

Delphi Fluid Temperature Sensors

► Description

Delphi Fluid Temperature Sensors are continuous function devices that change resistance inversely to temperature. They measure the temperature of oil, fuel, water or engine coolant and provide a signal to the powertrain control module. These brass sensors consist of four major components:

- Brass shell
- Thermal grease
- Gasket
- Insert molded connector



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The shell uses customized thread and hex sizes per application requirements and the connector contains a Negative Temperature Coefficient (NTC) thermistor with a crimpless conductive path.

► Benefits

- Simple design with few components for cost-effective, lightweight package
- Design flexibility with customized mounting features, sealing options, connection systems, and resistance output
- Crimpless conductive path eliminates an electrical interface
- 100 percent resistance calibration verification helps ensure quality and reliability
- Packaging variations include a dual coolant (coolant and gauge sensors), a right angle connection, and a reduced size for small engine applications

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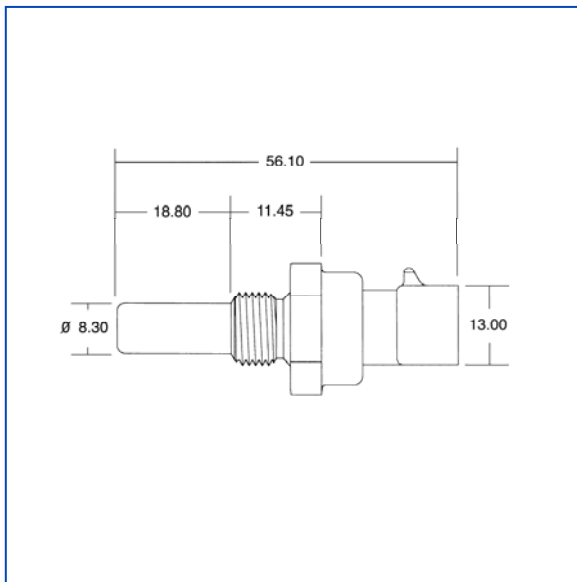
► Specifications for Fluid Temperature Sensor

Thermal and Electrical Properties

- Typical voltage supply: 5 VDC
- Operating temperature: -40°C to +135°C
- Resistance at +25°C: 2795 ohms
- Thermal time constant: 15-24 sec. in silicone oil
- Accuracy (\pm °C) -40°C to +100°C: \pm 0.56 to 0.77°C
- Accuracy (\pm °C) +100°C to +150°C: \pm 0.77 to 1.24°C

Mechanical Characteristics

- Sensor housing material: Brass
- Sensor connector material: PBT 30% GF
- Thread size: M12 x 1.5; Hex size: 18.90 mm (3/4 in.)
- Thread size: 3/8 in. – 18 NPTF; Hex size: 18.90 mm (3/4 in.)
- Thread size: 1/2 in. – 14 PTF; Hex size: 22.22 mm (7/8 in.)
- Sealing washer (copper; for metric threads only): P/N 12146937
- Suggested mating connector assembly: P/N 15336004
- Installation torque: 20 Nm, dynamic
- Overall weight: 23.2 to 62.2 grams



Delphi Fluid Temperature Sensor Diagram

Note: All measurements are in millimeters.

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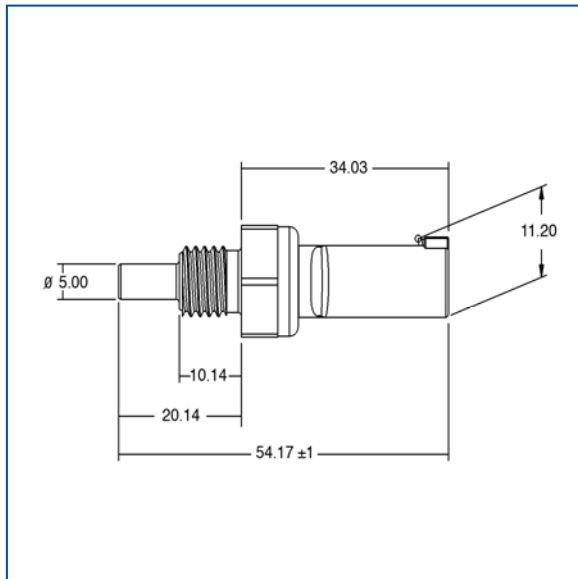
► Specifications for Downsized Fluid Temperature Sensor

Thermal and Electrical Properties

- Typical voltage supply: 5 VDC
- Connector operating temperature: -40°C to +125°C
- Sensor tip operating temperature: -40°C to +150°C (180°C peak)
- Resistance at +25°C: 10,000 ohms
- Thermal time constant: < 15 sec. in silicone oil
- Accuracy (\pm °C) -40°C to +150°C: $\pm 1.0^\circ\text{C}$

Mechanical Characteristics

- Sensor housing material: Brass or stainless steel
- Sensor connector material: PBT 30% GF
- Thread size: M10 x 1.5; Hex size: 15.87 mm (5/8 in.)
- Thread size: 1/8 in. – 27 NPTF; Hex size: 15.87 mm (5/8 in.)
- Sealing: O-ring, dryseal pipe thread
- Suggested mating connector assembly: AMP 1-967644-1
- Installation torque: 12 \pm 2 Nm
- Overall weight: 15.3 to 16.3 grams



Downsized Fluid Temperature Sensor Diagram

Note: All measurements are in millimeters.