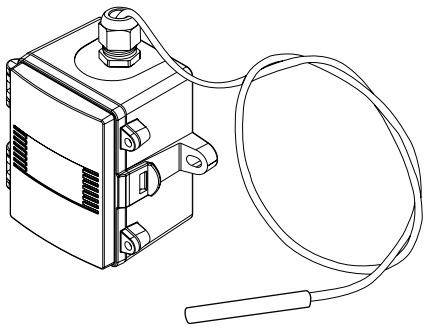
Slab Temperature Transmitter

TXSL Series - Installation Instructions



INTRODUCTION

The single point slab temperature sensor utilizes a precision sensor encapsulated in a thermal conductive coating and used to measure the temperature of a concrete slab. It is available with various sensor types, wire types and lengths. All probes are constructed to provide excellent heat transfer, fast response, and resist moisture penetration. A compact ABS enclosure with a hinged and gasketed cover 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)

ZW, FT & MP: Typically a predetermined area is defined where the temperature reading is required. During concrete installation a sufficent length of conduit or copper tubing is imbedded from this point to an area that will be accessible once complete. At the entrance to the sensor chamber, unravel the TSSL and carefully insert sensor and feed into chamber until the chamber end is reached.

A typical installation of this product is as follows: A predetermined area is defined where the temperature reading is required. During concrete installation a sufficient length of conduit or copper tubing is embedded from this point to an area that will be accessible once complete.

At the entrance to the sensor chamber, unravel the cable and carefully inset the sensor and feed it into the chamber until the chamber end is reached. See Figure 1.

MS: Unravel the sensor and lower the probe in the tank until below the liquid line or at desired depth. Secure cable to maintain depth. The probe may also be attached to the tank wall with some form of clamp at desired depth.

Once installed, complete the wiring instructions below.

The enclosure has a hinged cover with a latch. Open the cover by pulling slightly on the latch on the right side of the enclosure. At the same time pulling on the cover, as shown in Figure 3.

A 1/2" NPT threaded connection hole is provided in the bottom of the encolsure. Screw the EMT connector or cable gland connector in until tight. See Figure 4. It is recommended that weatherproof conduit or cable gland fittings be used. The E style enclosure includes a 1/2" NPT to M16 thread adapter and cable gland fitting.

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 5.

Figure 1

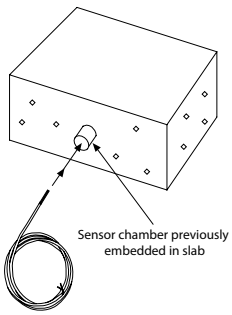


Figure 2

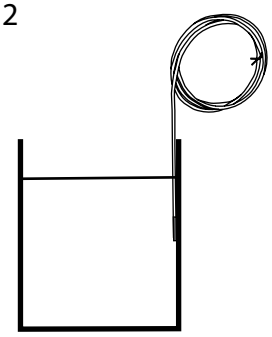


Figure 3

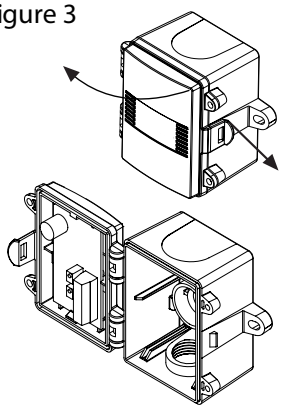


Figure 4

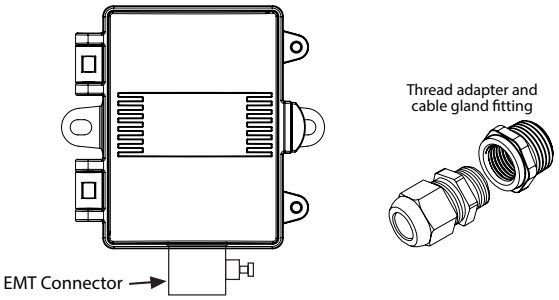
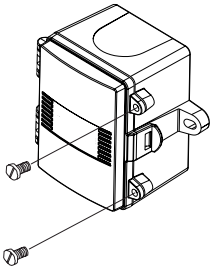


Figure 5



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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.

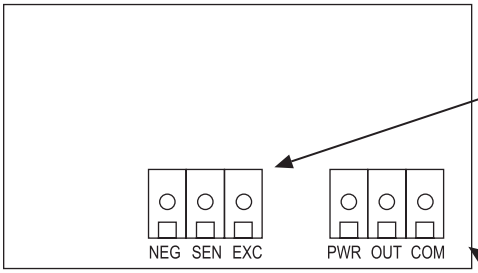
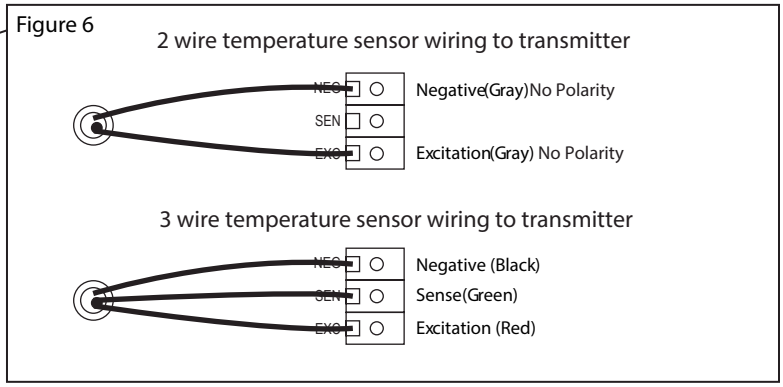


Figure 6

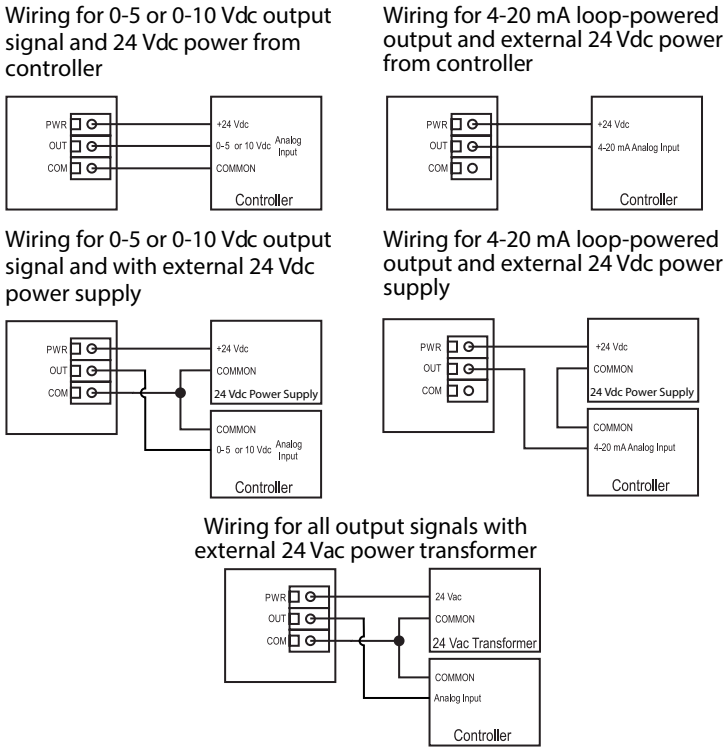


SPECIFICATIONS:

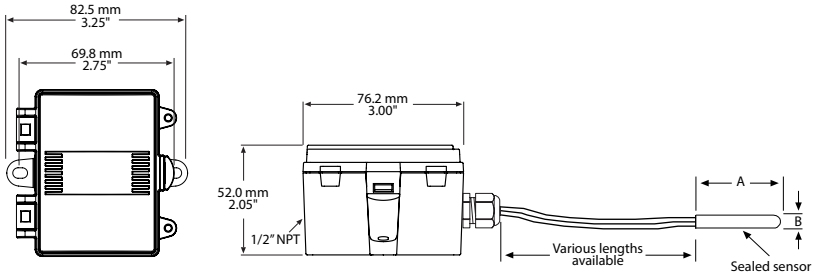
Sensor Type .....1000 Ω Platinum RTD
Sensor Accuracy.....±0.3°C (±0.54°F) @ 0°C (32°F)
Probe Sensing Range.....**ZW:** -40 to 100°C (-40 to 212°F)
FT: -20 to 60°C (-4 to 140°F)
MP/MS: -20 to 80°C (-4 to 176°F)
Wire Material.....**ZW:** PVC zip wire, 22 AWG
FT: Plenum rate FT-6, 22 AWG
MP/MS: EPC moisture proof, 20 AWG
Probe Material .....**MS:** Double walled, 304 series stainless steel
Probe Length: .....12.7mm D x 101.5mm L (0.5" x 4")
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
Output Drive @ 24 Vdc:.....**Current:** 600Ω maximum
Voltage: 10 KΩ minimum
Power Supply:.....**0-5 Vdc:** 10-35 Vdc or 10-28 Vac
0-10 Vdc: 15-35 Vdc or 15-28 Vac
4-20 mA: 15-35 Vdc (loop-powered) or 22-28 Vac
Current Consumption: .....**Current:** 20mA
Voltage: 5 mA
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.....-40 to 50°C (-40 to 122°F), 5 to 95 %RH non-condensing
Enclosure.....**A:** ABS, UL94-V0, IP65 (NEMA 4X)
E: Same as A with thread adapter (1/2" NPT to M16), and cable gland fitting
Wiring Connections.....Screw terminal block (14 to 22 AWG)
Country of Origin.....Canada

*This product is factory calibrated and any field adjustment will void the warranty.

Figure 7 Transmitter Wiring to Controller



DIMENSIONS



Model	A	B
ZW, FT, MP	25.4mm (1")	6.35mm (0.25")
MS	101.6mm (4")	12.7mm (0.5")

PRINTED IN CANADA