RuPS with External Sensor

Installation and Operating Instructions

Termination

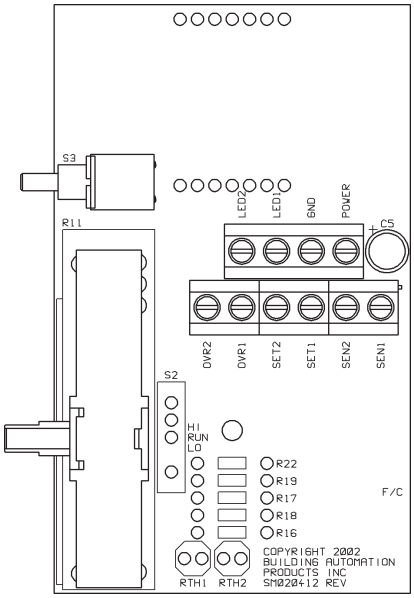
BAPI recommends using twisted pair of at least 22AWG and sealant filled connectors for all wire connections. Larger gauge wire may be required for long runs. All wiring must comply with the National Electric Code (NEC) and local codes.

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

STOP

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

Fig. 1



LED1 – Occupancy LED. To activate the LED, short this terminal to the GND (common) terminal.

GND(common) – Unit Ground or common. Needs to be the same as the controller's.

POWER – Unit power. Factory set to use either (+15 to +24VDC) or (+5VDC).

SEN1 and SEN2 – Thermistor input. When unit is configured as common ground, SEN2 is internally shorted to the GND(common) terminal.

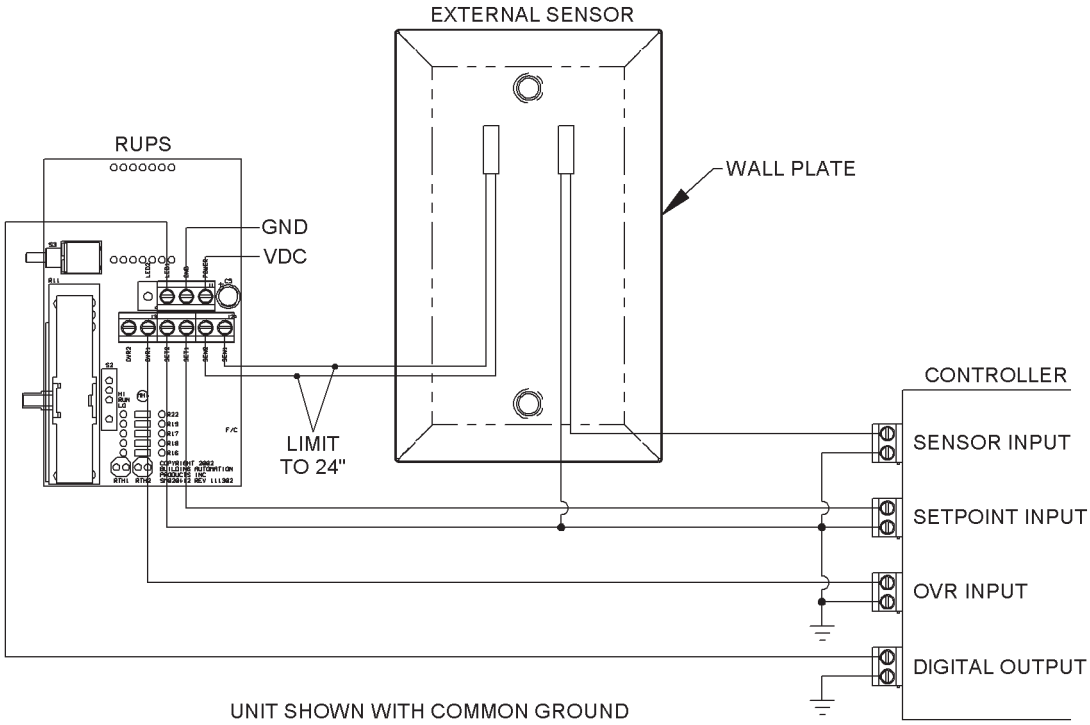
SET1 and SET2 – Temperature Setpoint Slider output. When unit is configured as common ground, SET2 is internally shorted to the GND(common) terminal.

OVR1 and OVR2 – Push button, dry contact output. When unit is configured as common ground, OVR2 is internally shorted to the GND(common) terminal.

Note: Test and Balance Switch is not available with an external sensor.

RUPS W/ EXTERNAL SENSOR WIRING EXAMPLE

Fig. 2



Optional Settings for RuPS

Optional Settings		
Override//Sensor	Override//Setpoint	Override as separate input
Sensor	(See BAPI website for sensor output)	
Setpoint	400, 1K, 10K, 20K, 100K ohms 0 to 5VDC	
For example:	500 to 1500 ohms.....4.75K to 24.75K..... 6.19K to 26.19K	
CONTACT FACTORY WITH ANY DIFFERENT RANGE INQUIRIES		
Common GND:	Unit can be set up at factory	
Differential:	Unit can be set up at factory	

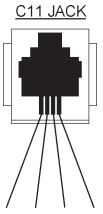
Troubleshooting - Temperature Signal

Problems:	**Possible Solutions:**
Unit will not operate	- Check power supply/controller voltage supply - Disconnect sensor power wires and check for power to sensor
Temperature sensor in front end software is reading high	- Verify the input is set up correctly in the front end software - Check if the thermistor is damaged - Check wiring for proper termination - Compare reading to appropriate sensor table
Temperature sensor in front end software is reading low	- Check wiring for proper termination - Compare reading to appropriate sensor table
LCD is not working	- Check “Power” to “GND” for correct operating voltage - Confirm the sensor is wired correctly - If outputs are correct, but display is not operating, contact *BAPI* technical support.
Sensor reading is significantly off from LCD temperature	- Confirm the sensor is wired correctly - Compare reading to appropriate sensor table - Make sure the specified thermistor is correct

Note: 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 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. BAPI’s web site is found 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.

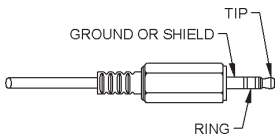
Optional Communications Jack in base

Fig. 2 C11 Comm Jack



C11 Wiring	
Comm Jack Pin	Wire Color
1	Not Connected
2	Black
3	Red
4	Yellow
5	White
6	Not Connected

Fig. 3 C35 Comm Jack



Note: Male Jack shown for clarity

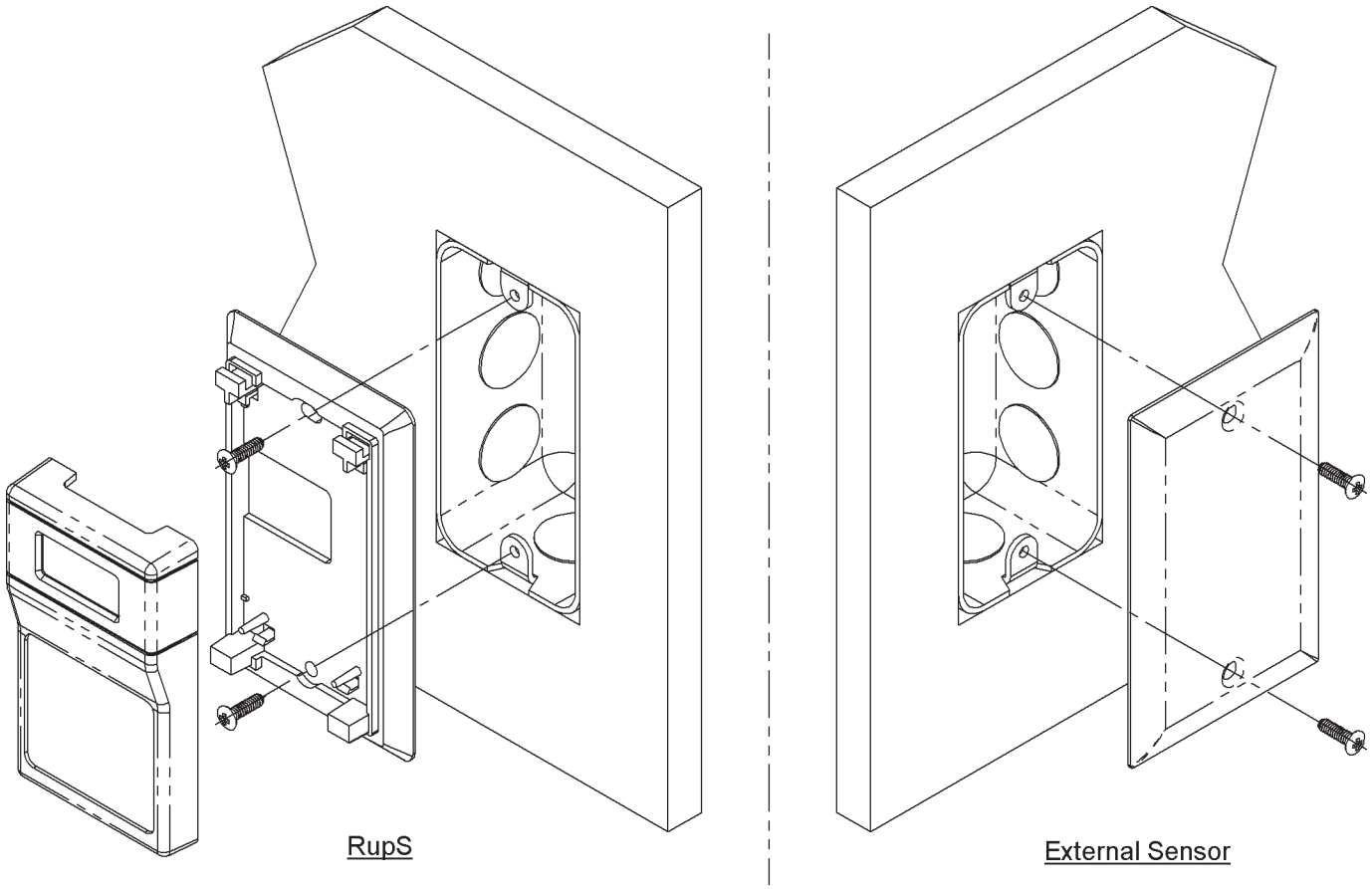
C35 Wiring	
	Wire Color
Ground	Black
Tip	White or Green
Ring	Red

Troubleshooting Connection of Wires

Problems:	**Possible Solutions:**
No connection to controller can be made	- Confirm connection from patch cable to remote computer - Make sure wires are tightly pressed in - Check wiring for proper termination
Information received through wires is garbled	- Check wiring for proper termination - Verify that no wires are shorted together

Mounting

Figure 3: RuPS Display Unit & Wall Plate External Sensor Mounting on Opposite Sides of the Same Wall.



1. Mount two junction boxes on opposite sides of the same wall. One side of the wall is the wall plate external sensor and the other side of the wall is where the RuPS display unit will be installed. Place the boxes close enough together that the wire on the wall plate and the display unit can reach one another.
2. Secure the RuPS display unit base to the junction box using the #6-32 x 1/2 inch mounting screws provided.
3. Run the wires from the wall plate through the junction box into the junction box for the RuPS display unit. Secure the wall plate to the junction box with the #6-32 x 1/2 inch mounting screws provided making sure the foam on the back of the wall plate makes a good seal with the wall.
4. Terminate the unit according to the guidelines in **Termination** on page 1.
5. Attach RuPS Cover by latching it to the top of the base, rotating the cover down and snapping it into place.
6. Secure the RuPS cover by backing out the lock-down screws using a 1/16" Allen wrench until they are flush with the bottom of the cover.