cycles

## Weight

30 to 300 g (depending on housing material)

## Damping

Restrictors alternatively with 0.3/0.5/0.8 mm diameter

## Protection

IP54 / IP65 depending on the used protection cap

## Protection class

Protection class II is only met by using a protection cap from our accessories program.

## Warning

Read instructions before use. This regulating and control unit must be installed in compliance with the applicable regulations.

## Accessories

Various mounting brackets and protection caps with IP54 and IP65

## ATEX

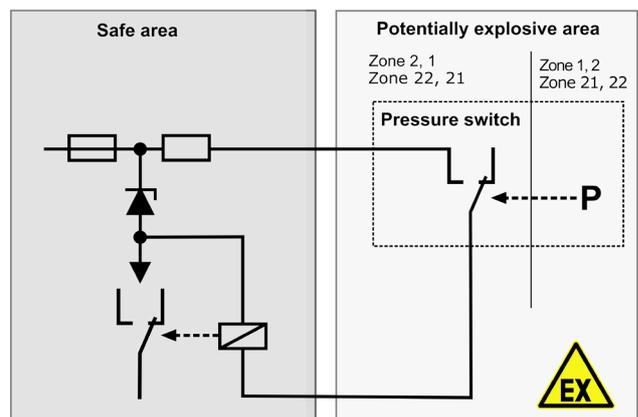
|                          |  |
|--------------------------|--|
| EC type examination      | EPS 24 ATEX 1 040 X                      |
| Device category          | II 2G and II 2D                          |
| Ignition protection type | Ex ia IIC T4 Gb and Ex ia IIIB T135°C Db |
| Conformity               | EU ATEX Directive<br>EU RoHS Directive   |

## Ex i-circuits

This pressure switch can be used in potentially explosive zones for gas in zones 1 & 2 and for dust in zones 21 & 22. In the safe area, an associated isolating means (separating barrier, switching amplifier) must be connected before. The entire isolating circuit must then be proved to keep inherent safety. For this purpose, the power specifications (P, I, U) of the barrier must be lower and the characteristics (L, C) higher than those of the pressure switch and of the connection line (blue colour).

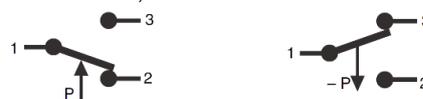
### Characteristics:

Gas for IIC: 30 VDC / 60 mA; 24 VDC / 100mA  
Dust for IIIB: 30 VDC / 60 mA / 0,6W  
Capacitance - Ci 0 µF  
Inductance - Li 0 mH



## Arrangement of contacts

for 901.1xEx, 901.30Ex, 901.41Ex, 901.51Ex      only for 901.2xEx



## Pressure connection

| Type     | Tube connection |         |         | Threaded connection                  |                                      |                                  |        |
|----------|-----------------|---------|---------|--------------------------------------|--------------------------------------|----------------------------------|--------|
|          | 5.0 mm          | 6.5 mm  | 10.0 mm | M10x1                                | G1/8                                 | G1/4                             | G1/2   |
| 901.1xEx | PA              | PA, PPS | PA, PPS | PA, PVDF<br>CuZn40, V <sub>2</sub> A | PA, PVDF<br>CuZn40, V <sub>2</sub> A | PVDF<br>CuZn40, V <sub>2</sub> A | CuZn40 |
| 901.2xEx | PA              | PA, PPS | PA, PPS | PA, PVDF<br>CuZn40, V <sub>2</sub> A | PA, PVDF<br>CuZn40, V <sub>2</sub> A | CuZn40, V <sub>2</sub> A         | CuZn40 |
| 901.30Ex |                 | PA      |         |                                      |                                      |                                  |        |
| 901.41Ex |                 | PA, PPS | PA, PPS | PA, PVDF<br>CuZn40, V <sub>2</sub> A | PA, PVDF<br>CuZn40, V <sub>2</sub> A | CuZn40, V <sub>2</sub> A         | CuZn40 |
| 901.51Ex |                 |         |         | CuZn40                               | CuZn40, V <sub>2</sub> A             | CuZn40, V <sub>2</sub> A         |        |

PA = polyamide, PVDF = polyvinylidene fluoride, PPS = polyphenylsulfide, CuZn40 = brass, V<sub>2</sub>A = stainless steel

For temperature above 85° C metal or PPS pressure connection is required. Upon request pressure connections of other sizes, other plastics or brass nickel-plated are available.

## Overpressure range

| Type     | Factory-set trip pressure |            | Switching differential (Hysteresis) |                    | Tolerance band of trip pressure | Maximum positive working pressure<br>standard/extended | Maximum negative working pressure<br>standard/extended |
|----------|---------------------------|------------|-------------------------------------|--------------------|---------------------------------|--|--|
|          | between                   | and        | lower end of range                  | upper end of range |                                 |  |  |
| 901.1xEx | 5 mbar                    | 200 mbar   | 2.5 mbar                            | 50 mbar            | ± 10 %                          | 0.5 / 4 bar  | - / - 1 bar  |
|          | 200 mbar                  | 1,000 mbar | 50 mbar                             | 150 mbar           | ± 10 %                          | 1 / 4 bar  | - / - 1 bar  |
| 901.41Ex | 500 mbar                  | 3,000 mbar | 200 mbar                            | 600 mbar           | ± 10 %                          | 10 bar*  | - 1 bar  |
| 901.51Ex | 1.0 bar                   | 12 bar     | 0.2 bar                             | 1.5 bar            | ± 10 %                          | 25 bar   | - 1 bar  |

\* For plastic pressure connections, the maximum permissible operating overpressure is 7 bar!

## Vacuum range

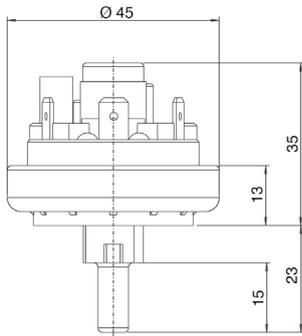
| Type     | Factory-set trip pressure |           | Switching differential (Hysteresis) |                    | Tolerance band of trip pressure | Maximum positive working pressure<br>standard/extended | Maximum negative working pressure |
|----------|---------------------------|-----------|-------------------------------------|--------------------|---------------------------------|--|-----------------------------------|
|          | between                   | and       | lower end of range                  | upper end of range |                                 |  |                                   |
| 901.2xEx | -5 mbar                   | -200 mbar | 2,5 mbar                            | 50 mbar            | ± 10 %                          | 0,5 / 4 bar  | - 1 bar                           |
|          | -200 mbar                 | -900 mbar | 50 mbar                             | 150 mbar           | ± 10 %                          | 1 / 4 bar  | - 1 bar                           |

## Differential pressure range

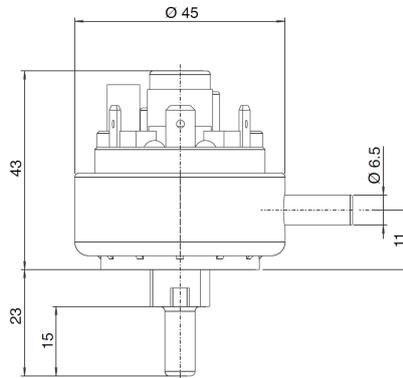
| Typ      | Factory-set trip pressure |         | Switching differential (Hysteresis) |                    | Tolerance band of trip pressure | Maximum positive working pressure | Maximum negative working pressure |
|----------|---------------------------|---------|-------------------------------------|--------------------|---------------------------------|-----------------------------------|-----------------------------------|
|          | between                   | and     | lower end of range                  | upper end of range |                                 |                                   |                                   |
| 901.30Ex | 5 mbar                    | 50 mbar | 2.5 mbar                            | 25 mbar            | ± 10 %                          | 100 mbar                          | - 100 mbar                        |

# Dimensional Drawings

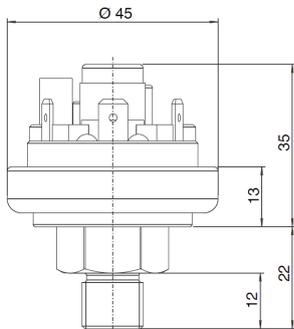
**901.10Ex/20Ex**



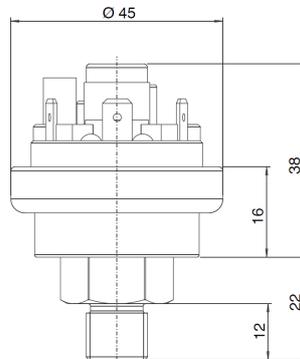
**901.30Ex**



**901.11Ex/21Ex/41Ex**

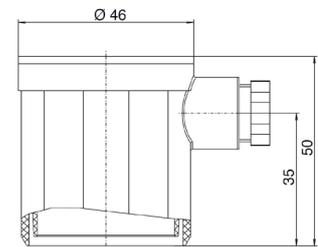


**901.51Ex**



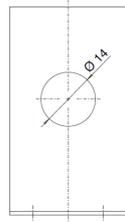
**Protection caps**

**6371 IP54 / 6372 IP65**

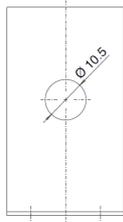


**Mounting brackets**

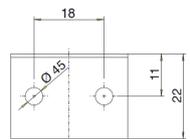
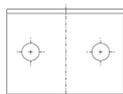
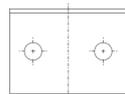
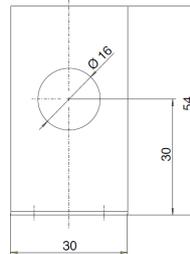
**6403**



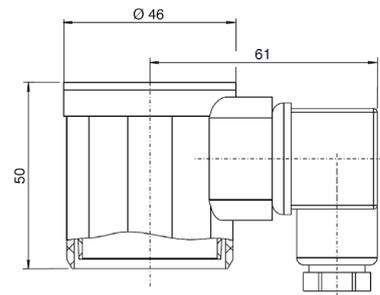
**6404**



**6405**



**6374 IP54 / 6375 IP65**



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