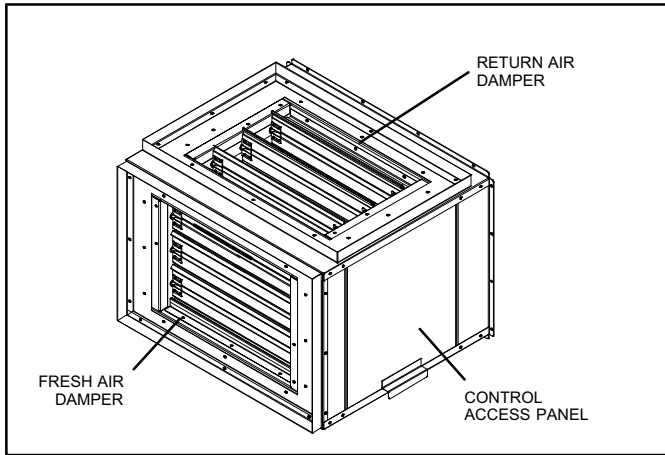


INSTALLATION INSTRUCTIONS FOR ECONOMIZERS



RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

⚠ CAUTION

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Be aware of, and use caution when working near these areas during installation or while servicing this equipment.

⚠ WARNING



Electric Shock Hazard. Can cause injury or death.

Line voltage is present at all components on units with single-pole contactors, even when unit is not in operation!

Unit may have multiple power supplies. Disconnect all remote electric power supplies before opening access panel.

Unit must be grounded in accordance with national and local codes.

Shipping and Packing List

Check parts for shipping damage; if any damage is found, immediately contact the last shipping carrier.

Package 1 of 1 contains the following:

- (1) Economizer assembly
- (1) Bag assembly containing:
 - 1- Outdoor air sensor (RT26)
 - 1- Mixed air sensor (R1)
 - 16- #10-16 x 1/2 SDST screws
 - 1- Title 24 certificate
 - 1- Honeywell control manual
 - 1-120/24V/75VA transformer
 - 1- 12" Blue terminated wire
 - 1-12" Yellow terminated wire
 - 2- Wire nuts

Application

Economizers are used for automatic sensor-controlled introduction of outdoor air into the system through an electro-mechanically controlled damper.

Economizer dampers will modulate to maintain 55°F (13°C) supply air when outdoor air is suitable. The mixed air temperature sensor (R1) measures the supply air sensible temperature.

On economizers, sensible sensor (RT26) is used to determine whether outdoor air is suitable for free cooling. Other outdoor and return air (OA and RA) sensor options are available to determine whether outdoor air is suitable for free cooling. For differential control, install the second air sensor in the return air. See table 1 and the instructions provided with optional sensors.

The mixed air sensor (R1) and outdoor air sensor (RT26) are provided with the economizer and installed according to these instructions.

Table 1. Sensors

Sensors	Dampers modulate to maintain 55°F mixed air (R1) when:
Single Outside Air (OA) Sensible	OA temperature (RT26) is lower than free cooling setpoint.
Single Outside Air (OA) Enthalpy	OA temperature and humidity (A7) is lower than free cooling setpoint.
Differential Sensible - 1 in OA and 1 in RA	OA temperature (RT26) is lower than return air (RA) temperature (RT27).
Differential Enthalpy - 1 in OA and 1 in RA*	OA temperature and humidity (A7) is lower than RA temperature and humidity (A62).

General

The economizer is equipped with a W7220 control module A6. The default outdoor air sensor (RT26) is provided in this kit. Install sensor as close as possible to inlet of incoming outdoor air. This application provides low leak, fault detection and diagnostic capabilities. The default OA temperature sensor or high limit sensor (RT26) is a CEC approved, California Title 24 fixed dry bulb device (provided in this kit). See table 1 for outdoor and return air (OA and RA) sensor options. Refer to manufacturer's instructions provided for more details.

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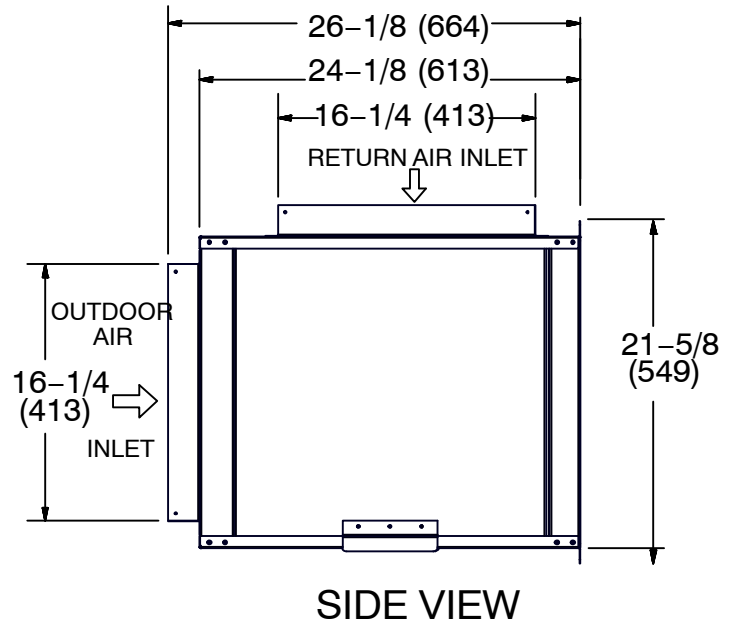
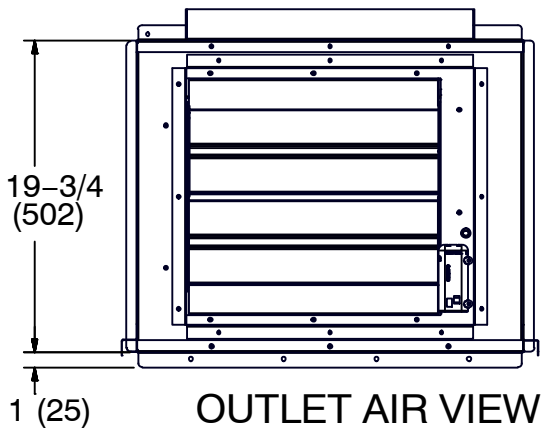
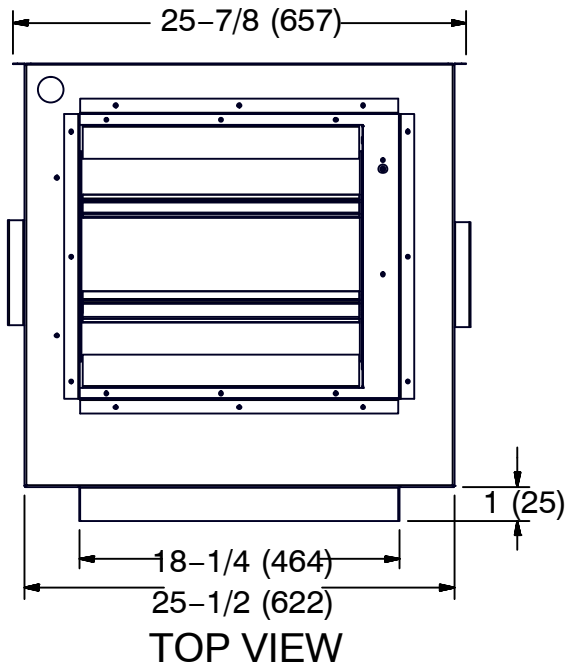
IAQ Sensing (A63)

An IAQ (CO₂) sensor is used when demand control ventilation (DCV) is specified. Damper minimum position can be set lower than traditional minimum air requirements resulting in cost savings. The IAQ sensor allows the A6 to open dampers to traditional ventilation requirements as room occupancy (CO₂) increases.

For proper operation, the IAQ sensor must provide a 0-10VDC, minimum impedance > 50k ohm signal. Connect sensor leads to wires in IAQ-2-10, IAQ-COM, IAQ-24V.

CO₂ Sensor Used With High Performance Economizers
When using any 0-10VDC sensor, set the ppm range using the W7220 economizer control A6 ADVANCED SETUP menu. Set the CO2ZERO to 400 ppm and the CO2SPAN to 1600 ppm.

ECONOMIZER DIMENSIONS



Economizer Installation

UPFLOW OR HORIZONTAL APPLICATIONS

1. Disconnect all power to the unit.
2. Attach economizer over return air opening with screws provided.
3. Remove control access panel on both the economizer and indoor unit.
4. Install outdoor air sensor (RT26) as close as possible to inlet of outdoor air.
5. Route wires marked OAT from economizer to RT26 outdoor air sensor. Make wiring connections as shown in figure 2 and 3.
6. Install mixed air sensor down stream of evaporator. Add additional wires to harness if leads provided are too short. Sensor is not polarity sensitive.
7. Route plug with two wires from economizer to R1 mixed air sensor. Wire the unit according to the diagram in figures 2 and 3.
8. Replace the 40VA transformer in the furnace or blower coil, with the 75VA transformer provided with the economizer. See figure 1 and follow the steps below:
 - 1 - Remove the black and white leads from the primary of T1 transformer in the furnace and connect to the primary of the new transformer.
 - 2 - Cut blue wire going from circuit breaker CB8 to control board. Wire nut lead going to control board with blue wire provided with new transformer. Secure terminal end to load side of transformer marked with black label.
 - 3 - Remove yellow lead to secondary side of transformer T1 in furnace. Cut off terminal from lead end and wire nut with yellow lead provided to load side of transformer.
 - 4 - Discard old transformer.
9. Replace control access panel on economizer and unit.
10. Place return and fresh air ducts to economizer and seal air tight.
11. Restore power to the unit.

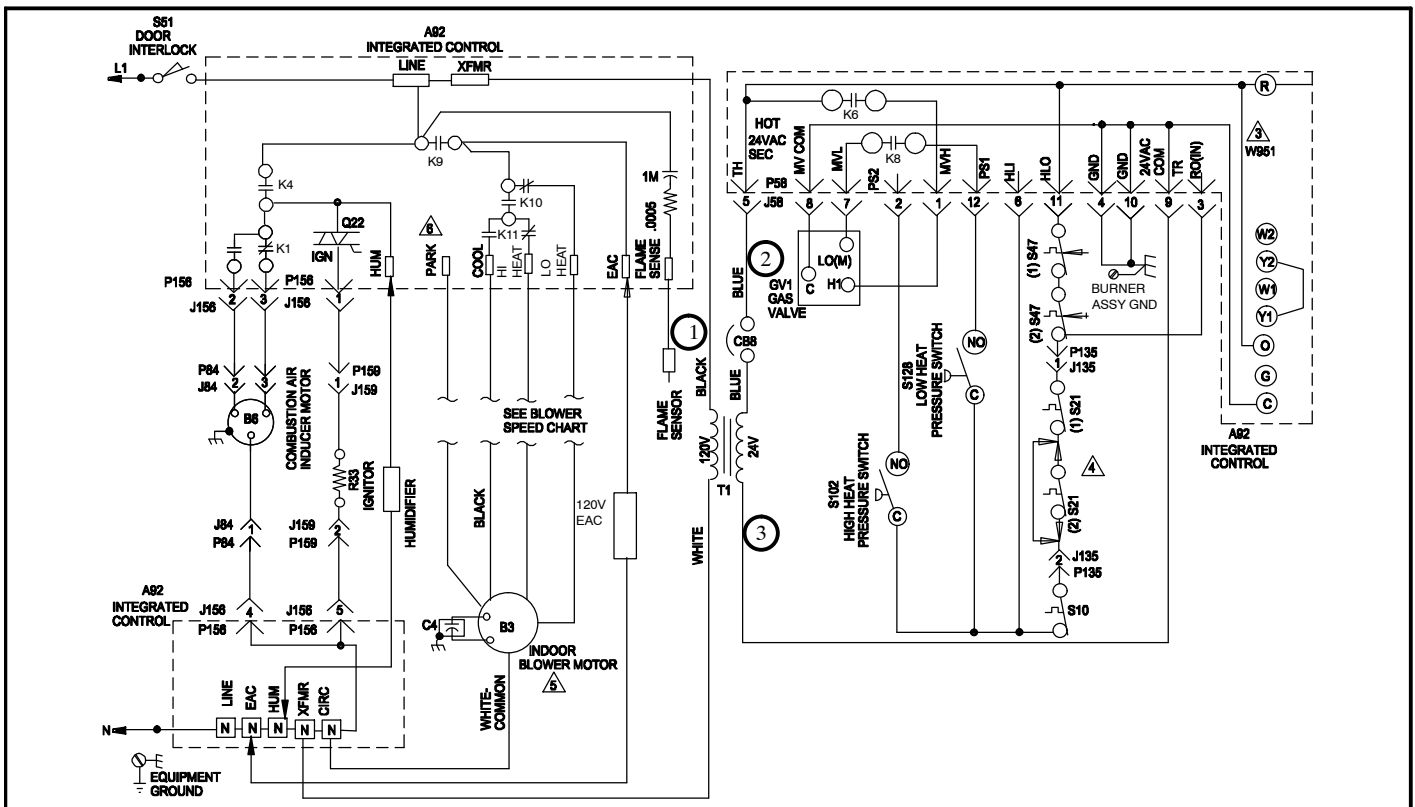


Figure 1 Transformer Replacement

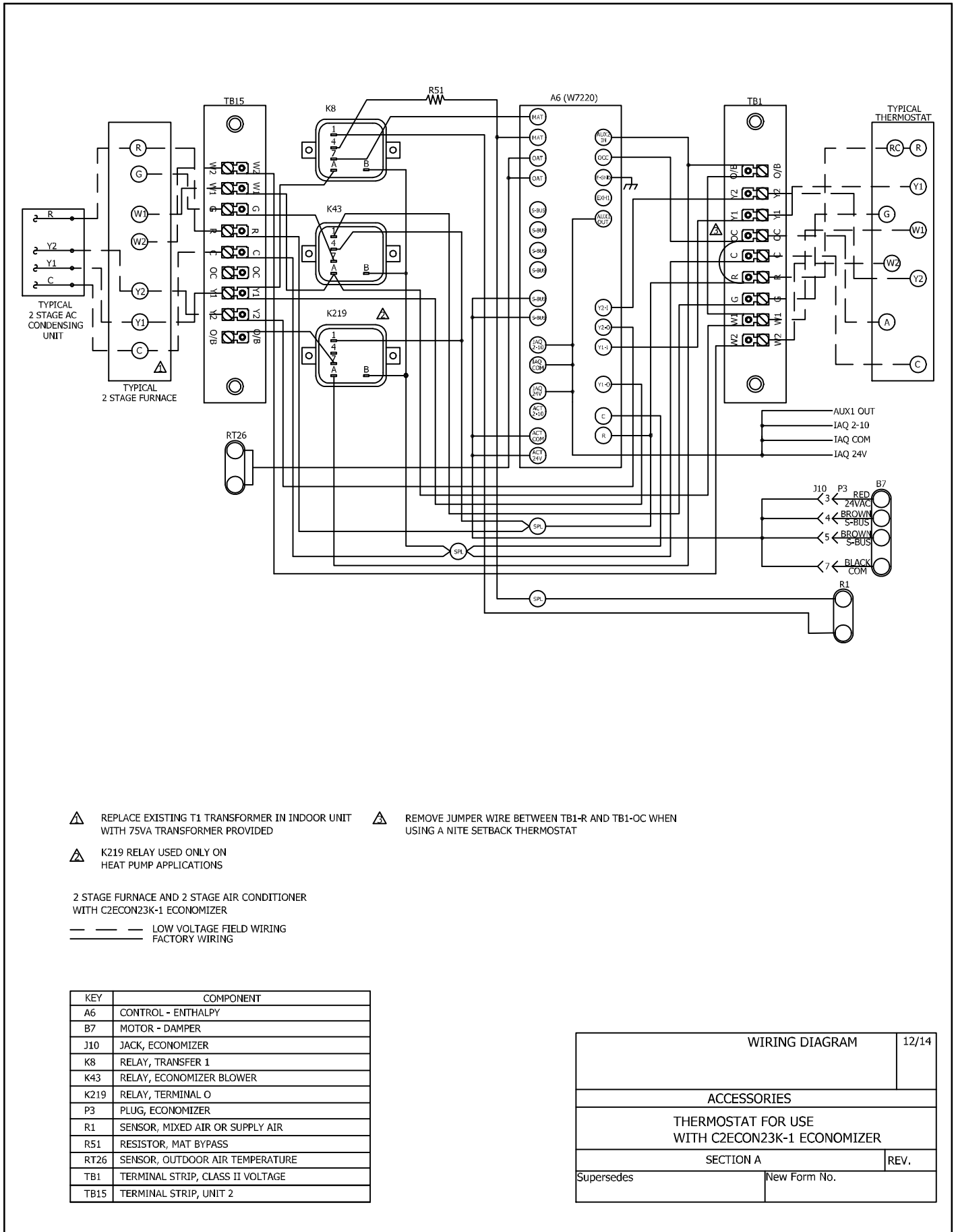
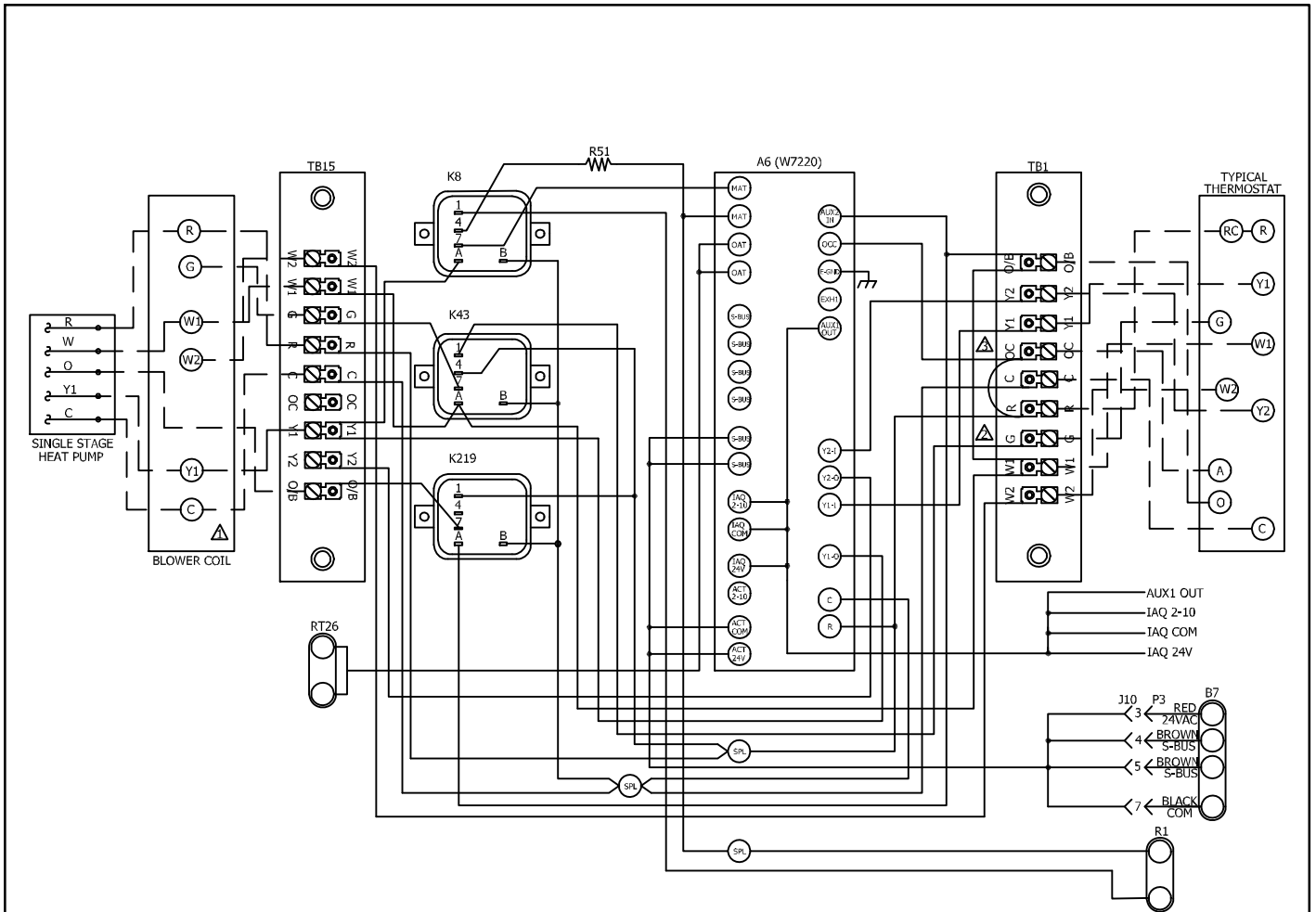


Figure 2 Cooling Wiring



- ⚠ REPLACE EXISTING T1 TRANSFORMER IN INDOOR UNIT WITH 75VA TRANSFORMER PROVIDED
- ⚠ REMOVE JUMPER WIRE BETWEEN TB1-R AND TB1-OC WHEN USING A NITE SETBACK THERMOSTAT
- ⚠ REMOVE JUMPER WIRE BETWEEN TB1-W1 AND TB1-O/B FOR HEAT PUMP APPLICATIONS WHEN USING HEAT PUMP THERMOSTAT. REFER TO INSTRUCTIONS PROVIDED WITH HEAT PUMP THERMOSTAT FOR ADDITIONAL INFORMATION.

CB UNIT WITH 2 STAGE ELECTRIC HEAT,
SINGLE STAGE HEAT PUMP WITH C2ECON23K-1
ECONOMIZER

--- LOW VOLTAGE FIELD WIRING
_____ FACTORY WIRING

KEY	COMPONENT
A6	CONTROL - ENTHALPY
B7	MOTOR - DAMPER
J10	JACK, ECONOMIZER
K8	RELAY, TRANSFER 1
K43	RELAY, ECONOMIZER BLOWER
K219	RELAY, TERMINAL O
P3	PLUG, ECONOMIZER
R1	SENSOR, MIXED AIR OR SUPPLY AIR
R51	RESISTOR, MAT BYPASS
RT26	SENSOR, OUTDOOR AIR TEMPERATURE
TB1	TERMINAL STRIP, CLASS II VOLTAGE
TB15	TERMINAL STRIP, UNIT 2

WIRING DIAGRAM		12/14
ACCESSORIES		
THERMOSTAT FOR USE WITH C2ECON23K-1 ECONOMIZER		
SECTION A		REV.
Supersedes	New Form No.	

Figure 3 Heat Pump Wiring

Economizer Sensor Connections

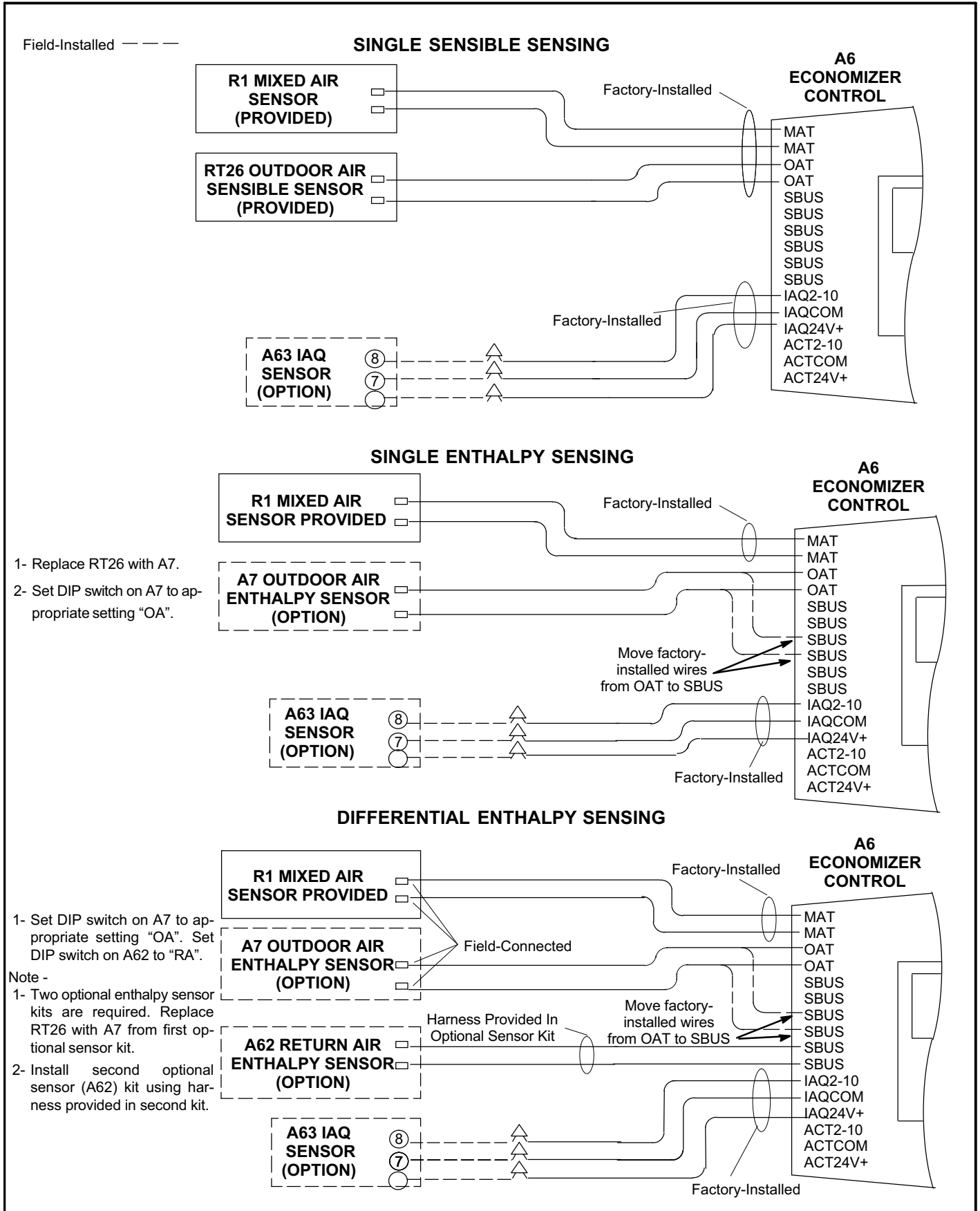


Figure 4. (W7220) Sensor Wiring

Economizer - A6 Control

NOTE - The A6 economizer control will be in the “setup” mode for the first sixty minutes after powered. If a sensor for outdoor air or SBUS device (sensor, actuator) is disconnected during the set up mode, the A6 will not alarm that failure. The R1 mixed air sensor is a system “critical” sensor; if the mixed air sensor is removed during the set up mode, the A6 will alarm. After sixty minutes the A6 will change to operation mode and all components removed or failed will alarm in the operation mode.

INITIAL SETUP

A default program must be modified for proper operation in each application. This is done during the initial setup procedure. See *Setup and Configuration* -

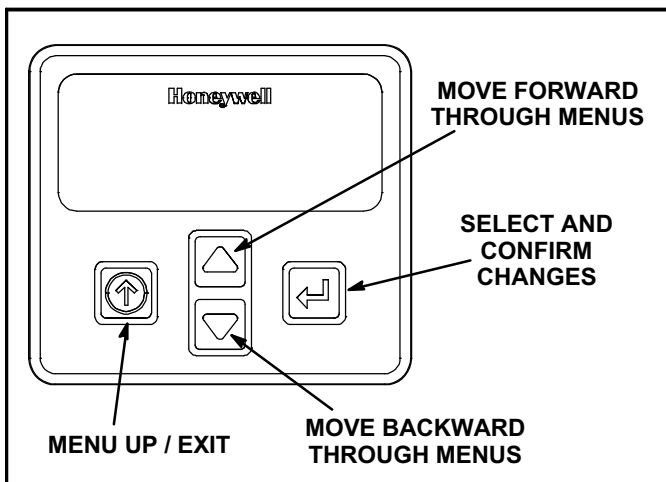


Figure 5. A6 Economizer Control Keypad

USING THE KEYPAD

Use the keypad as follows:

- Navigate to the desired menu.
- Press the \leftarrow button (enter) to display the first item in the currently displayed menu.
- Use the \blacktriangle and \blacktriangledown buttons to scroll to the desired parameter.
- Press the \leftarrow enter button (enter) to display the value of the currently displayed item.
- Press the \blacktriangle button to increase (change) the displayed parameter value.^a
- Press the \blacktriangledown button to decrease (change) the displayed parameter value.^a
- Press the \leftarrow enter button (enter) to accept the displayed value and store it in non-volatile RAM.

- CHANGE STORED displays.
- Press the \leftarrow button (enter) to return to the current menu parameter.
- Press the \uparrow button (MenuUp/Exit) to return to the previous menu.

When values are displayed, pressing and holding the \blacktriangle or \blacktriangledown button causes the display to automatically increment.

MENU STRUCTURE

The menus in display order are:

- STATUS
- SETPOINTS
- SYSTEM SETUP
- ADVANCED SETUP
- CHECKOUT
- ALARMS

For a complete list of parameters refer to the Honeywell installation manual provided in this kit.

IMPORTANT - Menu parameters will be different depending on each configuration. For example: if a DCV (CO₂) sensor is not used, none of the DCV parameters will appear and only MIN POS will display. If a CO₂ sensor is used, the DCV SET, VENTMIN and VENTMAX will appear.

SETUP AND CONFIGURATION

Program the following parameters into the controller. Navigate to the specific menus to make the changes required.

IMPORTANT - During setup, the economizer control is live at all times.

The setup process uses a hierarchical menu structure. Press the \blacktriangle and \blacktriangledown arrow buttons to move forward and backward through the menus and press the \leftarrow button to select and confirm setup item changes.

NOTE - System setup shown for use with Commercial Thermostat. Please refer to the System Setup Menu Structure Table within the Honeywell W7720 OEM Manual if a residential heat pump thermostat is used. Please also consult the Wiring Diagram provided for important notes.

1. In the **SYSTEM SETUP** Menu

INSTALL	(MM/DD/YY) enter installation date
EQUIPMENT	(CONV)
AUX2 IN	(HEAT W1)
FAN SPEED	(1SPEED) or (2SPEED)
FAN CFM	() enter highest indoor blower capacity of rooftop unit.
AUX1 OUT	(NONE) change to SYS if A6 controller is wired for remote alarm monitoring.
OCC	(INPUT)

Economizer - A6 Control (continued)

2. In the **ADVANCED SETUP** Menu

- MA LO SET (45°F)
- FREEZE POS (CLOSE)
- STG3 DLY (2HRS)
- SD DMPR POS (CLOSED)

3. In the **SETPOINTS** Menu

- MA SET (55°F)
- LO T LOCK (32°F)
- MIN POS (VDC) refer to minimum position setting section for details.

ALARM MONITORING

The controller is equipped with a 24V output signal that can be configured for remote alarm monitoring.

In the "SYSTEM SETUP" menu change the "AUX1 OUT" setting to "SYS". Refer to figure 6 for wiring connections provided.

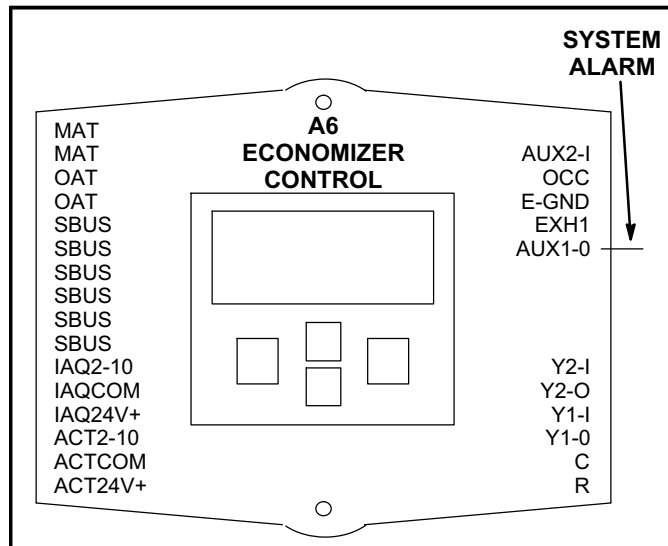


Figure 6. A6 Control High Performance Terminals

Economizer - Settings

FREE COOLING SETPOINT

Single OA Sensible Sensing (Default) -

The default free cooling setpoint or high limit setpoint is 63°F. This means that the outdoor air is suitable for free cooling at 62°F and below and not suitable at 64°F and above. This setpoint is adjustable.

For *California Title 24* compliance, adjust the free cooling setpoint based on:

- The climate zone where the unit is installed. See table 2.
- The setpoint requirement published by the California Energy Commission. See *Section 140.4 - Prescriptive Requirements for Space Conditioning Systems of the 2013 Building Energy Efficiency Standards*.

Note - Values in the referenced standard will supersede values listed in table 2.

Table 2. Free Cooling Setpoint - Single Sensible

Climate Zone	Setpoint
1, 3, 5, 11-16	75°F
2, 4, 10	73°F
6, 8, 9	71°F
7	69°F

To adjust the setpoint, navigate to the “*SETPOINTS*” menu and change the “*DRYBLB SET*” parameter accordingly.

Single OA Enthalpy Sensing (Optional)

The controller uses enthalpy boundary “curves” for economizing when used with an enthalpy sensor. Refer to the Honeywell installation instruction for details.

Differential Sensing (Optional)

Two sensors can be used to compare outdoor air to return air. When outdoor air is cooler than return air, outdoor air is suitable for free cooling. When return air is cooler than outdoor air, the damper will modulate to the minimum position.

DAMPER MINIMUM POSITION

NOTE - 24 volts must be provided at unit TB1 terminals **R** and **OC** to enable economizer operation (allowing minimum fresh air). Typically a separately ordered thermostat or energy management system with an occupied/unoccupied output is connected between TB1 **R** and **OC** terminals. The thermostat will provide 24 volts to the A6 economizer control during the occupied time period

to enable economizer minimum position. If a device is not used to enable the economizer, install a jumper wire between TB1 terminals **R** and **OC** to maintain minimum position continuously. See figure 7.

Make wire connections to TB1 terminals **R** and **OC** as shown in literature provided with thermostat or energy management system.

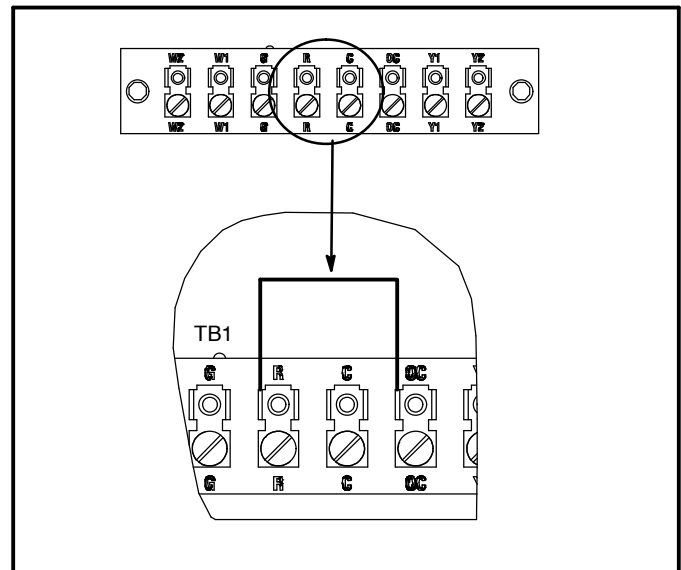


Figure 7. TB1 Terminal R and OC Jumper

UNITS WITH 1-SPEED SUPPLY AIR BLOWER

1. Set thermostat to occupied mode if the feature is available. Make sure jumper is in place between TB1 terminals R and OC if using a thermostat which does not have the feature.
2. Turn on the blower using the thermostat or a jumper between TB1 terminals R and G.
3. Navigate to the “*SETPOINTS*” menu and select “*MIN POS*”. Adjust value (2-10VDC) to the approximate desired fresh air percentage.

3.0 VDC - 12% Open Damper

3.5 VDC - 18% Open Damper

4.0 VDC - 25% Open Damper

4.5 VDC - 31% Open Damper

5.0 VDC - 37% Open Damper

5.5 VDC - 43% Open Damper

6.0 VDC - 50% Open Damper

NOTE - Damper minimum position can be set lower than traditional minimum air requirements when an IAQ sensor is specified.

4. Measure outdoor air temperature. Mark the point on the bottom line of chart 1 and label the point “A” (40°F, 4°C shown).

Economizer - Settings (continued)

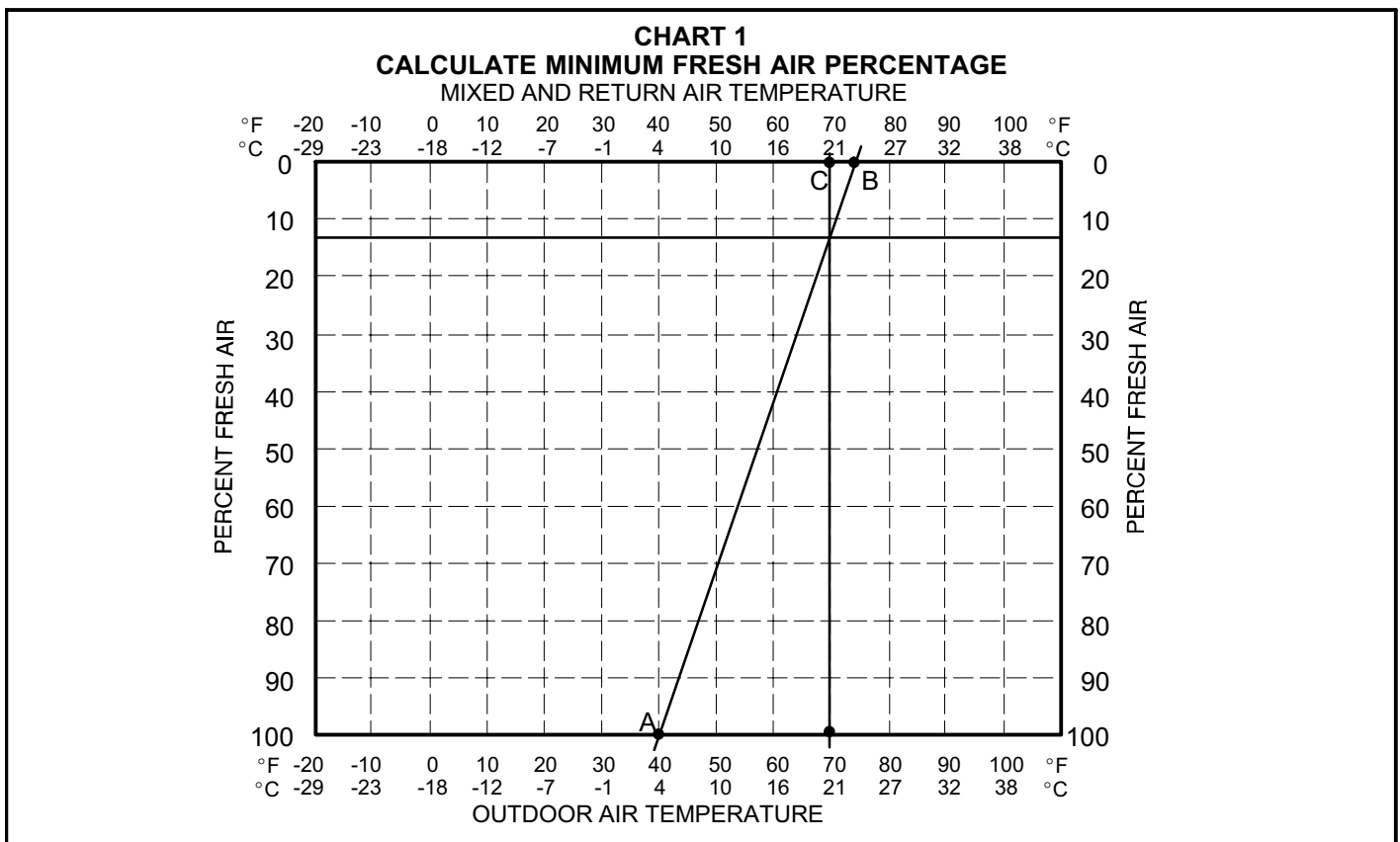
5. Measure return air temperature. Mark that point on the top line of chart 1 and label the point "B" (74°F, 23°C shown).
6. Measure mixed air (outdoor and return air) temperature. Mark that point on the top line of chart 1 and label point "C" (70°F, 21°C shown).
7. Draw a straight line between points A and B.
8. Draw a vertical line through point C.
9. Draw a horizontal line where the two lines meet. Read the percent of fresh air intake on the side.
10. Repeat steps 3 through 8 until calculation reads desired fresh air percentage.

If fresh air percentage is less than desired, use the A6 keypad to adjust "MIN POS" values higher (further

open). If fresh air percentage is more than desired, adjust "MIN POS" values lower (less open). Repeat steps 3 through 8 until calculation reads desired fresh air percentage.

UNITS WITH 2-SPEED SUPPLY AIR BLOWER

1. Set thermostat to occupied mode if the feature is available. Make sure a jumper is in place between TB1 terminals R and OC when using a thermostat which does not have this feature.
2. **Minimum damper position -Low Speed** If your room thermostat is equipped with a test mode feature, please refer to your room thermostat manual on how to engage low speed blower operation only. If your room thermostat is not equipped with this feature, please disconnect your outdoor unit from the power source before continuing.



Economizer - Settings (continued)

3. Initiate low speed blower operation via the thermostat or by placing a jumper between R and Y1 on the terminal strip of the furnace or fan coil unit.
4. Navigate to the "SETPOINTS" menu and select "MIN POS L". Adjust value (2-10VDC) to the approximate desired fresh air percentage and save the input.
 - 3.0 VDC - 12% Open Damper
 - 3.5 VDC - 18% Open Damper
 - 4.0 VDC - 25% Open Damper
 - 4.5 VDC - 31% Open Damper
 - 5.0 VDC - 37% Open Damper
 - 5.5 VDC - 43% Open Damper
 - 6.0 VDC - 50% Open Damper

NOTE - Damper minimum position can be set lower than traditional minimum air requirements when an IAQ sensor is specified.

5. Navigate to the "CHECKOUT" menu and select "VMAX-LS". Press ←.
6. Display will read "DAMPER VMAX-LS RUN?". Press ←.
7. Damper will drive to the setpoint value stored in step 4.
8. Measure outdoor air temperature. Mark the point on the bottom line of chart 1 and label the point "A" (40°F, 4°C shown).
9. Measure return air temperature. Mark that point on the top line of chart 1 and label the point "B" (74°F, 23°C shown).
10. Measure mixed air (outdoor and return air) temperature. Mark that point on the top line of chart 1 and label point "C" (70°F, 21°C shown).
11. Draw a straight line between points A and B.
12. Draw a vertical line through point C.
13. Draw a horizontal line where the two lines meet. Read the percent of fresh air intake on the side.
14. Repeat steps 4 through 13 until calculation reads desired fresh air percentage. Remove jumper after completion if applicable.

If fresh air percentage is less than desired, use the A6 keypad to adjust "MIN POS L" values higher (further open). If fresh air percentage is more than desired, adjust "MIN POS L" values lower (less open).

15. Minimum damper position setting - High Speed

If your room thermostat is equipped with a test mode feature, please refer to your room thermostat manual on how to engage high speed blower operation only. If your room thermostat is not equipped with this feature, please disconnect your outdoor unit from the power source before continuing.

16. Initiate high speed blower operation via the thermostat or by placing a jumper between R and Y2 on the terminal strip of the furnace or fan coil unit.
17. Navigate to the "SETPOINTS" menu and select "MIN POS H". Adjust value (2-10VDC) to the approximate desired fresh air percentage.

- 3.0 VDC - 12% Open Damper
- 3.5 VDC - 18% Open Damper
- 4.0 VDC - 25% Open Damper
- 4.5 VDC - 31% Open Damper
- 5.0 VDC - 37% Open Damper
- 5.5 VDC - 43% Open Damper
- 6.0 VDC - 50% Open Damper

NOTE - Damper minimum position can be set lower than traditional minimum air requirements when an IAQ sensor is specified.

18. Navigate to the "CHECKOUT" menu and select "VMAX-HS". Press ←.
19. Display will read "DAMPER VMAX-HS RUN?". Press ←.
20. Damper will drive to the setpoint value stored in step 17.
21. Measure outdoor air temperature. Mark the point on the bottom line of chart 1 and label the point "A" (40°F, 4°C shown).
22. Measure return air temperature. Mark that point on the top line of chart 1 and label the point "B" (74°F, 23°C shown).
23. Measure mixed air (outdoor and return air) temperature. Mark that point on the top line of chart 1 and label point "C" (70°F, 21°C shown).
24. Draw a straight line between points A and B.
25. Draw a vertical line through point C.
26. Draw a horizontal line where the two lines meet. Read the percent of fresh air intake on the side.
27. Repeat steps 16 through 25 until calculation reads desired fresh air percentage. Remove the jumper after completion if applicable.

If fresh air percentage is less than desired, use the A6 keypad to adjust "MIN POS H" values higher (further open). If fresh air percentage is more than desired, adjust "MIN POS H" values lower (less open).

DEMAND CONTROL VENTILATION (DCV)

When a 2-10VDC CO₂ sensor is wired to the controller (leads provided), the DCV SET, VENTMIN, and VENTMAX parameters will appear under "SETPOINTS" menu. Navigate to the "SETPOINTS" menu to adjust setpoints as desired. Refer to the Honeywell manual provided for more details.

Economizer - Sequence of Operation

Refer to tables 3, 4, 5 or 6.

When the outdoor air is suitable and a thermostat demand calls for 1st. stage cooling (Y1), the economizer will modulate the dampers between the minimum and fully open positions to maintain a 55°F (12.8°C) mixed air temperature. When there is an increased thermostat demand for second stage cooling (Y2), the economizer damper opens 100% and the economizer controller (A6) will bring on the compressor. At that point, K8 relay will switch from the R1 mixed air sensor to R51 resistor allowing the economizer damper to stay open 100%. The

damper will stay open 100% with the compressor running simultaneously until Y2 demand is met.

NOTE – Because of the sensor location, the mixed air temperature displayed on the economizer controller (A6) is only true when no mechanical cooling or heating is initiated. During mechanical cooling (compressor running), the MA temperature displayed will be the temperature equivalent of the fixed resistor and not the actual MA temperature.

TROUBLESHOOTING, ALARMS AND CHECKOUT TESTS

Refer to the Honeywell manual provided for details.

Table 3. Economizer Operation - No DCV (CO₂ Sensor, 1-Speed Supply Fan)

DCV	OA Good to Economize?	Y1-I	Y2-I	Y1-O	Y2-O	Occupied	Unoccupied
None	No	Off	Off	0-v/Off	0-v/Off	MIN POS	Closed
		On	Off	24-v/On	0-v/Off	MIN POS	Closed
		On	On	24-v/On	24-v/On	MIN POS	Closed
None	Yes	Off	Off	0-v/Off	0-v/Off	MIN POS	Closed
		On	Off	0-v/Off	0-v/Off	MIN POS to Full-Open	Closed to Full-Open
		On	On	24-v/On	0-v/Off	Full-Open	Full-Open

Table 4. Economizer Operation - With DCV (CO₂ Sensor, 1-Speed Supply Fan)

DCV	OA Good to Economize?	Y1-I	Y2-I	Y1-O	Y2-O	Occupied	Unoccupied
Below set	No	Off	Off	0-v/Off	0-v/Off	VENTMIN	Closed
		On	Off	24-v/On	0-v/Off	VENTMIN	Closed
		On	On	24-v/On	24-v/On	VENTMIN	Closed
	Yes	Off	Off	0-v/Off	0-v/Off	VENTMIN	Closed
		On	Off	0-v/Off	0-v/Off	VENTMIN to Full-Open	Closed to Full-Open
		On	On	24-v/On	0-v/Off	Full-Open	Full-Open
Above set	No	Off	Off	0-v/Off	0-v/Off	VENTMIN to VENTMAX	Closed
		On	Off	24-v/On	0-v/Off	VENTMIN to VENTMAX	Closed
		On	On	24-v/On	24-v/On	VENTMIN to VENTMAX	Closed
	Yes	Off	Off	0-v/Off	0-v/Off	VENTMIN to VENTMAX	Closed
		On	Off	0-v/Off	0-v/Off	VENTMIN to Full-Open	Closed to Full-Open
		On	On	24-v/On	0-v/Off	Full-Open	Full-Open

Economizer - Sequence of Operation

Table 5. Economizer Operation - No DCV (CO₂ Sensor, 2-Speed Supply Fan)

DCV	OA Good to Economize?	Y1-I	Y2-I	Fan Speed	Y1-O	Y2-O	Occupied	Unoccupied
None	No	Off	Off	Low	0-v/Off	0-v/Off	MIN POS L	Closed
		On	Off	Low	24-v/On	0-v/Off	MIN POS L	Closed
		On	On	High	24-v/On	24-v/On	MIN POS H	Closed
None	Yes	Off	Off	Low	0-v/Off	0-v/Off	MIN POS L	Closed
		On	Off	High	0-v/Off	0-v/Off	MIN POS L to Full-Open	Closed to Full-Open
		On	On	High	Delay (b) 24-v/On	0-v/Off	Full-Open	Full-Open

(b) With 2SP FAN DELAY (Advance Setup Menu), when in the economizing mode, there is a delay for the high speed fan to try to satisfy the call for second-stage cooling by turning on the fan to high and opening the OA dampers to 100% before the first-stage mechanical cooling is enabled.

Table 6. Economizer Operation - With DCV (CO₂ Sensor, 2-Speed Supply Fan)

DCV	OA Good to Economize?	Y1-I	Y2-I	Fan Speed	Y1-O	Y2-O	Occupied	Unoccupied
Below set	No	Off	Off	Low	0-v/Off	0-v/Off	VENTMIN L	Closed
		On	Off	Low	24-v/On	0-v/Off	VENTMIN L	Closed
		On	On	High	24-v/On	24-v/On	VENTMIN H	Closed
	Yes	Off	Off	Low	0-v/Off	0-v/Off	VENTMIN L	Closed
		On	Off	High	0-v/Off	0-v/Off	VENTMIN L to Full-Open	Closed to Full-Open
		On	On	High	Delay (b) 24-v/On	0-v/Off	Full-Open	Full-Open
Above set	No	Off	Off	Low	0-v/Off	0-v/Off	VENTMIN L to VENTMAX L	Closed
		On	Off	Low	24-v/On	0-v/Off	VENTMIN L to VENTMAX L	Closed
		On	On	High	24-v/On	24-v/On	VENTMIN H to VENTMAX H	Closed
	Yes	Off	Off	Low	0-v/Off	0-v/Off	VENTMIN L to VENTMAX L	Closed
		On	Off	High	0-v/Off	0-v/Off	VENTMIN L to Full-Open	Closed to Full-Open
		On	On	High	Delay (b) 24-v/On	0-v/Off	Full-Open	Full-Open

(b) With 2SP FAN DELAY (Advance Setup Menu), when in the economizing mode, there is a delay for the high speed fan to try to satisfy the call for second-stage cooling by turning on the fan to high and opening the OA dampers to 100% before the first-stage mechanical cooling is enabled.

Maintenance

1. Damper motor is prelubricated and does not require further lubrication.
2. Make visual inspection of dampers and linkage assemblies during routine maintenance.

