

Industrial Transducer

BOT Series

Data Sheet

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

General Specifications

Supply	BT3: 7 to 33 VDC BT4: 4.5 to 5.5 VDC ratiometric 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 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)
Accuracy (BFSL@25°C)	-P, -W Class: ± 0.25% FSO -C Class: ± 0.5% FSO
Proof Pressure	2X Typical (Consult factory for specific pressure ranges)
Zero Offset	± 1% FSO (P,W) ± 2% FSO (C)
Span Offset	± 1% FSO
Lifecycle	1M cycles minimum
Long-Term Stability	± 0.2% FSO (per year, typical)
Response Time	BT5 < 5 ms, < 3 ms for other
Supply Current	BT3, BT4, BT6 : 15 mA max, BT5 : 22mA max



Exactly What OEMs Want...Without the Wait

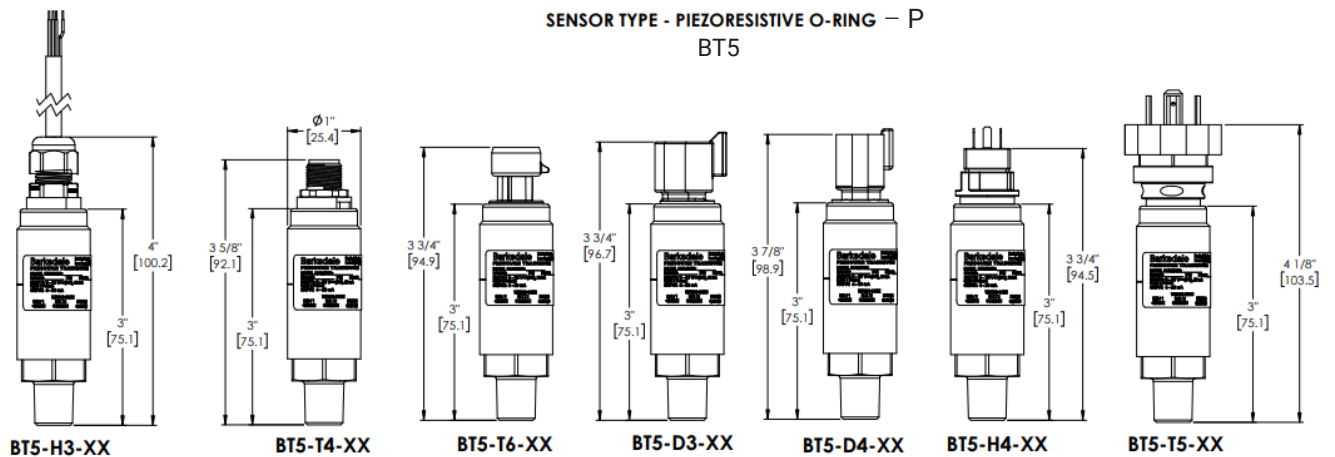
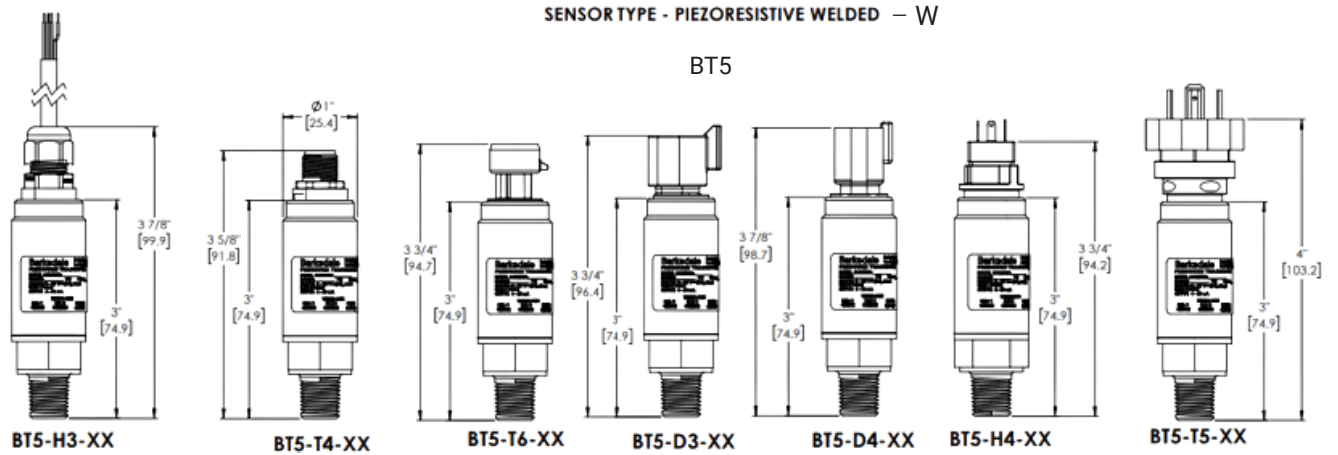
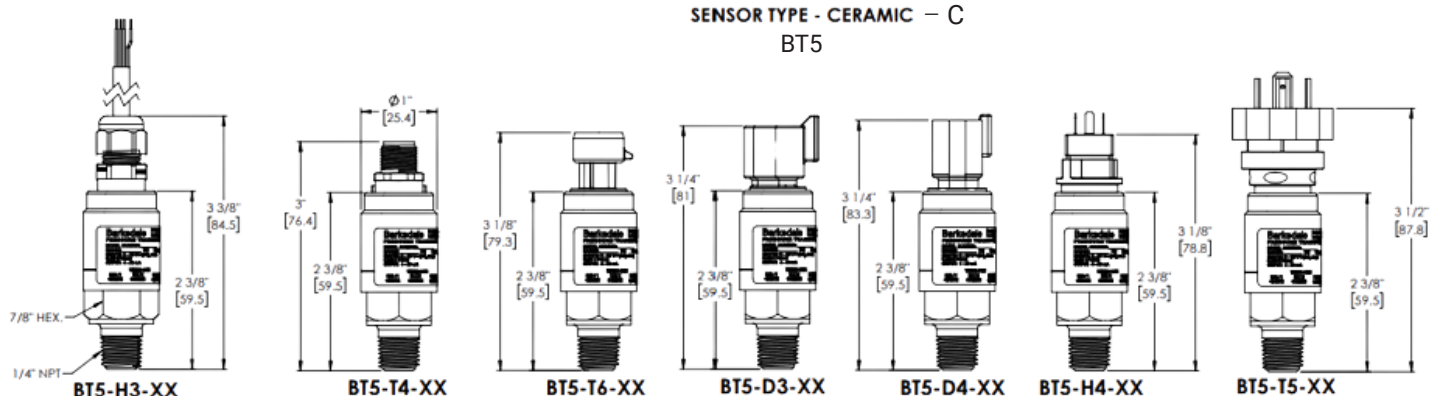
Environmental Specifications

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)
Ingress Protection	IP67 (-H3, -T4)
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)
EMI-EMC Compliance	IEC 61000-4-2: Electrostatic discharge (ESD) IEC 61000-4-3: Radiated immunity IEC 61000-4-4: Burst (fast transient) IEC 61000-4-5: Surge IEC 61000-4-6: Conducted RF IEC 61326-1: CISPR11 Class A for radiated and conducted emissions
Media Restricted	All common industrial and gases and fluids. Refer to wetted materials section or consult factory for special media compatibility

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Sizes and Dimensions



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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

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 ¹	Mini-DIN 43650 Type "C"
-T4 ¹	M12 circular connector
-T5 ¹	Standard DIN 43650 Type "A"
-T6 ¹	Aptiv/Delphi Metripack 150 Series
-D3 ¹	3-Pin Deutsch Connector - DT04-3P
-D4 ¹	4-pin Deutsch Connector - DT04-4P
-T9 ¹	T4 with european pinning

Pressure Range⁵

-27 ⁴	0-1 psi	0-0.1 BAR
-25 ⁴	0-5 psi	0-0.35 BAR
-38 ⁴	0-7 psi	0-0.5 BAR
-01 ⁴	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 ³	0-1,500 psi	0-100 BAR
-12 ³	0-2,000 psi	0-150 BAR
-47 ³	0-2300 psi	0-160 BAR
-13 ³	0-3,000 psi	0-200 BAR
-48 ³	0-3600 psi	0-250 BAR
-14 ³	0-4000 psi	0-300 BAR
-15 ³	0-5,000 psi	0-350 BAR
-16 ³	0-6,000 psi	0-400 BAR
-17 ³	0-7500 psi	0-520 BAR
-36 ^{3,8}	0-9000 psi	0-600 BAR
-18 ^{3,8}	0-10,000 psi	0-700 BAR

Pressure Unit and Type

G	PSI - Sealed gauge pressure (standard)
A ⁹	PSI - Absolute pressure
BG	Bar - Sealed gage pressure
BA ⁹	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 ¹⁰	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 ¹⁰	9/16 - 8 (SAE #6, O-RING)
-P11 ¹⁰	G1/2 male(gasket seal)
-P16 ¹⁰	G1/2 Flush mount
-P18 ¹⁰	M12 X 1.5
-P19 ¹⁰	G1/4 EN 837
-P20 ¹⁰	G1/2 EN 837

Accuracy

-C	0.5% FSO ²
-P	±0.25% FSO
-W	±0.25% FSO ⁷

Options

Blank	Standard
-Z1	Cleaned for oxygen service
-0(x)	Custom Voltage Output Up to 11VDC. Consult Factory -06 : 1-11 VDC Output -02 : 0.5-4.5 VDC Non-ratiometric -01 : 1-6 VDC Output
-Z17 ⁵	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 ⁵	Special pressure ranges Consult Factory
-Q1...Q999	Custom and proprietary options; consult factory
-U ⁶	UL Approved

- Mating connector not included, consult factory for accessories
- *0.6% FSO for ranges >=4000psi
- High Pressure models includes 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.