



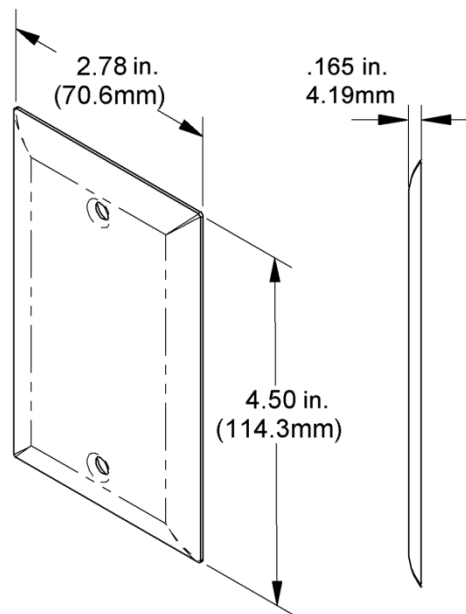
# Wall Plate Temperature Sensors

Installation and Operation

#8588 – 2/15/18

## Overview

**Figure 1:** Wall Plate with Temperature Sensor  
Part # NSB-10K-2-SP



## Specifications

### Material

Aluminum or Stainless Steel

### Sensing element

10k Type 2 Thermistor

### Environmental Operation Range

-40° to 212°F (-40 to 100°C)

-4° to 158°F (-20 to 70°C) with transmitter

### Humidity

0 to 95%, non-condensing

## Wiring

Carrier recommends using twisted pair of at least 22 AWG for all wire connections. Larger gauge wire may be required for long runs. All wiring must comply with the National Electric Code (NEC) and local codes.

Do **NOT** run this device's wiring in the same conduit as AC power wiring of NEC class 1, NEC class 2, NEC class 3 or with wiring used to supply highly inductive loads such as motors, contactors and relays. Tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines.



Carrier recommends wiring the product with power disconnected. Proper supply voltage, polarity, and wiring connections are important to a successful installation. Not observing these recommendations may damage the product and will void the warranty.

Specifications subject to change without notice.



### Termination

Terminate the sensor wires to your controller wires using sealant filled connectors to ensure a moisture tight connection. The wallplate's foam back insulates the temperature sensor from the wall temperature and/or conduit drafts.

### Mounting

Mounting hardware is provided for both junction box and drywall installation.

#### Junction Box

1. Pull the wire through the wall and out of the junction box, leaving about six inches free.
2. Terminate the unit according to the guidelines in **Termination** on page 1.

**NOTE** Make sure the foam gasket on the back plate is compressed about 50% and the metal plate does not touch the wall.

#### Drywall Mounting

1. Place the plate against the wall where you want to mount the sensor.
2. Use a pencil to mark the two mounting holes.
3. Drill two 3/16" holes in the center of each marked mounting hole. Insert a drywall anchor into each hole.
4. Cut hole between the mounting holes that clears the apparatus mounted on plate.
5. Pull the wire through the wall hole cut in step 4, leaving about six inches free.
6. Terminate the unit according to the guidelines in **Termination** on page 1.
7. Secure the plate to the drywall anchors using the #6 x 1 inch mounting screws provided.

**NOTE** Make sure the foam gasket on the back plate is compressed about 0% and the metal plate doesn't touch the wall.

### Diagnostics

#### Possible Problems:

**Controller reports higher than actual temperature**

#### Possible Solutions:

- Confirm that the input is set up correctly in the controller software.
- Verify that the wires are not electrically shorted.
- Check wiring for proper termination.
- Disconnect the controller wires from the sensor. Measure the temperature sensor's resistance with an ohmmeter. Verify the sensor's output is correct.

**Controller reports lower than actual temperature**

- Confirm that the input is set up correctly in the controller software.
- Verify that the wires are not electrically open.
- Check wiring for proper termination.
- Disconnect the controller wires from the sensor. Measure the temperature sensor's resistance with an ohmmeter. Verify the sensor's output is correct.