

**INSTALLATION INSTRUCTIONS FOR ENTHALPY SENSOR KIT
(603364-37; 23G26) USED WITH SIEMENS HIGH PERFORMANCE ECONOMIZERS**

Shipping and Packing List

Package 1 of 1 contains:

- 1- Sensor
- 4- #6-32 X 7/8" Screws
- 1- P104/P105 to A7/A62 Sensor harness
- 1- J104/J105 to A6 Controller harness
- 1- Bracket (used on 092-150 units only)
- 1- Wire tie
- 1- #10-16 X 5/8" SMS screw
- 1- Patch plate

IMPORTANT - Two kits must be installed if differential enthalpy sensing is specified.

Check packaging for shipping damage. Contact the last carrier immediately if any shipping damage is found.

Application

This kit is used on KG/KC/KH 024-300 units equipped with a high performance economizer using a Siemens controller.

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.

Note - Differential sensor applications must use the same two sensors.

⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

⚠ WARNING

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 licensed professional HVAC installer or equivalent, service agency, or the gas supplier

TABLE 1

No. Of Sensors	Outdoor Air Is Enabled For Free Cooling When:
1	OA enthalpy, A7, is less than free cooling set-point (single enthalpy).
2	OA enthalpy, A7, is less than RA enthalpy, A62 (differential enthalpy).*

⚠ WARNING

To prevent serious injury or death:

- 1- Lock-out/tag-out before performing maintenance.**
- 2- If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.**
- 3- Always keep hands, hair, clothing, jewelry, tools, etc., away from moving parts.**

Install Patch Plate

- 1- Install patch plate over opening in side panel used by J104 and P104/P105 connectors. See figure 1. Patch plate location is shown on the inside of the side panel in figure 3 for 024-090 units and figure 4 for 092-150 units. Secure with #6-32 screws.
- 2- *Differential Sensing Only* - Install patch plate from 2nd kit over opening in side panel used by J105 and P104/P105 connectors. Refer to the same figures as the previous step.

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.

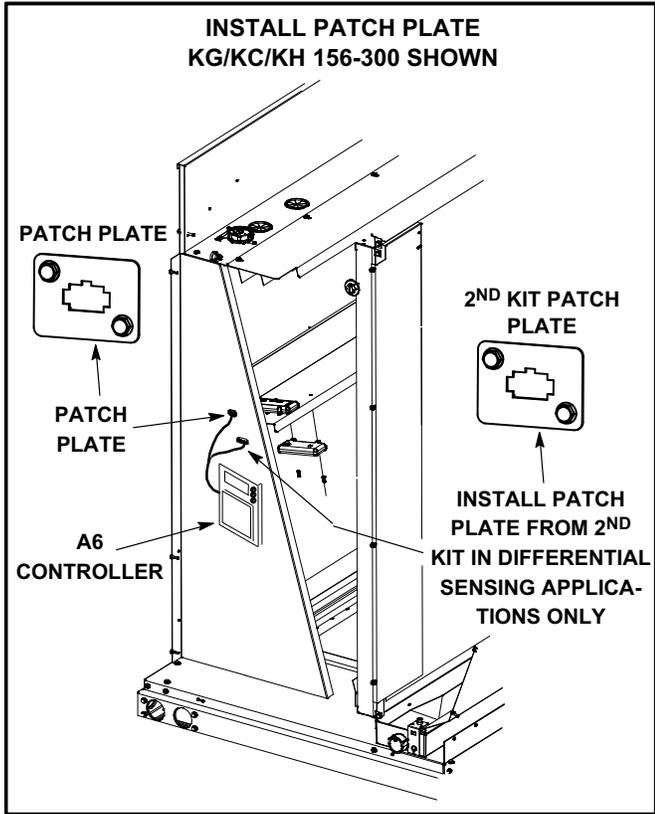


FIGURE 1

3- Disconnect and discard factory-installed single sensible sensor RT26 and wires routed to terminals OAT/OAH on A6 controller. See figure 2.

4- Install sensors as shown in the following figures:

NOTE - A62 sensor from the 2nd kit is installed in differential sensing applications only.

KG/KC/KH 024-090	Figure 3
KG/KC/KH 092-150	Figure 4
KG/KC/KH 156-300	Figure 5

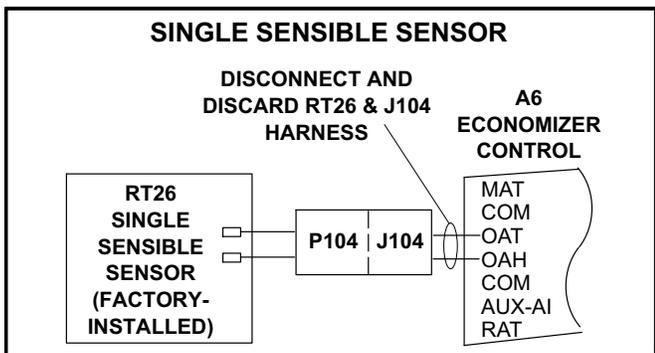


FIGURE 2

Wire A7 Sensor

Identify harnesses by markings on wires. Refer to figure 6 and 7.

- 1- Insert controller harness J104 jack into the patch plate. Location is shown in figure 3 for 024-090 units, figure 4 for 092-150 units, and figure 5 for 156-300S units.
- 2- Connect J104/J105 controller harness wire marked AUX-A1 to P4 economizer plug lead marked P4-4/AUX-A1.
- 3- Connect other end of J104 controller harness into A6 economizer control as shown in figure 6.
- 4- Connect P104/P105 sensor plug into J104 previously installed in side wall. See figure 3 for 024-090 units, figure 4 for 092-150 units, and figure 5 for 156-300S units.

Note - Wiring is shown on economizer wiring diagram. See figure 8.

- 5- Connect other end of P104/P105 sensor harness into A7 enthalpy control as shown in figure 6.
- 6- Reinstall gravity exhaust damper, power exhaust, and outdoor air hood when applicable.

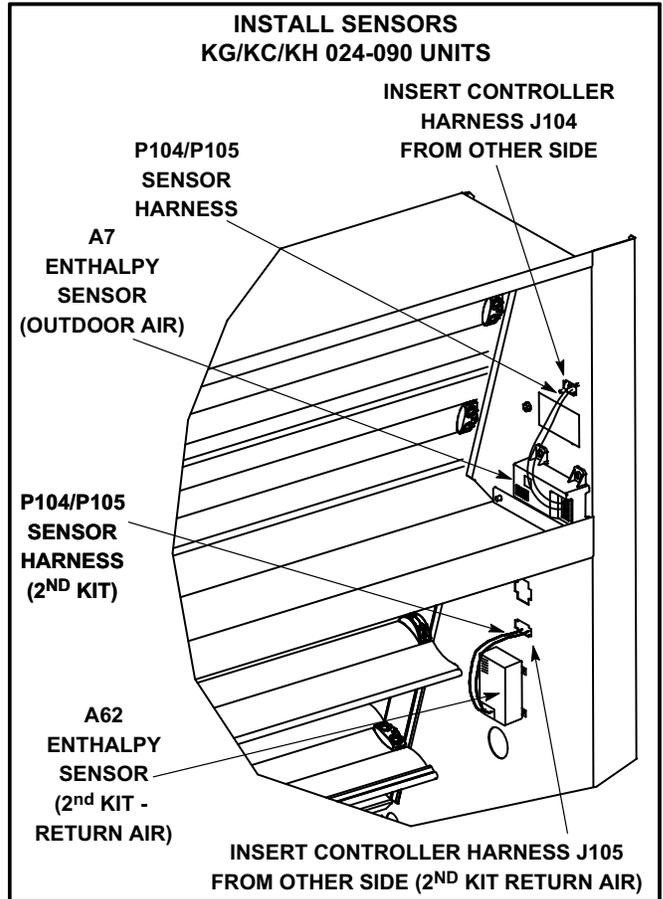
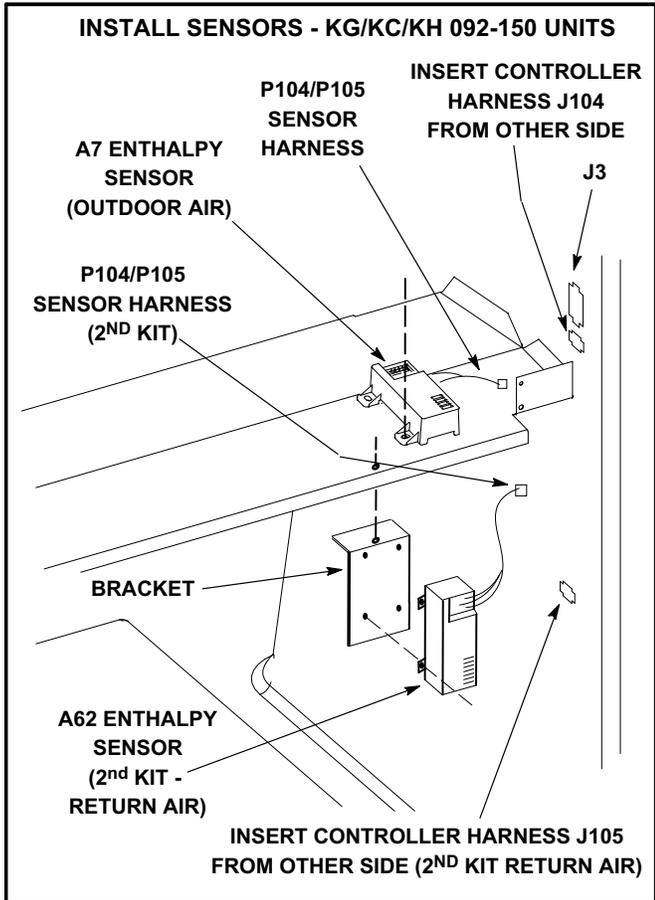


FIGURE 3



Wire A62 Sensor

Note - Two kits must be ordered for differential sensing.

Identify harnesses by markings on wires. Refer to figure 7.

Note - The A6 controller harness is used in both single and differential sensing applications. When purchasing two kits for differential enthalpy, discard the A6 controller harness provided in the 2nd kit.

- 1- Insert controller harness J105 jack into the patch plate. Location is shown in figure 3 for 024-090 units, figure 4 for 092-150 units, and figure 5 for 156-300S units.
- 2- Connect J104/J105 controller harness wire marked AUX-A1 to P4 economizer plug lead marked P4-4/AUX-A1.

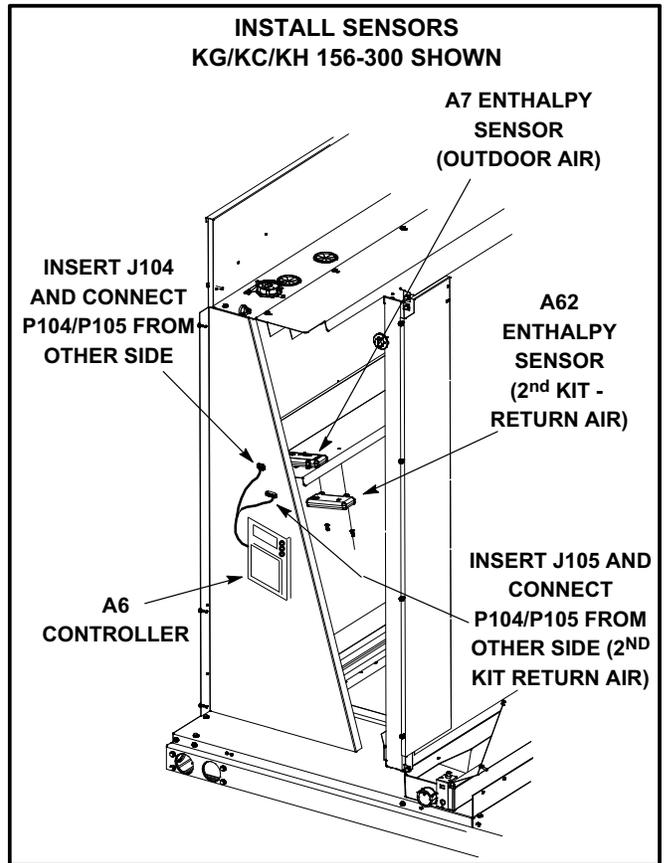
- 3- Connect other end of J105 controller harness into A6 economizer control as shown in figure 7.
- 4- Connect P104/P105 sensor harness plug into J105 previously installed in side wall. See figure 3 for 024-090 units, figure 4 for 092-150 units, and figure 5 for 156-300S units.

Note - Wiring is shown on economizer wiring diagram. See figure 8.

- 5- Connect other end of P104/P105 sensor harness into A7 enthalpy control as shown in figure 6.
- 6- Reinstall gravity exhaust damper, power exhaust, and outdoor air hood when applicable.

Operation

Refer to Unit Controller manual for start-up and operation.



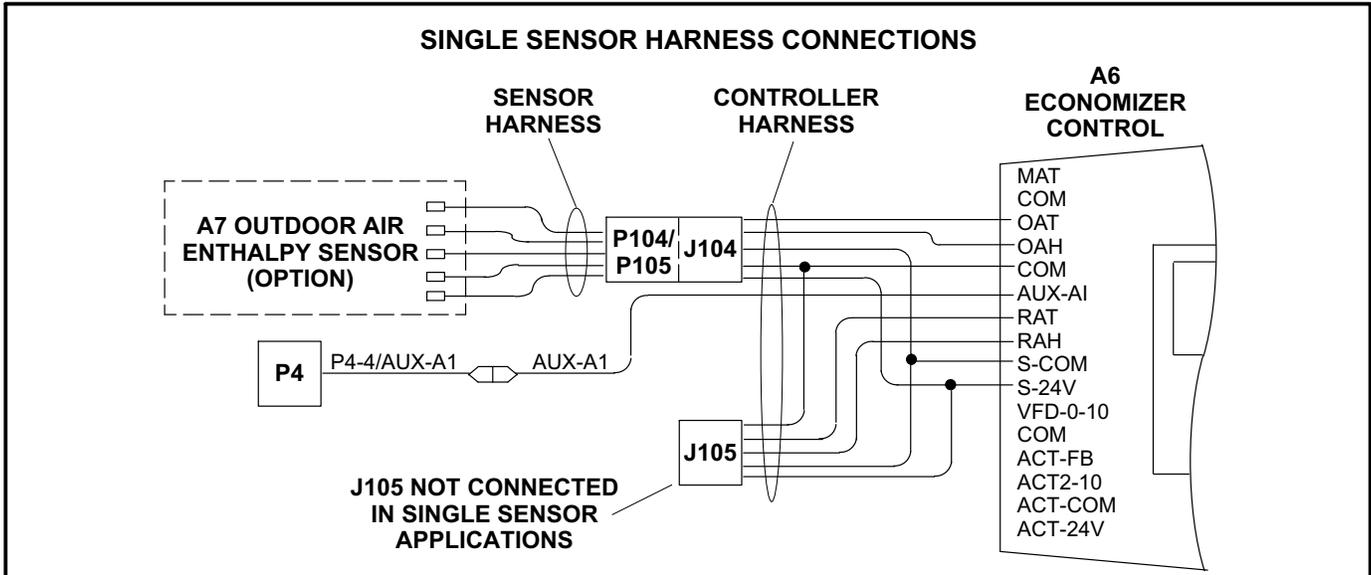


FIGURE 6

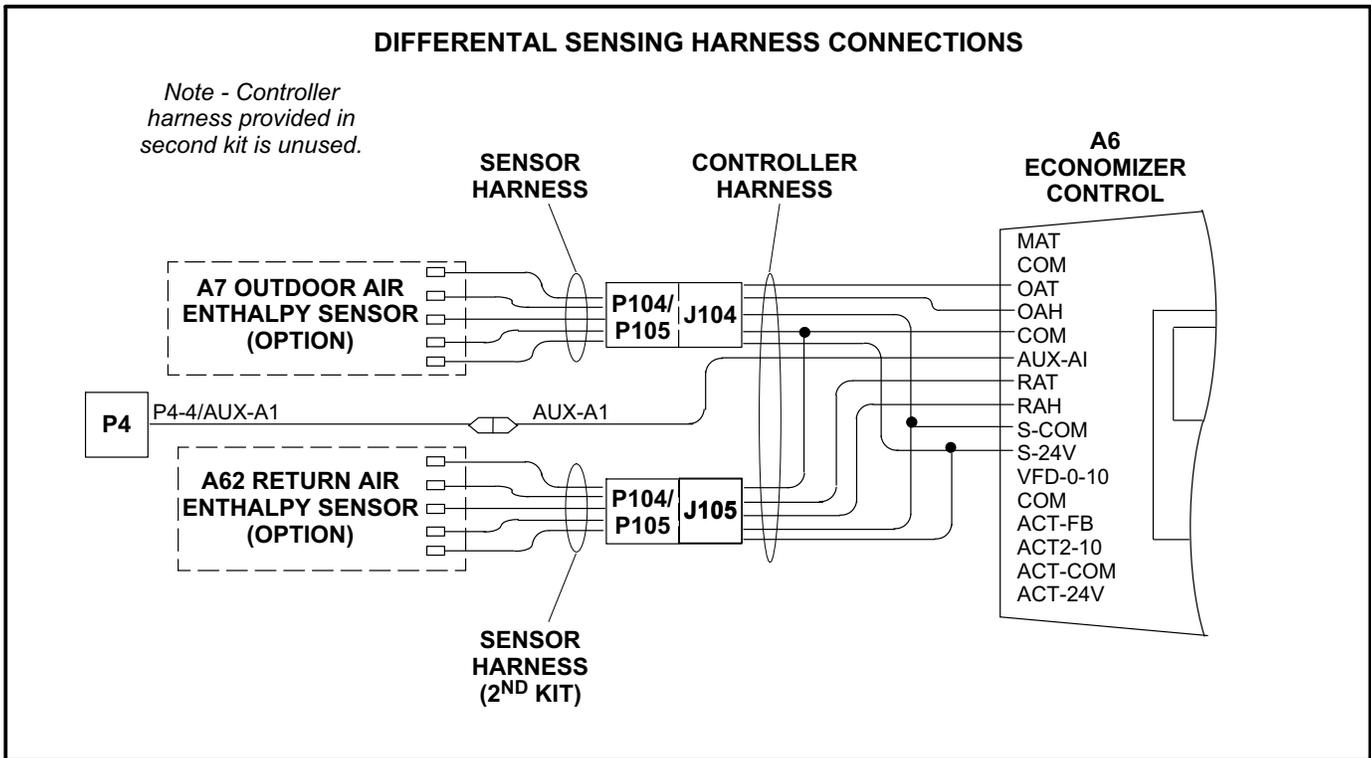
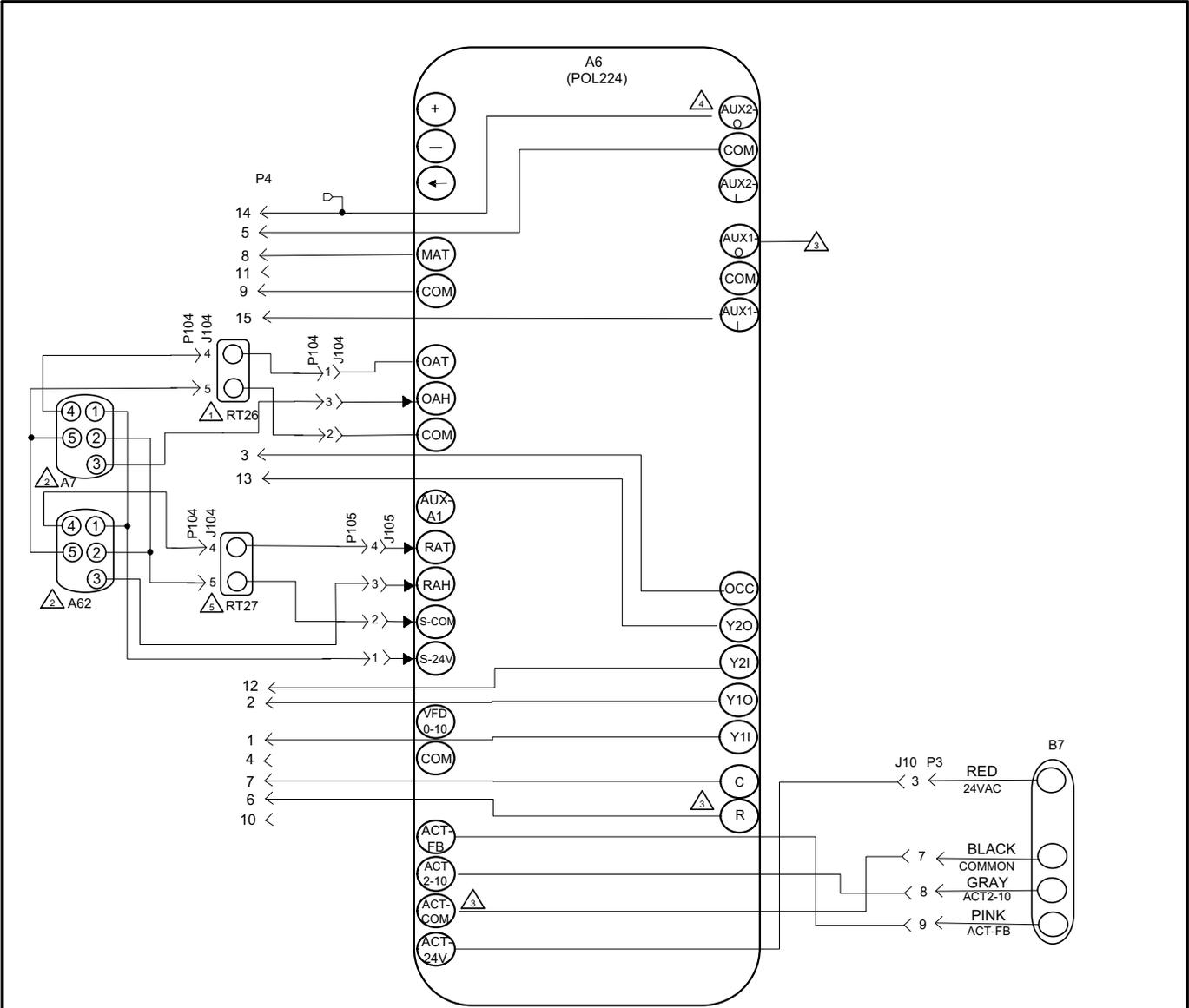


FIGURE 7



KEY	COMPONENT
A6	CONTROL - ECONOMIZER
A7	SENSOR - OUTDOOR ENTHALPY
A62	SENSOR - INDOOR ENTHALPY
B7	MOTOR - DAMPER ECONOMIZER
J10	JACK - ECONOMIZER MOTOR
J104	JACK - SENSOR OUTDOOR
J105	JACK - SENSOR RETURN AIR
P3	PLUG - ECONOMIZER MOTOR
P4	PLUG - ECONOMIZER
P104	PLUG - SENSOR OUTDOOR
P105	PLUG - SENSOR RETURN AIR
RT26	SENSOR - OUTDOOR AIR TEMP
RT27	SENSOR - RETURN AIR TEMP

← → DESIGNATES OPTIONAL WIRING
 - - - CLASS II FIELD WIF

- △ OUTDOOR AIR TEMP SENSOR RT26 OR OUTDOOR AIR ENTHALPY SENSOR A7 MAY BE USED.
- △ FOR DIFFERENTIAL ENTHALPY SENSING USE OUTDOOR ENTHALPY SENSOR A7 AND RETURN AIR ENTHALPY SENSOR A62.
- △ REFER ALSO TO MAIN UNIT WIRING DIAGRAM SECTION C.
- △ PROGRAMMABLE, USE FOR SYSTEM ALARM OUTPUT.
- △ FOR DIFFERENTIAL TEMPERATURE SENSING USE RT26 & RT27 SENSORS.

WIRING DIAGRAM		3/31
538241-01		
ACCESSORIES		
SIEMENS CONTROL ECONOMIZER (A-BOX)		
D1		REV 0
Supersedes	New Form No. 538241-01	



538241-01

FIGURE 8
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