



MODEL 115A04

MINIATURE PRECISION PRESSURE SENSOR

- Highly accurate (with a non-linearity of $\leq 0.3\%$ FS)
- Measurement range up to 3,500 psi (241 bar)
- High sensitivity – to 1.40 pC/psi (20.3 pC/bar)
- Measures accurate pressure in thermodynamic environments (Thermodynamic Error ΔP max $<1\%$)

TYPICAL APPLICATIONS

- Dynamic Pressure Measurements
- Thermodynamic Measurements
- Small Engine Development
- Powertrain Development:
 - Friction Loss Analysis
 - Gasoline, Diesel, Natural Gas, Propane, Ethanol and Biofuel Engine Development
 - Performance Development
 - Emissions/Fuel Economy Development
 - Calibration Development (NVH, Drivability)
- Hybrid Powertrain Testing



CE

FOR ACHIEVING HIGHLY ACCURATE PRESSURE MEASUREMENTS IN THERMODYNAMIC ENVIRONMENTS

The PCB® Model 115A04 is an extremely accurate, high-temperature, high-pressure charge output sensor suitable for measuring thermodynamic pressure in a wide range of applications such as engine and powertrain combustion analysis and other applications that require accurate dynamic pressure measurements. hole mounting configurations.

WIDE AMPLITUDE AND FREQUENCY RANGE

This miniature charge output sensor includes naturally stable sensing elements, so it is a highly accurate way to measure dynamic pressure variations over a wide amplitude, temperature and frequency range. It offers a measurement range up to 3,500 psi (241 bar) and is survivable to 752 °F (400 °C).

DURABLE & DEPENDABLE

The Model 115A04 comes in a miniature M5 package with a one-meter removeable cable. Its stainless steel housing and welded hermetic diaphragm help ensure durability in harsh testing environments. In addition to traditional gas and diesel engine applications, the new sensor is also used for dynamic pressure testing of small engines, motorcycle and ATV engines, stationary marine equipment, and power-generating engines. It comes with a standard one-meter oil resistant cable which terminates into a BNC adapter and can be integrated with other manufacturer's systems and accessories. Each unit is supplied with a dummy plug, thermal baffle and spare o-ring.

SPECIFICATIONS	
Model Number	115A04
Performance	
Sensitivity ($\pm 15\%$)	1.40 pC/psi (20.3 pC/bar)
Measurement Range	3.5 kpsi (241.1 bar)
Maximum Pressure	4.35 kpsi (300 bar)
Resonant Frequency	>125 kHz
Non-Linearity	$\leq 0.3\%$ FS
Environmental	
Acceleration Sensitivity	<0.007 psi/g <0.0005 bar/g axial
Temperature Range (Operating)	-4° to 482°F (-20° to 250°C)
Temperature Range (Survivable Limit)	-58° to 752°F (-50° to 400°C)
Thermal Sensitivity Shift (20° to 250°C)	2%
Thermal Sensitivity Shift (200° C $\pm 50^\circ$ C)	1%
Thermodynamic Error (P mi)	<2%
Thermodynamic Error (ΔP max)	<1%
Thermodynamic Error (ΔP short term drift)	<7.25 psi
Maximum Shock	2000 g pk
Electrical	
Capacitance (with cable)	120 pF (10.5 pF typical w/o cable)
Insulation Resistance (at room temperature)	$\geq 10^{13} \Omega$
Physical	
Housing Material	17-4 Stainless Steel
Diaphragm	17-4 Stainless Steel
Sealing	Welded Hermetic
Electrical Connector	M4 x 0.35 Coaxial
Weight (without cable)	0.085 oz (2.4 gm)
Cable type	006M40 (oil-resistant) 1 meter in length
Supplied Accessories	
Dummy Plug	066A17
O-ring	100-9169-50
Thermal Baffle	Thermal Baffle

EXCEPTIONAL SERVICE

We offer world-class customer service, provided 24 hours a day, so when you call any time of the day or night, you can speak with a knowledgeable person. As with all PCB® instrumentation, our precision pressure sensors are complemented with toll-free applications assistance and are backed by our no risk policy that guarantees your satisfaction or your money back.

RECOMMENDED SIGNAL CONDITIONER



MODEL 443B02

1-channel system, dual-mode charge amplifier system, line powered

For ICP® and charge output sensors, the Model 443B02 signal conditioner includes medium and long discharge time constant settings. This modular series system consists of a signal conditioner module, power supply module, and a chassis.



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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 SensorLine™, 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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