SIEMENS

Installation Instructions
Document No. 550-309
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CE Compliant Room Pressurization Controller — Electronic Output

Product Description

These instructions explain how to field install or replace a CE Compliant Room Pressurization Controller (RPC) — Electronic Output with or without Autozero Modules.

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

For CE compliance, ferrite filter(s) and an alternate room sensor cable must be used (see *Product Numbers*).

NOTE: Keep the controller assembly in its static-proof bag until installation.

Product Numbers

Product	Description	
550-516	CE Compliant Room Pressurization Controller — Electronic Output	
550-517	CE Compliant Room Pressurization Controller — Electronic Output with Autozero Modules	
588-100A	2-RJ11 room temperature sensor cable	25-ft (7.6-m)
588-100B		50-ft (15.2-m)
588-100C		100-ft (30.48-m)
550-705	clamp-on ferrite filter 10 pack	

Caution Notation

CAUTION:	⚠	Equipment damage or loss of data may occur if the user does not follow procedure as specified.

Required Tools

- Electro-Static Discharge (ESD) wrist strap
- Small flat-blade screwdriver
- Medium flat-blade screwdriver
- Medium-duty electric drill
- 1/4-inch (6.35 mm) hex nut bit
- Portable Operator's Terminal with Controller Interface Software (CIS) Rev. 2.0 or higher (controller replacement only)

Additional tools needed if not using self-tapping option:

- 1/4-inch (6.35 mm) hex nut driver
- 1/8-inch (3 mm) bit

Prerequisites

- Room temperature sensor installed (optional).
- Air velocity sensors installed in ducts
- 24 Vac Class 2 power source
- Supply power to the unit is OFF
- Autozero Modules with brackets are on hand (optional)
- If required, controller enclosure installed

Expected Installation Time

New controller installation	10 min.
Replacement with removable terminal blocks	6 min.
Replacement without removable terminal blocks	16 min.

NOTE: You may require additional time for database work at the field panel.

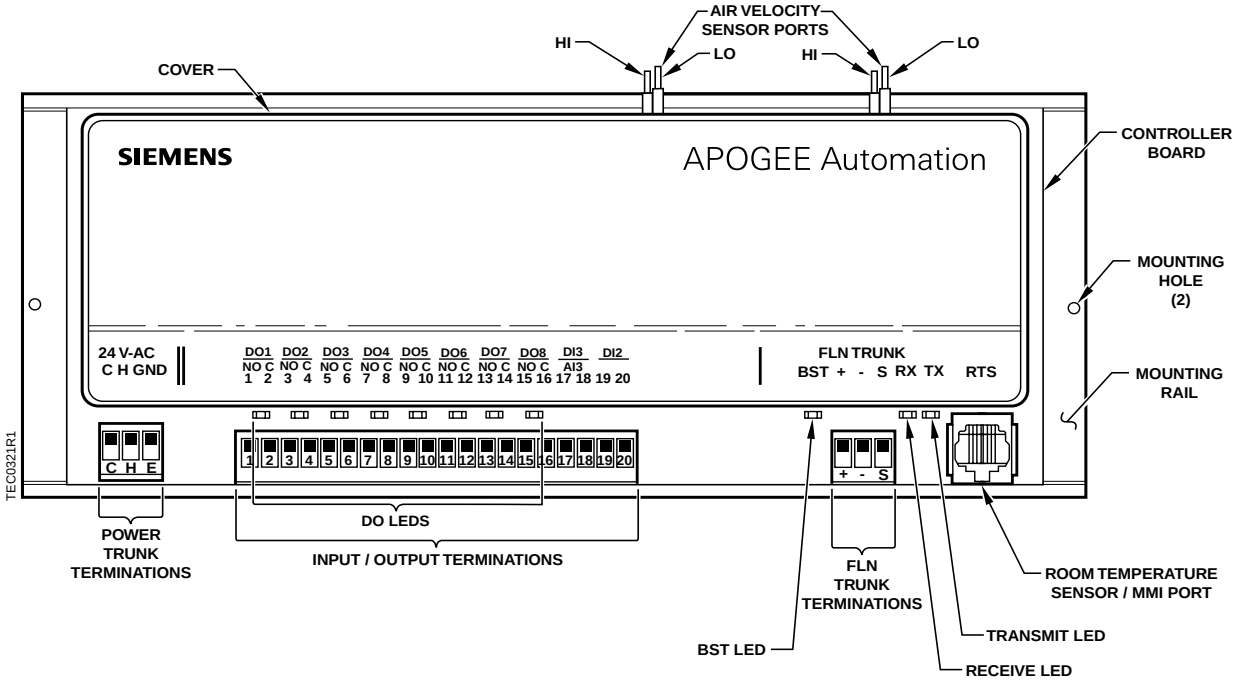


Figure 1. CE Compliant RPC without Autozero Modules.

New Installation Instructions

1. Using the mounting rail as a template (Figure 1), mark the screw holes where you will install the controller assembly.
2. Do **one** of the following:
   - **If using the self-tapping screws provided:** Using the drill and the hex nut bit, fasten the mounting rail.
   - **If <u>not</u> using the self-tapping screws:** Drill two 1/8-inch (3 mm) pilot holes, then fasten the mounting rail with No. 6 or No. 8 screws.
3. Place the ESD wrist strap on your wrist and attach it to a good earth ground.
4. Carefully remove the controller assembly from the anti-static bag. Center it over the mounting rail and snap it securely into place.
5. Connect the Floor Level Network (FLN). See Figure 4.
6. Connect the point wiring as shown in Figure 7.

   NOTE: Wiring to DI3/AI3 requires a clamp-on ferrite filter (Figure 6). Strain relief must be provided to ensure long-term effectiveness due to added weight of the filter.

CAUTION:

The Controller's Digital Outputs (DOs) control 24 Vac loads only. The maximum rating is 12 VA for each DO. Use an interposing 220V 4-relay module for any of the following:

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

NOTES:
1. Each DO provides a Normally Open (NO) and a Common (C) terminal. Terminate both connections of a 24 Vac load directly to the controller board. Actuators use two DOs and require three connections.
2. The 24 Vac "H" terminal is switched through a TRIAC to the NO terminations when the associated DO is energized.

7. If using Autozero Modules, refer to the *Installation Instructions* (540-199), which are included.
8. After the Autozero Modules are installed, connect the Autozero Module wires to the controller at DO7.

9. If using a pressure mode switch, follow the installation instructions (540-719) included with the switch and then wire to DO8 and AI3 as described in the instructions.

   NOTE: Wiring to AI3 requires a clamp-on ferrite filter (Figure 6). Strain relief must be provided to ensure long-term effectiveness due to the added weight of the filter.

10. After viewing Figure 6, install a clamp-on ferrite filter on the room temperature sensor cable and plug the cable into the RTS port on the RPC (Figure 1). Use only an approved 588-100 series cable as described in the *Product Numbers* section. Consider strain relief to ensure long-term effectiveness due to added weight of the filter.

11. Connect the power trunk as shown in Figure 5. DO NOT apply power to the controller.

12. Connect the tubing from the air velocity sensor pickups to the HI and LO ports on the controller, or on the Autozero Modules (if present). Make sure that the “HI” and the “LO” pressure sides of the sensors are connected to the corresponding “HI” and “LO” sensor ports on the controller or Autozero Modules (Figure 2).

The installation is complete.

Replacement Instructions

CAUTION:

Replacement of a TEC requires you to record, re-enter, or update the initial point values of the controller being replaced. These are the points marked with an asterisk (*) on the CIS display.

NOTE: CIS Rev. 2.0 or higher is required for controller replacement.

1. Place the ESD wrist strap on your wrist and attach it to a good earth ground.

2. Before disconnecting the old controller, do **one** of the following:

   NOTE: If the new controller has a newer firmware revision than the old controller, skip to the third bullet.

   - If the old controller communicates with the field panel, update the controller initial values at the field panel.
   - If the old controller does not communicate with the field panel, but communicates with CIS, or is stand-alone, record the initial values in Table 2.
   - If the old controller is not communicating or has a newer firmware revision, use the following steps to update the field panel:
     a. Obtain a field panel Point Definition Report for the LCTLR point. Record the values in Table 2.
     b. View the initial value block. (This information is valid only since the last update was made). Record the values in Table 2.
     c. Delete the LCTLR point from the field panel.

3. Replace the old controller as follows:
   a. Remove power from the controller.
   b. If the old controller has the RTS plug between the FLN and point terminations, disconnect the wires from the power trunk terminal block. If the old controller has the RTS plug on the opposite end of the board from the power trunk terminal block, remove the power trunk terminal block.
   c. Remove, in order, the controller’s:
      - FLN terminal block
      - Point wiring
      - Room temperature sensor
   d. Remove the old controller assembly from the mounting rail.
   e. Carefully remove the new controller assembly from the anti-static bag. Center it over the mounting rail and snap it securely into place.
   f. If the old controller has the RTS plug between the FLN and point terminations, remove all terminal blocks (except the power trunk) from the new controller. If the old controller has the RTS plug on the opposite end of the board from the power trunk terminal block, remove all terminal blocks.

g. Plug, in order, the controller's:

- Pre-wired FLN
- Point wiring

NOTE: Wiring to DI3/AI3 requires a clamp-on ferrite filter (Figure 6). Strain relief must be provided to ensure long-term effectiveness due to added weight of the filter.

h. If the old controller has the RTS plug between the FLN and point terminations, rewire power to the power trunk terminal block. If the old controller has the RTS plug on the opposite end of the board from the power trunk terminal block, plug the power trunk terminal block from the old controller into the new controller.

NOTE: The RTS cable requires a clamp-on ferrite filter (Figure 6). Consider strain relief to ensure long-term effectiveness due to added weight of the filter.

i. Connect the room temperature sensor.

j. Power up the controller.

k. Label and remove the polyethylene tubing from the old controller.

l. After the new controller is in place, reconnect the polyethylene tubing.

4. Set the address and application at the new controller.

5. Do **one** of the following:

- If you updated the initial values from the old controller at the field panel, then when you set the address and application for the new controller, the field panel will automatically send the initial values down to the new controller. Once this takes place, replacement is complete.
- If you manually recorded the initial values in the table, then enter them into the new controller. If a field panel is present, then update the controller's initial values. Replacement is complete.
- If there was no communication at the old controller, or the new controller has a newer firmware revision than the old controller, then enter the initial values into the new controller. At the field panel, add the LCTLR point and update the controller's initial values. The replacement is complete.

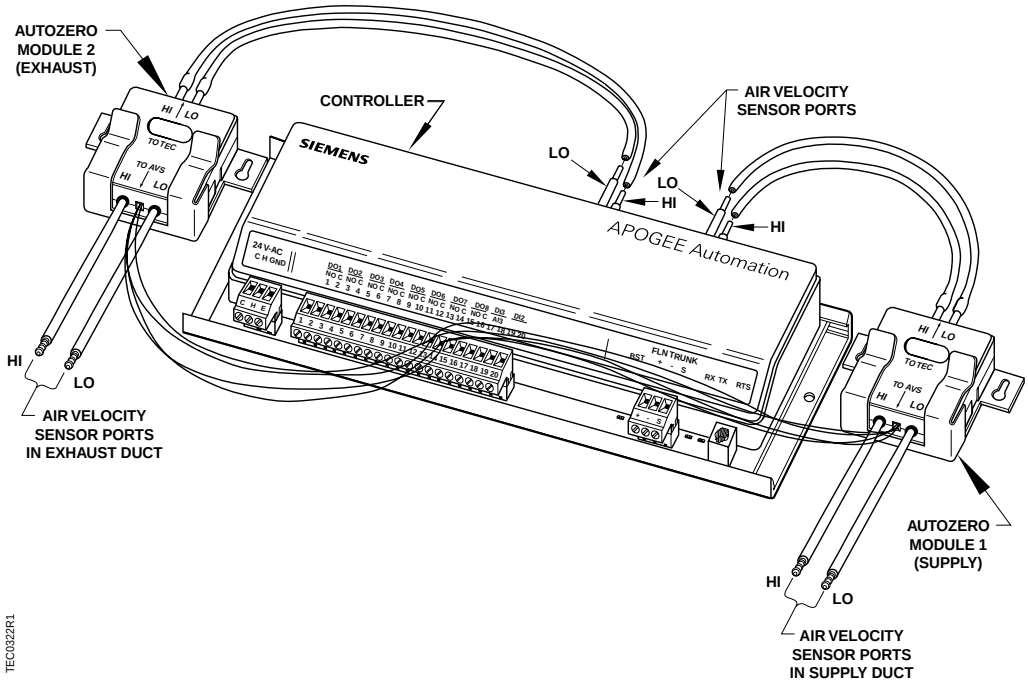


Figure 2. CE Compliant RPC with Autozero Modules.

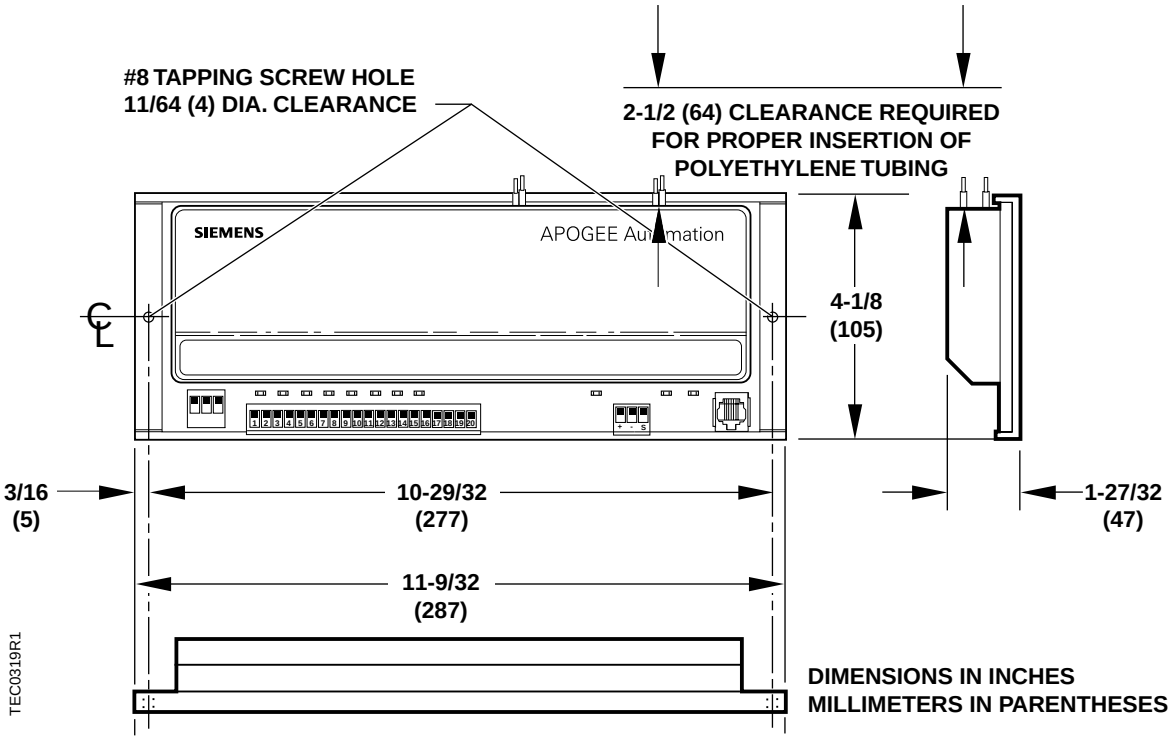
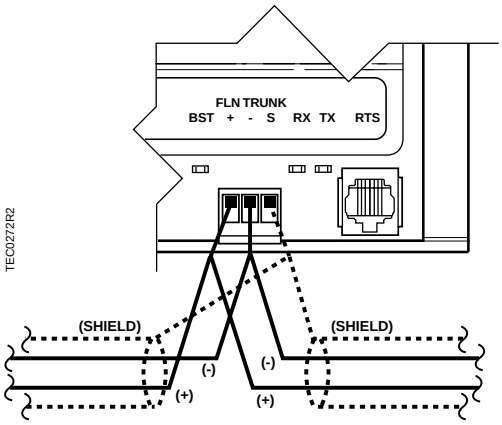


Figure 3. Mounting Dimensions.



NOTE: DO NOT ground the shield.

Figure 4. FLN Wiring.

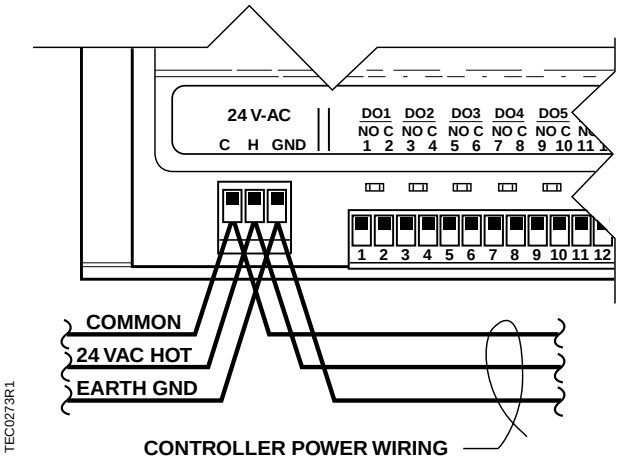
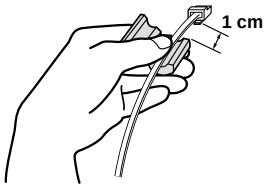
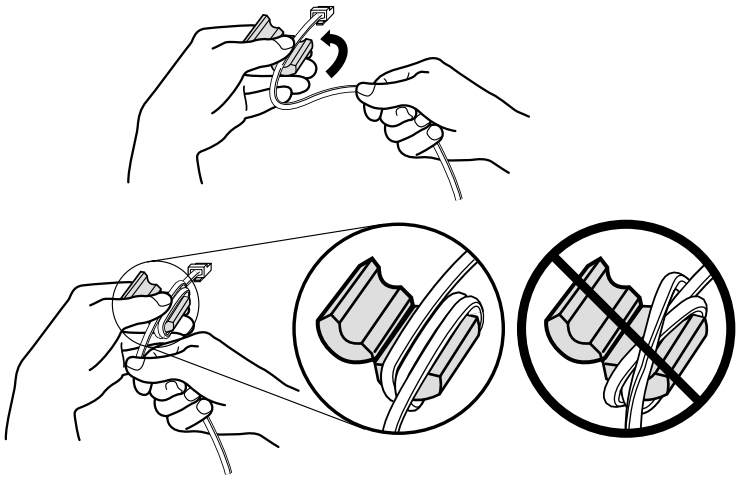


Figure 5. Power Trunk Wiring.

1 **Place the ferrite filter against the RTS cable or point wiring for AI3/DI3 approximately 1 cm from the end.**



2 **Wind the cable tightly twice around the filter.**



3 **Close the filter and wrap it with a zip tie, covering wound cable.**

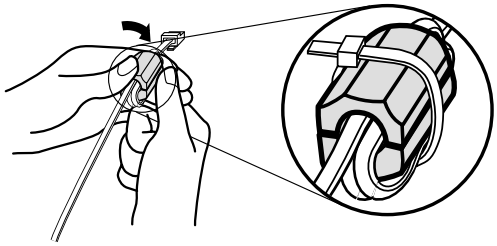


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Figure 6. Adding Ferrite Filter(s) for CE Compliance.

CAUTION:

Ferrite filter(s) must be installed on the room temperature sensor (RTS) cable and any wiring to AI3/DI3. If not, the controller is not CE compliant.

CAUTION:

The controller's DOs control 24 Vac loads only. The maximum rating is 12 VA for each DO. Use an interposing 220V 4-relay module for any of the following:

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

NOTE: Refer to the unit wiring diagrams or consult with the local representative if terminations are missing or are different.

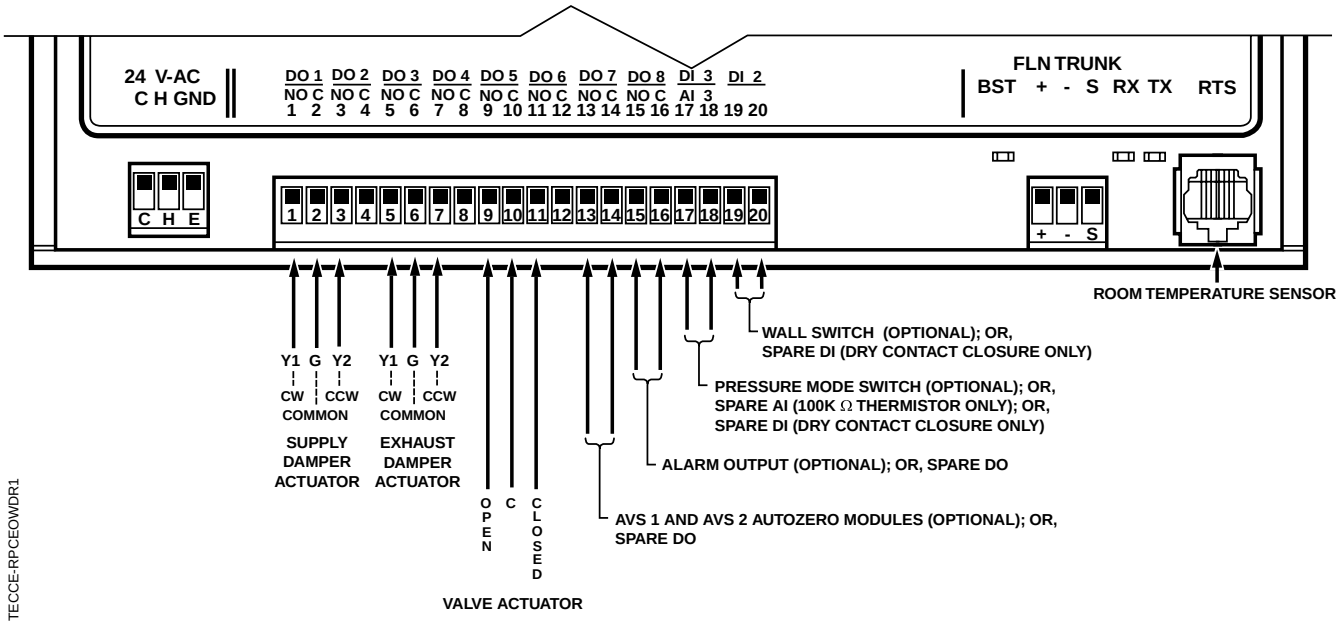

Figure 7. Point Wiring for Applications 2216 and 2218 with Hot Water Reheat.

Table 1. Application Descriptions.

Application	Description
2216	VAV Room Pressurization with Hot Water Reheat
2218	CAV Room Pressurization with Hot Water Reheat

NOTE: Record only those points marked with an asterisk (*) on the CIS display. Use F3 (<Look>) to identify the initial value for each point marked with an asterisk. You may want to make extra copies of this table for other controllers.

Controller name and location:_____

Table 2. Record of Controller Initial Values.

Point No.	Descriptor	Initial Value	Point No.	Descriptor	Initial Value
01	CTLR ADDRESS				
02	APPLICATION				

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