

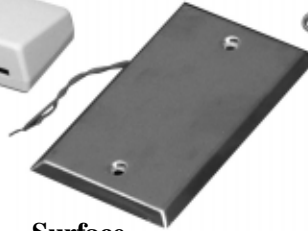
Executive



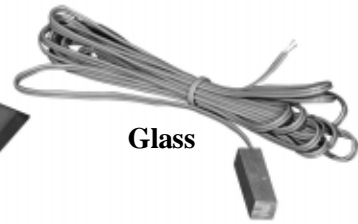
Micro



AD



Surface



Glass

## Space Temperature Sensor

Designed for temperature measurement of occupied spaces. Featuring several enclosure styles to accommodate various job requirements.

## Specifications

Operating Temperature Range	-20 to 70 °C (-4 to 158 °F)
Cable Type	PVC insulated, parallel bonded (100 Ω, IC Sensors – twisted three wire)
Cable Type (glass)	PVC insulated, parallel bonded (100 Ω, IC Sensors – FT4 CSA rated)
Wiring Connections	Pig Tail (2 or 3 wire)
Enclosures	Micro, AD, Executive or Surface
Sensor Types	100 Ω, 1K PT, 1K Nickel RTD's, 1801 Ω, 3K, 10K (type 2 & 3), 20K & 100K Thermistors, IC Sensors

## Installation

Space sensors can be mounted directly on a wall or to a wall box. For the most accurate results, units should be mounted on an inside wall to a wall box, away from any supply air exhausts and other sources of heat or cold. Glass sensors should have thermal-conductive compound or epoxy between the sensor and the glass for maximum heat transfer.

## Typical Wire Resistance Values

When using low resistance sensors (i.e. 100 ohm RTD), long wire runs can add significant error to the readings. Use the following chart to determine errors due to wire resistance or consider using a 1000 ohm sensor or a transmitter for better accuracy. Locate the type of wire being used. Multiply the total length of the wire (distance from the controller to the sensor and back) by the number found in the following chart for total resistance.

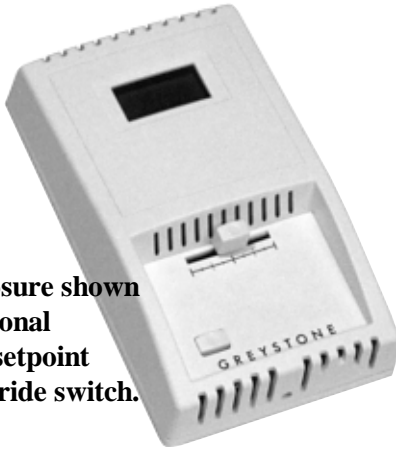
GAUGE WIRE TYPE	18 AWG	22 AWG	24 AWG
STRANDED (OHMS/FOOT)	5.85 mΩ	14.75 mΩ	23.29 mΩ
SOLID (OHMS/FOOT)	6.4 mΩ	15.85 mΩ	25.72 mΩ

## Wiring & Color codes

All two-wire sensors are polarity insensitive. The three-wire sensors have the following color code:

<u>Connection</u>	<u>Space Wire Color</u>	<u>Glass</u>
EXCitation	RED	RED
SENse	RED	GREEN
NEGative	WHITE	BLACK

To connect a three-wire sensor as a two-wire, tie the EXCitation and SENSe lines together. All connections should be made using either butt-splices or soldering. The use of wire nuts is not recommended.



AE enclosure shown with optional display, setpoint and override switch.

### Space Temperature Sensor

Designed for temperature measurement of occupied spaces. It is available with an optional digital temperature display, setpoint, override switch, LED and external jack.

### Installation

Space sensors can be mounted directly on a wall or to a wall box. For the most accurate results, units should be mounted on an inside wall to a wall box, away from any supply air exhausts and other sources of heat or cold. The enclosure cover is held in place with a locking tab located to the left of center at the bottom of the enclosure. The knob for the setpoint must be removed before removing the cover. After installation the cover can be locked on with the set screw (1/16" or 1.5 mm) at the bottom of the enclosure.

### Specifications

Operating Temperature	-20 to 70 °C (-4 to 158 °F)
LCD Power Supply	12-30 Vac/dc @ 2 mA max
Display Units	°C or °F (Factory Set)
Display Range	0.0-35.0 °C or 32.0-95.0 °F
Display Resolution	0.1 °C or 0.1 °F
Display Accuracy	± 0.1 °C (10-35 °C) or ± 0.25 °F (50-95 °F)
Switch Type/Rating	N.O. Momentary Contact 0.4 VA @ 24 Vdc
Switch Contact Resistance	100 mΩ Max
Setpoint Value	20kΩ to 30kΩ (standard) Other values available
Setpoint Tolerance	+/- 20%
LED Power Supply	10 Vdc to 24 Vdc
Sensor Types	100 Ω, 1K PT, 1K Nickel RTD's, 1801 Ω, 3K, 10K (type 2 & 3), 20K & 100K Thermistors, IC Sensors

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When using low resistance sensors (i.e. 100 ohm RTD), long wire runs can add significant error to the readings. Use the following chart to determine errors due to wire resistance or consider using a 1000 ohm sensor or a transmitter for better accuracy. Locate the type of wire being used. Multiply the total length of the wire (distance from the controller to the sensor and back) by the number found in the following chart for total resistance.

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### Wiring

All terminals are marked on the board as to their function. They are as follows:

- LCD (+/-) – LCD power connections
- TEMPERATURE SENSOR – sensor resistance output
- SETPOINT – set-point resistance output
- OVERRIDE SWITCH – override switch output (NO)
- 1,2,3,4 – external jack connection
- LED (+/-) – LED connections