Barksdale®
CONTROL PRODUCTS

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

IO-Link

General Specifications

Sensor element:	Piezoresistive sensor
Materials: Wetted parts: Enclosure: Seals:	 Stainless steel fittings 316L Stainless steel sensors 304 Stainless steel, PBT FKM fluoroelastomer
Operating elements:	3 easy-response push-buttons
Enclosure rating:	Type 4X (IP65) / Type 6 (IP67)
Protection class:	III
Electrical connection:	Plug M12 x 1, 5-pin
Process connection:	1/4" NPT female (low and high sides)
Dimensions:	3.00 x 1.60 x 4.81 inches
Weight:	Approx. 1.5 lb
A/D-Converter: Resolution: Scanning rate:	 12 bit (4,096 steps per measure span) 1000/s
Linearity error:	< ±0.5 % f. s. at +25 °C
Temperature influence:	TC zero < ±0.2 % FSO / 10K TC span < ±0.3 % FSO / 10K
Compensation range:	32°F to 122°F (0°C to +50°C)
Repeatability:	±0.1% f. s.
Temperature range: Media: Electronics: Storage:	 -13°F to 212°F (-25°C to +100°C) 14°F to 158°F (-10°C to +70°C) -22°F to 176°F (-30°C to +80°C)
Power supply:	15 to 32 V DC, reversed polarity protected (SELV, PELV), Class 2
Power consumption:	Approx. 50 mA (without load)
Digital display: Display rate:	4-digit 14-segment LED red display, digit height .35 inches (9 mm) 20/s
Error display:	LED RED and alphanumeric display

Analog output: Current output: Scanning rate: Voltage output: Rating: Adjustment range:	 4-20 mA 2 ms 0 to 10 V DC max. 10 mA 25% to 100% f. s.
Transistor switching outputs:	
Switching function:	Normally open / normally closed, standard / window mode and diagnosis function adjustable
Switching output:	PNP / NPN (field selectable on IO-Link units)
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
IO-Link Communication Interface	
Transmission type:	COM2 (38.4 kBaud)
IO-Link revision:	1.1
SDCI standard:	IEC 61131-9
Profiles:	Smart Sensor, Process Data Variable, Device Identification, Device Diagnosis
SIO modules:	Yes
Required master port type:	A
SIO output:	1 analog / 2 binary (switch points) [see product configurator]
Min. process cycle time [ms]: Device ID:	2.5 0x071...

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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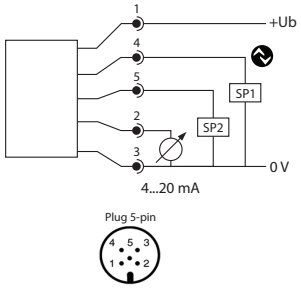
Technical Drawings

Connection diagram



Product Configurator

Example	BDS3	4	F	V	M	0500P

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

Sealing:

V	FKM fluoroelastomer

Electrical Connection:

M[1]	M12

Pressure Ranges[2]

0015P	0 - 15 psid (differential)
0100P	0 - 100 psid (differential)
0500P	0 - 500 psid (differential)

Accessories

Order Number	Description
239546-1M-R-S[3]	5 Pin M12 Female Right Angle Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239546-1M-S[3]	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:
1. Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
2. Contact factory for ranges not listed including BAR.
3. See Cable Connectors & Accessories for more options.

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