Install Sensors

**NOTE** - Install the return air sensor before installing optional power exhaust dampers and gravity exhaust dampers. If gravity exhaust, power exhaust, or hoods are already installed, remove from unit.

1. Disconnect all power to unit.
2. Remove unit top back panel and retain screws. If economizer is already installed, remove hood.
3. Install sensors as shown in the following figures:

<table>
<thead>
<tr>
<th>Application</th>
<th>Sensors provide input to determine free cooling suitability. The enthalpy sensor provided in this kit senses both sensible temperature and humidity. See table 1 for usage. Refer to economizer installation instructions.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WARNING</strong></td>
<td>Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a qualified installer, service agency or the gas supplier</td>
</tr>
<tr>
<td><strong>CAUTION</strong></td>
<td>Danger of sharp metallic edges. Can cause injury. Take care when servicing unit to avoid accidental contact with sharp edges.</td>
</tr>
</tbody>
</table>

**TABLE 1**

<table>
<thead>
<tr>
<th>No. Of Sensors</th>
<th>Outdoor Air Is Enabled For Free Cooling When:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OA enthalpy, A7, is less than free cooling set-point (single enthalpy).</td>
</tr>
<tr>
<td>2</td>
<td>OA enthalpy, A7, is less than RA enthalpy, A62 (differential enthalpy).*</td>
</tr>
</tbody>
</table>

**Install Sensors**

**KG/KC/KH 024-090 UNITS**

**FIGURE 1**
Wire A7 Sensor

Identify harnesses by markings on wires. Refer to figure 5 and 6.

1- Insert J104 jack into the side panel as shown in figure 7 for 024-090 units, figure 3 for 092-150 units, and figure 4 for 156-300S units.

2- Connect other end of J104 harness into A6 economizer control as shown in figure 5.

3- Connect P104 plug into J104 previously installed in side wall. See figure 1 for 024-090 units, figure 3 for 092-150 units, and figure 4 for 156-300S units.

*Note - Wiring is shown on economizer wiring diagram. See figures 9 for 024-090 units and 10 for 092-300 units.*

4- Connect other end of P104 harness into A7 enthalpy control as shown in figure 5.

5- Set DIP switch as shown in figure 8.

6- Discard J105 and P105 harnesses in single enthalpy installations.

7- Reinstall gravity exhaust damper, power exhaust, and outdoor air hood when applicable.
Wire A62 Sensor

Note - Two kits must be ordered for differential sensing. Identify harnesses by markings on wires. Refer to figure 5 and 6.

1- Insert J105 jack into the side panel as shown in figure 7 for 024-090 units, figure 3 for 092-150 units, and figure 4 for 156-300S units.

2- Connect other end of J105 harness into A6 economizer control as shown in figure 5.

3- Connect P105 plug into J105 previously installed in side wall. See figure 1 for 024-090 units, figure 3 for 092-150 units, and figure 4 for 156-300S units.

4- Connect other end of P105 harness into A7 enthalpy control as shown in figure 5.

5- Set DIP switch as shown in figure 8.

6- Reinstall gravity exhaust damper, power exhaust, and outdoor air hood when applicable.

Operation

Refer to Unit Controller manual for start-up and operation.
HARNESSES - KG/KC/KH 024-090 UNITS

FIGURE 7

SET SENSOR DIP SWITCHES

<table>
<thead>
<tr>
<th>USE</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>OA</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

RA = RETURN AIR
OA = OUTSIDE AIR
SET DIP SWITCH PER TABLE

FIGURE 8
OUTDOOR AIR TEMP SENSOR RT26 OR OUTDOOR AIR ENTHALPY SENSOR A7 MAY BE USED

FOR DIFFERENTIAL ENTHALPY SENSING USE OUTDOOR ENTHALPY SENSOR A7 AND INDOOR ENTHALPY SENSOR A62

REFER ALSO TO MAIN UNIT WIRING DIAGRAM SECTION C

PROGRAMMABLE, USE FOR EXHAUST FAN 2 OUTPUT OR ERV OR SYSTEM ALARM OUTPUT

R52 USED WITH NOVAR 2024 OR 2051 DDC CONTROLS.

FIGURE 10

Page 6