

Paine 212-60-080 Series Pressure Transducer

VDC, Differential, +121 °C, Ranges to 5,000 PSID (344 BAR)



The 212-60-080 Differential Series is temperature compensated and a 0–5 VDC output, full line differential pressure sensor.

With two separate sensing elements to measure the pressure at the input ports. Each sensor has two strain gage legs. These two sensors are connected to provide a fully balanced bridge. This sensing method provides an accurate output directly proportional to the pressure difference at the two ports.

Featuring built-in electronics to eliminate the need for separate sensors and amplifiers, the 212-60-080 Series is designed for dependable, long-term pressure measurement in a small/light weight (3 oz) manifold style mounting package.

Solutions

- Fast Response Time.
- Compact Design.
- High Shock and Vibration Design.
- Port Adapters Available.



Port adapters and accessories available

Potential Applications

- Actuator and Propulsion Controls.
- Industrial Hydraulic and Pneumatic Controls.
- Automotive Test Systems.
- Vehicle Steering Control Systems.
- Fuel Pressure Monitoring.
- Positioning Systems.
- Robotic Hydraulic Controls.
- Valve Pressure Control.

Features

- **Thermal Zero Shift:** $\pm 0.02\%$ of Full Scale (F.S.) per $^{\circ}\text{F}$ maximum.
- **Thermal Sensitivity Shift:** $\pm 0.02\%$ of Full Scale per $^{\circ}\text{F}$ maximum.
- **Output:** VDC.
- **Operating Temperature:** -40°F to $+250^{\circ}\text{F}$ (0°C to $+121^{\circ}\text{C}$).
- **Pressure Range:** ± 500 to $\pm 5,000$ psid (34 to 344 bar).
- **Operating Media:** Any compatible with 300 series CRES, Buna-N-Rubber, 2024-T351 AL, and 15-5 PH CRES.
- **Pressure Fitting:** Manifold mounting per MIL-G-5514, Type II, Class 2. O-rings (2) MS28775-008 are supplied with each transducer.

Specifications

Calibration: Calibration Certificates are supplied with each unit and available on-line.

Performance

Thermal Zero Shift: $\pm 0.02\%$ of Full Scale Output (F.S.) per $^{\circ}\text{F}$ maximum.

Thermal Sensitivity Shift: $\pm 0.02\%$ of F.S. per $^{\circ}\text{F}$ maximum.

Output at Zero Differential Pressure: 0.0 ± 0.1 VDC = E_0 over calibrated temperature range.

Output at Positive Rated Pressure ($P_1 > P_2$):
 $+5.0 \pm 0.1$ VDC = E_p .

Output at Negative Rated Pressure ($P_2 > P_1$):
 $-(E_p - 2 E_0) \pm 0.1$ VDC.

Static Error Band (Non-Linearity and Hysteresis Combined):
 See Pressure table.

Operating Temperature: -40°F to $+250^{\circ}\text{F}$ (0°C to $+121^{\circ}\text{C}$).

Environmental

Positive Excitation: 11 to 40 VDC, 20 mA maximum.

Negative Excitation: -6 to -15 VDC, 5 mA maximum.

Output Current: 50 k Ω maximum load, short circuit protection.

Output Ripple: 70 mV peak to peak (typical) 0–1 kHz bandwidth.

Electrical Connections: 6 Pin bayonet locking electrical connector. Mates with M83723-75R10066 type connector, not supplied with unit.

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Mechanical

Pressure Range: Contact factory for additional pressure ranges.

Pressure table				
Standard part number	Pressure range PSID (BAR)	Proof pressure PSID (BAR)	Burst pressure PSID (BAR)	Static error band (BSLM)
212-60-080-01	± 500 (34)	± 850 (58)	± 1,250 (86)	± 1.0% F.S.
212-60-080-02	± 1,000 (68)	± 1,700 (117)	± 2,500 (172)	± 0.75% F.S.
212-60-080-03	± 3,000 (103)	± 5,100 (351)	± 7,500 (517)	± 0.5% F.S.
212-60-080-04	± 5,000 (137)	± 8,500 (586)	± 12,500 (861)	± 0.5% F.S.

Operating Media: Any compatible with 300 series CRES, Buna-N-Rubber, 2024-T351 AL and 15-5 PH CRES.

Pressure Fitting: Manifold mounting per MIL-G-5514, Type II, Class 2. O-rings (2) MS28775-008 are supplied with each transducer.

Electrical

Excitation: 10 VDC.

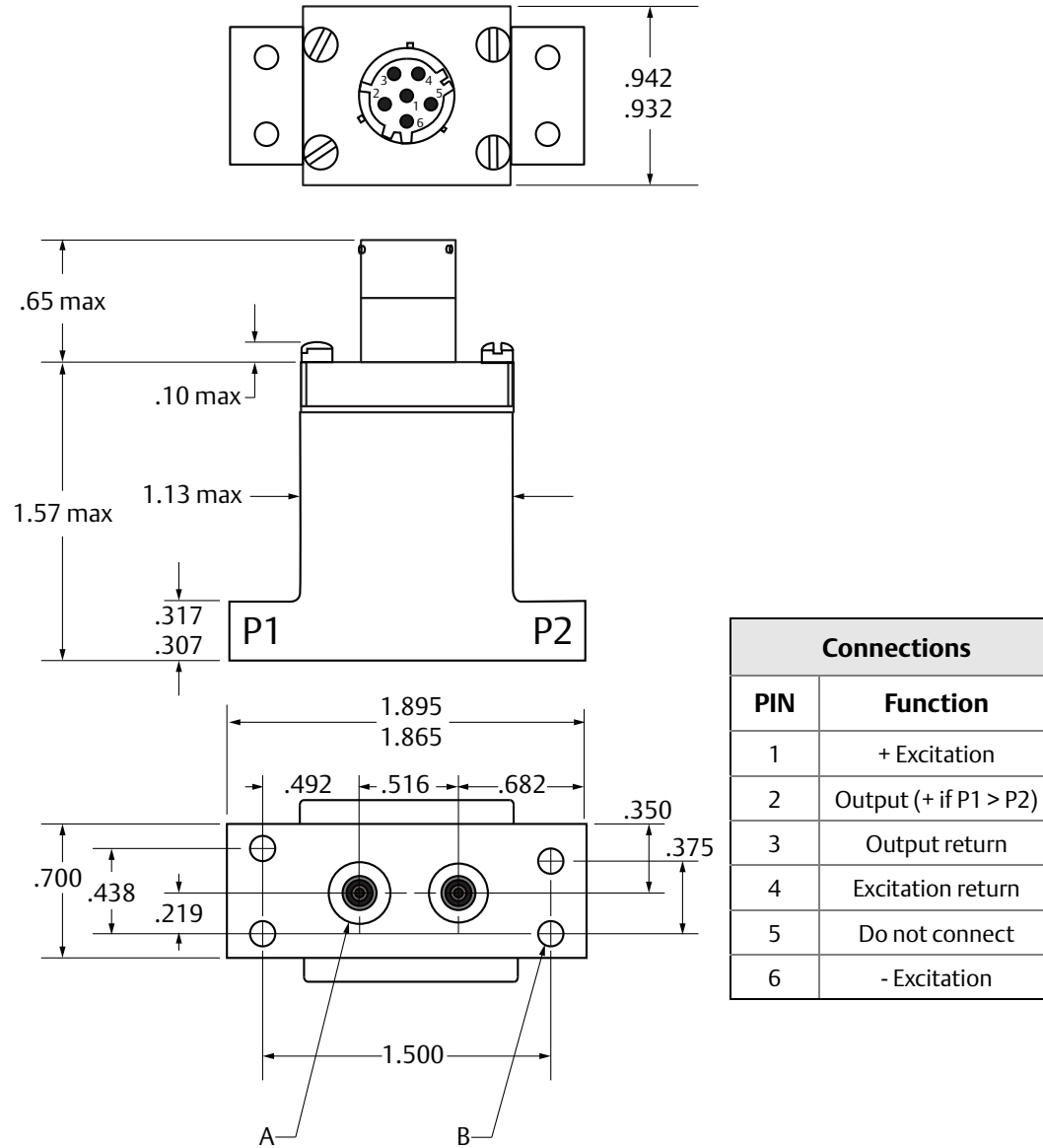
Input Resistance: 350 ± 70 Ω.

Output Resistance: 350 ± 35 Ω.

Electrical Connections: 4 Pin bayonet locking electrical connector. Mates with MS3116-8-4S. (P/N: 247-99-100-01 sold separately).

Dimensional Drawings

Figure 1. 212-60-080 Series



A. Pressure port manifold mounting per MIL-G-5514
 B. \varnothing .125/.130 through four places

Dimensions are inches.


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