

Electronic Dual Differential Pressure Switch

BDS3000

Features

- ▶ Measuring ranges: differential 0 ... 35 bar
- ▶ Enclosures Rating Type 4X (IP65) / Type 6 (IP67)
- ▶ Two switch points
- ▶ Analogue output 4 - 20 mA or 0 - 10 V
- ▶ Superior EMI protection
- ▶ Rotatable 320° display & electrical connection
- ▶ IO-Link communication interface

Applications

- ▶ Filtration
- ▶ Machine tool industry
- ▶ Factory Automation
- ▶ Lubrication monitoring
- ▶ Pumps and compressors

Technical Data

Sensor element:	piezoresistive sensor
Materials:	
Wetted parts:	Stainless steel, mat. No. 1.4301.
Electronics housing:	Stainless steel, mat. No. VA2, 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, 4/5 pin
Process connection:	see order code
Dimensions:	76 x 41 x 122 mm
Weight:	Approx. 600 g
A/D-Converter:	
Resolution:	12 bit (4096 steps per measuring span)
Scanning rate:	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:	0°C to +50°C (32°F to 122°F)
Repeatability:	±0.1 % FSO
Temperature range:	
Media:	-25°C to +100°C (-13°F to 212°F)
Electronics:	-10°C to + 70°C (14°F to 158°F)
Storage:	-30°C to +80°C (-22°F to 176°F)
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
Power consumption:	Approx. 50 mA (without load)
Error display:	LED RED and alphanumeric display
Analog output:	
Current output:	4...20 mA
Load:	max. RI = (Ub-12V) / 20 mA RI = 600 Ohm at Ub = 24 V DC
Scanning rate:	2 ms
Voltage output:	0... 10 V DC
Rating:	max 10 mA
Adjustment range:	25 % ... 100 f. s.



Transistor switching outputs:		
Switching function:	Normally open/normally closed, standard / windows mode and diagnosis function adjustable	
Switching output:	PNP IO-Link: PNP / NPN / PP	
Adjustment range for switching point and hysteresis:	0% to 125% f. s.	
Switching frequency:	Max. 100 Hz	
Load:	Max. 500 mA (250 mA IO-Link units) short-circuit-proof	
Delay:	0.0 s to 50.0 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	
Devices type:	Class A	
Process data variable:	1	
Binary data channel:	2	
Min. process cycle time [ms]	2.5	
Device ID:	0X071	
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 60028-2-27	50 g (11 ms)
Vibrations resistance	DIN EN 60028-2-26	20 g (10...2000 Hz)

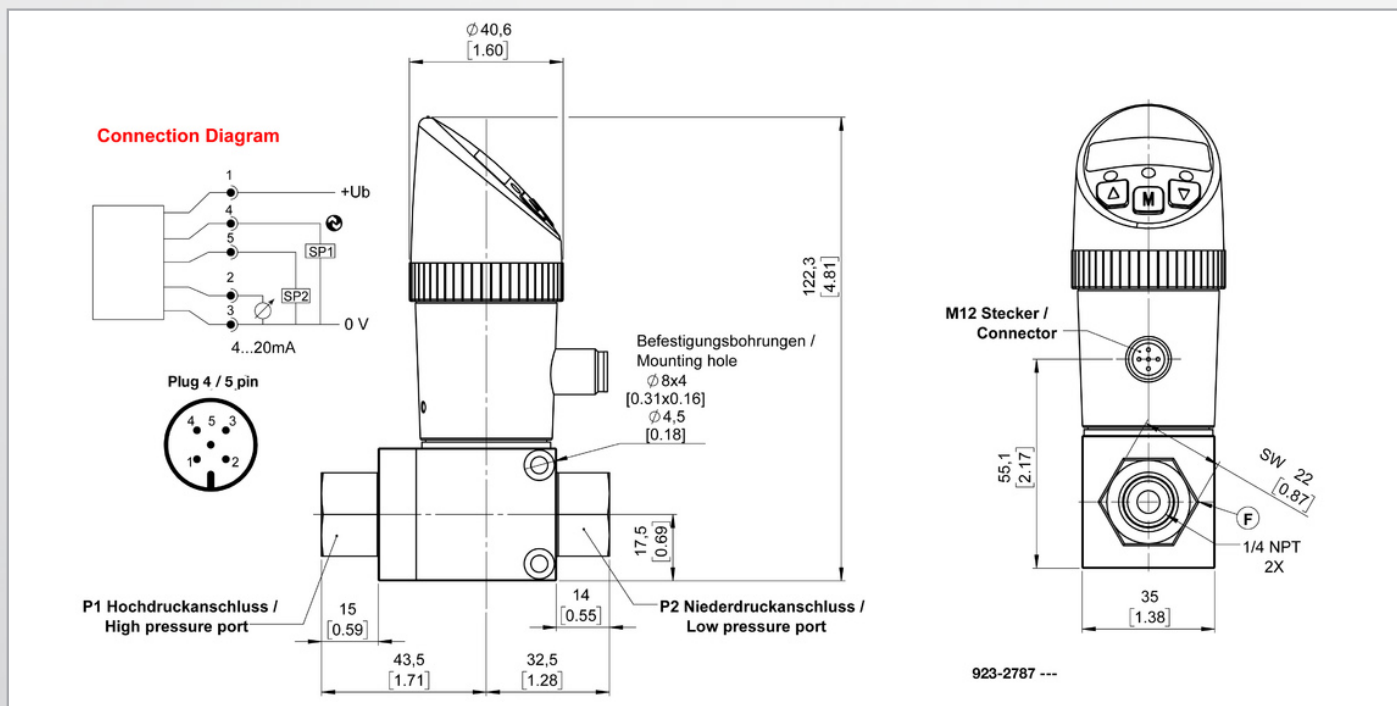
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Pressure Ranges

Pressure Range Code	Differential Pressure	Proof Pressure	Proof Pressure	Common Pressure
[bar]	P1>P2 [bar]	P1>P2 [bar]	P2>P1 [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

Dimensions (mm / inch)



Order Code

BDS3						Base Model*	BDS3000
						Output	
1							2 switch points
2							4...20mA 1 switch point
3							0...10V 1 switch point
4							4...20mA 2 switch points
5							0...10V 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	
5							G1/4" internal thread
F							1/4" NPT female
						Sealing	
V							FKM
E							EPDM
						Electrical Connection	
						M	M12
							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
							Sensor element
						P	Piezoresistive sensor
BDS3	X	X	X	X	XXXXX	X	

* Other configurations are available upon request.

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 moulded cable, (IP67), 2 m length