

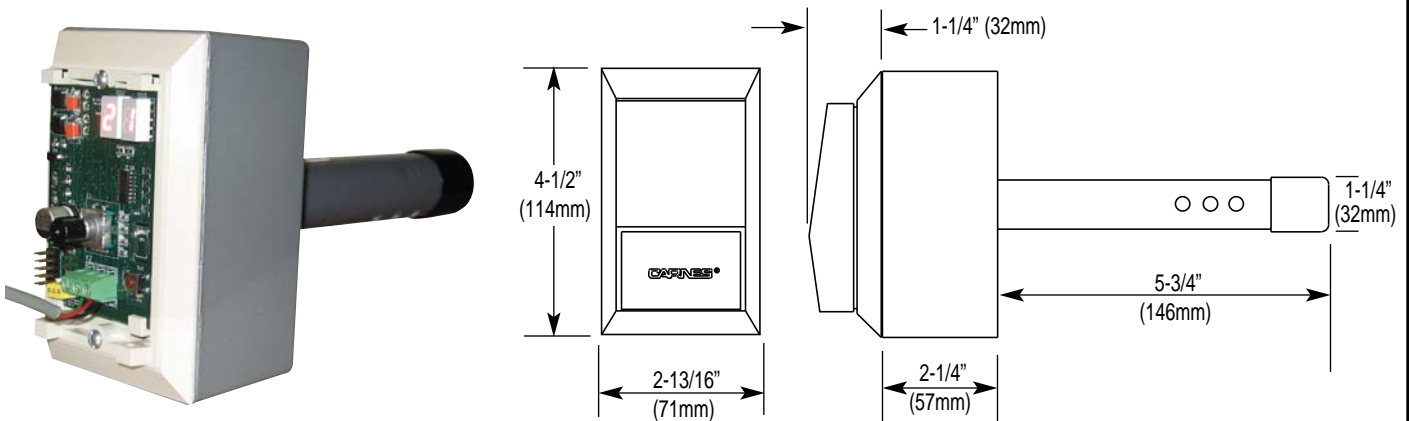
**MODEL HXHAN
DUCT HUMIDISTAT, PROPORTIONAL CONTROL – CONTROL OR HIGH LIMIT**

**INSTALLATION AND
SPECIFICATION**

CARNES COMPANY 448 S. Main St., P. O. Box 930040, Verona, WI 53593-0040 Phone: (608)845-6411 Fax: (608)845-6504 www.carnes.com

INTRODUCTION

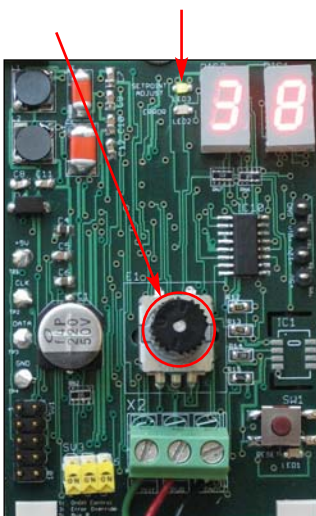
The Model HXHAN is an intelligent humidistat solution used exclusively for duct mounted installations. The humidistat is capable of providing both humidity and temperature measurements from inside the duct. The microprocessor control takes the temperature into consideration when calculating the humidity to provide an extra degree of precision.



FUNCTIONALITY

The HXHAN is a flexible humidistat that can be adjusted to fit a customer's needs. A pushbutton encoder and a set of switches are available to adjust the humidistat's alternate functions.

Setpoint Adjustment



The setpoint adjustment encoder modifies the setpoint of the HXHAN. A push on the encoder knob activates a switch, bringing the humidistat into setpoint adjustment mode. The seven segment LED displays show the current humidity setpoint the humidistat is operating. The humidity setpoint can be modified by turning the knob clockwise (to increase the humidity setpoint) or counter clockwise (to decrease the humidity setpoint). Once the desired humidity setpoint is obtained, the knob is pressed again to confirm the desired setpoint and return to the humidity/temperature viewing mode. While in the setpoint adjustment mode, the setpoint adjustment LED is lit. If the knob is inactive in setpoint adjustment mode for more than a minute, the humidistat automatically confirms the current humidity setpoint indicated on the seven segment LED's and returns to the humidity/temperature viewing mode.

On/Off or Proportional Control



The first (*farthest left*) adjustable switch controls whether the unit is in proportional control mode or on/off control mode. When the switch is off, the unit is in proportional mode. When it is on, the unit is in on/off mode. In on/off mode, the output voltage signal is either 0 or 10 Volts. This limits the humidifier to either run at full capacity when there is a humidity demand, or turn off when there is no demand. In proportional mode, the output signal to the humidifier varies between 0-10 Volts, this mode has the benefit of being able to adjust the unit to operate at a percentage of its full capacity. Proportional mode allows the humidifier to regulate at a more precise humidity level (between 1-2% from setpoint), whereas the on/off mode has a wider regulatory band but can have some added operational benefits, including decreased energy consumption.

Enable or Disable Temperature Error



The second (*middle*) adjustable switch controls whether or not to halt operation of the humidifier when sensing a temperature error. If the switch is off, the humidistat will shut down the humidity demand signal if the sensor senses a temperature inside the duct of less than 50 degrees Fahrenheit. If the switch is on, the humidistat will continue to operate normally regardless of the temperature inside the duct. At temperatures less than 50 degrees, the possibility of condensation accumulating on the inside of the duct work increases significantly.

Humidity or Temperature Display



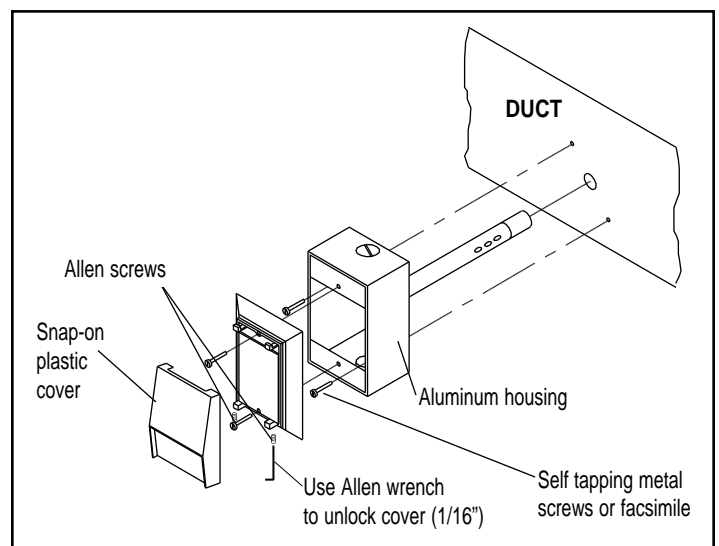
The third (*farthest right*) adjustable switch controls whether the two seven segment LED displays humidity or temperature when not in setpoint adjustment mode. If the switch is on, the unit displays temperature (in Fahrenheit). If the switch is off, the unit displays humidity (in % RH). If the switch is on, and the temperature being sensed is 100 degrees or greater, any digits beyond the 1's and 10's digit will not be displayed.

INSTALLATION

Remove any excess insulation from the duct that would prevent the probe from extending a minimum of 4" (106mm) into the air stream.

Make a 1-1/2" (38mm) hole in the duct for inserting the probe.

Use a gasket, sealer, or other means to seal the area between the unit and the duct to ensure proper operation.



IF YOU ARE USING "H" DESIGN SERIES HUMIDIFIER UNITS:

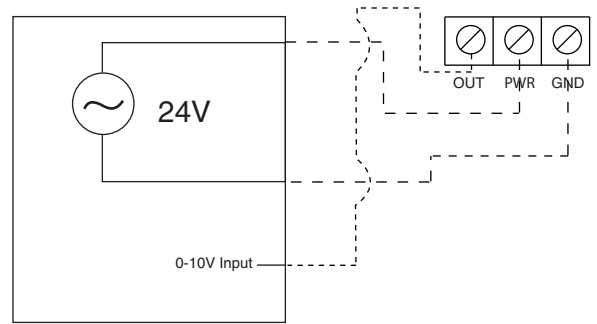
WIRING

Besides operating on Carnes Humidifiers, the HXHAN is capable of operating on most humidifiers sourcing 24VAC as well as DC voltages between 15 and 40 volts.

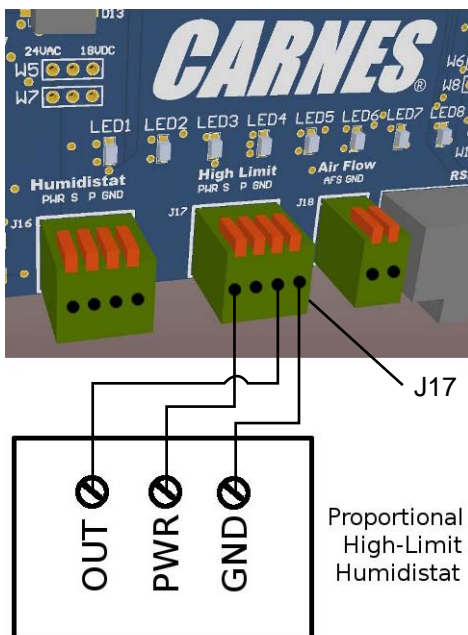
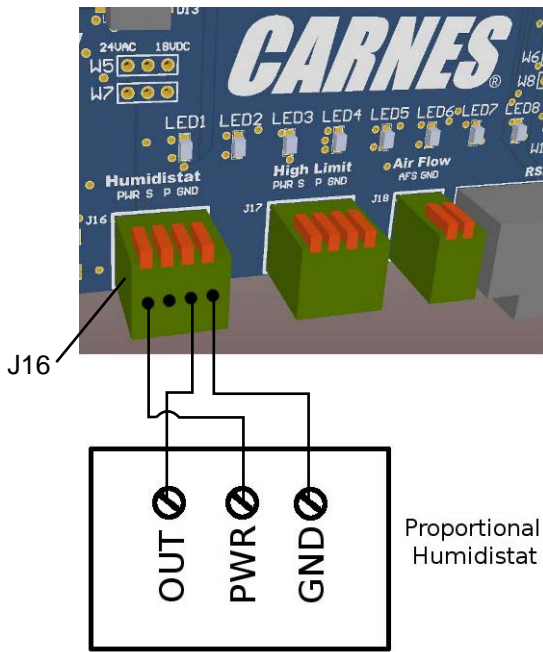
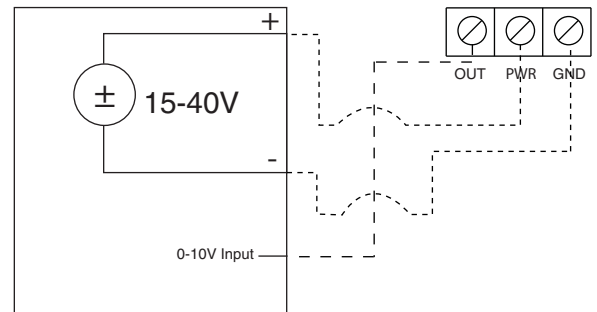
Make connections using 22 AWG wire.

All wiring connections must be made in accordance with the National Electrical Code and all local regulations.

Avoid running control wiring near high voltage primary wires.



15-40 VDC HOOKUP



If you are using "G" design series humidifier units see next page...

IF YOU ARE USING “G” DESIGN SERIES HUMIDIFIER UNITS:

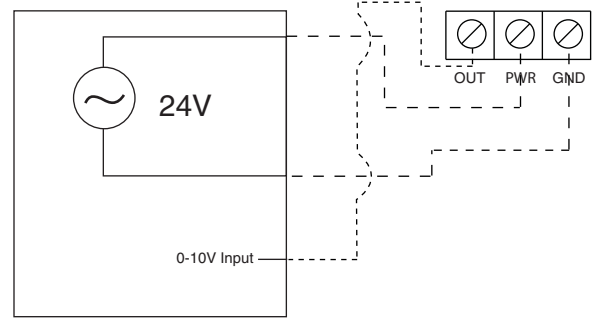
WIRING

Besides operating on Carnes Humidifiers, the HXHAN is capable of operating on most humidifiers sourcing 24VAC as well as DC voltages between 15 and 40 volts.

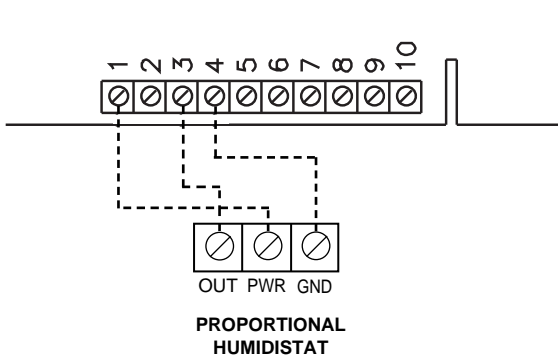
Make connections using No. 18 AWG wire.

All wiring connections must be made in accordance with the National Electrical Code and all local regulations.

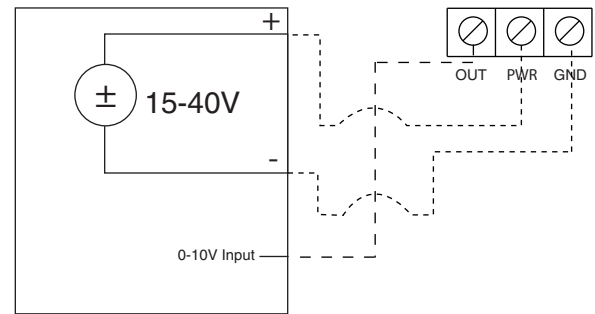
Avoid running control wiring near high voltage primary wires.



WHEN USED TO CONTROL ROOM RELATIVE HUMIDITY CONTROL CONNECTION TERMINALS - “G” DESIGN HUMIDIFIERS



15-40 VDC HOOKUP



WHEN USED AS HIGH LIMIT HUMIDISTAT CONTROL CONNECTION TERMINALS - “G” DESIGN HUMIDIFIERS

