PRESSURE & TEMPERATURE SENSOR FOR R290 PROPANE

PRESSURE & TEMPERATURE SENSOR

Sensata's Pressure and Temperature (P+T) Sensor for R290 (Propane) enables accurate control of EV thermal management systems using propane-based refrigerant. The integrated sensing solution delivers high accuracy and fast response, supporting stable system performance and efficiency. Designed for low R290 leakage and able to meet PFAS-free requirements, the sensor provides reliable operation in demanding automotive environments. Built on Sensata's proven APT sensing technology, it supports flexible integration with Analog and LIN outputs and global deployment across vehicle platforms.

Features

- Pressure measurement measuring range 0 to 20 barA for low side / 0 to 40 barA for high side
- Temperature measurement
- Suited for refrigerant R290 (Propane)
- Low R290 leakage (internal and external)
- Output type Analog/LIN
- High accuracy levels: Pressure: ± 1%FS @ -20~80°C,± 1.5%FS @ others; Temperature: ±1~2.5°C
- Fast temperature response

Applications

- Vehicle Air Conditioning and Thermal Management systems using refrigerant R290 for:
  - Passenger car
  - Truck and Bus

SPECIFICATIONS

Electrical

Output	Analog/LIN/Sent
Supply Voltage	5 V for analog and sent / 9~16V for LIN
Supply current	Less than 20 mA
Over Voltage Protection	40VDC

Physical

R290 leak rate	Depending on configuration, min leak rate < 0.2g/yr (internal and external leak rate combined)
Proof Pressure	40barA for low side/70barA for high side
Burst Pressure	64barA for low side/120barA for high side
Ingress Protection	IP69K
Installation torque	10 ± 2Nm
Thread	M12x1.25
HEX CUP	HEX24

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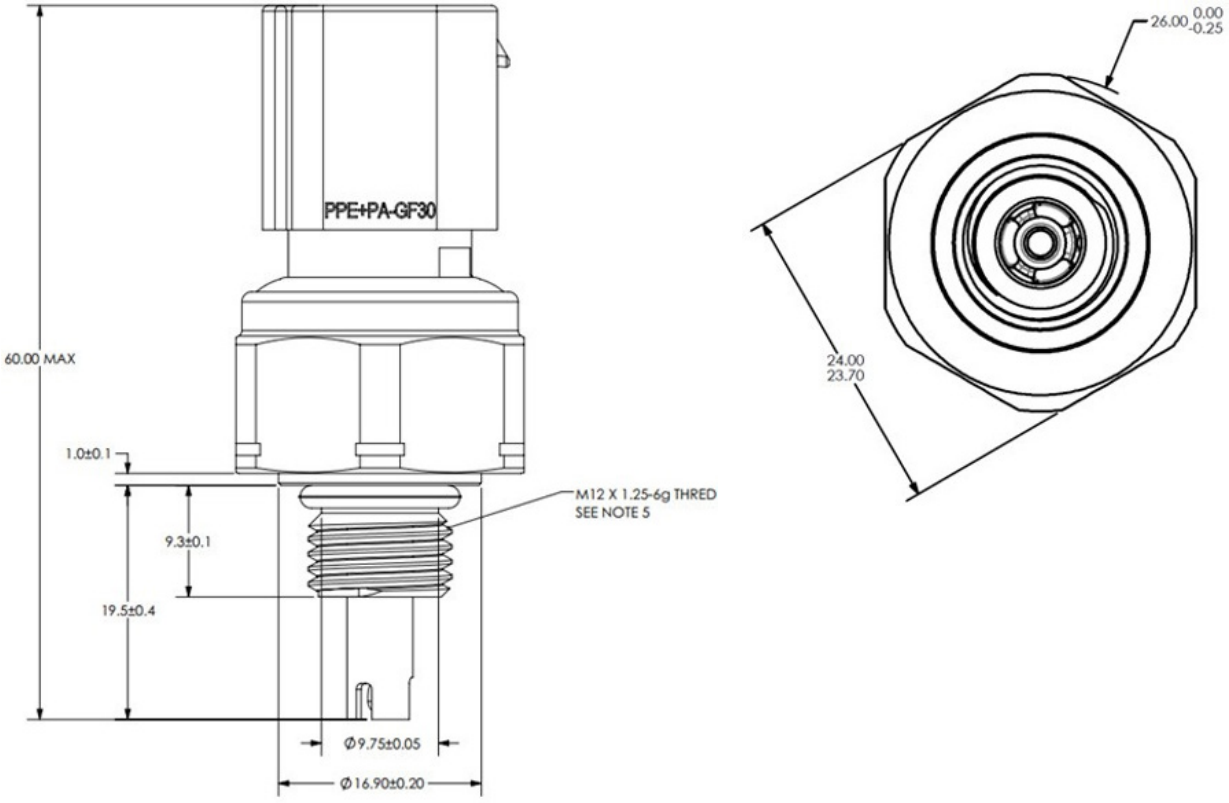
Performance

Pressure Accuracy (Initial)	± 1%FS @ -20~80°C,± 1.5%FS @ others,
Temperature Accuracy	±1~2.5°C
Operating Pressure	0.6 to 20barA for low side / 0.6 to 40barA for high side
Operating Ambient Temperature	-40°C to +140°C
Operating Media Temperature	-40°C to +140°C
Operating Endurance	>2million cycles
Pressure response time (T90)	≤ 10 ms
Temperature response time (T63)	≤3s

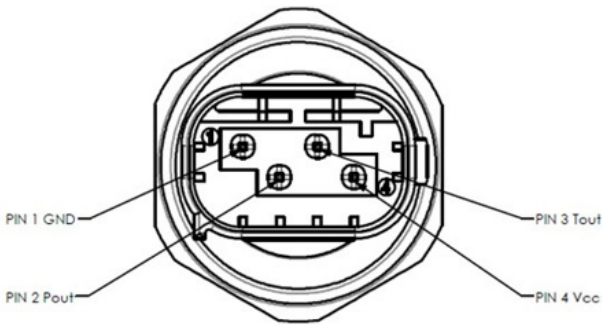
DIMENSIONS

Dimensions in mm

Long Tube



Electrical Connector



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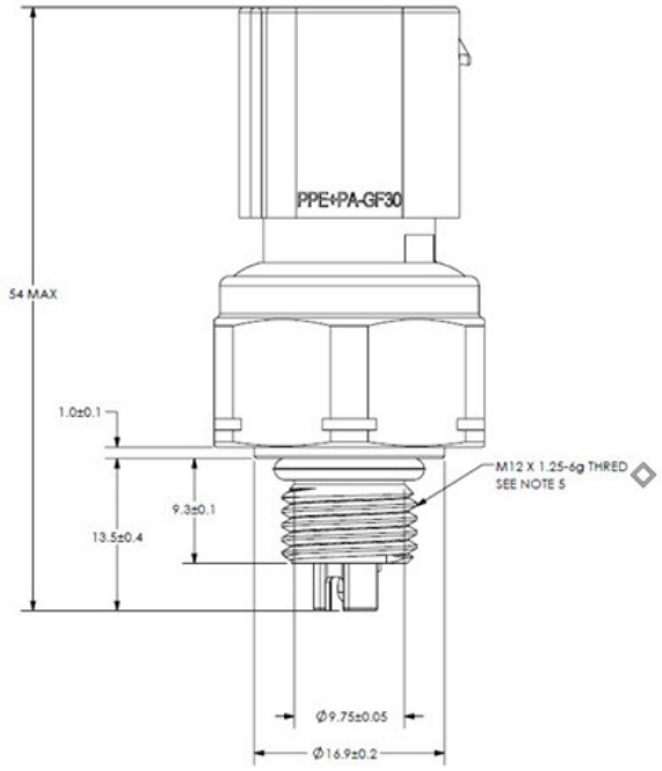
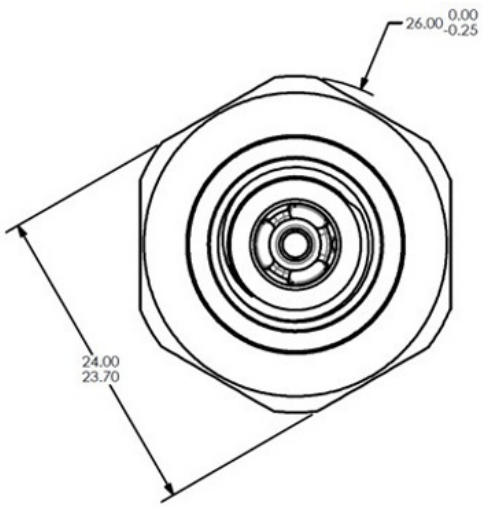
Short Tube





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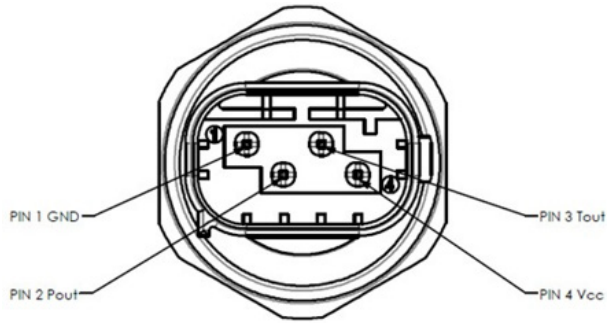

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AGENCY APPROVALS & CERTIFICATIONS

WARNINGS

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE
- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product

Failure to follow these instructions can result in serious injury, or equipment damage.

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
- Disconnect all power before installing or working with this equipment
- Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury.

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