

Temperature Sensors Line Guide



Accuracy and flexibility. Stability and speed. Honeywell Sensing and Control (S&C) offers an impressive array of temperature sensors, each designed to provide enhanced reliability, repeatability, precision, and responsiveness. These temperature sensors are designed to maximize your component and product performance for most any potential application.

That's why more customers worldwide call the industry's most trusted name for:

- Enhanced accuracy and stability
- Strong standard technology platforms
- A wide variety of housings and termination styles
- Easy-to-customize platforms
- High-temp product line expansion sensing capability
- Comprehensive technical support

FEATURES

PACKAGED TEMPERATURE PROBES

LTP Series.

Features: Response time [T63.2% of 25 °C to 85 °C step]: stirred silicon oil <15 s; stirred water <15 s; air flow 10 m/s <20 s

- Accuracy: -40 °C to 25 °C [-40 °F to 77 °F]: ±2.5 °C, 25 °C to 100 °C [77 °F to 212 °F]: ±0.8 °C, 100 °C to 125 °C [212 °F to 257 °F]: ±2.0 °C, 125 °C to 150 °C [257 °F to 302 °F]: ±3.5 °C
- Electrical interfaces are Deutsch 2 position (AMP Minitimer, Bosch Kompakt, Delphi Metri-Pack, AMP seal 16, and AMP Superseal connector style variants available upon request)
- Probe length options: 20 mm to 50 mm
- Retainer ring with hex provides complete location for socket wrench in axial and radial directions, enabling the operator to first locate the sensor inside the socket freely and more easily install the sensor
- Ingress protection: IP67
- Vibration of 30 g sine wave, 10 Hz to 2000 Hz
- Mechanical shock of 50 g
- Service pressure: 10 bar
- Burst pressure: 40 bar
- Wire harness (with or without a connector) or other sensing elements (PTC or RTD) available upon request

Benefits: Durable, closed-tip design maximizes reliability in harsh applications. Sensor's thermistor sensing element effectively senses gases, liquids or solids because of its enhanced sensitivity, accuracy and reliability. Easy-to-install threaded mounting provides reliable operation in harsh environments. Numerous options—from mechanical and electrical interface—simplify installation, allow customers to meet specific application needs, and facilitate backwards compatibility with most existing applications. Zero NRE (non-recurring engineering) costs for configurations. Reduces cost of ownership due to BOM (bill of materials), engineering, testing, NRE and tooling. Reduces design costs due to plug-and-play options, backwards integration, flexible offering, customization and non-standard offering. Potential transportation applications include temperature sensing for ambient air, automatic transmission systems, engine air inlet systems, engine cooling systems, engine lubrication systems, fuel systems, Haldex coupling systems, and hydraulic pump systems.

R300 Series.

Features: Wide temperature-range

- Stainless steel construction
- Enhanced response time
- Enhanced accuracy
- Enhanced reliability
- Linear output
- Extended life

Benefits: Robust, stainless steel closed-tip design for reliability in most aggressive environments, while still providing enhanced response time. One-piece sensor with integral connector for potential use in heavy duty vehicle engine exhaust gas recirculation systems, fluid or air temperature sensing within the engine environment or HVAC, or refrigeration compressor equipment.

500 Series.

Features: Choice of custom or existing designs

- Wide selection of housing, resistance, and termination options
- Wide operating temperature range

Benefits: Housing material ranges from all plastic to all-metal, and accommodates air/gas, fluid immersion or surface sensing requirements. Full range of custom or off-the-shelf thermistor and RTD-based solutions for a wide variety of potential industrial, transportation, and aerospace applications.

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Products for thousands of potential applications.

Honeywell S&C's temperature sensors provide multiple choices:

Packaged Temperature

Probes: These enhanced and responsive sensors are often ideal for fluid, surface, and air/gas temperature sensing. Honeywell's temperature probes are offered in a variety of housing materials and styles, terminations and R-T curve types, depending on customers' application needs. Honeywell's packaged temperature probe assemblies incorporate either NTC (negative temperature coefficient) thermistors or RTD (resistance temperature detector) technology and operate under a wide range of environmental conditions. Whether it be an IP67 seal-rated oil temperature sensor used in the engine of a heavy duty vehicle, a surface temperature sensor used to monitor critical compressor temperatures in a transport refrigeration system, or an air temperature sensor rated to MIL-PRF-23648 used to measure aircraft engine – bleed air temperature inside the leading edge of an aircraft wing, Honeywell has the right technology, sensor packaging, testing, track record and application expertise to provide the right sensor solution for its customers. Customers trust and depend on Honeywell temperature sensors every day for their precision, stability, reliability and quality.

Packaged Temperature Probes



	LTP Series	R300 Series
Temperature sensing type	immersion/air-gas	immersion
Sensing element	NTC	RTD
Accuracy	-40 °C to 25 °C [-40 °F to 77 °F]: ± 2.5 °C 25 °C to 100 °C [77 °F to 212 °F]: ± 0.8 °C 100 °C to 125 °C [212 °F to 257 °F]: ± 2.0 °C 125 °C to 150 °C [257 °F to 302 °F]: ± 3.5 °C	better than ± 3.0 °C from -40 °C to 300 °C typ.
Nominal resistance at 25 °C [77 °F]	1000 Ohm, 2252 Ohm, 2057 Ohm, 2795 Ohm	100 Ohm
Operating temperature range	-40 °C to 150 °C [-40 °F to 302 °F]	-40 °C to 275 °C [-40 °F to 572 °F] continuous, excursion to 300 °C [572 °F] for 10 min. max.
Housing material	brass hex, stainless steel probe tip	stainless steel
Electrical and mechanical interface	Deutsch 2 position, DT04-2P with M10 to M18, 3/4 UNF, or G 1/4 threads, two hex options	overmolded connector with M14 x 1.50 thread



Packaged Temperature Probes

	ES110 Series	ES120 Series
Temperature sensing type	air/gas	immersion
Sensing element	NTC	NTC or KTY
Nominal resistance at 25 °C [77 °F]	2000 Ohm	2000 Ohm
Operating temperature range	-40 °C to 150 °C [-40 °F to 302 °F]	-40 °C to 150 °C [-40 °F to 302 °F]
Housing material	brass	brass
Electrical and mechanical interface	overmolded connector with M10x1.25 or M12 x 1.50 thread	overmolded connector with M10x1.25, M14 x 1.50 thread or 1/8 PTF