

# TEMPERATURE SENSORS

## FEATURES

- **Maintenance Free**
- **Versatile**
- **Highly Accurate**
- **Durable**

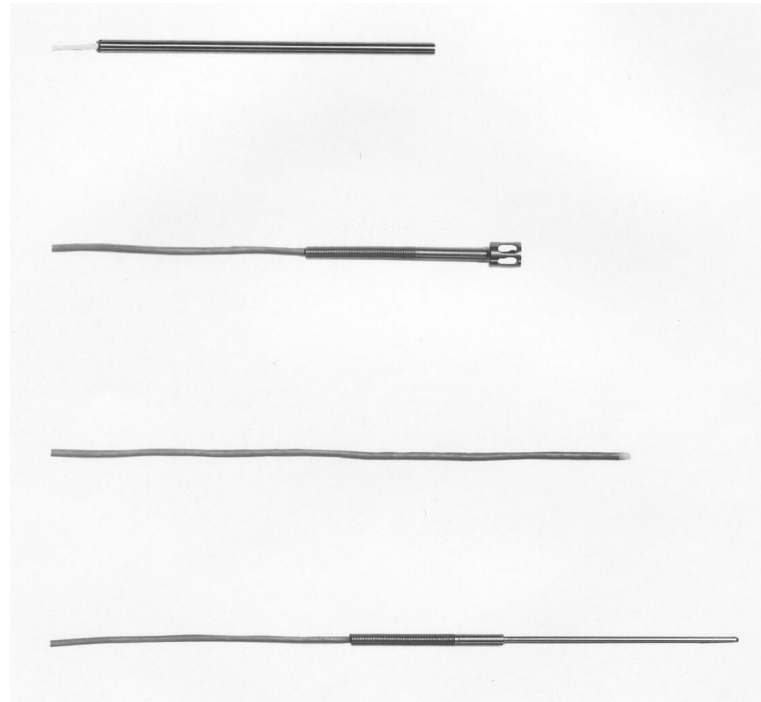
Capable of meeting virtually any ambient measurement need, Climatronics' temperature sensors are accurate, durable, and linear over a wide range, can be provided with NIST traceable calibration, and are well matched for high accuracy delta temperature applications.

The Air, Water/Soil, and Expanded Range Sensors encase a thermistor bead in a stainless steel or vinyl sheath. This casing, combined with Climatronics' temperature shield, gives the thermistor bead protection from solar radiation, precipitation, and corrosive, airborne particles. Such configurations transfer heat as rapidly as possible, yielding a typical time constant of 3.6 seconds. When direct exposure of the thermistor to the media being measured is permissible, our Fast Response Sensor reduces the time constant to a minimal 0.6 seconds.

A second type of sensor, Platinum 4-Wire, operates on the principle that electrical resistance of a pure metal increases with temperature. Platinum's superior linearity, stability, sensitivity and resistance to corrosion, make it an ideal practical choice. The unit's four-wire design automatically compensates for possible lead resistance errors, and it is supplied with certified NIST traceability.

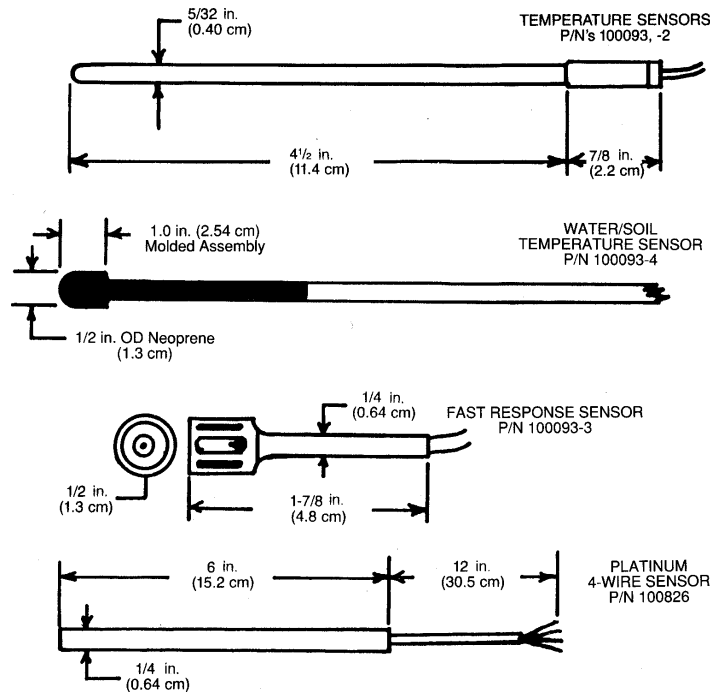
Sensors install easily in Climatronics' temperature shields. The TS-10 Motor Aspirated Shield, P/N 100325, provides a constant airflow past the sensor (as discussed in the TS-10 data sheet), while the Naturally Aspirated Shields (P/N 100552 or P/N 102080), rely on ambient air flow or convection for sensor aspiration.

Please consult Climatronics for assistance with the proper combination of sensor, shield, cable, and data acquisition electronics to meet your specific monitoring requirements.



## SPECIFICATIONS

	<b>Air, Water/Soil</b> <b>P/N's 100093 (102090*)</b> <b>100093-4</b>	<b>Expanded Range</b> <b>P/N 100093-2 (102096*)</b>	<b>Fast Response</b> <b>P/N 100093-3</b>	<b>Platinum 4-Wire</b> <b>P/N100826 (102092*)</b>
Accuracy	±0.27°F (±0.15°C) over full range	±0.18°F** (±0.10°C) over full range	±0.27°F (±0.15°C) over full range	±0.18°F (±0.1°C)
Range	-22.0° to 122.0°F (-30.0° to 50.0°C)	-58.0 to 122°F (-50.0° to 50.0°C)	-22.0° to 122.0°F (-30.0° to 50.0°C)	-58.0° to 122.0°F (-50.0 to 50.0°C)
Time Constant	3.6s	3.6s	0.6s	5.5s
Interchangeability	±0.27°F (±0.15°C)	±0.18°F (±0.10°C)	±0.27°F (±0.15°C)	±0.45°F(±.25°C) can be compensated
Linearity	±0.29°F (±0.16°C)	±0.25°F (±0.16°C)	±0.29°F (±0.16°C)	±0.09°F (±0.05°C) included in accuracy
Leads	3	4	3	4
Dimensions				
Diameter	5/32 in (0.40 cm) 0.5 in (1.3 cm)	5/32 in (0.40 cm)	½ in (0.64 cm)	¼ in (0.64 cm)
Length	4.5 in (11.4 cm) 1.0 in (2.54 cm)	4.5 in. (11.4 cm)	1-7/8 in (4.8 cm)	6.0 in (15.2 cm)



\*\* Can be improved to ± 0.08°C with 0.02% accuracy composite resistors.

\* Includes MS Connectors



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