SIEMENS

Installation Instructions
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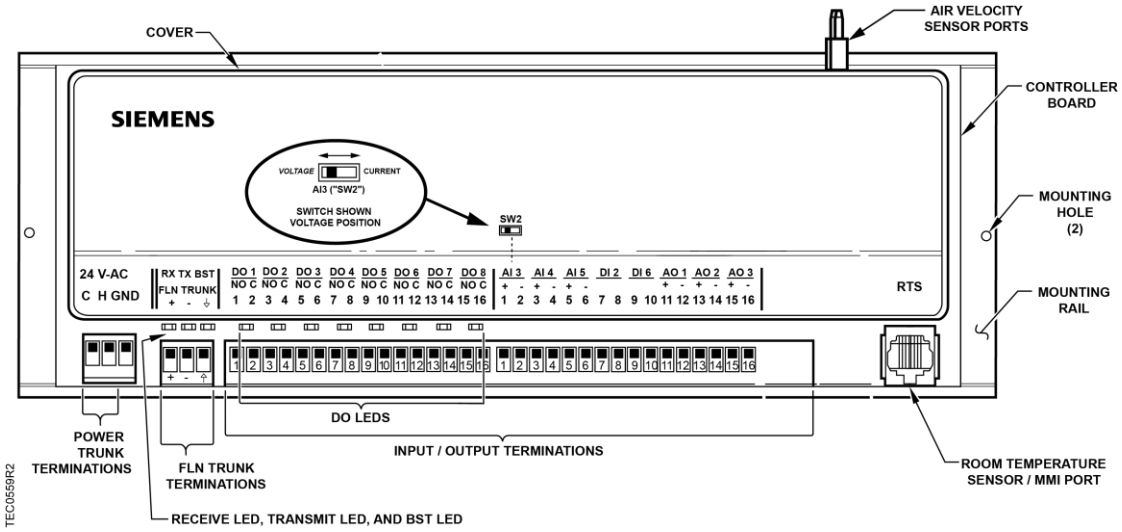
October 26, 2016

BACnet PTEC Terminal Box (VAV) Controller



Generic Controller I/O Layout. See *Wiring Diagram* for application specific details.

Control Applications

6600 through 6607

Product Description

These instructions explain how to field install or replace a Siemens BACnet PTEC BACnet PTEC Terminal Box (VAV) Controller.

Warning/Caution Notation

	**⚠ 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.

Product Numbers

Siemens BACnet PTEC Terminal Box (VAV) Controller	550-495PA

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

	**⚠ CAUTION**
	Keep the unit in its static-proof bag until installation. Otherwise, you run the risk of damage to the printed circuit board from electrostatic discharge.

Accessories

Low cost temporary temperature sensor, 10K thermistor with RJ11, that enables space control if the permanent room or duct sensor is not installed (pack of 25).	540-658P25
Duct Temperature Sensor, NTC 10K Ω Type 2, 3" Probe for Commissioning only	QAM1030.008P50

Expected Installation Time

New controller installation	10 Minutes
Replacement (old controller has removable terminal blocks)	6 Minutes
Replacement (old controller does not have removable terminal blocks)	16 Minutes

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

Required Tools and Equipment

- Small flat-blade screwdriver (1/8-inch blade width)
- Cabling and connectors
- Cordless drill/driver set
- ESD wrist strap

Prerequisites

- Wiring conforms to NEC and local codes and regulations. For further information see the *Wiring Guidelines Manual*.
- Room temperature sensor installed (optional).
- 24 Vac Class II power available.
- Supply power to the unit is OFF.
- Any application specific hardware or devices installed.
- Air velocity sensors installed in ducts.

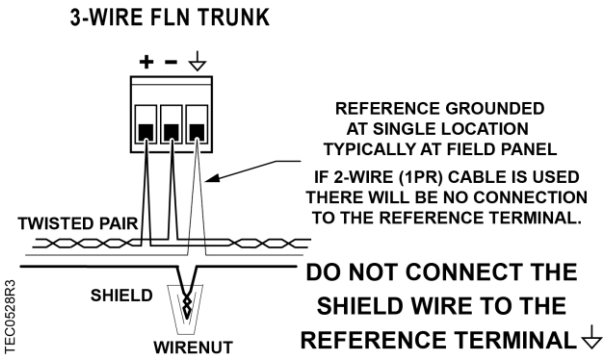
NOTE:
If the controller is being installed on a box with 1 or more stages of electric heat, the 550-809 MOV with pre-terminated spade connectors must be installed across the manufacturer-supplied airflow switch. MOVs can be installed at the time the controller is factory mounted; coordinate with the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

NOTE:
A low-cost temporary RTS (540-659P50) is available that plugs into the RTS port on the controller, providing temperature input and actual space control until a permanent RTS is installed.

Installation Instructions

NOTE:
All wiring must conform to national and local codes and regulations (NEC, CE, etc.).

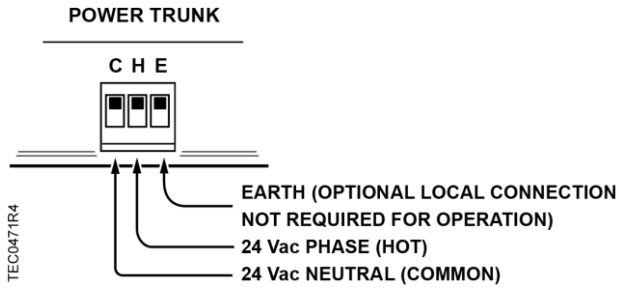
1. Secure the mounting rail in the controller's desired location.
2. Place the ESD wrist strap on your wrist and attach it to a good earth ground.
3. Remove the controller from the static proof bag and snap it into place on the mounting rail.
4. Connect the FLN.



5. Connect the point wiring (see *Wiring Diagrams*).

6. Plug the room temperature sensor cable into the RTS port.

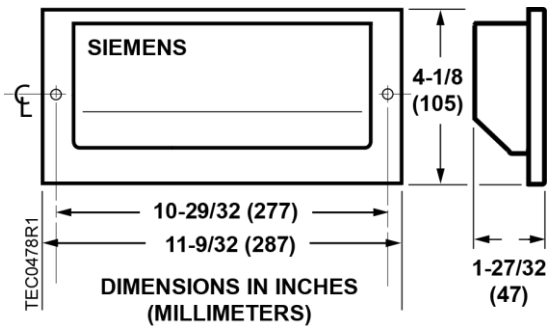
7. Connect the power trunk. DO NOT apply power to the controller without first consulting the specialist. This TEC is designed to work with 2-wire AC power (Neutral and Phase (hot) at 24 Vac +/-20%. Use of the earth terminal is optional and if used it should be connected to the nearest earth ground (building steel, conduit or duct work (if earthed).



	⚠ CAUTION
	It is very important that the neutral that supplies the TEC be earth grounded at the source of the 24Vac power. Possible erratic equipment operation or damage if neutral is left floating.

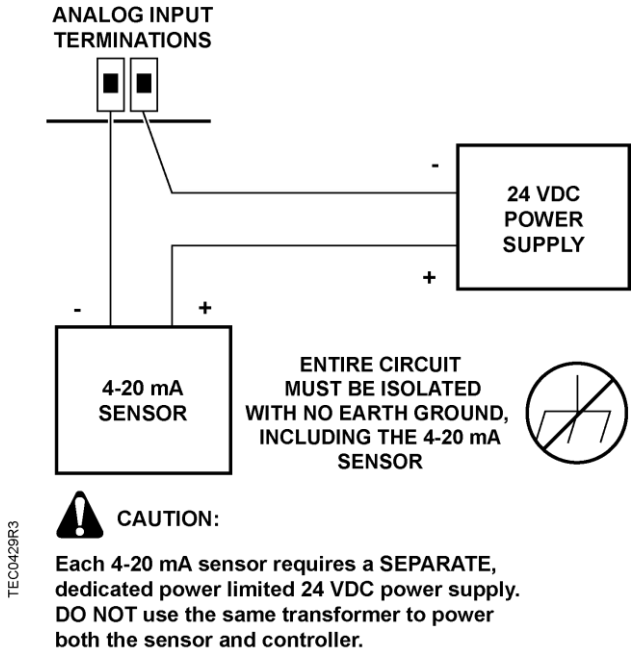
8. Connect the tubing from the air velocity sensor pickup to the ports on the controller. Connect HI to HI and LO to LO.

The installation is complete.



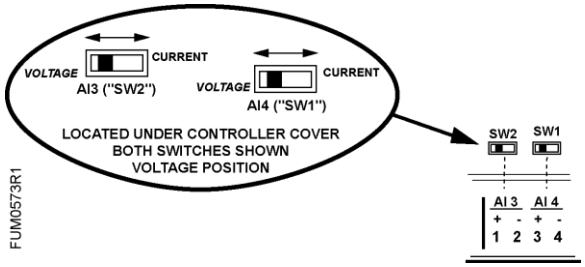
Wiring Diagram

	⚠ CAUTION
	The controller's DOs control 24 Vac loads only. The maximum rating is 12 VA for each DO. An external interposing relay is required for any of the following: • VA requirements higher than the maximum • 110 or 220 Vac requirements • DC power requirements • Separate transformers used to power the load (for example part number 540-147, Terminal Equipment Controller Relay Module)

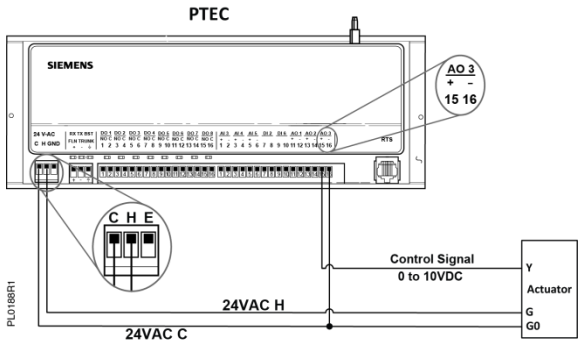


Wiring for AI with a 4 to 20 mA Sensor.

NOTE:
If the voltage/current switch is set to current and a 4 to 20 mA sensor is connected to an AI, then special wiring requirements must be followed.

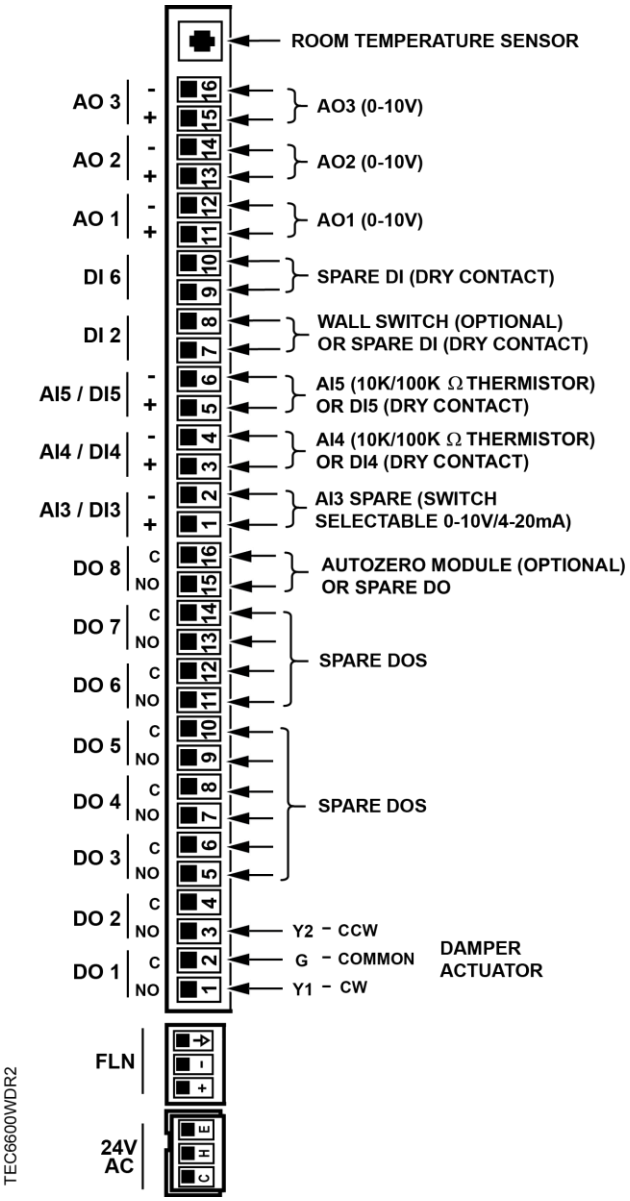


NOTE:
When wiring any actuator that uses a 0 to 10V control signal and ties AC neutral to DC common, an additional wire **must** connect the actuator AC neutral to the DC common of the PTEC/TEC AO being used to control the actuator.

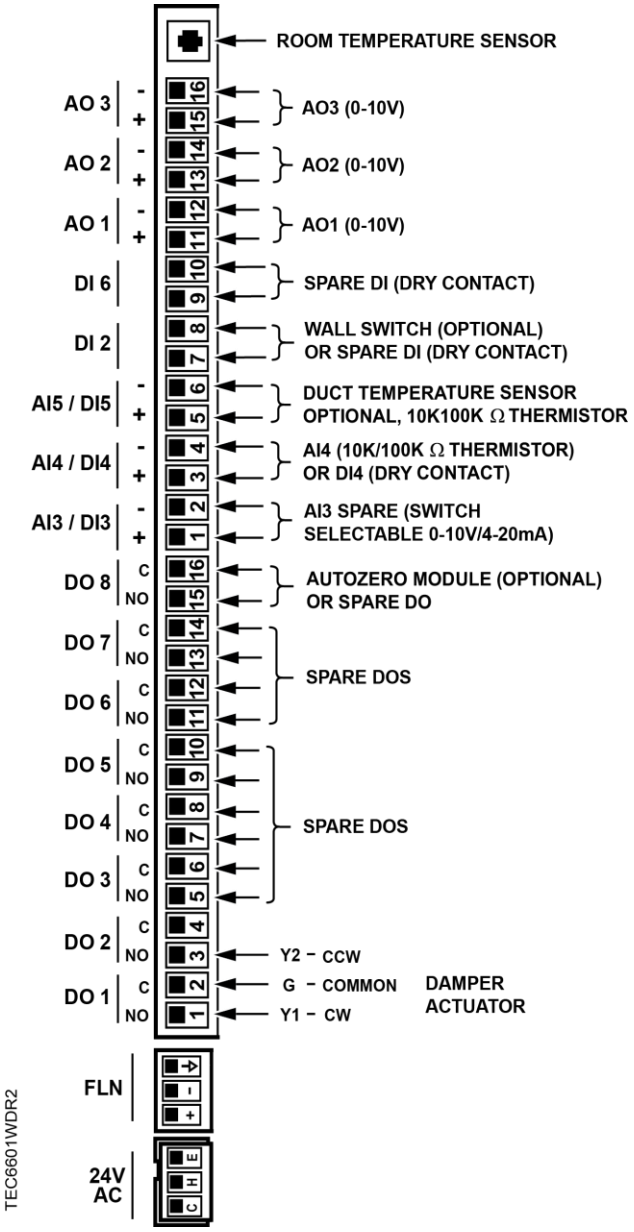


24 Vac Modulating Control.

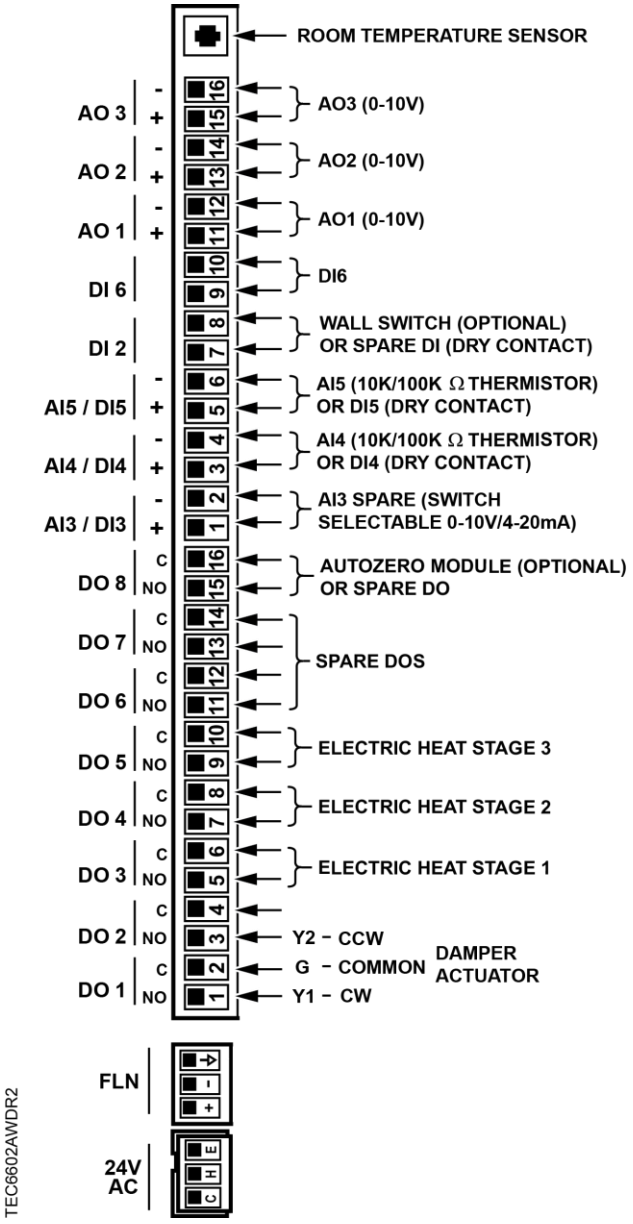
Actuator Symbol	TEC Connection	Function	Terminal Connection	Standard Color
1	H	Supply (SP)	G	Red
2	C	Neutral (SN)	G0	Black
8	AO3 – 15 (+)	0 to 10V input signal	Y	Gray
--	C to AO3 16 (-)	Common jumper	--	--



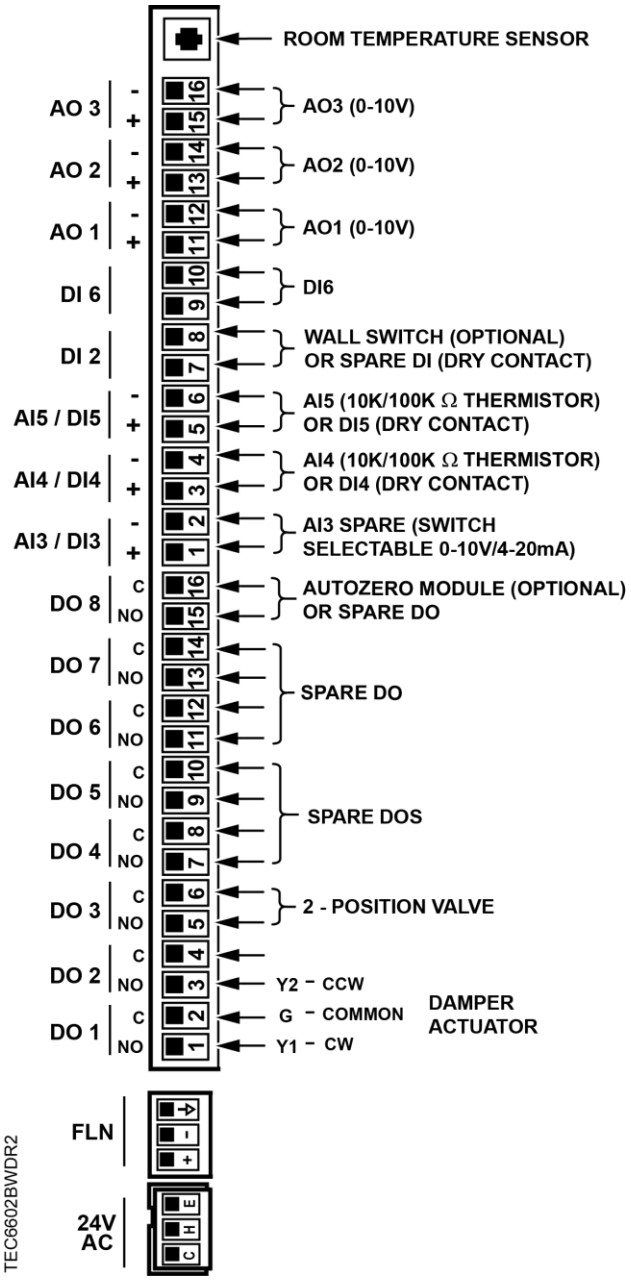
Application 6600 – VAV Cooling Only.



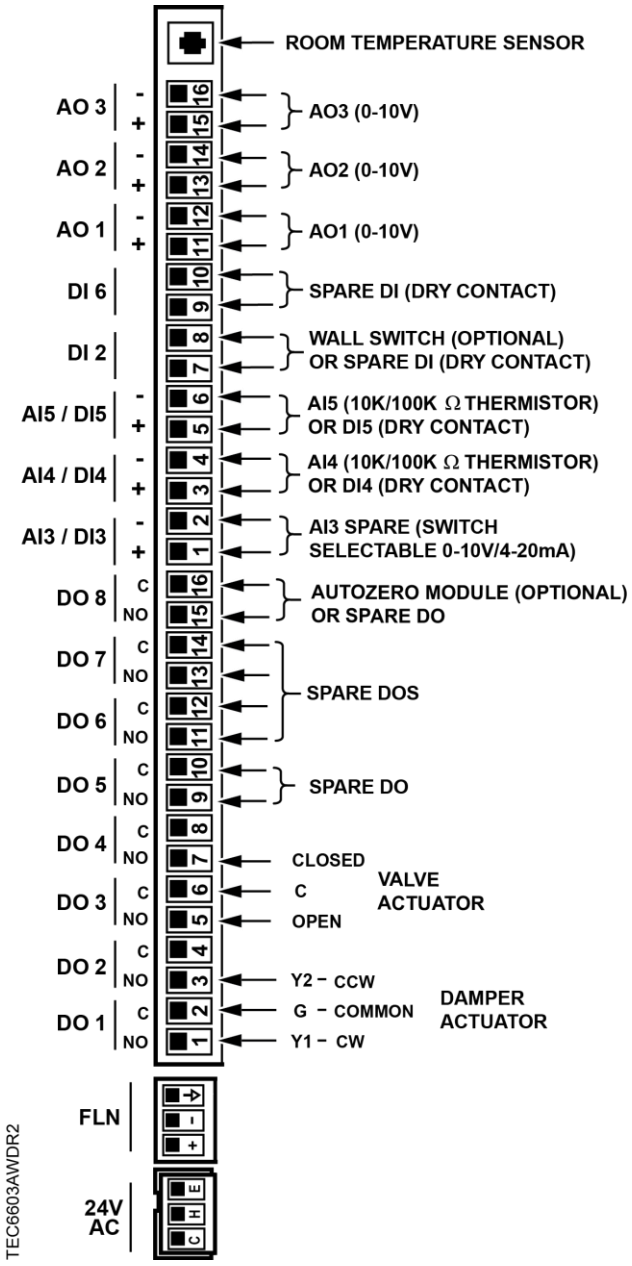
Application 6601 – VAV Cooling or Heating.



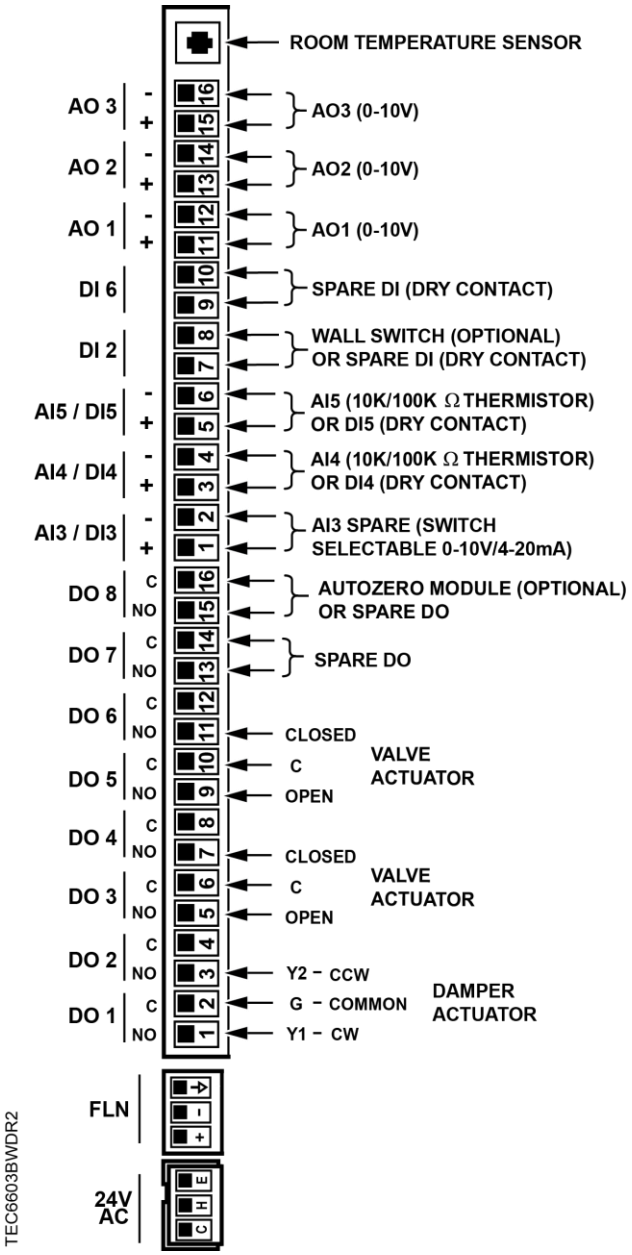
Application 6602 – VAV with 3-Stage Heat.



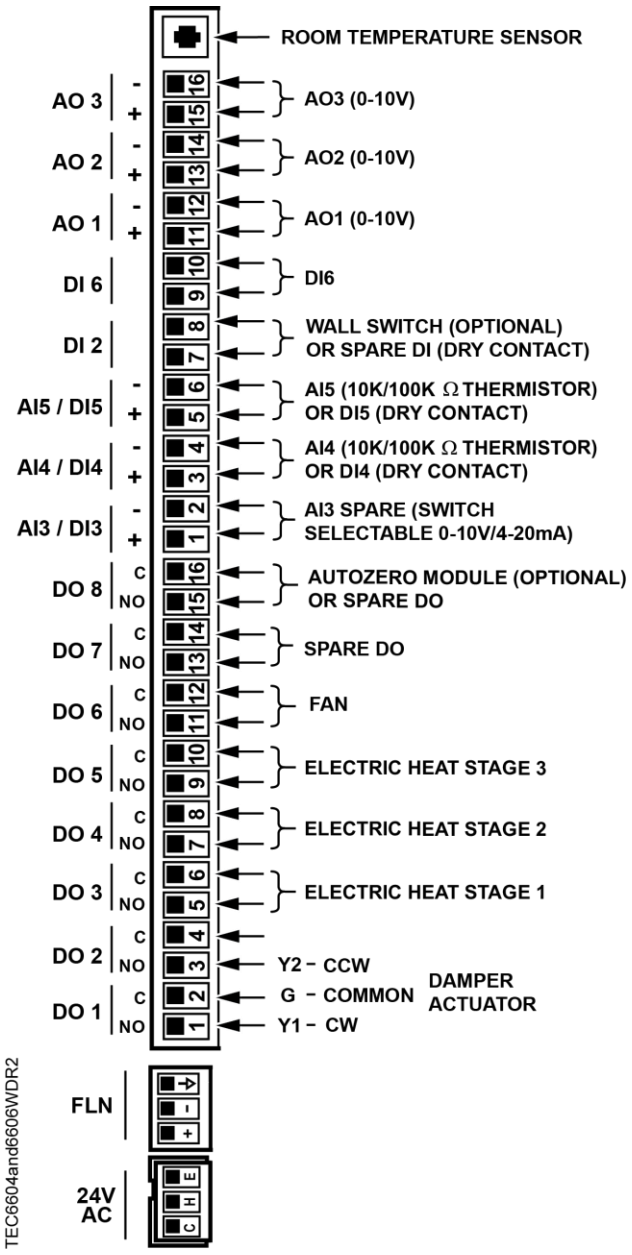
Application 6602 – VAV with Baseboard Radiation.



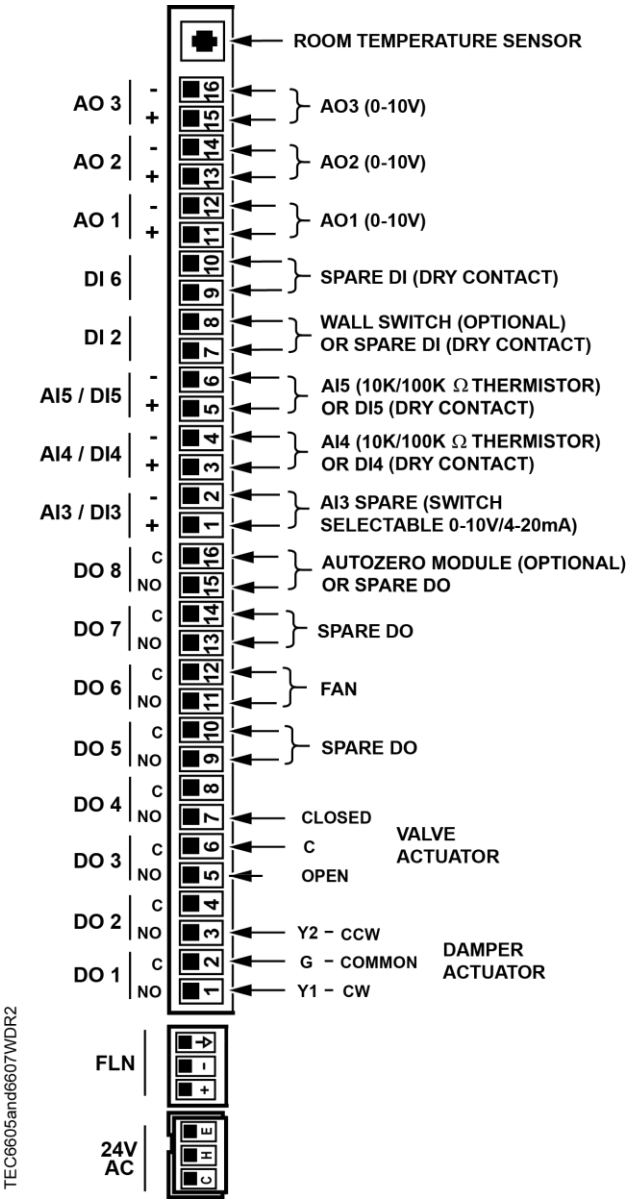
Application 6603 – VAV with Hot Water Heat.



Application 6603 – VAV with Hot Water Heat and 3 Motors.



Application 6604 and Application 6606 – VAV with Series or Parallel Fan and 3-Stage Electric Heat.



Application 6605 and Application 6607 – VAV with Series or Parallel Fan and Hot Water Heat.

Cyber security disclaimer

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