Installation and Operating Instructions

Part Number 40WA900023

CONTENTS

SAFETY CONSIDERATIONS

Read and follow manufacturer instructions carefully. Follow all local electrical codes during installation. All wiring must conform to local and national electrical codes. Improper wiring or installation may damage thermostat.

Understand the signal words — DANGER, WARNING, and CAUTION. DANGER identifies the most serious hazards which will result in severe personal injury or death. WARNING signifies hazards that could result in personal injury or death. CAUTION is used to identify unsafe practices, which would result in minor personal injury or product and property damage.

Recognize safety information. This is the safety-alert symbol (⚠). When this symbol is displayed on the unit and in instructions or manuals, be alert to the potential for personal injury. Installing, starting up, and servicing equipment can be hazardous due to system pressure, electrical components, and equipment location.

GENERAL

The wired programmable controller for the single-phase VRF (variable refrigerant flow) system is a wall-mounted, low-voltage (12 v DC) thermostat that maintains room temperature by controlling system operation. The controller, which requires a battery, is capable of displaying temperatures from 62 to 88 F.

The wired programmable controller accessory is available for use with the single-phase VRF (variable refrigerant flow) system indoor units listed in Table 1.

Table 1 — Wired Controller Accessory Usage

UNIT	SIZES
40WAC Compact Cassette	007,009,012,015
40WAF 4-Way Cassette	009,012,015,018,024,030,048
40WAW High Wall	007,009,012,015,018
40WAD Ducted	007,009,012,015,018,024
40WAH High Static	024,030,036,048
40WAU Under Ceiling/Floor	012,018,024,030,036,048
40WAV Vertical	018,024,030,036,048

INSTALLATION CONSIDERATIONS

The thermostat should be mounted:

- approximately 48 in. from the floor
- on a section of wall without water or drainage pipes

The thermostat should **NOT** be mounted:

- where it can be directly affected by the unit's discharge airflow
- on external walls or near drafts from windows and doors
- near shelves or curtains that may restrict air movement
- near heat sources such as direct sunlight, heaters, dimmer switches, and other electrical devices

INSTALLATION

To install the thermostat, perform the following procedure:

1. Turn off all power to the indoor unit.

⚠ WARNING

Electrical shock can cause personal injury and death. Before installing thermostat, shut off all power to this equipment during installation. There may be more than one power disconnect. Tag all disconnect locations to alert others not to restore power until work is completed.

2. If an existing thermostat is being replaced:
   a. Remove existing thermostat from wall or unit.
   b. Disconnect wires from existing thermostat. Do not allow wires to fall back into the wall or unit.
   c. Discard or recycle old thermostat.

⚠ CAUTION

Failure to follow this caution may result in equipment damage or improper operation.

Improper wiring or installation may damage the thermostat. Check to make sure wiring sequence is correct at both ends before proceeding with installation or turning on unit.

3. Shielded 4-core control cable (approximately 66 ft) is provided as standard to connect the controller to the control board inside the control box on the indoor unit. Be sure the distance between the controller and the indoor unit is not more than 66 ft.
4. Connect one end of the shielded 4-core control cable to the control board on the unit. (The other end will be connected to the controller.) See Fig. 1.

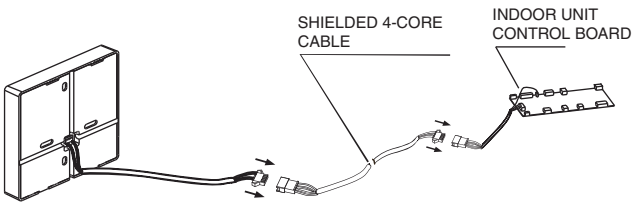

Fig. 1 — Controller Connection

For exposed wall-hung or under-ceiling/floor units, provide a 1-in. by 1-in. square opening in the surface behind the unit at an appropriate location to route the shielded 4-core control cable, furred in to connect the control board to the controller.

For concealed ducted, high static ducted, cassette, or vertical units, the shielded 4-core cable can be routed through the plenum and the wall to connect the control board and the controller.

5. Insert a flat-head screwdriver into the slots provided on the bottom of the controller to pop open the back mounting plate. See Fig. 2.

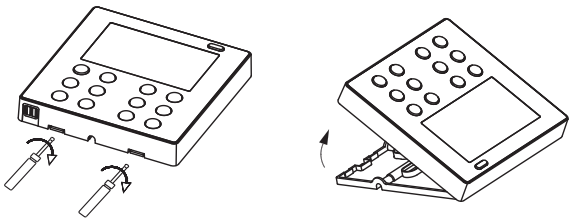

Fig. 2 — Opening Back Mounting Plate

6. Provide a 1-in. by 1-in. square opening in the wall where the controller will be mounted to accommodate the control cable.
7. Attach the back mounting plate directly over the opening in the wall, using 2 screws.

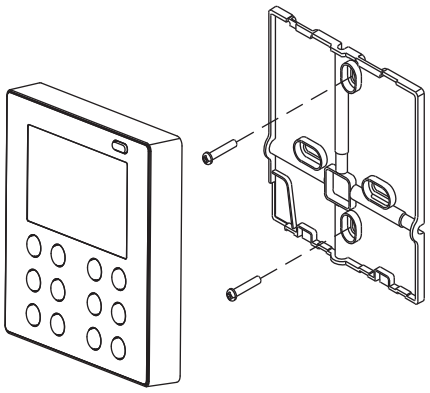

Fig. 3 — Mounting Back Plate

8. Connect the control cable to the back of the controller, install the 3-V (CR2032) lithium battery (Fig. 4), and mount the controller back onto the mounting plate. See Fig. 4.

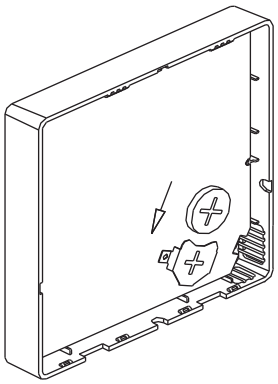

Fig. 4 — Installing Battery

See Fig. 5 for a schematic wiring diagram.

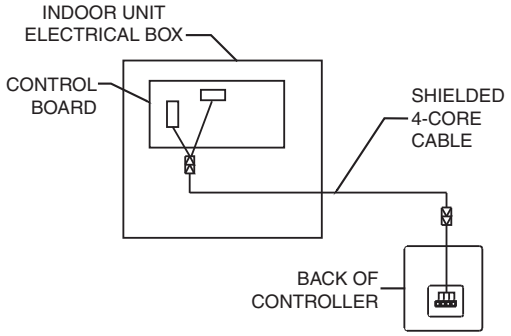

Fig. 5 — Wired Controller (Programmable) Wiring

OPERATION

The programmable wired controller directly controls the VRF system. It *cannot* be used as a remote signal receiving device to control the system using a wireless hand-held device. Figure 6 shows the controller display panel. Figure 7 identifies the operating buttons on the controller.

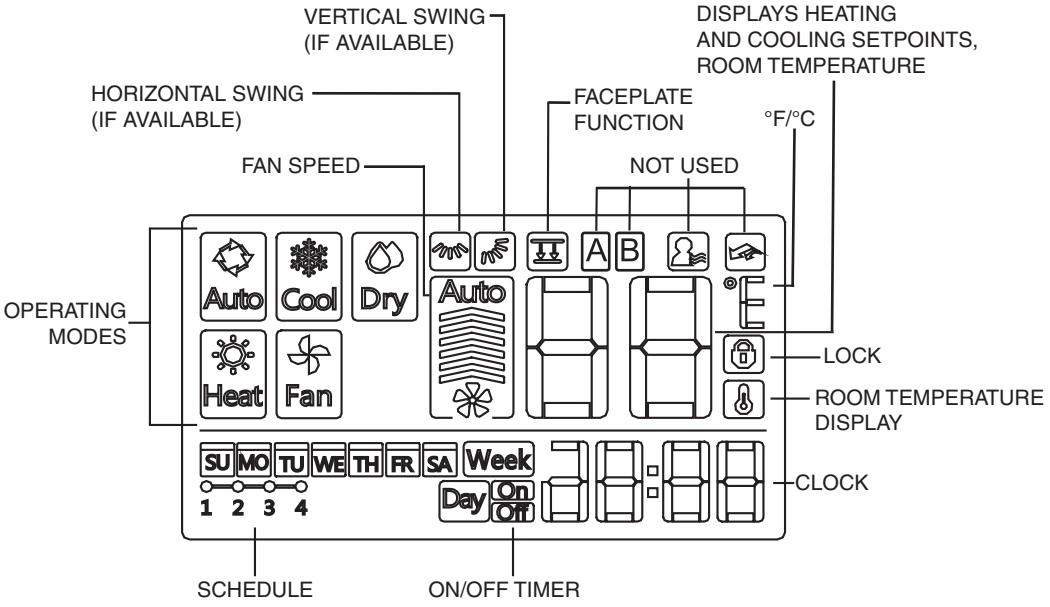

Fig. 6 — Controller Display

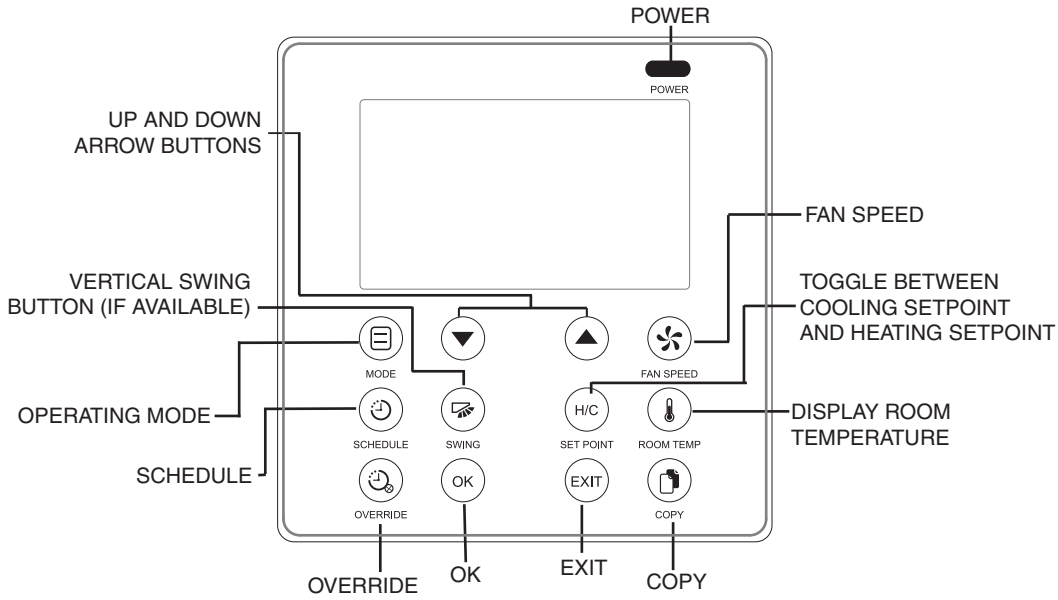

Fig. 7 — Controller Operating Buttons

System ON/OFF — Press the power button (POWER) to turn the system on or off.

Time and Date

1. Press and hold the SCHEDULE button for 3 seconds.
2. Press the up and down arrow buttons to set the day.
   The selected day will blink in the display.
3. Press the SCHEDULE button to complete the day setting.
4. Press the up and down arrow buttons to set the time. The controller uses a 24-hour clock.

   Press and hold the buttons to set the hour. Press and release the buttons quickly to set the minute.
5. Press the the SCHEDULE button to complete the time setting.

Fahrenheit/Celsius

1. Press and hold the EXIT and COPY buttons simultaneously for 3 seconds.
2. Press the up and down arrow buttons to switch between F and C.
3. Press OK to accept the setting and move to the next setting.

Heat Pump

1. Press and hold the EXIT and COPY buttons simultaneously for 3 seconds.
2. Press OK.
3. Press the up and down arrow buttons to switch to 32 (heat pump).
4. Press OK to accept the setting and move to the next setting.

Cooling and Heating Setpoint Differential

1. Press and hold the EXIT and COPY buttons simultaneously for 3 seconds.
2. Press OK button twice.
3. Press the up and down arrow buttons to scroll through 2, 3, 4, or 5-degree differential temperatures.
4. Press OK to accept the setting and move to the next setting.

Keypad Tone

1. Press and hold the EXIT and COPY buttons simultaneously for 3 seconds.
2. Press OK button 3 times.
3. Press the up and down arrow buttons to switch between 5o (no beep) and 5b (beep).
4. Press OK.

Scheduling

1. Press the SCHEDULE button .
2. Press OK.
3. Press the up and down arrow buttons to select the day to be scheduled.
4. Press OK.
5. Press the up and down arrow buttons to set the start time for the first schedule period. Time is set by 10-minute increments.
6. Press OK.
7. Press the up and down arrow buttons to set the end time for the first schedule period. Time is set by 10-minute increments.
8. Press OK.
9. Press the up and down arrow buttons to set the cooling setpoint for the first schedule period.
10. Press OK.
11. Press the up and down arrow buttons to set the heating setpoint for the first schedule period.
12. Press OK.
13. Press the up and down arrow buttons to set the start time for the second schedule period.
14. Repeat Steps 7 to 12 for the second schedule period.

    Four schedule periods can be set per day.
15. Press OK to move to the next day.

COPY SCHEDULE

1. Press the up and down arrow buttons to select the day with the schedule to be copied.
2. Press the COPY button.
3. Press the up and down arrow buttons to select the day that should have the copied schedule.
4. Press the COPY button to confirm.

OVERRIDE SCHEDULE — When a controller schedule is active, use the OVERRIDE button to override the schedule for a limited period of time. At the end of the override period, the controller will return to the current schedule event. To set an override period:

1. Press the OVERRIDE button once. The display shows 0 hours.
2. Press the OVERRIDE button twice. The display shows 1 hr, indicating that the schedule will be overridden for 1 hour.
3. Press the OVERRIDE button 3 times. The display shows 2 hr, indicating that the schedule will be overridden for 2 hours.

Operating Mode — Press the MODE button to scroll through the operating mode selections. The option sequence is as follows:
AUTO→ COOL→ DRY → HEAT →FAN→ AUTO

Room Temperature — Press the up and down arrow buttons to set the room temperature.