

## Pressure switch Model PS-901, 902, 903

WIKA data sheet PV 35.58

### Applications

- Pumps for process applications (e.g. water treatment, water supply and distribution)
- Industrial hydraulics (e.g. pressure control, oil pressure monitoring and overpressure protection in process lines)
- Discharge control for automatic sprinkler systems
- Compressor controls in pneumatic applications

### Special features

- Switch differential adjustable within a wide range of up to 60% of the setting range to realise flexible on/off controls
- Switch point repeatability  $\pm 0.5\%$  of FSR for reliable switching
- Compact dimensions enables panel mounting



Fig.: Left: Fixed differential  
Right: Adjustable differential

### Description

The model PS-901, 902, 903 mechanical pressure switch has been designed for control and monitoring applications. The sensing element is a hydraulically formed seamless Phosphor Bronze or Stainless Steel Bellows mounted external to the weather proof switch housing suitable for broad range of media in process industry.

The model PS-901, 902, 903 has a high switch point repeatability  $\pm 0.5\%$  of FSR, which enables reliable switching.

Adjustable switch differential to a wide range of up to 60% of the setting range to realise flexible on/off controls. This wide setting range is often needed for the on/off control mode of cyclic applications. The switch point can be specified on site.

## Specifications

Basic information	
Case type	Weather proof external switch point adjustment
Case material	Die cast aluminium epoxy powder coated enclosure with ABS plastic cover
Environment sealing	EPDM

Output signal	
Number of switch point	One
Setting ranges	→ See table "Setting range" External with lock
Switching differential	<ul style="list-style-type: none"> <li>■ 901 - Fixed differential</li> <li>■ 902 - Narrowband adjustable differential</li> <li>■ 903 - Wideband adjustable differential</li> </ul>
Setpoint repeatability	± 0.5% of FSR
Scale accuracy	±5% of FSR
Switching function	<ul style="list-style-type: none"> <li>■ 1 x SPDT (single pole double throw)</li> <li>■ 2 x SPDT (single pole double throw), for DPDT action Synchronising error within 2% of FSR</li> </ul>
Contact version	→ See table "Contact versions"

Electrical connection	
Number of Entries	<ul style="list-style-type: none"> <li>■ 1 x left side</li> <li>■ 1 x left side and 1 x top side</li> </ul>
Conduit type	<ul style="list-style-type: none"> <li>■ 1/2" NPT(F) per ASME B1.20.1</li> <li>■ 7 pin plug for 1 x left side entry</li> <li>■ 3/4" NPT(F) per ASME B1.20.1 through mild steel adaptor</li> <li>■ M20 x 1.5 (F) per ISO724 through mild steel adaptor</li> </ul>

Process connection	
Type	Lower mount
Size	1/4" NPT(F) Per ASME B1.20.1 Other sizes through adaptor → see datasheet AC 10.82
Material	As per sensor housing. → see table "Sensor element"

Mounting	
Type	<ul style="list-style-type: none"> <li>■ Direct</li> <li>■ Panel</li> <li>■ Pipe-2"</li> <li>■ Wall</li> </ul>
Material	<ul style="list-style-type: none"> <li>■ SS 304 for panel mounting</li> <li>■ SS 316 for pipe-2", wall mounting</li> <li>■ Mild steel epoxy coated for pipe-2", wall mounting</li> </ul>

Operating condition	
Ambient temperature range	-10°C ... +60°C [14 ... 140°F]
Medium temperature range	→ see table "Sensor element"
Storage temperature range	-10°C ... +60°C [14 ... 140°F]
Pressure safety with blow out disc	Yes – standard
Ingress protection	IP66 per IS/IEC 60529
Weight	Approx. 600 grams

## Setting range

Code	Range (1), (4)	Sensor element	Maximum working pressure (3)	Switching differential for contact versions (2)					
				Fixed within		Narrowband adjustable		Wideband adjustable	
				1 × SPDT	2 × SPDT	1 × SPDT	2 × SPDT	1 × SPDT	2 × SPDT
<b>Unit: bar or Kg/Cm<sup>2</sup></b>									
B001/K108	-1 ... 0	A,B	4	0.15	0.2	-	-	-	-
B026/K107	0.2 ... 1.6	C,D	9	0.16	0.2	0.16 ... 0.32	0.20 ... 0.32	0.20 ... 0.96	0.30 ... 0.96
B030/K093	0.4 ... 4	C,D	9	0.24	0.4	0.24 ... 0.8	0.4 ... 0.8	0.4 ... 2.4	0.6 ... 2.4
B032/K102	0.7 ... 7	C,D	18	0.42	0.7	0.42 ... 1.4	0.7 ... 1.4	0.7 ... 4.2	1.05 ... 4.2
B033/K095	1 ... 10	C,D	18	0.6	1	0.6 ... 2.0	1 ... 2.0	1 ... 6.0	1.5 ... 6.0
B035/K096	1.6 ... 16	C,D	25	0.96	1.6	0.96 ... 3.2	1.6 ... 3.2	1.6 ... 9.6	2.4 ... 9.6
B037/K077	4 ... 25	D	36	1.5	2.5	1.5 ... 5.0	2.5 ... 5.0	2.5 ... 15.0	3.75 ... 15.0
B038/K098	8 ... 32	D	36	1.92	3.2	1.92 ... 6.4	3.2 ... 6.4	3.2 ... 19.2	4.8 ... 19.2
B064/K109	7 ... 35	D	52	2.1	3.5	2.1 ... 7.0	3.5 ... 7.0	3.5 ... 21.0	5.25 ... 21.0

- (1) In the absence of customer specification, the switch point will be preset on falling pressure to the mid point of the range [i.e. 50% of span + minimum range value]
- (2) The values indicate the maximum achievable limits of switch differential.
- (3) Maximum working pressure that the sensor element can withstand without suffering any permanent damage. The instrument might have to be calibrated afterwards.
- (4) Set and reset point of the switch should not exceed the upper and lower range limits.

## Contact version

Switching differential	Type	Electrical rating AC				Electrical rating DC								
		Resistive load		Inductive load		Resistive load						Inductive load		
		125V	250V	125V	250V	24V	30V	110V	125V	220V	250V	30V	125V	250V
901 & 902	General purpose silver contact	15A	15A	15A	15A	8A	-	0.5A	-	0.25A	-	-	-	-
903		15A	15A	10A	10A	-	10A	-	0.6A	-	0.3A	10A	0.6A	0.3A

## Sensor element

Code	Type	Wetted parts		Permissible medium temperature
A	Bellows element with antagonist spring	Bellows	Phosphor bronze	-
		Housing	Brass	-10 ... 110°C
		Spring	SS 304	-
B	Bellows element with antagonist spring	Bellows	SS 316L	-
		Housing	SS 316L	-10 ... 170°C
		Spring	SS 304 with PTFE coated	-
C	Bellows element	Bellows	Phosphor bronze	-
		Housing	Brass	-10 ... 110°C
D	Bellows element	Bellows	SS 316L	-
		Housing	SS 316L	-10 ... 170°C

## Certificates (option)

- 2.2 test report per EN 10204
- 3.1 calibration certificate per EN 10204
- 3.1 material restamping certificate per EN 10204
- NACE Compliance per MR0175, MR0103 (for SS 316L sensor housing only)

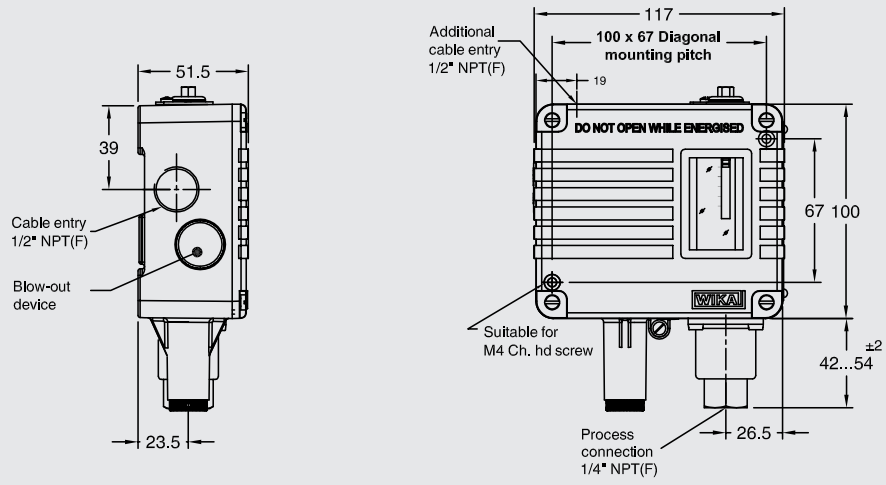
## Accessories

See data sheet AC 10.82

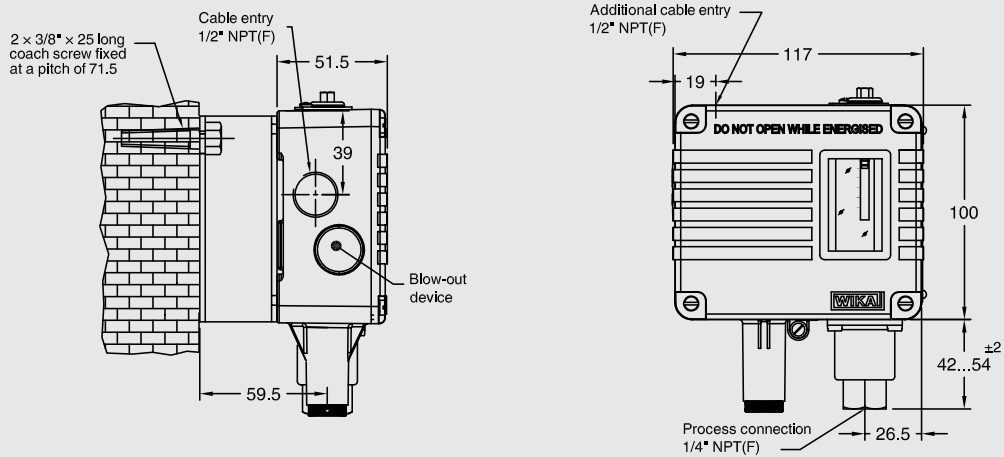
# Dimensions in mm

## Model PS-901

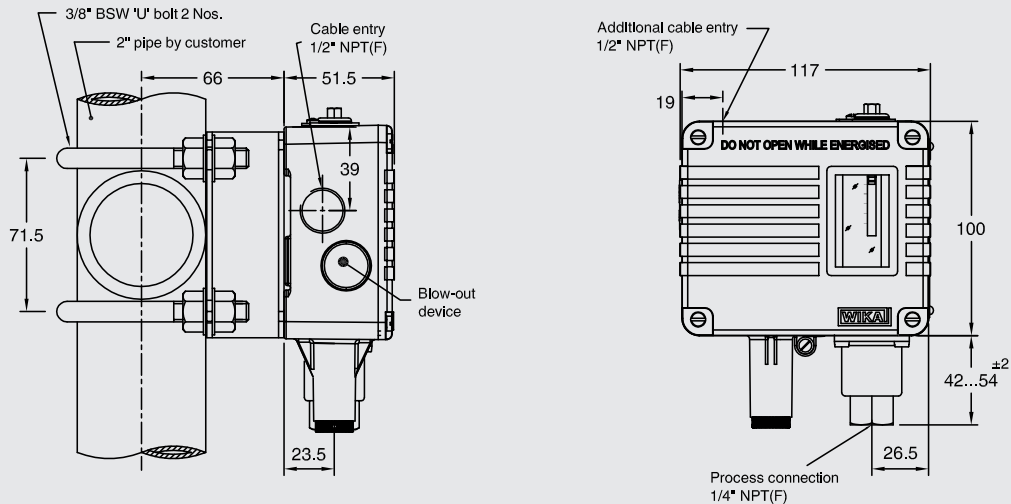
### Panel Mounting



### Wall Mounting



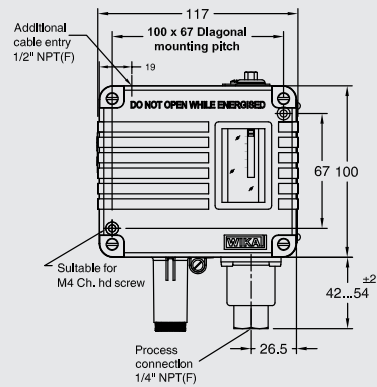
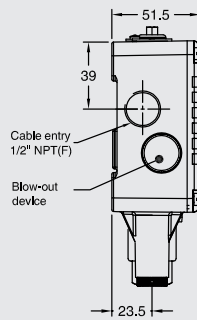
### 2" Pipe Mounting



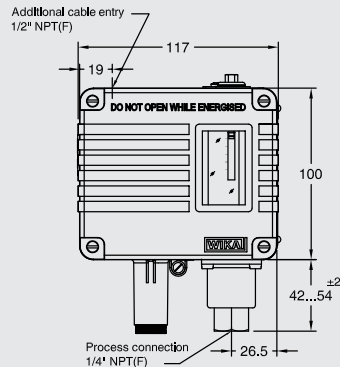
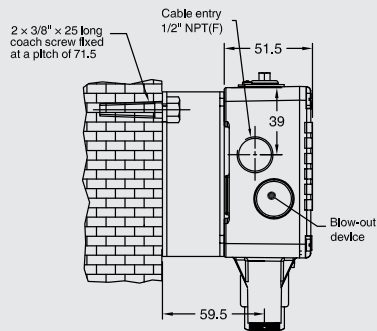
## Dimensions in mm

### Model PS-902 / 903

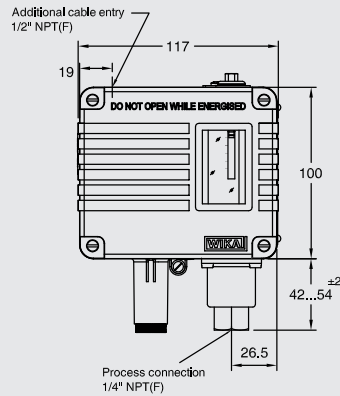
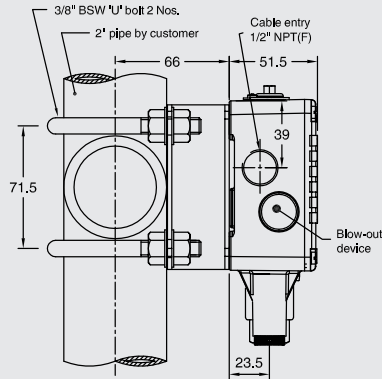
#### Panel Mounting



#### Wall Mounting



#### 2" Pipe Mounting



## Ordering information

Model / Switching differential / Range / Switching direction / Switch point / Sensor element / Switching function / Electrical connection / Process connection / Mounting

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