KMC CONTROLS

Duct Temperature Sensor, Averaging (Flexible)

STE-1415/1416/1417

Installation Guide

Mounting

The averaging temperature sensor incorporates several discrete sensors encapsulated at equal distances across the length of the probe. The complete assembly acts as a single sensor to monitor the average temperature in a duct. Averaging elements are not recommended for high humidity applications.

53.6 mm
2.110"

115.8 mm
4.56"

2X Ø 0.850"

Foam Gasket

FT6 Plenum rated cable

Various Cable Lengths

Mounting Holes (X2) Ø 0.200"

84.3 mm
3.320"

The sensors can be installed onto hangers in the duct using tube clamps or wire ties. They should be located in a straight section of duct away from heating, cooling, or humidifier elements.

Temperature sensors can be affected by air stratification in the duct, air leakage through the conduit or other duct holes, and nearness to exterior walls, a large thermal mass (e.g., concrete blocks), heat sources, or wires with power.

Because of air stratification, the coldest air tends to be toward the bottom of the duct. Hence, one of the sensors should be near the bottom of the duct.

The flexible cable can be easily shaped to fit any duct size but observe a **minimum bend radius of two inches** to prevent damage to wires or sensors.
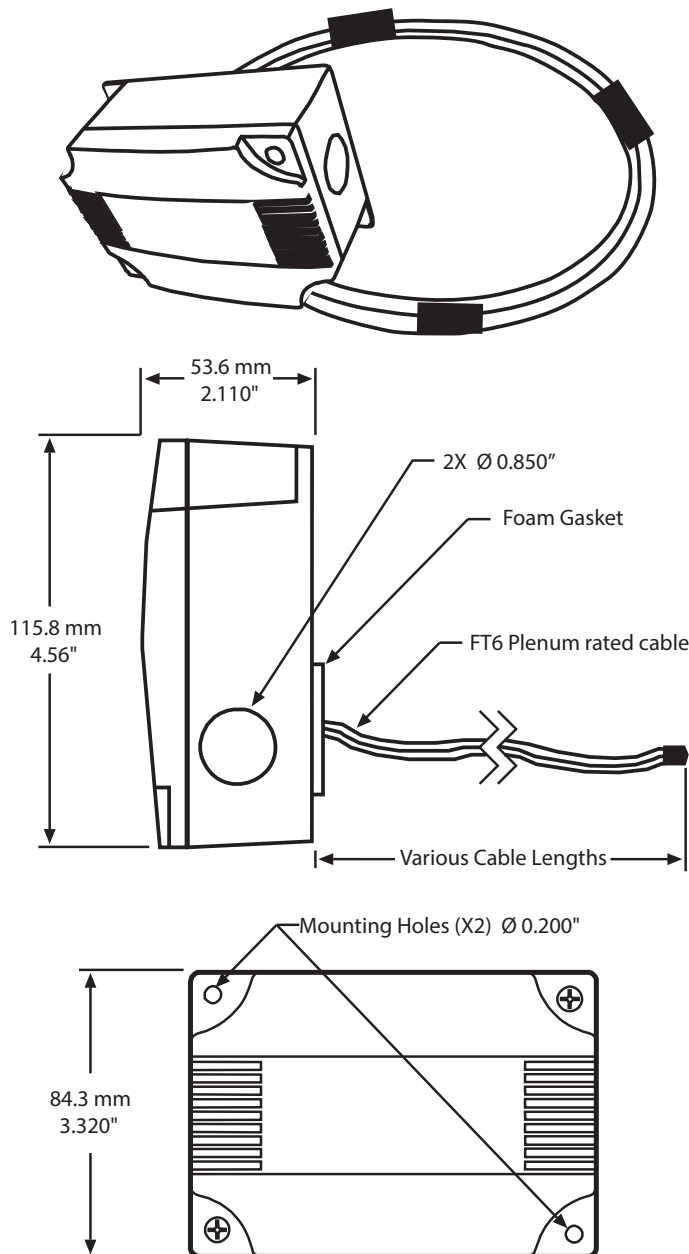
1. Cut a hole in the duct large enough to feed the sensor cable through the back of the sensor enclosure.
2. Fasten the enclosure to the duct by drilling holes in the duct and threading screws through the mounting holes in the case.
3. Insert the sensor cable into the duct, stringing the cable to cover the air path, and secure as needed.
4. For the cable leading to the building automation system controller, attach conduit to a hole in one of the sides.

Use Tie Wraps to Secure Cable

2" Min. Bend Radius
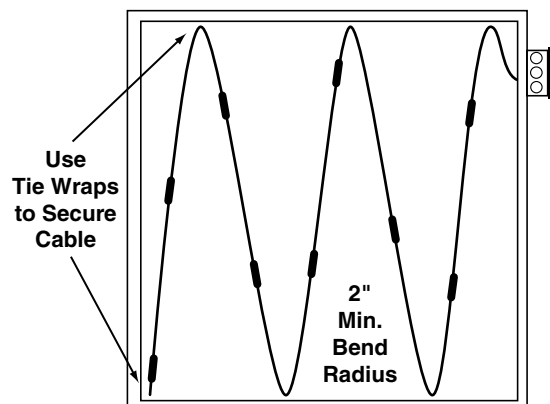
Connections and Wiring

1. Feed wires from the controller through the conduit opening.

2. Make connections to the two sensor wire leads with either butt-splices or solder. (Using wire nuts is **not** recommended.) The two-wire sensor is not polarity sensitive.

3. Plug the conduit with plumber's putty, painter's putty, caulk, or other sealant to prevent air infiltration.

Configuration

For controller configuration, see the **Type III Sensors Applications Guide** on the KMC web site.

Maintenance

No routine maintenance is required. Each component is designed for dependable, long-term reliability and performance. Careful installation will also ensure long term reliability and performance.
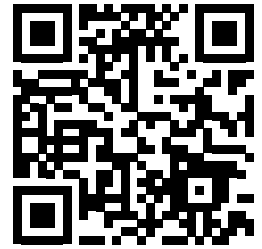
Specifications

Sensor	Type III thermistor, 10K ohm @ 77° F (25° C)
Temperature Limits	–4 to 221° F (–20 to 105° C)
Wiring	FT6 plenum-rated, 22 AWG wire leads
Enclosure	Flame-retardant ABS plastic

Cable Lengths and Number of Discrete Sensors

STE-1415	6 feet (1.8 m), 4 sensors
STE-1416	12 feet (3.6 m), 4 sensors
STE-1417	24 feet (7.3 m), 9 sensors

More Information

For **additional information**, see the **STE-1400 Series Data Sheet** on the KMC web site.

For **troubleshooting, controller configuration, and other information**, see the **Type III Sensors Applications Guide** on the KMC web site.

Important Notices

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