

9/11/99

FAO ANJA
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BTE8000 Series
OEM pressure transducers for industrial media

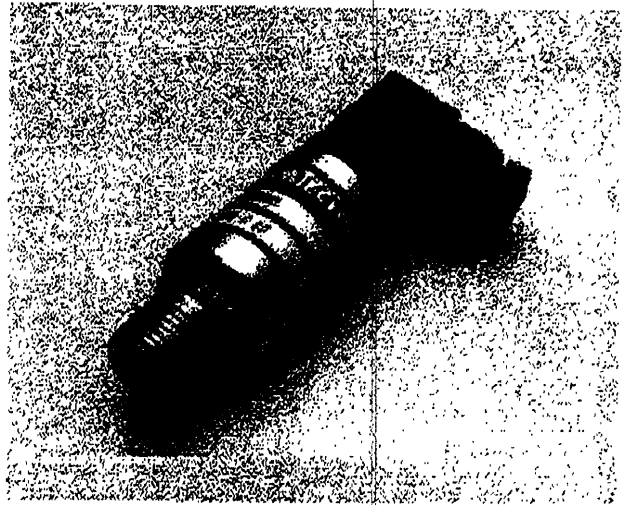
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306-9590

PRELIMINARY

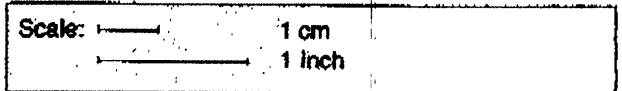
FEATURES

- 0 ... -1 bar to 0 ... 35 bar gage
- For many industrial gases and liquids
- 0 - 10 V, 0.5 - 4.5 V, 0 - 5 V and 4 ... 20 mA output
- Field interchangeable
- For industrial use



SERVICE

Pressure inlet: See media compatibility list.
 Housing: Chromadized aluminium, protection class IP65 according to DIN40050'

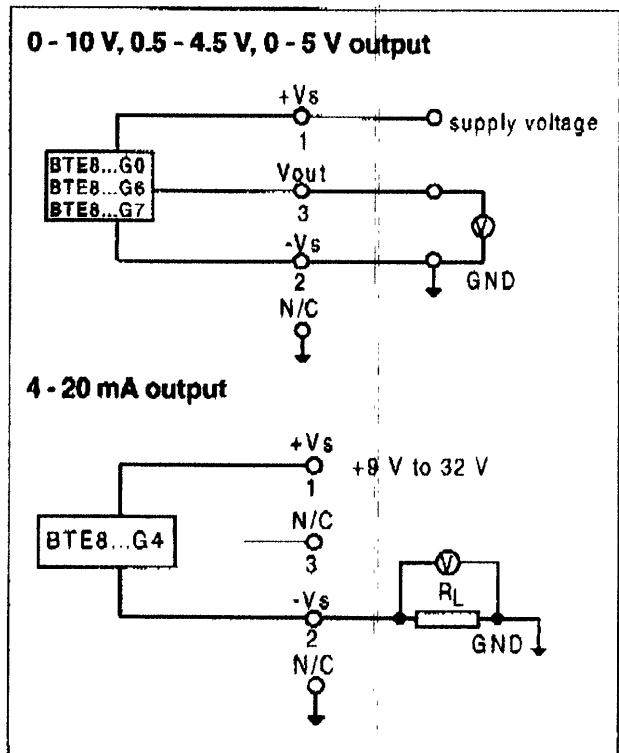


SPECIFICATIONS

Maximum ratings

Supply voltage (reverse polarity protection)	
BTE8...G0	12 ... 32 V
BTE8...G6, BT8...G7	9 ... 32 V
BTE8...G4 ²	9 ... 32 V
Maximum load current (source)	
BTE8...G0, BTE8...G6, BTE8...G7	2 mA
Temperature limits	
Storage	-55°C to 100°C
Operating ³	-40°C to 100°C
Compensated	0°C to 50°C
Humidity limits	0 - 98 %RH
Vibration (5 Hz to 500 Hz)	10 g _{RMS}
Mechanical shock	50 g
Proof pressure ³	2 x rated pressure

ELECTRICAL CONNECTION



BTE8000 Series**OEM pressure transducers for industrial media****PRELIMINARY****COMMON PERFORMANCE CHARACTERISTICS**

Characteristics		Min.	Typ.	Max.	Unit
Operating pressure	BTE8P01-	0		1	bar
	...	-1		+1	
	BTE8002-	-1		0	
	...	0		2	
	BTE8005-	0		5	
	...	0		10	
BTE8010-	0		16		
	0		20		
BTE8016-	0		35		
	0				
Thermal effects (0 to 50°C) ⁴	Offset		0.02	0.05	%FSO/°C
	Span		0.02	0.05	
Thermal effects (-40°C to 0°C, 50°C to 100°C)	Offset		0.03		%FSO/°C
	Span		0.03		
Non-linearity and hysteresis (BSL) ⁵			±0.2		%FSO
Repeatability			±0.1		
Long term stability ⁶			±0.1		
Output noise (0 < f < 1 kHz)			±0.04		ms
Response time (10 % to 90 %)			1		
Power supply rejection	Offset		0.002		%FSOV
	Span		0.002		

ELECTROMAGNETIC CAPABILITY¹⁰

		Test conditions	Interference
Radiated, radio frequency electromagnetic field immunity (RFI)	IEC801-3:	Grade 3 10 V/m, 1 MHz to 1000 MHz unmodulated and 80 % modulated	<1% FSO
Electrical fast transient/burst immunity (EFT)	IEC 801-4:	Grade 3 ±2 kV	<1% FSO
Electrostatic discharge immunity (ESD)	IEC 801-2:	Grade 3 ±8 kV, contact discharge	<1% FSO

Specification notes (for all devices)

- The package is a all-sealed housing. IP65 protection is given when the connector is locked with a rubber washer. For proper function the gage port is vented to the atmosphere through the connector/cable assembly. Thus the cable end must have access to the ambient pressure.
- The minimum supply voltage is directly proportional to the load resistance seen by the transmitter. For more details see the load limitation diagrams.
- Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
- Thermal effects tested and guaranteed from 0°C to 70°C relative to 25°C. All specifications shown are relative to 25°C.
- Non-linearity refers to the Best Straight Line fit measured for offset, full scale span and 1/2 full scale span.
- Change after one year or 1 million pressure cycles.
- Span is the arithmetic difference in transmitter output signal measured at zero pressure and the maximum operating pressure.
- Note: freezing media inside the pressure port may destroy the transmitter.
- Results after 6 weeks pressure inlet exposed to the medium.
- Tests are in accordance with EN61000-1-6, April 1997.

BTE8000 Series OEM pressure transducers for industrial media

PRELIMINARY**INDIVIDUAL PERFORMANCE CHARACTERISTICS**(unless otherwise noted, $V_s = 15\text{ V}$, $R_L > 100\text{ k}\Omega$, $t_{amb} = 25^\circ\text{C}$)**0 - 10 V output, BTE8...0**

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	BTE8N...	4.9	5	5.1	V
	all other	-0.1	0	0.1	
Full scale span ⁷	BTE8N...	4.9	5	5.1	
	all other	9.9	10	10.1	
Output impedance				25	Ω
Current consumption (no load)			4	9.5	mA

0.5 - 4.5 V output, BTE8...6

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	BTE8N...	2.455	2.5	2.545	V
	all other	0.455	0.5	0.545	
Full scale span ⁷	BTE8N...	1.955	2	2.045	
	all other	3.955	4	4.045	
Output impedance				25	Ω
Current consumption (no load)			4	8.5	mA

0 - 5 V output, BTE8...7

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	BTE8N...	2.45	2.5	2.55	V
	all other	-0.05	0	0.05	
Full scale span ⁷	BTE8N...	2.45	2.5	2.55	
	all other	4.95	5.0	5.05	
Output impedance				25	Ω
Current consumption (no load)			4	8.5	mA

4 - 20 mA output, BTE8...4 (unless otherwise noted, $V_s = 15\text{ V}$, $R_L > 100\text{ }\Omega$, $t_{amb} = 25^\circ\text{C}$)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	BTE8N...	11.8	12.0	12.2	mA
	all other	3.8	4.0	4.2	
Full scale span ⁷	BTE8N...	7.8	8.0	8.2	
	all other	15.8	16.0	16.2	
Power consumption ($I_L = 20\text{ mA}$)			260		mW

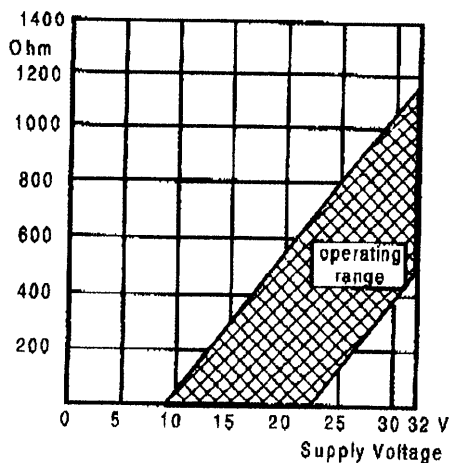
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PRELIMINARY

LOAD LIMITATION

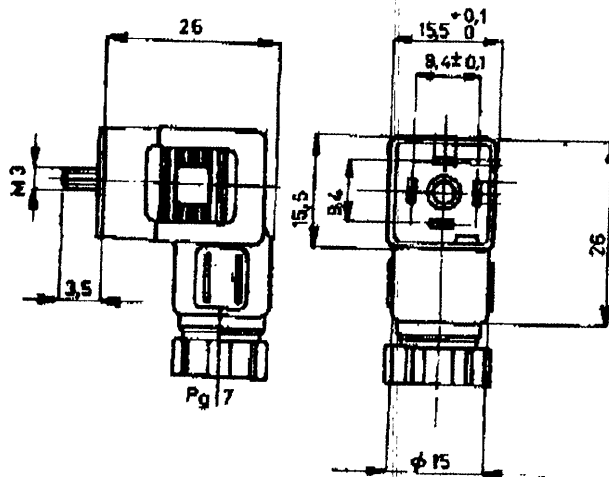
4 - 20 mA output version



RECOMMENDED PLUG ZP004070

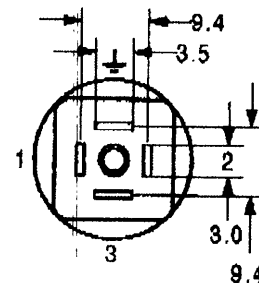
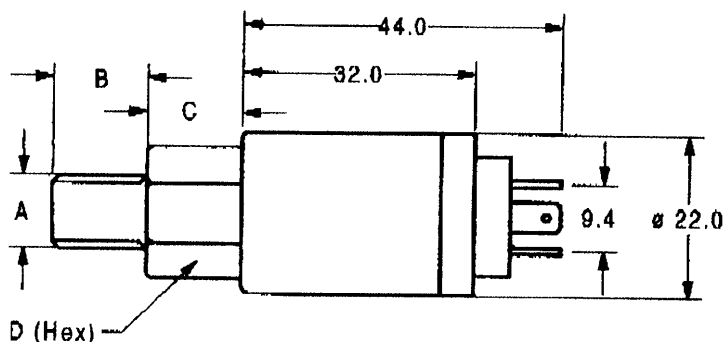
(similar to DIN43650-C)

Plug and profile washer included in delivery !



Dimensions in mm

OUTLINE DRAWING



Dimensions in mm

Mass: typ. g

Dimensions (mm)			
A	B	C	D (Hex)
1/8"BSPT	8	13	14
1/4"BSPT	12	6	17
3/8"BSPT	12	6	22
1/8"NPT	10	13	17
1/4"NPT	14	6	22

Pin	Output	
	0 - 10 V 0.5 - 4.5 V 0 - 5 V	4 - 20 mA
1	+V _s	+V _s
2	-V _s	-V _s
3	V _{out}	NC
↓	NC	NC

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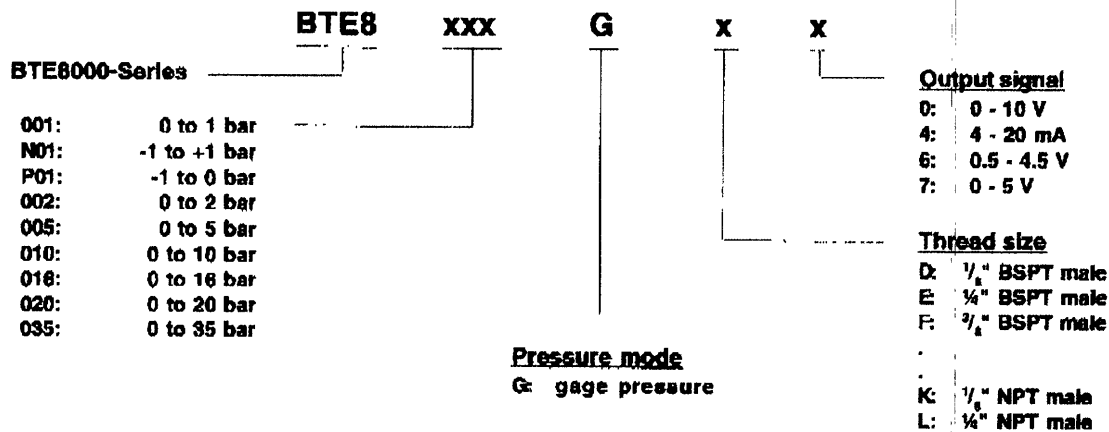
PRELIMINARY

MEDIA COMPATIBILITY^{8,9}

Air (100 % RH)	+	Hydrogen		+
Alcohol	+	Nitrogen		+
Bleach	-	Oil	Mineral	+
Brake fluid	+		Hydraulic	+
Freon	+		Motor (synthetic	+
Glycerin	+		used)	+
Glycol	+	Oxygen	Silicone	+
Heating oil (light)	+	Petroleum		+
Helium	+	(unloaded)		+
		Tap water		contact

+ compatible - not compatible

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