



Installation Instructions NT-SUPPLY Net/X Discharge Air Sensor

Introduction

The Net/X supply (discharge air) remote sensors are designed to sense the air temperature in a supply plenum and send this information by digital communications to the thermostat. One (1) sensor can be connected to the Net/X thermostat and can only be used instead of the NT-ODT Outdoor Air Sensor. Discharge Air Temperature (DAT) is then displayed on the thermostat instead of Outdoor Air Temperature when the "Outdoor" button is pressed. An NT-ODT sensor cannot be used together with an NT-SUPPLY sensor on a thermostat. The unit is supplied in a surface mount plastic case for the sensor electronics and an 8" duct probe for internal plenum temperature sensing.

Sensor Electronics Installation

1. Install the Net/X thermostat according to the instruction manual supplied with it. Check that the thermostat is operating and the display shows the correct temperature. **CAUTION: Remove the thermostat from the sub-base while wiring the sensor to avoid damage from live wires. This is important.**
2. Install Category 5 UTP cable from the Net/X thermostat to the remote sensor location. Maximum distance is 300ft. (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 sub-base by pulling back the latch that holds it at the center bottom.
5. Use the sub-base as a template to mark the mounting hole locations on the wall. Drill size for the wall anchors is 1/4 inch. Mount the sub-base over the wires coming out of the wall using the two screws and anchors provided. The angled corner on the sub-base should be in the bottom right. Snap the board back into the sub-base. Check to be sure that the latch holds the board properly.
6. Strip 1/4 inch of insulation from three wires at the remote sensor. Install the wires in the terminals using the Table below. 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.)

RS+V = Green with White Stripe
RS2 = White with Green Stripe
RS1 = Brown with White Stripe

7. Note the wire color going to each terminal. The order of the wires on the thermostat is not the same as the sensor.
8. Connect the wires on the thermostat sub-base 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.
9. 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.
10. Install the duct sensor in the supply air duct according to the diagram in Figure 3.
11. Mount the thermostat on the sub-base and check to be sure that it is showing the temperature. It may take a few seconds to stabilize.

12. Press the *OUTDOOR* button on the thermostat. The discharge air temperature should be displayed with the tree and thermometer icon.
13. Reinstall the cover on the remote sensor by hooking it on the top and snapping the bottom into place.

Troubleshooting

Thermostat has no display : Check wiring between thermostat and sensor. Incorrect wiring can damage the thermostat, transformer or blow a fuse. Check the 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. The temperature will go up for a few seconds if sensing locally

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

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

Pressing the 'Outdoor' button does not display the discharge air temperature : Check wiring of the probe and the discharge air sensor. The sensor element may not be connected to board or is broken.

Other Recommendations

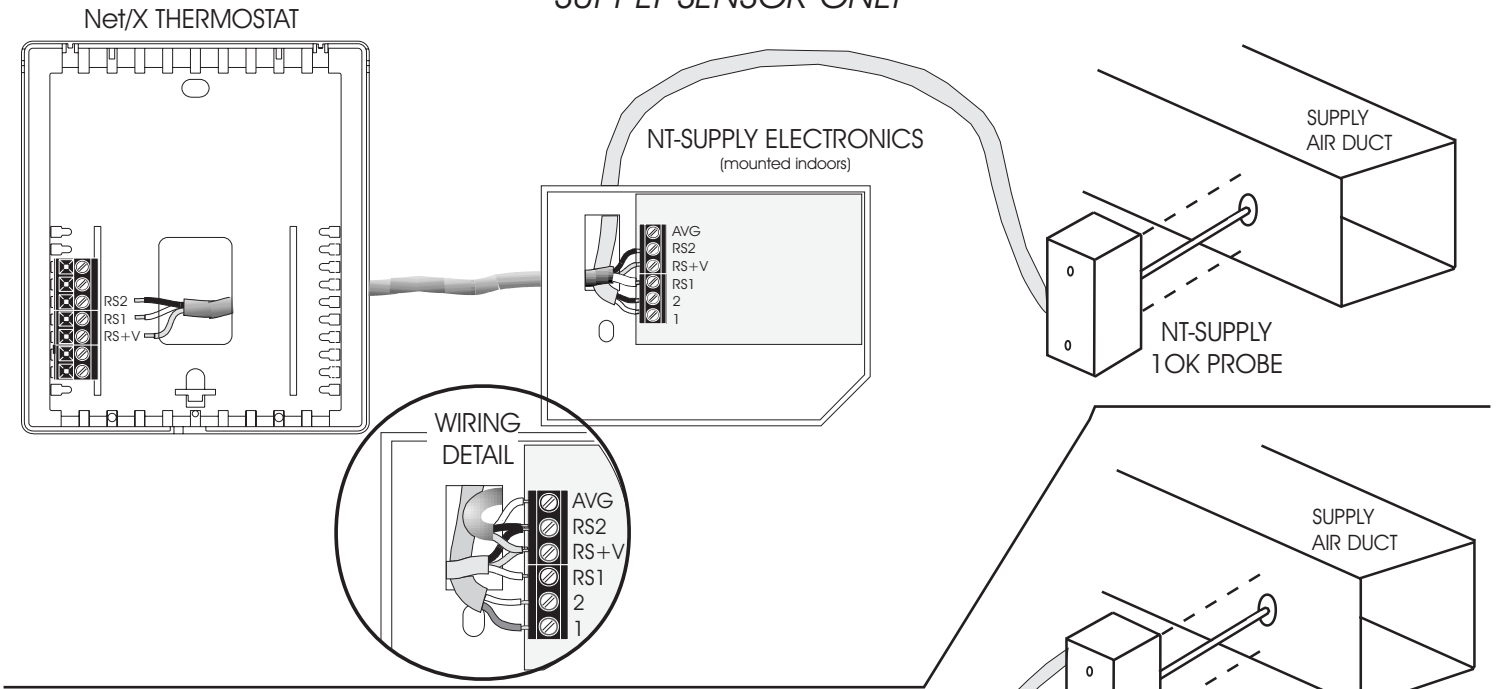
Since the NT-SUPPLY sensor works only as a substitute for the NT-ODT remote outdoor temperature, it is advised that the thermostat cover locking clip (see thermostat installation instructions) be used on the Net/X. This will keep the end user from pressing the 'Outdoor' button and mistakenly interpret the discharge air temperature as the outdoor temperature.

If the NT-SUPPLY sensor is being used with either the HP21-NX, HP32-NX or the HP32-N2 Net/X thermostat, it is important to make sure the high and low balance point adjustments are at the ends of their ranges. To determine this, press and hold the 'Outdoor' button and then press the 'Mode' button. Using the 'Up' and 'Down' buttons, set the HiBP to 155 and the LoBP to -55. This process can only be done with the sensor electronics connected to the Net/X thermostat.

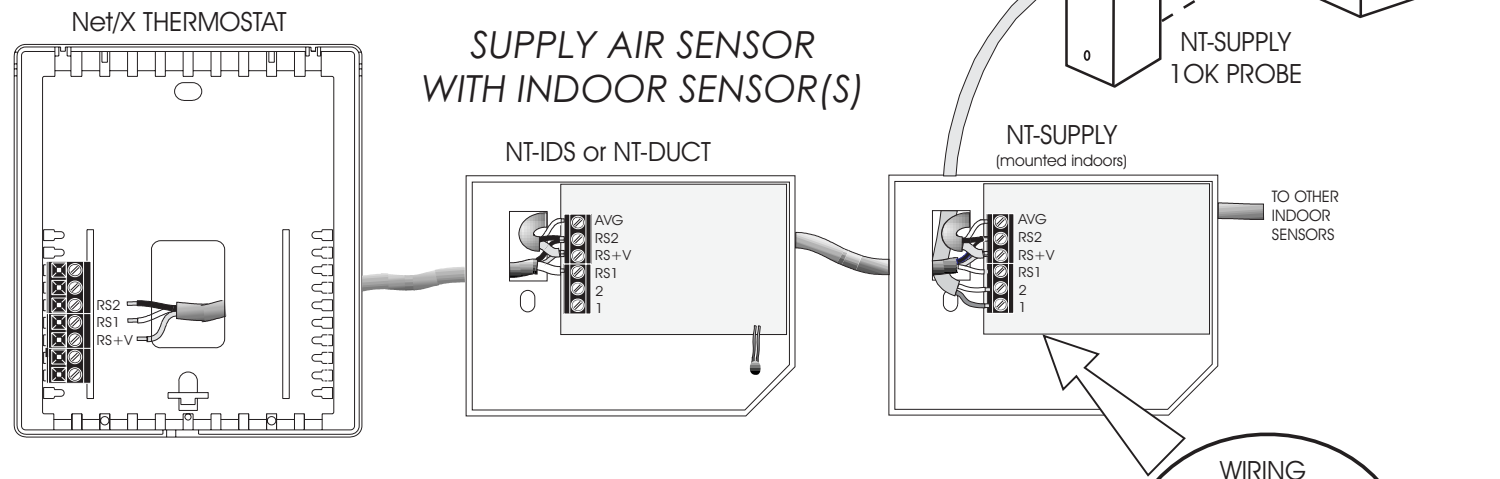
NT-SUPPLY DISCHARGE AIR SENSOR

INSTALLATION DIAGRAMS

SUPPLY SENSOR ONLY



SUPPLY AIR SENSOR WITH INDOOR SENSOR(S)



Specifications:

Power Supply : 12 to 30 VAC or DC (24V Nominal)
 Probe Operating Temperature : -40 to +50 Deg. C
 Sensor Box Operating Temperature : 0 to 50 Deg. C
 Sensor Box Maximum RH : 90 % (non-condensing)
 Accuracy : +/- 2 Deg C from -20 to +30 Deg C
 (+/- 4 Deg F from -4 to +86 Deg F)
 after 30 minutes of continuous operation
 Guaranteed Measurement Range : -30 to +47 Deg C
 (-22 to 119 Deg F)
 Maximum Measurement Range : -48 to +47 Deg C
 (-55 to 119 Deg F)
 Max Cable Length Between 2 Units: 300 Ft, with CAT 5 UTP
 Cable Type : CAT 5 UTP
 Max Number of Indoor Sensors in a Daisy Chain: 6
 Max Number of Discharge Sensors in a Daisy Chain: 1

Note:

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

Refer to instructions that come with the indoor / duct sensor.

