

INTRODUCTION

The single point flying lead temperature transmitter utilizes a precision sensor that is encapsulated in a 50 mm (2") long x 6 mm (0.236") diameter OD, 304 series stainless steel probe and is provided with 1.83 m (6') of plenum rated FT-6 cable. All probes provide excellent heat transfer, fast response and resistance to moisture penetration. An ABS enclosure is provided for ease of installation.

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. **Do not exceed the device ratings.**

MOUNTING (DUCT)

The flying lead sensor can be used in several different types of applications where single point temperature monitoring is required.

Listed below are some typical applications

The flying lead sensor can be installed directly into any air duct. Select a suitable installation area in the middle of the duct. To achieve the best reading, do not place in an area where air stratification may be present. Avoid areas where the sensor is exposed to vibrations or rapid temperature changes.

Once a suitable spot is selected, drill a 3/8" hole in the top of the duct and slide the probe through, mount a length of flexible duct hanger from top to bottom of the duct. Mount the probe to the duct hanger using a tube clamp or wire tie. See Figure 1.

The flying lead could also be used to measure pipe temperature. Select a suitable spot along the pipe, remove a small section of insulation if present and set aside. It is recommended that thermal compound be used to improve heat transfer. Spread a liberal amount on the pipe. Lay probe in thermal compound and secure sensor to pipe using a worm gear clamp (not included).

For added protection it is recommended to wrap the probe cable around the pipe 1 to 2 times. Re-install insulation if present, allowing sensor cable to protrude. See Figure 2.

Remove cover by grasping firmly with hand and twisting approximately a quarter turn counter-clockwise. Set cover aside during set up as shown in Figure 3.

A 21 mm (0.8125") hole provided for connection to a 12.77mm (0.5") EMT or cable gland style connector as shown in Figure 4. Insert the EMT or cable gland connector through the hole and securely fasten using a locknut as shown in Figure 5. Make wire connections as per the "Wiring" illustrations on Page 2.

Once wiring is complete, re-install cover and tighten by twisting clockwise.

Figure 1

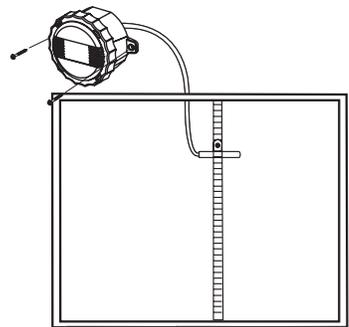


Figure 2

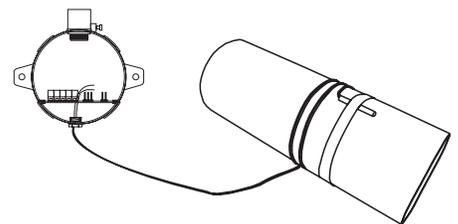


Figure 3

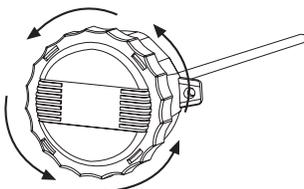


Figure 4

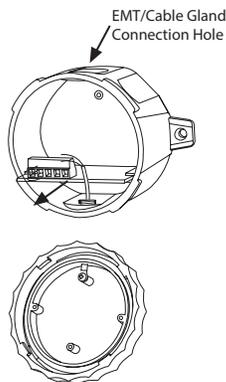
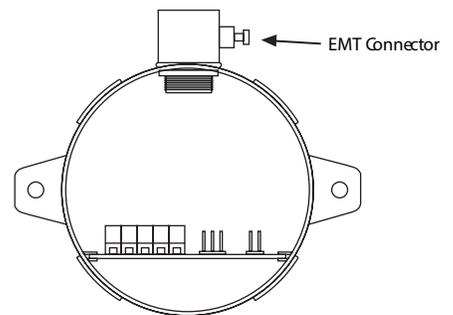
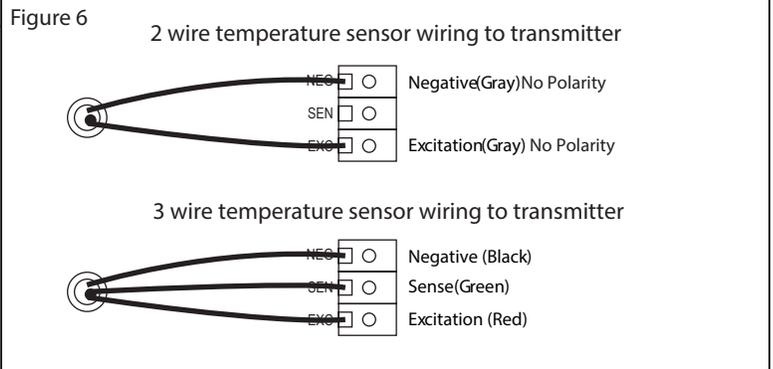
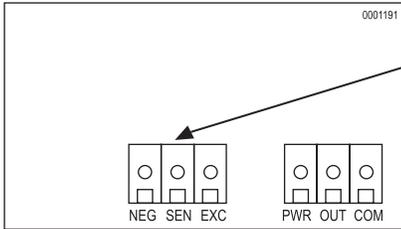


Figure 5



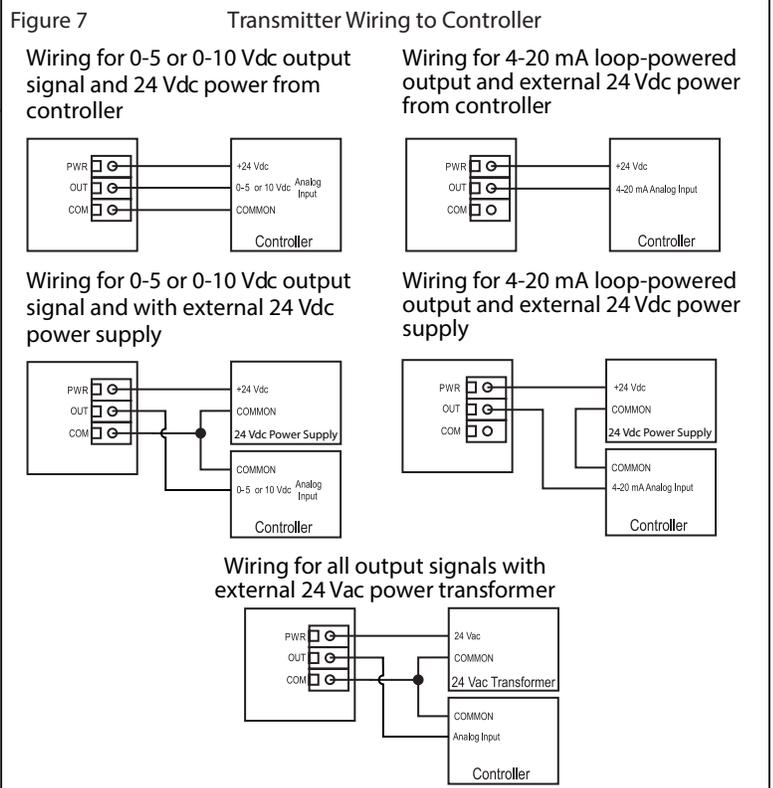
WIRING

- Deactivate the 24 Vac/dc power supply until all connections are made to the device to prevent equipment damage.
- Use 14-22 AWG shielded wiring for all connections and do not locate the device wires in the same conduit with wiring used to supply inductive loads such as motors. Make all connections in accordance with national and local codes.
- The temperature transmitter comes with the temperature sensor pre-wired to the transmitter board. If removal is required for installation then it may be re-wired as shown in Figure 6.
- Pull at least six inches of control wire into the enclosure, then complete the wiring connection according to the wire diagram for the applicable power supply and output signal type as shown in Figure 7.
- Connect the DC positive or the AC voltage hot side to the PWR terminal. For voltage output or AC power, the supply Common is connected to the COM terminal. The device is reverse voltage protected and will not operate if connected backwards. It has a half-wave power supply so the supply Common is the same as the signal Common. See Figure 7.
- The analog output is available on the OUT terminal. Check the controller Analog Input to determine the proper connection before applying power as shown in Figure 7.
- Once all connections are made and checked, power can be applied.



SPECIFICATIONS:

Sensor Type	1000 ohm Platinum RTD
Sensor Accuracy	±0.3°C (±0.94°F) @ 0°C (32°F)
Probe Sensing Range	-20 to 60°C (-4 to 140°F)
Wire Material	FT-6 rated plenum cable, 22 AWG
Wire Length	1.83 m (6')
Probe Material	304 series stainless steel
Output Signal	4-20 mA current loop, 0-5 Vdc, or 0-10 Vdc (factory configured)
Transmitter Accuracy	±0.1% of span, including linearity
4-20 mA loop power supply	15-35 Vdc or 22-32 Vac
Minimum Loop Current	2 mA nominal (occurs with shorted sensor)
Maximum Loop Current	22.5 mA nominal (occurs with open sensor)
Maximum Loop Load	>600 ohms
0-5 Vdc Power Supply	10-35 Vdc or 10-32 Vac
0-10 Vdc Power Supply	15-35 Vdc or 15-32 Vac
Maximum Current (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
Protection Circuitry	Reverse voltage protected and output limited
Ambient Operating Range	0 to 50°C (32 to 122°F), 0 to 95 %RH non-condensing
Enclosure	ABS, UL94-V0, IP65 (NEMA 4X)
Wiring Connections	Screw terminal block (14 to 22 AWG)
Country of Origin	Canada



DIMENSIONS

