

Installation Instructions

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The accessory temperature sensor can be used on all rooftop units with a factory-installed or accessory Economi\$er IV.

PACKAGE CONTENTS

QTY	CONTENTS
1	Temperature Sensor
2	6-20, $\frac{3}{4}$ in. Sheet Metal Screw
1	Grommet
1	Black Wire
1	Red Wire

IMPORTANT: Read these instructions completely before attempting to install the accessory temperature sensor.

The CRTEMPSN002A00 temperature sensor is used with the Economi\$er IV (part numbers CRECOMZR008C00, 020A02, 021A03, 024A02, 025A02, 038A00, 039A00, 040A00, 041A00, 042A00, 046A00, 047A00, 050A00, 051A00, 052A00, 053A00, 054A00, 055A00, 056A00, 057A00, 062A00, 064A00) and is used on the following units:

UNIT	SIZE	UNIT	SIZE
48HJ	004-028	542J	150, 180
50HJ	004-028	548F	036-120
50HJQ	004-016	549B	036-120
48PD	05-06	551A	155-300
50PD	05-06	551B	036-150
48PG	03-28	558F	036-300
50PG	03-28	558J	04-16
48PM	20-28	559F	180-300
50PM	20-28	579F	180-300
48TC	04-16	580F	036-300
50TC	04-16	580J	04-16
48TF	004-014	581A	155-300
50TFF	004-014	581B	036-150
50TCQ	04-14	548J	04-14
48HC	04-14	581J	04-14
50HC	04-14	551J	04-14
50HCQ	04-12	549J	04-12
50TM	004-028		
50TFQ	004-012		
48TJ	016-028		
50TJ	016-028		
48TM	004-028		

* Not applicable with units equipped with DDC controls options

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform the basic maintenance functions of replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Have fire extinguishers available for all brazing operations.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury and/or death.

Disconnect power supply and install lockout tag before attempting to install accessory.

GENERAL

An outdoor air temperature sensor (HH57AC074) is standard and is provided with the accessory Economi\$er IV package. The 48/50PD, PG, PM, TC, TCQ, HC, HCQ, 558J, 580J, 548J, 581J, 551J and 549J units have a choice of dry-bulb or enthalpy sensor with the factory-installed Economi\$er IV. Units with factory-installed enthalpy sensor can be changed to outdoor dry bulb changeover control with a single accessory temperature sensor. Units with factory-installed enthalpy sensor can be changed to differential dry bulb control with two accessory temperature sensors. All other units come with the dry-bulb sensor as standard with the factory-installed Economi\$er IV. The sensor is used for outdoor temperature control. (See Table 1.) The accessory CRTEMPSN002A00 temperature sensor is required for differential dry bulb control.

Outdoor Dry Bulb Changeover Control

For this control mode, the outdoor temperature is compared to an adjustable set point selected on the control. If the outdoor-air temperature is above the set point, the Economi\$er IV will adjust the outdoor-air dampers to minimum position. If the outdoor-air temperature is below the set point, the position of the outdoor-air dampers will be controlled to provide free cooling using outdoor air.

Differential Dry Bulb Control

For differential dry bulb control, the standard outdoor dry bulb sensor is used in conjunction with an additional accessory return air sensor (part number CRTEMPSN002A00). In this mode of operation, the outdoor-air temperature is compared to the return-air temperature and the lower temperature airstream is used for cooling.

INSTALLATION

NOTE: The 48/50PD, PG, PM, TC, TCQ, HC, HCQ, 558J, 580J, 548J, 581J, 551J, and 549J units have a choice of dry-bulb or enthalpy sensor with the factory-installed Economi\$er IV. All other units come with the dry-bulb sensor as standard with the factory-installed Economi\$er IV.

Table 1 – Economi\$er IV Sensor Usage

APPLICATION	Economi\$er IV WITH OUTDOOR AIR DRY BULB SENSOR		
	Accessories Required		
Outdoor Air Dry Bulb	None. The outdoor air dry bulb sensor is factory installed.		
Differential Dry Bulb	CRTEMPSEN002A00* (C7650/C7660)		
Single Enthalpy	HH57AC078		
Differential Enthalpy	HH57AC078 and CRENTDIF004A00*		
CO₂ for DCV Control using a Wall–Mounted CO₂ Sensor	33ZCSENCO2 or CGCDXSEN004A00†		
CO₂ for DCV Control using a Duct–Mounted CO₂ Sensor	33ZCSENCO2 or CGCDXSEN004A00† and 33ZCASPCO2 or CGCDXASP001A00**	OR	CRCBDIOX005A00††

* CRENTDIF004A00 and CRTEMPSEN002A00 accessories are used on many different base units. As such, these kits may contain parts that will not be needed for installation.

† 33ZCSENCO2 and CGCDXSEN004A00 are accessory CO₂ sensors.

** 33ZCASPCO2 and CGCDXASP001A00 are accessory aspirator boxes required for duct–mounted applications.

†† CRCBDIOX005A00 is an accessory that contains both 33ZCSENCO2 and 33ZCASPCO2 accessories.

NOTE: Some 48/50PD, PG, PM03–28, 48/50TC04–16, 50TCQ04–14, 48/50HC04–14, 50HCQ04–12 and 558J/580J04–16, 548J04–14, 581/551J04–14 AND 549J04–12 units may have factory–installed enthalpy sensor.

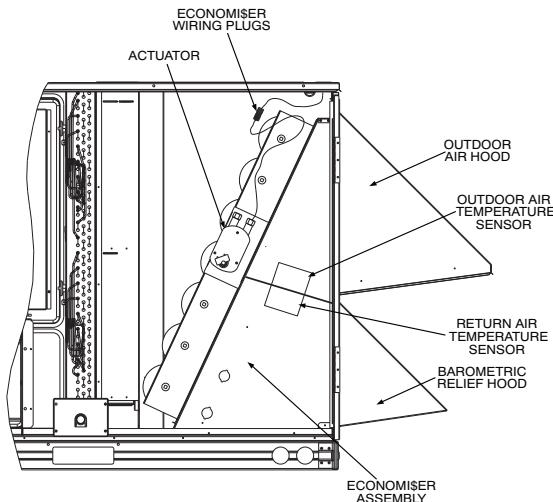
CRTEMPSEN002A00

Single Outdoor Air Temperature Sensor Installation for 48/50PD05-06 and 48/50PG03-16 Units Non-ComfortLink™ Controlled

If installing the temperature sensor on an accessory Economi\$er IV, it is easier to install the temperature sensor before installing the Economi\$er IV. If installing the sensor on a factory-installed Economi\$er IV, it is easier to install the temperature sensor before installing the Economi\$er IV hoods.

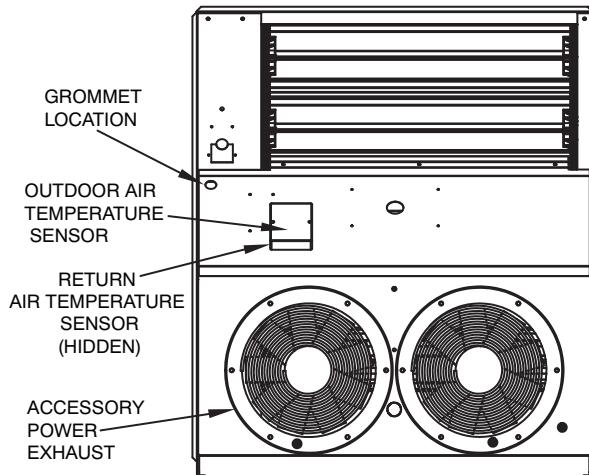
NOTE: For horizontal applications, it is easiest to install the temperature sensor before making duct connections.

1. Turn off power to unit and install Lockout Tag.
2. Remove the screws securing the Economi\$er IV hood to the unit. Save the screws for use in Step 7. On units with a factory-installed Economi\$er IV, the panel will be hinged and should not be removed from the unit. Open the hinged panel and secure it.
3. If there is a pre-existing single enthalpy sensor, remove the enthalpy sensor. Disconnect the pink and yellow wires from the enthalpy sensor and let them hang. The wires will be used to connect to the temperature sensor. Remove the enthalpy sensor and save the screws for use in Step 4.



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Fig. 1 - Side View of Vertical Economi\$er- 48/50PD05-06 and 48/50PG03-16 Units



Facing Economizer

C101047

Fig. 2 - Sensor Locations - 48/50PD05-06 and 48/50PG03-16 Units

4. Mount the temperature sensor to the top (outdoor air side) of the Economi\$er IV frame as shown in Fig. 1 and 2, using the two sheet metal screws (no. 8) from Step 3. There are two screw holes in the Economi\$er IV frame for ease of installation.
5. Locate the pink and yellow wires coming from the Economi\$er IV controller terminals "SO+" (pink) and "SO" (yellow). (See Fig. 4.) Connect the wires to the temperature sensor. Connect the yellow wire to the "-" terminal and the pink wire to the "+" terminal on the temperature sensor. (See Fig. 6.)
6. If the accessory differential temperature sensor is also being installed, skip to the Differential Temperature Sensor installation instructions on page 8.
7. Replace (or close if hinged panel) the Economi\$er IV panel. Secure the panel using the screws saved from Step 2.
8. Restore power to the unit and configure the Economi\$er IV controller. See the Configuration section.

Single Outdoor Air Temperature Sensor Installation for 48/50HJ020-028, 48/50PG, PM20-28 and 551A/581210-300 Units

1. Turn off power to unit and install Lockout Tag.
2. Remove the damper motor access panel at the back of the unit. (See Fig. 3.) Save the screws for use in Step 7.
3. If there is a pre-existing single enthalpy sensor, remove the enthalpy sensor. Disconnect the pink and yellow wires from the enthalpy sensor and let them hang. The wires will be used to connect to the temperature sensor. Remove the enthalpy sensor and save the screws for use in Step 7.

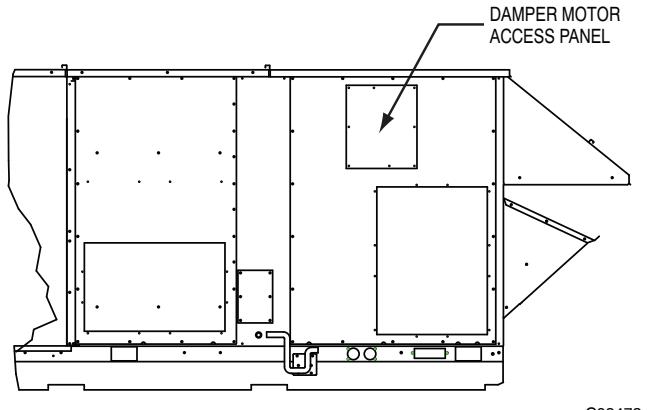


Fig. 3 - Back View — Damper Motor Access Panel Location

4. Mount the temperature sensor in the predrilled holes on the Economi\$er IV frame (where the enthalpy sensor was removed in Step 3). (See Fig. 7.) Use the screws removed in Step 3.

5. Locate the pink and yellow wires coming from the Economi\$er IV controller terminals “SO+” (pink) and “SO” (yellow). (See Fig. 4.) Connect the wires to the temperature sensor. Connect the yellow wire to the “-” terminal and the pink wire to the “+” terminal on the temperature sensor. (See Fig. 6.)

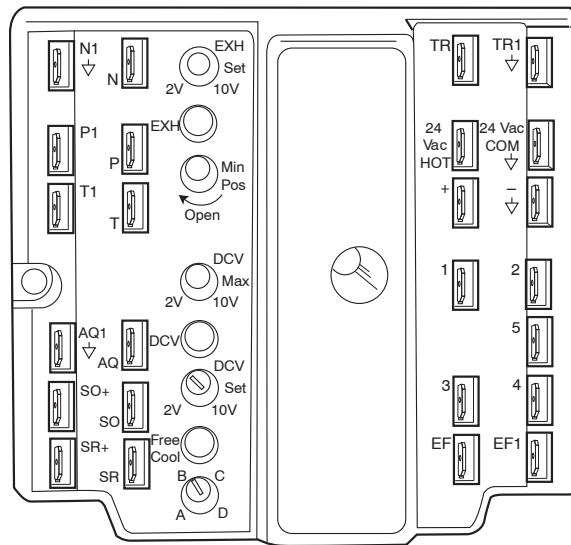


Fig. 4 - Economi\$er IV Controller

6. If the accessory differential temperature sensor is also being installed, skip to the Differential Temperature Sensor installation instructions on page 9.
7. Replace the damper motor access panel. Secure the panel using the screws saved from Step 2.
8. Restore power to the unit and configure the Economi\$er IV controller. See the Configuration section.

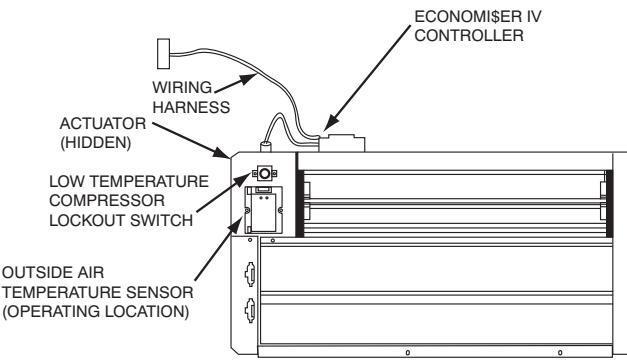
**Single Outdoor Air Temperature Sensor
Installation for 48/50TC04-16, 50TCQ04-14,
48/50HC04-14, 50HCQ04-12,
48/50HE,TF,TM003-014, 48/50HJ004-014,
50HJQ004-012, 50TFQ004-012,
558J/580J04-16, 548J04-14, 581/551J04-14,
549J04-12, 548F/549B,C036-120,
551B,C/558F/580F/581B,C024-150 Units**

NOTE: This section assumes you are starting with an Economi\$er IV installed in the rooftop and equipped with a single enthalpy sensor (p/n HH57AC078). If your Economi\$er is already equipped with a dry bulb temperature sensor (p/n HH57AC074), **STOP**. You do not need to continue with this section.

1. Turn off power to the unit and install Lockout Tag.
2. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels — Remove the Economi\$er hood from the base unit and save the screws for Step 9a.
 - b. Units with factory-installed hinged panels — Open the hinged panel and secure it. Since the panel is hinged, do not remove it from the unit.

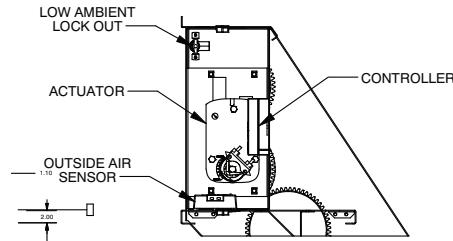
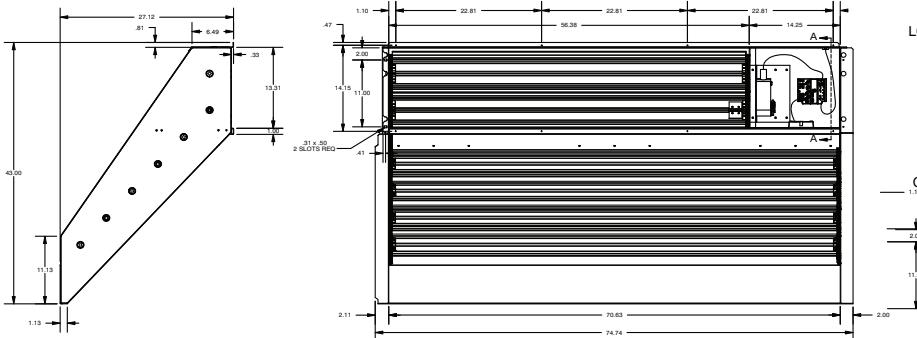
3. Disconnect the black and red wires from the pre-existing single enthalpy sensor (p/n HH57AC078) and let them hang. Remove the single enthalpy sensor and save the screws (no. 8) for use in Step 4. The wires will be used later to connect to the enthalpy sensor.

4. Use the two sheet metal screws (no. 8) from Step 3 to mount the enthalpy sensor on the front left of the Economi\$er frame, as shown in Fig. 5. Use the two screw holes in the Economi\$er frame.



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Fig. 5 - Economi\$er IV Component Locations —
**48/50TC04-16, 50TCQ04-14, 48/50HC04-14,
50HCQ04-12, 48/50HE,TF,TM003-014,
48/50HJ004-014, 50HJQ004-012, 50TFQ004-012,
558J/580J04-16, 548J04-14, 581/551J04-14,
549J04-12, 548F/549B,C036-120,
551B,C/558F/580F/581B,C024-150 Units**



C10341

Fig 5A – 48/50TC17-28 and 558J/580J15-28 Size Units and Location of Sensor

5. Ensure the black and red wires are connected on the Economi\$er IV controller correctly. The red wire should be connected to the “SO” terminal and the black wire to the “SO+” terminal. If they are not connected this way, make the connections as described. The CRTEMPSON002A00 kit contains an extra red and black wire.
6. Pick up the black and red wires left hanging in Step 3 and connect them to the temperature sensor. Connect the red wire to the sensor’s “-” terminal and the black wire to the sensor’s “+” terminal. See Fig. 6 for details.
7. If installation of another dry bulb temperature sensor (for differential dry bulb temperature control) is also planned, skip to Step 3 of the Differential Temperature Sensor installation instructions on page 10.
8. Restore power to the unit and configure the Economi\$er IV controller per the Configuration section of this manual.
9. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels —
Re-install the Economi\$er hood. Secure the hood using the screws saved from Step 2a.
 - b. Units with factory-installed hinged panels —
Close the hinged panel and latch it.

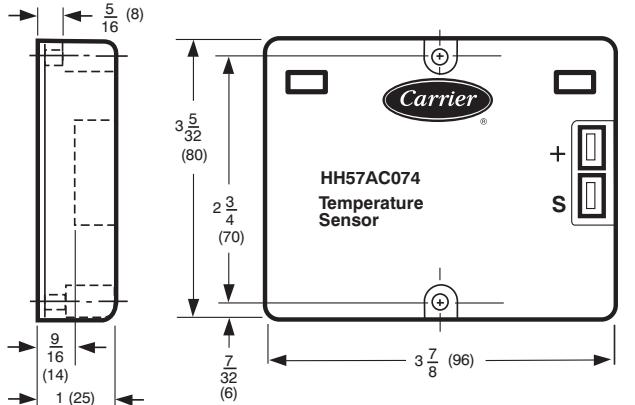


Fig. 6 - Temperature Sensor Specifications

Single Outdoor Air Temperature Sensor Installation for 48/50HJ015-017, 50HJQ014-016, 48/50TJ,TM016-028, 542J150-180, 551A/581A155-180, 558F/559F/579F/580F180-300 Units

NOTE: This section assumes you are starting with an Economi\$er IV installed in the rooftop and equipped with a single enthalpy sensor (p/n HH57AC078). If your Economi\$er is already equipped with a dry bulb temperature sensor (p/n HH57AC074), **STOP**. You do not need to continue with this section.

1. Turn off power to unit and install Lockout Tag.
2. Remove the Economi\$er hood from the base unit and save the screws for Step 9.
3. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels —
Access the Economi\$er by removing the return-air filter access panel. Save the screws for Step 11a.
 - b. Units with factory-installed hinged panels —
Access the Economi\$er IV controller by opening the hinged return-air filter access panel and securing it. Since the panel is hinged, do not remove it from the unit.
4. Disconnect the black and red wires from the pre-existing temperature sensor (p/n HH57AC074) and let them hang. Remove the air temperature sensor and save the screws (no. 8) for use in Step 5. The wires will be used later to connect to the enthalpy sensor.
5. Mount the enthalpy sensor to the front right of the Economi\$er frame, as shown in Fig. 7. Use the two sheet metal screws (no. 8) from Step 4 and screw into the holes in the Economi\$er frame.
6. Ensure the black and red wires are connected on the Economi\$er IV controller correctly. The red wire should be connected to the “SO” terminal and the black wire to the “SO+” terminal. If they are not connected this way, make the connections as described. If you are using CRENTDIF004A00, the kit contains an extra red and black wire.
7. Pick up the the black and red wires left hanging from Step 4 and connect them to the enthalpy sensor. Connect the red wire to the sensor’s “-” terminal and the black wire to the sensor’s “+” terminal. See Fig. 6 for details.

CRTEMPSON002A00

8. If installation of the accessory differential enthalpy sensor is also planned, skip to Step 3 of the Differential Enthalpy Sensor installations instructions on page 11.
9. Re-install the Economi\$er hood using the screws from Step 2.
10. Restore power to the unit and configure the Economi\$er IV controller per the Configuration section of this manual.
11. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels —
Re-install the return-air filter access panel using the screws from Step 3a.
 - b. Units with factory-installed hinged panels —
Close the hinged panel and latch it.

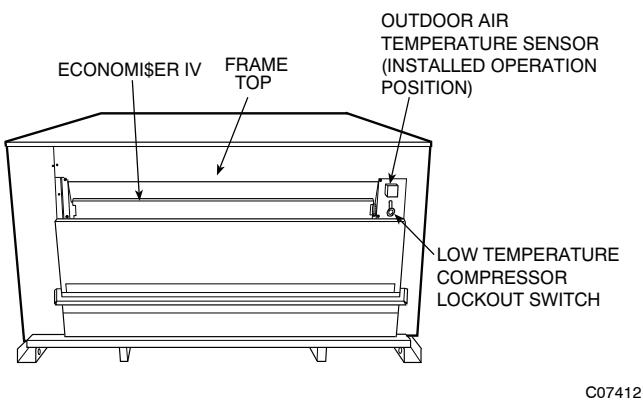


Fig. 7 - Economi\$er IV Component Locations —
48/50HJ015-017, 50HJQ014-016, 48/50TJ,
TM016-028, 542J150-180, 551A/581A155-180,
558F/559F/579F/580F180-300 Units

Differential Temperature Sensor

If installing the differential temperature sensor on an accessory Economi\$er IV, it is easier to install the differential temperature sensor before installing the Economi\$er IV. If installing the sensor on a factory-installed Economi\$er IV, it is easier to install the differential temperature sensor before installing the Economi\$er IV hoods.

A single temperature sensor (CRTEMPSN002A00) must be installed in addition to the differential temperature sensor (CRTEMPSN002A00) to achieve differential temperature Economi\$er IV control.

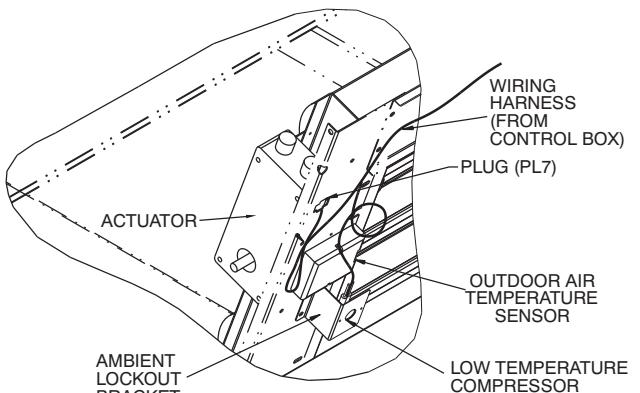
For horizontal applications, it is easiest to install the temperature sensor before making duct connections.

Differential Temperature Sensor Installation for 48/50PD05-06 and 48/50PG03-16 Units

1. Turn off power to unit and install Lockout Tag.
2. Remove the Economi\$er IV hood from the base unit and save the screws for use in Step 9. On units with a factory-installed Economi\$er IV, the panel is hinged and should not be removed from the unit. Open the hinged panel and secure it.
3. Remove the plug button in the Economi\$er IV deck and install the grommet supplied with the kit into the hole. (See Fig. 2.)
4. If there is a pre-existing differential enthalpy sensor, remove the sensor. To remove the sensor, disconnect the blue and orange wires from the differential enthalpy sensor and let them hang. They are used later to connect the differential temperature sensor.
5. Locate screw holes in the Economi\$er IV deck partition. Mount the differential temperature sensor onto the backside of the deck, directly behind the single temperature sensor (already installed) as shown in Fig. 1 and 2. Use the screws provided.
6. Remove the 620-ohm resistor that connects “SR+” and “SR” on the Economi\$er IV controller.
7. Route the control wires from the Economi\$er IV controller to the differential temperature sensor. Connect the blue and orange wires to the Economi\$er IV control board terminals labeled “SR+” (blue) and “SR” (orange). (See Fig. 4.) Route the wires through the grommet installed in Step 3. The grommet seals this hole air-tight while allowing the wires to pass through.
8. Connect the blue and orange wires to the differential temperature sensor. Connect the blue wire to the “+” terminal and the orange wire to the “-” terminal on the temperature sensor. (See Fig. 6.)
9. Reinstall the Economi\$er IV hood and inlet screens using the screws saved from Step 2.
10. Restore power to the unit and configure the Economi\$er IV controller. See the Configuration section.

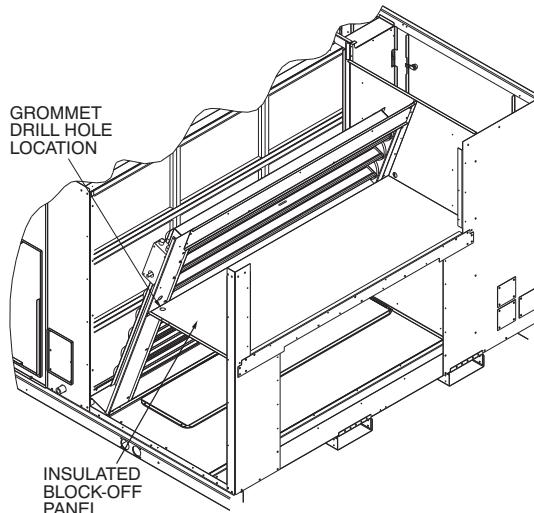
Differential Temperature Sensor Installation for 48/50PG20-28, 48/50PM20-28, 48/50HJ020-028, and 551A/581A210-300 Units

1. Turn off power to unit and install Lockout Tag.
2. Remove the damper motor access panel at the back of the unit. (See Fig. 3.) Save the screws for later use.
3. Drill a $7/8$ in. hole in the Economi\$er block-off panel, as shown in Fig. 9. Install the supplied grommet into the hole.
4. If there is a pre-existing differential enthalpy sensor, remove the sensor. To remove the sensor, disconnect the blue and orange wires from the differential enthalpy sensor and let them hang. They are used later to connect the differential temperature sensor.



**Fig. 8 - Outdoor Air Sensor Location -
48/50PG20-28, 48/50PM20-28, 48/50HJ020-028,
and 551A/581A210-300 Units**

5. Locate holes on the back (return air) side of the Economi\$er IV frame and mount the differential temperature sensor on the frame. Use the screws provided.



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**Fig. 9 - Economi\$er IV Block-Off Panel Location -
48/50PG20-28, 48/50PM20-28, 48/50HJ020-028,
and 551A/581A210-300 Units**

6. Remove the 620-ohm resistor that connects "SR+" and "SR" on the Economi\$er IV controller.
7. Route the control wires from the Economi\$er IV controller to the differential temperature sensor. Connect the blue and orange wires to the Economi\$er IV control board terminals labeled "SR+" (blue) and "SR" (orange). (See Fig. 4.) Route the wires through the grommet installed in Step 3. The grommet seals this hole air-tight while allowing the wires to pass through.
8. Connect the blue and orange wires to the differential temperature sensor. Connect the blue wire to the "+" terminal and the orange wire to the "-" terminal on the temperature sensor. (See Fig. 6.)
9. Replace the damper motor access panel. Secure panel with the screws saved from Step 2.
10. Restore power to the unit and configure the Economi\$er IV controller. See the Configuration section.

CRTEMPSN002A00

Differential Temperature Sensor Installation for 48/50TC04-16, 50TCQ04-14, 48/50HC04-14, 50HCQ04-12, 48/50TF, TM004-014, 50HJQ004-012, 50TFQ004-012, 558J/580J04-16, 548J04-14, 581/551J04-14, 549J04-12, 548F/549B036-120, 551B/558F/580F/581B036-150 Units

NOTE: This section assumes you are starting with an Economi\$er IV installed in the rooftop and equipped with dry bulb temperature sensor (p/n HH57AC074) installed, regardless of whether the Economi\$er was purchased that way, or you have completed the installation of an accessory sensor. If you do not already have a dry bulb temperature sensor installed, first install the sensor as described earlier in this instruction.

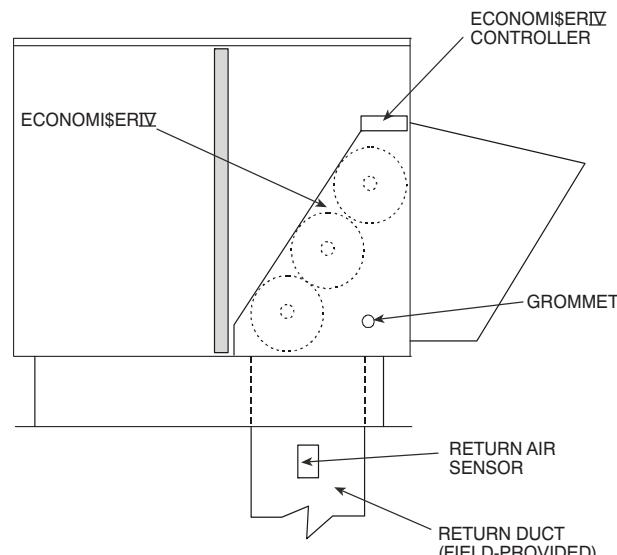
1. Turn off power to unit and install Lockout Tag.
2. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels — Remove the Economi\$er hood from the base unit and save the screws for Step 9a.
 - b. Units with factory-installed hinged panels — Open the hinged panel and secure it. Since the panel is hinged, do not remove it from the unit.
3. Using the screws provided in the CRTEMPSN002A00 kit, mount the differential enthalpy sensor in the return air duct as shown in Fig. 10.

4. Remove the 620-ohm resistor connected to the “SR+” and the “SR” terminals on the Economi\$er IV controller.
5. Route the red and black wires (provided in the CRTEMPSN002A00 kit) between the Economi\$er IV controller and the installed location of the differential temperature sensor.
6. Connect the red wire to the “S” terminal and the black wire to the “+” terminal on the sensor. (See Fig. 6.)
7. Connect the red wire to the “SR” terminal and the black wire to the “SR+” terminal on the Economi\$er IV controller. (See Fig. 4.)
8. Restore power to the unit and configure the Economi\$er IV controller per the configuration section of this manual.
9. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels — Re-install the Economi\$er hood. Secure the hood using the screws saved from Step 2a.
 - b. Units with factory-installed hinged panels — Close the hinged panel and latch it.

Differential Temperature Sensor Installation for 48/50HJ015-017, 50HJQ014-16, 48/50TJ, TM016-028, 542J150-180, 551A/581A115-180, 558F/559F/579F/580F180-300 Units

NOTE: This section assumes you are starting with an Economi\$er IV installed in the rooftop, and equipped with a single dry-bulb temperature sensor (p/n HH57AC074) installed. If you do not already have a single dry-bulb temperature sensor installed, do so as described earlier in this instruction.

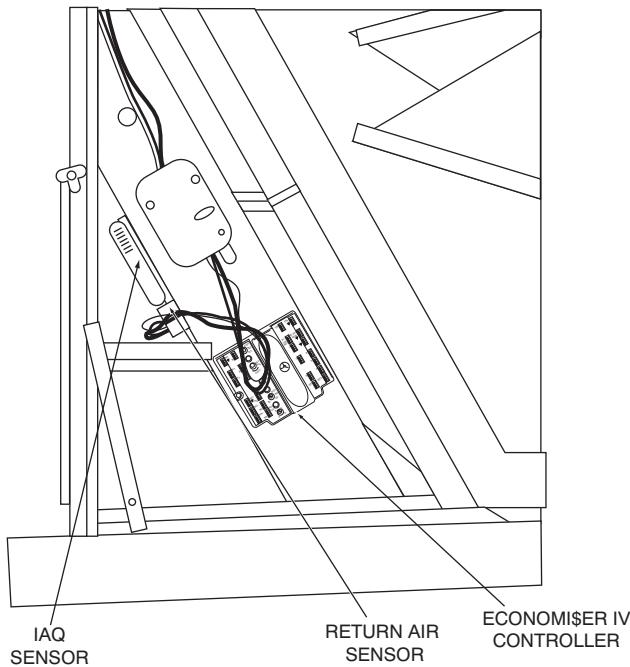
1. Turn off power to unit and install Lockout Tag.
2. Remove the Economi\$er hood from the base unit and save the screws for Step 9.
3. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels —
Provide access to the Economi\$er by removing the return-air filter access panel. Save the screws for Step 11a.
 - b. Units with factory-installed hinged panels —
Provide access to the Economi\$er IV controller by opening the hinged return-air filter access panel and securing it. Since the panel is hinged, do not remove it from the unit.
4. Using the screws provided in the CRTEMPSON002A00 kit, mount the differential dry-bulb temperature sensor (p/n HH57AC074) to the Economi\$er IV frame. (See Fig. 11.)
5. Route the black and red control wires, provided in the CRTEMPSON002A00 kit, from the Economi\$er IV controller to the installed location of the differential dry-bulb sensor.
6. Remove the 620-ohm resistor connected to the “SR+” and the “SR” terminals on the Economi\$er IV controller.
7. Connect the red wire to the “SR” terminal and the black wire to the “SR+” terminal on the Economi\$er IV controller. (See Fig. 4.)
8. Connect the red wire to the sensor’s “S” terminal and the black wire to the sensor’s “+” terminal. (See Fig. 6.)
9. Re-install the Economi\$er hood, using the screws from Step 1.
10. Restore power to the unit and configure the Economi\$er IV controller per the Configuration section of this manual.
11. Depending on the type of panels the unit is equipped with:
 - a. Units with standard panels —
Re-install the return-air filter access panel, using the screws from Step 3a.
 - b. Units with factory-installed hinged panels —
Close the hinged panel and latch it.



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Fig. 10 - Return Air Temperature Sensor Mounting
Location - 48/50TC04-16,HJ,TF,TM004-014, 48/50HC04-14, 50TCQ04-14, 50HCQ04-12, 50HJQ,TFQ004-012, 558J/580J04-16, 548F/549B036-120, 551B/558B/580F/581B036-150, 581/551J04-14, 548J04-14, 549J04-12 Units

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C07406

Fig. 11 - Return Air Temperature Sensor Mounting
Location - 48/50HJ015-017, 50HJQ014-016, 48/50TJ, TM016-028, 542J150-180, 551A/581A155-180, 558F/559F/579F/580F180-300 Units

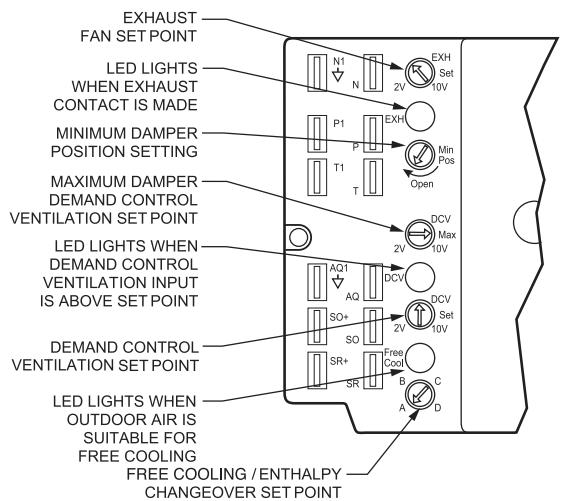
C7660 Outdoor Air Sensors

These installation instructions center around the C7650 Honeywell OA sensor. Some kits may contain this older sensor version. The newer OA Sensor version is the Honeywell C7660 sensor and can be differentiated from the C7650 by the “dip switches” on the face of the control. This control is completely backwards compatible and interchangeable with the C7650.

C7650 Set Up

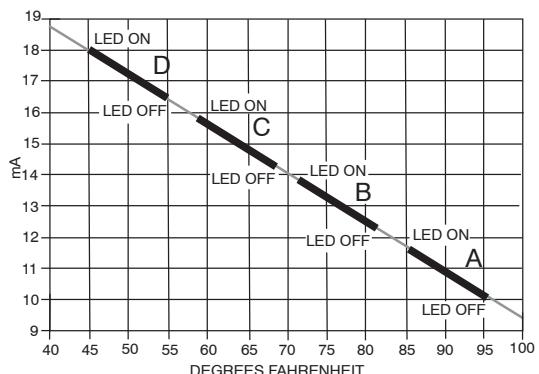
See Fig. 6.

Once the sensor has been installed and wired in the unit, the technician will set the Economizer IV using the “FREE COOLING/ENTHALPY CHANGEOVER SETPOINT” (Fig. 12) to the appropriate Outdoor Air changeover temperature via the A-B-C-D setting shown in Fig. 13.



C07385

Fig. 12 - Economi\$er IV Controller Potentiometer and LED Locations



C06035

Fig. 13 - Outdoor Air Changeover Temperature

C7660 Set Up

See Fig. 14.

When outdoor air temperature is below the changeover setpoint, the sensor will provide a 20 mA signal to the economizer which translates to **OK to economize** positioning the damper open on a call for cooling. When the outdoor air is above the changeover setpoint, the sensor provides a 4 mA signal to the economizer which translates to **not OK to economize** and the outdoor damper drives to minimum position.

The C7660 temperature sensors replace the control function of the temperature changeover in the economizer control.

The A-B-C-D potentiometer on the economizer does not control the changeover point when a C7660 sensor is used in place of an enthalpy sensor. For single dry bulb and differential enthalpy set the potentiometer to D.

The factory default switch setting is 63°F. The changeover temperature can be field set by changing the positions of the switches using Fig. 15.



C101070

Fig. 14 - C7660 Temperature Sensor

CONFIGURATION

Outdoor Dry Bulb Changeover

For this control mode, the outdoor temperature is compared to an adjustable set point selected on the control. If the outdoor-air temperature is above the set point, the Economi\$er IV will adjust the outdoor-air dampers to minimum position. If the outdoor-air temperature is below the set point, the position of the outdoor-air dampers will be controlled to provide free cooling using outdoor air. When in this mode, the LED next to the free cooling set point potentiometer will be on.

Outdoor Air Sensor

The HHxxxxxx has three dip switches that are used to set the change over temperature to meet the application. The factory default setting is 63°F. There are two changeover strategies available: exclusive operation where you can have either mechanical cooling or economizer but not both simultaneously (Single Stage Thermostat) or integrated operation, where the economizer and mechanical cooling can operate simultaneously, requires the use of a two stage thermostat.

Fig. 15 lists the changeover switch set points. With the power off, set the switches to the appropriate temperature required for application.

DIP SWITCH POSITION	CHANGEOVER TEMPERATURE
ON OFF 1 2 3	48°F
ON OFF 1 2 3	53°F
ON OFF 1 2 3	55°F
ON OFF 1 2 3	58°F
ON OFF 1 2 3	63°F
ON OFF 1 2 3	68°F
ON OFF 1 2 3	73°F
ON OFF 1 2 3	78°F

C10933

Fig. 15 - Changeover Switch Set Points

Set the Free Cooling/Enthalpy Changeover Set Point potentiometer to "D" located on the face of the economizer control.

Differential Dry Bulb Control

In this mode of operation, the outdoor-air temperature is compared to the return-air temperature and the lower temperature airstream is used for cooling. When using this mode of changeover control, turn the free cooling/enthalpy changeover set point potentiometer fully clockwise to the D setting.

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