**Installation Instructions**

**Variable Refrigerant Flow (VRF) System**

**Wired Remote Control**

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**Important: Environmental Concerns!**

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. This manual addresses the responsible handling of all refrigerants—indoor systems replacements for CFCs and HCFCs.

**Important: Responsible Refrigerant Practices!**

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements for the responsible management of refrigerants. Know the applicable laws and follow them.

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### Installation

**Mounting the Unit**

1. In a flat head screwdriver into the square groove at the center-top of the remote control. Pull up the front cover to separate it from the back cover.

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### Wiring

**Connecting Communication Wiring**

Connect communication wiring to the wired remote control at terminals F3, F4 and to the indoor unit at terminals F3, F4.

**Best Practice:** Maintain consistent polarity with wiring connections (F3 to F3, F4 to F4) to minimize troubleshooting time.

**Hazardous Voltage!**

Disconnect all electrical power, including remote devices before wiring or performing local tagout procedures to ensure the power can not be inadvertently energized. Failure to take proper precautions before servicing could result in death or serious injury.

- **Make all electrical connections in accordance with electrical codes and ordinances.**
- **If you install the wired remote control with thermostat wiring, remove 12 in. (30 cm) of the cable sheath and install only two of the conductors.**
- **The recommended wire size is AWG 18.**
- **Use either the provided U-terminals or U-terminals that match the specifications of those provided.**
- **Use an appropriate size screwdriver for tightening the terminal screws.**
- **If necessary, bend or align the terminals of the F3, F4 or F5 conductor to make proper tightening possible.**
- **Over-tightening the terminal screws may break them.**
- **Tightening torque for M4 screws: 0.86–1.06 lbf·ft (12.0–14.7 kgf·cm).**

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### Reassembling the Device

Reassemble the wired remote control by aligning the front cover with the housing along the edges of the back cover.

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### Wiring for Individual Control

**Indoor individual control refers to the use of one wired remote control for controlling one indoor unit, as shown in Figure 3.**

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### Figure 1. Dimensions

- **UNITS:** Inch (mm)

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### Table 1. Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wired remote control</td>
<td>(1)</td>
</tr>
<tr>
<td>Cable ties (2)</td>
<td>(2)</td>
</tr>
<tr>
<td>Cable clamps (3)</td>
<td>(3)</td>
</tr>
<tr>
<td>M4X16 screws (5)</td>
<td>(5)</td>
</tr>
<tr>
<td>User manual (1)</td>
<td>(1)</td>
</tr>
<tr>
<td>Installation manual (1)</td>
<td>(1)</td>
</tr>
<tr>
<td>U terminals (6)</td>
<td>(6)</td>
</tr>
</tbody>
</table>

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### Figure 2. Clearances

- **0.4 in. (10 mm) min.**

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### Figure 3. Wired remote control: Individual control example
Wiring for Group Control

Group control refers to the use of one wired remote control to control multiple indoor units.

- A maximum of 16 indoor units can be controlled as a group.
- All indoor units in the group must be connected to a wired remote control.

Examples of two different scenarios are shown in Figure 4 and Figure 5.

Figure 4. Wired remote control: Group control with multiple indoor units connected to one outdoor unit

Figure 5. Wired remote control with multiple indoor units connected to different outdoor units

Indoor Unit Tracking

The VRF system uses the term “tracking” for the process of indoor unit discovery and addressing. During tracking, the wired remote control displays the total quantity of discovered units.

- If a system has master and slave wired remote controls, only the master displays the total quantity of discovered units.

Two wired remote controls can control one indoor unit or a group of indoor units.

Outdoor unit

If a system has master and slave wired remote controls, only the master displays the total quantity of discovered units.

Note:

- In this application, one wired remote control must be configured as a master. If the wired remote control is master, the total quantity of discovered units is displayed.

- To repeat tracking at any time, press the F1, F2 buttons simultaneously for at least 5 seconds.

- If the number of connected indoor units increases or decreases after installation, repeat the tracking process.

Examples of two different scenarios are shown in Figure 4 and Figure 5.

Table 2. Option settings/values (continued)

<table>
<thead>
<tr>
<th>Main menu code</th>
<th>Sub-menu code</th>
<th>Option description</th>
<th>Factor/ default setting/value</th>
<th>Option setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td></td>
<td>Room temperature control</td>
<td>1,2,3 0</td>
<td>0/ -9–40°C (16–104°F)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temperature drop</td>
<td>4,5,6 0</td>
<td>0/ -4°C (20°F)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of connected indoor units</td>
<td>1,2,3 0</td>
<td>0 – 16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temperature increment/decrement (°C)</td>
<td>1 0</td>
<td>0/ 1°C, 1: 0.5°C, 2: 0.1°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Factory defaults settings</td>
<td>1 0</td>
<td>0/ Reset has no effect, on setting 1, reset changes settings to factory defaults</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Indoor unit option checking</td>
<td>1 0</td>
<td>0/ Not used, 1: Use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Option setting</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Table 2. Option settings/values (continued)

<table>
<thead>
<tr>
<th>Main menu code</th>
<th>Sub-menu code</th>
<th>Option description</th>
<th>Digit 1</th>
<th>Digit 2</th>
<th>Digit 3</th>
<th>Digit 4</th>
<th>Digit 5</th>
<th>Digit 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>Indoor unit option setting/checking</td>
<td>1–24</td>
<td>(See note.)</td>
<td>Indoor unit option setting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Indoor unit option (1) setting/checking</td>
<td>1–24</td>
<td>(See note.)</td>
<td>Refer to the “Configuration” section in the indoor unit installation manual for complete list of option settings and codes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Indoor unit option (2) setting/checking</td>
<td>1–24</td>
<td>(See note.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1

AHU setting

AHU setting checking

Setting/checking

3.4

Note: Increments of 1

Humidity setting checking

6

0, 30, 1, 40, 2, 50

2

AHU discharge temperature setting

Cooling discharge temperature

3.4

0-30°C (86-86°F)

Note: Increments of 1°C

Heating discharge temperature

5.6

-30—43°C (86-109°F)

Note: Increments of 1°C

3

Finish duct discharge temperature setting

Cooling discharge temperature

1.2

0-30°C (86-86°F)

Note: Increments of 1°C

Heating discharge temperature

3.4

0-30°C (86-86°F)

Note: Increments of 1°C

6

Not used

Note: There are 24 available digits. The wired remote control can display only 6 digits at a time. The digits are displayed in 4 groups. Option setting codes are displayed with the first digit of the group a constant value—either 0, 1, 2, or 3—as shown in the table below. This value indicates the group that the digit currently being displayed belong to.

Table 3. Error codes and descriptions

<table>
<thead>
<tr>
<th>Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>601</td>
<td>Communication error between wired remote control and indoor units after successful communication.</td>
</tr>
<tr>
<td>602</td>
<td>No communication between master and slave wired remote controls.</td>
</tr>
<tr>
<td>604</td>
<td>No communication between wired remote control and indoor units.</td>
</tr>
<tr>
<td>618</td>
<td>More than the maximum number (16) of indoor units is installed.</td>
</tr>
<tr>
<td>629</td>
<td>Two or more wired remote controls are set as slaves.</td>
</tr>
<tr>
<td>653</td>
<td>Temperature sensor open/close error.</td>
</tr>
<tr>
<td>654</td>
<td>Memory error.</td>
</tr>
<tr>
<td>655</td>
<td>No damper feedback.</td>
</tr>
</tbody>
</table>

Errors Codes

Error codes for the wired remote control and the units connected to the wired remote control are displayed in the wired remote control LCD display.

Indoor/Outdoor Unit Error

If an indoor or outdoor unit has an error, the address of the unit that has the error alternates in the display with the error code. See the example in Figure 9, in which E101 has occurred at indoor unit No. 200012. (A = indoor unit.)

Wired Remote Control Error

If the wired remote control has an error, only the error code is displayed; no address is displayed. See the example in Figure 10.

Table 3 contains a list of error codes.

Note: For error codes on indoor/outdoor units, refer to the installation manual for each unit.