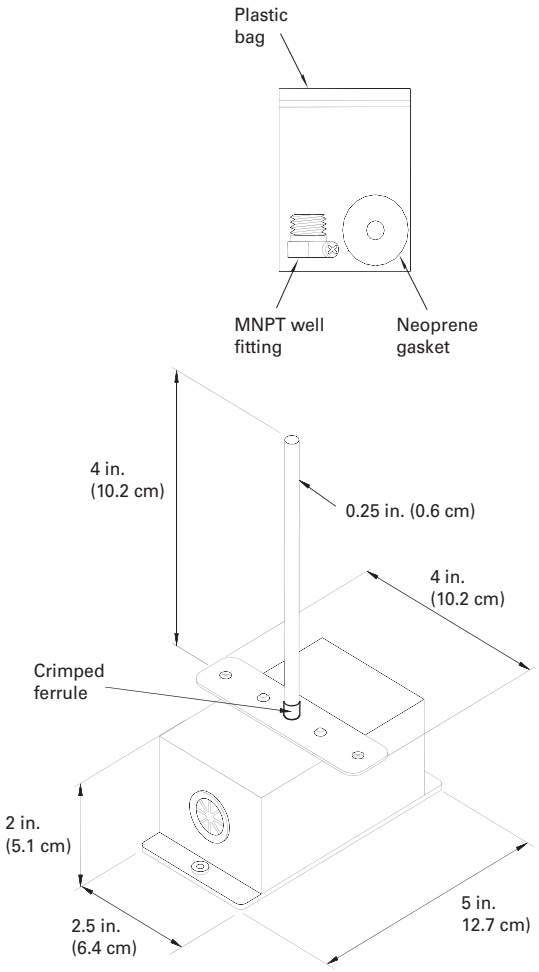
4 in. Duct/Immersion Thermistor Temperature Sensor

Ordering number: 4190 1132

Description

The 4 in. duct/immersion temperature sensor (Figure 1) with conduit box monitors duct temperature or water temperature. A neoprene gasket seal and ½ in. MNPT well fitting are provided for your convenience. Use one or the other accordingly for duct- or well-mounted applications. If this sensor is used to monitor water temperature, an immersion well (4190 1104 or 4190 1108) is required.

Figure 1: Duct/immersion temperature sensor



Specifications

Operating temperature range	-30°F to 220°F (-34°C to 104°C)
Sensing element	Thermistor
Resistance	10,000 Ω at 77°F (25°C)
Accuracy	±0.36°F (0.2°C), from 32°F to 158°F (0°C to 70°C)
Drift	0.04°F (0.02°C) after 10 years within temperature range

Duct mounting

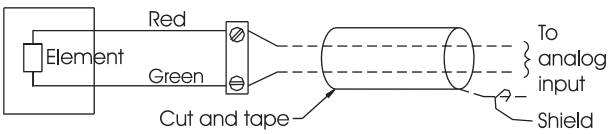
If the sensor is used to monitor duct temperatures, complete the following steps:

IMPORTANT

For proper sensor operation, the gasket seal must be used when mounting the sensor in a duct.

1. Hold the sticky side of the neoprene gasket seal down and slide the gasket seal over the sensor probe.
2. Press the gasket securely to the sensor housing.
3. Drill a 3/8-inch hole on a flat surface of the duct where air stream temperature is typical of the ambient air temperature.
4. Insert the probe into the hole and fasten the sensor to the duct with two No. 8 sheet metal screws (not provided).
5. Connect the sensor leads to the controller analog input (Figure 2).

Figure 2: Wiring diagram



Immersion well mounting

If the sensor is used to monitor water temperature, an immersion well (4190 1104 or 4190 1108) is required. Complete the following steps for well mounting:

1. Locate both the MNPT well fitting provided with the sensor and the appropriate immersion well.

CAUTION
Avoid Equipment Damage

When using an immersion well, do not use the gasket seal. The seal will prevent the well from engaging completely with the crimped ferrule at the base of the probe.

2. Discard neoprene gasket seal provided with the sensor.
3. Loosen the set screw on the well fitting and thread the fitting into the immersion well. Tighten the fitting securely to the well.
4. Apply thermal compound (4190 1114) to the probe tip and inside the immersion well.
5. Slide the probe into the immersion well until:
   - Well fitting engages crimped ferrule at the base of the probe (Figure 1 on page 1)
   - Junction box seats against the well fitting
6. Tighten the set screw to hold the sensor in place.
7. Connect the sensor leads to the controller analog input (Figure 2 on page 1).