

Product Identification

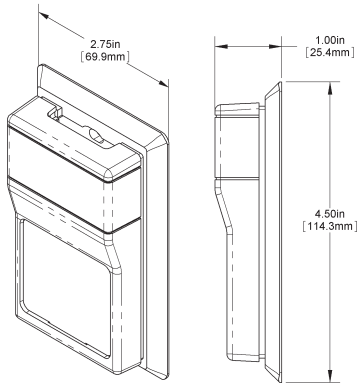


Fig. 1: Delta Style

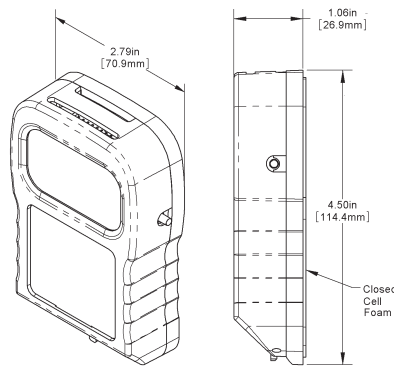


Fig. 2: BAPI-Stat 2

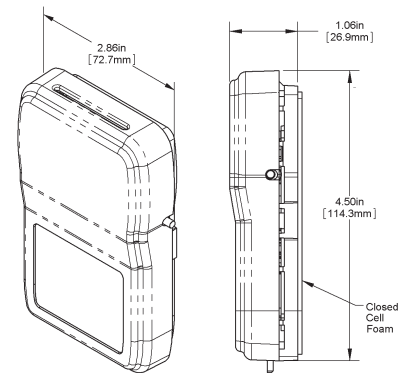


Fig. 3: BAPI-Stat 4

Mounting

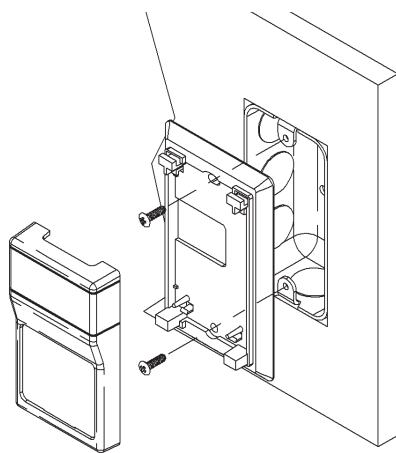


Fig. 4:
Delta Style J-Box Mounting

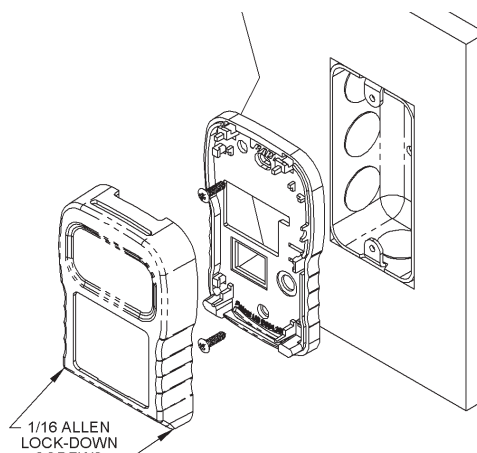


Fig. 5:
BAPI-Stat 2 J-Box Mounting

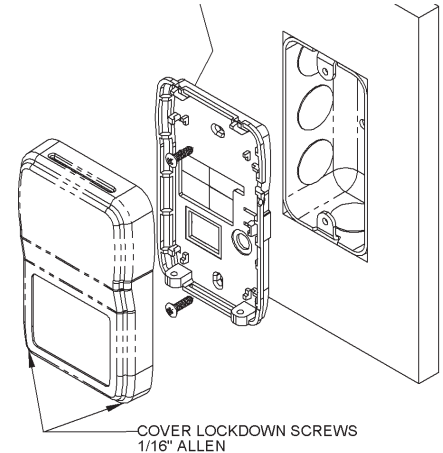


Fig. 6:
BAPI-Stat 4 J-Box Mounting

Mounting hardware is provided for both junction box (J-box) and drywall installation (J-Box installation shown above).

JUNCTION BOX INSTRUCTIONS

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 base to the box using the # 6-32 x 3/4 inch mounting screw provided.
4. Terminate the unit according to the guidelines in **Termination** on page 2.
5. Attach Cover by latching it to the top of the base, rotating the cover 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 INSTRUCTIONS

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.

Drywall Mounting Instructions continued on page 2...

Mounting continued...

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 2.
9. Attach Cover by latching it to the top of the base, rotating the cover down and snapping it into place. 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 seal the hole in the drywall by using an adhesive backed, foam insulating pad (order part number BA/FOAMBACK-ROOM).

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.

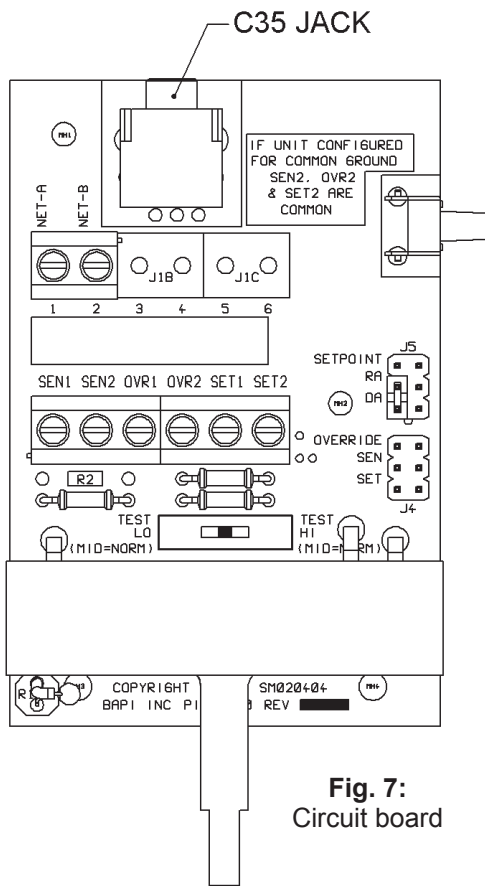


Fig. 7:
Circuit board

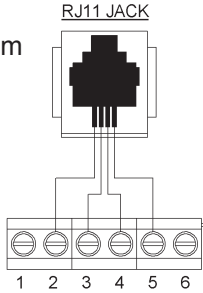
Common Wiring

- SET 2Setpoint, **Resistance Output**, To analog input of controller [Common Ground]
- SET 1.....Setpoint, **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
- SEN 2Temperature, **Resistance Output**, To analog input of controller [Common Ground]
- SEN 1Temperature, **Resistance Output**, To analog input of controller

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

Communication Jack Termination

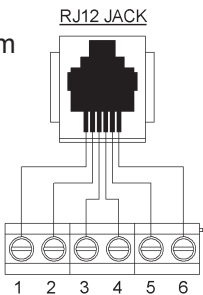
Fig. 8:
C11 Comm Jack



C11 Wiring

- 1.... Not Connected
- 2.... [Internally connected to Comm Jack pin 2]
- 3.... [Internally connected to Comm Jack pin 3]
- 4.... [Internally connected to Comm Jack pin 4]
- 5.... [Internally connected to Comm Jack pin 5]
- 6.... Not Connected

Fig. 9:
C12 Comm Jack



C12 Wiring

- 1.... [Internally connected to Comm Jack pin 1]
- 2.... [Internally connected to Comm Jack pin 2]
- 3.... [Internally connected to Comm Jack pin 3]
- 4.... [Internally connected to Comm Jack pin 4]
- 5.... [Internally connected to Comm Jack pin 5]
- 6.... [Internally connected to Comm Jack pin 6]

Note: Male Jack shown for clarity

C35 Wiring	
	Terminal #
Ground	Net A
Tip	Net B
Ring	Not Connected

Fig. 10:
C35 Comm Jack

Jumper Settings

J5 Options

Setpoint Reverse Acting (RA):

Setpoint Direct Acting (DA):

J4 Differential Ground

Override in parallel with setpoint:

Override in parallel with sensor:

Override as a separate input:

J4 Common Ground

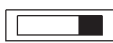
Override in parallel with setpoint:

Override in parallel with sensor:

Override as a separate input:

Test & Balance Switch

Test and Balance Switch (S2)



High: Will set the sensor value HIGH temperature



Norm: Thermistor/RTD will operate normally



Low: Will set the sensor value LOW temperature

Sensor Type	Low Temp (40° F) Resistance Value	High Temp (105° F) Resistance Value
1000Ω RTD	1.02KΩ (41.2°F)	1.15KΩ (101.5°F)
3000Ω 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)



Troubleshooting

Possible Problems:

Controller reports higher than actual temperature

Controller reports lower than actual temperature

Setpoint is not working correctly

Override is not working correctly

Possible Solutions:

- Confirm the input is set up correctly in the front end software
 - Verify that the wires are not physically shorted
 - Check wiring for proper termination
 - Verify the “Sensor” output is correct
 - Is the “Sensor” output correct from (J2) Pin 1 to Pin 2
 - Determine if the sensor is exposed to an external source different from room environment (conduit draft)
 - Fill box with Fiberglass, Polyester fill or plug the conduit.
-
- Confirm the input is set up correctly in the front end software
 - Verify that the thermistor is not physically open
 - Check wiring for proper termination
 - Verify the “Sensor” output is correct
 - Is the “Sensor” output correct from (J2) Pin 1 to Pin 2
 - Determine if the sensor is exposed to an external source different from room environment (conduit draft)
 - Fill box with Fiberglass, Polyester fill or plug the conduit.
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- Is the “Setpoint” output correct from (J2) Pin 5 to Pin 6.
 - Are “J4” and “J5” set up correctly
 - Check wiring for proper termination
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- Is the output from (J2) Pin 3 to Pin 4 less than 50 ohms when “S1” is used
 - Check wiring for proper termination

Compare the readings to the appropriate temperature table on the BAPI website:

<http://www.bapivac.com>

Click on the “Resource Library” and “Sensor Specs”, then select the table needed.