508329-01
3/2023

ENTHALPY SENSOR KIT

INSTALLATION INSTRUCTIONS FOR ENTHALPY SENSOR KIT (603364-38; 24G11) 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- Bracket

1- Wire tie

1- #10-16 X 5/8" SMS screw

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 ZG/ZC/ZH 092-150 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 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 filter access panel and return air access panel. If hood is already installed, remove hood. See figure 1.

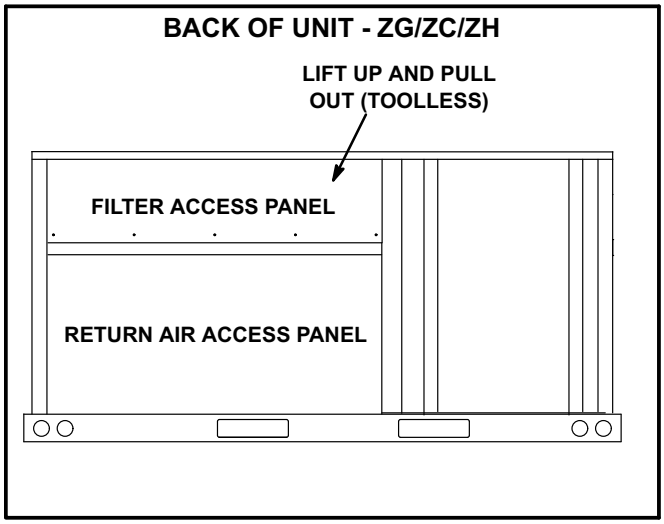

FIGURE 1

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3- Disconnect P104/J104 connector located near economizer actuator and discard single sensible sensor RT26 and wiring. See figure 3 and 5.

4- Install sensors as shown in figure 4.

5- Route sensor harness (both harnesses in differential sensing applications) through economizer side panel. See figure 4.

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

6- Remove the A6 control from the economizer side panel. See figure 3 and 4. Install the A6 control in the unit control box. See figure 2. Connect A6 control J142 to unit P142 hanging in the control box area.

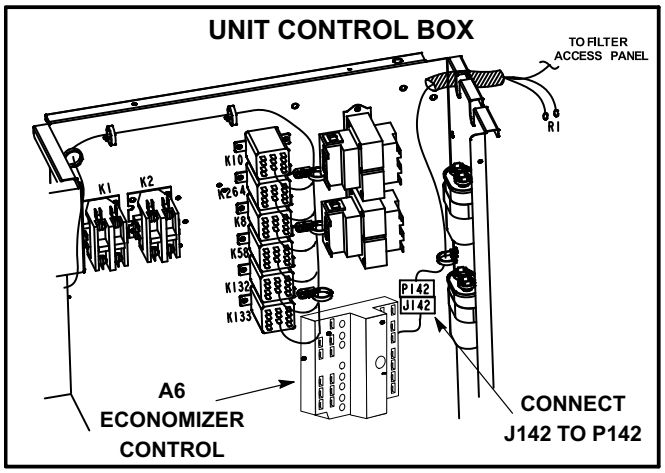


FIGURE 2

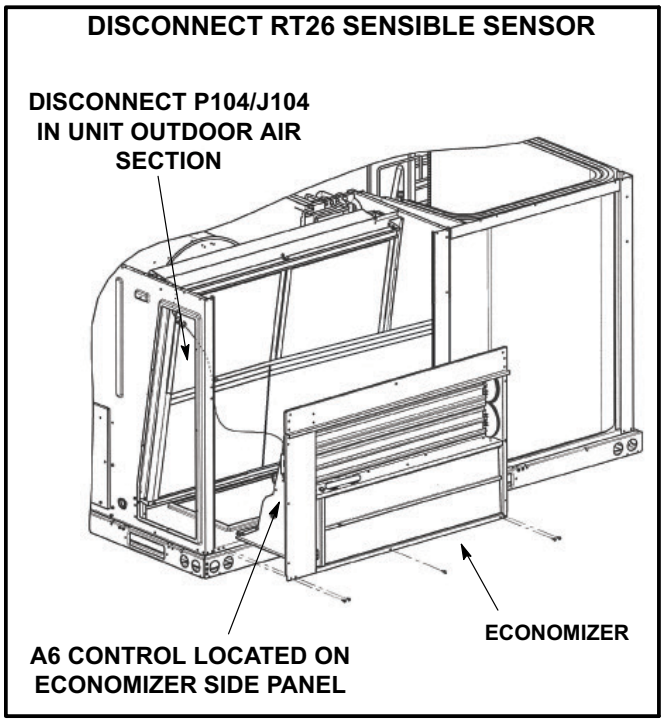


FIGURE 3

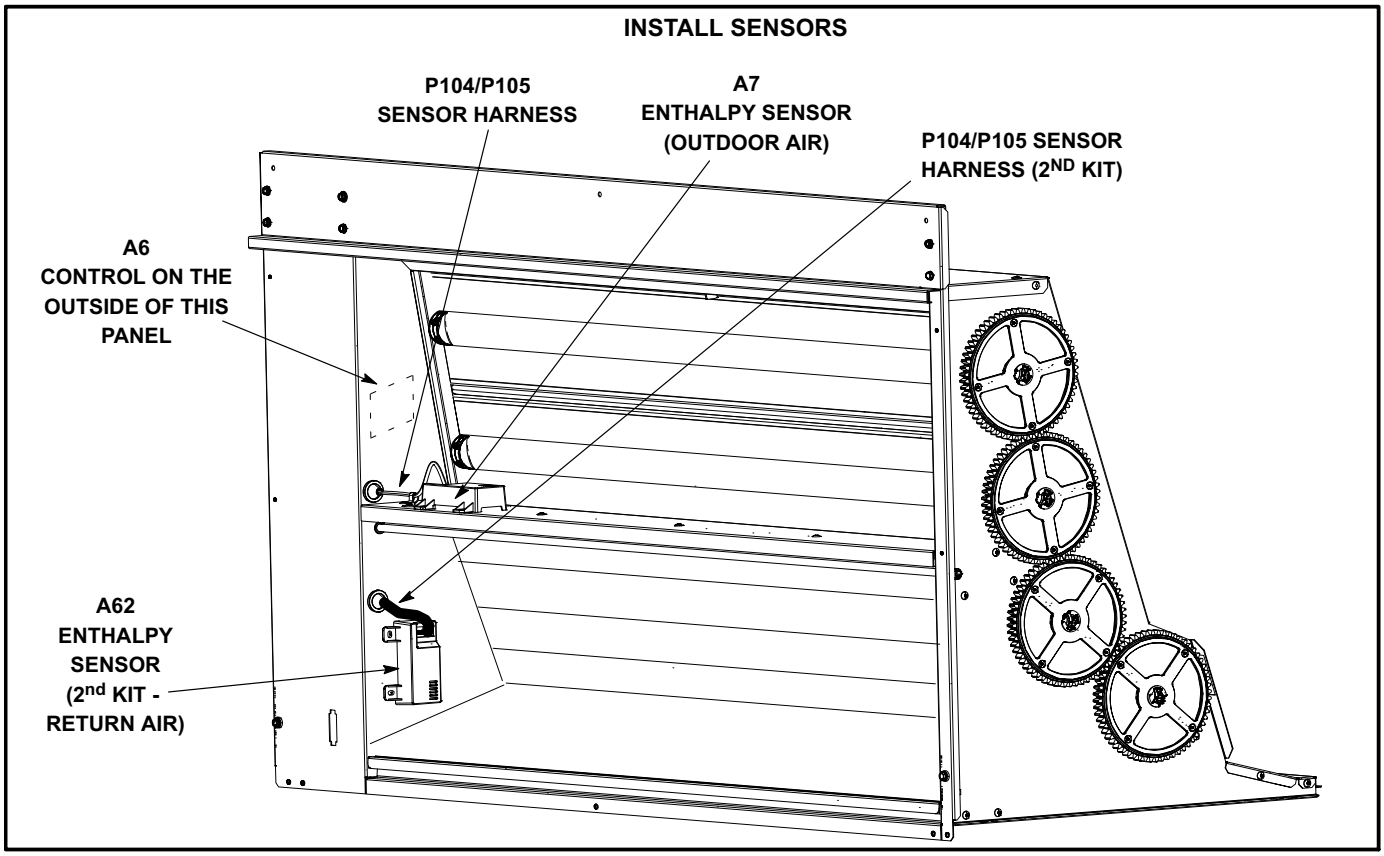


FIGURE 4

Wire A7 Sensor

1- Connect P104/P105 to A7/A62 harness, provided, to A6 control and A7 sensor. See figure 5.

Note - Wiring is shown on economizer wiring diagram. See figure 7.

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

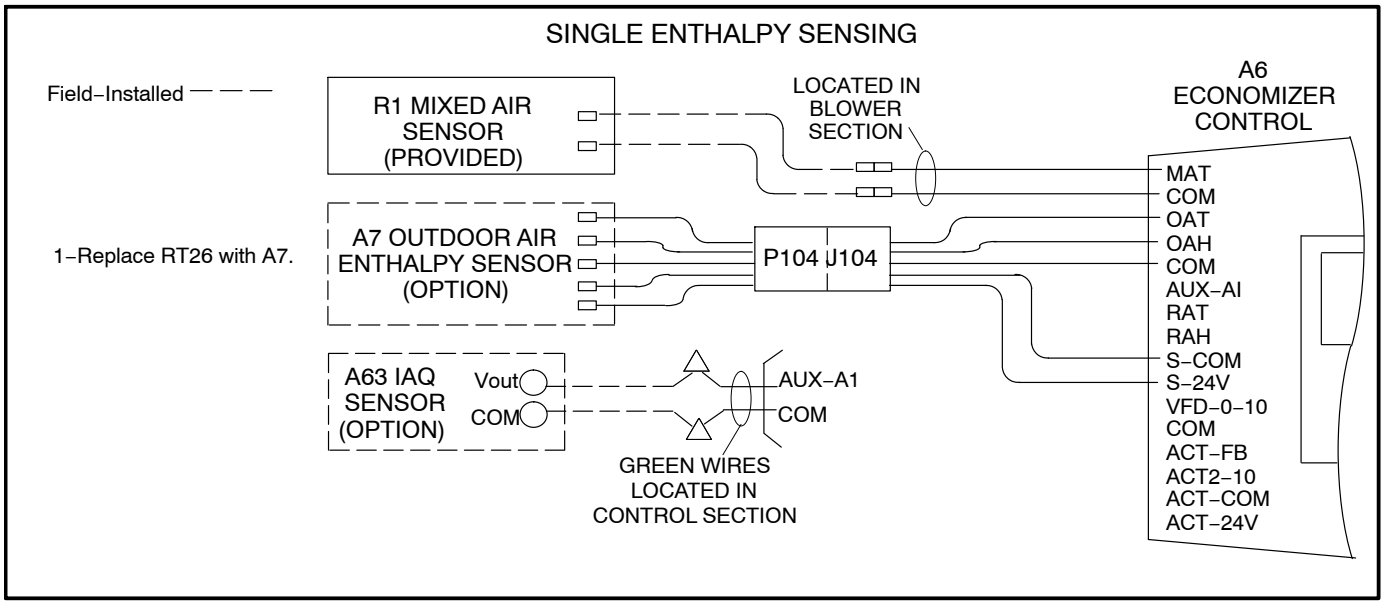


FIGURE 5

Wire A62 Sensor

Note - Two kits must be ordered for differential sensing.

1- Connect P104/P105 to A7/A62 harness, provided, to A6 control and A62 sensor. See figure 6.

Note - Wiring is shown on economizer wiring diagram. See figure 7.

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

Operation

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

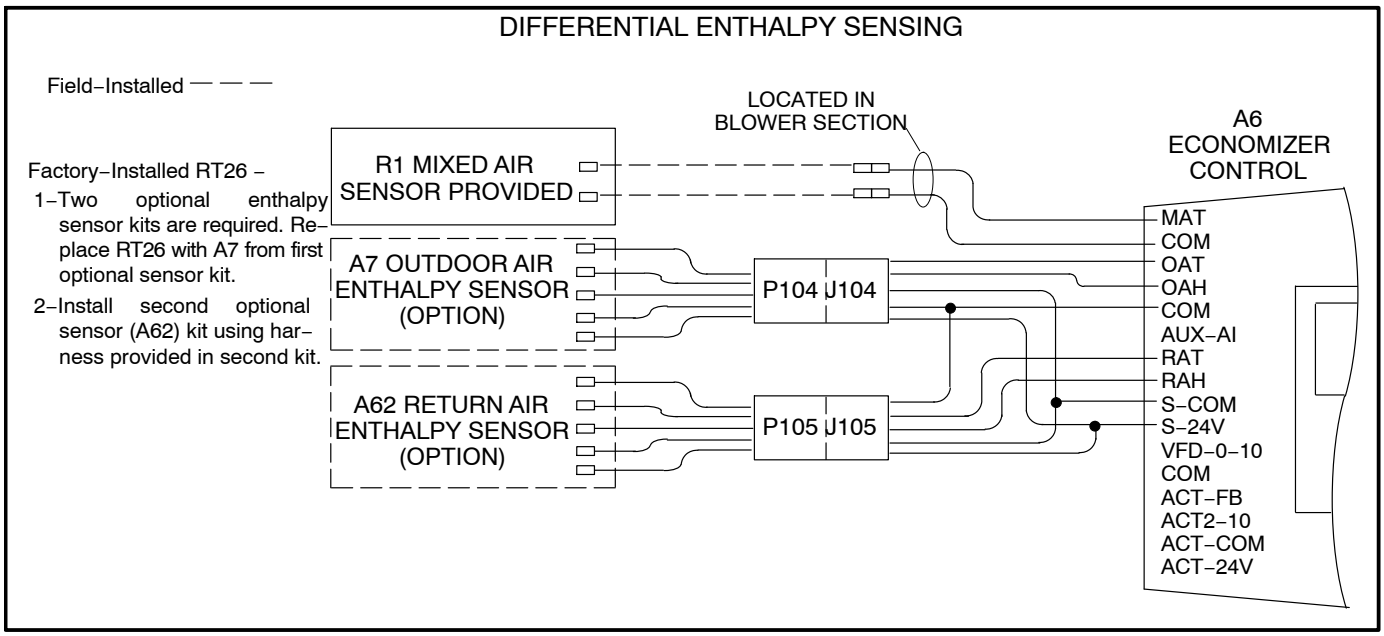
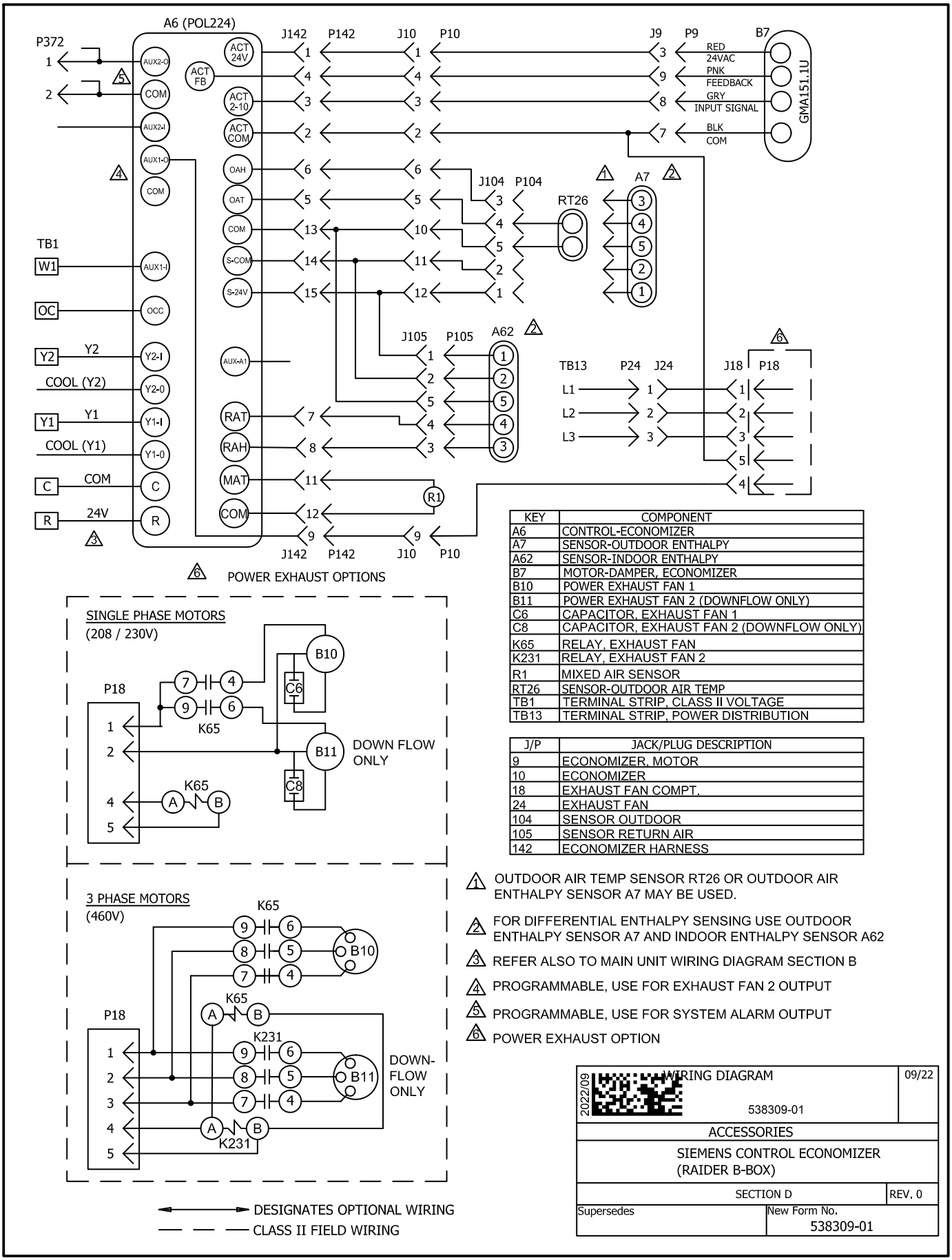


FIGURE 6



KEY	COMPONENT
A6	CONTROL-ECONOMIZER
A7	SENSOR-OUTDOOR ENTHALPY
A62	SENSOR-INDOOR ENTHALPY
B7	MOTOR-DAMPER, ECONOMIZER
B10	POWER EXHAUST FAN 1
B11	POWER EXHAUST FAN 2 (DOWNFLOW ONLY)
C6	CAPACITOR, EXHAUST FAN 1
C8	CAPACITOR, EXHAUST FAN 2 (DOWNFLOW ONLY)
K65	RELAY, EXHAUST FAN
K231	RELAY, EXHAUST FAN 2
R1	MIXED AIR SENSOR
RT26	SENSOR-OUTDOOR AIR TEMP
TB1	TERMINAL STRIP, CLASS II VOLTAGE
TB13	TERMINAL STRIP, POWER DISTRIBUTION

J/P	JACK/PLUG DESCRIPTION
9	ECONOMIZER, MOTOR
10	ECONOMIZER
18	EXHAUST FAN COMPT.
24	EXHAUST FAN
104	SENSOR OUTDOOR
105	SENSOR RETURN AIR
142	ECONOMIZER HARNESS

1. OUTDOOR AIR TEMP SENSOR RT26 OR OUTDOOR AIR ENTHALPY SENSOR A7 MAY BE USED.
2. FOR DIFFERENTIAL ENTHALPY SENSING USE OUTDOOR ENTHALPY SENSOR A7 AND INDOOR ENTHALPY SENSOR A62
3. REFER ALSO TO MAIN UNIT WIRING DIAGRAM SECTION B
4. PROGRAMMABLE, USE FOR EXHAUST FAN 2 OUTPUT
5. PROGRAMMABLE, USE FOR SYSTEM ALARM OUTPUT
6. POWER EXHAUST OPTION

2022/09	WIRING DIAGRAM 538309-01	09/22
ACCESSORIES		
SIEMENS CONTROL ECONOMIZER (RAIDER B-BOX)		
SECTION D		REV. 0
Supersedes	New Form No. 538309-01	

FIGURE 7