

# Pressure

## Electronic Dual Differential Pressure Switch

**BDS3000**

### Features

- ▶ Measuring range: differential: 0 - 500 psid
- ▶ Enclosure Rating: Type 4X (IP65) / Type 6 (IP67)
- ▶ Two switch points
- ▶ 0.50% accuracy
- ▶ Analog output 4 - 20 mA or 0 - 10 V
- ▶ Superior EMI protection
- ▶ Display & electronic connection: rotatable by 320°
- ▶ Simple navigation menu
- ▶ IO-Link digital communication interface
- ▶ Hydraulic and pneumatic compatible

### Applications

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



### General Specifications

<b>Sensor element:</b>	Piezoresistive sensor	<b>Analog output:</b>	4-20 mA
<b>Materials:</b>		Current output:	2 ms
Wetted parts:	Stainless steel fittings 316L Stainless steel sensors	Voltage output:	0 to 10 V DC
Enclosure:	304 Stainless steel, PBT	Rating:	max. 10 mA
Seals:	FKM fluoroelastomer	Adjustment range:	25% to 100% f. s.
<b>Operating elements:</b>	3 easy-response push-buttons	<b>Transistor switching outputs:</b>	
<b>Enclosure rating:</b>	Type 4X (IP65) / Type 6 (IP67)	<b>Switching function:</b>	Normally open / normally closed, standard / window mode and diagnosis function adjustable
<b>Protection class:</b>	III	Switching output:	PNP / NPN (field selectable on IO-Link units)
<b>Electrical connection:</b>	Plug M12 x 1, 5-pin	Adjustment range for switching point and hysteresis:	0% to 125% f. s.
<b>Process connection:</b>	1/4" NPT female (low and high sides)	Switching frequency:	Max. 100 Hz
<b>Dimensions:</b>	3.00 x 1.60 x 4.81 inches	Load:	Max. 500 mA (250 mA IO-Link units), short- circuit-proof
<b>Weight:</b>	Approx. 1.5 lb	Delay:	0.0 s to 50.0 s adjustable
<b>A/D-Converter:</b>		Status display(s):	LED(s) red
Resolution:	12 bit (4,096 steps per measure span)	<b>IO-Link Communication Interface</b>	
Scanning rate:	1000/s	Transmission type:	COM2 (38.4 kBaud)
<b>Linearity error:</b>	< ±0.5 % f. s. at +25 °C	IO-Link revision:	1.1
<b>Temperature influence:</b>	TC zero < ±0.2 % FSO / 10K TC span < ±0.3 % FSO / 10K	SDCI standard:	IEC 61131-9
<b>Compensation range:</b>	32°F to 122°F (0°C to +50°C)	Profiles:	Smart Sensor, Process Data Variable, Device Identification, Device Diagnosis
<b>Repeatability:</b>	±0.1% f. s.	SIO modules:	Yes
<b>Temperature range:</b>		Required master port type:	A
Media:	-13°F to 212°F (-25°C to +100°C)	SIO output:	1 analog / 2 binary (switch points) [see product configurator]
Electronics:	14°F to 158°F (-10°C to +70°C)	Min. process cycle time [ms]:	2.5
Storage:	-22°F to 176°F (-30°C to +80°C)	Device ID:	0x071...
<b>Power supply<sup>1</sup>:</b>	15 to 32 V DC, reversed polarity protected (SELV, PELV), Class 2	<b>Pressure Ranges</b>	
<b>Power consumption:</b>	Approx. 50 mA (without load)		
<b>Digital display:</b>	4-digit 14-segment LED red display, digit height .35 inches (9 mm)		
Display rate:	20/s		
<b>Error display:</b>	LED RED and alphanumeric display		

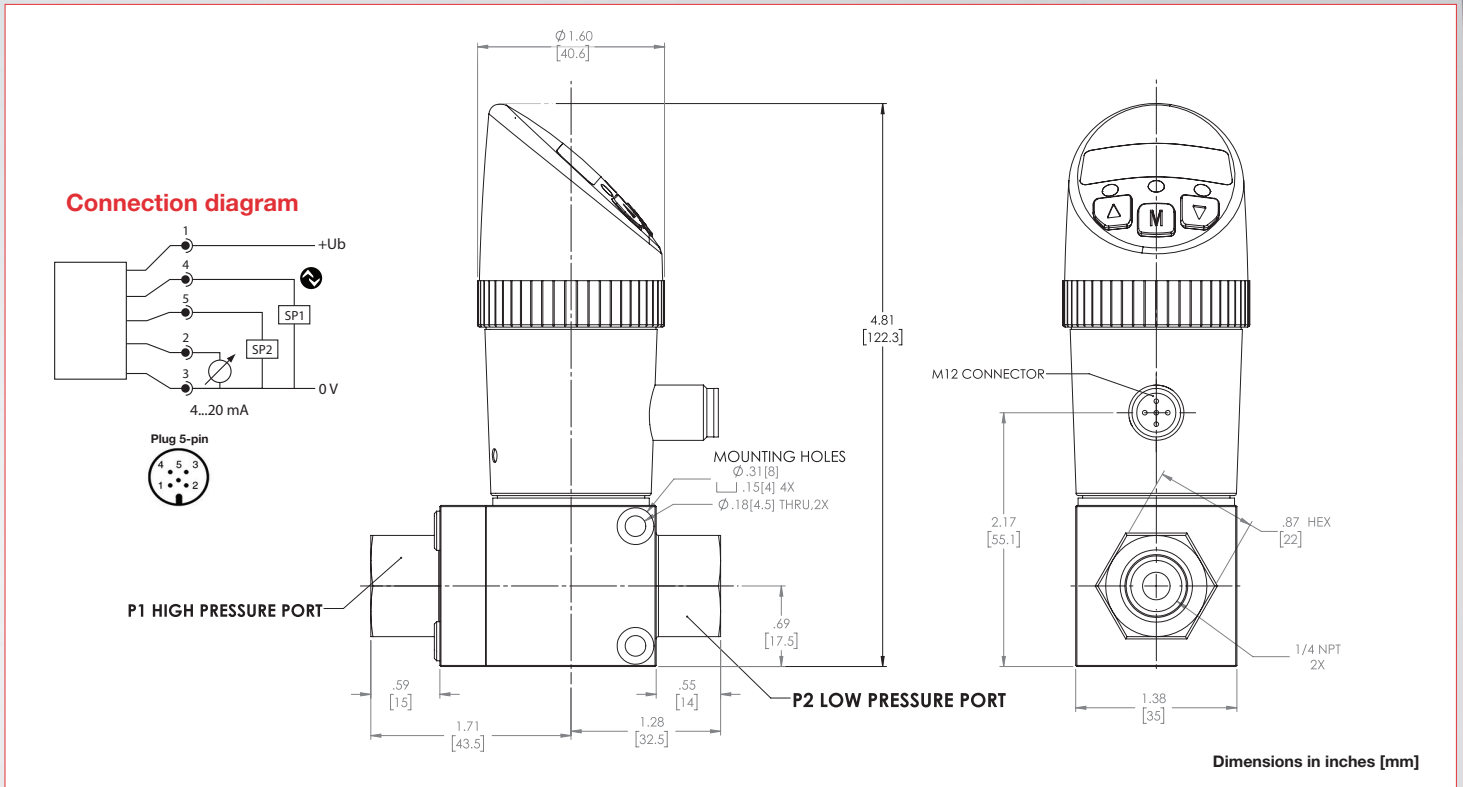
### Pressure Ranges

Pressure Range Code	Differential Pressure	Proof Pressure	Proof Pressure	Common Pressure
	P1>P2 (PSID)	P1>P2 (PSID)	P2>P1 (PSID)	P1=P2 (PSI)
0015P	0-15	30	15	2500
0100P	0-100	200	100	2500
0500P	0-500	1000	150	2500

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## Technical Drawings



## Product Configurator

Example **BDS3** **4** **F** **V** **M** **0500P**

\* Highlighted options represent those most frequently used. Select these common options for improved availability. (5/21)

### Series:

**BDS3** Series BDS3000, electronic dual differential pressure switch

### Output:

**4** Dual switch point plus 4-20mA (0-10V field selectable)

**8** IO-Link / Dual switch point plus 4-20mA (0-10 field selectable)

### Process Connections:

**F** 1/4" NPT female

### Electrical Connection:

**M<sup>1</sup>** M12

### Sealing:

**V** FKM fluoroelastomer

### Pressure Ranges<sup>2</sup>

0015P	0 - 15 psid (differential)
0100P	0 - 100 psid (differential)
<b>0500P</b>	0 - 500 psid (differential)

## Accessories

Order Number	Description
239546-1M-R-S <sup>3</sup>	5 Pin M12 Female Right Angle Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239546-1M-S <sup>3</sup>	5 Pin M12, Female Straight Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239548-S	5 Pin M12 Female Straight Connector
239548-R	5 Pin M12 Female Right Angle Connector

### Note:

- Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
- Contact factory for ranges not listed including BAR.
- See Cable Connectors & Accessories for more options.