

Electr. Dual Pressure Switch

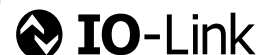
BPS3000

Features

- Measuring ranges: 0 ... -1 bar to 0 ... 600 bar gauge
- Max. 2 switch points
- Analog output 4 - 20 mA or 0 - 10 V
- Rotatable 320° display & electrical connection
- Menu navigation refers to VDMA standard
- IO-Link communication interface

Applications

- Pressure control for
- Lubrication system
 - Hydraulics & Pneumatics
 - Cooling



Technical Data

Sensor element	Ceramic sensor optional: piezoresistive sensor
Materials Wetted parts	Stainless steel, mat. no. 1.4301, brass MS58*
Electronic housing Seals	Stainless steel, mat. no. V2A, PA / PC FKM, EPDM
Operating elements	3 easy-response pushbuttons
System of protection	IP65, IP67
Protection class	III
Electrical connection	Plug M12 x 1, 4-pin / 5-pin (depending on output code)
Process connection	see order code
Dimensions	110 x 41 mm (without plug connector)
Weight	approx. 200 g
A/D converter Resolution Scanning rate	12 Bit (4096 steps per measuring span) 1000 / s
Linearity error	< ± 0.5 % v. f. s. at +25 °C
Temperature influence	TC zero < ±0.2 % FSO / 10K TC span < ±0.3 % FSO / 10K
Compensation range	-10 °C... +70 °C
Repeatability	±0.1 % FSO
Temperature range Medium Electronics Storage	-25 °C... +100 °C -10 °C... +70 °C ¹⁾ -30 °C... +80 °C
Power supply	15... 28 V DC, reversed polarity protected (SELV, PELV)
Digital display	4-digit 14-segment LED display, red, digit height 9 mm
Error display	LED red and alphanumeric display
Power consumption	approx. 50 mA (without load)
Analog output Current output Load	4...20 mA max. RI = (Ub-12V) / 20 mA RI = 600 Ohm at Ub = 24 V DC
Scanning rate Voltage output Rating Adjustment range	2 ms 0...10 V DC max. 10 mA 25 %... 100 % f. s.

Transistor switching outputs / IO-Link		
Switching function	Normally open/normally closed, standard / window mode and diagnosis function adjustable	
Adjustment range for switching 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	
SDCI standard	IEC 61131-9	
Profiles	Smart Sensor	
SIO mode	yes	
Device type	Class A	
Process data variable	1	
Binary data channel	2	
Min. process cycle time [ms]	2.5	
Device ID	0x011	
EMV/ESD	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-5-Surge	1/2 kV
	EN 61000-4-6 HF conducted	10 V
Shock resistance	DIN EN 60068-2-27	50 g (11 ms)
Vibrations resistance	DIN EN 60068-2-6	20 g (10...2000 Hz)
Approvals	BV-50018/A1 ^{2),3)} ,cULus ¹⁾ - E42816	

* In the pressure inlet a damping screw made of brass is mounted. This screw can be removed if required, e.g. in case of soiled medium or material incompatibility, using a slotted screw driver (max. width 3 mm). The pressure switch is less resistant to pressure peaks when the damping screw has been removed.

¹⁾ Conditions of use with cULus: 60 °C max. ambient, power supply max. 28 V DC

²⁾ BV approval only with output code 1-5

³⁾ Direct electromagnetic fields can interfere the LED display, at some frequencies. This does not lead to an impairment of the performance.

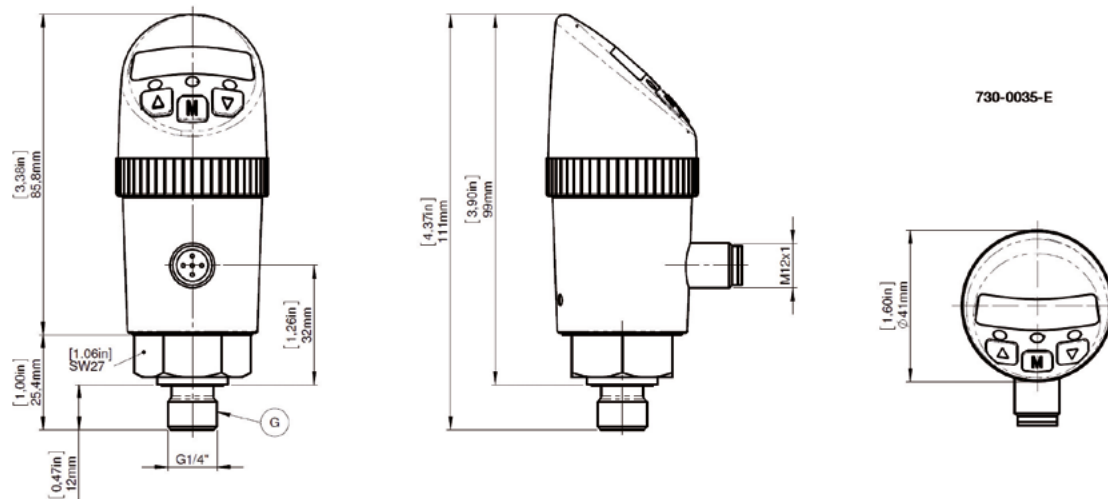
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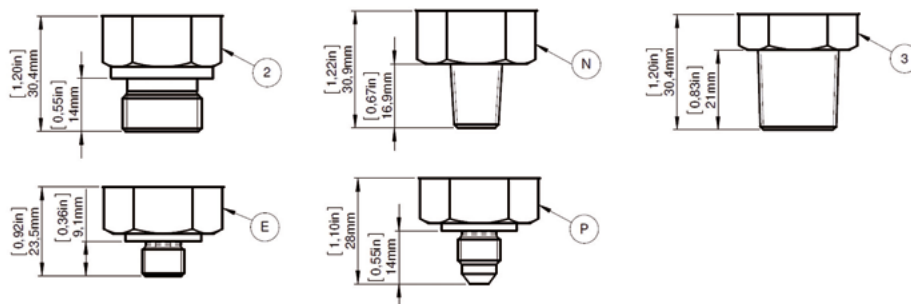
Accessories

Order Number	Description
907-0357	Plug connector M12 x 1, 4-pin, with screw terminals, angled (IP65)
907-0185	Plug connector M12 x 1, 5-pin, with screw terminals, angled (IP65)
908-0361	Plug connector M12 x 1, 5-pin, with sharded cable (IP67), 2m cable

Dimensions (mm / inch)



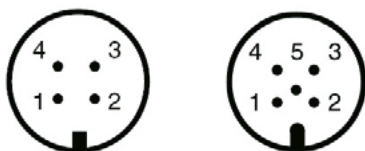
Process connection



Plug

4-pin

5-pin



Legend

G	G1/4" Ceramic
N	1/4" NPT Ceramic
2	G1/2" flush diaphragm
3	1/2" NPT flush diaphragm
E	7/16-20 UNF (SAE)
P	7/16-20 UNF (JIC)

Electrical Connection

Pin	Signal Output Code 1,7	Signal Output Code 2, 3	Signal Output Code 4, 5, 8
1	+Ub	+Ub	+Ub
2	SP2	Signal	Signal
3	0V	0V	0V
4	SP1 / IO-Link*	SP1	SP1 / IO-Link*
5	-	-	SP2

* only code 7 and 8

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Base Model

BPS3

Output

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

Process connection

G	G1/4" ext. thread
2	G1/2" flush diaphr. (requires piezoresistive sensor / code P* / 10-600 bar only)
N	1/4" NPT ext. thread
3	1/2" NPT flush diaphr. (requires piezoresistive sensor / code P* / 10-600 bar only)
1	40x40 Cetop/Manifold - on request
E	7/16-20 UNF (SAE4) ext. thread
P	7/16-20 UNF (37° JIC) ext. thread

Seal

V	FKM
E	EPDM

Electrical Connection

M M12

Range	bar	psi	
- 1 . 0 B V	-1 - 0		(requires piezoresistive sensor / code P)*, IP65 only
0 0 0 1 B V	-1 - 1		(requires piezoresistive sensor / code P)*, IP65 only
0 0 0 5 B V	-1 - 5		(requires piezoresistive sensor / code P)*, IP65 only
0 0 1 0 B V	-1 - 10		(requires piezoresistive sensor / code P)*, IP65 only
0 0 0 1 B A / 0 0 1 5 P A	0 - 1	0 - 15	absolute, (requires piezoresistive sensor / code P)*
0 0 0 5 B A / 0 0 7 5 P A	0 - 5	0 - 75	absolute, (requires piezoresistive sensor / code P)*
0 0 1 0 B A / 0 1 5 0 P A	0 - 10	0 - 150	absolute, (requires piezoresistive sensor / code P)*
0 0 . 2 B / 0 0 0 3 P	0 - 0.2	0 - 3	(requires piezoresistive sensor / code P)*, IP65 only
0 0 . 5 B / 0 0 0 8 P	0 - 0.5	0 - 8	(requires piezoresistive sensor / code P)*, IP65 only
0 0 0 1 B / 0 0 1 5 P	0 - 1	0 - 15	(requires piezoresistive sensor / code P)*, IP65 only
0 0 0 2 B	0 - 2		(requires piezoresistive sensor / code P)*, IP65 only
0 0 0 5 B / 0 0 7 5 P	0 - 5	0 - 75	(requires piezoresistive sensor / code P)*, IP65 only
0 0 1 0 B / 0 1 5 0 P	0 - 10	0 - 150	
0 0 5 0 B / 0 7 5 0 P	0 - 50	0 - 750	
0 1 0 0 B / 1 5 0 0 P	0 - 100	0 - 1500	
0 2 0 0 B / 3 0 0 0 P	0 - 200	0 - 3000	
0 4 0 0 B / 6 0 0 0 P	0 - 400	0 - 6000	
0 6 0 0 B / 9 0 0 0 P	0 - 600	0 - 9000	(requires piezoresistive sensor / code P)*
	Others on request		

Sensor

Standard: Ceramic sensor

P *Piezoresistive sensor

Example

BPS3 4 G V M 0 0 0 1 B A P