

# P1200 Series Pressure Transducer



- Rugged Design for Harsh Environments
- High Burst Pressure Limit
- High Reliability
- Low and High Level Output Signals

## DESCRIPTION

The P1200 Series pressure transducers and transmitters provide high accuracy pressure measurement of liquids and gases. These robust transducers combine hybrid electronics with highly reliable strain gauge sensing technology to offer superior performance in rugged applications. Constructed from media compatible 17-4 PH stainless steel, the P1200 provides exceptional performance in extreme environments.

Accuracy of the P1200 is guaranteed to be within  $\pm 0.20\%$  F.R.O. over a wide temperature compensated range of  $-20^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ . The P1200 is available with either cable or connector terminations or offers a variety of outputs including 0-20 mV, 0-100 mV, 0-5 V and 4-20 mA. Six selectable pressure ports are available to suit most application requirements. Pressure ranges include 0-75 psi to 10,000 psi (0-5 bar to 700 bar) and can be referenced in absolute, sealed or vented gauge. The P1200 Series maintains a high burst rate of greater than 20x the rated pressure and 5x overpressure limit without damage to the sensor due to a positive over travel stop.

## FEATURES

- Typical Accuracy of  $< \pm 0.15\%$  F.R.O.
- Cable/Connector Termination
- Stainless Steel Media Isolated
- 5x Overpressure Protection
- High and Low Level Output

## APPLICATIONS

- Vehicle Brake System Monitoring
- Gas Production
- Farm Machinery
- Hydraulic Control Monitoring

# P1200 Series Pressure Transducer

## PERFORMANCE SPECS

| Series                  | P1200               | P1230               | P1240               | P1260     | P1280   |
|-------------------------|---------------------|---------------------|---------------------|-----------|---|
| Model Number            | P1221/3             | P1231/3             | P1241/3             | P1261/3   | P1281/3                                       |
| Input Voltage           | 10VDC<br>(12 V max) | 10VDC<br>(12 V max) | 10VDC<br>(12 V max) | 18-32VDC  | 10-36VDC                                      |
| Impedance (ohms)        | 1000 to 1600        | -                   | -                   | -         | -   |
| Current (mA max)        | 10                  | 12                  | 12                  | 25        | -   |
| Full Range Output (±2%) | 20mV                | 100mV               | 5VDC                | 5VDC      | 4-20 mA (16 mA±2%)                            |
| Impedance (ohm)         | 1000 ±50            | <10                 | <10                 | <10       | Load Resistance<br>1300 ohm (max) at<br>36VDC |
| Current (mA max)        | -                   | -                   | 5                   | 5         | -   |
| Frequency Response      | 2.5 to 40 kHz       | 2 kHz               | 2 kHz               | 1 kHz     | 1 kHz   |
| Residual Unbalance      | <±2                 | <±2                 | <±2                 | <±2       | 4.0 mA +2-0                                   |
| Weight oz (gm)          | 3.4 (95)            | 4.4 (125)           | 4.4 (125)           | 4.4 (125) | 4.4 (125)                                     |

## COMMON SPECIFICATIONS

### Pressure Ranges

**High (psi)** 0-75, 100, 150, 220, 250, 350, 500, 750, 1000, 1500, 2200, 2900, 3500, 5000, 7500, 10,000

**(bar)** 0-5, 7, 10, 15, 20, 25, 35, 50, 70, 100, 150, 200, 250, 350, 500, 700

**DIN (bar)** 6, 10, 16, 25, 40, 60, 100, 160, 250, 400, 600

**Pressure References** Vented gauge (Sensors should only breathe dry noncorrosive gases. Sealed gauge and absolute to special order).

**Pressure Limit** >5x full range pressure or 12,000 psi (830 bar), whichever is less.

**Burst Pressure** >20 x full range pressure or 22,000 psi (1,520 bar), whichever is less

**Pressure Media** Liquids or gases compatible with 17-4 PH stainless steel

### Combined Non-linearity, Hysteresis

**and Non-repeatability** <±0.15% F.R.O. (typ); ±0.20% F.R.O. max (BSL) – high range

### Temperature Range

**Operable** -65°F to 185°F (-54°C to 85°C) [P1221/4 -65°F to 250°F (-54°C to 120°C)]

**Compensated** -4°F to 185°F (-20°C to 85°C) [P1221/4 -4°F to 212°F (-20°C to 100°C)]

**Storage** -65°F to 250°F (-54°C to 120°C)

### Combined Thermal Zero

**And Sensitivity Shift** <±0.010% F.R.O./°F (±0.02% F.R.O./°C) over compensated temperature range

### Total Thermal Error Band\*

**(including NLH) %F.R.O.**

-4° to 185°F (-20° to 85 °C ±1.2% typical, ±2.0% max. (over compensated temperature range)

**Shock Resistance** 1000 g for 5 msec

**Vibration Resistance** Surpasses MIL STD810C Method 514-2 Curve L and EUROCAE ED 14A/RTCA 160A

### Humidity

**Connector Version** 95% Relative humidity

**Cable Version** Immersible to IP67

### EMC

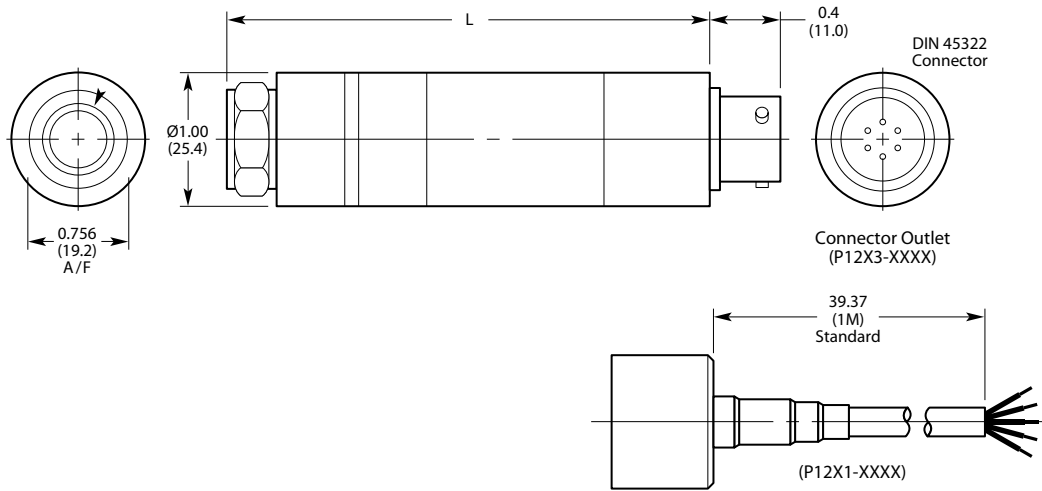
Emissions to EN55022 (CISPR 22) Limit B; Radiated Immunity to IEC 801-3 Level 3 10 V/m;

Burst Transients to IEC 801-4 Level 3 (2kV); Electrostatic Discharge to IEC 801-2 Level 2 (4kV contact); Surges to IEC 801-5 class 3 (2kV).

**Insulation Resistance** 500 MOhm at 50 VDC

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## DIMENSIONS

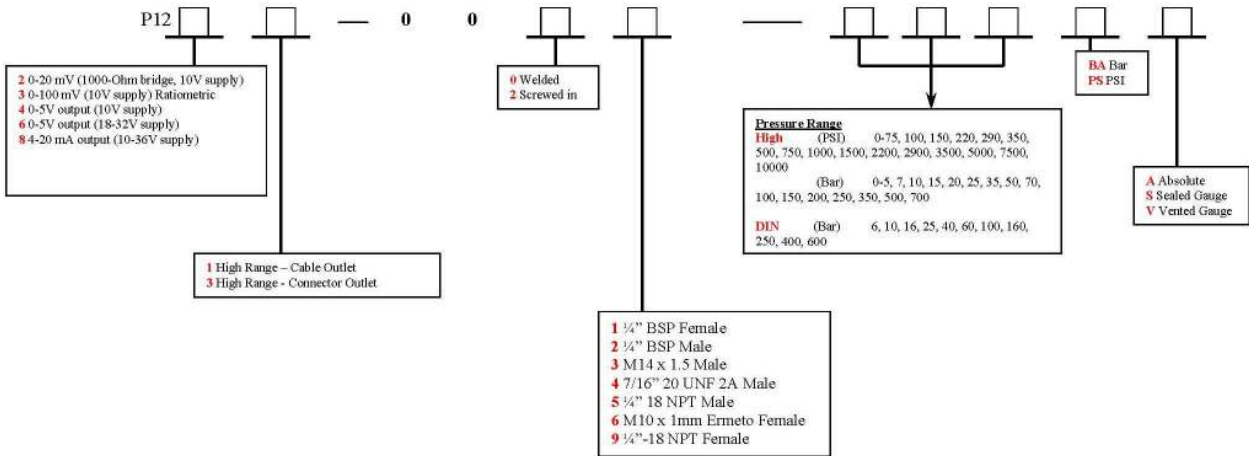


| Adapters           |             |             |             |               |             |
|--------------------|-------------|-------------|-------------|---------------|-------------|
| Thread Size        | Code Welded | A           | B           | Code Screw In | B           |
| G1/4A (BSP) (F)    | 0001        |             |             |               |             |
| G1/4A (BSP) (M)    | 0002        | 0.46 (11.7) | 0.67 (16.9) | 0022          | 0.76 (17.6) |
| M14 x 1.5 (M)      | 0003        | 0.40 (10.2) | 0.61 (15.4) | 0023          | 0.61 (15.6) |
| 7/16"-20UNF-2A (M) | 0004        | 0.56 (14.3) | 0.77 (19.5) | 0024          | 0.77 (19.6) |
| 1/4"-18NPT (M)     | 0005        | 0.55 (14.0) | 0.76 (19.2) | 0025          | 0.81 (20.6) |
| M10 x 1.0 (F)      | 0006        |             | 0.60 (15.2) | 0026          | 0.60 (15.2) |
| 1/4"-18NPT (F)     | 0009        |             |             |               |             |

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## ORDERING INFORMATION

### P1200 ordering information



Example: P1283-0023-10KPSS = 4 to 20mA output, connector outlet, screwed in M14 male port, 10,000 psi sealed gauge

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