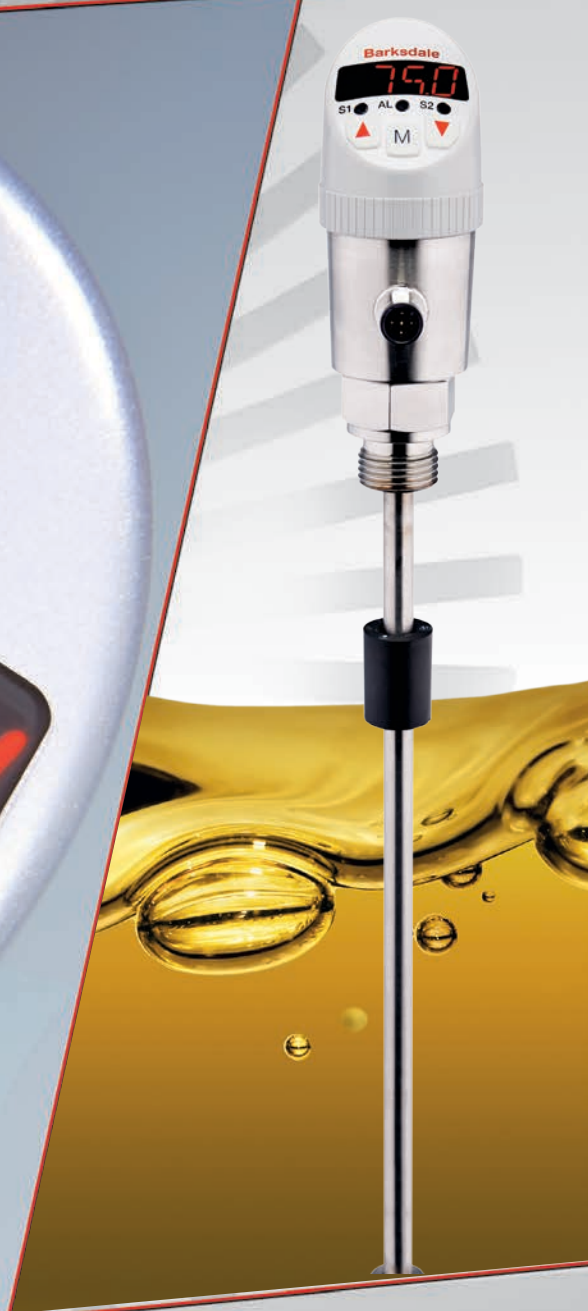


# Switch to Generation 3000

**NEW Electronic Level**



**One Series for**

- ▶ Pressure
- ▶ Temperature
- ▶ Level

**Barksdale®**  
CONTROL PRODUCTS

**CRANE** Barksdale, Inc./Barksdale GmbH  
A Subsidiary of Crane Co.

# Quality by design Generation 3000

BPS3000 / BTS3000 / BLS3000

## Wide range of performance

Simple configuration allows customers to standardize on one series of switch for multiple functions. The BPS3000 operates from vacuum to 9000 psi, while the BTS3000 is designed for -22° F to 284° F. The BLS3000 offers various process connections and sensor lengths from 9.8 to 39.4 inches. Generation 3000 units are compatible with hydraulic fluid, varied chemicals, water, and gas media.

## Compact and modern design

The new compact BPS3000 electronic pressure switch, BTS3000 electronic temperature switch, and the BLS3000 electronic level switch enable simple installation in confined spaces. The angled top displays of these units are aesthetically pleasing and functional, and their simple setup logic is a true functional benefit.

## Rotatable 320° display and electrical connection

The rotatable 320° display and electrical connection on the Generation 3000 units makes the mounting and installation very versatile, accommodating a multitude of applications.

## Flexible display

The 4-digit 14-segment LED display ensures perfect readability independent of the positioning: even when mounting upside down the indication can be viewed correctly as the software allows inversion of the display.

## Flexible by design

Designed to meet your application needs



Switch to  
**Barksdale**





## High protection with Nema 6, IP67 and EMI resistance

Harsh environmental circumstances with dust or water being present are not a problem for the new Generation 3000 units. The sophisticated housing and sealed keypad provides simple programming and operation.

The high EMI protection of these units allows for installation where high power equipment or where walkie-talkies are in use, like in the steel and power industries.

## Performance

With 0.5% accuracy and 0.1% repeatability across both pressure and temperature ranges and 1/5" (5 mm) resolution on the level switch, the new Generation 3000 units will meet most challenging application demands. The dual switch option with 0-10 VDC or 4-20 mA analog outputs will enable precise measurement and sensing every time.

## Easy operation

Our simple menu allows for easy navigation through the programming options, ascending and descending through the standardized menu with easy response push-buttons. The tamper proof settings can also help to prevent operational mistakes.



The new **Generation 3000 Series** combines all features of a modern electronic pressure / temperature switch / level switch, with its **flexibility**, **operational convenience**, **analog feedback** and **compact elegant design**.

Switch to  
**Generation 3000**



# BLS3000

Direct Measurement



Reed relays

## Various applications

The new BLS3000 is part of the Barksdale Generation 3000 family. Due to its wide range of process connections and UL approval, the level switch can be used in various applications for level measurement like industrial cooling and lubrication systems, test benches, and high performance power packs.

## Compact and robust design

With a float smaller than our competition and a panel height of 4.5 inches and diameter of 1.6 inches, the required space of a BLS3000 is compact. This makes the BLS3000 suitable for installation in tight and compact spaces.

## Accurate level measurement

Integrated reed relays enable continuous level measurement and customized set point adjustment ensures accurate feedback for level measurement. Unlike capacitance technology, our float design is not at risk of false measurement with changes in viscosity or contaminants in the media due to environmental conditions.



**NEW**

## Wide range of media compatibility

The BLS3000 is suitable for a wide range of media such as water, coolants, hydraulic oil, media with dirty contaminants, and fluids with foam, where capacitance, guided wave, and ultrasonic technology may fall short.

## Reduced-sticking float technology

Compared to other level float products, our float design reduces the float from sticking on the stem caused by sticky media or adhesion.

## 3-Products in 1-compact package

The BLS3000 is three devices: level gauge, level switch, and level transmitter packaged into one, eliminating the need for multiple instruments. This provides the flexibility of 0-10 VDC or 4-20 mA output options with up to two switch points.

## Technical data

- ▶ Measuring element: Reed switch
- ▶ Total length (L0) = max. 39.4" (1000 mm)
- ▶ Measuring length (LM) = max. 36.6" (930 mm)
- ▶ Process connections:
  - 1/2" NPT, 3/4" NPT, 1" NPT, & 1-1/4" NPT
  - SAE 10 & SAE 12
  - G1/2", G3/4", G1", & M20x1.5
- ▶ Enclosure rating: IP65/IP67
- ▶ cULus approved





# 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)
<b>Materials:</b> Wetted parts:	304 Stainless steel; pressure ranges $\geq 0$ -150 psi feature a .2 mm $\varnothing$ removable brass orifice)	<b>Digital display:</b>	4-digit 14-segment LED red display, digit height .35 inches (9 mm) Display rate: 20/s
Enclosure:	304 Stainless steel/polycarbonate/elastomer/polyamide	<b>Error display:</b>	LED RED and alphanumeric display
Seals:	FKM fluoroelastomer (standard) EPDM (optional)	<b>Analog output:</b>	Current output: 4-20 mA Scanning rate: 2 ms Voltage output: 0 to 10 V DC Rating: max. 10 mA 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)	Switching function	Normally open / normally closed, standard /window mode and diagnosis function adjustable
<b>Protection class:</b>	III	Switching output:	PNP
<b>Electrical connection:</b>	Plug M12 x 1, 4-pin / 5-pin	Adjustment range for switching point and hysteresis:	0% to 125% f. s.
<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)	Switching frequency:	Max. 100 Hz
<b>Dimensions:</b>	1.6 $\varnothing$ x 4.4 inches (without plug connector)	Load:	Max. 500 mA, short-circuit-proof
<b>Weight:</b>	Approx. 0.4 lb (200 g)	Delay:	0.0 s to 9.9 s adjustable
<b>Proof pressure:</b>	1.5X rated pressure	Status display(s):	LED(s) red
<b>A/D-Converter:</b>		<b>Approvals<sup>1</sup>:</b>	cULus <sup>1</sup>
Resolution:	12 bit (4,096 steps per measure span)	EMI	EN 61000-4-2 ESD 4 kV CD / 8 kV AD
Scanning rate:	1000/s		EN 61000-4-3 HF radiated 10 V/m
<b>Linearity error:</b>	$< \pm 0.5$ % f. s. at +25 °C		EN 61000-4-4 Burst 2 kV
<b>Temperature influence:</b>	TC zero $< \pm 0.2$ % FSO / 10K TC span $< \pm 0.3$ % FSO / 10K		EN 61000-4-5-Surge 1/2 kV
<b>Compensation range:</b>	14°F to 158°F (-10°C to +70°C)		EN 61000-4-6 HF conducted 10 V
<b>Repeatability:</b>	$\pm 0.1$ % f. s.	Shock resistance	DIN EN 60028-2-27 50 g (11 ms)
<b>Temperature range:</b>		Vibration resistance	DIN EN 60028-2-26 20 g (10 to 2000 Hz)
Media:	-13°F to 212°F (-25°C to +100°C)		
Electronics <sup>1</sup> :	14°F to 158°F (-10°C to +70°C)		
Storage:	-22°F to 176°F (-30°C to +80°C)		
<b>Power supply<sup>1</sup>:</b>	15 to 32 V DC, reversed polarity protected (SELV, PELV), Class 2		

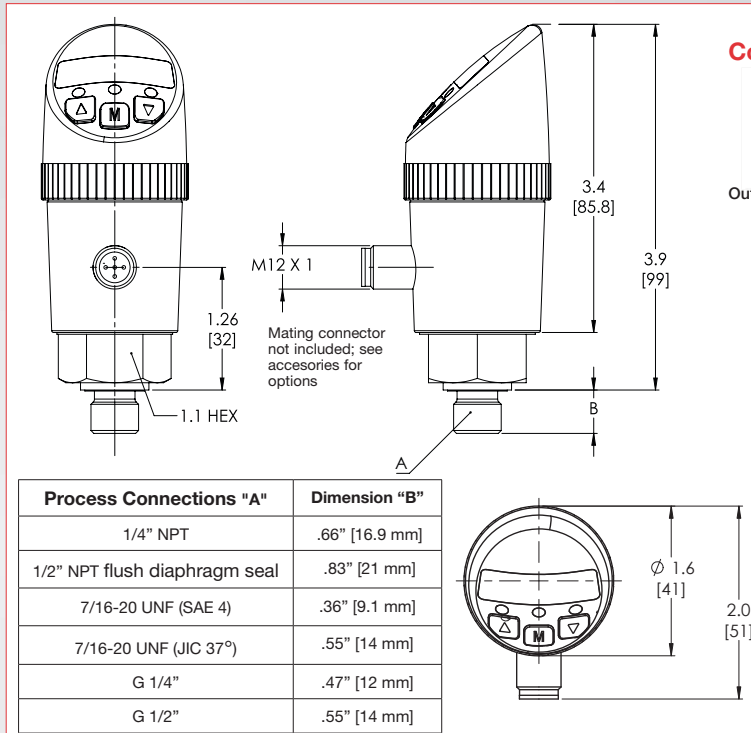
\*\* See product configurator for additional options.

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

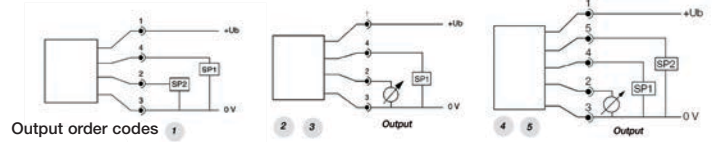
# Electronic Dual Pressure Switch

**BPS3000**

## Technical Drawings



### Connection diagram



### Electrical Connection Chart

M12 Pin Call-Out	Models with 2 switching output	Models with 1 switching output and 1 analog output	Models with 2 switching output and 1 analog output
Color Code of Mating Cable	Plug 4-pin	Plug 4-pin	Plug 5-pin
Pin 1 Brown	15 to 32 VDC	15 to 32 VDC	15 to 32 VDC
Pin 2 White	SP2 (500 mA/100 Hz)	Analog Output (500 mA/100 Hz)	Analog Output (500 mA/100 Hz)
Pin 3 Blue	0 V	0 V	0 V
Pin 4 Black	SP1 (500 mA/100 Hz)	SP1 (500 mA/100 Hz)	SP1 (500 mA/100 Hz)
Pin 5 Gray	Not Applicable	Not Applicable	SP2 (500 mA/100 Hz)

Dimensions [in inches]

## Product Configurator

**Example**    **BPS3**    **4**    **E**    **V**    **M**    **6000P**    **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

### 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)

### Sealing:

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

### Electrical Connection:

M<sup>2</sup>    M12

### 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>4, 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:

1. Only available from (0-150 psig) range up to (0-9000 psig) range. Piezoresistive sensor only.
2. Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
3. Contact factory for ranges not listed including BAR.
4. Pressure range requires piezoresistive sensor.
5. Units are rated at IP65 only.
6. See Cable Connectors & Accessories for more options.
7. Not available with process connections 3 & 2
8. Includes .2 mm Ø removable brass orifice

# Temperature

## Electronic Dual Temperature Switch

**BTS3000**

### Features

- ▶ Measuring range: -22° to +284°F (-30° to +140°C)
- ▶ One or two switch points
- ▶ Analog output 4 - 20 mA
- ▶ Display & electronic connection: rotatable by 320°
- ▶ Simple navigation menu
- ▶ Superior EMI protection
- ▶ 0.50% accuracy
- ▶ Enclosure Rating: Type 4X (IP65) / Type 6 (IP67)

### Applications

- ▶ Machine tool industry
- ▶ Hydraulic & pneumatic systems
- ▶ Injection molding machines
- ▶ Cooling monitoring / circuits
- ▶ Lubrication systems
- ▶ Construction machinery
- ▶ Automobile industry



### General Specifications\*

<b>Sensor element:</b>	PT100 Class A DIN/IEC 60751
<b>Materials:</b>	
Wetted parts:	304 Stainless steel
Enclosure:	304 Stainless steel/polycarbonate/elastomer
Seals:	FKM fluoroelastomer (standard) EPDM (optional)
<b>Operating elements:</b>	3 easy-response push-buttons
<b>Enclosure rating:</b>	Type 4X (IP65) / Type 6 (IP67)
<b>Protection class:</b>	III
<b>Electrical connection:</b>	Plug M12 x 1, 4-pin / 5-pin
<b>Process connection:</b>	1/4" NPT Male, 1/2" NPT Male, 7/16-20 UNF (SAE-4) Male, G1/4" Male
<b>Dimensions Enclosure:</b>	1.6 Ø x 4.4 inches (without plug connector and sensor)
<b>Weight:</b>	Approx. 0.4 lb (200 g)
<b>Measuring ranges:</b>	-22°F to +284°F (-30°C to +140°C)
<b>Max. pressure:</b>	2,900 psi (200 bar)
<b>A/D-Converter:</b>	
Resolution:	12 bit (4,096 steps per measure span)
Scanning rate:	1000/s
<b>Time Constant:</b>	Approx. 40 s
<b>Accuracy:</b>	< ±0.5 % f. s. at +25 °C
<b>Repeatability:</b>	±0.1% f. s.
<b>Temperature range:</b>	
Electronics:	14°F to 140°F (-10°C to +60°C)
Storage:	-22°F to 176°F (-30°C to +80°C)
<b>Power supply:</b>	15 to 28 V DC, reversed polarity protected (SELV, PELV) Class 2
<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	
<b>Power consumption:</b>	Approx. 50 mA (without load)	
<b>Analog output:</b>		
Current output:	4-20 mA	
Scanning rate:	2 ms	
Adjustment range:	25% to 100% f. s.	
<b>Transistor switching outputs:</b>		
Switching function	Normally open / normally closed, standard / window mode and diagnosis function adjustable	
Switching output:	PNP	
Adjustment range for switching point and hysteresis:	0% to 125% f. s.	
Switching frequency:	Max. 100 Hz	
Load:	Max. 500 mA, short-circuit-proof	
Delay:	0.0 s to 50 s adjustable	
Status display(s):	LED(s) red	
<b>Approvals:</b>	cULus	
EMI	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
Vibration resistance**	DIN EN 60028-2-26	20 g (10 to 2000 Hz)

\* See product configurator for additional options.

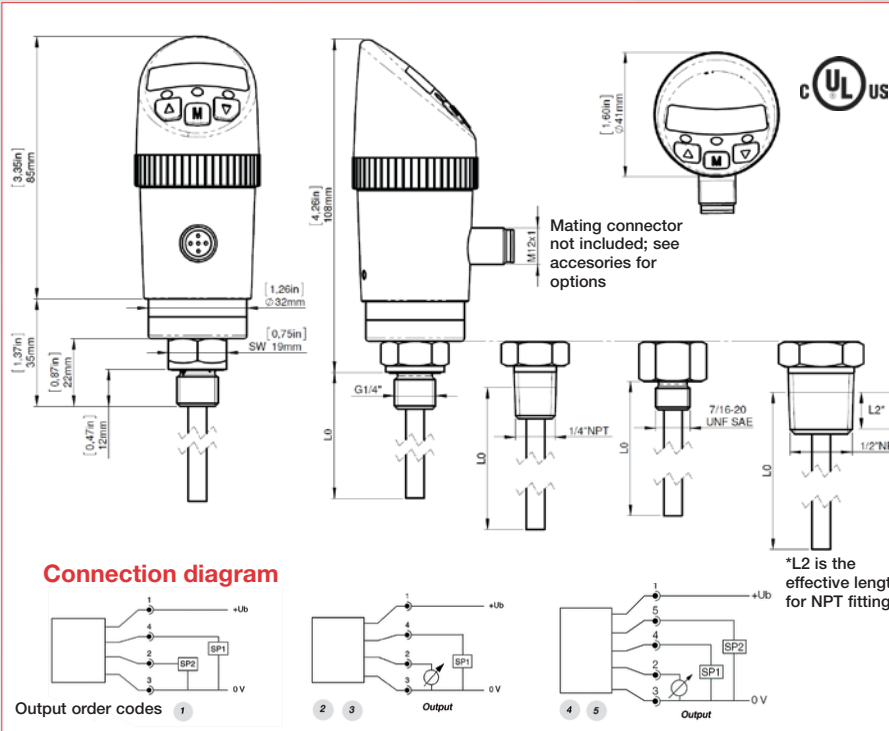
\*\* At probe length over 100mm shock & vibration resistance can be influenced by the application



# Electronic Dual Temperature Switch

**BTS3000**

## Technical Drawings



## Electrical Connection Chart

M12 Pin Call-Out	Models with 2 switching output	Models with 1 switching output and 1 analog output	Models with 2 switching output and 1 analog output
Color Code of Mating Cable	Plug 4-pin	Plug 4-pin	Plug 5-pin
Pin 1 Brown	9 to 32 VDC	9 to 32 VDC	9 to 32 VDC
Pin 2 White	SP2 (500 mA/100 Hz)	Analog Output (500 mA/100 Hz)	Analog Output (500 mA/100 Hz)
Pin 3 Blue	0 V	0 V	0 V
Pin 4 Black	SP1 (500 mA/100 Hz)	SP1 (500 mA/100 Hz)	SP1 (500 mA/100 Hz)
Pin 5 Gray	Not Applicable	Not Applicable	SP2 (500 mA/100 Hz)

Length	1/4" NPT / 1/2" NPT / 7/16-20 UNF (SAE-4)	G1/4"
L0	.7" [17.78 mm]	0.67" [17 mm]
	2" [50.8 mm]	0.98" [25 mm]
	4" [101.6 mm]	1.97" [50 mm]
	6" [152.4 mm]	3.94" [100 mm]
	12" [304.8 mm]	11.80" [300 mm]
		25.59" [650 mm]

*\*L2 is the effective length for NPT fitting.*

Dimensions inches [mm]

## Product Configurator

Series: **Example** **BTS3** **4** **E** **V** **M** **2.00Z** **1**

**BTS3** Series BTS3000, electronic dual temperature 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 point plus 0-10V

### Temperature Ranges:

1	0 to 100°C
2	-30 to 140°C
3	32 to 212°F
4	-22 to 284°F

### Process Connections:

N	1/4" NPT male thread
3 <sup>1</sup>	1/2" NPT male thread (Consult factory)
E	7/16-20 UNF (SAE 4)
G	G1/4" male thread

### Sealing:

V <sup>2</sup>	FKM fluoroelastomer (standard)
E <sup>2</sup>	EPDM (EPR) (optional)
X	No seal (Required for units with NPT thread)

### Electrical Connection:

M<sup>3</sup> M12

### Sensor Length<sup>4</sup>:

0017M <sup>5</sup>	17 mm probe
0025M <sup>5</sup>	25 mm probe
0050M <sup>5</sup>	50 mm probe
0100M <sup>5</sup>	100 mm probe
0300M <sup>5</sup>	300 mm probe
0650M <sup>5,6</sup>	650 mm probe
0.70Z <sup>1,7</sup>	0.7" probe
2.00Z <sup>1,7</sup>	2" probe
4.00Z <sup>1,7</sup>	4" probe
6.00Z <sup>1,7</sup>	6" probe
12.0Z <sup>6,7</sup>	12" probe

## Accessories

Order Number	Description
239535-1M-R-S <sup>8</sup>	4 Pin M12 Female Right Angle Plug Molded Cable, 3.28 Feet (1 Meter), Shielded
239535-1M-S <sup>8</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>8</sup>	5 Pin M12 Female Right Angle Molded Cable, 3.28 Feet (1 Meter), Shielded
239546-1M-S <sup>8</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
208779 <sup>1</sup>	2" Probe - Brass Thermowell
208779-SS <sup>1</sup>	2" Probe - 316 Stainless Steel Thermowell
208780 <sup>1</sup>	4" Probe - Brass Thermowell
208780-SS <sup>1</sup>	4" Probe - 316 Stainless Steel Thermowell
208781 <sup>1</sup>	6" Probe - Brass Thermowell
208781-SS <sup>1</sup>	6" Probe - 316 Stainless Steel Thermowell

Note:

1. Thermowell option available for 1/2" NPTF only with 2", 4" and 6" probes only; consult factory for details.
2. Available only for G and UNF thread.
3. Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
4. Custom probe length available; minimum quantities may apply.
5. Available only for G thread.
6. At probe length over 11.8" (300 mm), the probe must be kept out of the direct path of the flowing media.
7. Available only for NPT and UNF thread.
8. See Cable Connectors & Accessories for more options.

## Electronic Dual Level Switch

## BLS3000

### Features

- ▶ Signal resolution: 1/5" (5 mm)
- ▶ Redundant measurement system ensures reliable output
- ▶ Total length (L0): 9.8"-39.4" (250 mm-1000 mm)
- ▶ One or two switch points
- ▶ Analog output: 4 - 20 mA or 0 - 10 V
- ▶ Rotatable 320° display & electrical connection
- ▶ Easy menu navigation

### Applications

- ▶ Level control for:
  - Hydraulics
  - Lubrication system
  - Cooling

### General Specifications\*



<b>Sensor element:</b>	Reed switch
<b>Materials:</b> Wetted parts: Stem (Fitting, Tube): Float: Seals: Electronic housing:	Stainless steel 316Ti NBR (BUNA-N) foam FKM, EPDM or NBR (BUNA-N) Stainless steel 316Ti, PBT, elastomer
<b>Operating elements:</b>	3 easy-response push-buttons
<b>Enclosure rating:</b>	Type 1 / Type 4X (IP65) / Type 6 (IP67)
<b>Protection class:</b>	III
<b>Electrical connection:</b>	Plug M12 x 1, 4-pin / 5-pin (depending on Output selection)
<b>Process connection:</b>	See Product Configurator for process connection options (page 2)
<b>Float BN17:</b> Density medium: Depth of immersion:	min. 0.02 lb/in <sup>3</sup> (0.60 g/cm <sup>3</sup> ) 0.59" ± 0.07" (15 ± 2 mm) (water) 0.74" ± 0.07" (19 ± 2 mm) (oil 0.75) Ø0.70", height 0.98" (Ø17.8 mm, height 25 mm)
<b>Dimensions enclosure:</b>	1.6 Ø x 4.5 inches (41 x 115 mm) For 1/2" NPT (without M12 connector or probe). Contact factory for other sizes.
<b>Weight:</b>	Approx. 0.77 lb (350 g) (for G1/2" size and 250 mm L0, for exact weight, contact factory)
<b>Total length (L0):</b>	9.8" (250 mm), 14.6" (370 mm), 16.1" (410 mm), others on request up to 39.4" (1000 mm)
<b>Accuracy:</b>	± 1 digit (without turbulence) including temperature influence and repeatability
<b>Resolution:</b>	1/5" (5 mm)
<b>Max. pressure:</b>	43.5 psi (3 bar)
<b>Temperature range:</b> Medium: Ambient/Operating: Storage:	-13 °F to +176 °F (-25 °C... +80 °C) 14 °F to +140 °F (-10 °C... +60 °C) -22 °F to +176 °F (-30 °C... + 80 °C)
<b>Power supply:</b>	15 to 28 V DC, reversed polarity protected (SELV, PELV)
<b>Power consumption:</b>	Approx. 50 mA (without load)

<b>Digital display:</b>	4-digit 14-segment LED display, red, digit height 0.35 inches (9 mm)	
<b>Error display:</b>	LED RED and alphanumeric display	
<b>Analog output:</b> Current output: Load:  Scanning rate: Voltage output: Rating: Adjustment range:	4-20 mA max. RI = (Ub-12V) / 20 mA RI = 600 Ohm at Ub = 24 V DC 2 ms 0 to 10 V DC max. 10 mA 25% to 100% f. s.	
<b>Units:</b> Distance: Volume:	%, mm, cm, m, inch, feet, liter, m <sup>3</sup> , gallon	
<b>Transistor switching outputs:</b>		
<b>Switching function:</b>	Normally open/normally closed, standard / window mode and adjustable functions	
<b>Switching output:</b>	PNP	
<b>Adjustment range for switching point and hysteresis:</b>	0 % to 125 % f. s.	
<b>Switching frequency:</b>	Max. 100 Hz	
<b>Load</b>	Max. 500 mA, short-circuit proof	
<b>Delay</b>	0.0 s to 50 s adjustable	
<b>Status display(s):</b>	LED(s) red	
<b>EMI:</b>	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
<b>Shock resistance</b>	DIN EN 60028-2-27	50 g (11 ms)
<b>Vibrations resistance</b>	DIN EN 60028-2-26	20 g (10...2000 Hz)
<b>Approvals:</b>	cULus <sup>1</sup>	

1) Conditions of use: 140 °F (60 °C) max. ambient, power supply max. 28 V DC

\* See product configurator for additional options.

**NEW**

# Electronic Dual Level Switch

**BLS3000**

## Technical Drawings

**Electrical Connection Chart**

Models with 2 switching output	Models with 1 switching output and 1 analog output	Models with 2 switching output and 1 analog output
Color Code of Mating Cable	Plug 4-pin	Plug 5-pin
Pin 1 Brown	15 to 28 VDC	15 to 28 VDC
Pin 2 White	SP2 (500 mA/100 Hz)	Analog Output 4-20 mA/0-10 V
Pin 3 Blue	0 V	0 V
Pin 4 Black	SP1 (500 mA/100 Hz)	SP1 (500 mA/100 Hz)
Pin 5 Gray	Not Applicable	SP2 (500 mA/100 Hz)

**Length**

Length	1/2" NPT, 3/4" NPT, 1" NPT, 1 1/4" NPT, 7/8- SAE 10, 1-1/16-12 SAE 12	G1/2", G 3/4", G1", M20X1.5
L0	9.8"	250 mm
	14.6"	370 mm
	16.1"	410 mm

**Process Connection**

Process Connection	Dead band	
	To (Top)	Tu (Bottom)
G1/2"	1.06 ± 0.12 [27 ± 3]	1.06 ± 0.12 [27 ± 3]
G3/4"	1.14 ± 0.12 [29 ± 3]	
G1"	1.22 ± 0.12 [31 ± 3]	
M20 x 1.5 mm	1.06 ± 0.12 [27 ± 3]	
1/2" NPT	0.51 ± 0.12 [13 ± 3]	
3/4" NPT		
1" NPT		
1 1/4" NPT	1.01 ± 0.12 [25.7 ± 3]	
7/8-14 UNF (SAE 10)	1.1 ± 0.12 [28 ± 3]	
1 1/16-2 UN (SAE 12)		

**Process Connections\***

\* Non NPT fittings are shown without seals

**Dimensions inches [mm]**

## Product Configurator

**Example**    **BLS3**    **1**    **6**    **X**    **M**    **14.6Z**

### Series:

**BLS3**    Series BLS3000, electronic dual level 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 point plus 0-10V

### Process Connections:

2	G1/2" male, with seal (seal code V, E or B)
3	1/2" NPT male, without seal (seal code X)
5	G3/4" male, with seal (seal code V, E or B)
6	3/4" NPT male, without seal (seal code X)
A	G1" male, with seal (seal code V, E or B)
B	1" NPT male, without seal (seal code X)
C	1 1/4" NPT male, without seal (seal code X)
H	M20 x 1.5 mm male, with seal (seal code V, E or B)
I'	7/8-14 UNF (SAE 10) male, (seal code V, E or B)
J'	1 1/16 -12 UN (SAE 12) male, (seal code V, E or B)

#### Note:

- Subject to minimum order quantity of 10 pieces; consult factory for lead time.
- Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
- Custom length available up to 39.4" (1000mm); minimum quantities may apply.
- Available only for G & M thread.
- Available only for NPT, UNF & UN thread.
- See Cable Connectors & Accessories for more options.

### Total Sensor Length L0<sup>3</sup>:

0250M <sup>4</sup>	250 mm (process con. code 2, 5, A & H)
0370M <sup>4</sup>	370 mm (process con. code 2, 5, A & H)
0410M <sup>4</sup>	410 mm (process con. code 2, 5, A & H)
09.8Z <sup>5</sup>	9.8 inch (process con. code 3, 6, B, C, I, & J)
14.6Z <sup>5</sup>	14.6 inch (process con. code 3, 6, B, C, I, & J)
16.1Z <sup>5</sup>	16.1 inch (process con. code 3, 6, B, C, I, & J)

### Electrical Connection:

**M<sup>2</sup>**    M12 x 1 mm (4 or 5 pin)

### Seal Material:

X	No seal is required for NPT thread
V	FKM (fluoroelastomer)
E	EPDM (EPR)
B	NBR (BUNA-N)

### 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 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



# Switch to Generation 3000

## BPS3000



Pressure Switch  
Vacuum & 0-9000 psi  
Dual switch & analog output

## BTS3000



Temperature Switch  
32 - 212°F, -22 - 284°F  
0 - 100°C, -30 - 140°C

## BLS3000



Level Switch  
Probe lengths from 9.8" to 39.4"  
(250 mm to 1000 mm)

**Switch to Generation 3000 for performance you can trust.**

## BPS3000, BTS3000 & BLS3000 Custom Solutions

Our standard offering of options can be configured to meet your application needs. See our data sheet, or our eConfigurator, to select the product to meet your specific requirements.

If you need a fully customized solution, please contact us at 800-835-1060.

**Barksdale – Innovative solutions with the highest quality.**



**Switch to Generation 3000**

For more information visit [www.generation3000.com/USA/](http://www.generation3000.com/USA/)

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