THERMOMETRICS
A COMMITMENT TO EXCELLENCE

GE-1711/GE-1797

Engine Temperature Sensor (ETS)

These temperature sensors monitor the temperature of the coolant, oil, or fuel being used in an engine. These sensors' purpose is to provide a signal output that is proportional to engine temperature. This signal can be used as an input to a temperature gauge, provide input to an ECU (Engine Control Unit) or control a cooling fan circuit.

Applications

- Engine coolant temperature
- Engine oil temperature
- Engine fuel temperature

Features

- High accuracy and long term stability
- Fast response time
- Pigtail connector
- Existing field proven design
- Alternate RvT curves possible
- Different connection systems to meet package requirements
- 180°C max operating temperature
- Both brass and stainless steel configurations available depending on media/interface/ environment
- Other resistance and beta values possible
- RoHS compliant

Amphenol
Advanced Sensors

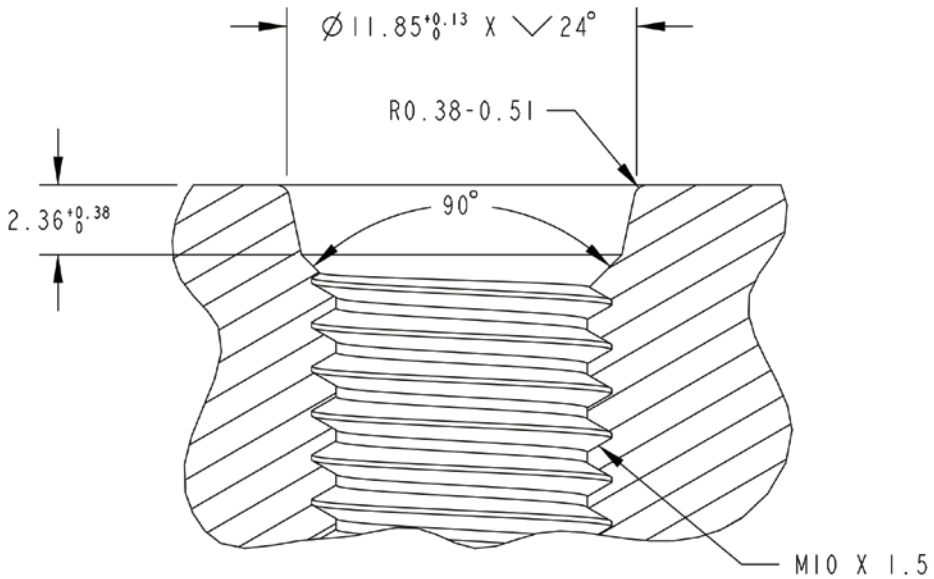
GE-1711 / GE-1797 Specifications

- **Operating Temperature Range:**
  -40°C to 180°C
- **Storage Temperature Range:**
  -40 to 150 °C
- **R @ 25°C :**
  10,000 Ohms ± 5.00%
- **Beta (25/85)°C:**
  3977K
- **Response time:**
  ≤ 4 seconds from water to water
- **Housing Material:**
  GE-1711: C34500 Brass
  GE-1797: 316 Stainless Steel
- **Weight:**
  ~28 grams
- **Available Connectors:**
  Delphi Metri-pack 150
  Amphenol Sine ATM series
- **Mating Connector:**
  Delphi: 12052641
  Amphenol Sine: ATM06-2S
- **Thermistor Material System:**
  Material 1

R vs. T			
Temp. (°C)	Resistance (Ω)	Resistance Tolerance (±%)	Tolerance (±°C)
-40	333562	7.80	1.18
-25	129925	7.04	1.18
0	32639	5.94	1.16
25	10000	5.00	1.14
85	1070	6.77	2.15
100	678.1	7.14	2.44
180	96.07	8.72	4.29

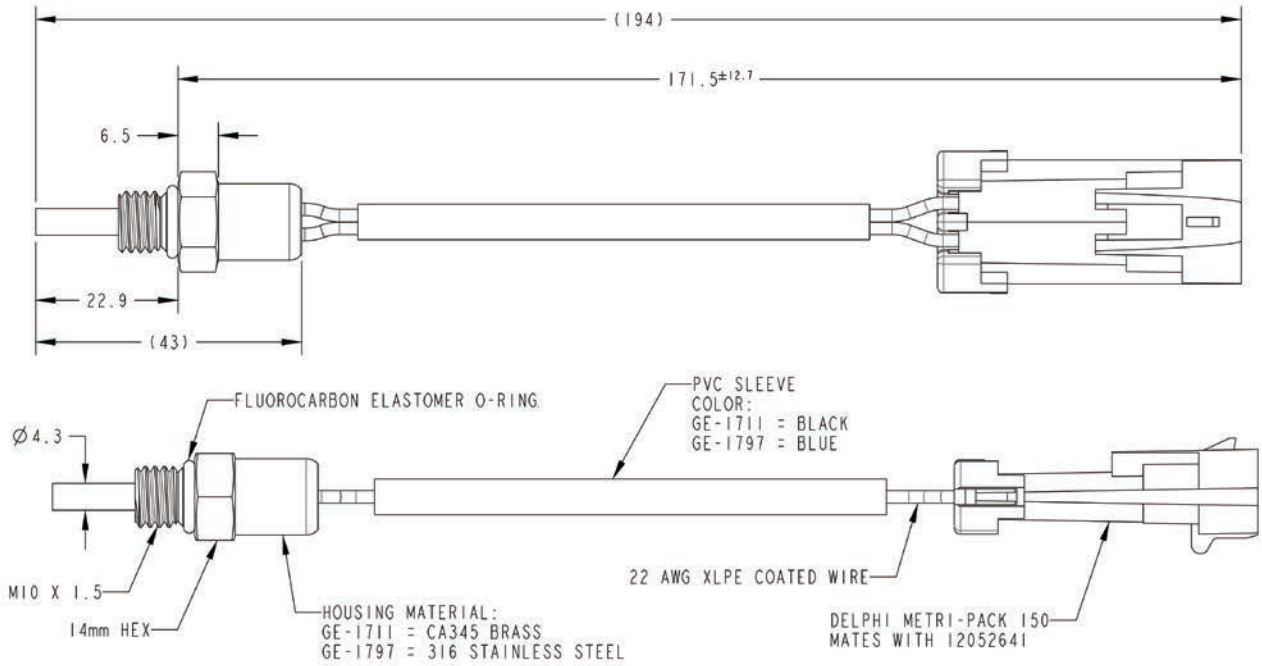
Part Number	Connector Type	Housing Material
GE-1711	Delphi Metri-Pack 150	CA345 Brass
GE-1797	Delphi Metri-Pack 150	316 Stainless Steel
GE-1711ATM	Amphenol Sine ATM Series	CA345 Brass
GE-1797ATM	Amphenol Sine ATM Series	316 Stainless Steel

Recommended Mounting Interface

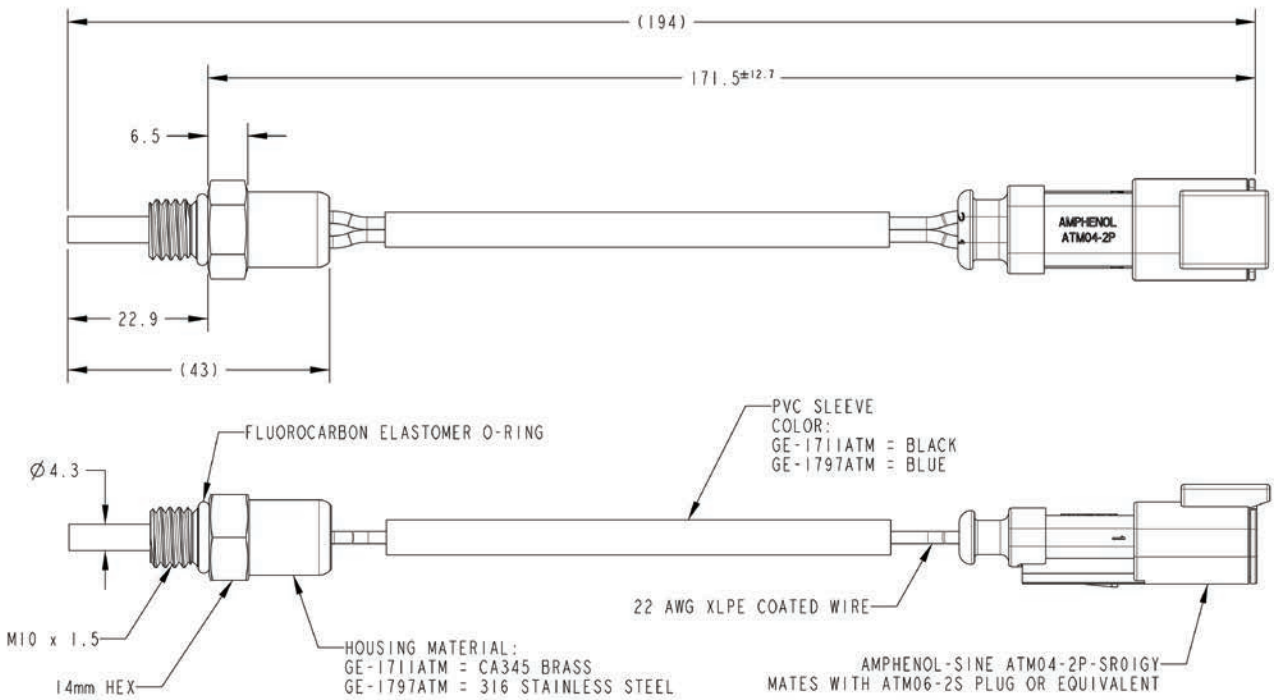


GE-1711 / GE-1797 Dimensions

GE-1711 / GE-1797



GE-1711ATM / GE-1797ATM



GE-1711 / GE-1797 Specifications

Test	Passing Criteria
High Potential Test	Apply potential difference of 300 VDC between the sensor leads & housing, max allowable leakage current is 40 µA
Four Temperature Parametric	Verify resistance at -40, 25, 125, and 180°C
Thermal Time Constant	Must take less than 4 seconds for thermistor to reach 63.2% of the temperature difference between 25°C and 65°C in water
Wire Pull Force	Leads are pulled with 20lbs of force, must meet standard performance requirements
Static Thermal Cycle	Part is put through 120 cycles from -40°C to 175°C, must meet standard performance requirements. Outside of brass not required to pass
Mechanical Drop	Fall from 1 meter onto concrete, repeated for each of three axes. No cracks, deformations, or irregularities that would render part unusable in the field
Fluids Compatibility	Immerse for 24 hours in unleaded gasoline, 2 cycle oil, fuel, and sour gas. No cracks, voids, or changes in fit, form, or function
Vibration & Thermal Cycling	Vibration of 0 to 53.1G for 500 hours and thermal cycled. Must meet standard performance requirements
Salt Spray	5% salt water sprayed for 10 minutes, room temperature air for 20 minutes, then heated to 130°F for 30 minutes. Repeat cycle 5 days for 5 weeks. After the test, sample must be torn down. No water entry permissible, must meet standard performance requirements
Salt Fog	5% salt solution at 95°F for 500 hours. Dry for 1 week. After the test, sample must be torn down. No water entry permissible, must meet standard performance requirements
Water Immersion	Stabilize part at 190°F. Immediately immerse in 32°F solution of paint and water for 35 minutes. Rotate part 180° after 10 minutes and 90° after an additional 10 minutes. Remove part and put in 20°F chamber for 1 hour. After the test, sample must be torn down. No water entry permissible, must meet standard performance requirements

Formal validation report available upon request.

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