



MODEL 121

RUGGED, INDUSTRIAL, DYNAMIC ICP® PRESSURE SENSORS

- All-welded, Hermetically Sealed, Stainless Steel Construction
- Solid-state, Piezoelectric, Quartz Crystal Sensing Elements with Built-in, Microelectronic Signal Conditioning
- Electrical Case Isolation Prevents Noise Interference and Ground Loop Problems
- 1/4" NPT Process Fitting for Ease of Installation (Metric Optional)
- Rugged, 2-pin MIL Connector or Submersible, Integral Cable



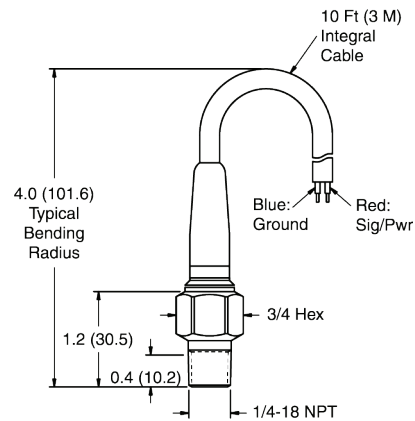
MONITOR AND DETECT PULSATIONS AND SURGES IN LIQUID OR PNEUMATIC SYSTEMS FOR TROUBLESHOOTING, PREDICTIVE MAINTENANCE, AND PROCESS IMPROVEMENT

Piezoelectric pressure sensors offer the unique ability to respond to very rapid pressure spikes, pulsations and surges. They can also sense minute pressure fluctuations while being subjected to very high static pressures. The Series 121 Industrial Dynamic ICP® Pressure Sensors satisfy such measurement requirements in monitoring, diagnostic, troubleshooting, and control applications in harsh, factory environments. Applications include: leak detection; locating sources of damaging water hammer and cavitation; troubleshooting pulsations in liquid delivery systems; and fine tuning pumping system and valve behavior to improve efficiencies and reduce maintenance.

As with all PCB® instrumentation, these sensors are complemented with toll-free applications assistance, 24-hour customer service, and are backed by a no-risk policy that guarantees satisfaction or your money refunded.

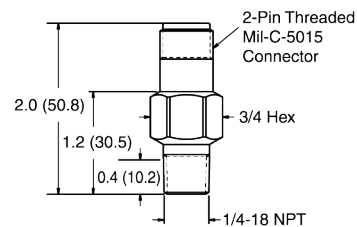
| INDIVIDUAL SPECIFICATIONS | | | | | | |
|------------------------------------|--------------------|--------------------|---------------------|--------------------|-----------------------|--------------------|
| Available Models / Range | 100 psi (700 kPa) | | 1000 psi (7000 kPa) | | 5000 psi (35,000 kPa) | |
| 2-pin, MIL-C-5015 Connector | 121A21 | | 121A22 | | 121A23 | |
| Molded, Integral 2-conductor Cable | 121A31 | | 121A32 | | 121A33 | |
| Performance | English | SI | English | SI | English | SI |
| Sensitivity ($\pm 20\%$) | 50 mV/psi | psi 7.25 mV/kPa | 5 mV/psi | 0.725 mV/kPa | 1 mV/psi | 0.145 mV/kPa |
| Dynamic Measurement Range | 100 psi | 700 kPa | 1000 psi | 7000 kPa | 5000 psi | 35,000 kPa |
| Broadband Resolution | 0.004 psi | 0.028 kPa | 0.01 psi | 0.07 kPa | 0.04 psi | 0.28 kPa |
| Maximum Dynamic Pressure | 200 psi | 1400 kPa | 1000 psi | 7000 kPa | 7200 psi | 50,000 kPa |
| Maximum Combined Pressure | 600 psi | 4200 kPa | 6000 psi | 41,000 kPa | 7200 psi | 50,000 kPa |
| Resonant Frequency | ≥ 200 kHz | ≥ 200 kHz | ≥ 200 kHz | ≥ 200 kHz | ≥ 200 kHz | ≥ 200 kHz |
| Rise Time | ≤ 2 μ sec | ≤ 2 μ sec | ≤ 2 μ sec | ≤ 2 μ sec | ≤ 2 μ sec | ≤ 2 μ sec |
| Low Frequency Response (-5%) | 0.5 Hz | 0.5 Hz | 0.005 Hz | 0.005 Hz | 0.005 Hz | 0.005 Hz |
| Discharge Time Constant | ≥ 1 sec | ≥ 1 sec | ≥ 100 sec | ≥ 100 sec | ≥ 100 sec | ≥ 100 sec |
| Non-Linearity | $\leq 2\%$ FS | $\leq 2\%$ FS | $\leq 2\%$ FS | $\leq 2\%$ FS | $\leq 2\%$ FS | $\leq 2\%$ FS |

| COMMON SPECIFICATIONS | | |
|-----------------------------------------------------------------|--------------------|-----------------------------------|
| Environmental | English | SI |
| Acceleration Sensitivity | ≤ 0.04 psi/g | ≤ 0.028 kPa/m/s ² |
| Dynamic Measurement Range | -65 to +250 °F | -54 to +121 °C |
| Broadband Resolution | ≤ 0.06 %/°F | ≤ 0.108 %/°C |
| Electrical | | |
| Output Polarity (positive pressure) | Positive | Positive |
| Excitation Voltage | ≥ 200 kHz | ≥ 200 kHz |
| Excitation Constant Current | ≤ 2 μ sec | ≤ 2 μ sec |
| Output Impedance | 0.5 Hz | 0.5 Hz |
| Output Bias Voltage | ≥ 1 sec | ≥ 1 sec |
| Electrical Case Isolation | $\leq 2\%$ FS | $\leq 2\%$ FS |
| Mechanical | | |
| Size | See Drawing | See Drawing |
| Weight (approximate, without cable) | 2 oz | 56 gm |
| Mounting Thread | 1/4-18 NPT* | 1/4-18 NPT* |
| Sensing Element | Quartz | Quartz |
| Case Material | Stainless Steel | Stainless Steel |
| Sealing (welded) | Hermetic | Hermetic |
| Options (indicate using prefix letter shown) | | |
| * M - Metric installation via M14 \times 1.25 straight thread | | |



Models 121A31, 121A32, 121A33

with integral cable



Models 121A21, 121A22, 121A23

with 2-pin MILconnector



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PCB Piezotronics, Inc. is a designer and manufacturer of microphones, vibration, pressure, force, torque, load, and strain sensors, as well as the pioneer of ICP® technology used by design engineers and predictive maintenance professionals worldwide for test, measurement, monitoring, and control requirements in automotive, aerospace, industrial, R&D, military, educational, commercial, OEM applications, and more. With a worldwide customer support team, 24-hour SensorLineSM, and a global distribution network, PCB® is committed to Total Customer Satisfaction. Visit www.pcb.com for more information. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.

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MTS Sensors, a division of MTS Systems Corporation (NASDAQ: MTSC), vastly expanded its range of products and solutions after MTS acquired PCB Piezotronics, Inc. in July, 2016. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corp.; IMI Sensors and Larson Davis are divisions of PCB Piezotronics, Inc.; Accumetrics, Inc. and The Modal Shop, Inc. are subsidiaries of PCB Piezotronics, Inc.