

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.

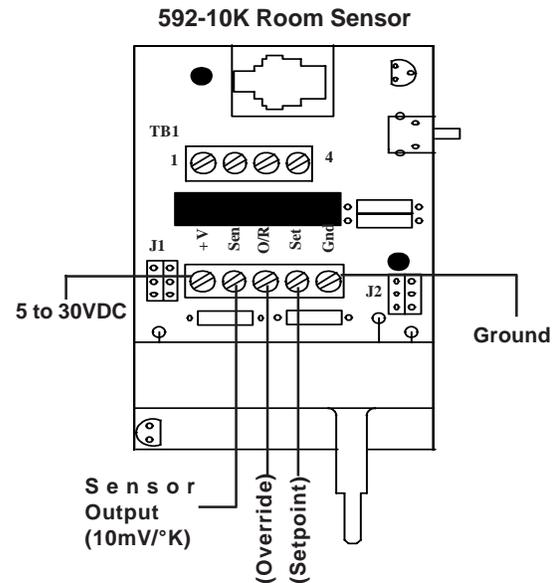
Do NOT run this device's wiring in the same conduit as AC power wiring of NEC class 1, NEC class 2, NEC class 3 or with wiring used to supply highly inductive loads such as motors, contactors and relays. BAPI's tests show that fluctuating and inaccurate signal levels are possible when AC power wiring is present in the same conduit as the signal lines. If you are experiencing any of these difficulties, please contact your BAPI representative

BAPI does not recommend wiring the sensor with power applied as accidental arcing may damage the product and will void the warranty

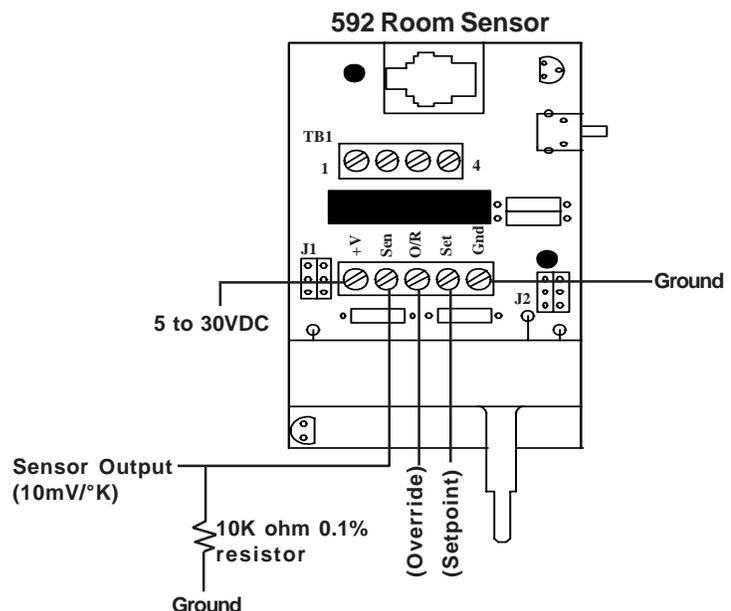
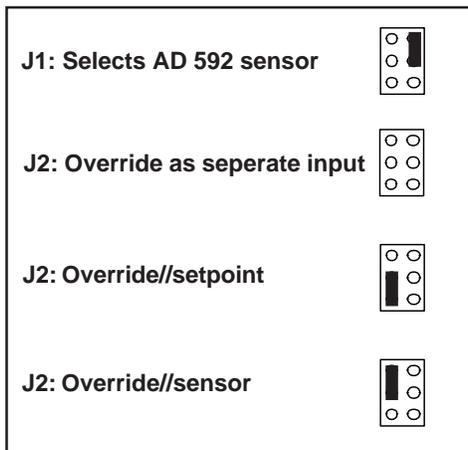
1. For 592-10K units, sensor is measured at Sen +Gnd. For 592 units, a 10K ohm 0.1% resistor must be installed between the controller input and ground.
2. Override (O/R) and Setpoint (Set) are with reference to Gnd.

TERMINAL CONNECTIONS

V+	=	+7 to 30 VDC input
Sen	=	Sensor out
O/R	=	Override
Set	=	Setpoint output, voltage(see product label for span)
Gnd	=	Common for O/R and Set
TB1	=	Comm jack power (+5 Volts)
TB2	=	Comm +
TB3	=	Comm -
TB4	=	Comm Jack Ground



Jumper configurations (both units)



Specifications subject to change without notice.



Offsetting

All BA592 sensors will have the following information provided on a label:

Thermistor Reading _____

The actual temperature reading according to a thermometer that is certified traceable to recognized standards by the National Institute of Standards and Technology (NIST).

Sensor Reading _____

The temperature reading according to the AD592 sensor, using the output in either uA or V and converting the output to a Fahrenheit temperature.

Offset _____

The difference between the Thermometer Reading and the Sensor Reading.

To correct the Sensor Reading, simply add the offset value to the sensor reading so that it equals the thermometer reading.

e.g. Therm Reading 74.6 Sensor Reading 73.0 Offset +1.6
Correction: Add (+1.6) °F to the sensor for an accurate reading: 73 + 1.6 = 74.6°F

e.g. Therm Reading 75.4 Sensor Reading 77.2 Offset -1.8
Correction: Add (-1.6) °F to the sensor for an accurate reading: 77.2 + (-1.8) = 75.4°F

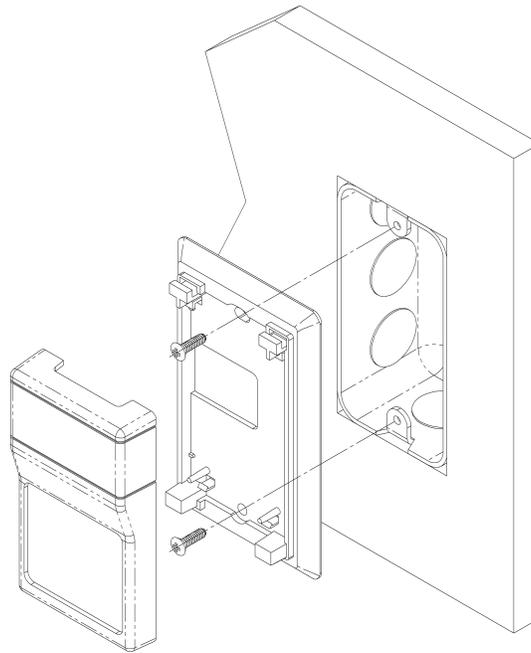
Troubleshooting

If the unit you installed does not respond properly, please go through the following steps:

1. Set your meter to the V setting.
2. Measure the voltage between the "Sen" and "GND." See diagrams above in the *Termination* section.
3. Compare the voltage reading to the voltage listed in the output table.
4. If the sensor reads significantly lower or 0, then your sensor may be shorted.
5. If the sensor reads significantly higher then the sensor may be open.
6. If the sensor reads properly, verify that the controller is operating correctly.

592 Output Table			
Temperature		592 Semiconductor	
°F	°C	Output Current uA	Output Voltage across 10KΩ
50	10.00	283.2	2.832
60	15.56	288.8	2.888
62	16.67	289.9	2.899
64	17.78	291.0	2.910
66	18.89	292.1	2.921
68	20.00	293.2	2.932
70	21.11	294.3	2.943
72	22.22	295.4	2.954
74	23.33	296.5	2.965
76	24.44	297.6	2.976
77	25.00	298.2	2.982
78	25.56	298.8	2.988
80	26.67	299.9	2.999
82	27.78	301.0	3.010
84	28.89	302.1	3.021
86	30.00	303.2	3.032
88	31.11	304.3	3.043
90	32.22	305.4	3.054
100	37.78	311.0	3.110

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Mounting**Fig. 2**

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).

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Temperature & Humidity Sensors

Temperature or Humidity Alone or Combination Sensors

Room Units • Wall Plate Units • Duct Units • Immersion Units
Thermowells • Strap Units • Outside Air Units



Room Units



Wall Plate Units



Outside Air Units

Zone Pressure Sensors



Differential Pressure Transmitter



Differential Pressure Transmitter with Display



Duct Units



Duct Averaging Units



Immersion Units

Air Quality Sensors



Room Mount Air Quality Sensor



Duct Mount Air Quality Sensor

Accessories

Power Supplies & Voltage Converters
Sealant Filled Connectors
Field Mounting Kits & More



VC75 Voltage Converter