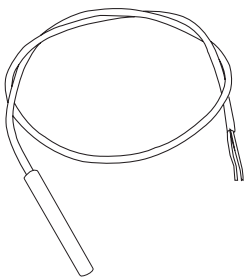


# Slab Temperature Sensor

## 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.

### BEFORE INSTALLATION

Read these instructions carefully before installing and commissioning the device. Failure to follow these instructions may result in product damage. Do not use in an explosive or hazardous environment, with combustible for 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. **Do not exceed the device ratings.**

### MOUNTING

**ZW, FT & MP:** Typically a predetermined area is defined where the temperature reading is required. During concrete installation a sufficient 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.

Figure 1

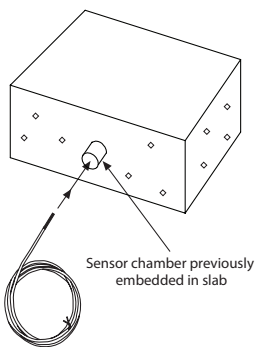


Figure 2

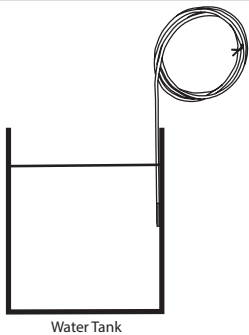


Figure 3

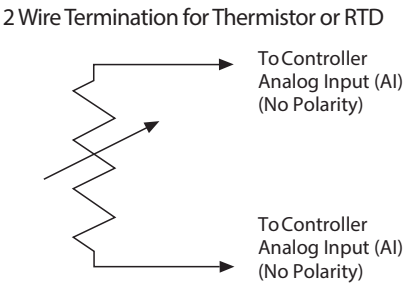
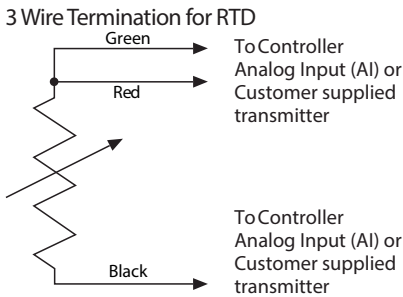


Figure 4



### SPECIFICATIONS

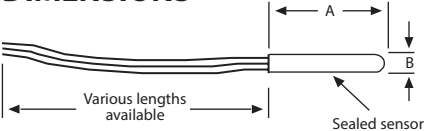
|                         |  |
|-------------------------|--|
| Sensor Type .....       | Various Thermistor or RTD  |
| Temperature Range ..... | <b>ZW:</b> -20 to 105°C (-4 to 221°F)<br><b>FT:</b> -20 to 60°C (-4 to 140°F)<br><b>MP/MS:</b> -20 to 80°C (-4 to 176°F)                                 |
| Wire Material .....     | <b>ZW:</b> PVC zip wire, 22 AWG<br><b>FT:</b> Plenum rate FT-6, 22 AWG<br><b>MP:</b> EPC moisture proof, 20 AWG<br><b>MS:</b> EPC Moisture proof, 20 AWG |
| Probe .....             | <b>MS:</b> Double walled, 304 S/S,<br>12.7mm D x 101.5mm L (0.5" x 4")   |
| Termination .....       | Pigtail, 2 or 3 wire   |
| Country of Origin ..... | Canada   |

### TYPICAL WIRE RESISTANCE VALUES

When using low resistance sensors (i.e. 100  $\Omega$  RTD), long wire runs can add significant error to the readings. Use the following chart to determine errors due to wire resistance or consider using 1000  $\Omega$  sensor or a transmitter for better accuracy. Locate the type of wire being used. Multiply the total length of the wire (distance from the controller to the sensor and back) by the number found in the following chart for total resistance.

| GAGE WIRE TYPE       | 18 AWG          | 22 AWG           | 24 AWG           |
|----------------------|-----------------|------------------|------------------|
| STRANDED (OHMS/FOOT) | 5.85 m $\Omega$ | 14.75 m $\Omega$ | 23.29 m $\Omega$ |
| SOLID (OHMS/FOOT)    | 6.4 m $\Omega$  | 15.85 m $\Omega$ | 25.72 m $\Omega$ |

### DIMENSIONS



Model  
ZW, FT, MP  
MPS

A  
25.4mm (1")  
101.6mm (4")

B  
6.35mm (0.25")  
12.7mm (0.5")