

PSD30

Electronic Differential Pressure Switch and Transmitter

- up to 2 switch points
- analogue output 4 - 20 mA or 0 - 10 V
- rotatable 320° display & electrical connection
- superior EMI protection
- enclosures rating type IP65 / IP67
- IO-Link communication interface
- measuring range differential pressure 0...350 mbar up to 0...35 bar
- max. temperature: 100 °C



Description:

The PSD30 differential pressure transmitters measure the pressure difference between the two inputs. The piezoresistive measuring cells used guarantee resistant pressure measurement combined with high precision and a long service life. The integrated LED display is used for continuous differential pressure indication and, together with the programming keys, allows easy adjustment of the pressure sensor. Due to the rotatable display and the rotatable pressure connection, there are almost no restrictions for mounting. Various combinations are available as output signals, up to 2 switching outputs, various analogue outputs and IO-Link are possible.

Typical applications:

The pressure sensor is suitable for almost all liquid and gaseous media and is used in vacuum technology (pump control), gas technology (supply monitoring, leakage detection), filter monitoring (contamination detection) and for a wide variety of measuring tasks in hydraulics and pneumatics, in machine, apparatus and plant construction, in process engineering and building technology.

Technical Data:

Sensor element:	piezoresistive sensor
Materials:	
Wetted parts:	Stainless steel 1.4301
Electronics housing:	Stainless steel V2A, PA / PC
Seals:	FKM, EPDM
Operating elements:	3 easy-response pushbuttons
System of protection:	Type 4X (IP65) / Type 6 (IP67)
Protection class:	III
Electrical connection:	Plug M12 x 1, 4-pin / 5-pin (depending on output code)
Process connection:	see order code
Dimensions:	76 x 41 x 122 mm
Weight:	ca. 600 g
A/D converter:	
Resolution:	12 bit (4096 steps per measuring span)
Scanning rate:	1000 / s
Linearity error:	$< \pm 0,5 \% \text{ v. f. s. at } +25 \text{ }^\circ\text{C}$
Temperature influence:	TC zero $< \pm 0,2 \% \text{ FSO} / 10\text{K}$ TC span $< \pm 0,3 \% \text{ FSO} / 10\text{K}$
Compensation range:	0 °C... +50 °C
Repeatability:	$\pm 0,1 \% \text{ FSO}$
Temperature range:	
Medium:	-25 °C... +100 °C
Electronics:	-10 °C... +70 °C
Storage:	-30 °C... +80 °C
Power supply:	15... 32 V _{DC} , reversed polarity protected (SELV, PELV), Class 2
Digital display:	4-digit 14-segment LED red display, digit height 9 mm
Display rate:	20/s
Error display:	LED red and alphanumeric display
Power consumption:	approx. 50 mA (without load)
Analogue output:	
Current output:	4...20 mA
Load:	max. $RI = (U_b - 12\text{V}) / 20 \text{ mA}$ $RI = 600 \text{ Ohm bei } U_b = 24 \text{ V}_{\text{DC}}$
Scanning rate:	2 ms
Voltage output:	0...10 V _{DC}
Rating:	max. 10 mA
Adjustment range:	25 %...100 % f. s.

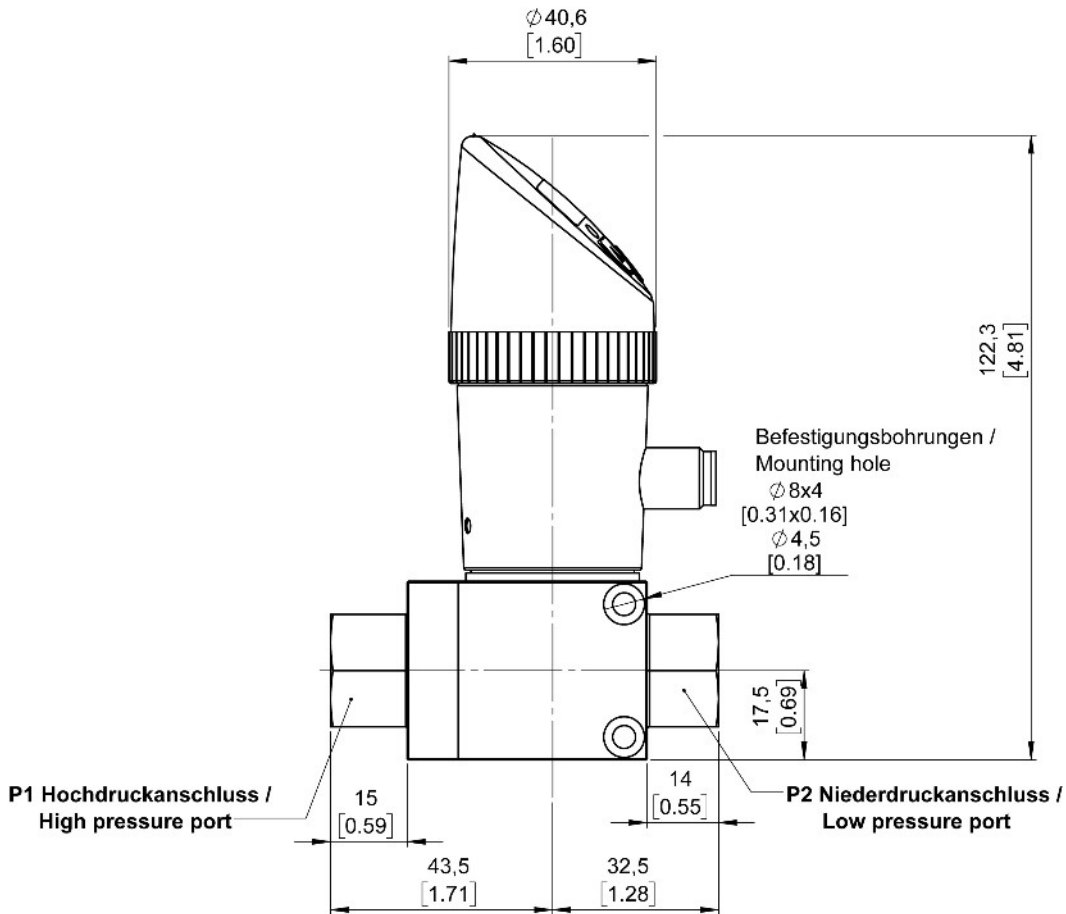
Transistor switching outputs / IO-Link:

Switching function:	Normally open/normally closed, standard / window mode and diagnosis function adjustable PNP, IO-Link: PNP / NPN / PP
Switching output:	
Adjustment range switch. point and hysteresis:	0 %... 125 % f. s.
Switching frequency:	max. 100 Hz
Load:	max. 500 mA, short-circuit proof, IO-Link: max. 250 mA
Delay:	0.0 s ... 50 s adjustable
Status display(s):	LED(s) red

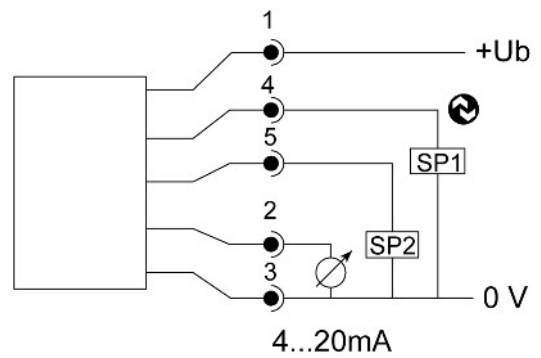
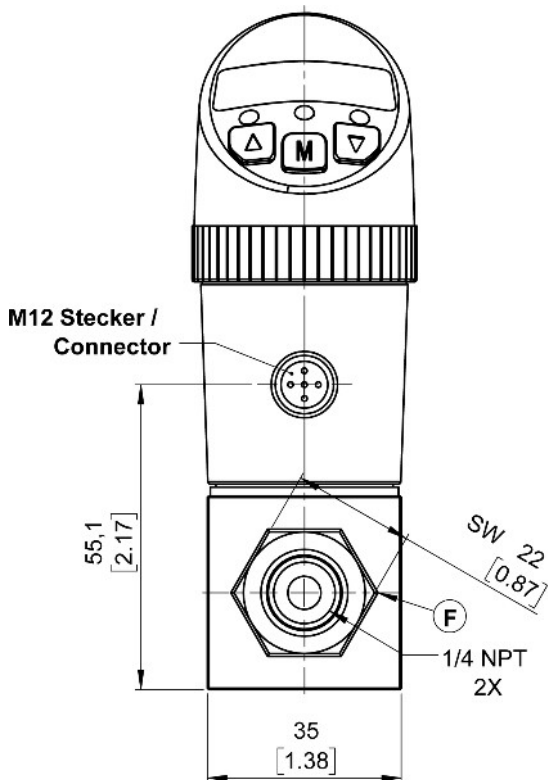
Interfaces:

Communication interface:	IO-Link
Transmission type:	COM2 (38,4 kBaud)
IO-Link revision:	1.1
SCDI standard:	IEC 61131-9
Profile:	Smart Sensor
SIO mode:	yes
Device type:	Class A
Process data variable:	1
Binary data channel:	2
Min. process cycle time:	2,5 ms
Device ID:	0X071...
EMV / ESD:	EN 61000-4-2 4 kV CD / 8 kV AD ESD EN 61000-4-3 10 V/m HF radiated EN 61000-4-4 2 kV Burst EN 61000-4-5- 1/2 kV Surge EN 61000-4-6 10 V HF, conducted
Shock resistance	DIN EN 60028- 50 g (11 ms) 2-27
Vibrations resistance	DIN EN 60028- 20 g 2-26 (10...2000 Hz)

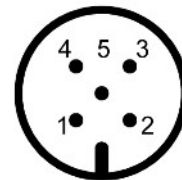
Dimensions:



Electrical Connection:



Plug 4 / 5 pin



Pressure Ranges:

Code	Differential Pressure	Proof Pressure	Proof Pressure	Common Pressure
[bar]	P1>P2 [bar]	P1>P2 [bar]	P1>P2 [bar]	P1=P2 [bar]
0,35	0-0,35	0,7	0,35	200
0,7	0-0,7	1,5	0,7	200
1	0-1	2	1	200
2	0-2	4	2	200
3,5	0-3,5	7	3,5	200
7	0-7	14	7	200
10	0-10	20	10	200
20	0-20	40	10	200
35	0-35	70	10	200

Order Code:

BDS3000

Order number: PSD30-BDS3 1 G V M 0.35B

Electronic differential pressure switch and transmitter

Output:

1 = 2 switch points
2 = 4...20 mA and 1 switch point
3 = 0...10 V and 1 switch point
4 = 4...20 mA and 2 switch points
5 = 0...10 V and 2 switch points
7 = IO-Link / 2 switch points (PNP, NPN, PP)
8 = IO-Link / 2 switch points (PNP, NPN, PP)
/ analogue output

Process Connection:

5 = G ¼ female
F = 1/4" NPT female

Sealing:

V = FKM
E = EPDM

Electrical Connection:

M = M12 Plug

Measuring range:

0.35B = 0...0,35 bar
0.70B = 0...0,7 bar
0001B = 0...1 bar
0002B = 0...2 bar
3.50B = 0...3,5 bar
0007B = 0...7 bar
0010B = 0...10 bar
0020B = 0...20 bar
0035B = 0...35 bar
0005P = 0...5 psi
0010P = 0...10 psi
0015P = 0...15 psi
0030P = 0...30 psi
0050P = 0...50 psi
0100P = 0...100 psi
0150P = 0...150 psi
0300P = 0...300 psi
0500P = 0...500 psi

Accessories:

Plug connector M12 x 1, 4-pin, with screw terminals, angled (IP65)

Plug connector M12 x 1, 5-pin, with screw terminals, angled (IP65)

Plug connector M12 x 1, 5-pin, with sharpened cable (IP67)