

Introduction

The single point duct temperature sensor incorporates a precision thermistor temperature sensor. The sensor is encapsulated in a 6.35 mm (0.25") OD, 304 stainless steel probe and is available in various lengths. All probes provide excellent heat transfer, fast response and resist moisture penetration.

Before Installation

Read these instructions carefully before installing and commissioning the temperature sensor. Failure to follow these instructions may result in product damage. Do not use in an explosive or hazardous environment, with combustible or flammable gases, as a safety or emergency stop device or in any other application where failure of the product could result in personal injury. **Take electrostatic discharge precautions during installation and do not exceed the device ratings.**

Mounting

The sensor installs directly into any air duct with several lengths available for a wide range of duct widths/diameters. Select a suitable installation area in the middle of the duct wall. To achieve the best reading, do not place in an area where air stratification may be present. **Mount the sensor at least 1.5 m (5') in either direction from elbows, dampers, filters or other duct restrictions. Avoid areas where the sensor is exposed to vibrations or rapid temperature changes.**

Once a suitable spot is selected, drill a 9.5 - 12 mm (3/8" - 1/2") hole for the probe. Slide the probe in the drilled hole until the enclosure is flush against the duct. The airflow direction is not important. Secure the enclosure to the duct with (4) #10 x 25 mm (1") self tapping screws (Not provided). Tighten screws until the enclosure is tight against the duct and that there is no movement of the enclosure as shown in Figure 1.

A foam gasket is provided on the back of the enclosure that provides a tight seal against any air leaks.

The enclosure has a hinged cover with latch. Open cover by pulling slightly on the latch on the right side of the enclosure. At the same time pulling on the cover, as illustrated in Figure 2.

Feed conduit through the provided hole in bottom of enclosure and secure with a lock nut as show in Figure 3. It is recommended that weatherproof conduit or cable gland fittings be used.

Make wiring connections as per the "Wiring" illustrations on Page 2.

Swing door closed until securely latched. For added security, 2 screws are provided that may be installed in the integrated screw tabs. See Figure 4.

Figure 1

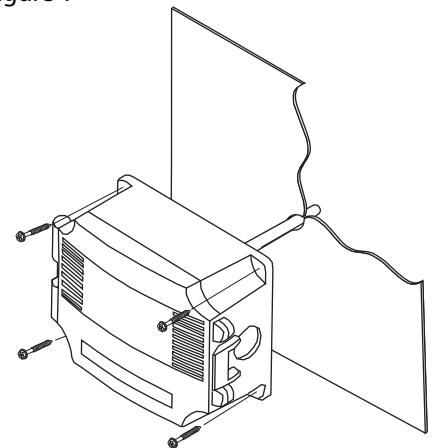


Figure 2

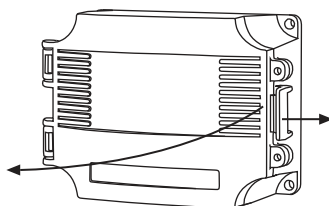


Figure 3

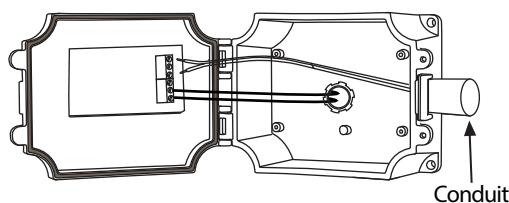
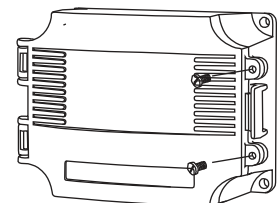


Figure 4



Wiring

Use shielded twisted pair wiring of at least 22 AWG for all connections and do not run the signal or power wires in the same conduit with wiring used to supply inductive loads such as motors. Disconnect the power supply before making any connections to prevent electrical shock or equipment damage. Make all connections in accordance with national and local electrical codes.

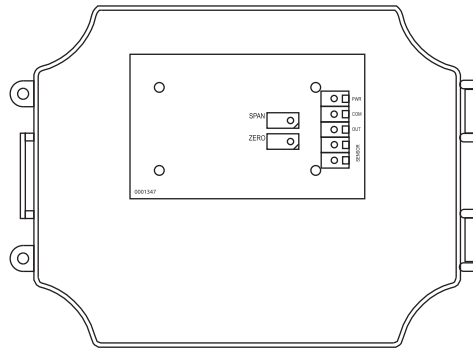
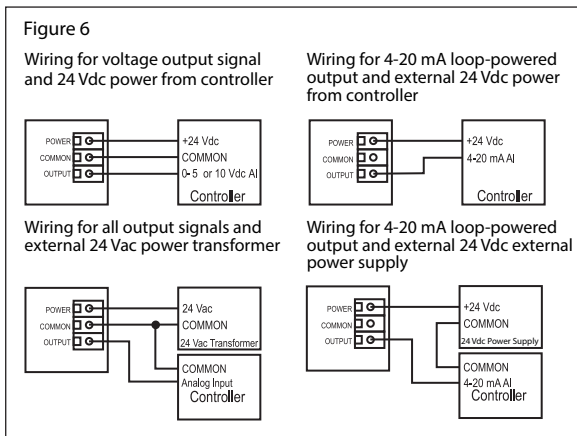
The transmitter is available with either 4-20 mA, 0-5 Vdc or 0-10 Vdc output signals. Follow the example wiring diagrams to determine the correct wiring for the product as shown in **Figure 6**. All models have the same terminal functions. For 4-20 mA loop powered operation, only POWER and OUTPUT are required. The COMMON terminal is only used for voltage output types or for AC power.

Ensure the controller Analog Input (AI) matches the transmitter output signal type before power is applied. The device is reverse voltage protected and will not operate if connected backwards. The voltage output signal has a minimum load that it is able to drive and the current signal has a maximum load. Follow the ratings in the Specification section or inaccurate readings may result.

Operation

The product should be allowed to warm-up for several minutes before attempting to verify accuracy. Allow the transmitter to operate for 20 minutes before any calibration is performed.

Operation can be verified by measuring the output signal. For voltage output models, measure the voltage between the OUTPUT and COMMON terminals. The voltmeter should read between 0-5 or 0-10 Vdc depending on the model. For current output models, insert a mA meter in series with the OUTPUT terminal and it should read between 4 and 20 mA. The LCD will indicate the same temperature value as the output signal.



Specifications:

Sensor Accuracy.....	RTD Class A: $\pm 0.15^{\circ}\text{C}$ @ 0°C RTD 1/3 DIN: $\pm 0.1^{\circ}\text{C}$ @ 0°C RTD 1/10 DIN: $\pm 0.03^{\circ}\text{C}$ @ 0°C
Power Supply.....	4-20 mA: 15-35 Vdc or 22-32 Vac 0-5 Vdc: 10-35 Vdc or 10-32 Vac 0-10 Vdc: 15-35 Vdc or 15-32 Vac
Consumption.....	Current: 22.5 mA Max (On open sensor) Voltage: 5 mA nominal
Maximum Output (Voltage)	Limited to <5.5 Vdc for 0-5 Vdc, <10.5 for 0-10 vdc
Input Voltage Effect.....	Negligible over specified operating range
RFI rejection.....	Good RFI rejection of normal frequencies with standard installation
Protection Circuitry.....	Reverse voltage protected and output limited
Probe Sensing Range.....	-20 - 105°C (-4 - 221°F)
Ambient Operating Range.....	0 - 70°C (32 - 158°F)
Operating Humidity	0-95% RH non-condensing
Probe Material	6.35 mm (0.25") O.D., 304 series stainless steel
Probe Dimension.....	6.35 mm (0.25") Diameter
Wire Material	PVC insulated, parallel bonded, 22 AWG
Wiring Connections.....	Screw terminal block (14 to 22 AWG)
Enclosure.....	Hinged Weatherproof - Grey ABS - UL94-V0 - IP65 (NEMA 4X)
Display Units	°C or °F (factory configured)
Display Range.....	3 Digit for -88.8 to 888 as necessary
Display Size.....	24 mm x 11 mm (0.95" x 0.45"), three digit.

Dimensions:

