GREYSTONE
ACCURACY BY DESIGN

**ABS, Bracket
Enclosures**

Other Enclosure Styles

Metal Enclosure **Weatherproof
Enclosure**

Duct Temperature Sensor
Designed for single point monitoring. It is available with various probe lengths and enclosures to fit any application.

Specifications

Standard Lengths	2", 4", 6", 8", 12", 18"
Operating Temperature Range	-20 to 105 ºC (-4 to 221 ºF)
Cable Type	PVC insulated, parallel bonded
Cable Type (Bracket only)	FT-6, plenum rated (CSA)
Wiring Connections	Pig Tail (2 or 3 wire)
Enclosures	ABS, Metal or Weatherproof
Sensor Types	100 Ω, 1K PT, 1K Nickel RTD's, 1801 Ω, 3K, 10K (type 2 & 3), 20K & 100K Thermistors,

Installation
The duct type probes are installed through a 1/4'' hole in the side of the duct to monitor a single point temperature within the duct. Since the probes are tip sensitive, select a probe length that places the sensor well into the duct to avoid errors due to laminar flow. Install the probes in a straight section of duct away from heating, cooling or humidifier elements.

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:

Connection	Duct Wire Color
EXCitation	RED
SENse	GREEN
NEGative	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.

The BB Duct sensor uses the RED and BLACK wires for the sensor. The GREEN and WHITE wires are not used.