

# Pressure

## Electronic Dual Pressure Switch

**BPS3000**

### Features

- ▶ Measuring range: gauge: 0 - 9000 psig, absolute: 0 - 150 psia
- ▶ Enclosure Rating: Type 4X (IP65) / Type 6 (IP67)
- ▶ One or 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
- ▶ Suitable for rapid cycling applications
- ▶ Hydraulic and pneumatic compatible

### Applications

- ▶ Machine tool industry
- ▶ Factory Automation
- ▶ Injection molding machines
- ▶ Lubrication monitoring
- ▶ Pumps and compressors



### General Specifications\*\*

<b>Sensor element:</b>	Ceramic sensor (standard) Optional: piezoresistive sensor (For proper sensor selection see product configurator for more details.)	<b>Power consumption:</b>	Approx. 50 mA (without load) Approx. 80 mA (Output Code 6)
<b>Materials:</b>		<b>Digital display:</b>	4-digit 14-segment LED red display, digit height .35 inches (9 mm)
Wetted parts:	304 Stainless steel; brass (if surge dampener is required)	Display rate:	20/s
Enclosure:	304 Stainless steel, PBT	<b>Error display:</b>	LED RED and alphanumeric display
Seals:	FKM fluoroelastomer (standard) EPDM (optional)	<b>Analog output:</b>	
<b>Operating elements:</b>	3 easy-response push-buttons	Current output:	4-20 mA
<b>Enclosure rating:</b>	Type 4X (IP65) / Type 6 (IP67)	Scanning rate:	2 ms
<b>Protection class:</b>	III	Voltage output:	0 to 10 V DC
<b>Electrical connection:</b>	Plug M12 x 1, 4-pin / 5-pin / 8-pin (see product configurator)	Rating:	max. 10 mA
<b>Process connection:</b>	1/4" NPT, 1/2" NPT flush diaphragm, 7/16-20 (SAE), 7/16-20 (JIC 37°), G1/4" M, G1/2" flush diaphragm (only piezoresistive)	Adjustment range:	25% to 100% f. s.
<b>Dimensions:</b>	1.6 Ø x 4.4 inches (without plug connector)	<b>Transistor switching outputs:</b>	
<b>Weight:</b>	Approx. 0.4 lb (200 g)	Switching function	Normally open / normally closed, standard / window mode and diagnosis function adjustable
<b>Proof pressure:</b>	1.5X rated pressure	Switching output:	PNP
<b>A/D-Converter:</b>		Adjustment range for switching point and hysteresis:	0% to 125% f. s.
Resolution:	12 bit (4,096 steps per measure span)	Switching frequency:	Max. 100 Hz
Scanning rate:	1000/s	Load:	Max. 500 mA, short-circuit-proof
<b>Linearity error:</b>	< ±0.5 % f. s. at +25 °C	Delay:	0.0 s to 9.9 s adjustable
<b>Temperature influence:</b>	TC zero < ±0.2 % FSO / 10K TC span < ±0.3 % FSO / 10K	Status display(s):	LED(s) red
<b>Compensation range:</b>	14°F to 158°F (-10°C to +70°C)	<b>Approvals<sup>1</sup>:</b>	cULus <sup>1</sup>
<b>Repeatability:</b>	±0.1% f. s.	EMI	EN 61000-4-2 ESD 4 kV CD / 8 kV AD
<b>Temperature range:</b>			EN 61000-4-3 HF radiated 10 V/m
Media:	-13°F to 212°F (-25°C to +100°C)		EN 61000-4-4 Burst 2 kV
Electronics <sup>1</sup> :	14°F to 158°F (-10°C to +70°C)		EN 61000-4-5-Surge 1/2 kV
Storage:	-22°F to 176°F (-30°C to +80°C)		EN 61000-4-6 HF conducted 10 V
<b>Power supply<sup>1</sup>:</b>	15 to 32 V DC, reversed polarity protected (SELV, PELV), Class 2	Shock resistance	DIN EN 60028-2-27 50 g (11 ms)
		Vibration resistance	DIN EN 60028-2-26 20 g (10 to 2000 Hz)

**Barksdale**  
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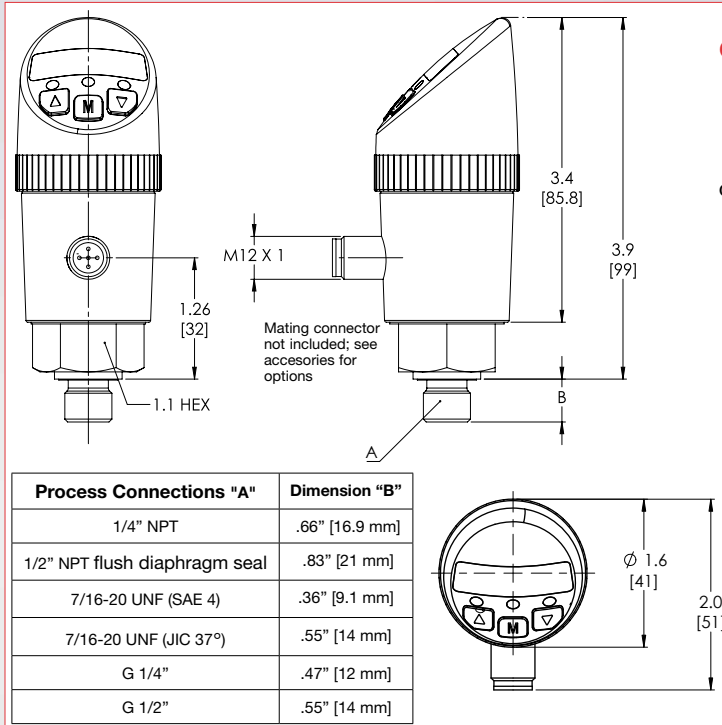
\*\* See product configurator for additional options.

<sup>1</sup> Condition of use with cULus: 140°F max. ambient; power supply: max. 28 V DC

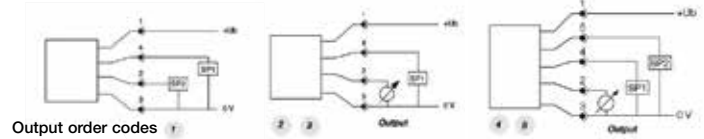
# Electronic Dual Pressure Switch

# BPS3000

## Technical Drawings



## Connection diagram



## Electrical Connection Chart

Pin	Signal Output Code	Signal Output Code 2 & 3	Signal Output Code 4 & 5	Signal Output Code 6
1	+Ub	+Ub	+Ub	+Ub
2	SP2	Signal	Signal	SP1a
3	0V	0V	0V	SP1b
4	SP1	SP1	SP1	0V
5	-	-	SP2	SP2a
6	-	-	-	SP2b
7	-	-	-	-
8	-	-	-	Housing

Dimensions [in inches]

## Product Configurator

Example **BPS3 4 E V M 9000P P**

### Series:

**BPS3** Series BPS3000, electronic dual pressure switch

### Output:

1	Dual switch point
2	Single switch point plus 4-20mA
3	Single switch point plus 0-10V
4	Dual switch point plus 4-20mA
5	Dual switch plus 0-10V
6	Dual switch points (1 x NO SPST / 1 x NC SPST), requires piezo sensor, non uL

### Process Connections:

N	1/4" NPT male thread
3 <sup>1</sup>	1/2" NPT flush diaphragm seal
E	7/16-20 UNF (SAE 4)
P	7/16-20 UNF male thread (JIC 37°)
G	G1/4" male thread
2 <sup>1</sup>	G1/2" flush diaphragm seal
1	40x40 Cetop/Manifold (contact factory)

### Electrical Connection:

**M<sup>2</sup>** M12

### Sealing:

V	FKM fluoroelastomer (standard)
E	EPDM (EPR) (optional)

### Sensor:

Blank	Standard ceramic sensor
P	Piezoresistive sensor

### Pressure Ranges<sup>3</sup>

0015PA <sup>4, 5, 7</sup>	0 - 15 psia (absolute)
0075PA <sup>4, 5, 7</sup>	0 - 75 psia (absolute)
0150PA <sup>4, 5, 7</sup>	0 - 150 psia (absolute)
0003P <sup>4, 5, 7</sup>	0 - 3 psig
0015P <sup>4, 5, 7</sup>	0 - 15 psig
0050P <sup>4, 5, 7</sup>	0 - 50 psig
0075P <sup>4, 5, 7</sup>	0 - 75 psig
0150P <sup>8</sup>	0 - 150 psig
0750P <sup>8</sup>	0 - 750 psig
1500P <sup>8</sup>	0 - 1500 psig
3000P <sup>8</sup>	0 - 3000 psig
6000P <sup>8</sup>	0 - 6000 psig
9000P <sup>4, 8</sup>	0 - 9000 psig

## Accessories

Order Number	Description
239535-1M-R-S <sup>6</sup>	4 Pin M12 Female Right Angle Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239535-1M-S <sup>6</sup>	4 Pin M12 Female Straight Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239537	4 Pin M12 Female Straight Connector
239236	4 Pin M12 Female Right Angle Connector
239546-1M-R-S <sup>6</sup>	5 Pin M12 Female Right Angle Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239546-1M-S <sup>6</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:

- Only available from (0-150 psig) range up to (0-9000 psig) range. Piezoresistive sensor only.
- 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.
- Pressure range requires piezoresistive sensor.
- Units are rated at IP65 only.
- See Cable Connectors & Accessories for more options.
- Not available with process connections 3 & 2
- Includes .2 mm  $\phi$  removable brass orifice

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