# VTR8300 Series Installation Guide

Room Controller with Optional PIR sensor
Commercial and Hotel/Lodging HVAC Fan Coil Applications

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DISCLAIMERS

- The VTR8300 series Room Controller is only to be used in conjunction with the VC3000 line voltage switching relay pack. Together they are used as operating controls for high voltage fan coil units.
- If replacing an existing Line Voltage FCU Controller, label the wires before removal of the Room Controller.
- Electronic controls are static sensitive devices. Discharge yourself correctly before manipulating and installing the Room Controller. A short circuit or wrong wiring may permanently damage the Room Controller or equipment.
- All VTR8300 series Room Controllers are designed for use as operating controls only and are not safety devices. These instruments have undergone rigorous tests and verification prior to shipping to ensure proper and reliable operation in the field. Whenever a control failure could lead to personal injury and/or loss of property, it becomes the responsibility of the user/installer/electrical system designer to incorporate safety devices such as relays, flow switches, thermal protections, and/or an alarm system to protect the entire system against any catastrophic failures. Tampering with the devices or unintended application of the devices results in a void of warranty.
- If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.
- These devices are not serviceable and must be returned to the supplier for any repair.
- A switch or circuit breaker must be installed. It must be suitably located, easily reached, and marked as the disconnecting device.
- Never apply more than 9VDC to Room Controller.
- This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

IMPORTANT SYMBOLS

- Products marked with this symbol state that the manuals must be consulted in all cases to any hazards.
- This product has been tested to the requirements of CAN/CAS-C22.2 No. 61010-1, second edition, including Amendment 1, or a later version of the same standard incorporating the same level of testing requirements.
- Alternating Current
- Direct Current
- Equipment protected throughout by DOUBLE INSULATION or REINFORCED INSULATION
INSTALLATION

Location

- Do not install on outside wall.
- Do not install in areas with direct heat source.
- Do not install near any air discharge grill.
- Do not install in areas exposed to direct sunlight.
- Ensure Room Controller has sufficient air circulation.
- Ensure wall surface is flat and clean.

Installation

1. Open unit by pulling on bottom side of Room Controller (Figure 1).
2. Read FCC ID and IC label installed in cover before installing any wireless product.
3. Ensure correct side of base faces up.
4. Pull cables 6in (15cm) out from wall.
5. Align base and mark location of two mounting holes on wall (Figure 2).
6. Install anchors in wall.
7. Insert cable in central hole of base.
8. Insert screws in mounting holes on each side of base.
9. Strip each wire 1/4in (0.6cm) from end.
10. Insert each wire according to wiring chart (next page).
11. Gently push excess wiring back into hole.
12. Gently align cover to top of base and snap in place from bottom (Figure 3).
13. Install security screw.

- If replacing an existing Line Voltage FCU Controller, label the wires before removal of the controller.
- Electronic controls are static sensitive devices. Discharge yourself properly before manipulating and installing the Room Controller.
- A short circuit or wrong wiring may permanently damage the Room Controller or the equipment.
- All VTR8300 series Room Controllers are designed for use as operating controls only and are not safety devices. Tampering with the devices or unintended application of the devices will result in a void of warranty. This transmitter must be installed to provide a separation distance of at least 4in (10cm) from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.
**Terminal Identification and Function**

<table>
<thead>
<tr>
<th>Terminal Identification</th>
<th>All VTR83xxA Terminal Equipment Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal 4</td>
<td>Tx – Rx Communication</td>
</tr>
<tr>
<td>Terminal 5</td>
<td>Power Hot 7.0 VDC</td>
</tr>
<tr>
<td>Terminal 6</td>
<td>Power Common</td>
</tr>
<tr>
<td>Terminal 13</td>
<td>BACnet +</td>
</tr>
<tr>
<td>Terminal 14</td>
<td>BACnet -</td>
</tr>
<tr>
<td>Terminal 15</td>
<td>BACnet REF</td>
</tr>
<tr>
<td>Terminal 16</td>
<td>BI 1 (Configurable)</td>
</tr>
<tr>
<td>Terminal 17</td>
<td>BI 2 (Configurable)</td>
</tr>
<tr>
<td>Terminal 18</td>
<td>Scom</td>
</tr>
</tbody>
</table>

**NOTE:** never use any terminal not mentioned in above table.

**Communication Wiring to VC3xxxE Relay Pack**

- **From VTR83xxA to first VC3xxxE Relay Pack**
  - Uses existing or new field wires
  - A minimum of 3 wires are required 14-22 Ga, Solid or Stranded, shield not necessary

- **From first VC3xxxE to all other slave VC3xxxE Relay Pack(s)**
  - Uses existing or new field wires
  - A minimum of 2 wires are required 14-22 Ga, Solid or Stranded
  - Shield not necessary
  - Connect only two wires: Tx/Rx (1) and Power Common (3).

**BACnet® Communication Shielded Wiring (if required)**

- **VTR83xxA Terminal Controller**
  - 13 - COM +
  - 14 - COM -
- **VC3504E Relay Pack**
  - 13 - COM +
  - 14 - COM -
- **VC3300E Relay Pack**
  - 13 - COM +
  - 14 - COM -

**Network Wiring Topology**

- **Star Topology**
- **Daisy Chained Topology**
- **Mixed Daisy Chained & Star Topology**

**NOTE:** See VTR8300 BACnet® integration manual for more details.
Note: User HMI is configurable and allows display functions such as Date, Time, Humidity, Outdoor Temperature, Setpoint, and others to be enabled or disabled by setting various parameters.
HOW TO ENTER SETUP SCREEN

Touch and hold this point for 3 seconds to enter setup mode

**Note:** If a configuration / installer password is activated to prevent unauthorised access to the configuration menu parameters, a password entry prompt will appear to prevent access to the device configuration components.

SETUP SCREEN DISPLAY

<table>
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<tr>
<th>1/2 Setup</th>
<th>Enter BACnet® &amp; ZigBee® network settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network</td>
<td>Enter parameter configuration menu</td>
</tr>
<tr>
<td>Discover Mode</td>
<td>The Controller will become discoverable on the wireless ZigBee® network for 1 minute (this button is hidden if ZigBee® settings are not configured)</td>
</tr>
<tr>
<td>Configuration</td>
<td>Enter setpoint &amp; display settings</td>
</tr>
<tr>
<td>Setpoints - Display</td>
<td>Enter status and service view</td>
</tr>
<tr>
<td>Setpoints view</td>
<td>Enter output testing mode</td>
</tr>
<tr>
<td>Test outputs</td>
<td>Enter language selection settings</td>
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</table>

**General Note:**

- Adjustable parameter
- Non-adjustable parameter