

# Electronic Pressure Switch



**PS 300**

Pressure ranges from 0 – 600 mbar to 0 – 600 bar

With IO-Link interface, accuracy  $\leq \pm 0.5\%$  FSO /  $1.0\%$  FSO

## Application

The electronic pressure switch PS 300 is suitable for measuring and monitoring vacuum, positive pressures and absolute pressures of liquid and gaseous media for pressure ranges from 0 – 600 mbar to 0 – 600 bar. The pressure switch is equipped with an IO-Link interface as standard in order to exchange process data, diagnostic reports and status information with a superordinate control level. The parameters are set either via this control level or via the VDMA-compliant menu system, and can be carried out on site using the two buttons.

The PS 300 is designed for the mechanical and plant engineering sectors. A large number of inch, metric or NPT threads are available for the user in order to ensure optimal integration into the application. In addition, unusual display positions can be compensated due to the multiple rotatability of the display to ensure that the user is able to read the vital information without any problems.

## Construction

- Accuracy:  $\leq \pm 0.5\%$  FSO (switch point)  
 $\leq \pm 1.0\%$  FSO (analogue signal)
- Ceramic sensor
- Case and display rotatable
- LED display, 4 digits, 7 segment indication, digit height 7 mm (0.28")
- IO-Link according to specification V1.1
- 2 switching outputs, analogue outputs optionally
- Degree of protection IP67

## Standard Versions

### Process Connection

Material: stainless steel 316L (1.4404)  
Connection thread: G $\frac{1}{4}$ " (DIN 3852)

### Measuring Cell/Sensor

Ceramic sensor made of Al<sub>2</sub>O<sub>3</sub> 96 %

### Sensor Sealing

FKM

### Case

PA 6.6, polycarbonate, degree of protection IP67, rotatable

## Pressure Ranges / Overload Capability in bar

Vacuum	Positive pressure	Absolute pressure	Overload	Burst pressure
-1 / 0	-	-	5	7.5
-	0 – 0.6	0 – 0.6	5	7.5
-	0 – 1.0	0 – 1.0	5	7.5
-	0 – 1.6	0 – 1.6	10	15
-	0 – 2.5	0 – 2.5	10	15
-	0 – 4	0 – 4	20	25
-	0 – 6	0 – 6	40	50
-	0 – 10	0 – 10	40	50
-	0 – 16	0 – 16	80	120
-	0 – 25	0 – 25	80	120
-	0 – 40	0 – 40	105	210
-	0 – 60	0 – 60	210	420
-	0 – 100	0 – 100	210	420
-	0 – 160	0 – 160	600	1000
-	0 – 250	0 – 250	1000	1250
-	0 – 400	0 – 400	1000	1250
-	0 – 600	0 – 600	1000	1250

PN  $\geq$  1 bar: vacuum resistance unrestricted

## Display

LED display, 4 digits  
Visible area: 22.5x10.5 mm (0.89x0.41")  
Digit height: 7 mm (0.28")  
4 LEDs for unit conversion (bar, mbar, psi, MPa)  
Status indication: switching output 1: LED, green  
switching output 2: LED, yellow  
Operation: 2 buttons

## Supply Voltage

U<sub>B</sub> = 18...30 V DC

## Output Signals

Output signal 1: IO-Link/SIO (PNP/NPN, switchable)  
Output signal 2: 4...20 mA, 0...10 V, PNP/NPN switchable

## IO-Link

Interface: IO-Link 1.1; Slave  
Data transfer: COM2, 38,4 kBaud  
Mode: SIO/IO-Link  
Standard: IEC 61 131-9, IEC 61 131-2

## Accuracy

Switch point  
Max. switching current: 150 mA  
Switch point accuracy:  $\leq \pm 0.5\%$  FSO  
Repeatability:  $\leq \pm 0.1\%$  FSO  
Switching frequency: max. 170 Hz  
Delay: 0.0...50.0 s  
Response time: <12 ms

## Analogue signal

Accuracy:  $\leq \pm 1.0\%$  FSO  
Long-term stability:  $\leq \pm 0.3\%$  FSO  
Load impedance (4...20 mA, 3-wire): R<sub>max.</sub> = 330  $\Omega$   
Load impedance (0...10 V, 3-wire): R<sub>min.</sub> = 10 k $\Omega$   
Adjustability: offset  $\pm 5\%$   
span  $-10\%$

## Temperature

Operating temperature:  $-40\text{ }^{\circ}\text{C}$  to  $+85\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $+185\text{ }^{\circ}\text{F}$ )  
Medium temperature:  $-40\text{ }^{\circ}\text{C}$  to  $+125\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $+257\text{ }^{\circ}\text{F}$ )  
Storage temperature:  $-40\text{ }^{\circ}\text{C}$  to  $+100\text{ }^{\circ}\text{C}$  ( $-40\text{ }^{\circ}\text{F}$  to  $+212\text{ }^{\circ}\text{F}$ )

## Temperature Caused Error (Zero Point and Span)

$\leq \pm 0.3\%$  FSO/10 K in the compensated range  $-20 / +85\text{ }^{\circ}\text{C}$

## Mechanical Shock

500 g/1 ms

## Mechanical Vibration

Max. 10 g at 25 – 2000 Hz

## Durability

100 million load alternations

## Electrical Connection

Plug connection M12x1, 4-pin

## Reverse Polarity Protection

Available

## Electromagnetic Compatibility

Interference emission and stability according to DIN EN 61 326

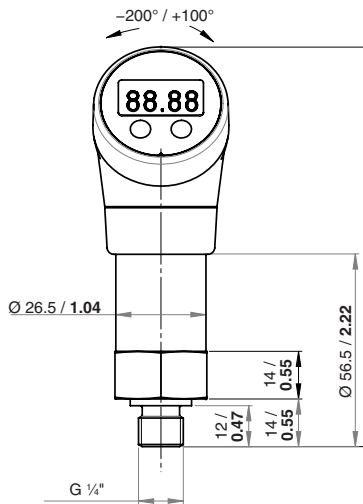


# Case Configuration, Dimensional Data (mm/inch) and Weight, Options, Ordering Information

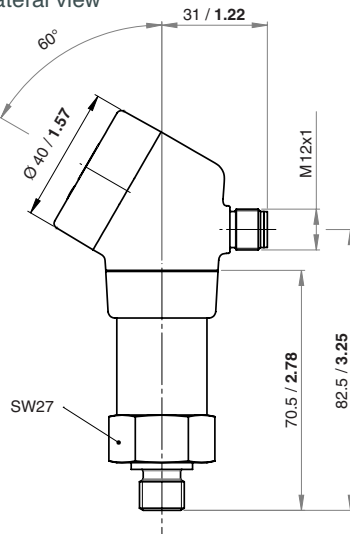
## Process Connection

Standard: G 1/4" (DIN 3852)

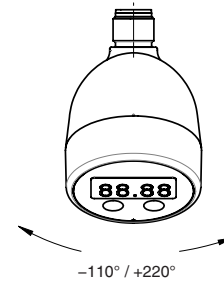
front view



lateral view

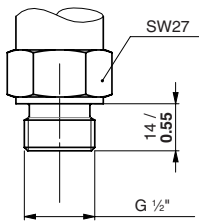


display rotatable

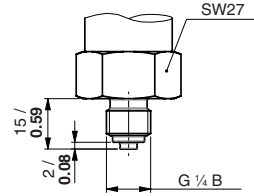


## Optional process connections

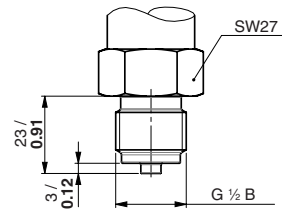
G 1/2" (DIN 3852)



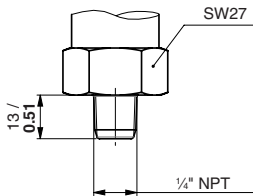
G 1/4 B (DIN EN 837)



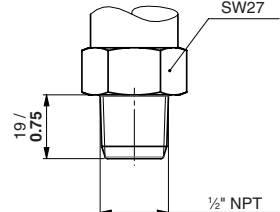
G 1/2 B (DIN EN 837)



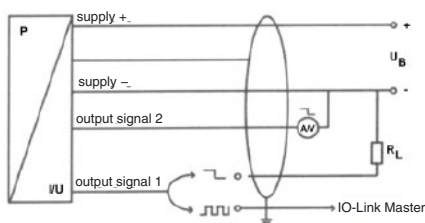
1/4" NPT



1/2" NPT



## Wiring Diagram



Pin assignment	Description	M12x1 (4-pin), metal
supply +	auxiliary energy	1
supply -	auxiliary energy	3
output signal 1	IO-Link/SIO (PNP/NPN)	4
output signal 2	4...20 mA/0...10 V (PNP/NPN)	2
shield	shielding	plug housing

## Weight

Approx. 220 g (0.49 lb)

## Options

- Process connections:
  - G 1/2" (DIN 3852)
  - G 1/4 B (DIN EN 837), G 1/2 B (DIN EN 837)
  - 1/4" NPT, 1/2" NPT

## Ordering Information

Please specify in your order:

<b>Basic model</b>	PS 300
<b>Process connection</b>	e.g. G 1/4"
<b>Pressure range</b>	e.g. 0 – 4 bar, absolute pressure
<b>Output signal 1</b>	IO-Link/SIO (PNP/NPN)
<b>Output signal 2</b>	4...20 mA/0...10 V/(PNP/NPN)

**Example:** PS 300, G 1/4", 0 – 4 bar, absolute pressure  
IO-Link/SIO PNP, 4...20 mA