



## M O D E L **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<sup>®</sup> 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 (±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 µsec	≤ 2 µsec	≤ 2 µsec	≤ 2 µsec	≤ 2 µsec	≤ 2 µsec		
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	≤ 2% FS	≤ 2% FS	≤ 2% FS	≤ 2% FS	≤ 2% FS	≤ 2% FS		

COMMON SPECIFICATIONS						
Environmental	English	SI				
Acceleration Sensitivity	≤ 0.04 psi/g	≤ 0.028 kPa/m/s2				
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 µsec	≤ 2 µsec				
Output Impedance	0.5 Hz	0.5 Hz				
Output Bias Voltage	≥ 1 sec	≥ 1 sec				
Electrical Case Isolation	≤ 2% FS	≤ 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)						
$^{\ast}$ 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



#### 3425 Walden Avenue, Depew, NY 14043 USA

pcb.com | info@pcb.com | 800 828 8840 | +1 716 684 0001

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