HPO-9005 Room Sensor Adapter

Installation Guide

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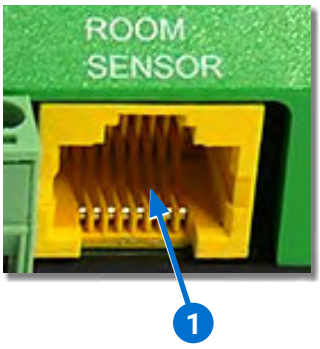
INTRODUCTION



The **Room Sensor port** 1 in KMC Conquest controllers is designed to automatically connect and configure a digital **STE-9000 Series NetSensor** or an **STE-6010**, **STE-6014**, or **STE-6017** analog (thermistor) sensor using a standard Ethernet patch cable.

The HPO-9005 room sensor adapter allows the use of other sensors and optional setpoint potentiometers to be used instead. This provides the means of reusing an existing suitable sensor and wiring in a retrofit or using a different kind of sensor (e.g., a flat plate sensor such as a **STE-1430**) for new installations.

The sensor must be a **Type II or III, 10K ohm thermistor**. The setpoint adjustment must be a **0–10K ohm potentiometer**. The sensor or pot may have wire leads or (with user supplied wiring) screw terminals.

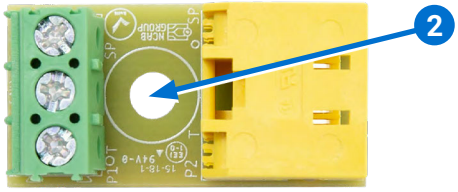
NOTE: Conquest controllers automatically configure Type **II** thermistors connected to the Room Sensor port. Type **III** thermistors require a quick configuration change using KMC Connect, KMC Converge, or TotalControl. See **Configuration on page 2**.

MOUNTING

The adapter's dimensions are 1-5/16 x 11/16 x 5/8 inches (33 x 17 x 16 mm), and its weight is 1/3 ounce (9 grams).

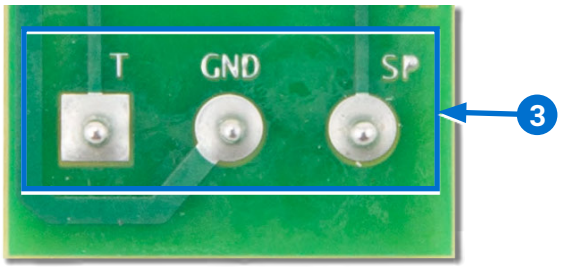
If using the center hole 2 in the circuit board for surface mounting with a (#8) screw:

- Tighten the screw loosely (to avoid cracking the board or any of its connections).
- Fasten to a metal surface only after insulating the board appropriately.

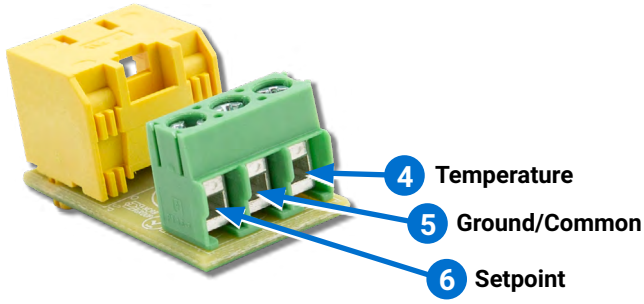


CONNECTIONS

NOTE: The terminals are marked **T** (Temperature), **GND** (Ground/Common), and **SP** (Setpoint) 3 under the terminal block on the bottom of the circuit board.

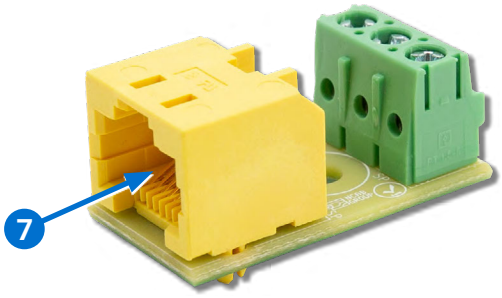


1. Connect wires from the thermistor to the **Temperature** 4 and **Ground/Common** 5 terminals on the adapter. (See **Sample Wiring on page 2**.)



2. Connect an optional 10K ohm setpoint potentiometer between the **Ground/Common** 5 and **Setpoint** 6 terminals.

3. Plug an **Ethernet patch cable** 7 into the RJ-45 jack on the adapter.

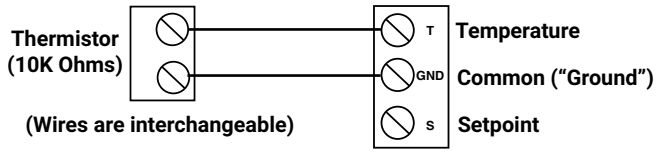


4. Plug the other end of the Ethernet cable into the **ROOM SENSOR** port 1 of the controller. (See **Introduction on page 1**.)

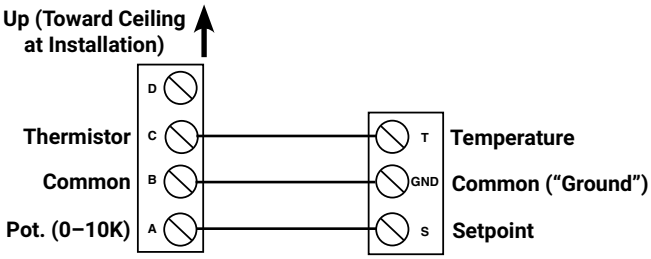
NOTE: The **total** length of wiring between the sensor and the Room Sensor port should be a maximum of 150 feet (45 meters).

SAMPLE WIRING

STE-6011 or STE-1430 (Thermistor Only)



STE-6019 (Thermistor and Potentiometer)

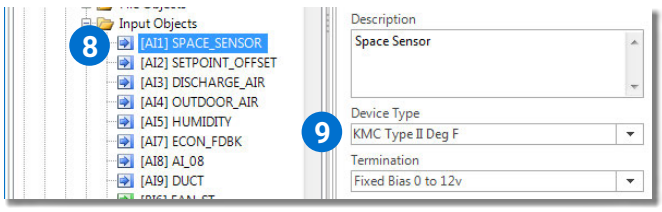


CONFIGURATION

Temperature (Device Type II or III)

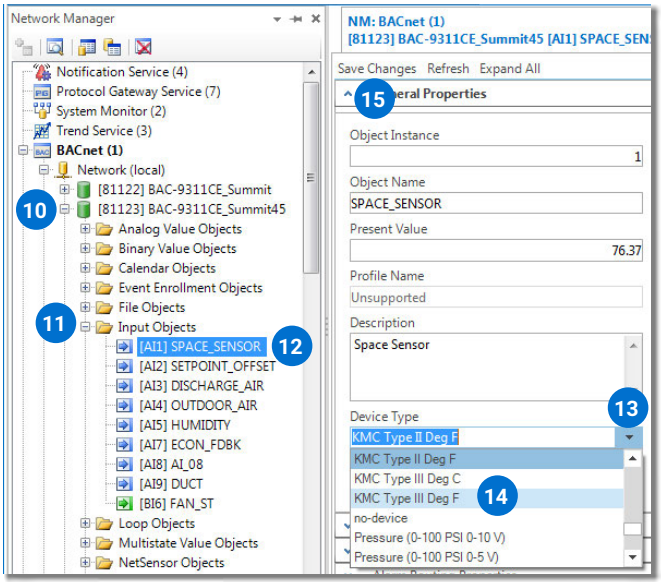
KMC Conquest controllers **automatically** configure the Room Sensor port's AI1 (Space Sensor) 8 for Type **II**, 10K ohm thermistors 9. If a Type II thermistor is used, no configuration by the user is needed.

NOTE: For thermistors (in default Conquest applications), AI1 is mapped to AV1 (Space Temperature), and AV1 is used as the temperature reference for controlling the outputs.



To select a Type **III** thermistor device type:

1. Start KMC Connect, KMC Converge, or TotalControl. (KMC Connect screens are shown here.)

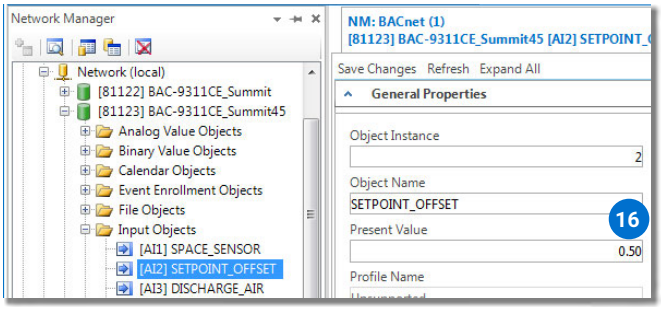


2. Click the **+** 10 in front of the controller.
3. Click the **+** 11 in front of Input Objects to expand the folder.
4. Double-click **AI1** 12 to open it.
5. Click the **drop-down box** 13 under Device Type.
6. Select **KMC Type III Deg F (or C)** 14.
7. Click **Save Changes** 15.
8. Click the **X** in the tab to close the tab.

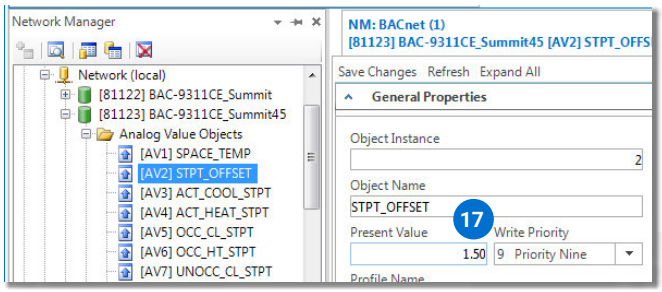
NOTE: See the software help system for any additional information.

Setpoint Offset (Range and Multiplier)

For a setpoint adjustment with a 0–10K ohm potentiometer, AI2 provides an offset range of approximately plus or minus 1° (F or C, according to the application) 16. The present value is dependent on the position of the dial.



In default Conquest applications, **AI2 is mapped to AV2 (with a multiplier AV12) for the setpoint offset** 17, and AV2 is the value used in room temperature control programming (not AI2 directly). AV2 = AI2 x AV12.

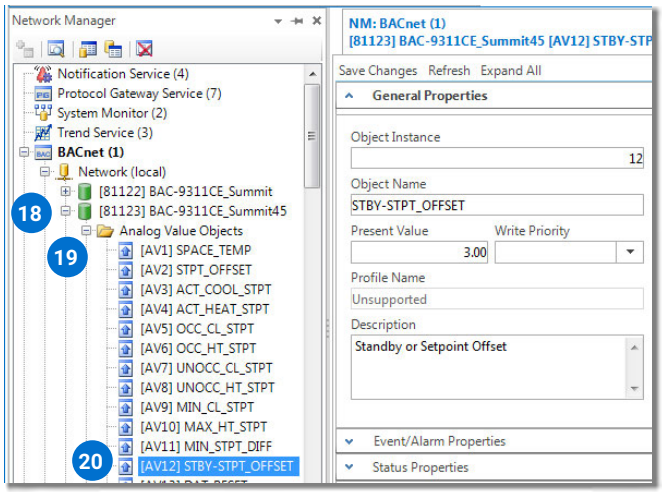


The **factory default for the multiplier (AV12) is 3** for °F applications (or 1.5 for °C applications), which gives a user setpoint adjustment range of approximately plus or minus 3° F.

NOTE: In the example shown, AI2 = 0.5 at that dial position (about halfway between the center position and the extreme CW position), which is multiplied by (the default) AV12 value of 3 to give the offset of 1.5 °F above (warmer than) the scheduled active setpoint.

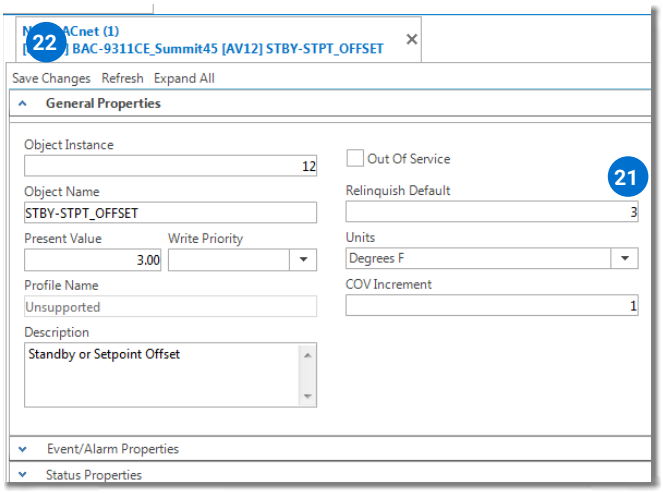
To **adjust the setpoint range** by editing the present value of AV12:

1. Start KMC Connect, KMC Converge, or TotalControl. (KMC Connect screens are shown here.)



2. Click the **+** 18 in front of the controller.
3. Click the **+** 19 in front of Analog Value Objects to expand the folder.

4. Double-click **AV12** 20 to open it.



5. Edit the **Relinquish Default** value 21 to be the desired multiplier.

   NOTE: If AV12 = 1, then AV2 = AI2.

6. Click **Save Changes** 22.

7. Click the **X** in the tab to close the tab.

   NOTE: See the software help system for any additional information.

MAINTENANCE

No routine maintenance is required. Each component is designed for dependable, long-term reliability and performance. Careful installation will help ensure long-term reliability and performance.

IMPORTANT NOTICES

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