

Industrial Pressure 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 reduce the effects of EMI/EMC according to IEC 61000 standards and provide excellent longterm stability
- 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
- Mobil hydraulic equipment
- Off-highway vehicles
- Integration equipment systems
- Medical gas systems
- Hydrogen systems

General Specifications

| | |
|-------------------------------|---|
| Sensor element | Ceramic sensor (-C) Piezoresistive sensor (-P) Welded stainless steel (-W) |
| Supply | BT2: 10 VDC BT3: 7 to 33 VDC BT4: 4.5 to 5.5 VDC ratiometric BT5: 8 to 33 VDC BT6: 12 to 33 VDC |
| Output | BT2: 100 mv/V 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 400 bar (-C Class) 0 to 600 bar (-P Class) 0 to 200 bar (-W Class) |
| Operating Temperature | -40 to 100 °C (-40 to 212 °F) |
| Compensated Temperature Range | -P, -W Class: -18 to 74 °C (0 to 165 °F) -C Class: 25 to 85 °C (77 to 185 °F) |
| Accuracy (BFSL@25°C) | -P, -W Class: ± 0.25% FSO -C Class: ± 0.5% FSO |
| Proof Pressure | 2X Pressure range |
| Zero Offset | ± 1% FSO (P,W) ± 2% FSO (C) |
| Span Offset | ± 1% FSO |
| Lifecycle | 10M pressure cycles |
| Long-Term Stability | ± 0.2% FSO (per year, typical) |
| Response Time | 1-5ms Typical |
| No-Load Supply Current | 15 mA maximum consumed |



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 125 °C (-40 to 257 °F) | |
| Media Temperature | -40 to 125 °C (-40 to 257 °F) | |
| Wetted Materials | 17-4 PH SS, NBR (-P Class) 316 SS, ceramic, FKM (-C Class) 316 SS all welded construction (-W Class) | |
| Ingress Protection | IP67 (-H3, -T4) IP65 (-H4, -T5, -T6, -D3, -D4) | |
| Reverse Polarity and Miswiring Protection | Yes | |
| Enclosure | NEMA 4X | |
| Approvals | UL 508, UL 61010-1 | |
| Compliance | REACH, RoHS, CE | |
| Weight | 450 g (approximately) | |
| EMC/ESD 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: CISPR 16-1 and CISPR 16-2 | |
| Media Compatibility | Medical | Medical gases* (O ₂ , air, CO ₂ , N ₂), instrument air |
| | Pumps | Water, hydraulic fluid |
| | Compressors | Compressed air |
| | HVAC | Refrigerants (R-410A) |
| | Transportation | Coolants, diesel fuel, engine oil* |
| | Hydrogen | requires welded option** |

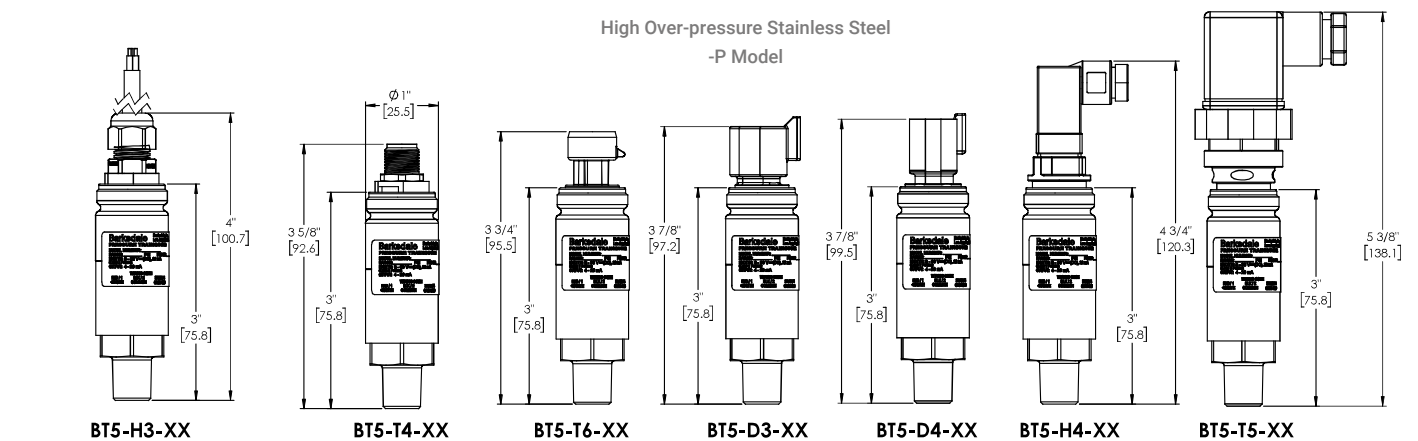
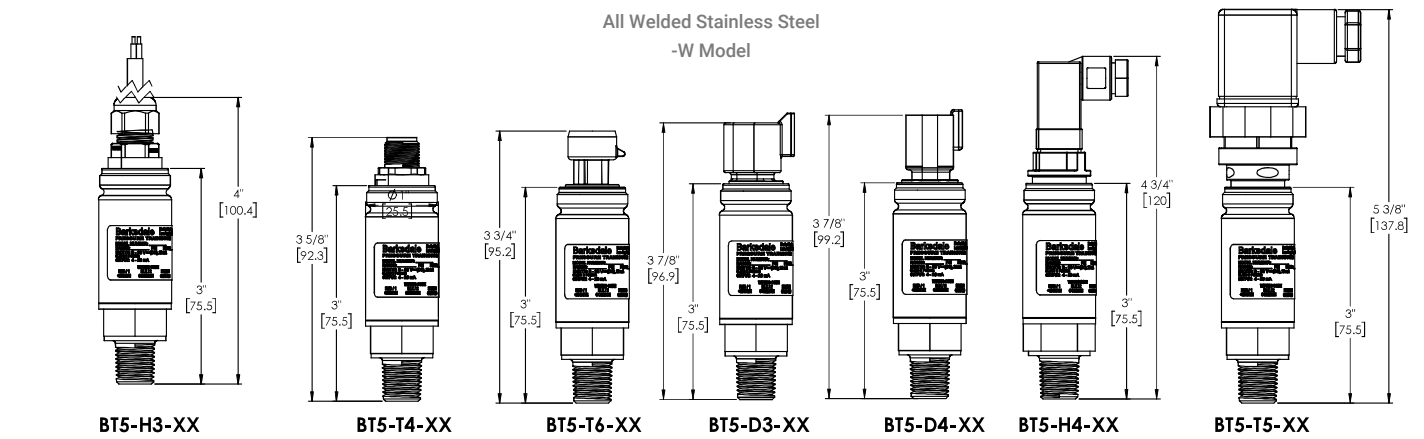
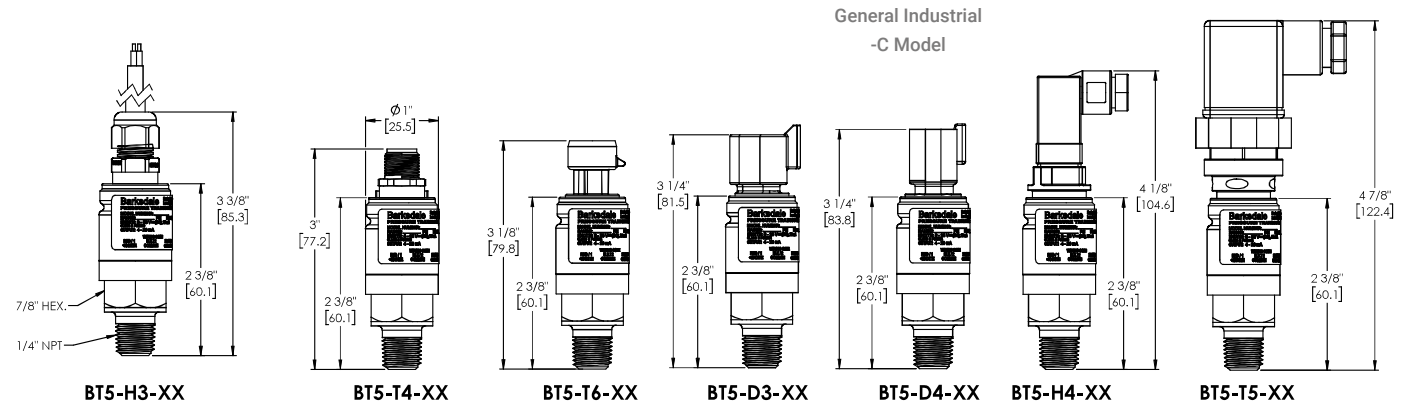
* Requires Z1 Option

** Contact us for more information

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BOT Series

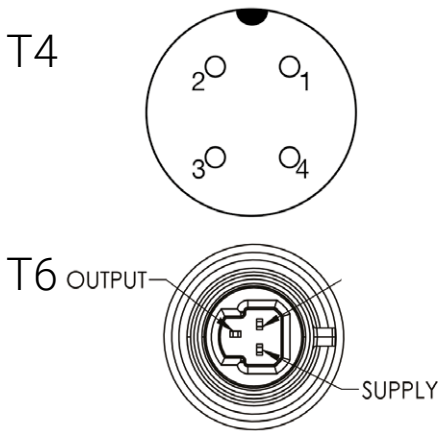
Sizes and Dimensions



Industrial Transducer

BOT Series

Pin Out Diagram



Wiring Code

| Connection | Voltage Output | | | | |
|--------------|-----------------|----|----|----|------------------------|
| | H3 | H4 | T4 | T5 | Q50 (T4 European ASAM) |
| + Excitation | Red (rot) | 1 | 1 | 1 | 1 |
| Common | Black (schwarz) | 2 | 2 | 2 | 3 |
| + Output | White (weiß) | 3 | 3 | 3 | 2 |
| Case Ground | Drain | 4 | 4 | 4 | 4 |

| Connection | Current Output | | | | |
|--------------|-----------------|----|----|----|------------------------|
| | H3 | H4 | T4 | T5 | Q50 (T4 European ASAM) |
| + Excitation | Red (rot) | 1 | 1 | 1 | 1 |
| - Excitation | Black (schwarz) | 2 | 2 | 2 | 3 |
| Not Used | White (weiß) | 3 | 3 | 3 | 2 |
| Case Ground | Drain | 4 | 4 | 4 | 4 |

| Deutsch Connector PIN | | | | | |
|-----------------------|----------------|---------|--------------|----------------|---------|
| Connection | Voltage Output | | Connection | Current Output | |
| | D3 | D4 | | D3 | D4 |
| + Excitation | PIN A/1 | PIN A/1 | + Excitation | PIN A/1 | PIN A/1 |
| - Excitation | PIN B/2 | PIN B/2 | - Excitation | PIN B/2 | PIN B/2 |
| Voltage Output | PIN C/3 | PIN C/3 | Earth Ground | PIN C/3 | PIN C/3 |
| Earth Ground | N/A | PIN D/4 | N/A | N/A | N/A |

Order Code

Base Model

| | |
|-----|---------------------------------------|
| BT2 | 100mV full scale output (10mV/V) |
| 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 jacketed cable 24 AWG (1 meter) |
| -H4 ¹ | Mini-DIN 43650 Type "C" [mating connector NOT included] |
| -T4 ¹ | M12 circular connector |
| -T5 ¹ | Standard DIN 43650 Type 'A' [mating connector NOT included] |
| -T6 ¹ | Aptiv/Delphi Metripack 150 Series |
| -D3 ¹ | 3-Pin Deutsch Connector - DT04-3P |
| -D4 ¹ | 4-Pin Deutsch Connector - DT04-4P |
| Q50 | M12 circular connector pinning acc. To European ASAM standard, [without UL approval; mating connector not included] |

Pressure Range⁵

| | | |
|--------------------|------------|------------|
| -27 ² | 0-1 psi | 0-0.1 BAR |
| -25 ² | 0-5 psi | 0-0.3 BAR |
| -38 ² | 0-7 psi | 0-0.5 BAR |
| -01 | 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 | 0-3.5 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 | 0-14 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 | 0-34.5 BAR |
| -44 | 0-580 psi | 0-40 BAR |
| -45 | 0-725 psi | 0-50 BAR |
| -46 | 0-870 psi | 0-60 BAR |
| -10 | 0-1000 psi | 0-69 BAR |
| -11 ³ | 0-1500 psi | 0-100 BAR |
| -12 ³ | 0-2000 psi | 0-138 BAR |
| -47 ³ | 0-2300 psi | 0-160 BAR |
| -13 ³ | 0-3000 psi | 0-200 BAR |
| -48 ³ | 0-3600 psi | 0-250 BAR |
| -15 ³ | 0-5000 psi | 0-345 BAR |
| -16 ³ | 0-6000 psi | 0-400 BAR |
| -17 ^{2,3} | 0-8700 psi | 0-600 BAR |

Pressure Unit and Type

| | |
|-----------------|---|
| G | PSI - Sealed gauge pressure (standard) |
| A ⁴ | PSI - Absolute pressure (requires piezoresistive sensor / code P) |
| BG | Bar - Gauge pressure |
| BA ⁴ | Bar - Absolute pressure (requires piezoresistive sensor / code P) |

Process Connection

| | |
|-------|----------------------------|
| Blank | 1/4" NPT male |
| -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 |

Sensor

| | |
|---|------------|
| C | ±0.5% FSO |
| P | ±0.25% FSO |
| W | ±0.25% FSO |

Options

| | |
|---------|---|
| Blank | Standard |
| Z1 | Cleaned for oxygen service |
| | Custom Voltage Output |
| 01 | 1-6 VDC Output |
| 02 | 0.5 to 4.5 VDC Output (Non-Ratiometric) |
| Z17 | Larger pressure port orifice |
| A | +6 ft cable |
| B | +10 ft cable |
| C | +15 ft cable |
| SXXY | Special pressure ranges; consult factory |
| Q1-Q999 | Custom and proprietary options; consult factory |
| U | UL Approved |
| Q50 | M12 Wiring pinout per European ASAM standard – with UL needs to be in combination with T4 and suffix -U |

Example

BT5 -T5 -11 BG -P9 C

1. Mating connector not included
2. Only available with -P model accuracy
3. High pressure models includes built-in surge dampener with 0.03 in (0,76 mm) diameter orifice for pressure spike protections. Add -Z17 option for larger pressure orifice 0.125 in (3,1 mm) opening.
4. Only available on pressure ranges options from 15 psi (1 bar) to 300 psi (20 bar) pressure ports.