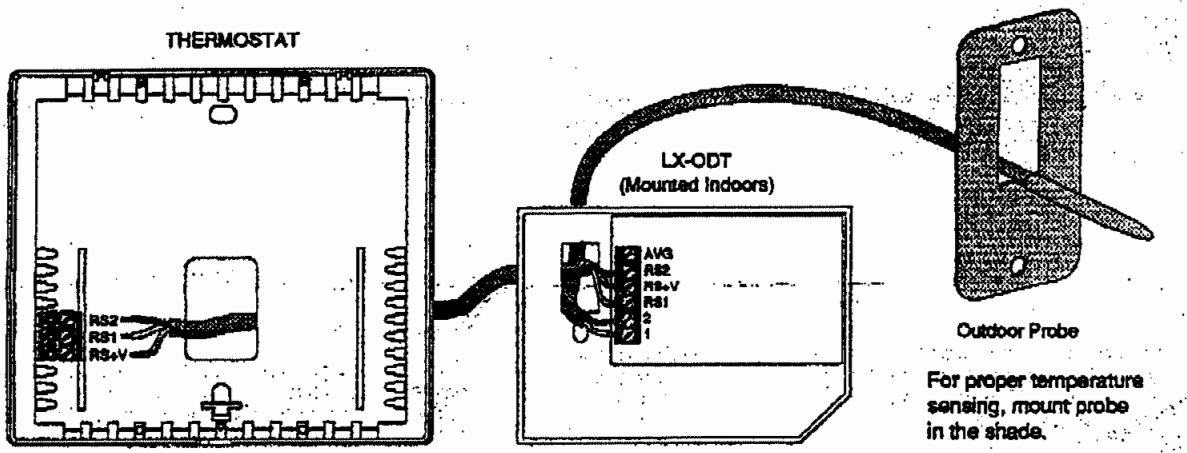
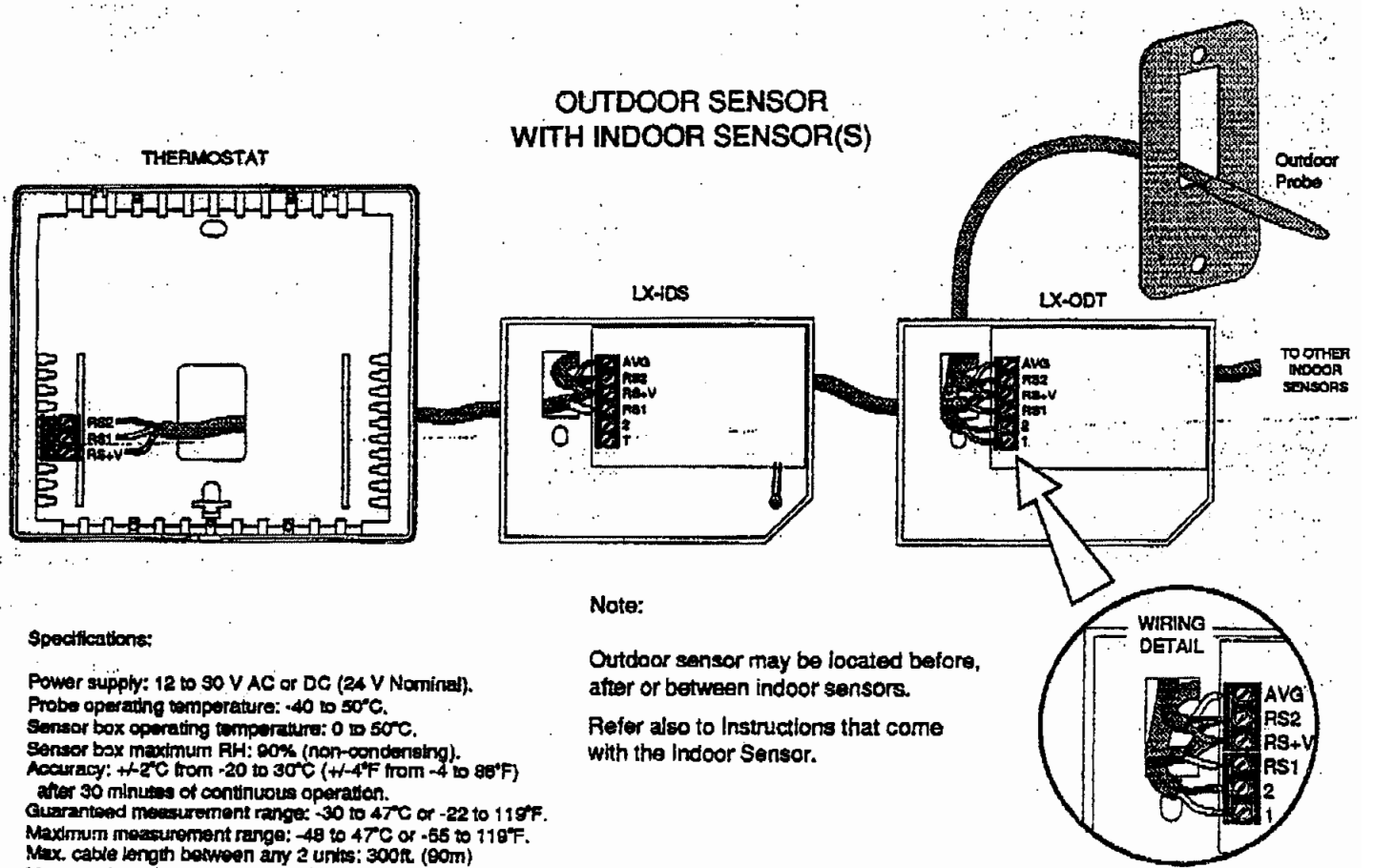
LENNOX MODEL
LX-ODT
OUTDOOR TEMPERATURE SENSOR
INSTALLATION DIAGRAMS

OUTDOOR SENSOR ONLY



OUTDOOR SENSOR WITH INDOOR SENSOR(S)



Specifications:

Power supply: 12 to 30 V AC or DC (24 V Nominal).
Probe operating temperature: -40 to 50°C.
Sensor box operating temperature: 0 to 50°C.
Sensor box maximum RH: 90% (non-condensing).
Accuracy: +/-2°C from -20 to 30°C (+/-4°F from -4 to 86°F) after 30 minutes of continuous operation.
Guaranteed measurement range: -30 to 47°C or -22 to 119°F.
Maximum measurement range: -48 to 47°C or -55 to 119°F.
Max. cable length between any 2 units: 300ft. (90m)
Max. number of outdoor sensors in daisy chain: 1
Max. number of indoor sensors in daisy chain: 6

Note:

Outdoor sensor may be located before, after or between indoor sensors.

Refer also to Instructions that come with the Indoor Sensor.

LENNOX

Installation Instructions

Model *LX-ODT*

Outdoor Temperature Sensor

Catalog Number 37K09

Introduction:

The Lennox LX-ODT is designed to sense outdoor air temperature and send this information by digital communications to a Lennox thermostat. The outdoor temperature can then be displayed on the thermostat. In heat pump applications it can also be used to control the balance point and the auxiliary heat lockout temperatures.

Installation of Outdoor Sensor Only:

1 Install the thermostat according to the instruction manual supplied with it. Check that the thermostat is operating. (Display shows the correct temperature.)

2 Select a location for the outdoor probe that will give accurate readings. Do not locate the probe where it will be influenced by sunlight. The north side of the building or under the shadow of the eaves are often good locations. Avoid locations such as near dryer vents or other sources of heat.

3 Mount the probe on the outside of the building using the screw and wall anchor provided so that the tip is well away from the surface of the wall. The cable may be routed directly through the wall or bent at the probe and routed along the surface to enter at a more convenient place.

4 Locate the sensor box indoors in a controlled air space near the probe. The cable with the probe is about 6 feet long (180cm). Additional 2-conductor cable may be spliced on if necessary to increase the length.

5 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.

6 Remove the board from the subbase by pulling back the latch that holds it at the centre bottom.

7 Mount the subbase over the wires coming out of the wall using the two screws and anchors provided. Drill size for the wall anchors is 1/4 inch. The angled corner on the subbase should be in the bottom right.

8 Snap the board back into the subbase. Check to be sure that the latch holds the board properly.

7 Strip 1/4 inch of insulation from the two wires coming from the probe to the sensor box. Connect the wires to terminals 1 and 2. Polarity is not important on the probe.

9 Install three-wire cable from the thermostat to the outdoor sensor box. CAUTION: Remove the thermostat from the subbase while wiring the sensor to prevent damage from live wires.

10 Strip 1/4 inch of insulation from the three wires coming from the thermostat. Install the wires in the terminals labelled RS2, RS+V and RS1. Push any extra wire back into the wall cavity.

11 Note the wire colour going to each terminal.

12 Connect the wires on the thermostat subbase to the terminals labelled 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.

13 Mount the thermostat on the subbase and check to be sure that it is showing the temperature. It may take a few seconds to stabilize.

14 Press the *Outdoor* button on the thermostat. the outdoor temperature should be displayed with the tree and thermometer symbol.

15 Re-install the cover on the outdoor sensor by hooking it on the top and snapping the bottom into place.

Using Multiple Sensors:

Only one outdoor sensor may be installed with a thermostat. However, any number from one to six indoor sensors may also be connected for indoor remote sensing and temperature averaging.

Refer to the instructions with the indoor sensor for connecting multiple sensors. The outdoor sensor may be connected with one or more indoor sensors in the same way that an indoor sensor is wired. The only difference in wiring is the additional two wires from the probe which go to terminals 1 and 2.

Heat Pump Applications:

If the sensor is being used with a heat pump thermostat with auxiliary heat, the thermostat can be configured to disable the use of auxiliary heat during warm weather and to lock out the compressor when the outdoor temperature is too cold. This can make the most efficient use of energy.

At warmer temperatures, a heat pump will operate much more efficiently than the auxiliary heat. It can save energy to disable auxiliary heat in some cases; for example, when returning from setback on a mild day. The temperature above which auxiliary heat is disabled is the *Auxiliary Lockout Temperature* or *High Balance Point*.

Air-to-air heat pumps become less efficient as the outdoor temperature drops. The temperature at which it becomes more efficient to use auxiliary heat instead of the heat pump is the *Balance Point* or *Low Balance Point*.

To display the high and low balance points, while holding down the *Outdoor* button, press the *Mode* button on programmable thermostats, or the *Fan* button on non-programmable thermostats. The display will indicate the high or low balance point and the selected temperature. Press *Outdoor* again to toggle between the two settings.

The factory settings allow the use of the heat pump and auxiliary heat over the entire temperature range of the outdoor sensor.

Adjust either setting using the up and down arrow keys. Consult a qualified installer or the heat pump manufacturers instructions for appropriate settings.

CAUTION: Do not set the high balance point below the low balance point as this will create a 'dead band' with no temperature control.

Troubleshooting:

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

Thermostat reads "AC": AC power is disconnected.

Display shows two dashes when outdoor button is pressed:

Thermostat displays very high outdoor temperature: Wires on probe are touching (shorted together). Separate them.

Thermostat displays very low temperature: Probe is not connected to sensor properly. Check probe wiring.

Stock # M3644-00 95245 ALT0038A ROC Filed in DCD.