

# 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
- Marine applications

### General Specifications

Sensor element	Ceramic sensor (-C) Piezoresistive sensor (-P) Welded stainless steel (-W)
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 400 bar (-C Class) 0 to 600 bar (-P Class) 0 to 35 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 (PW) ± 2% FSO (C)
Span Offset	± 1% FSO
Lifecycle	10M pressure cycles
Long-Term Stability	± 0.2% FSO (per year, typical)
Response Time	1-5 ms Typical
No-Load Supply Current	BT3, BT4, BT6: max. 15 mA BT5: max. 22 mA



Exactly What OEMs Want...Without the Wait

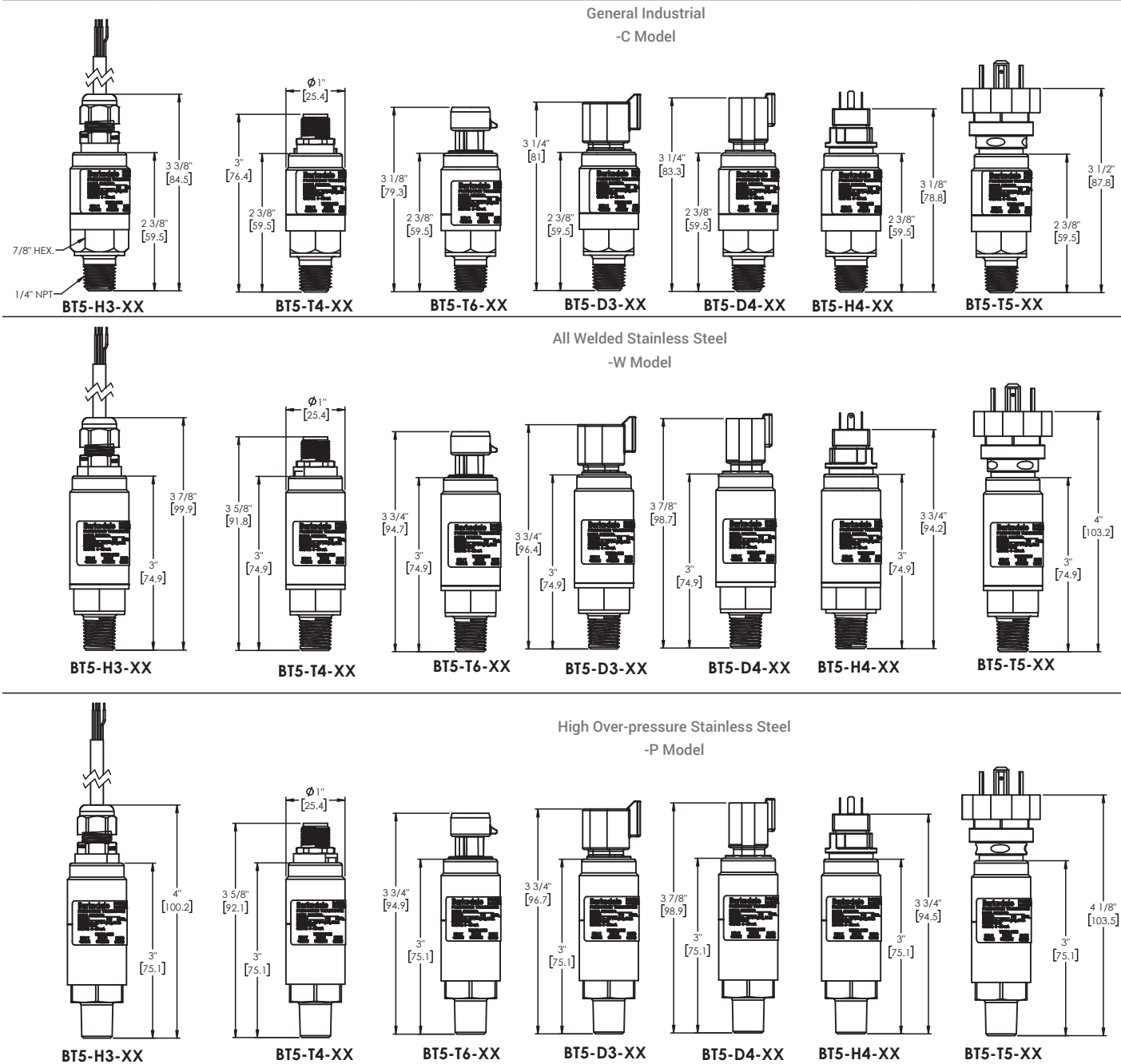
### Environmental Specifications

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 100 °C (-40 to 212 °F)
Media Temperature	-40 to 120 °C (-40 to 248 °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, DNV
Compliance	REACH, RoHS, CE
Weight	120 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	All common industrial and gases and fluides. Refer to wetted materials section or consult factory for special media compatibility.

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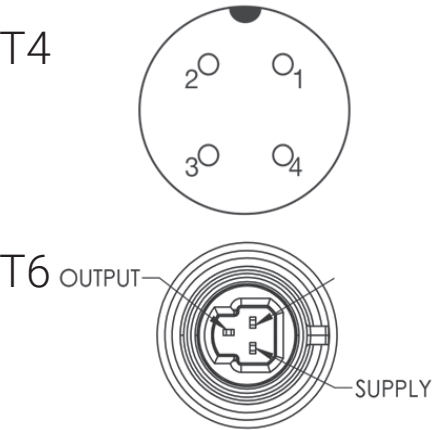
### Sizes and Dimensions



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## Pin Out Diagram



## Wiring Code

Connection	Voltage Output				
	H3	H4	T4	T5	T9
+ 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	T9
+ Excitation	Red (rot)	1	1	1	1
- Excitation	Black (schwarz)	2	2	2	3
Not Used	-	-	-	-	-
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

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 <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>	M12 circular connector pinning acc. to European ASAM standard

Pressure Range	psi	bar	bar vacuum	Pressure Range	psi	bar
-27 <sup>2</sup>	0-1	0-0.1		-10	0-1000	0-70
-25 <sup>2</sup>	0-5	0-0.35		-11 <sup>3</sup>	0-1500	0-100
-38 <sup>2</sup>	0-7	0-0.5		-12 <sup>3</sup>	0-2000	0-150
-01 <sup>2</sup>	0-15	0-1		-47 <sup>3</sup>	0-2300	0-160
-39	0-25	0-1.6	-1-0.6	-13 <sup>3</sup>	0-3000	0-200
-21	0-30	0-2	-1-1.0	-48 <sup>3</sup>	0-3600	0-250
-40	0-36	0-2.5	-1-1.5	-14 <sup>3</sup>	0-4000	0-300
-03	0-50	0-3	-1-2.0	-15 <sup>3</sup>	0-5000	0-350
-22	0-60	0-4	-1-3.0	-16 <sup>3</sup>	0-6000	0-400
-41	0-87	0-6	-1-5.0	-17 <sup>3</sup>	0-7500	0-520
-04	0-100	0-7	-1-6.0	-36 <sup>2,3</sup>	0-9,000	0-600
-05	0-150	0-10	-1-9.0	-18 <sup>2,3</sup>	0-10,000	0-700
-06	0-200	0-15	-1-13.0			
-42	0-230	0-16	-1-15.0			
-07	0-300	0-20	-1-19.0			
-43	0-360	0-25	-1-24.0			
-08	0-500	0-35				
-44	0-580	0-40				
-45	0-725	0-50				
-46	0-870	0-60				

### Pressure Unit and Type

G	PSI - Sealed gauge pressure (standard)
A <sup>4</sup>	PSI - Absolute pressure (requires piezoresistive sensor / code P/W)
BG	Bar - Gauge pressure
BA <sup>4</sup>	Bar - Absolute pressure (requires piezoresistive sensor / code P/W)
V	PSI - Compound pressure range
BV	Bar - Compound pressure range

### Process Connection

Blank	1/4" NPT male
-P1 <sup>6</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>6</sup>	9/16 - 8 (SAE#6, O-Ring)
-P11 <sup>6</sup>	G1/2" male (gasket seal)
-P16 <sup>2</sup>	G1/2" flush diaphragm (available with H3, T4, T9 and T5 electrical connection)
-P18 <sup>6</sup>	M12x1,5
-P19 <sup>6</sup>	G1/4 EN837
-P20 <sup>6</sup>	G1/2 EN837

### Sensor

C	±0.5% FSO
P	±0.25% FSO
W	±0.25% FSO Available up to 500 psi / 35 bar

### 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 <sup>3</sup>	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 <sup>5</sup>	UL Approved
-K	DNV approval

### Example

BT5 -T5 -11 BG -P9 C

<sup>1)</sup> Mating connector not included. <sup>2)</sup> Only available with -P model accuracy. Pressure ranges less than 1 bar available with -P model or -W model accuracy.

<sup>3)</sup> 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.

<sup>4)</sup> Only available on pressure ranges options from 15 psi (1 bar) to 300 psi (20 bar) pressure ports. Only available in combination with -P or -W model.

<sup>5)</sup> cULuS approval limited to 600 bar/ 9000 psi for -P; 200 bar / 3000 psi for -W, -C; 30 VDC excitation and 55°C max. ambient temperature.

<sup>6)</sup> On request



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