

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 °C (-4 to 221 °F) |
| Cable Type | PVC insulated, parallel bonded (100 Ω, IC Sensors – FT-4) |
| 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:

| <u>Connection</u> | <u>Duct Wire Color</u> |
|-------------------|------------------------|
| 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.