

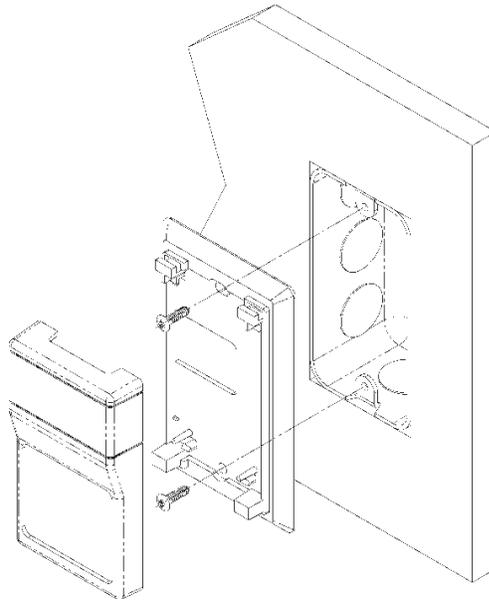
Mounting

Fig. 1:
Delta Style
J-Box
Mounting

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

Junction Box

1. Pull the wire through the wall and out of the junction box, leaving about six inches free.
2. Pull the wire through the hole in the base plate.
3. Secure the plate to the box using the #6-32 x 1/2 inch mounting screw provided.
4. Terminate the unit according to the guidelines in **Termination** on page 1.
5. Attach Cover by latching it to the top of the base, rotating the cover down and snapping it into place.
6. Secure the cover by backing out the lock-down screws using a 1/16" allen wrench until they are flush with the bottom of the cover.

Drywall Mounting

1. Place the base plate against the wall where you want to mount the sensor.
2. Using a pencil mark out the two mounting holes and the area where the wires will come through the wall.
3. Drill two 3/16" holes in the center of each marked mounting hole. Insert a drywall anchor into each hole.
4. Drill one 1/2" hole in the middle of the marked wiring area.
5. Pull the wire through the wall and out of the 1/2" hole, leaving about six inches free.
6. Pull the wire through the hole in the base plate.
7. Secure the base to the drywall anchors using the #6 x 1 inch mounting screws provided.
8. Terminate the unit according to the guidelines in **Termination** on page 1.
9. Attach cover by latching it to the top of the base, rotating the cover down and snapping it into place.
10. Secure the cover by backing out the lock-down screws using a 1/16" allen wrench until they are flush with the bottom of the cover.

NOTE

In a wall-mount application, the wall temperature and the temperature of the air within the wall cavity can cause erroneous readings. The mixing of room air and air from within the wall cavity can lead to condensation, erroneous readings and premature failure of the sensor. To prevent these conditions, seal the conduit leading to the junction box and use BAPI's adhesive backed, foam insulating pad centered over the hole(order part number BA/FOAMBACK).

Specifications subject to change without notice.

Termination

BAPI recommends using twisted pair of at least 22AWG and sealant filled connectors 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, NEC class 2, NEC class 3 or with wiring used to supply highly inductive loads such as motors, contactors and relays. BAPI's tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your BAPI representative.



BAPI 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.

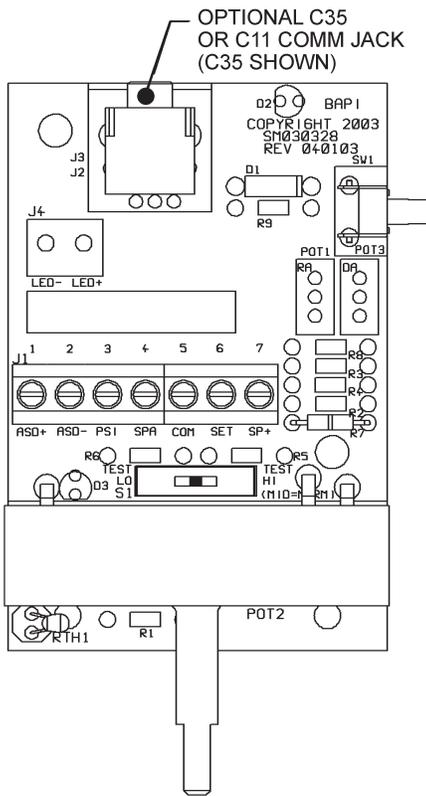


Fig. 2:
Circuit Board Layout #1

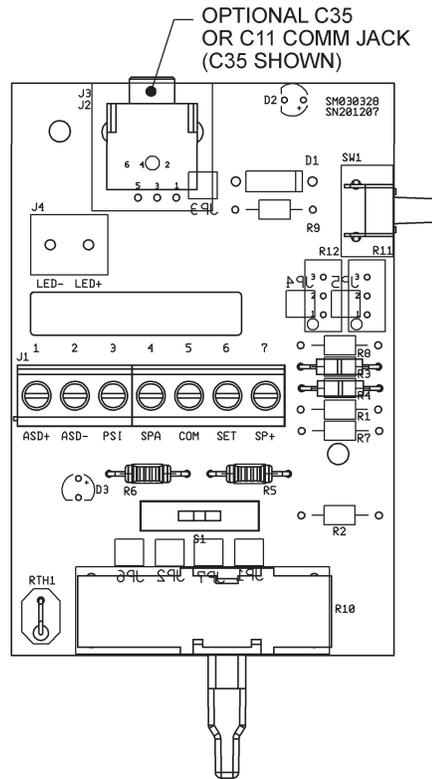


Fig. 3:
Circuit Board Layout #2

ASD+ . To Communication Jack, C11 = Pin 4; C35 = Shield

ASD-.. To Communication Jack, C11 = Pin 3; C35 = Tip

PSI To Communication Jack, C11 = Pin 2; C35 = Ring

SPA Temperature Resistive Output, To Analog Input of Controller (If the unit has Override, then this resistive value will go to less than 5Ω when button is pressed.)

COM .. To Ground or Common of Controller*
The COM terminal is common for the Temperature Sensor Output (SPA), Setpoint Output (SET), and Setpoint Supply Voltage (SP+)

SET Setpoint Voltage Output, To Analog Input of Controller

SP+ Setpoint Supply Voltage (5V for setpoint output of 5V or less) (10V for setpoint output of greater than 5V)

LED-... Neutral or Ground for the 24VAC or 5VDC signal to activate the Occupancy LED*

LED+ . Hot or Positive for the 24VAC or 5VDC signal to activate the Occupancy LED*

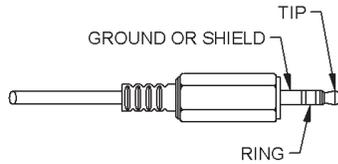
Note:

*The LED is optional and may not be present. It is activated with a 24VAC or 5VDC across the "LED+" and "LED-" leads.

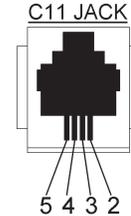


Communication Jack Termination

C35 Comm. Jack Pin Out



C11 Comm. Jack Pin Out



C35 Jack Circuit Board Terminal

Tip ASD-
 Ring PSI
 Ground ASD+

C11 Pin Circuit Board Terminal

5 COM (Circuit Ground)
 4 ASD+
 3 ASD-
 2 PSI

Test & Balance Switch

Test and Balance Switch (S1)

TEST HI: Sets the sensor value to HIGH temperature

NORM: Thermistor/RTD will operate normally

TEST LO: Sets the sensor value to LOW temperature

<u>Sensor Type</u>	<u>Low Temp (40° F) Resistance Value</u>	<u>High Temp (105° F) Resistance Value</u>
1KΩ RTD	1.02KΩ (41.2°F)	1.15KΩ (101.5°F)
3KΩ Thermistor	7.87KΩ (39.5°F)	1.5KΩ (106.8°F)
10K-2 Thermistor	30.1KΩ (39.2°F)	4.75KΩ (105.8°F)
10K-3 Thermistor	26.7KΩ (35.9°F)	5.11KΩ (108.4°F)
10K-3(11K) Thermistor	7.32KΩ (43.7°F)	3.65KΩ (105.2°F)

Specifications subject to change without notice.



Diagnostics

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.

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.
- Determine if the sensor is exposed to an external source different from room environment such as conduit draft. If it is conduit draft, fill box with fiberglass, polyester fill or plug the conduit.
- 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 (measure from SPA to COM) with an ohmmeter. Compare the temperature sensor's resistance to the appropriate temperature sensor table on the BAPI website. If the measured resistance is different from the temperature table by more than 5% call BAPI technical support. BAPI's website is found at www.bapihvac.com; click on the "Resources" then "BAPI Sensors Overview" and then click on the type of sensor you have.
- Make sure that the test and balance switch is in the correct position.
- 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 (measure from SET to COM) for the correct 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 terminals SPA and COM is less than 5 ohms when the override button is pushed.

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