

# READ AND SAVE THESE INSTRUCTIONS



## OUTDOOR AIR TEMPERATURE COMPENSATED DIGITAL HUMIDISTAT MODEL HXHAT INSTALLATION INSTRUCTIONS

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### Description

The Model HXHAT is a digital humidifier control that can automatically adjust the indoor humidity set point as the outdoor air temperature changes. This intelligent control will maintain accurate humidity levels and a more comfortable indoor environment. The actual indoor relative humidity is displayed until Up or Down buttons are pushed. Humidity set point is then displayed and can be changed using the Up or Down buttons.

An outdoor temperature sensor is included and must be connected to fully utilize the features of the HXHAT. The outdoor sensor allows the humidistat to automatically adjust the humidity set point to avoid condensation on windows. It is also a convenient way to read the outdoor air temperature. The sensor is not required to use the HXHAT in the manual mode.

The HXHAT operates on 24 volts, AC. The humidistat can be installed on an interior wall within the conditioned space or on the return air duct. If mounted on the return air duct it is recommended that the heating system fan should be set to run continuously to obtain accurate sampling of the conditioned space.

### Display (Figure 1)

The HXHAT display normally shows the relative humidity in the conditioned space. The "RH" symbol flashes when the humidistat is calling for humidification. The "RH" symbol remains steady when the humidity set point is satisfied. Allow 24 hours for the HXHAT to fully stabilize and display the accurate humidity level.

### Changing the Set Point (Figure 2)

When the Up or Down "%RH" buttons are pressed once the HXHAT displays the set point. Use the Up or Down buttons to change the set point. On initial start up the set point defaults to 40% RH.

### Displaying the Outdoor Temperature (Figure 3)

Pressing the OD TEMP" button will display the outdoor temperature from -9° to 98°F if the outdoor temperature sensor has been installed. If the outdoor temperature sensor is not installed or it is open or shorted the display will show "99" when the "OD TEMP" button is pressed.

### Selecting Manual or Automatic Operation (Figure 4)

In "MAN" the HXHAT maintains the set point selected without regard to changes in the outdoor temperature. In "AUTO" the humidistat will adjust the set point as the outdoor temperature changes. Table 1 shows the adjusted RH set points using the factory default set point of 40%. If the default set point has been changed the HXHAT will calculate a new adjusted set point when the outdoor temperature drops below 35°F. The new adjusted set point will be shown on the display.

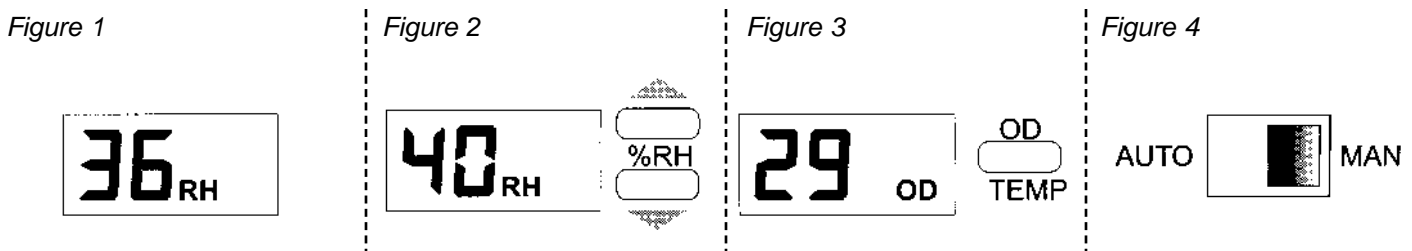
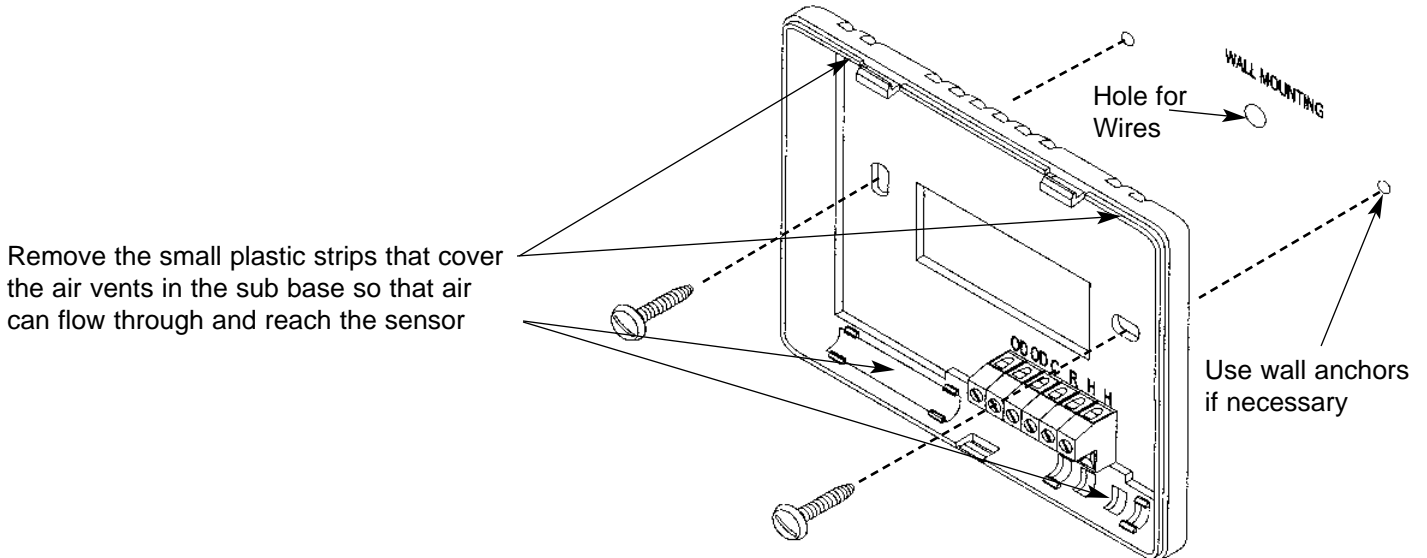


Table 1

Outdoor Temperature	+35°F	+30°F	+25°F	+20°F	+15°F	+10°F	+5°F	+0°F	-5°F	-9°F
Adjusted % RH	40%	38%	35%	33%	30%	28%	25%	23%	20%	18%

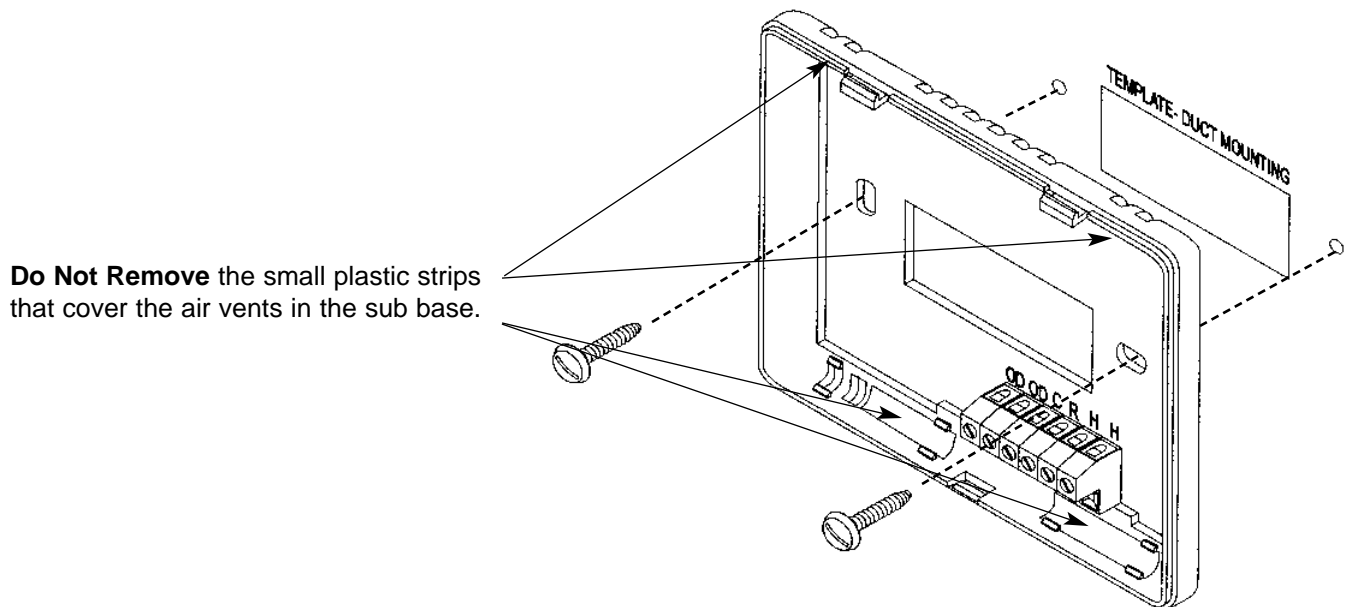
## INSTALLATION, WALL MOUNTING:

The humidistat can be installed on a wall within the conditioned space. Use the template provided and drill a 3/8" hole in the wall for the wiring and two pilot holes for the mounting screws. Use the foam gasket provided to create a seal against the wall. Seal the hole made for wiring using plumbers putty, wall compound or tape to prevent leakage from effecting the sensor on the circuit board.

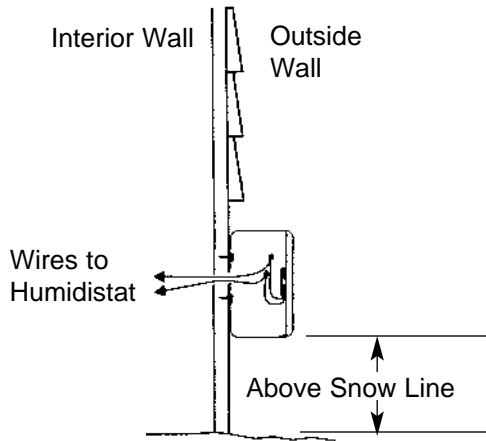


## INSTALLATION, DUCT MOUNTING:

The humidistat can be installed on the return air duct to sense the humidity level whenever the fan is operating. Use the template provided and cut an opening in the duct for air to reach the humidity sensor and two holes for the mounting screws. Use the foam gasket provided to create a seal against the sheet metal. Also punch a 1/4" hole in your duct to route the wires into the duct and out the opening to the humidistat.

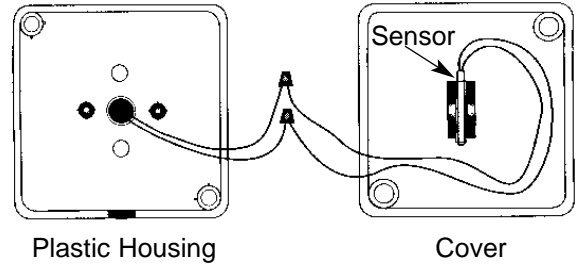


## Mounting Outdoor Air Sensor:



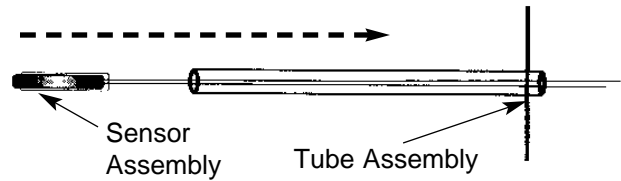
The outdoor air sensor can be mounted on an outside wall or on an outdoor air intake duct. If mounted on a wall the plastic housing should be located on the North, East or West side of the building. Avoid direct sunlight and do not mount close to exhaust vents of any type. Fasten the plastic housing to the outside wall using the screws provided. Mount the housing so that the hole in the side is facing down.

Press the outdoor air sensor into the sensor holder on the underside of the front cover. Use wire nuts to connect the sensor wires to the wires running to the humidistat.

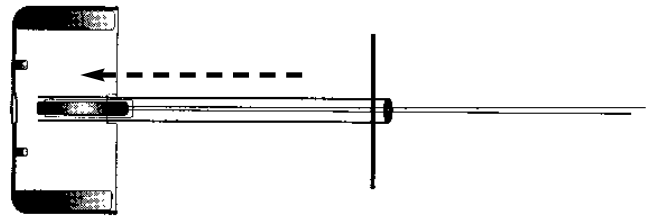


If mounted in an outdoor air intake duct drill a 3/8" hole into the duct. Assemble the components as shown below to allow the sensor to contact the outside air moving through the duct. Fasten the plastic housing to the outside of the duct and connect the wires running to the humidistat using wire nuts. Fasten the cover onto the plastic housing.

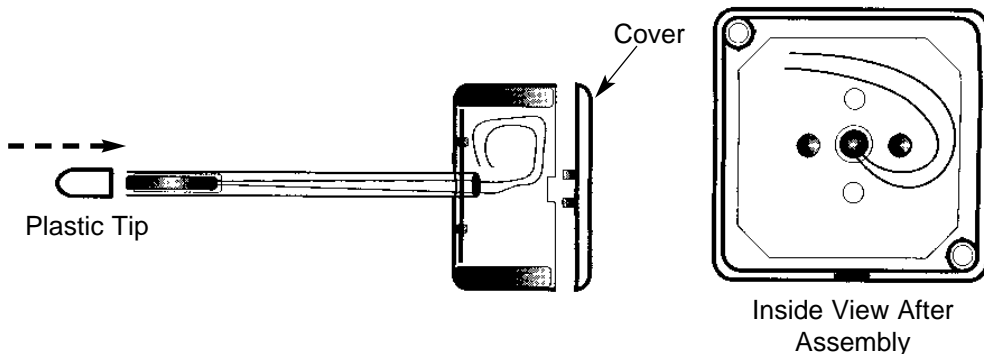
1. Pull the sensor assembly into the tube assembly as shown until the tip of the sensor is even with the end of the tube.



2. Slide the tube assembly through the center hole of the plastic housing all the way and press the bracket down onto the alignment posts.



3. Slide the plastic tip onto the end of the tube.



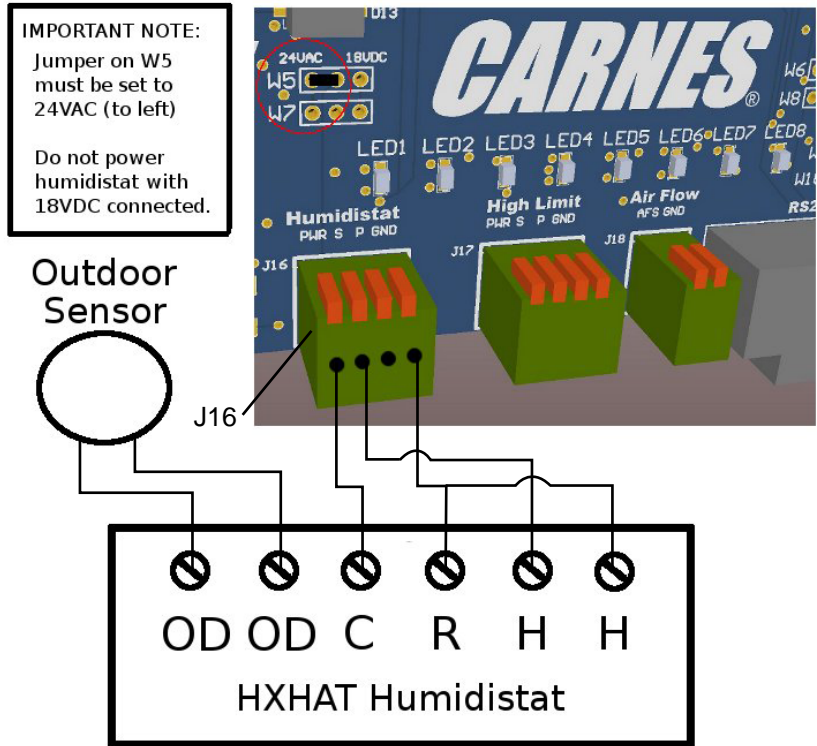
## Wiring:

**ALL POWER MUST BE TURNED OFF WHILE WORKING ON THIS EQUIPMENT.**

All work must be done in accordance with local and national codes and ordinances.

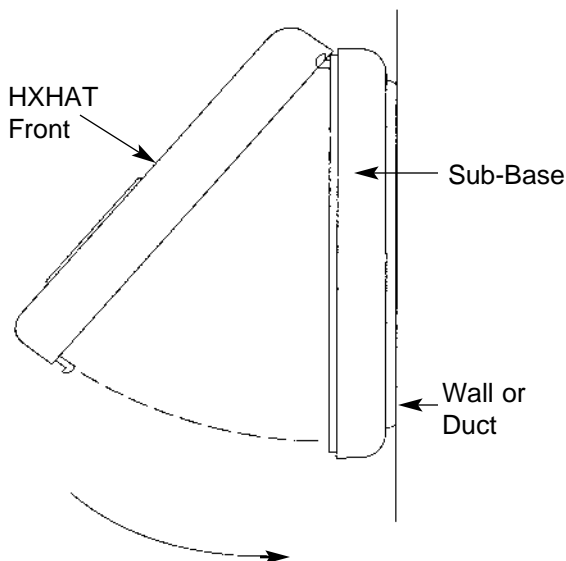
Use color-coded, multi conductor 18AWG, solid copper wire to connect the humidistat to the humidifier.

Use a dedicated 2 conductor 18AWG solid copper jacketed thermostat cable to connect the outdoor sensor to the humidistat. Avoid running cable in close proximity to line voltage circuits or inside a conduit with other circuits. Avoid wire runs in excess of 100 ft.



## Final Assembly:

After installing and wiring the sub-base, attach the HXHAT humidistat by placing the front over the two sub-base brackets, and swinging the front cover down and snapping it in place.



Be sure to peel off the plastic protective film from the front when the installation is complete.

