



INSTALLATION AND OPERATION INSTRUCTIONS ECON-3V, ECON-5V Economizers For Wallmount Units

These Economizers make use of outside air for cooling when conditions permit. This reduces power consumption by reducing compressor operating time. When the outdoor air temperature and/or humidity are suitable for cooling, the Economizers damper is automatically proportioned providing cool fresh air to maintain the desired indoor temperature. During heating operation or when the outdoor air temperature and/or humidity is above the control setting, the Economizer is not operational.

NOTES TO INSTALLER

These instructions are for the use of qualified individuals specially trained and experienced in the installation of this type of equipment and related system components.

Installation and service personnel are required by some locales to be licensed. Persons not qualified shall not install this equipment nor interpret these instructions.

This installation manual is provided to ensure the proper installation and satisfactory performance of your equipment. The instructions contained herein shall not be deemed to extend, modify, alter, or expand any of the representations contained in the **LIMITED WARRANTY**.

DANGER: BEFORE PERFORMING ANY WORK ON THIS EQUIPMENT, THE ELECTRICAL SUPPLY MUST BE TURNED OFF AT THE ELECTRICAL SERVICE BOX TO AVOID THE POSSIBILITY OF SHOCK, INJURY, DEATH, OR DAMAGE EQUIPMENT. THERE MAY BE MORE THAN ONE POWER SUPPLY CIRCUIT.

CODES

The installer shall comply with all local, state, and federal codes, and/or regulations pertaining to this type of equipment and its installation. Such codes and/or regulations should take precedence over any recommendations contained herein, in lieu of local codes. Installation shall be made in accordance with National Electrical Code and recommendations made by the National Board of Fire Underwriters.

INSPECTION AND UNPACKING

A thorough inspection of the shipping container should be made immediately upon receiving the Economizer or Power Ventilator. Look for any punctures or openings, and if it appears damage has occurred, it should be noted on the freight bill before signing. The delivering carrier should be contacted immediately to inspect any damage, and no installation work should begin until this inspection is completed.

WARNING: IMPROPER INSTALLATION MAY DAMAGE EQUIPMENT, CAN CREATE A HAZARD, AND WILL VOID THE WARRANTY.

FIELD INSTALLATION

- 1 Power to the unit **MUST** be turned off at the main electrical service box.
- 2 Remove and discard the center front access panel.
- 3 In the return air compartment behind the electrical box, remove the six screws that hold down the relief opening blank off plate. Then remove and discard the plate.
- 4 Remove the screws that hold the filter rack in place, then slide the rack up high enough to make room for installing the Economizer.
- 5 Carefully lower the Economizer into place behind the electrical box.
- 6 Plug the six-pin Economizer plug into the receptacle located on the top of the left end of the electrical box. This plug is polarized and will only connect one way.
- 7 **Remove the jumper between “Y” and “A” on the terminal board**
- 8 Replace the filter rack into its original position and replace all of the screws removed.
- 9 Install the front panel sent with the Economizer.
- 10 Install the rain hood onto the front panel by inserting the hood top flange into the top of the fresh air opening and hinge the hood downward. Attach the top and bottom of the hood to the door with the screws provided.

NOTE ON H SERIES MODEL UNITS: When field installing this Economizer in heat pump models, an included isolation relay must be installed as per the wiring diagram. Additionally, the Jade controller must be set to Heat Pump Mode.

[System Setup -> Equipment -> HP]

See details on the separate JADE Economizer Module – Product Data.

FACTORY-INSTALLED UNITS

The rain hood is not installed at the factory. The hood is packaged and shipped in the space above the unit indoor blower for field installation. Follow the instructions in step 9 above to install the hood.

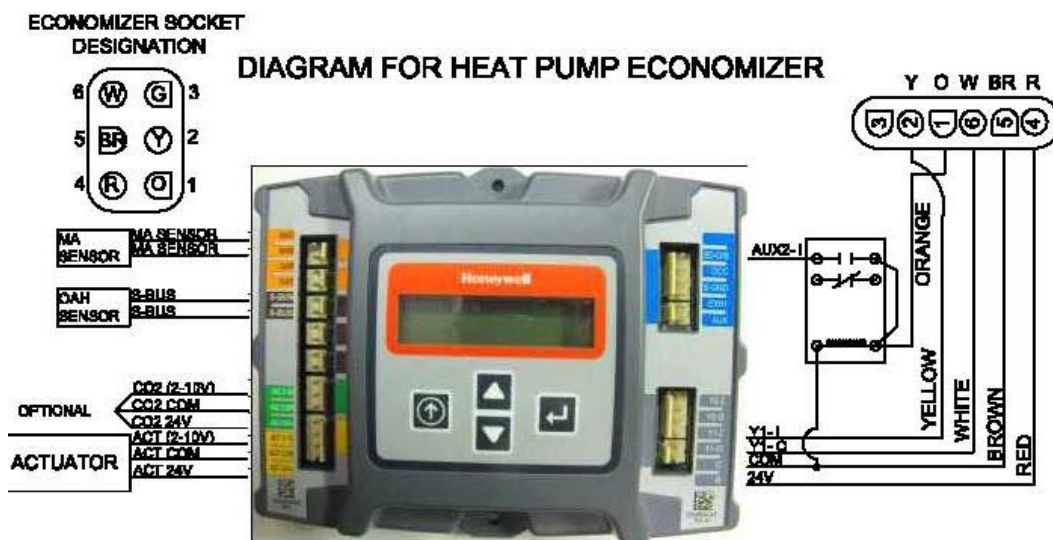


Fig. 1 Economizer System Wiring Diagram

START UP (See Figure 1 for the following settings)

Fig.1 shows system wiring diagram.

- 1 Factory setting for the Enthalpy Curves is ES3. This allows the Economizer to operate if the outdoor enthalpy is below the set point. If needed, the setting can be moved higher (e.g. ES4 or ES5) for dryer regions, or move lower for more humid regions (e.g. ES2 or ES1)
- 2 Other setting can also be adjusted if so desired. See details on the separate JADE Economizer Module – Product Data, pp.12-14.

SEQUENCE OF OPERATION

The Econ-3V and Econ-5V is designed to deliver cooling without the use of the system compressor when outdoor conditions allow. The Economizer will not operate in the heating mode except to deliver fresh air ventilation with the use of a damper position setting. (For this feature see “Minimum Position Set Point”)

COOLING

A single stage room thermostat is recommended. On a call for cooling (R connected to Y and G), an enthalpy sensor, based on a field adjustable setting, will determine if the outdoor air is suitable for cooling.

If outdoor air is suitable for cooling, the Economizer will act on first-stage cooling. The indoor fan will be energized and the Economizer damper will slowly modulate open. The Economizer provides cooling by modulating the outdoor air damper to maintain approximately 45° to 60°F mixed air temperature (mixed air sensor located in the mix air stream and behind the controller). The minimum mixed air temperature is adjustable. The damper is closed and the indoor fan is de-energized when the room thermostat is satisfied. If the outdoor air alone cannot satisfy the room thermostat within a 10-minute time period (adjustable), the logic module will send a signal from the “Y1-O” terminal to energize the compressor as second-stage cooling. Once the room thermostat is satisfied, the damper is modulated closed and the compressor contactor will be de-energized.

If the outdoor air is not suitable for cooling, the logic module will send a signal from the “Y1-O” terminal to energize the compressor contactor bringing on mechanical cooling.

HEATING

When the room thermostat calls for heat, the heating controls are energized and the damper will only modulate to its minimum position. The Economizer enthalpy controls are disabled.

THE CONTROL MODULE FEATURES:

Please refer to the separate JADE Economizer Module – Product Data for

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Field Install Note:
Remove the jumper between “Y” and “A” on the terminal board.