



Miniature Precision Pressure Sensor

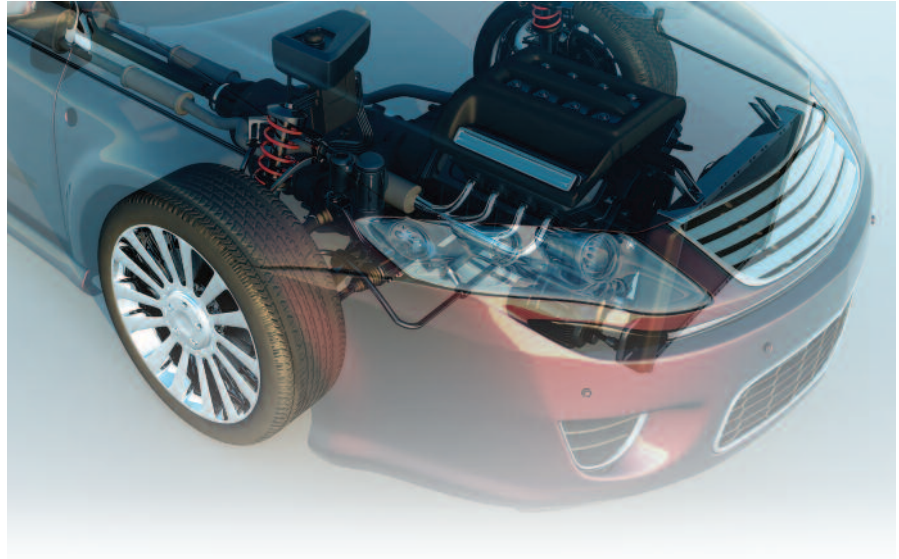
For achieving highly accurate pressure measurements in thermodynamic environments

Highlights

- 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 $<1\%$)
- Durable Stainless Steel Housing

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



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.

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 and 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.

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.



Model 115A04



Specifications	
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	065A69

**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.

**Corporate Headquarters**

3425 Walden Avenue, Depew, NY 14043-2495 USA

Toll-Free in USA 888-684-0014**24-hour SensorLine™ 716-684-0001****Fax 248-478-2094 E-mail automotivesales@pcb.com****www.pcb.com**

AS9100 CERTIFIED ■ ISO 9001 CERTIFIED ■ A2LA ACCREDITED to ISO 17025

© 2013 PCB Group, Inc. In the interest of constant product improvement, specifications are subject to change without notice. PCB, ICP, Modally Tuned, Spindler, Swiveler and TORQDISC are registered trademarks of PCB Group. SoundTrack LXT, Spark and Blaze are registered trademarks of PCB Piezotronics. SensorLine is a service mark of PCB Group. All other trademarks are property of their respective owners.

AUTO-115A04-Mini-Pressure-1013

Printed in U.S.A.

PCB® Automotive Sensors is a dedicated technical sales and support facility, located in Farmington Hills, Michigan, USA, devoted to the testing needs of the global transportation market. This team is focused on development and application of sensors and related instrumentation for specific vehicle development test programs, including modal analysis; driveability; ride & handling; component & system performance; durability; road load data acquisition; vehicle and powertrain NVH; legislative testing; quality control; powertrain development; and motorsport. PCB® offers exceptional customer service, 24-hour technical assistance, and a **Total Customer Satisfaction** guarantee.

Visit www.pcb.com to locate your nearest sales office