INSTALLATION INSTRUCTIONS

Solid - State Enthalpy Sensor - C7400A

IMPORTANT SAFETY INFORMATION

INSTALLER: Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes. Safety markings are used frequently throughout these instructions to designate a degree or level of seriousness and should not be ignored.

WARNING - Indicates a potentially hazardous situation that if not avoided, could result in personal injury or death.

CAUTION - Indicates a potentially hazardous situation that if not avoided, may result in minor or moderate injury or property damage.

⚠ WARNING:

This kit is to be installed by a qualified service technician in accordance with these instructions and all codes having jurisdiction. Failure to follow these instructions could result in serious injury, property damage, or death.

⚠ WARNING:

All electrical wiring must comply with the latest edition of the National Electrical Code ANSI/NFPA 70.

These instructions are primarily intended to assist qualified individuals experienced in the proper installation of this appliance. Some local codes require licensed installation/service personnel for this type of equipment.

Read these instructions and those which accompany the Solid-State Enthalpy control in their entirety before proceeding with the installation of this control kit.

ABOUT THE ENTHALPY SENSOR

This Solid-State Differential Enthalpy Control kit can be used for all Nordyne economizer applications. The C7400A Enthalpy Sensor is only used with economizer logic modules having the A,B,C, & D performance curves. This second C7400A control is used to achieve maximum system efficiencies over the standard single enthalpy control application. The differential enthalpy control system compares the temperature and humidity of the outside air to that of the building return air and allows the economizer to adjust position to ensure the lowest enthalpy air is used for cooling.

DIFFERENTIAL ENTHALPY CONTROL

1. **SET UNIT INDOOR THERMOSTAT TO THE "OFF" POSITION.**

2. **DISCONNECT ALL ELECTRICAL POWER TO THE UNIT.**

3. The second C7400A controller is used for return air sensing and should be mounted in the return air duct as far from the outdoor air sensor as possible.

IMPORTANT NOTES:

• **The C7400 sensor can be mounted in any position. However, the sensor must be installed where it is exposed to freely circulating air, but protected from rain, snow, and direct sunlight.**

• **The C7400 sensor is designed to operate in 500 ft. / minimum airflow.**

• **Connect the Blue wire to the "S" terminal and the Violet wire to the "+" terminal of the C7400A control.**

• **If needed, see the sensor mounting section for additional information.**

4. Partial removal of economizer may be required for wire routing purposes.

5. Remove the 7/8" K.O. located on the lower right side of economizer panel, insert wire grommet provided in kit, then route wires from the second sensor out through grommet and along existing wiring harness. Wire tie as required to keep away from vane travel.

6. Remove the 620 Ohm resistor across SR and (+) on the W7459A or W7212A logic module and connect additional C7400 for differential operation.

   IMPORTANT! Connect the Blue wire to the "SR" terminal and the Violet wire to the "+" terminal of the logic module.

7. The enthalpy control setpoint scale markings located on the W7459A & W7212A are A, B, C, and D. They are field selectable and are used for single enthalpy control only.

   IMPORTANT! Turn the setpoint potentiometer fully clockwise to the "D" setting for Differential Enthalpy control. The economizer will select the air with lower enthalpy for cooling. i.e. If outdoor air has lower enthalpy than return air, then the outdoor air damper will be opened to bring in outdoor air for free cooling.
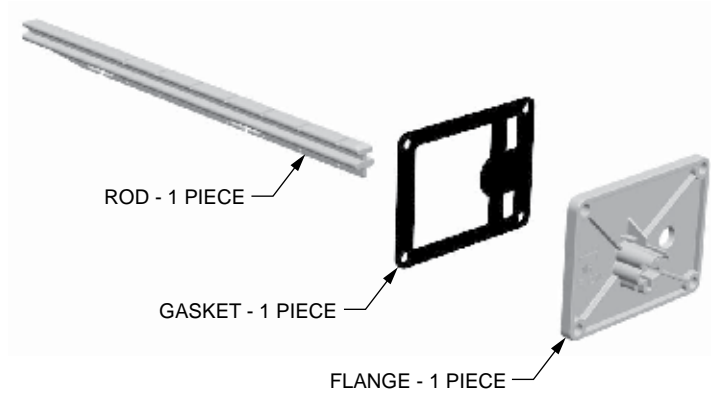
8. Replace all panels.

9. Reconnect electrical power to the unit and check economizer for proper operation.
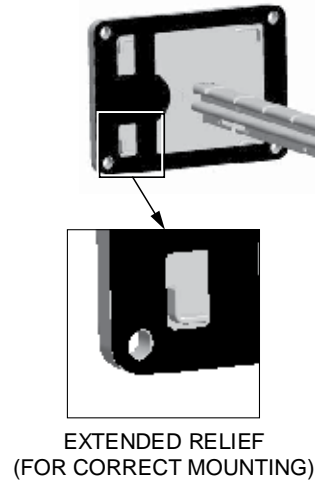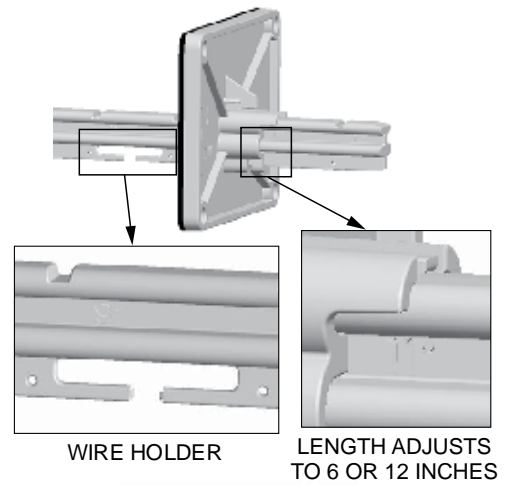
SENSOR MOUNTING

The C7400A2XXX Series sensor can be mounted directly on to the sheet metal of the return air duct or can be mounted in the air stream using the duct mounting kit (P/N 50053060-001). Contact your local TRADELINE dealer for kit availability.

The duct mounting kit contains a rod to hold the sensor in the duct, a flange to secure the sensor rod to the duct wall and to fill the hole, and a gasket to prevent air from leaking through the duct wall. See Fig. 1.

The rod has slots for threading the wire to prevent loose or hanging wire in the duct and can be adjusted for 6 or 12 inch length. The flange has extended relief for ease of mounting. See Fig. 2.

ROD - 1 PIECE

GASKET - 1 PIECE

FLANGE - 1 PIECE

Figure 1. Duct Mounting Kit
(P/N 50053060-001)

WIRE HOLDER

LENGTH ADJUSTS
TO 6 OR 12 INCHES

EXTENDED RELIEF
(FOR CORRECT MOUNTING)

Figure 2. Duct Mounting Adjustments

INSTALLER: PLEASE LEAVE THESE INSTALLATION INSTRUCTIONS WITH THE HOMEOWNER