

## 3000 Series – Extreme Pressure Transducers

- ▶ Designed for Pressures to 10,000 PSI
- ▶ High Accuracy - Within  $\pm 0.15\%$  for the Life of the Application
- ▶ High Stability - Less than 0.05% Drift per 6 Years
- ▶ High Shock Resistance - Thin Film (TF) Design Eliminates Breakable Bond Wires

Built for extremes, 3000 Series pressure transducers are designed for mission-critical applications that test limits of pressure, temperature and rugged environments. This series feature advanced Thin Film sensor technology that eliminates the delicate bonding wires found in other pressure sensors, that can disintegrate under high shock and vibration applications. 3000 Series transducers share the Psibar® hallmarks of high accuracy, long term stability and rugged all-stainless steel weld construction. In addition they offer fast warm-up (<100 milliseconds), outstanding RFI immunity and a wide range of configurations.

### Specifications

<b>Input</b>	
<b>Pressure Ranges</b>	0 -500, 1000, 2000, 3000, 5000, 6000, 7500, 10,000 psi.
<b>Proof Pressure</b>	2 x Full scale, 15,000 psi max.
<b>Burst Pressure</b>	7x FS 4x FS for 10,000 psi
<b>Fatigue Life</b>	100 million cycles
<b>Performance</b>	
<b>Long-Term Drift</b>	0.06% FS/6 years
<b>Accuracy</b>	0.15% FS
<b>Repeatability</b>	0.03% FS
<b>Thermal Error</b>	1.5% FS (-20°C to 80°C) 2% FS (-40°C to 100°C) 2.7% FS (-55°C to 120°C)
<b>Zero Tolerance</b>	0.5% of FS
<b>Span Tolerance</b>	0.5% of FS, Response Time 0.5 mS
<b>Mechanical Configuration</b>	
<b>Pressure Port</b>	1/4 inch NPT or G1/4 Soft Seal
<b>Wetted Parts</b>	17-4 and 15-5 Stainless Steel
<b>Electrical Connection</b>	See ordering chart
<b>Enclosure</b>	IP65 Code G (NEMA 4) IP67 Code F (NEMA 6)
<b>Vibration</b>	70 peak to peak sinusoidal, 5 to 5000 Hz per MIL-STD 810, method 514.2 Procedure I
<b>Acceleration</b>	100g steady acceleration in any direction 0.032% FS/g for 1 bar (15 psi) range decreasing logarithmically to 0.0007% FS/g for 400 bar (6000 psi) range
<b>Shock</b>	1000g/MIL-STD 810, method 516.2 Procedure IV
<b>Approvals</b>	CE
<b>EMC</b>	30V/m (100V/m survivability)
<b>Weight</b>	Approx. 110 grams (additional cable: 75 g/m)



### Electromagnetic Capability

Meets the requirement for CE marking of EN50081-2 for emissions and EN50082-2 for susceptibility.

Test Data:

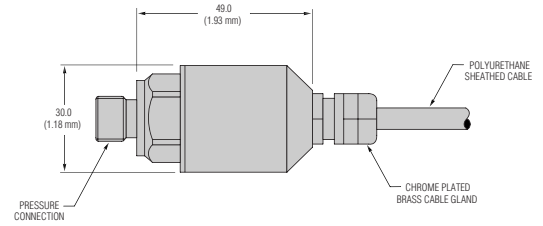
- EN61000-4-2 Electrostatic Discharge. 8kV air discharge, 4kV contact discharge. Unit survived.
- ENV50140 Radiated RF Susceptibility. 10V/m, 80MHz-1GHz, 1kHz mod. Maximum recorded output error was  $< \pm 1\%$
- ENV50204 Radiated RF Susceptibility to Mobile Telephones. 10V/m, 900MHz. Maximum recorded output error was  $< \pm 1\%$ .
- EN61000-4-4 Fast Burst Transient. 2kV, 5/50ns, 5kHz for 1 minute. Unit survived.
- ENV50141 Conducted RF Susceptibility. 10Vms, 1kHz mod, 150kHz - 80MHz. Maximum recorded output error was  $< \pm 1\%$

**Individual Specifications**

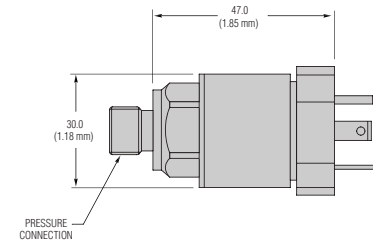
<b>Voltage Output Units</b>	
Output	See ordering chart (3 wire)
Supply Voltage (Vs)	1.5 VDC above span to 35 VDC @ 6 mA
Supply Voltage Sensitivity	0.01% FS/Volt
Min. Load Resistance	(FS output / 2) Kohms
<b>Current Output Units</b>	
Output	4-20 mA (2 wire)
Supply Voltage (Vs)	24 VDC, (7-35 VDC)
Supply Voltage Sensitivity	0.01% FS/Volt
Max. Loop Resistance	(Vs-7) x 50 ohms
<b>Ratiometric</b>	
Output	0.5V to 4.5V (3 wire) @ 5 VDC supply
Output Supply Voltage (Vs)	5VDC regulated (4.75V - 7VDC)

**Dimensions**

**Code F**



**Code R**



**PRESSURE TRANSDUCERS**

**How to Order**

Use the **bold** characters from the chart below to construct a product code

<b>3000</b> Series	<b>B</b>	<b>G</b>	<b>H30</b>	<b>22</b>	<b>G</b>	<b>3</b>	<b>U</b>	<b>A</b>	
Output	<b>B</b> - 4-20 mA	<b>F</b> - 0.1-5.1 VDC	<b>C</b> - 1-6 VDC						Performance Code
	<b>R</b> - 0-5 VDC	<b>J</b> - 0.5-5.5 VDC	<b>D</b> - 1-11 VDC						<b>A</b> - 0.15% Accuracy
	<b>S</b> - 0-10 VDC	<b>H</b> - 1-5 VDC	<b>G</b> - 0.2-10.2 VDC						Cable Length: Select if cable "F" Elec. Code is chosen, enter "U" for Elec. Codes G,R, & S
	<b>T</b> - 0.5-4.5 VDC Ratiometric								<b>U</b> - None <b>E</b> - 3 meters <b>G</b> - 10 meters
Pressure Datum	<b>G</b> - Gauge Pressure								<b>D</b> - 1 meter <b>F</b> - 5 meters
Pressure Range Code	<b>G50</b> - 500 psi	<b>H30</b> - 3000 psi	<b>B40</b> - 40 bar	<b>C25</b> - 250 bar					Approved
	<b>H10</b> - 1000 psi	<b>H50</b> - 5000 psi	<b>B60</b> - 60 bar	<b>C40</b> - 400 bar					<b>3</b> , CE
	<b>H15</b> - 1500 psi	<b>H60</b> - 6000 psi	<b>C10</b> - 100 bar	<b>C60</b> - 600 bar					Electrical Connection
	<b>H20</b> - 2000 psi	<b>H75</b> - 7500 psi	<b>J10</b> - 10,000 psi	<b>C16</b> - 160 bar					<b>G</b> - DIN43650A with mating connector
Pressure Ports	USA Threads	European Threads							<b>R</b> - DIN43650A without mating connector
	<b>22</b> - 1/4 NPT Male 22 mm Hex	<b>25</b> G1/4 External 22 mm Hex							<b>S</b> - Flying leads 0.5m (19") long
	<b>32</b> - 1/4 NPT Male 32 mm Hex	<b>35</b> G1/4 External 32 mm							<b>F</b> - Polyurethane shielded cable 24 AWG