

Heat Pump Controller - Multi-Stage

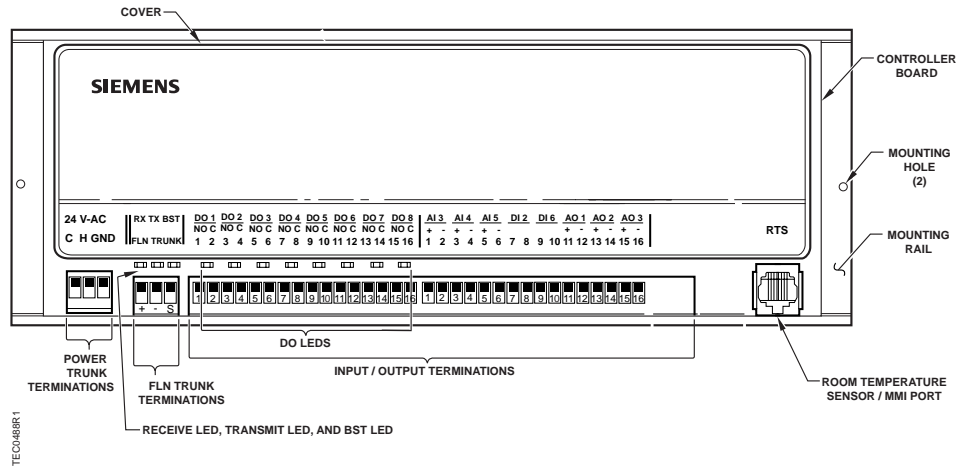


Figure 1. Heat Pump Controller - Multi-Stage.

Control Applications

2573 and 2574

Product Description

The Heat Pump Controller - Multi-Stage is the TEC used for multiple heat stages and single or dual compressor heat pump applications.

Product Numbers

550-790A Heat Pump Controller - Multi-Stage
 FLN load: ¼ (See the Wiring Guidelines manual (125-3002) for more information on FLN loads.)

Shipping carton includes a controller assembly, mounting rail, and two self-tapping screws.



CAUTION:

Keep the unit in its static-proof bag until installation.

Accessories

540-658P25 Low cost temporary temperature sensor that enables space control if the permanent room or duct sensor is not installed.

550-809 MOV with pre-terminated spade connectors

Parts for CE Compliance:

550-705 Clamp-on ferrite filter (10 pack).

588-100 series Approved 2-RJ11 RTS cable in 25', 50', or 100' (7.6 m, 15.2 m, 30.48 m).

529-488P10 MOV for Voltage/Current AI (10 pack)

Caution Notation



CAUTION:

Equipment damage or loss of data may occur if you do not follow the procedures as specified.

Expected Installation Times

10 minutes.

Required Tools and Materials

- Electro-Static Discharge wrist strap
- Small flat-blade screwdriver
- Medium flat-blade screwdriver
- Cordless drill/driver set

Prerequisites

- Wiring conforms to NEC and local codes and regulations. For further information refer to the Wiring Guidelines manual (125-3002).
- 24 Vac Class II power source available.
- Supply power to the controller is OFF.
- Any application specific hardware or devices installed.
- Room temperature sensor installed (optional).



If the controller is being installed on a box with 1 or more stages of electric heat, the 550-809 MOV with pre-terminated spade connectors must be installed across the manufacturer-supplied airflow switch. MOVs can be installed at the time the controller is factory mounted; coordinate with the box manufacturer prior to order placement. For field installation, see installation instructions 540-986.

Instructions



All wiring must conform to NEC and local codes and regulations.

1. Secure the mounting rail (Figure 1) in the controller's desired location.
2. Place the ESD wrist strap on your wrist and attach it to a good earth ground.
3. Remove the controller from the static proof bag and snap it into place on the mounting rail.

4. Connect the FLN (Figure 2).

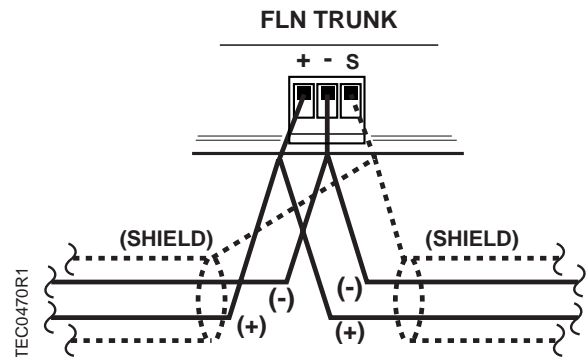


Figure 2. FLN Wiring.



CAUTION:

Do not ground the shield.

5. Connect the point wiring (see Wiring Diagrams).
6. Plug the room temperature sensor cable into the RTS port (Figure 1).
7. Connect the power trunk (Figure 3). DO NOT apply power to the controller.

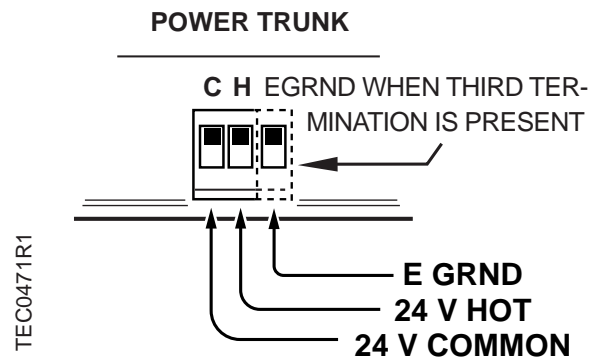


Figure 3. Power Trunk Wiring.



As a standard grounding procedure, ensure that 3"-5" ground wire is connected directly on the common terminal on the secondary side of the 24 Vac transformer.

The installation is complete.

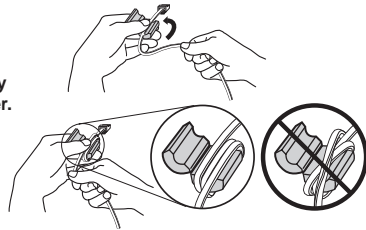
CE Compliance

If CE compliance is required, a ferrite filter must be placed approximately 1–2 cm from the end of the cable being shielded (RTS cable[and the point wiring for AI5]) (Figure 4).

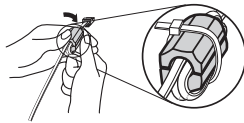
- 1 Place the filter 1-2 cm from the end of the cable or wiring to be shielded.



- 2 Wind the cable tightly twice around the filter.



- 3 Close the filter and wrap with a zip tie.



TEC020R3

Figure 4. Ferrite filter(s) for CE Compliance.

An MOV (529-488P10) must be installed at AI5, if AI5 is used for input.

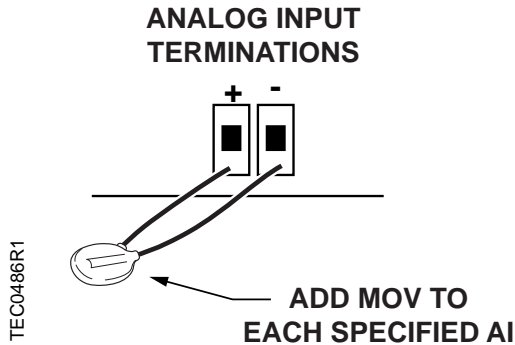


Figure 5. MOV for Voltage/Current AI.

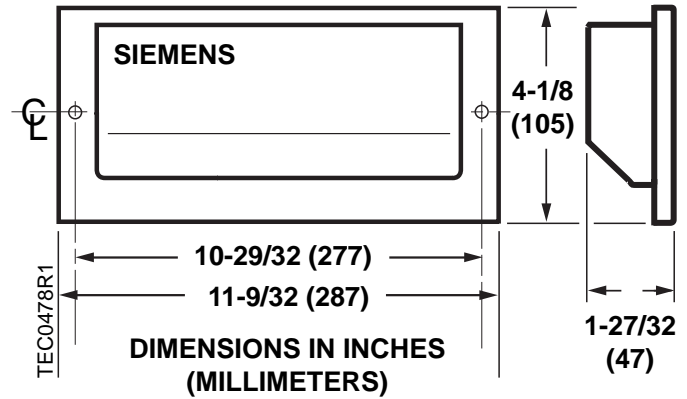


Figure 6. Dimensions.

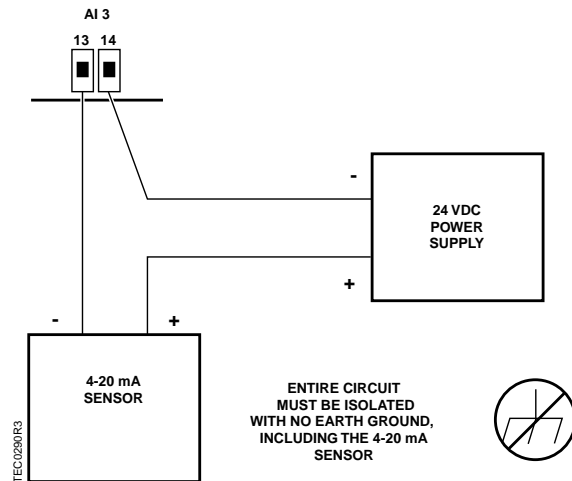
Wiring Diagrams



CAUTION:

The controller's DOs control 24 Vac loads only. The maximum rating is 12 VA for each DO. Use an interposing 24 Vac relay module (such as P/N 540-147) for any of the following:

- VA requirements higher than 12 VA
- Separate transformers to power the load
- Direct current (DC) power requirements



NOTE: You can NOT use the same transformer to power the controller and a 4-20 mA sensor. The 4-20 mA sensor requires a SEPARATE dedicated power supply.

Figure 7. Wiring Precaution if 4–20mA Sensor is used on Spare AI.

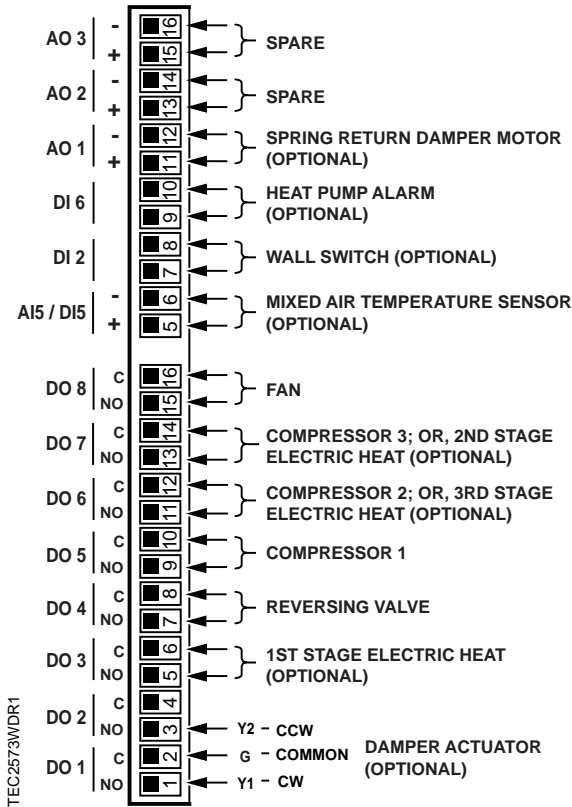


Figure 8. Application 2573 (Multiple Compressor Heat Pump with Reversing Valve Control and Mixed Air Control).

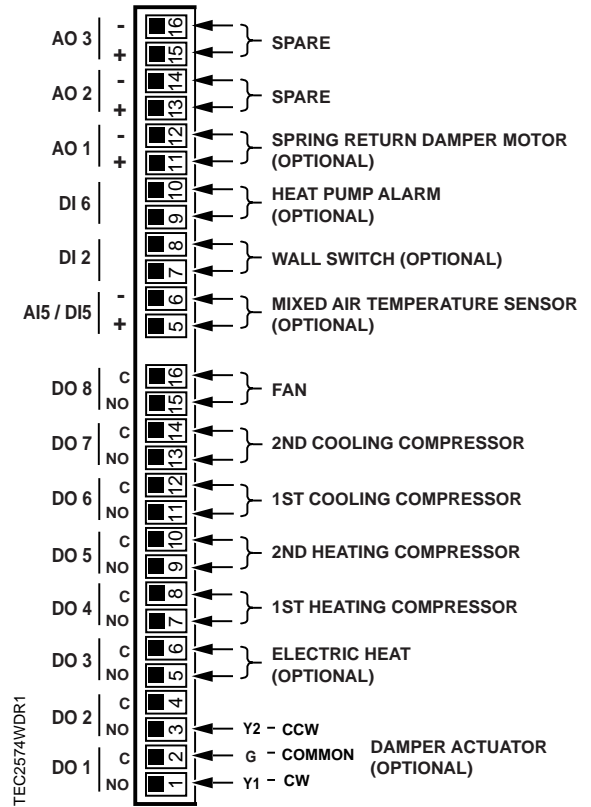


Figure 9. Application 2574 (Multiple Heating and Cooling Heat Pump without Reversing Valve Control and with Mixed Air Control).

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