

Product Identification

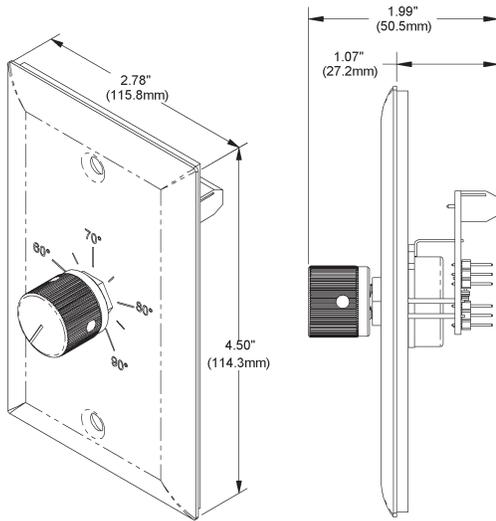


Fig. 1
BA/10K-2-SP-C25-CG

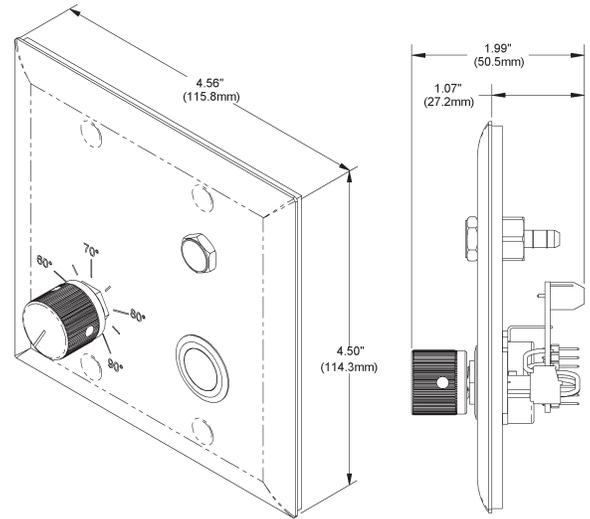


Fig. 2
BA/10K-2-SP-C25-O2-J-P01-DBG-CG

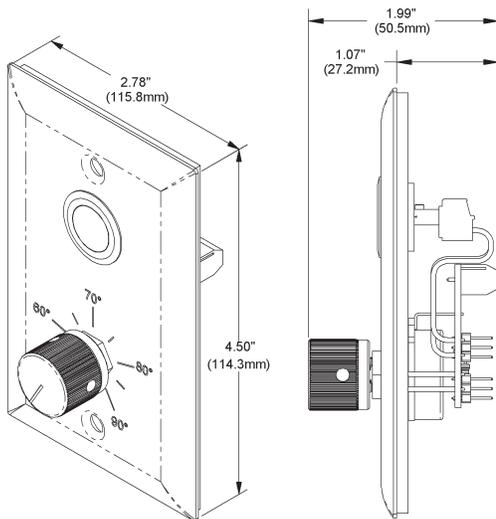


Fig. 3
BA/10K-2-SP-C25-O2-J-CG

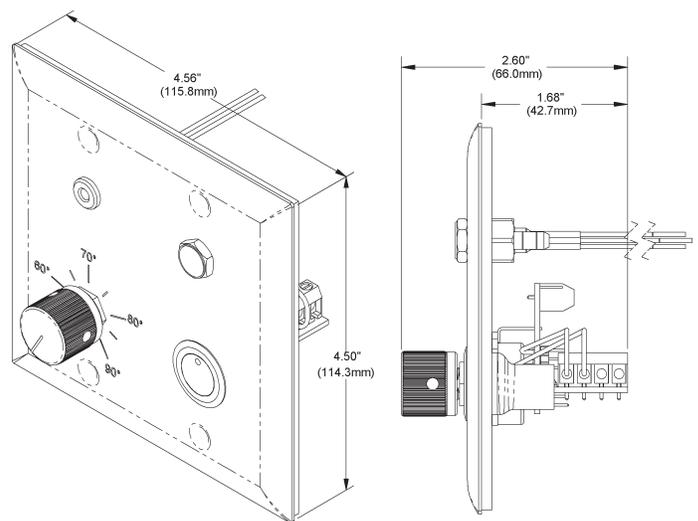


Fig. 4
BA/10K-2-SP-C25-O2R5-J-C35-P01-DBG-CG

Mounting

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 2.
3. Secure the plate to the box using the #6-32 x 1/2 inch mounting screw provided or with Security screws which are sold separately. (Order **BA/SP632x1** — Spanner Security Screws, 6-32x1" (box 50) and **BA/SPBIT** — Spanner Bit for Spanner Security Screws)

Mounting instructions continued on next page...

Specifications subject to change without notice.

Mounting continued...

DRYWALL MOUNTING

1. Place the plate against the wall where you want to mount the sensor.
2. Using a pencil mark out the 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 the 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 2.
7. Secure the plate to the drywall anchors using the #6 x 1 inch mounting screws provided.

NOTE: In a wall-mount application, the wall temperature and the temperature of the air within the wall cavity can cause readings. The mixing of room air and air from within the wall cavity can lead to condensation, erroneous readings premature failure of the sensor. To prevent these conditions, seal the conduit leading to the junction box and in the drywall by using an adhesive backed, foam insulating pad (order part number **BA/FOAMBACK**).

Termination

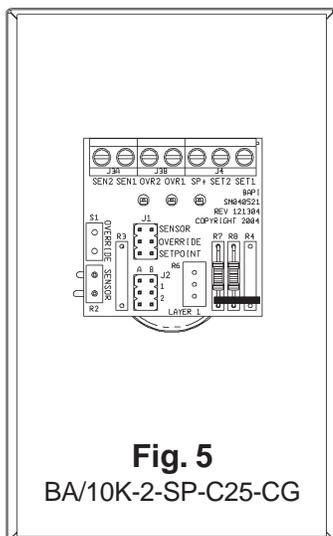


Fig. 5

BA/10K-2-SP-C25-CG

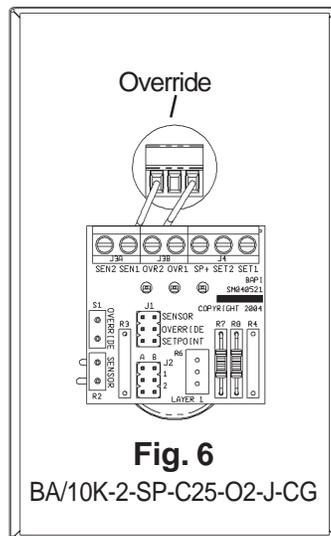


Fig. 6

BA/10K-2-SP-C25-O2-J-CG

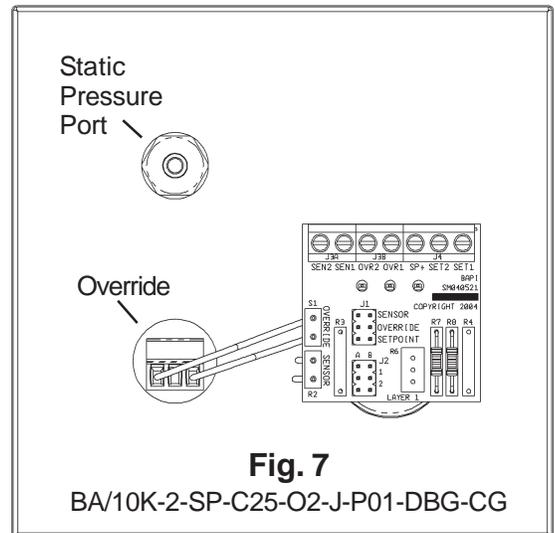


Fig. 7

BA/10K-2-SP-C25-O2-J-P01-DBG-CG

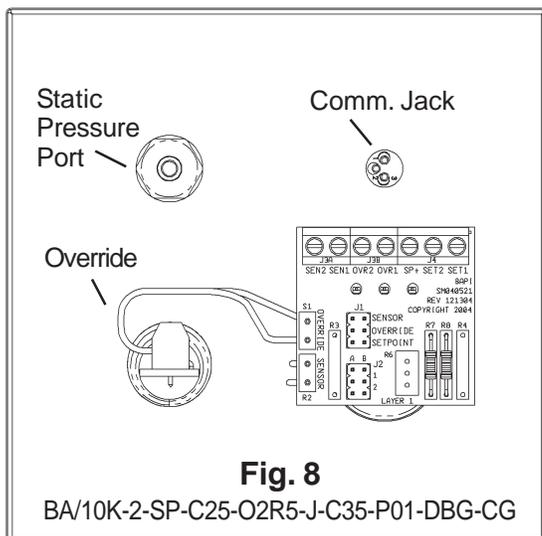


Fig. 8

BA/10K-2-SP-C25-O2R5-J-C35-P01-DBG-CG

COMMON WIRING

Pin Designation

Function

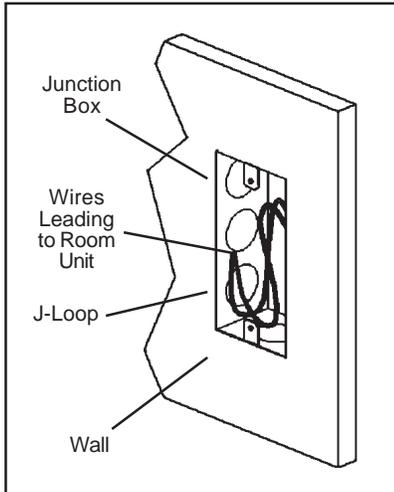
SEN2	Temperature, Resistance Output , To analog input of controller. [Common Ground]
SEN1	Temperature, Resistance Output , To analog input of controller.
OVR2	Override, Normally OPEN , To analog or digital input of controller. [Common Ground]
OVR1	Override, Normally OPEN , To analog or digital input of controller.
SP+	Setpoint voltage supply.
SET2	Setpoint, Resistance Output , To analog input of controller. [Common Ground]
SET1	Setpoint, Resistance Output , To analog input of controller.

Note: If unit is configured for common ground then SET2, OVR2 and SEN2 are connected together.

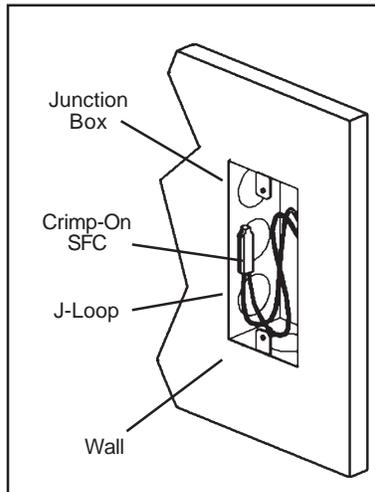
Specifications subject to change without notice.

J-Loop Termination Technique

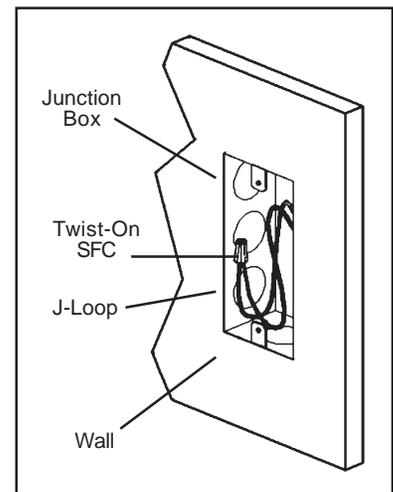
Incorporating a "J-Loop" (also known as a drip loop) into all terminations adds an additional layer of protection against moisture and oxidation by directing moisture away from the connection. The idea is to place the wire junction as high as possible and form a "J" with the leadwires. The bottom of this "J" should be below the junction point. Any moisture that collects on the leadwires is pulled downward by gravity to the bottom of this loop and away from the junction.



J-Loop Technique



J-Loop with Crimp-On SFC



J-Loop with Twist-On SFC

Jumper Settings - J1 Options

Differential

Override in parallel with setpoint:

Override in parallel with sensor:

Override as a separate input:

Common Ground

Override in parallel with setpoint:

Override in parallel with sensor:

Override as a separate input:

Jumper Settings - J2 Options

Resistive Setpoint

Direct Action

Reverse Action

Voltage Setpoint

Direct Action

Reverse Action

Termination continued...

C35 Communications Jack Pin Out

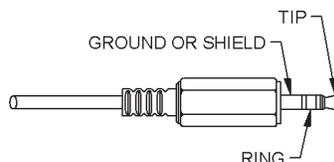


Fig. 9

Optional Communications Jack Wiring

C35 Terminal	Terminal Block Connection
Tip	White (Pin 1)
Ring	Red (Pin 3)
Ground	Black (Pin 2)

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Termination continued...

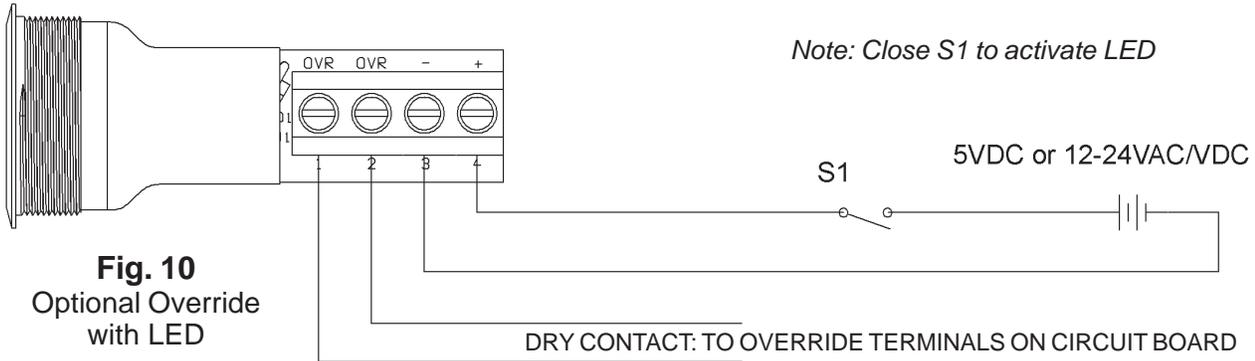


Fig. 10
Optional Override
with LED

Troubleshooting

POSSIBLE PROBLEMS:

General troubleshooting

POSSIBLE SOLUTIONS:

- Determine that the input is set up correctly in the controller's and building automation software.
- Check wiring for proper termination
- Check for corrosion at either the controller or the sensor. Clean off the corrosion, re-strip the interconnecting wire and reapply the connection. In extreme cases, replace the controller, interconnecting wire and/or sensor.
- Label the terminals that the interconnecting wires are connected to at the sensor end and the controller end. Disconnect the interconnecting wires from the controller and the sensor. With the interconnecting wires separated at both ends measure the resistance from wire-to-wire with a multimeter. The meter should read greater than 10 Meg-ohms, open or OL depending on the meter you have. Short the interconnecting wires together at one end. Go to the other end and measure the resistance from wire-to-wire with a multimeter. The meter should read less than 10 ohms (22 gauge or larger, 250 feet or less). If either test fails, replace the wire.
- Don't forget to reconnect the wires.

Temperature reading is incorrect

- Determine that the temperature sensors wires are connected to the correct controller input terminals and are not loose.
- Check the wires at the sensor for proper connections.
- Measure the physical temperature at the temperature sensor's location using an accurate temperature standard. Disconnect the temperature sensor wires and measure the temperature sensor's resistance across the sensor output pins with an ohmmeter. Compare the temperature sensor's resistance to the appropriate temperature sensor table on the BAPI web site. If the measured resistance is different from the temperature table by more than 5% call BAPI technical support. Find BAPI's web site at www.bapihvac.com; click on the button labeled SENSORS on the left of the screen and then click on the type of sensor you have. Don't forget to reconnect the wires.
- Make sure that the sensor leads are not touching

Setpoint reading is incorrect

- Make sure that the setpoint output is correct. Remove the setpoint output wire and check the output for the correct resistance or voltage output. See the product label for your specific range. Don't forget to reconnect the wire.

Override is not working correctly

- Check that the resistance across the override output is less than 5 ohms when the override switch is pushed
- Make sure that the override jumper settings are correct.

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