

Installation Instructions 10-528 Indoor Remote Sensor

Introduction:

The indoor sensor is designed to sense the air temperature at a remote location and send this information by digital communications to the thermostat. Any number of sensors up to six can be connected together to provide temperature averaging.

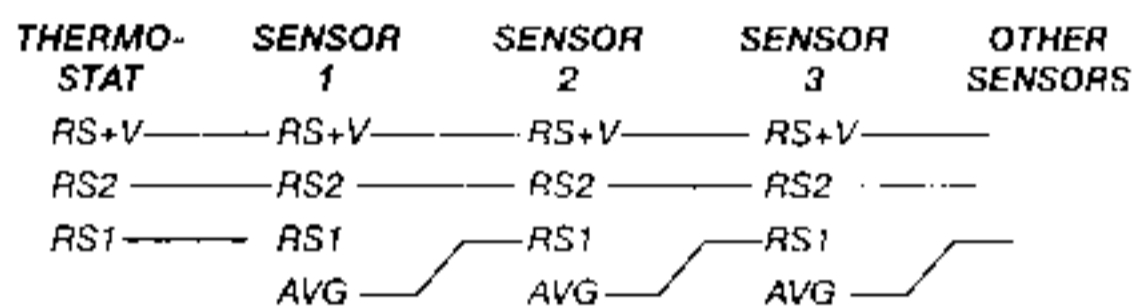
Single Sensor Installation:

1. Install the thermostat according to the instruction manual supplied with it. Check that the thermostat is operating. (Display shows the correct temperature). **CAUTION:** Remove the thermostat from the subbase while wiring the sensor to avoid damage from live wires. This is important.
2. Install three-wire cable from the thermostat to the remote sensor location. Maximum distance is 300 ft. (90m).
3. Open the sensor case by depressing the button on the bottom edge of the case until the latch releases. Remove the cover by pulling it out and up at the bottom.
4. Remove the board from the subbase by pulling back the latch that holds it at the center bottom.
5. Use the subbase as a template to mark the mounting hole locations on the wall. Drill size for the wall anchors is 1/4 inch. Mount the subbase over the wires coming out of the wall using the two screws and anchors provided. The angled corner on the subbase should be in the bottom right.
6. Snap the board back into the subbase. Check to be sure that the latch holds the board properly. Check that the thermistor (sensor element) is positioned under the holes in the cover but not touching the cover or subbase.
7. Strip 1/4 inch of insulation from the three wires at the Remote Sensor. Install the wires in the terminals labeled RS2, RS+V and RS1. Push any extra wire back into the wall cavity. Seal the hole in the wall around the cable to eliminate any draft that might affect the sensor. (Refer to Figure 1).
8. Note the wire color going to each terminal. The order of the wires on the thermostat is not the same as the sensor.
9. Connect the wires on the thermostat subbase to the terminals labeled RS2, RS1 and RS+V. Make sure that each terminal on the sensor is wired to the terminal with the same name on the thermostat.
10. Mount the thermostat on the subbase and check to be sure that it is showing the temperature.
11. Reinstall the cover on the remote sensor by hooking it on the top and snapping the bottom into place.

Using Multiple Sensors for Temperature Averaging:

Any number from two to six sensors may be connected together to provide temperature averaging in a large area or several zones being controlled by the same system. Maximum distance between any two sensors is 300 ft. (90m).

1. Wire the first sensor using the single sensor instructions.
2. **CAUTION:** Make sure that there is no power to the sensors by removing the thermostat from the subbase.
3. Connect wires to each additional sensor in the following manner. An outdoor sensor can also be connected in any location in the chain. (Refer to Figure 2 also)



4. Replace the thermostat on the subbase. Check for proper operation of each sensor by connecting a jumper between terminals 1 and 2. This shorts out the thermistor. The displayed temperature will go up several degrees if the sensor is properly installed. Repeat for each sensor.

Troubleshooting:

Thermostat has no display: Check wiring between thermostat and sensor. Incorrect wiring can damage the thermostat, transformer or blow out a fuse. Check 24VAC supply.

Thermostat reads "AC": 24VAC power is disconnected.

Not sure if display is showing local or remote temperature: Breathe on the wall near the bottom left corner of the thermostat. Temperature will go up for a few seconds if sensing locally.

Thermostat displays very high temperature: Wires on sensor element are shorted together. Separate them.

Thermostat displays very low temperature: Check wiring of probe or duct sensor. Sensor element is not connected to board or is broken.

10-528 Installation Diagrams

SINGLE SENSOR

Specifications

- Power supply: 12 to 30 VAC or DC (24 V nominal)
- Operating temperature: 0 to 50 °C
- Maximum Relative Humidity: 90% (non-condensing)
- Measurement Range: 0 to 48°C or 28 to 124°F
- Accuracy: ± 1 °C from 15 to 30°C (± 2 °F at 68°F) after 30 minutes of continuous operation.
- Max. cable length between any 2 units: 300 ft. (93m)
- Max. number of indoor sensors in daisy chain: 6
- Max. number of outdoor sensors in daisy chain: 1

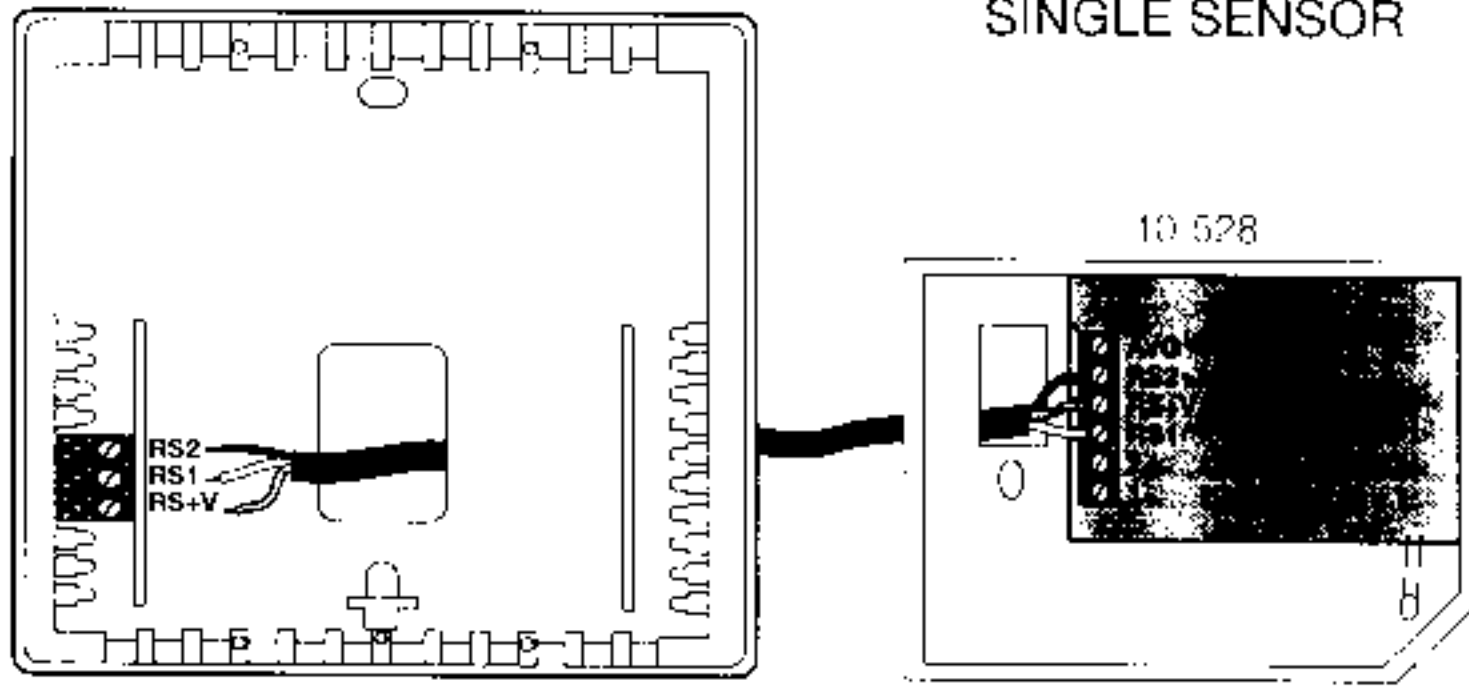


FIGURE 1

MULTIPLE SENSORS (TEMPERATURE AVERAGING)

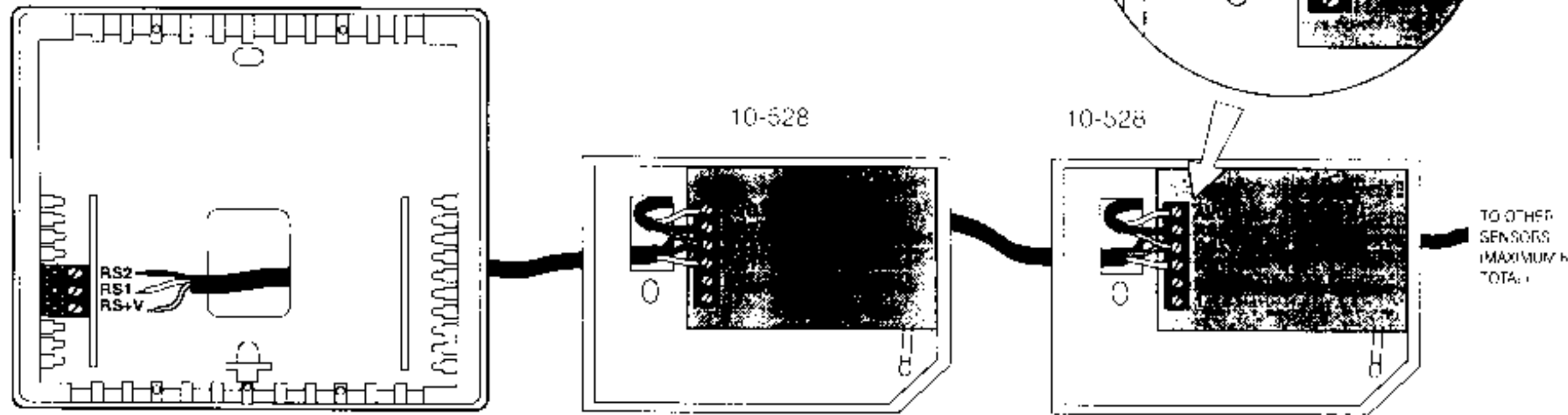
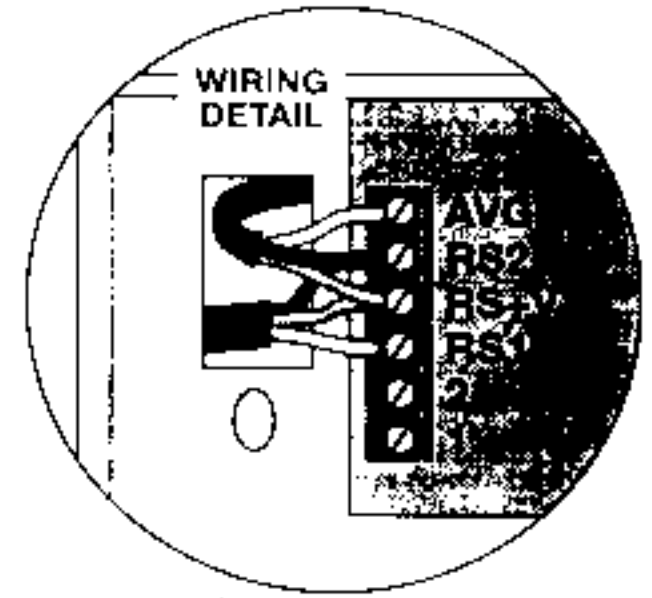


FIGURE 2

RETROFIT TO MULTIPLE RSK4 SENSORS OR INSTALLING AN RDS-10K DUCT SENSOR

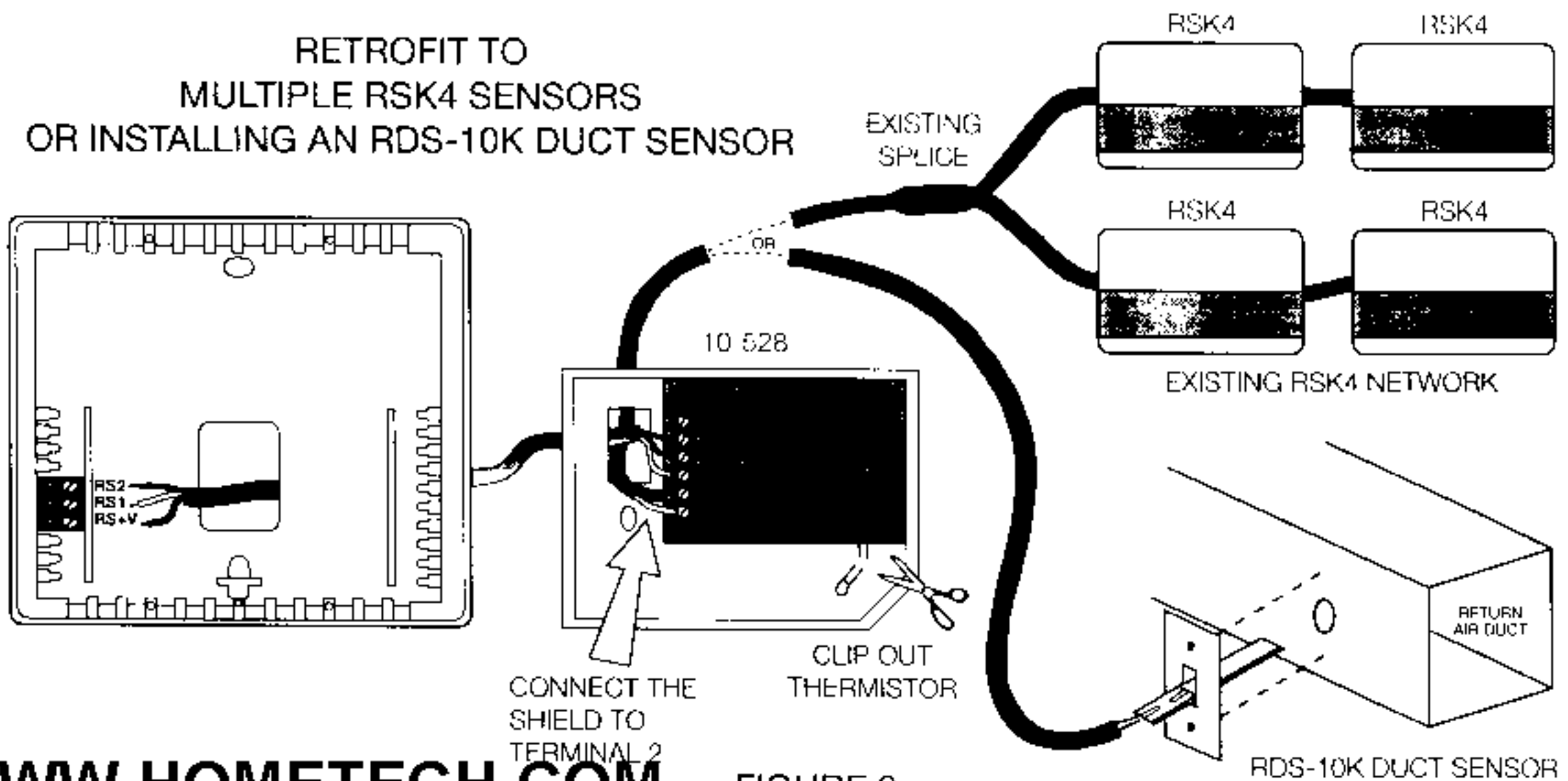


FIGURE 3