

Dual Duct Controller with One Air Velocity Sensor — Electronic Output

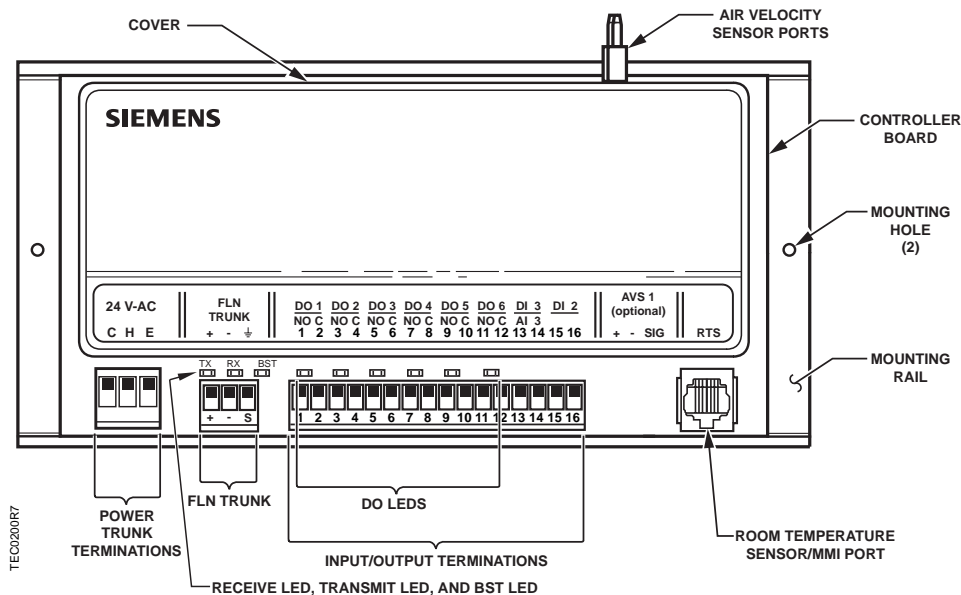


Figure 1. Dual Duct Controller with One Air Velocity Sensor — Electronic Output.

Control Applications

2035 and 2036

2064 through 2066

Product Description

These instructions explain how to field install a Dual Duct Controller – One Air Velocity Sensor — Electronic Output with or without an Autozero Module.

Product Numbers

- 540-106 Dual Duct Controller with One Air Velocity Sensor — Electronic Output
- 540-107 Dual Duct Controller with One Air Velocity Sensor — Electronic Output with AutoZero module.

Shipping carton includes a controller assembly, mounting rail, Autozero Module with bracket (540-200 only), and two self-tapping screws.



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.

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

Warning/Caution Notations



WARNING:

Personal injury/loss of life may occur if you do not follow the procedures as specified.



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

- 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 desired, a low-cost temporary temperature sensor is available that plugs into the RTS port of the TEC (P/N 540-658P25), providing

temperature input and actual space control until the permanent room or duct sensor is installed.)



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 Metal Oxide Varistor Kit 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).

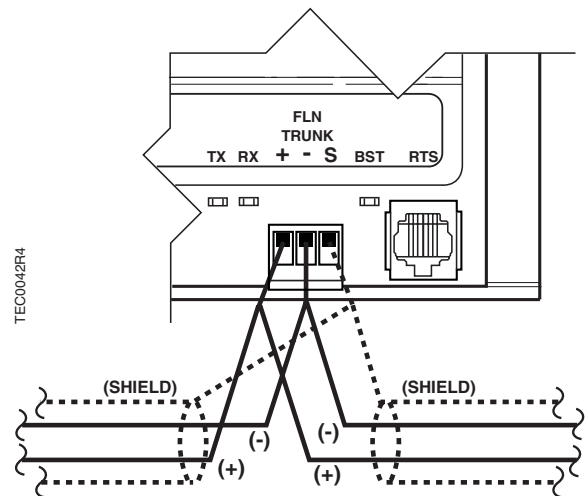


Figure 2. FLN Wiring.



CAUTION:

Do not ground the shield.

5. Connect the point wiring (see Wiring Diagrams).
6. 540-200 only: Install the Autozero Module and connect the wires to DO6 (Figure 5). Refer to installation instruction 540-199.
7. Plug the room temperature sensor cable into the RTS port (Figure 1).
8. Connect the power trunk (Figure 3). DO NOT apply power to the controller.

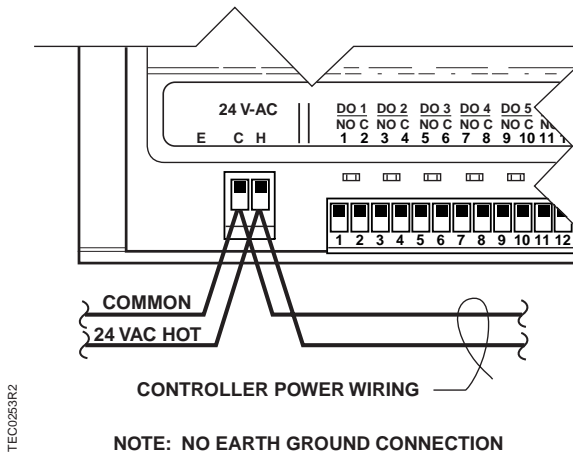


Figure 3. Power Trunk Wiring.

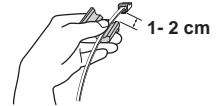
9. Connect the tubing from the air velocity sensor pickups to the ports on the controller or Autozero Module (Figure 5). Connect HI to HI and LO to LO.

The installation is complete.

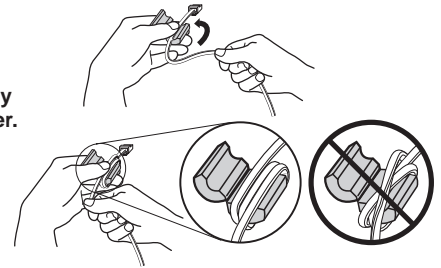
CE Compliance

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.

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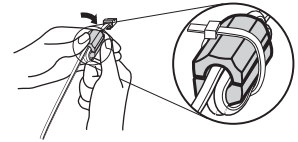
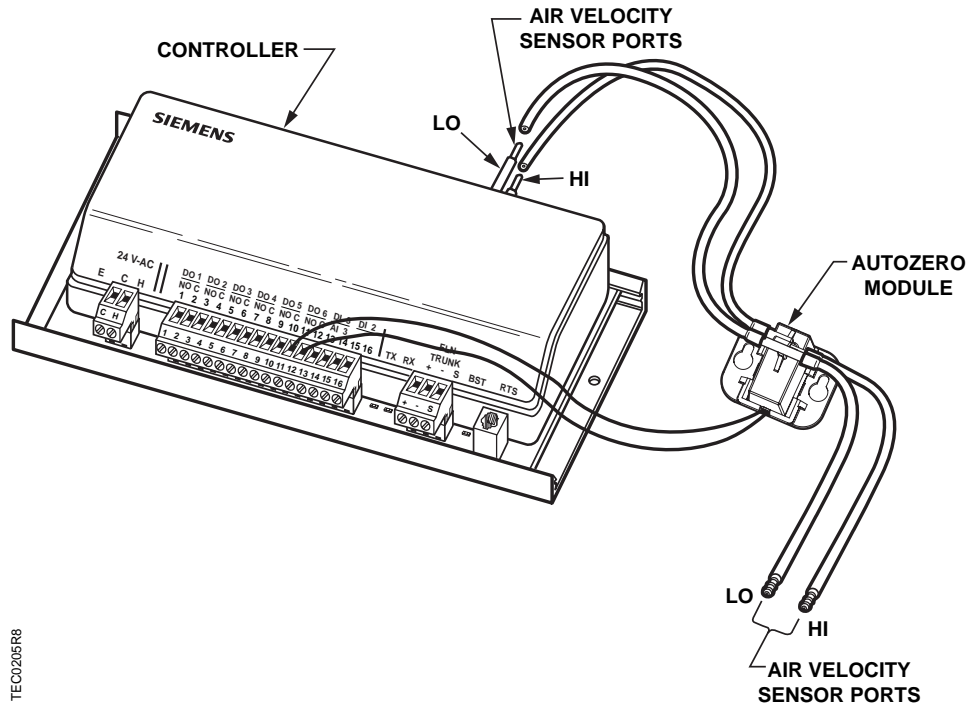
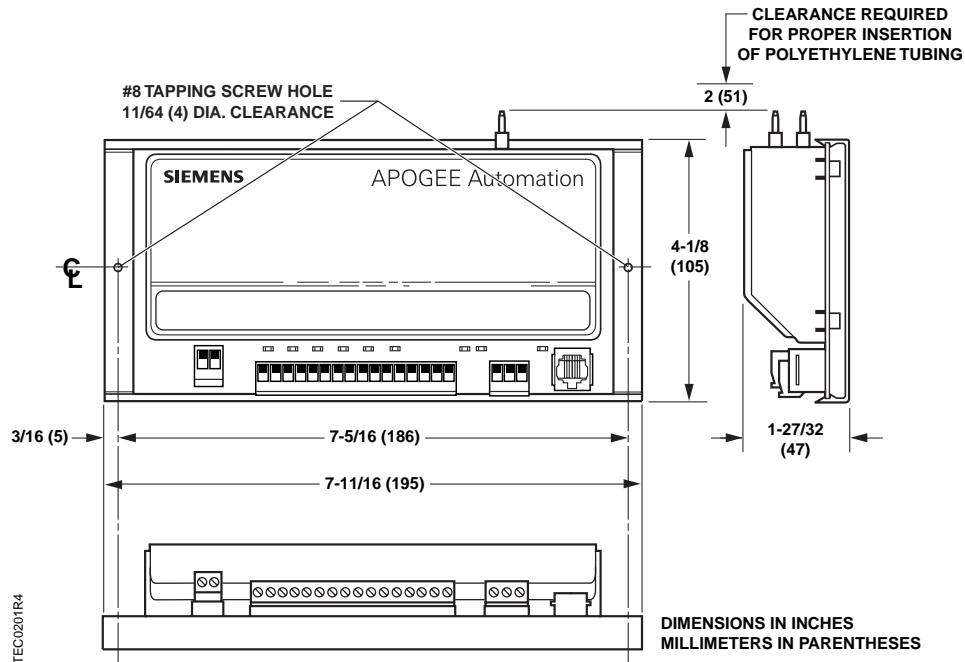


Figure 4. Ferrite filter(s) for CE Compliance.



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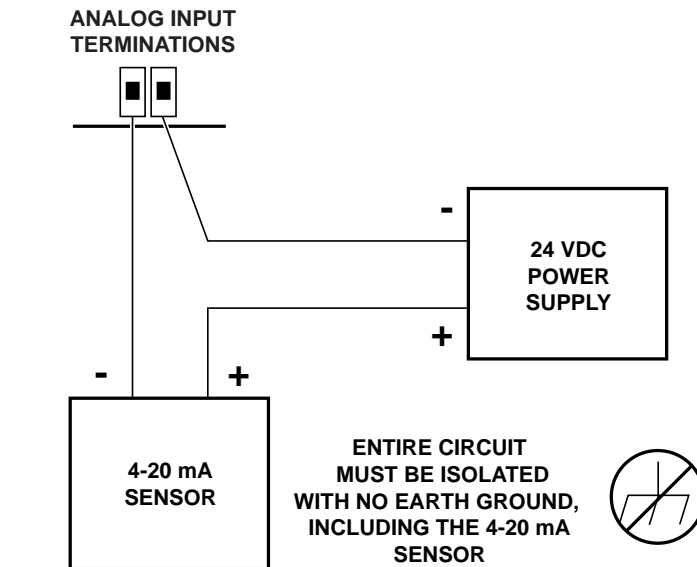
Figure 5. Dual Duct Controller with One Air Velocity Sensor — Electronic Output with Autozero Module.



TEC0201R4

Figure 6. Dimensions.

Wiring Diagrams



 **CAUTION:**

TECO42BR2

Each 4-20mA sensor requires a SEPARATE, dedicated 24 VDC power supply.
DO NOT use the same transformer to power both the sensor and controller.

Figure 7. Special Wiring Requirements for 4–20 mA Sensors.



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 ([550-054, 550-048, 550-050, 550-052]) for any of the following:

- VA requirements higher than maximum
- DC power
- Separate transformers used to power the load

- VA requirements higher than maximum
- 110 or 220 Vac
- DC power
- Separate transformers used to power the load

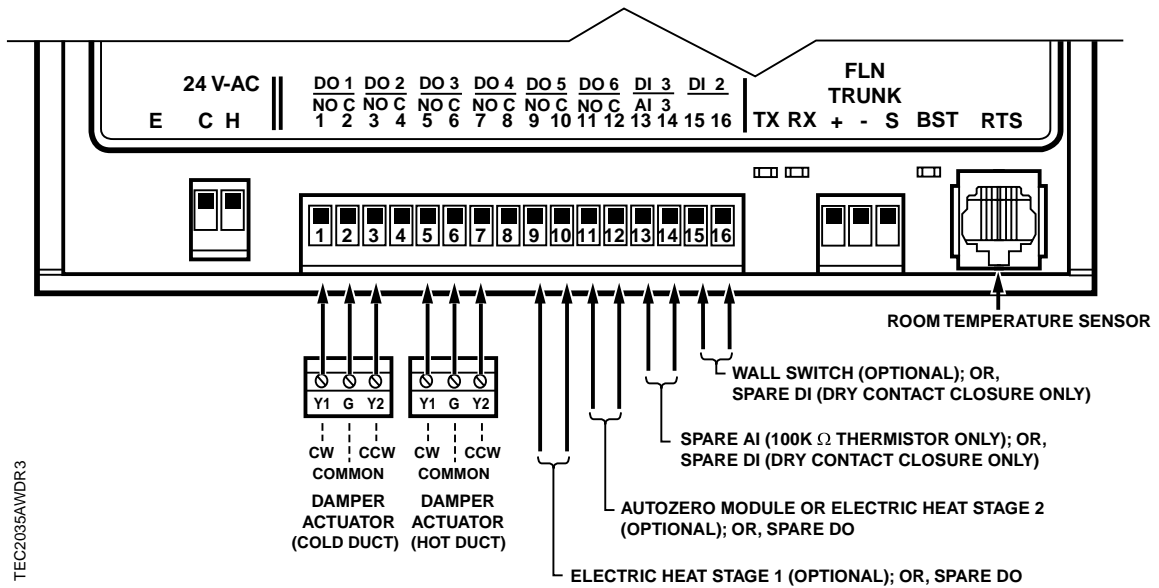


Figure 8. Application 2035 (Constant Volume – Two Inlet Damper Actuators with Electric Reheat).

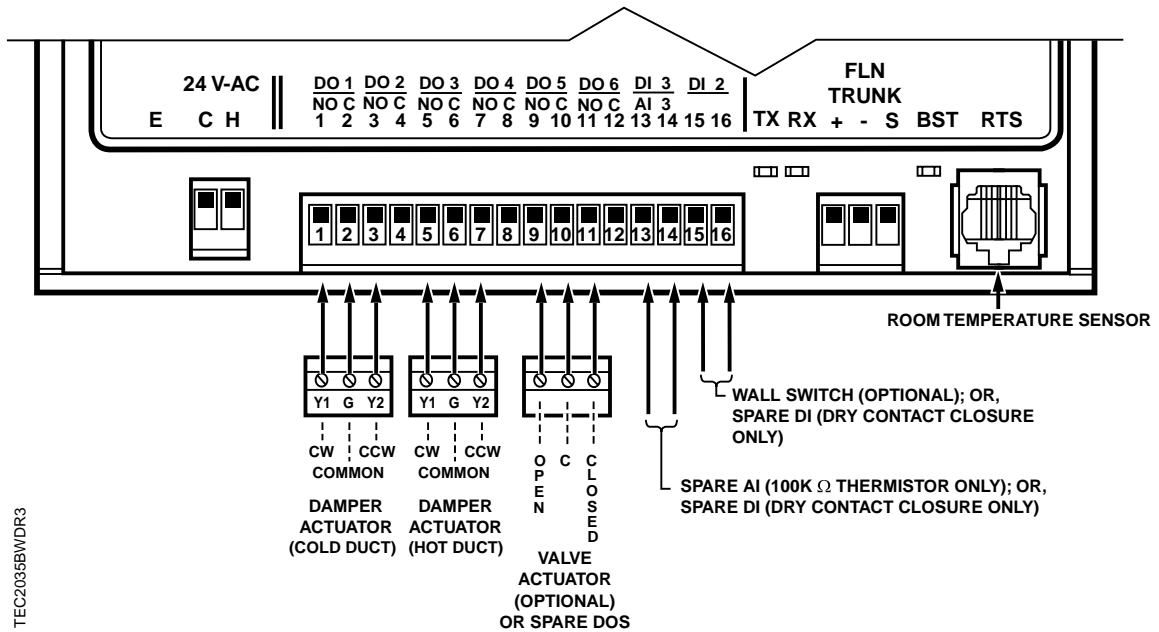
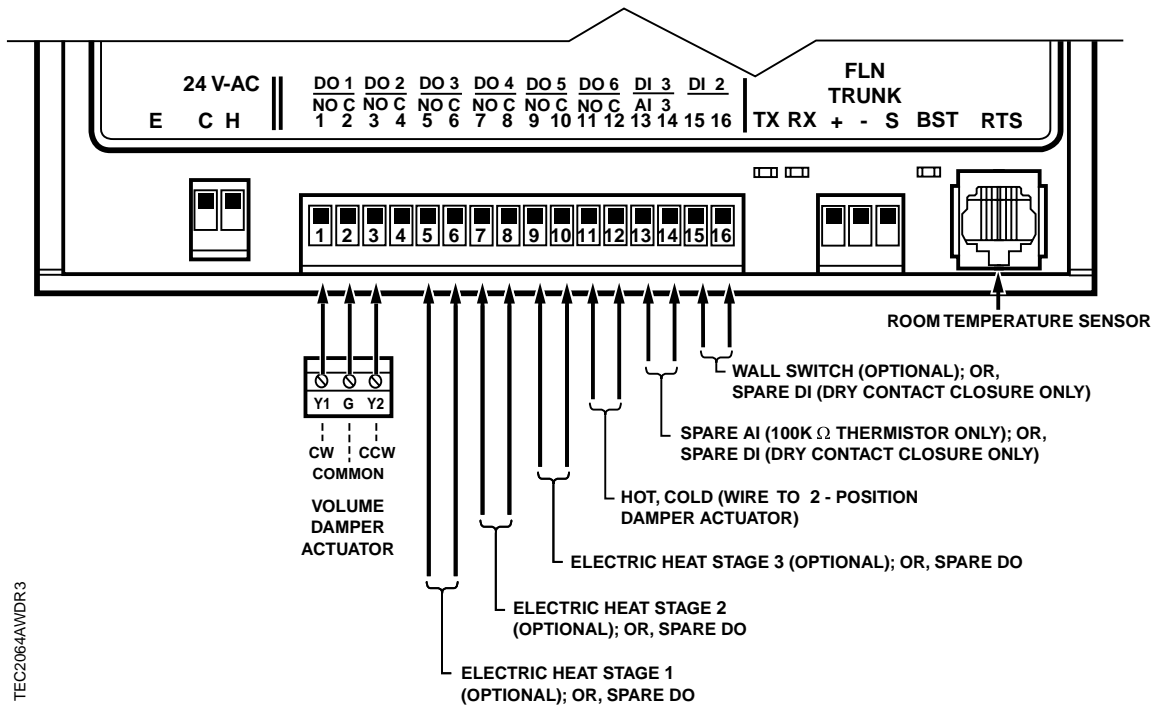
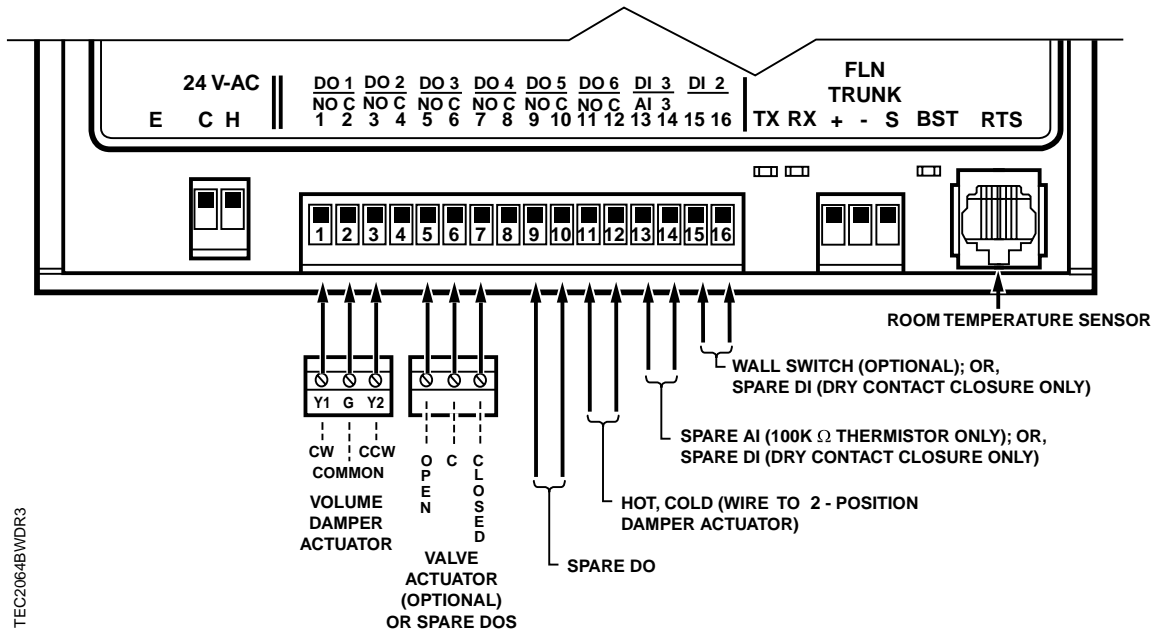


Figure 9. Application 2035 (Dual Duct Constant Volume – Two Inlet Damper Actuators with HW Reheat).



TEC2064AVDR3

Figure 12. Application 2064 (Dual Duct VAV – Two-Position Hot/Cold Damper and Volume Damper with Electric Reheat).



TEC2064BVDR3

Figure 13. Application 2064 (Dual Duct VAV – Two-Position Hot/Cold Damper and Volume Damper with Hot Water Reheat).

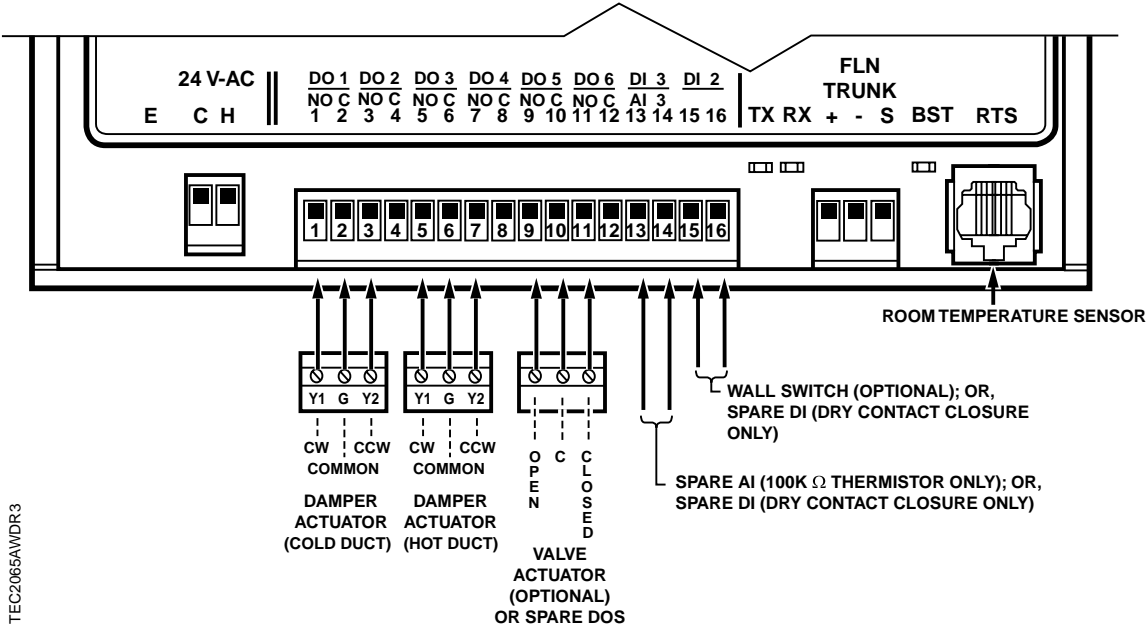


Figure 14. Application 2065 (Dual Duct VAV – Two Inlet Damper Actuators with Electric Reheat).

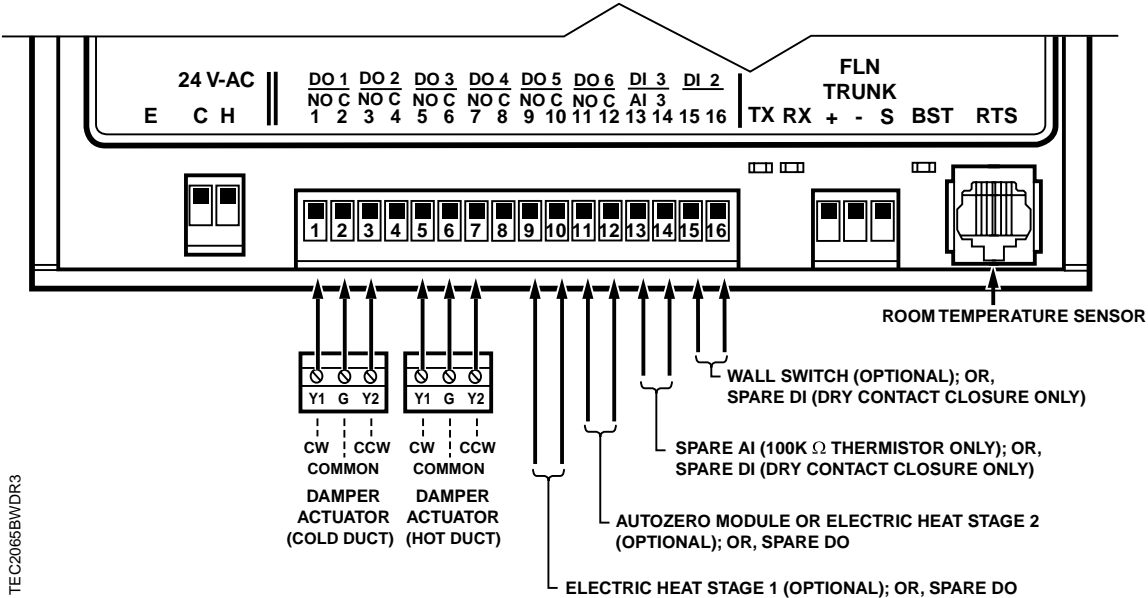


Figure 15. Application 2065 (Dual Duct VAV – Two Inlet Damper Actuators with Hot Water Reheat).

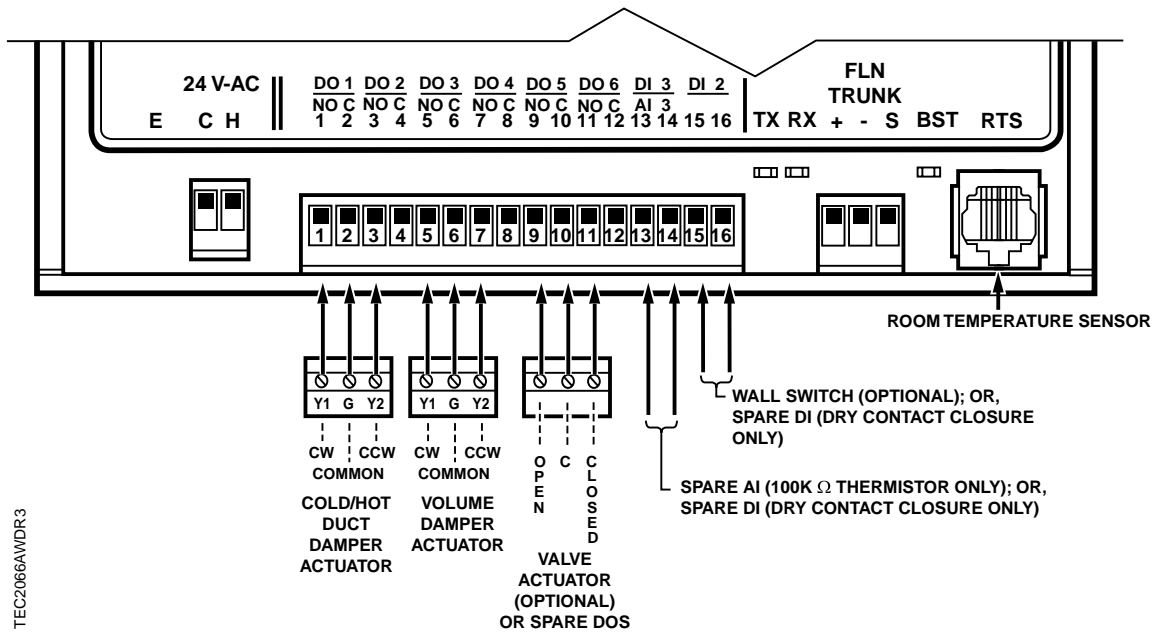


Figure 16. Application 2066 (Duct VAV – One Inlet and One Outlet Damper Actuator with Electric Reheat).

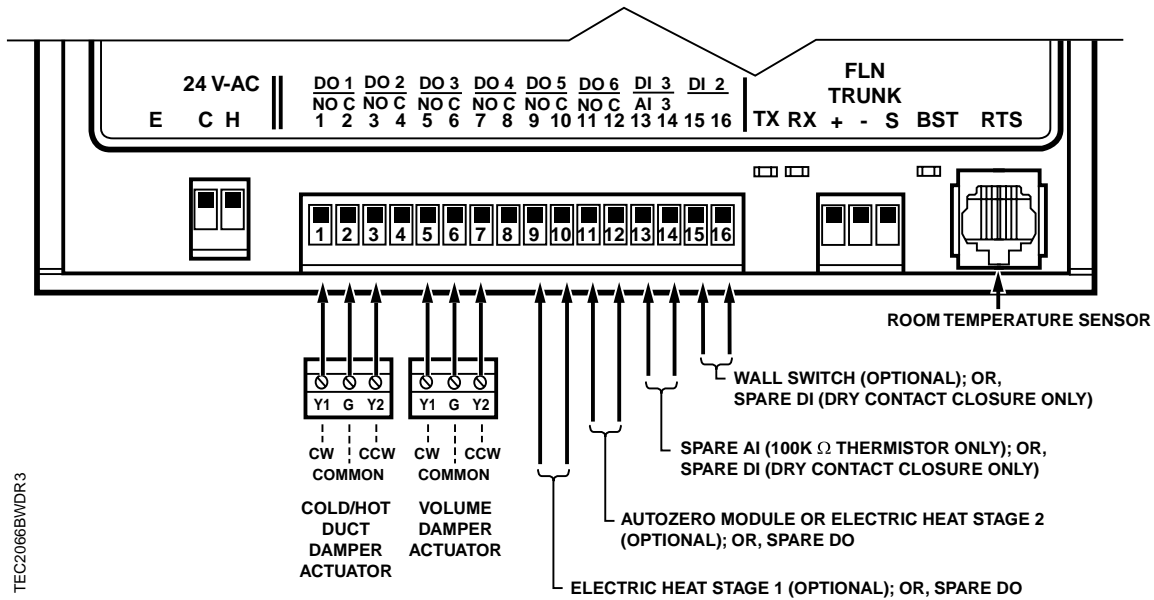


Figure 17. Application 2066 (Dual Duct VAV – One Inlet and One Outlet Damper Actuator with Hot Water Reheat).

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