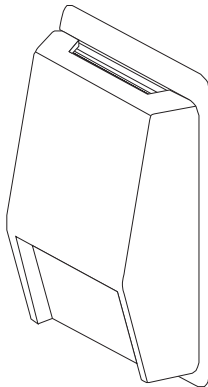# Room Temperature Transmitter

Installation Instructions

INTRODUCTION

The room temperature transmitter is designed for temperature measurement of occupied spaces and utilizes a precision sensor and a transmitter that provides a high accuracy signal with excellent long term stability, low hysteresis and fast response. It is available in various ranges. The transmitter is housed within an attractive, low profile wall mount enclosure.

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 device ratings.**

MOUNTING

The room temperature sensor installs directly an electrical wall box, or can be mounted directly to the wall. The backplate is configured to be compatible with many different electrical box types. The temperature sensor should be mounted five feet from the floor of the area to be controlled. Do not mount the sensor near doors, opening windows, supply air diffusers or other known air disturbances. Avoid areas where the sensor is exposed to vibrations or rapid temperature changes.

Begin by removing the cover. Grasp the bottom of the cover and pull outward from the backplate as shown in Figure 1. Set the cover aside. Do not remove the PCB from the enclosure base.

Feed at least 6 inches of wire through the wall and out of the junction box. Feed connection wires through the center hole on the backplate and the PCB, then secure the backplate to the electrical box or wall with suitable screws (not supplied) as shown in Figure 2. The mounting holes allow for up/down and side to side movement to compensate for unlevel electrical box installation.

Make wire connections as per the "Wiring Illustrations" on Page 2.

Re-install decorative cover by placing the top of the cover into the cover holders on the top of the backplate and snapping the bottom into place.

Two 1/16" Allen Key set screws are provided on the bottom of the enclosure to add security and lock cover in place. To engage, insert Allen Key and turn counter-clockwise 2-3 rotations. As seen in Figure 3.


Figure 1

Figure 2

Figure 3
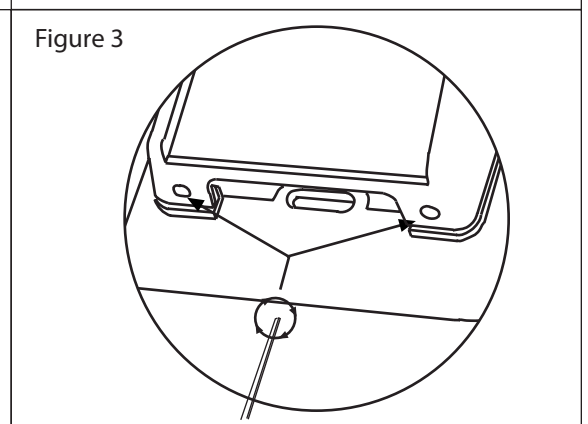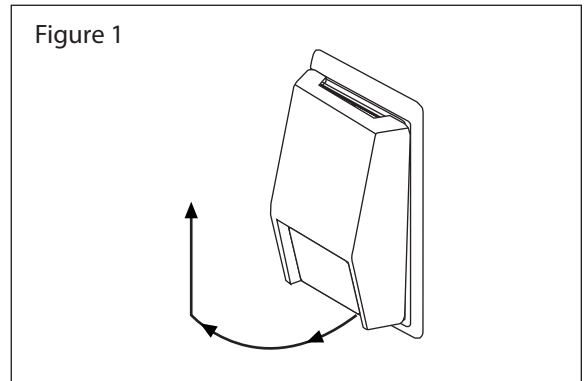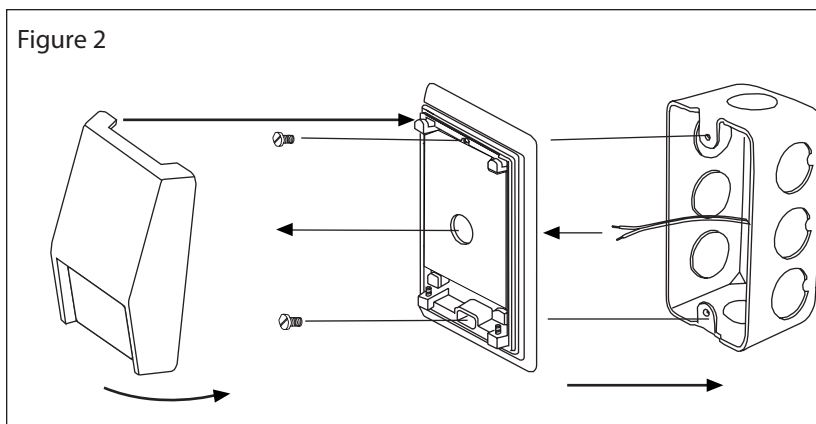
WIRING

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. All models have the same terminal functions. For 4-20 mA loop powered operation, only PWR and OUT are required. The COM 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. If the product has a dual sensor probe, connect the RTD (Red/Black) leads to the SENSOR terminals. The second sensor is Green/White.

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 OUT and COM 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 OUT terminal and it should read between 4 and 20 mA.

Figure 4

Figure 5

Voltage with 24 Vac/dc Power

Loop-powered 4-20 mA with 24 Vdc Power
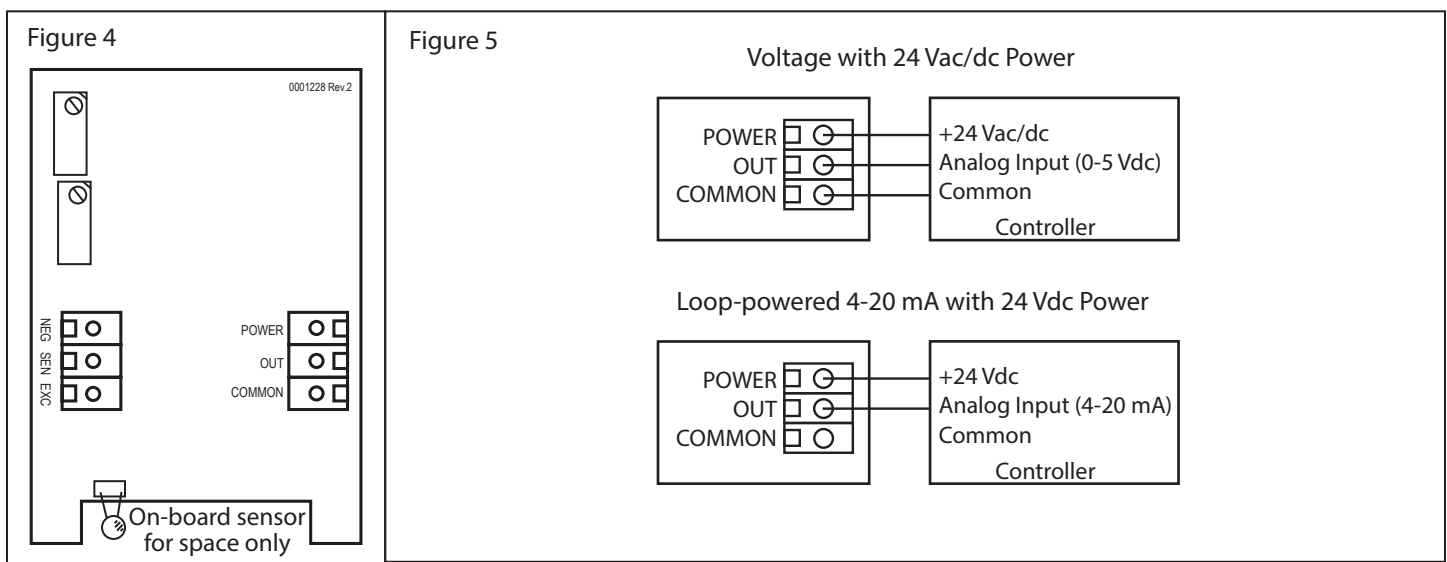
SPECIFICATIONS

Power Supply .... 15-35 Vdc or 12-26 Vac
Sensor Type .... 1000 Ω platinum RTD
Operating Range .... 0 to 70°C (32 to 158°F), 5 to 95 %RH non-condensing
Output Signal.................. 4-20 mA or 0-5 Vdc or 0-10 Vdc
Output Drive .... **Current:** >550 Ω
                                             Voltage: 5K Ω min
Wire Connections .... Screw terminal block (14 to 22 AWG)
Enclosure .... White ABS, IP20 (NEMA 1)
Dimensions....................... 70mm W x 114mm H x 30mm D (2.75" x 4.5" x 1.2")
Country of Origin........... Canada

DIMENSIONS

69.85 mm
2.75"

31.8 mm
1.25 "

114.3 mm
4.5 "

82.6 mm
3.25 "

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