

# VT8000 Room Controllers

## VT8000 Installation Guide

Replacement Procedure and Pair with ZigBee Sensors



# Overview

This procedure shows how to replace VT8000 Room Controllers already installed, as well as to setup the Room Controller to communicate with a front end controller via Zigbee or BACnet and pair the Room Controller with a ZigBee Sensor.

Before going through the replacement steps, refer to the tables on the following pages to compare the default values with the current parameter configurations on the existing VT8000. Navigate through the **Network**, **Configuration** and **Setpoints/Display** pages in the **Setup** menu and note down the current configurations if they are different from the default values.



- When replacing an installed Room Controller, turn off the HVAC system to prevent any damage by potentially incorrect default settings on the new Room Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before handling and installing Room Controller.
- Use high caution when installing Room Controller as a short circuit or incorrect wiring may cause permanent damage to Room Controller or equipment.
- All VT8000 series Room Controllers controls are designed for use as operating controls only and are not safety devices. Tampering with the Device or unintended application of the Device will result in a void of warranty.



Note the following before you start this procedure:

- Verify you are replacing the Room Controller with the same model (VTR8300, VT8300, or VT8600).
- When replacing any Room Controller, isolate power to the HVAC system to prevent any damage by potentially incorrect default settings on the new Room Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before handling and installing any Room Controller.
- Use high caution when installing Room Controller as a short circuit or incorrect wiring may cause permanent damage to Room Controller or equipment.
- All Room Controllers are designed for use as operating controls only and are not safety devices. Tampering with the Device or unintended application of the Device will result in a void of warranty.

# Object Tables

## Legend

	All models
	VT8350

Object Name	Default Configurations	Current Configurations before Replacement
<b>1/2 ZigBee Network</b>		
COM Address	254	
Node Type (Firmware 1.3 and newer)	Router	
PAN ID	0	
Channel	10	
<b>2/2 ZigBee Others</b>		
Permit Join	On	
<b>1/2 BACnet Network</b>		
COM Address	254	
Network Units	Imperial	
Network Language	English	
BACnet Baud Rate	Auto	
<b>2/2 BACnet Network</b>		
BACnet Instance		
<b>1/7 Configuration</b>		
BI 1 / UI 16 Status	None	
BI 2 / UI 17 Status	None	
RUI 1 / UI 19 Status	None	
Occupancy Command	Motion	
Smart Recovery	Off	
Setpoint func.	Attach SP	
<b>2/7 Configuration</b>		
Mode Button	Normal	
Auto Mode	Enabled	
Fan Menu (Sequence)	On-Auto	
Auto Fan Function	AS	
Standby Mode	Absolute	
Standby Differential	2° C ( 3° F )	
<b>3/7 Configuration</b>		
Standby Time	0.5H	
Unoccupied Time	0H	
Temporary Occupancy Time	2H	
Dehumidification Hysteresis	5% RH	
Dehumidification Max Cooling	100%	
Dehumidification Lockout	Enabled	
<b>4/7 Configuration</b>		
CPH	4	
Control Type	Floating	
BO8 Out Time	15 Minute	
BO8 AuxOut	Not Used	
Floating Time	1.5 min	
Action	DA	

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<b>5/7 Configuration</b>		
Proportional Band	3°F (1.2°C)	
Pipe Number	2	
Sequence of Operation	Heat only	
Purge Sample Period	2 hours	
Purge Open	2 Minutes	
<b>6/7 Configuration</b>		
Main Password	0	
User Password	0	
Schedule menu	Enabled	
Calib. Temperature	0.0 °C	
Calib. Humidity	0.0 %RH	
<b>1/2 Setpoints</b>		
Unoccupied Cool Setpoint	80°F (26.5°C)	
Standby Cool Setpoint	78°F (26°C)	
Occupied Cool Setpoint	75°F (24°C)	
Occupied Heat Setpoint	72°F (22°C)	
Standby Heat Setpoint	69°F (21°C)	
Unoccupied Heat Setpoint	62°F (16.5°C)	
<b>2/2 Setpoints</b>		
Default Heating Setpoint	72°F (22°C)	
Minimum Deadband	2°F (1°C)	
Max. Heating limit	90°F (32°C)	
Min. Cooling limit	54°F (12°C)	
Dehumidify Setpoint	50% RH	
<b>1/2 Display</b>		
User HMI	0	
Color	White	
Main Display	Temperature	
Use Standby Screen	No	
Contrast	0	
Long message background color	White	
<b>2/2 Display</b>		
Display Language	English	
Units (Temperature Scale)	°C	
Low Backlight	60%	
Night Backlight	5%	
RH display	Enabled	

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The below parameters are not accessible through the Setup menu in the VT8300/VT8350 models. However, they can be modified via the front end once the device is online. Depending on the Firmware version of the MPM, some properties, such as Display Long Screen Message, do not show up in the Objects list.

Object Name	Default Configurations	Current Configurations before Replacement
<a href="#">More BACnet/ZigBee Objects</a>		
System Mode	Sequence#1 (Heat only)	
Fan Mode	N/A	
Short Screen Message (BACnet only)	Off	
Long Screen Message (BACnet only)	Off	
Display Long Screen Message	No	
Heating Demand Limit	N/A	
Cooling Demand Limit	N/A	
No Activity Sleep Mode	Disabled	

# Replace VT8000

This procedure shows how to remove the VT8000 Series Room Controller.

**NOTE:**

There is one procedure to remove a Room Controller on a ZigBee Network and one procedure to remove a Room Controller on a BACnet Network. Make sure to use the correct procedure.

## ZIGBEE NETWORK

1. Remove security screw on bottom of Room Controller cover.
2. Open unit by pulling on bottom side of Room Controller cover (Figure 1).
3. Remove cover.

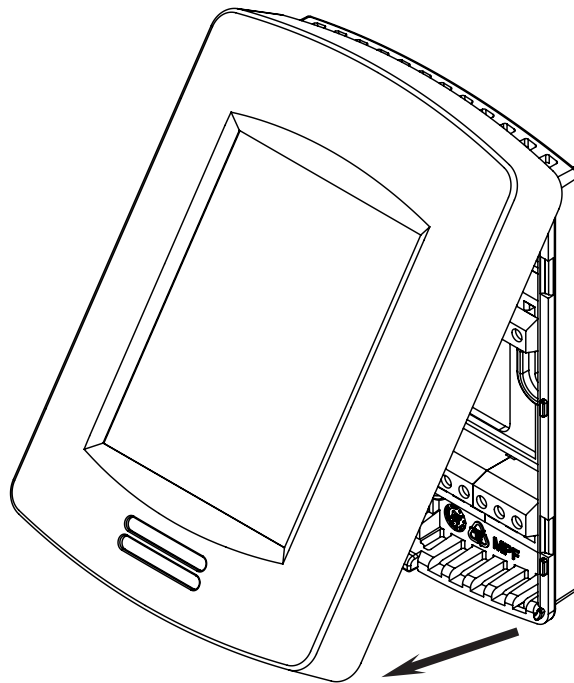


Figure 1

4. Remove new VT8000 Room Controller from shipping box and separate back plate from front plate to prepare for installation.
5. Remove existing ZigBee communication module from old model and install it on back side of new Room Controller (Figure 2).

**NOTE:** If a new ZigBee module is being used, the Room Controller must be bound to the MPM again using Building Expert.

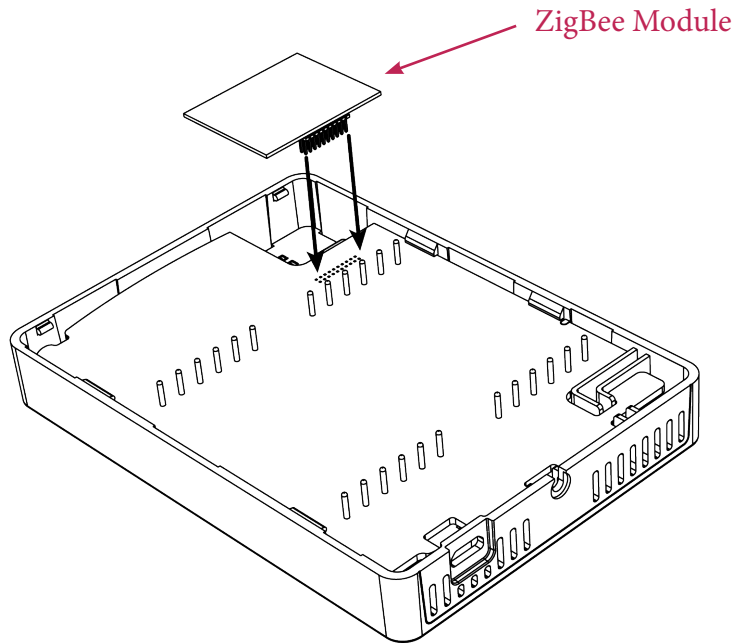


Figure 2

6. Mount front plate of new Room Controller to existing back plate on wall.
 

**NOTE:** ensure small plastic projections at top of front plate align with notches at top of back plate.
7. Gently push bottom two corners of front plate bottom to secure in place (Figure 3).

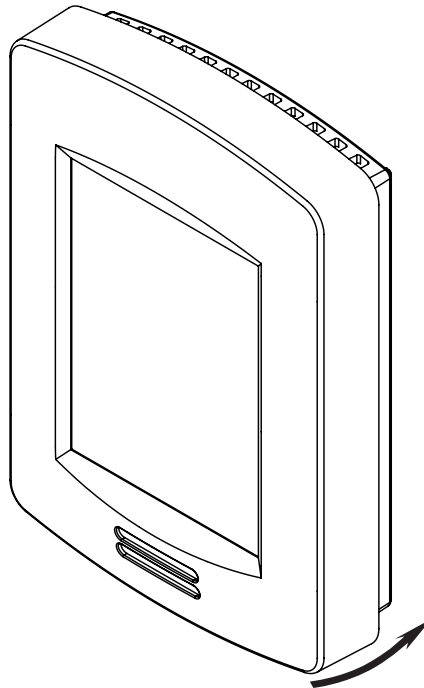


Figure 3

8. Restore power.
9. Wait for unit to power up.
10. Refer to tables section to re-configure your parameters (sequence of operation, pipe number, occupied heating/cooling setpoints, etc).
11. To bring device back online, make sure **Channel**, **Pan ID** and **Com address** match previous settings before replacement.



## BACNET NETWORK

1. Remove security screw on bottom of Room Controller cover.
2. Open unit by pulling on bottom side of Room Controller cover (Figure 1).
3. Remove cover.

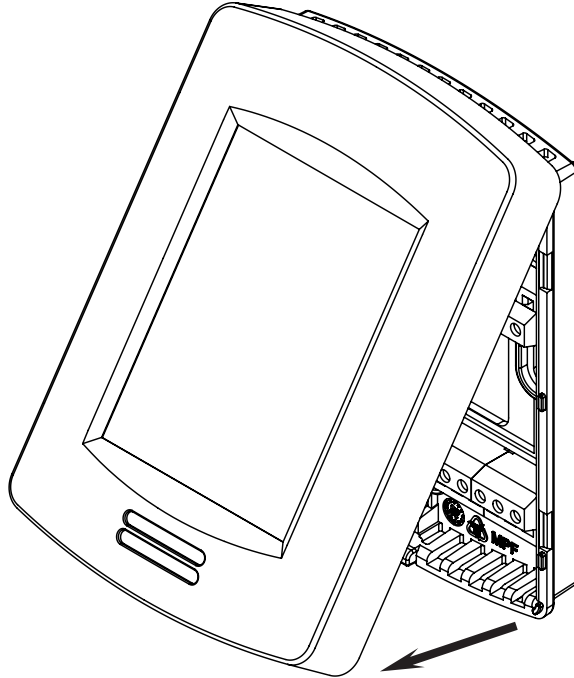


Figure 1

4. Remove new VT8000 Room Controller from shipping box and separate back plate from front plate to prepare for installation.
5. Mount front plate of new Room Controller on existing back plate on wall.  
**NOTE:** ensure small plastic projections at top of front plate align with notches at top of back plate.
6. Gently push bottom two corners of front plate bottom to secure unit in place (Figure 2).

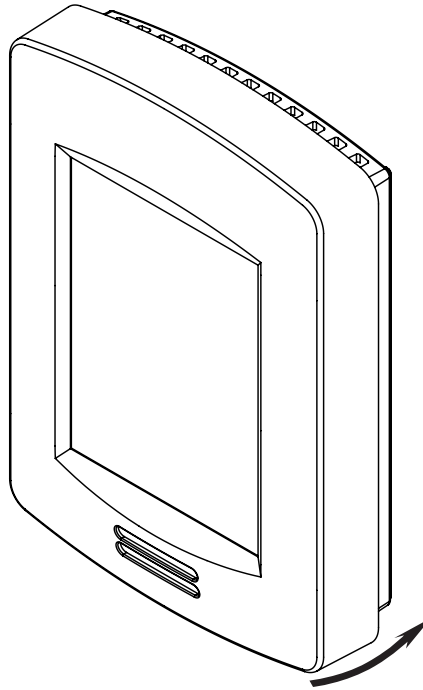


Figure 2

7. Restore power.
8. Wait for unit to power up.
9. Refer to tables section to re-configure your parameters (sequence of operation, pipe number, occupied heating/cooling setpoints, etc).
10. To bring device back online, make sure **Com address** match previous settings before replacement.

## REPAIR ZIGBEE SENSORS WITH ROOM CONTROLLER

Follow this procedure in exact order to pair the ZigBee sensors with the Room Controller.

1. In Building Expert, navigate to **ZigBee Configuration Object** (ZBC) and ensure **Permit Join** is toggled.
2. Click **Add Objects** button and add a **Lua PG** Object.
3. Select newly added **PG** Object.
4. Click **Edit** button and either copy/paste or write the below script to **PG** window.
  - » if not init then  
ME.ZBC1\_Pairing\_Device.value = ME.ZVC1\_Node\_Ext.value  
init = true  
end
5. In Lua code, modify the last digit of the ME.ZVC# to match the ZVC object of the Room Controller for which the sensor(s) will be paired.
6. Run script by clicking **Play** button (script gets saved automatically).
7. On Room Controller, enter **Eco Wireless** menu.
  - NOTE:** If for any reason you exit from the Wireless Ecosystem menu, you must wait 30 - 60 seconds before attempting to enter the Wireless Ecosystem menu screens again.
8. Pair one sensor or multiple sensors by clicking on sensor button 10 times.
  - NOTE:** Ensure sensor is placed near Room Controller after performing this step.
9. Once device is paired, change **Set function** to parameter on Room Controller to necessary value (Door, Window, or Motion).
10. Repeat steps 4 - 9 for any additional Room Controller(s).