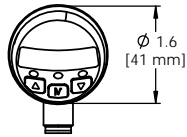


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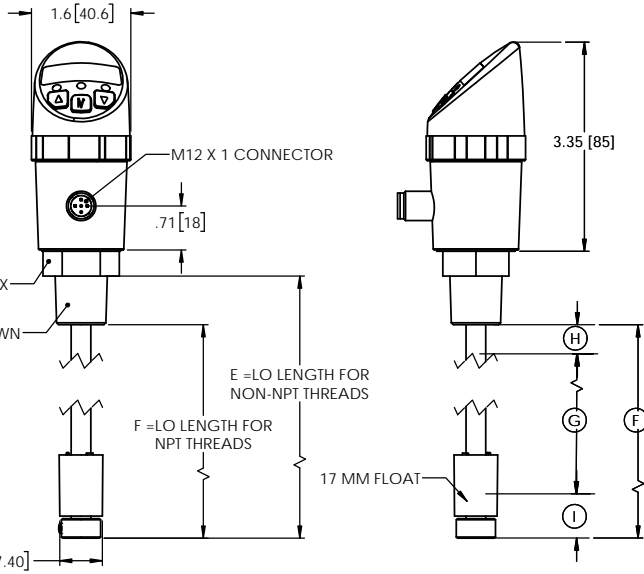
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E	L0 = Total Length for G & M & SAE Threads
F	L0 = Total Length for NPT Threads
G	LM = L0 - (To + Tu)
H	To = Top Dead Band
I	Tu = Bottom Dead Band



Fitting	Dead Band	
	To ( Top)	Tu (Bottom)
G 1/2"	1.06 ± .12 [ 27 ± 3 ]	1.06 ± .12 [ 27 ± 3 ]
G 3/4"	1.14 ± .12 [ 29 ± 3 ]	
G 1"	1.22 ± .12 [ 31 ± 3 ]	
M 20x1.5 mm	1.06 ± .12 [ 27 ± 3 ]	
1/2" NPT		
3/4" NPT	.51 ± .12 [ 13 ± 3 ]	
1" NPT		
1 1/4" NPT		
7/8 -14 UNF (SAE#10)	1.01 ± .12 [ 25.7 ± 3 ]	
1 1/16-12 UN (SAE#12)	1.1 ± .12 [ 28 ± 3 ]	

<b>Sensor element:</b>	Reed switch
<b>Materials:</b>	
Wetted parts:	Stainless steel 316TI
Stem (Fitting, Tube):	NBR (BUNA-N) foam
Float:	FKM, EPDM or NBR (BUNA-N)
Seals:	Stainless steel 316TI,
Electronic housing:	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:	min. 0.02 lb/in <sup>3</sup> (0.60 g/cm <sup>3</sup> )
Depth of Immersion:	0.59" ± 0.07" (15 ± 2 mm) (water) 0.74" ± 0.07" (0.19 ± 2 mm) (oil 0.75) Ø0.70", height 0.98" (Ø17.4 mm, height 25 mm)
<b>Dimensions enclosure:</b>	1.6 Ø x 4.4 inches (41 x 112 mm) (without M12 connector or probe)
<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>	0.19" (5 mm)
<b>Max. pressure:</b>	43.5 psi (3 bar)
<b>Temperature range:</b>	
Medium:	-13 °F to +176 °F (-25 °C... +80 °C)
Ambient/Operating:	14 °F to +140 °F (-10 °C... +60 °C)
Storage:	-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:	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>Units:</b>	
Distance:	%, mm, cm, m, inch, feet,
Volume:	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>

#### 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 28 VDC	15 to 28 VDC	15 to 28 VDC
Pin 2 White	SP2 (500 mA/100 Hz)	Analog Output 4-20 mA/0-10 V	Analog Output 4-20 mA/0-10 V
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)

5. DIMENSIONS ARE IN INCHES. DIMENSIONS IN [ ] ARE IN MILLIMETERS AND FOR REFERENCE ONLY

4. ELECTRICAL CONNECTION & DISPLAY CAN BE ROTATED 320° INDEPENDENTLY

3. MATING CONNECTORS ( 4 PINS P/N 239537, 5 PINS P/N 239263) OR CABLE ASSEMBLIES (4PINS P/N 239535-XX) AND 5 PINS P/N 239546-XX) ARE NOT PROVIDED WITH UNIT. THEY ARE AVAILABLE AS ACCESSORIES

2. WHEN ORDERING REFER TO SWITCH CONFIGURATOR IN PAGE 2 TO OBTAIN CORRECT SWITCH

1. SWITCH IS UL AND CSA APPROVED

NOTES: UNLESS OTHERWISE SPECIFIED

DRAWN J. ESCOBAR	DATE 04-25-2016	ELECTRONIC LEVEL SWITCH BLS3000		NEXT ASSEMBLY	
CHECKED	DATE				
APPROVED	DATE			REFERENCE DPM	DIST.
UNLESS OTHERWISE SPECIFIED				<input type="checkbox"/> Dist	
DIMENSIONAL TOLERANCES				00010040	A 04-25-2016
FRACTIONAL	+0.16			PCD #	REV
DECIMAL	+0.05				DATE
ANGULAR	+5°				
DIMENSIONS IN BOXES ARE IN MILLIMETERS					
Barksdale CONTROL PRODUCTS		www.barksdale.com	REGIT	SCALE	DWG.
[CRANE] Barksdale, Inc./Barksdale GmbH A Subsidiary of Crane Co.		Los Angeles, CA 90058-0843 Ph: 323-589-6181 Fax: 323-583-6252	1:2	C	BLS3000
					SHEET 1 OF 2

4

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A

# 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	Single 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), (seal code V, E or B)
J	1 1/16 -12 UN (SAE 12), (seal code V, E or B)

## Total Sensor Length L0<sup>2</sup>:

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

## Electrical Connection:

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

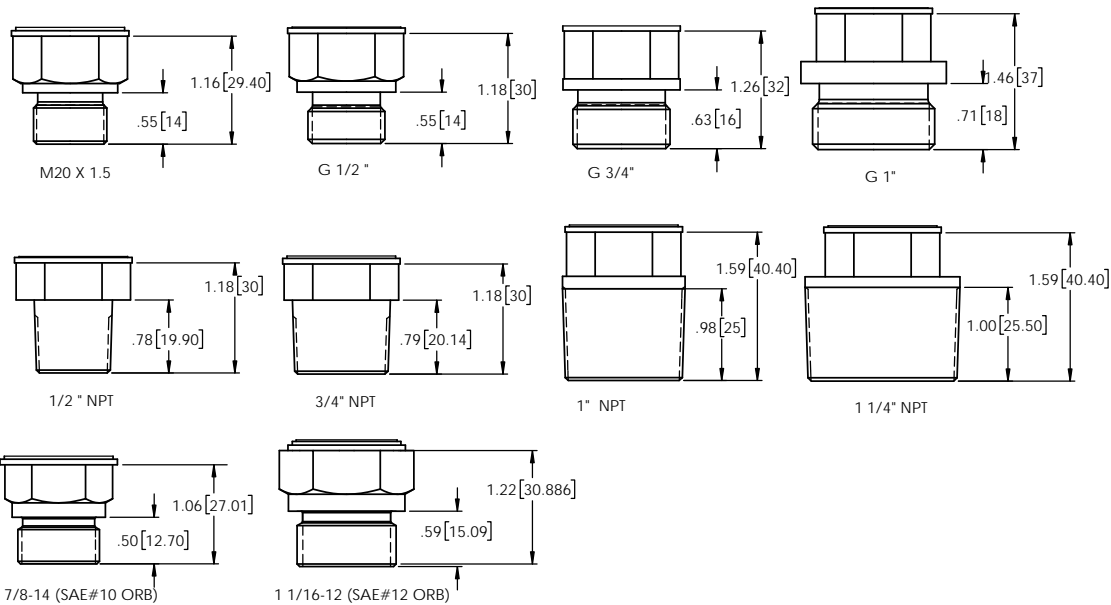
## Seal Material:

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

### Note:

- Mating connector not included with unit; mating connectors are available and can be ordered as an accessory.
- Custom length available; minimum quantities may apply.
- Available only for G & M thread.
- Available only for NPT, UNF & UN thread.

## PROCESS CONNECTION



WEIGHT	SCALE	DWG. C	BLS3000	REV. A
		SHEET	OF	