

# Industrial Transducer

# BoT Series

## Features

- ▶ Heavy-duty, rugged construction with 316 and 17-4 stainless steel for superior corrosion resistance
- ▶ Up to 23X rating over-pressure protection to protect against pressure hammering and burst pressures
- ▶ Advanced digital electronics provides digital compensation on sensor data for improved performance.
- ▶ Superior EMC/EMI protection as per IEC61000 standards
- ▶ Thermally compensated sensors ensure high accuracy over wide temperature ranges to mitigate thermal errors on sensitive components.
- ▶ Modular design platform to support fully customizable pressure ranges, mechanical or electrical connections, and other application-specific requirements.

## Applications

- ▶ General industrial equipment
- ▶ Pumps and Compressors
- ▶ Mobile hydraulic equipment
- ▶ Off-highway vehicles
- ▶ Irrigation equipment systems
- ▶ Medical gas systems
- ▶ Marine



## General Specifications

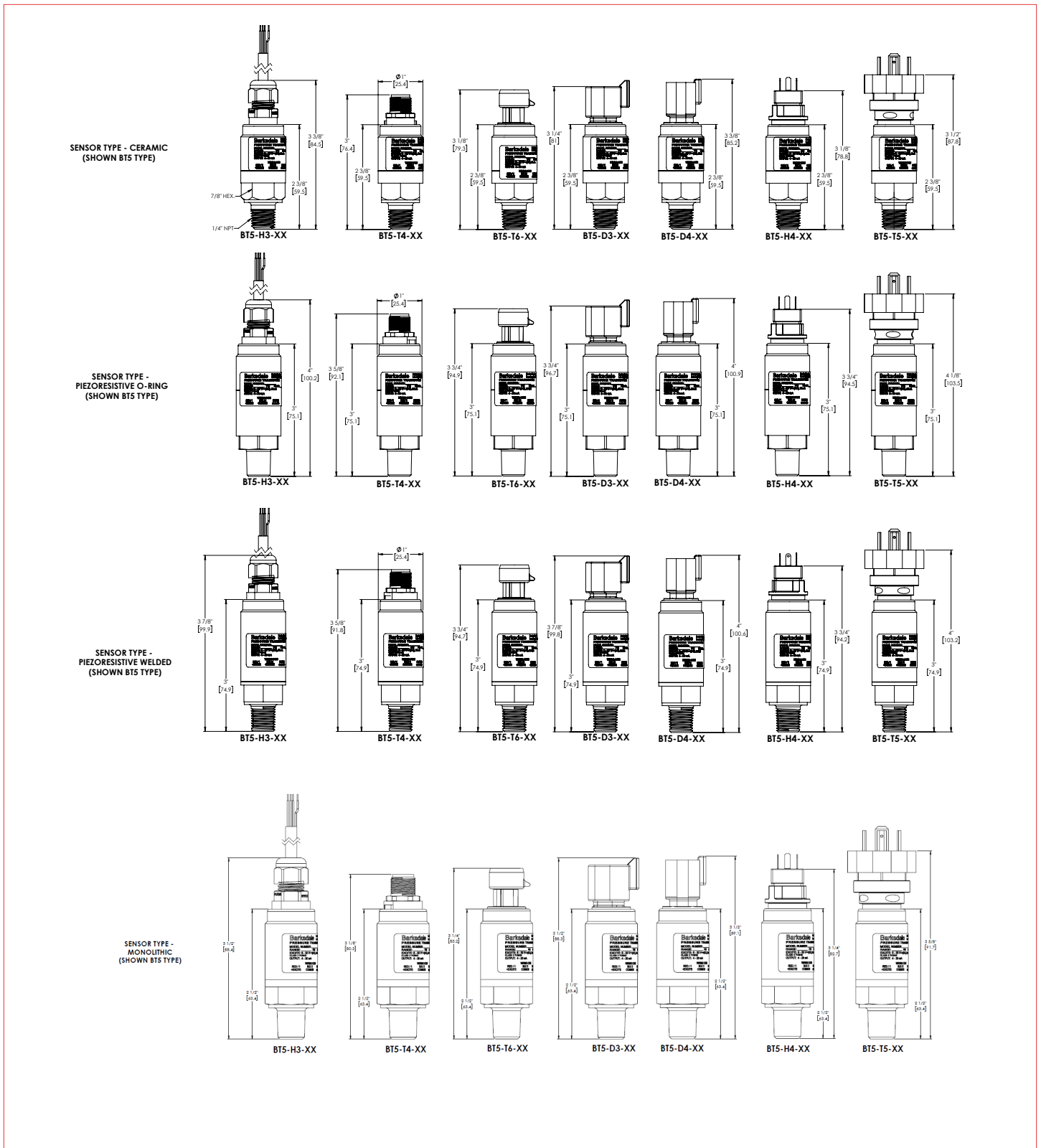
Supply:	BT3: 7 to 33 VDC BT4: 4.5 to 5.5 VDC BT5: 8 to 33 VDC BT6: 12 to 33 VDC
Output:	BT3: 1 to 5 VDC BT4: 0.5 to 4.5 VDC ratiometric BT5: 4 to 20 mA BT6: 0 to 10 VDC
Pressure Range:	0 to 6,000 psi (-C Class) 0 to 10,000 psi (-P, -M Class) 0 to 3,000 psi (-W Class)
Operating Temperature:	-40 to 212 °F (-40 to 100 °C)
Compensated Temperature Range:	-P, -W Class: 0 to 165 °F (-18 to 74 °C) -C Class: 77 to 185 °F (25 to 85 °C) -M Class: 0 to 176 °F (0 to 80 °C)
Accuracy (BFSL@25°C)	-P, -W Class: ± 0.25% FSO -C, -M Class: ± 0.5% FSO
Proof Pressure	2X Typical (Consult factory for specific pressure ranges)
Zero Offset	± 1% FSO (-P, -W) ± 2% FSO (-C, -M)
Span Offset	± 1% FSO
Lifecycle	10M cycles minimum
Long-Term Stability	± 0.2% FSO (per year, typical)
Response Time	BT5 < 5 ms, < 3 ms for other

## Environmental Specifications

Shock	50 g's, 11 ms, MIL-STD 202 Method 213, Cond. G
Vibration	15 g's, 10 to 2,000 Hz, MIL-STD 202
Storage Temperature	-40 to 212 °F (-40 to 100 °C)
Media Temperature	-40 to 248 °F (-40 to 120 °C)
Wetted Materials	17-4 PH SS, NBR (-P class) 316 SS, ceramic, Viton® (-C Class) 316 SS all welded construction (-W Class) 316 L stainless steel (-M Class)
Ingress Protection	IP67
Reverse Polarity	Yes
Enclosure	NEMA 4X
Approvals	UL 508, UL 61010-1 with class II power source
Compliance	REACH, RoHS, CE
Weight	4.23 oz (120gm) Approximately (Consult factory for exact weights)

\* See product configurator for additional options.

## Technical Drawing



## Electrical Connections

Electrical Signal	Electrical Termination									
	H3		D3/T6		H4/T4/T5		D4		T9	
	Voltage	Current	Voltage	Current	Voltage	Current	Voltage	Current	Voltage	Current
+ Excitation	Red	Red	Pin 1	Pin 1	Pin 1	Pin 1	Pin 2	Pin 2	Pin 1	Pin 1
- Excitation (common)	Black	Black	Pin 2	Pin 2	Pin 2	Pin 2	Pin 1	Pin 1	Pin 3	Pin 3
Voltage Output	White	-	Pin 3	-	Pin 3	-	Pin 4	-	Pin 2	-
Case Ground/ Drain/Earth	Drain	Drain	-	Pin 3	Pin 4	Pin 4	Pin 3	Pin 3	Pin 4	Pin 4

## Product Configurator

BT5	-H3	-05	A	-P2	-P	-Z17-S131
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Base Model

BT3	1-5 VDC analog output
BT4	0.5-4.5 VDC ratiometric analog output
BT5	4-20 mA analog output
BT6	0-10 VDC analog output

Electrical Connection

-H3	PVC Shielded & jacketed #24 AWG Cable (1 meter)
-H4 <sup>1</sup>	Mini-DIN 43650 Type "C"
-T4 <sup>1</sup>	M12 circular connector
-T5 <sup>1</sup>	Standard DIN 43650 Type "A"
-T6 <sup>1</sup>	Aptiv/Delphi Metripack 150 Series
-D3 <sup>1</sup>	3-Pin Deutsch Connector - DT04-3P
-D4 <sup>1</sup>	4-pin Deutsch Connector - DT04-4P
-T9 <sup>1</sup>	T4 with European pinning

Pressure Range<sup>5</sup>

-23 <sup>4</sup>	0-29.9" of 8 Hg	0-1 BAR
-27 <sup>4</sup>	0-1 psi	0-0.1 BAR
-25 <sup>4</sup>	0-5 psi	0-0.35 BAR
-38 <sup>4</sup>	0-7 psi	0-0.5 BAR
-01 <sup>4</sup>	0-15 psi	0-1 BAR
-39	0-25 psi	0-1.6 BAR
-21	0-30 psi	0-2 BAR
-40	0-36 psi	0-2.5 BAR
-03	0-50 psi	0-3 BAR
-22	0-60 psi	0-4 BAR
-41	0-87 psi	0-6 BAR
-04	0-100 psi	0-7 BAR
-05	0-150 psi	0-10 BAR
-06	0-200 psi	0-15 BAR
-42	0-230 psi	0-16 BAR
-07	0-300 psi	0-20 BAR
-43	0-360 psi	0-25 BAR
-08	0-500 psi	0-35 BAR
-44	0-580 psi	0-40 BAR
-45	0-725 psi	0-50 BAR
-46	0-870 psi	0-60 BAR
-10	0-1,000 psi	0-70 BAR
-11 <sup>3</sup>	0-1,500 psi	0-100 BAR
-12 <sup>3</sup>	0-2,000 psi	0-150 BAR
-47 <sup>3</sup>	0-2300 psi	0-160 BAR
-13 <sup>3</sup>	0-3,000 psi	0-200 BAR
-48 <sup>3</sup>	0-3600 psi	0-250 BAR
-14 <sup>3</sup>	0-4000 psi	0-300 BAR
-15 <sup>3</sup>	0-5,000 psi	0-350 BAR
-16 <sup>3</sup>	0-6,000 psi	0-400 BAR
-17 <sup>3</sup>	0-7500 psi	0-520 BAR
-36 <sup>3,8</sup>	0-9000 psi	0-600 BAR
-18 <sup>3,9</sup>	0-10,000 psi	0-700 BAR

Pressure Unit and Type

G	PSI - Sealed gauge pressure (standard)
A <sup>9</sup>	PSI - Absolute pressure
BG	Bar - Sealed gage pressure
BA <sup>9</sup>	Bar - Absolute Pressure (ranges start from 1 Bar)
V	PSI - compound pressure range
BV	Bar - Compound Pressure Range

Process Connection

Blank	1/4" NPT male
-P1 <sup>10</sup>	7/16-20 UNF female (JIC 37°)
-P3	7/16-20 UNF male (JIC 37°)
-P9	G1/4 male (gasket seal)
-P2	7/16-20 SAE #4 ORB
-P7	1/8" NPT male
-P17 <sup>10</sup>	9/16 - 8 (SAE #6, O-RING)
- P11 <sup>10</sup>	G1/2 male(gasket seal)
- P16 <sup>10</sup>	G1/2 Flush mount
- P18 <sup>10</sup>	M12 X 1.5
- P19 <sup>10</sup>	G1/4 EN 837
- P20 <sup>10</sup>	G1/2 EN 837

Accuracy

-C	±0.5% FSO <sup>2</sup>
-P	±0.25% FSO
-W	±0.25% FSO <sup>7</sup>
-M	±0.5% FSO <sup>2</sup>

- Mating connector not included, consult factory for accessories
- \*0.6% FSO for ranges >=4000psi
- High Pressure models include built-in surge dampener with 0.03in diameter orifice for pressure spike protections. Add -Z17 for optional larger pressure orifice 0.125in [3.2]
- Only available on pressure range options with -P and -W only
- Add suffix SXXY for special pressure range calibration. XX= significant digits. Y= number of trailing zeros. Example: 130 psi calibration: add -S131
- cULus APPROVAL LIMITED TO 9000 PSI for -P, 3000 psi for -W, -C, 30 VDC EXCITATION and 55 C max ambient temperature.
- Available up to 580psi only
- Offered with P Model only
- Absolute models available up to 360 psi only
- Consult factory for availability.

Options

Blank	Standard
-Z1	Cleaned for oxygen service
-0(x)	Custom Voltage Output: -01: 1 - 6 VDC -02: 0.5 - 4.5 VDC (non-ratiometric) -03: 0 - 6 VDC -04: 0 - 10 VDC -05: 1 - 10 VDC -06: 1 - 11 VDC -07: 0 - 11 VDC -08: 0 - 5 VDC -09: 0.5 - 5.5 VDC -10: 0.2 - 10 VDC
- Z17 <sup>2</sup>	Larger pressure port orifice
-A	+6 ft cable
-B	+10 ft cable
-C	+15 ft cable
-D	Consult Factory for Custom length of free leads
-SXXY <sup>4</sup>	Special pressure ranges consult factory
-Q1...Q999	Custom and proprietary options; consult factory
-U <sup>6</sup>	UL Approved
-K	DNV-GL Approval