

Unit Conditioner Controller — Electronic Output

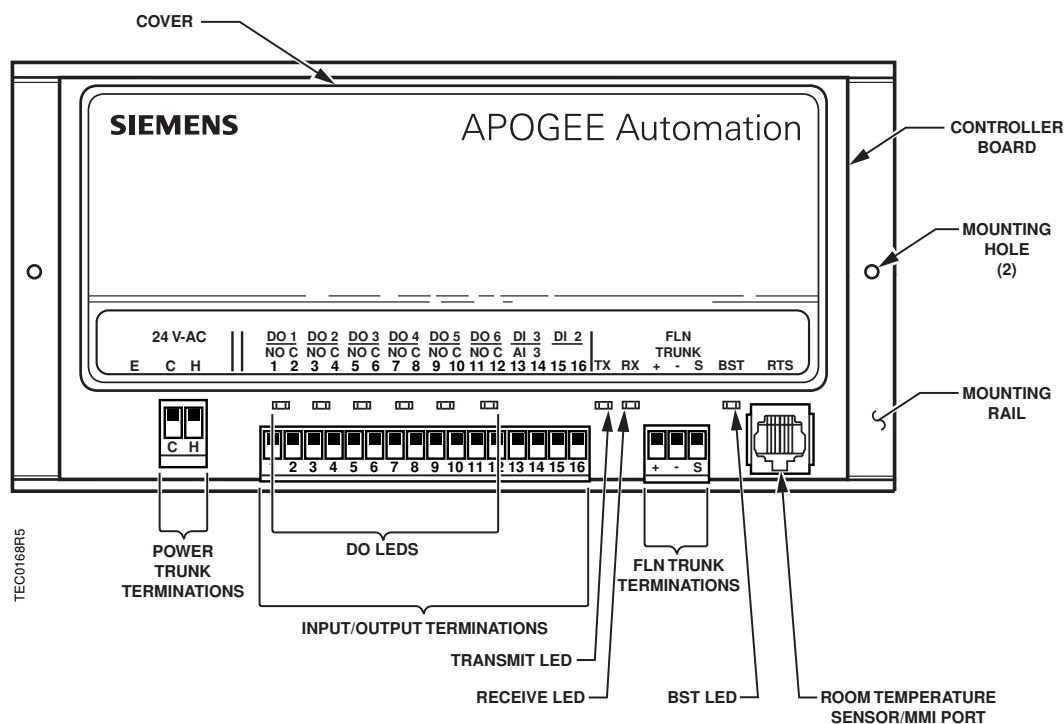


Figure 1. Unit Conditioner Controller — Electronic Output.

Control Applications

2040, 2041, 2050, 2051, 2052, 2053, 2054

2140, 2141, 2150, 2151, 2152, 2153, 2154 (Secure Mode Applications)

Product Description

These instructions explain how to field install or replace a Unit Conditioner Controller—Electronic Output (with or without Secure Mode).

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

Product Numbers

540-110	Unit Conditioner Controller — Electronic Output
540-110C	Unit Conditioner Controller — Electronic Output with Secure Mode



CAUTION:

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

Accessories

540-658P25 (pack of 25)	Low cost temporary temperature sensor that enables space control if the permanent room or duct sensor is not installed.
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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).
540-155	Metal Small Equipment Controller Enclosure
550-002	Large Equipment Controller Enclosure

spade connectors must be installed across the manufacturer-supplied airflow switch. MOV's can be installed at the time the controller is factory mounted; coordinate with the box manufacturer prior to order placement. For field installation, see Metal Oxide Varistor Kit Installation Instructions (540-986).

Warning/Caution Notations



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

- Flat-blade screwdriver (1/8-inch blade width).
- Small flat-blade screwdriver
- Cabling and connectors. See the section.
- Cordless drill/driver set

Prerequisites

- MBC or RBC enclosure mounted with at least one open slot on the C-BUS and AC power connected.
- CE Compliance requirements met, if needed.
- Termination blocks installed, if any.
- Authorized modem installed if connection to a public telephone network is required.
- One 115V or 230V receptacle (depending on device) to power the Trunk Interface II.



If the controller is being installed on a box with 1 or more stages of electric heat, the 550-809 MOV with pre-terminated



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).

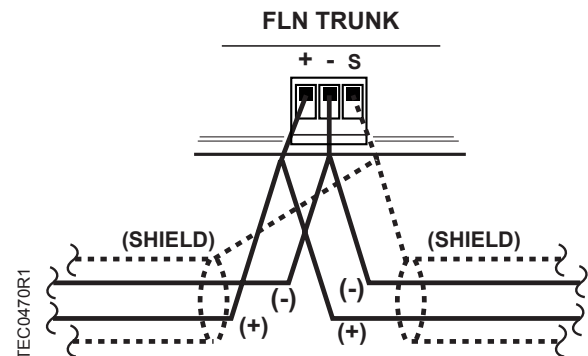


Figure 2. FLN Wiring.



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.

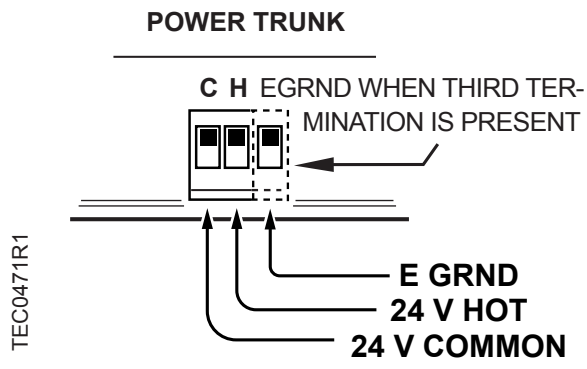


Figure 3. Power Trunk Wiring.



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

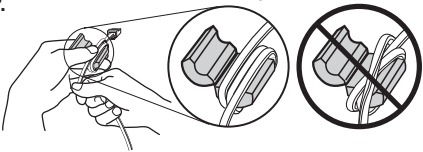
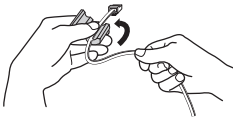
If CE compliance is required, the Equipment Controller must be mounted in a grounded metal enclosure and a ferrite filter must be placed

approximately 1 cm from the end of the cable being shielded (RTS cable and the point wiring for AI3) (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.

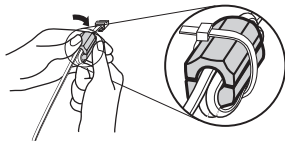


Figure 4. Ferrite filter(s) for CE Compliance.

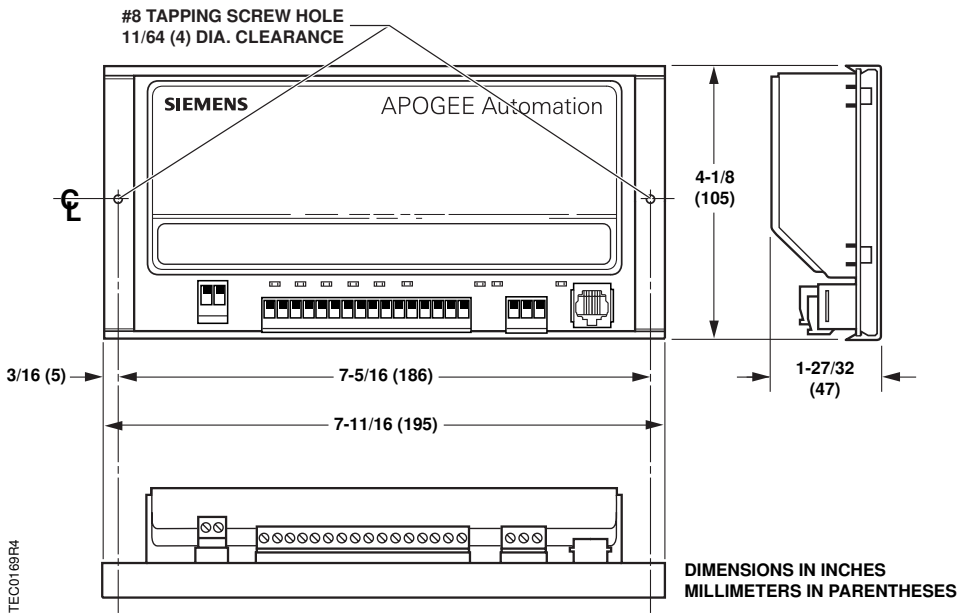


Figure 5. Dimensions.

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 550-054) for any of the following:

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

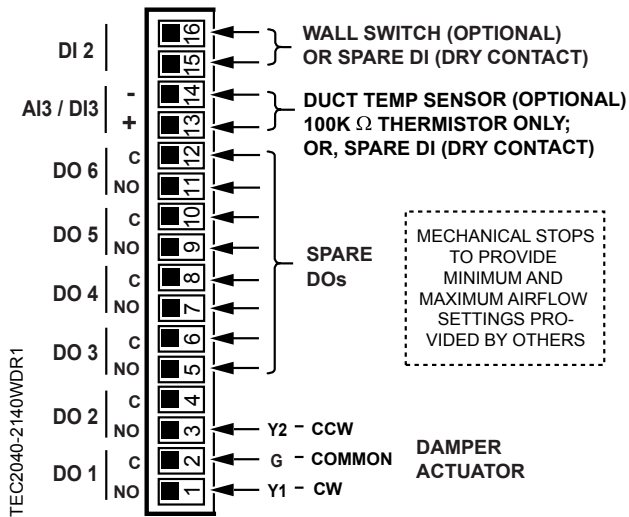


Figure 6. Point Wiring for Application 2040 and 2140 (VAV Pressure Dependent Cooling or Heating).

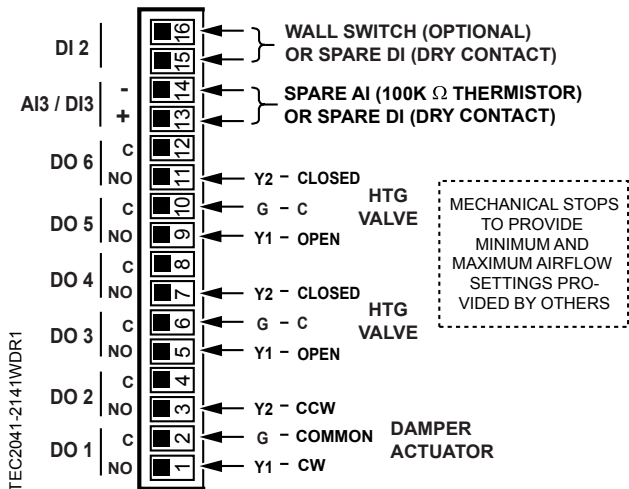


Figure 7. Point Wiring for Application 2041 and 2141 (VAV Pressure Dependent with Hot Water Reheat).

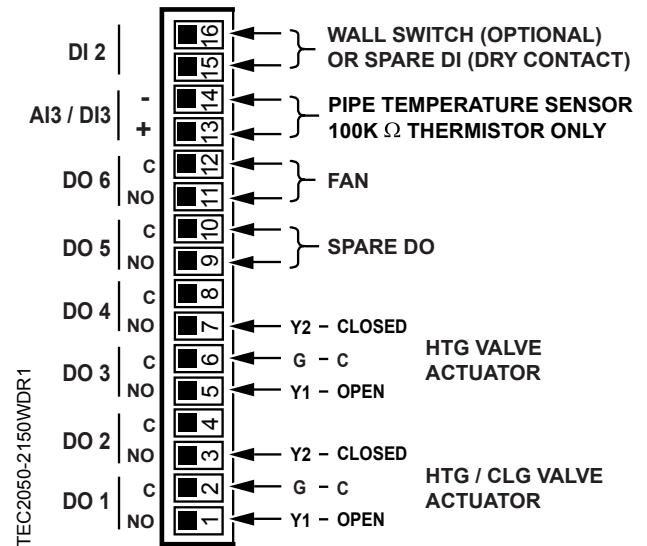


Figure 8. Point Wiring for Application 2050 and 2150 (Two-Pipe Fan Coil Unit Cooling or Heating).

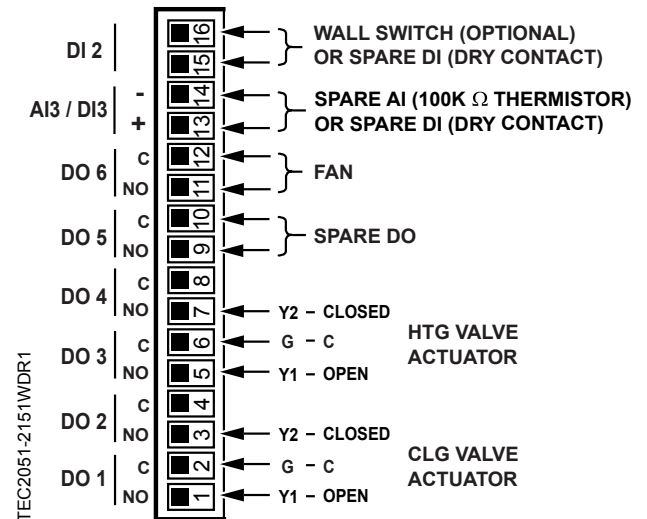


Figure 9. Point Wiring for Application 2051 and 2151 (Four-Pipe Fan Coil Unit Cooling and Heating).

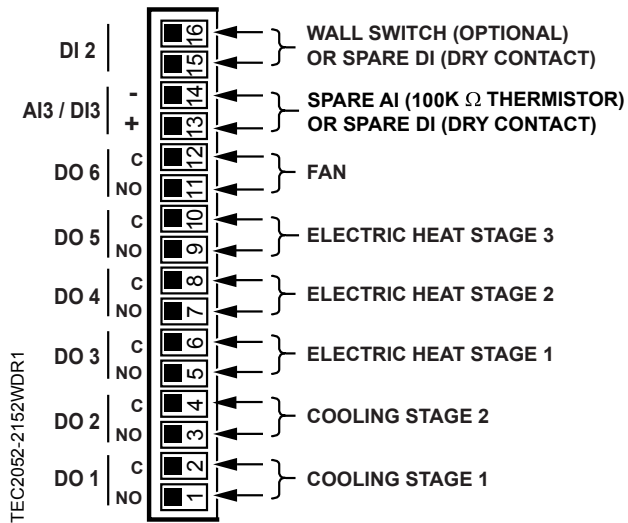


Figure 10. Point Wiring for Application 2052 and 2152 (Fan Coil Unit 2-Stage Cooling and Electric Heat).

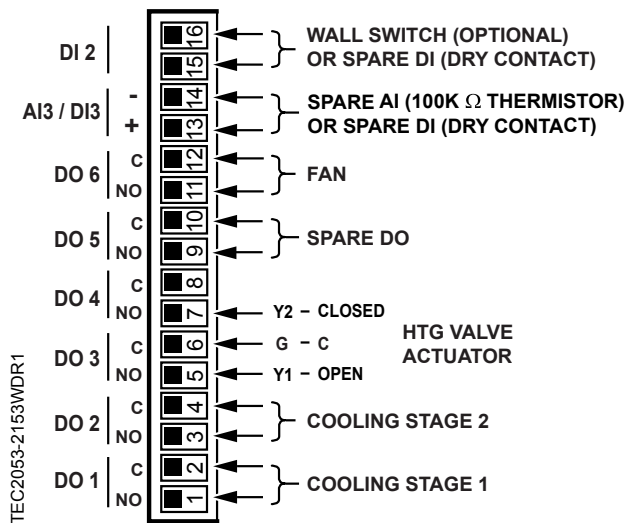


Figure 11. Point Wiring for Application 2053 and 2153 (Fan Coil Unit 2-Stage Cooling and Hot Water Heat).

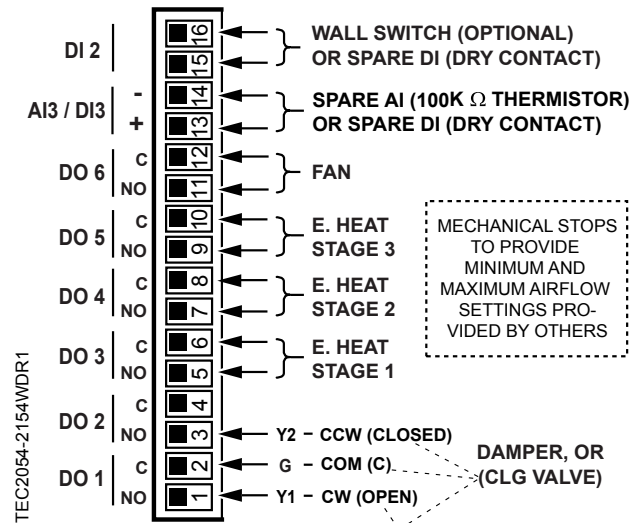


Figure 12. Point Wiring for Application 2054 and 2154 (Fan Coil Unit Cooling and Electric Heat or VAV Pressure Dependent with Electric Heat).

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