

Delphi Medium Pressure Sensors

Delphi Medium Pressure Sensors provide precise measurements of manifold absolute pressure (MAP) and other high output gasoline and diesel engine performance characteristics, in two operating pressure ranges:

- 15 kPa to 102 kPa
- 12.5 kPa to 115 kPa

Delphi Medium Pressure Sensors are designed to perform in harsh environments such as extreme temperatures and vibration, thermal and mechanical shock, and chemical contamination. They provide voltage output proportional to the gauge pressure in medium pressure systems.

► Benefits

- Electronic compensation for precise measurements in a variety of environments
- Reliable and robust:
 - Low part count
 - Automotive grade
 - ISO/TS 16949 certified
- Mounting flexibility
- Designed for under-hood environments
- Appropriate for a wide-range automotive and non-automotive applications
- Patented direct mount, eliminates need for bracket
- Temperature compensation
- Electromagnetic interference (EMI) protection
- Solid state microelectronic technology
- Available for turbo applications
- Available with three connector styles
- Combination pressure and temperature sensor (MAP/MAT) available:
 - MAP sensor precision with reliable thermistor output
 - Two-in-one yields cost reduction and space savings with one less component, wire and connector

► Typical Applications

Delphi Medium Pressure Sensors can be used for manifold absolute pressure, barometric pressure, and exhaust gas recirculation (EGR) pressure applications in gasoline and diesel engines. They can also be used in vehicle brake boost pressure measurement applications.

Delphi Medium Pressure Sensors can be used in other non-automotive applications requiring barometric pressure measurement.



Delphi Medium Pressure Sensor



Delphi Medium Pressure Sensor with U.S. car connector

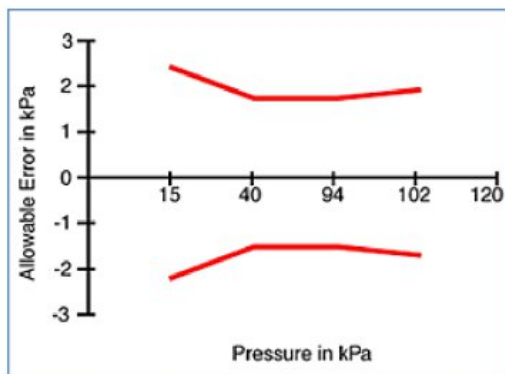
► **Performance Data for Standard Calibration**

Pressure Range	
Operating	15 kPa to 102 kPa 12.5 kPa to 115 kPa
Maximum	667 kPa
Full scale accuracy	1.7%

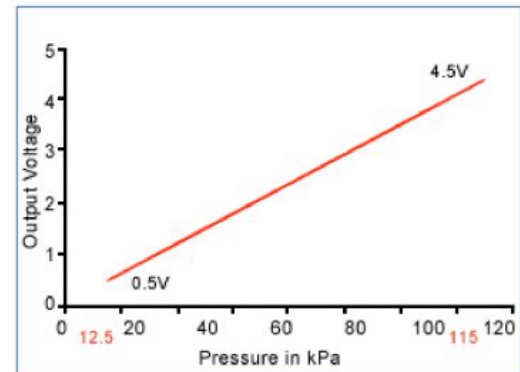
Temperature Range	
Operating	-40°C to 125°C
Storage	-50°C to 150°C

Electrical Characteristics	
Supply voltage	$5.0 \pm 0.1 V_{DC}$
Supply current	$<10 mA_{DC}$
Maximum output current	Sink $1 mA_{DC}$ Source $0.1 mA_{DC}$
Output impedance	$<50 \Omega$
Output voltage	$0.25 \text{ to } 4.85 V_{DC}$
Diagnostic Clamp Regions on output	Low $<5\%$ of supply High $>95\%$ of supply

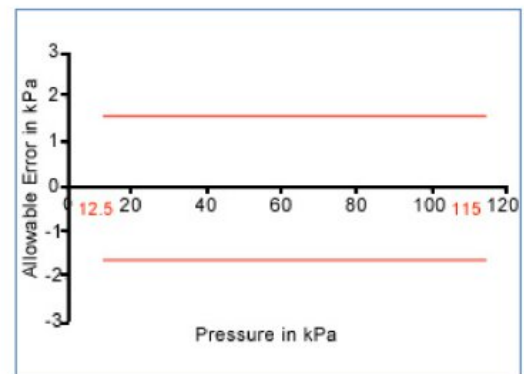
Note: Custom calibrations are available upon request.

► **Allowable Pressure Error**

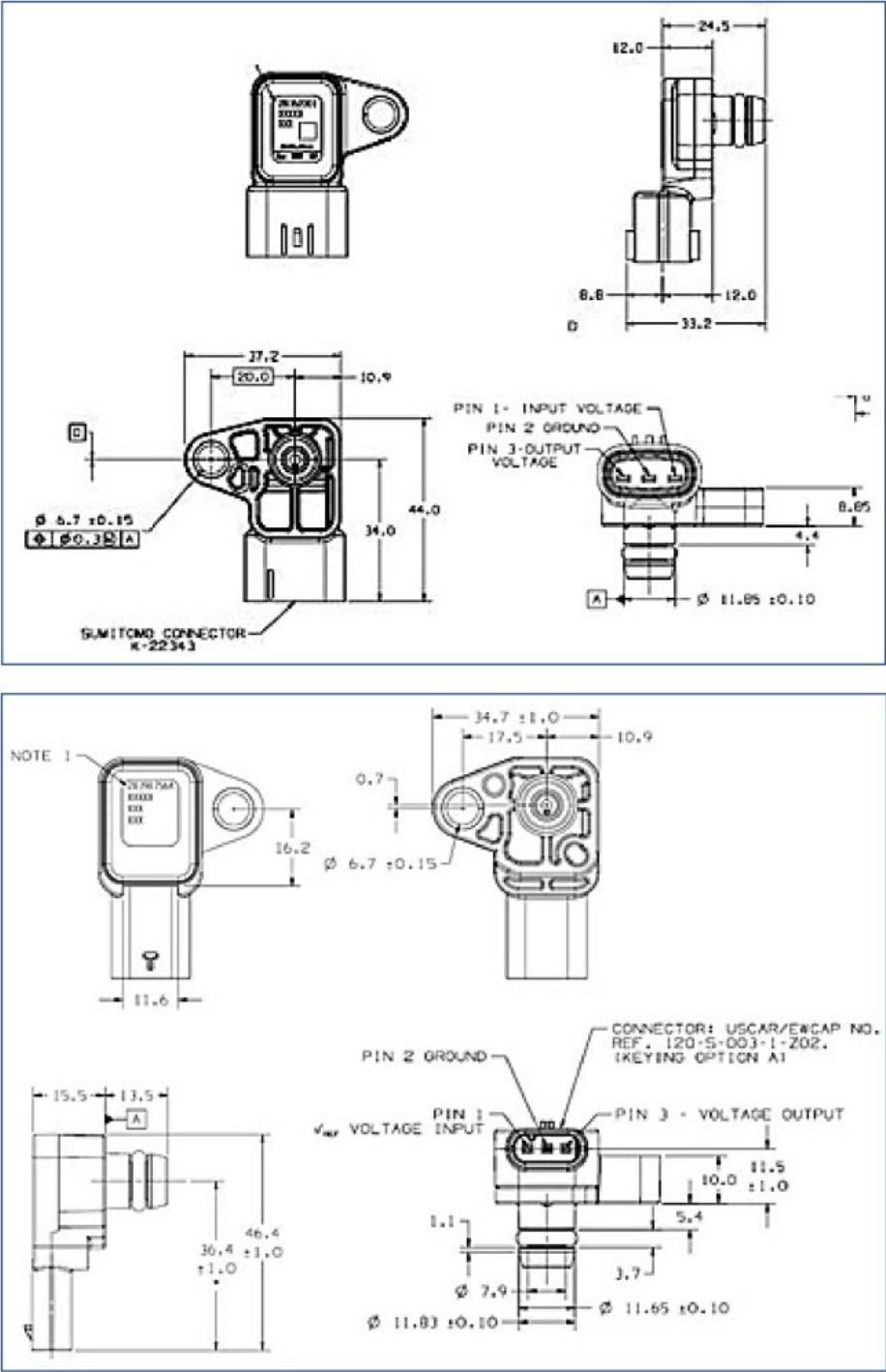
The total output pressure error for Delphi Medium Pressure Sensors includes error due to linearity, hysteresis and ratiometricity.

► **Transfer Curve**

Delphi Medium Pressure Sensors offer application flexibility, however, a typical sensor voltage output over a medium pressure range is shown in this chart.

► **Temperature Error Multiplier**

This graph shows the temperature multiplier to the allowable pressure error over the operating temperature range for Delphi Medium Pressure Sensors.



Delphi Medium Pressure Sensors offer compact size to help meet packaging objectives. They also feature a direct mounting capability to eliminate the need for separate mounting brackets.

► Performance Advantages

Delphi Medium Pressure Sensors feature cutting-edge sensing technology and a patented Delphi Application Specific Integrated Circuit (ASIC) design. They are built in-house and provide high quality and reliable operation. Combined with Delphi's vast manufacturing experience, they offer quality and customer satisfaction.

Delphi Medium Pressure Sensors are cost-effective and their patented, direct-mount design can also contribute to system savings. They can be tailored to meet specific customer requirements.

► The Delphi Advantage

Delphi has one of the industry's most complete portfolios of sensors and a thorough understanding of systems integration. Delphi offers global manufacturing capabilities for sensors and the benefits of more than 30 years' experience in powertrain sensors research and production. Delphi can provide manufacturers with the necessary support and high quality, high-value products tailored to specific customer requirements.

As a global leader in engine management systems technology, Delphi can help manufacturers around the world meet emissions requirements, improve fuel economy and enhance performance. Delphi is a source for high value solutions and our systems expertise is built into every product. Delphi's flexible engineering approach encourages collaboration. And, Delphi has a thorough understanding of automotive markets around the world and a global network of resources.



Delphi offers Medium Pressure Sensors in various housings to accommodate customer application requirements.