

## INSTALLATION INSTRUCTIONS

### C7400S ENTHALPY SYLK BUS SENSOR - HONEYWELL JADE SERIES CONTROL PLATFORM

#### IMPORTANT SAFETY INFORMATION

Please read all instructions before servicing this equipment. Pay attention to all safety warnings and any other special notes highlighted in the manual. Safety markings are used frequently throughout this manual 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.**

- 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

The C7400S Enthalpy Sylk Bus Sensor can be used for direct replacement of an existing C7400S Sylk Bus sensor or in addition to the factory economizer enthalpy Sylk Bus sensor to obtain differential enthalpy control in all Nordyne economizer applications utilizing the new Honeywell JADE Control Platform.

The C7400S Sylk Bus Sensor is powered by and digitally communicates temperature and humidity separately on the Sylk Bus Communication Protocol. A separate system controller (JADE W7220) provides power and communication on the Sylk Bus.

For differential enthalpy control, a second C7400S Sylk Bus sensor 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 (OA) to that of the building return air (RA) and allows the economizer to adjust position to ensure the lowest enthalpy air is used for cooling. **NOTE:** In most applications, location selection, mounting, and wiring of the return air enthalpy sensor should be completed prior to installing the economizer. **The RA sensor must be mounted in a location that allows clearance for wiring, servicing, and removal.**

#### DIFFERENTIAL ENTHALPY CONTROL

#### **CAUTION:**

**EQUIPMENT DAMAGE HAZARD - Electrostatic discharge can short equipment circuitry. Make sure that you are properly grounded before handling the sensor.**

#### IMPORTANT NOTES:

- The second C7400A controller is used for return air sensing and should be mounted in the return air duct as far from the C7400S outdoor air sensor as possible.
- The C7400S dip switch for Return Air Sylk Bus sensor applications must be set to the RA position.
- All sensor wiring to the Sylk Bus is polarity insensitive.
- The C7400S sensor can be mounted in any position. However, the sensor must be installed where it is exposed to freely circulating air through the sensor housing vent slots.

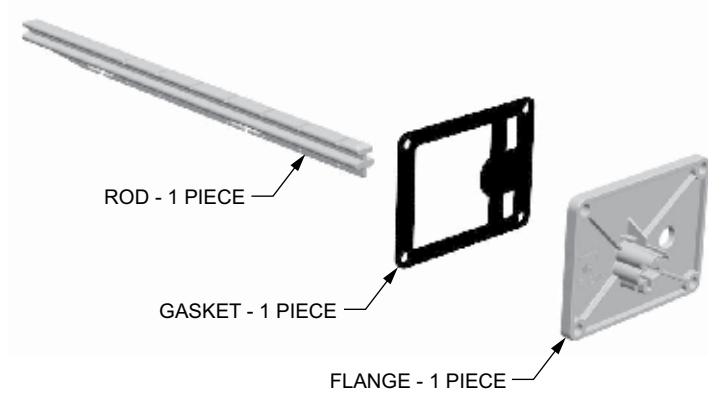
1. SET UNIT INDOOR THERMOSTAT TO THE "OFF" POSITION.
2. DISCONNECT ALL ELECTRICAL POWER TO THE UNIT.
3. Connect the 2 wire edge connector supplied with the new C7400S enthalpy sensor to that sensor. **Make sure the return air enthalpy sensor dip switch setting is set to RA.**
4. Connect two (field supplied) wires suitable for Class 2 wiring to the RA enthalpy sensor using screw terminals provided on the edge connector. Wires should be long enough to reach back from final location of return air enthalpy sensor to outside air enthalpy sensor.
5. Mount the sensor directly to the inside of return air duct work or to unit bottom pan return air flange using screws provided or equivalent. Air stream mounting can also be achieved using a duct mounting kit. See Page 2 for additional details if required. **NOTE:** Hang wires on sensor or inside return air duct near unit return air opening for easy retrieval later in the installation process.
6. Remove the 7/8" plastic plug located in the rear of economizer fresh air section and insert 7/8" wire grommet provided with economizer parts package. Install economizer per installation instructions provided with the economizer assembly.
7. Remove economizer fresh air and barometric relief hood for electrical connections and wire routing purposes.
8. Connect the extra 2 wire edge connector supplied with this kit to the C7400S outside air (OA) sensor located in the fresh air section of the economizer.
9. Route two wires from return air sensor location up through the grommet and connect to the outside air (OA) enthalpy sensor screw terminals provided on the edge connector. Route wires as required to keep away from vane travel.
10. Reconnect electrical power to the unit and check economizer for proper operation. **NOTE:** Upon power up, the W7220 controller module begins a 5 minute delay before enabling mechanical cooling.
11. Replace all hoods and panels.

## SENSOR MOUNTING

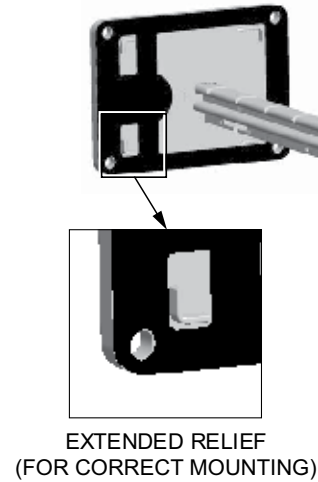
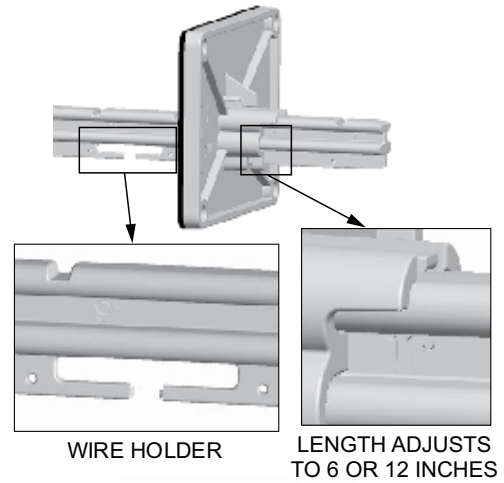
The C7400S1000 Series sensor can be mounted directly on to the sheet metal of the return air duct or can be mounted in the air stream using the duct mounting kit (P/N 50053060-001). Contact your local TRADELINE dealer for kit availability.

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 Figure 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 Figure 2.



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



**Figure 2. Duct Mounting Adjustments**

**INSTALLER: PLEASE LEAVE THESE INSTALLATION INSTRUCTIONS WITH THE EQUIPMENT OWNER**

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Specifications & illustrations subject to change without notice or incurring obligations (01/15).



10064950 (Replaces 708883A)