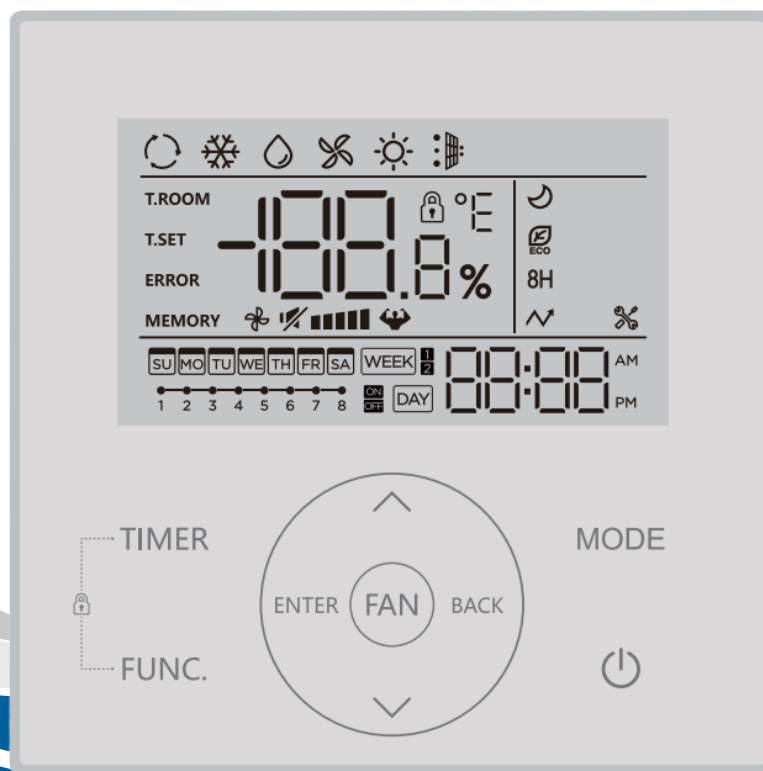


MRCOOL® Signature Series TruInverter™ Wired Controller

INSTALLATION & OWNER'S MANUAL

MODELS:

XK-120D2



Read this manual carefully before installation and keep it where the operator can easily find it for future reference.

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice.

Version Date: February 11, 2026

Please visit www.mrcool.com/documentation to ensure you have the latest version of this manual.



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Safety Precautions

Read Before Using

Incorrect usage may cause serious damage or injury.

The symbols below are used throughout this manual to indicate instructions that should be followed closely or actions that should be avoided to prevent death, injury, and/or property damage.



Indicates the possibility of personal injury or loss of life.



Indicates the possibility of property damage or serious consequences.

WARNING

- Use a licensed contractor to install the system. Installation by other personnel may cause system failure, electric shock, or fire.
- Follow the manual instructions to ensure proper installation and function of the system, and to ensure that the warranty remains valid.
- Do not install the system in a place that is exposed to flammable gasses. If the wired controller is placed near flammable gasses it can cause a fire.
- Do not operate the wired controller with wet hands or let water enter the wired controller, otherwise electric shock can occur.
- The wiring should adapt to the wired controller. If improper wiring is used, electrical leakage, or shorting can occur that can result in a fire.
- The specified cables should be used when wiring.
- Do not apply force to the wiring terminal.
- Do not install the wired controller in an area with heavy oil, vapor, or sulfuric acid gas, as this can cause deformation and malfunction.



This marking indicates that this product should not be disposed with other household wastes throughout North America. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

2.1 Packing List

No.	Name	Qty.	Remarks
1	Wired Controller	1	-
2	Manual	1	-
3	Screws	3	M3.5 x 25 (For Wall Mounting)
4	Wall Plugs	3	For Wall Mounting
5	Screws	2	M4 x 25 (For Switch Box Mounting)
6	Battery	1	-
7	Connective Wires Group	1	Optional
8	Screws	1	M4 x 8 (For Mounting Connective Wire Group)

The following parts are optional parts for wall mounting and will need to be purchased separately.

No.	Name	Qty.
1	Switch Box	1
2	Wire Tubing (Insulating Sleeve and Tightening Screws)	1

! CAUTION

- This manual provides the installation method for the wired controller. Please refer to the wiring diagram of this manual to connect the wired controller with the air handler.
- The wired controller operates with low voltage. Do not connect high voltage to the wired controller such as 115V, 208V, 230V, etc.
- Do not run the wiring in a loop and keep wiring away from other wires at a range of 11.8in. ~ 19.7in. (300mm.~500mm.).
- One side of the shielded wire must be firmly grounded.
- Do not use a tramegger on the wiring or wired controller.

2.2 Specification

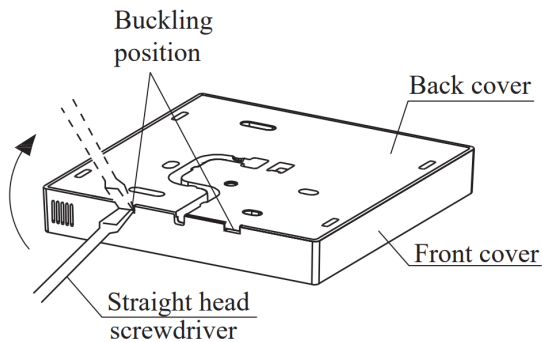
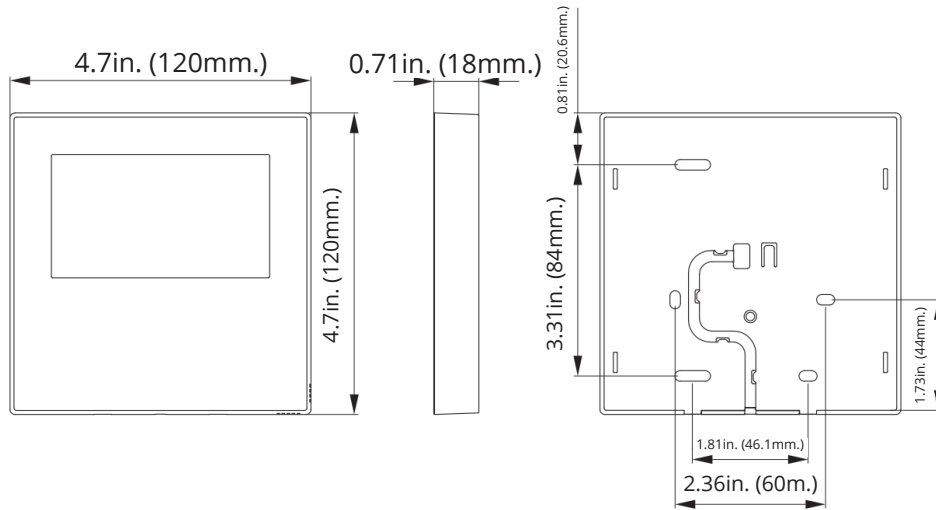
Input Voltage	5/12VDC
Ambient Temperature	23°F~110°F (-5°C~43°C)
Ambient Humidity	40%~90% RH

Wiring Specifications

Wiring Type	Size	Total Length
Shielded vinyl cord or cable	0.5-1.25mm ²	≤164ft. (50m.)

2.3 Installation

Wired controller structural dimensions.



1. Remove the back cover of the wired controller.

Insert a flat head screwdriver into the slots on the lower part of the wired controller (2 places), then remove the cover.

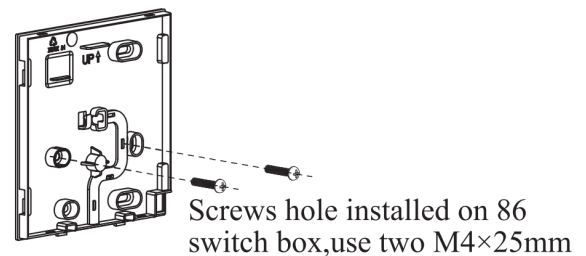
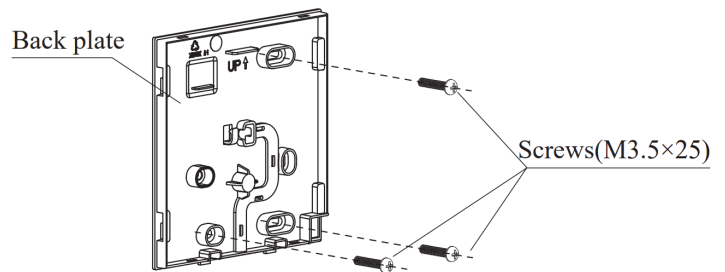
NOTE

The PCB is mounted in the upper part of the wired controller. Be careful not to damage the board with the screwdriver.

2. Fasten the back plate of the wired controller to the installation location.

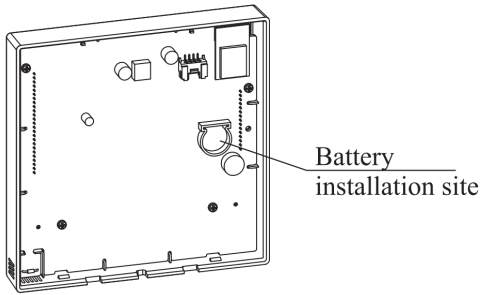
For exposed mounting, fasten the back plate on the wall with the 3 included screws (M3.5 x 25) and plugs.

Use two M4 x 25 screws to install the back cover on the 68 switch box, and use one M4 x 25 screw to mount to the wall.



NOTE

Place the wired controller on a flat surface. Make sure not to bend the back plate of the wired controller by over-tightening the mounting screws.



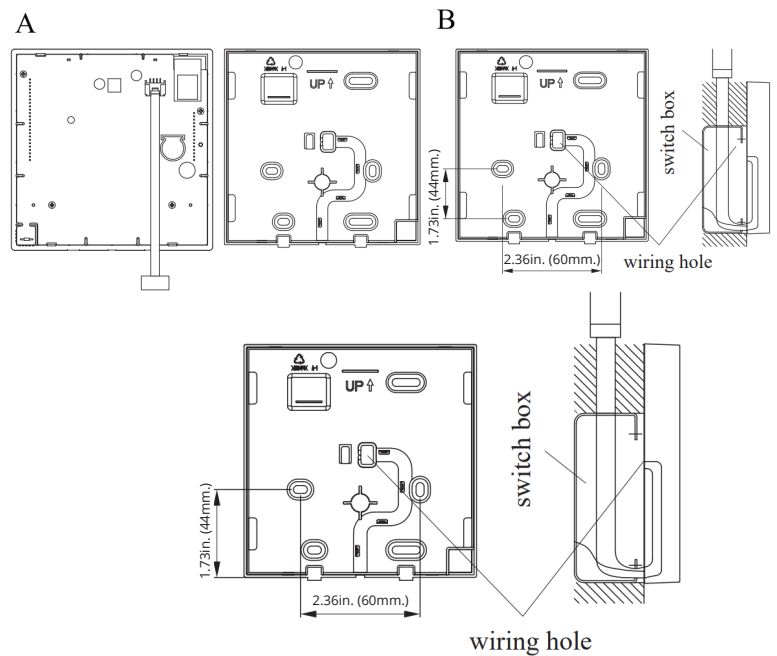
3. Battery installation.

Place the battery into the installation site and make sure the positive side of the battery is in line with the positive side.

Make sure to set the time when first using, The batteries in the wired controller keep the time when there is power failure. When power restores and the time is not displayed, this indicates the battery is dead and will need to be replaced.

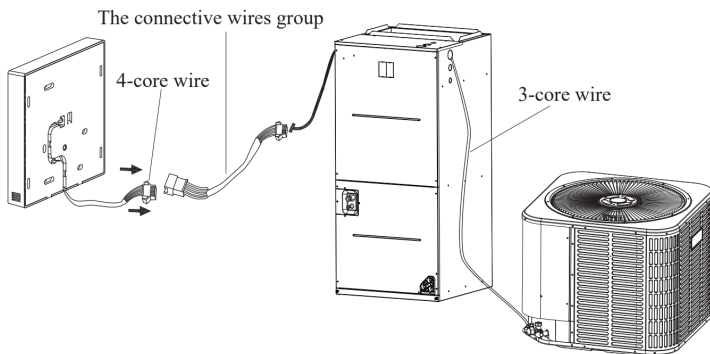
4. Wire the wired controller to the air handler.

Notch the part for the wiring to pass through with clips.



NOTE

Do not allow water to enter the wired controller.



5. Installation Diagram

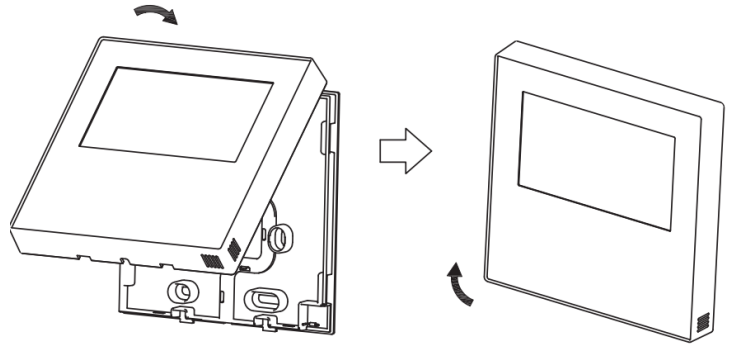
Connect the wire from the air handlers control board to the connecting cable, then connect the other side of the connecting cable to the remote control.

NOTE

Ensure to leave enough length of connecting wire for future maintenance. There is a connection lug on the end of the shielded wire, make sure to use this to ground the cable.

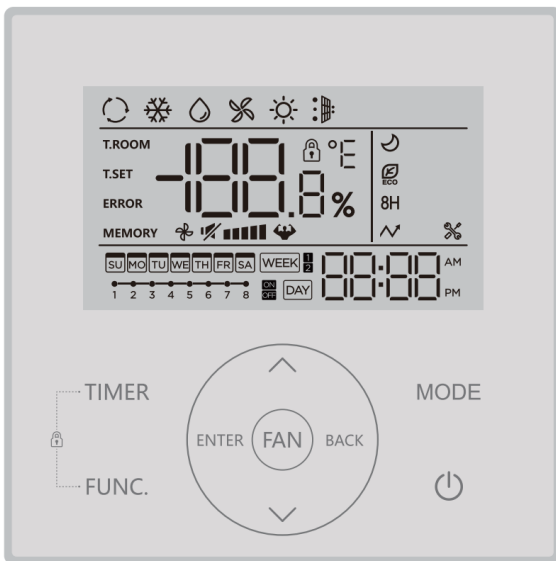
6. Place the wired controller onto the bracket.

Avoid clamping the wires to the wired controller and bracket during placement.



Note: All pictures in this manual are for explanation purposes. The actual wire controller may look different.

- Functions



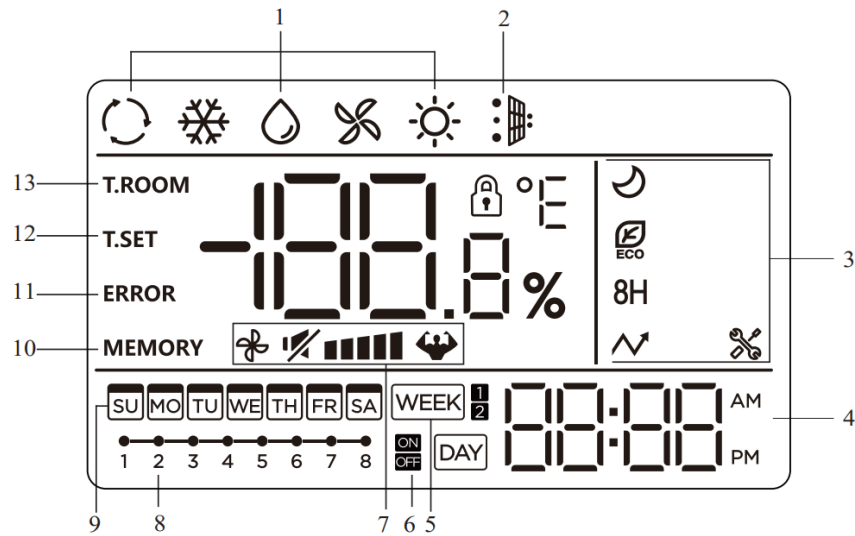
Functions:

- Modes: Auto-Cool-Dry-Fan-Heat-Emergency Heat
- Fan Speed: Mute/Low/Med-Low/Med/Med-High/High/Turbo/Auto
- Timer: On/Off
- Temperature Settings
- Weekly Timer

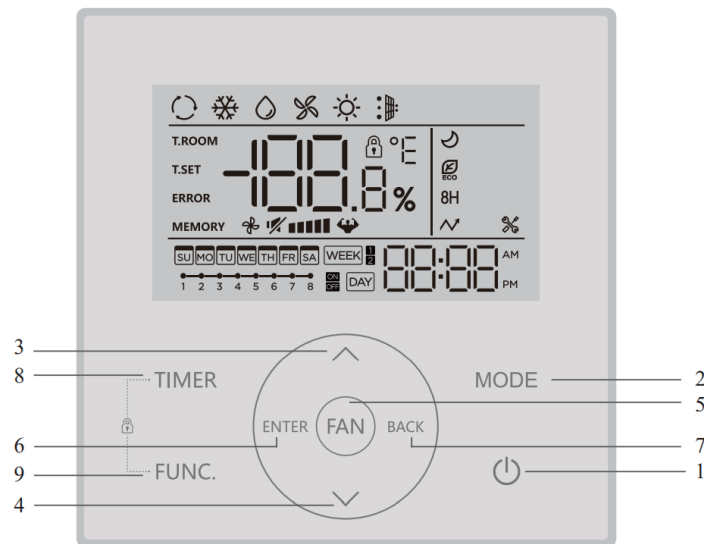
Features:

- LCD Display.
- Error Code Display.
- 4-Way Wire Layout.
- Room Temperature Display.
- Weekly Timer.

- 24-Hour System
- 12-Hour System
- Auto-Restart
- Child Lock
- LCD Display
- Clock
- Panel Function

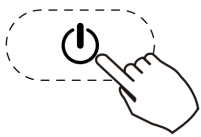


- 1. Mode
- 2. Change Filter Reminder
- 3. Function
- 4. Clock
- 5. Weekly Timer
- 6. Time On/Off
- 7. Fan Speed
- 8. Timer Task
- 9. Week
- 10. Power-Down Memory
- 11. Error
- 12. Temperature Setting
- 13. Room Temperature

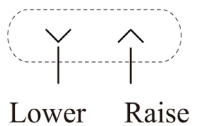


- 1. On/Off Button
- 2. Mode Button
- 3. Increase Button
- 4. Decrease Button
- 5. Fan Speed Button
- 6. Enter Button
- 7. Back Button
- 8. Timer Button
- 9. Function Button

3 FUNCTIONS



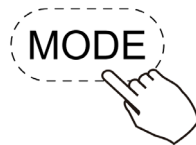
1. On/Off Button
Press the "⏻" button to turn the system on or off.



3. ∨/∧ Button
Press the "∧" button to increase the set temperature or time value.
Press the "∨" button to decrease the set temperature or time value.



5. Enter Button
When setting a function, press the "ENTER" button to confirm the selection.



2. Mode Button
Press the "Mode" button to change the setting: Auto-Cool-Dry-Fan-Heat-Em. Heat.



4. Fan Speed Button
Press the "FAN" Button to change fan speeds: Mute-Low-Med.-Low-Med.-Med.-High-High-Turbo-Auto.



6. Back Button
When setting a function, press the "BACK" button to return to the previous setting.



7. Function Button
Press the "FUNC" button for function selection; the icon to be selected will blink; then you can click the "∧" or "∨" button to switch to the next function. If the icon is showing permanently, it means the function is activated; otherwise, it means the function is inactive.

1. SLEEP: When the "☾" icon blinks and you click the "ENTER" button, you can activate or deactivate the sleep function.
2. ECO: When the "🌱" icon blinks and you click the "ENTER" button, you can activate or deactivate the energy conservation function.
3. 8H: When the "8H" icon blinks and you click the "ENTER" button, you can activate or deactivate the 8-heating function.
4. Parameter Setting: When the "⚙️" icon blinks and you click the "ENTER" button, you will access the parameter setting interface; once in the timer zone, it will blink and display the current device function code, and the temperature zone will blink and display the corresponding device function parameter. You can change the device function code by clicking the "∧" and "∨" buttons. If you click the "ENTER" button, it means you have selected the target function, then you can set the function parameter. The temperature zone will blink and display the current function parameter, then you can change it by clicking the "∧" and "∨" button and then click the "ENTER" button for confirmation, then press the "⏻" to exit the parameter settings.

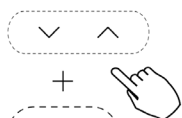
Device Function Code	Device Function	Device Function Parameter	Remarks
P6	Degree display	F-C	C: Celsius display F: Fahrenheit display
PA	Ambient/Set temperature display	00-01	00: Set temperature 01: Ambient temperature
PD	Wired controller button buzzer switch	On/Off	On: Buzzer on Off: Buzzer off
Pn	Auxiliary heating activation setting	-22~86°F (-30~30°C)	Set the temperature value to enable the auxiliary heating (which value is the outdoor ambient temperature).
A8	Maximum backlight luminance	30~100	Percentage of maximum backlight luminance
B3	Change filter reminder	On/Off	On: Change filter reminder to on Off: Change filter reminder to off
B4	Clock display setting	12-24	12: 12-hour system display 24: 24-hour system display
B6	Sets whether the auxiliary heating can be automatically turned on in heating and automatic mode	On/Off	On: Enable by default Off: Off by default

5. Real-Time Timer Settings:



1. If you press and hold the "TIMER" button for more than 2 seconds, the timer zone will blink and display the day of the week.

2. You can select the day of the week by clicking the "^" or "v" button, then you can click the "ENTER" button for confirmation.



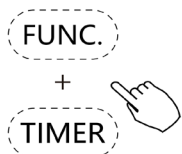
3. You can set the hour value by clicking the "^" or "v" button, then you can click the "ENTER" button for confirmation.



4. You can set the minute value by pressing the "^" or "v" button, then you can click the "ENTER" button for confirmation.

5. You can quickly adjust the value by pressing and holding the "^" or "v" button.

6. You can go back to the prior parameter settings by pressing the "BACK" button.



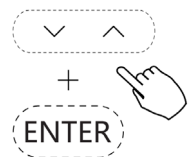
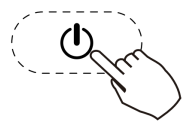
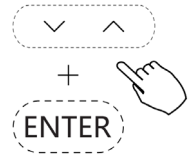
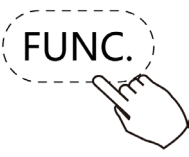
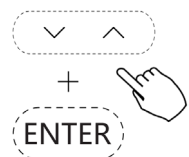
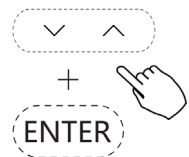
6. Auxiliary Function:

Child Lock: If you press and hold the "FUNC" and "TIMER" button for more than 3 seconds, you can activate or deactivate the child lock function. After the child lock function is activated, the "🔒" icon will light up.



7. Timer Functions

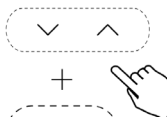
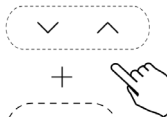
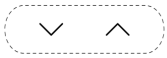
- Timer Function Selection
 1. Click the "TIMER" button to access the timer selection interface.
 2. Click the "^" or "v" buttons to change the timer functions, as well as blink and display the selected items: TIMER ON, TIMER OFF, WEEK TIMER 1, and WEEK TIMER 2.
 2. After selecting the target timer function, you can click the "ENTER" button for confirmation and to access the timer function setting interface. The WEEK TIMER 2 setting allows you to set the power-on mode, temperature value, and fan speed.
- Timer On/Off Function Setting
 1. After you access the timer on/off function setting interface, the timer zone will blink.
 2. You can adjust the hour value of the timer by clicking the "^" or "v" button then you can click the "ENTER" button for confirmation.
- WEEK TIMER 1 Function Setting
 1. After accessing the WEEK TIMER 1 function setting interface, you will need to select the timer task, then the timer task icon will flash.
 2. You can click the "^" or "v" button to select the target timer task from 1-8, the selected timer task icon will blink then you can click the "ENTER" button to confirm the timer task selection.
 3. You can click the "" or "" button to select the date of the week from Sunday to Saturday after you click the "FUNC" button; if the temperature zone displays "ON", it means that the current date setting has gone into effect; after you click the "FUNC" button again, if the temperature zone displays "OFF", it means the current date setting has not gone into effect. After that, you can click the "ENTER" button for confirmation.
 4. You can click the "^" or "v" button to switch between Day On or Day Off, and then click the "ENTER" button to confirm the timer on/off setting.
 5. You can click the "^" or "v" button to set the hour value of the timer and then you can click the "ENTER" button to confirm.
 6. You can click the "^" or "v" button to set the minute value of the timer and then you can click the "ENTER" button to confirm.
 7. Repeat steps 2-6 to set other tasks under the WEEK TIMER 1.
 8. After completing the timer-setting operations, you can click the "⏻" button to exit timer settings.



Note:

1. On the WEEK TIMER 1 function setting interface, you can click the "BACK" button to return to the previous setting.
2. In step 1, if you press and hold the "TIMER" button for more than 2 seconds, you can clear the settings of the WEEK TIMER 1.
3. In step 2, if you press and hold the "TIMER" button for more than 2 seconds, you can clear the settings of the current task.

- WEEK TIMER 2 Function Setting
 1. After accessing the WEEK TIMER 2 function setting interface, you will need to first select the timer task, and then the timer task icon will blink.
 2. You can click the "^" or "v" button to select the target timer task from 1-8. The selected timer task icon will blink and then you can click the "ENTER" button to confirm the selection.



3. You can click the "^" or "v" button to select the date of the week from Sunday to Saturday; click the "FUNC" button; if the temperature zone displays "ON", it means the current date setting have gone into effect; after you click the "FUNC" button again, if the temperature zone displays "OFF", it means that the current date setting has not gone into effect. After that, you can click the "ENTER" button for confirmation.

4. You can click the "^" or "v" button to switch between Day On or Day Off, and then click the "ENTER" button to confirm the timer on/off setting.

When the timer is switched to Day On, set the power-on mode, the temperature, and the fan speed.

When the mode icon blinks, click the "^" or "v" button to change the mode, and then click the "ENTER" button for mode confirmation.

When the temperature icon blinks, click the "^" or "v" to set the temperature value and click the "ENTER" button to confirm.

When the fan speed icon blinks, you can click the "^" or "v" button to change the fan speed, and click the "ENTER" button to confirm.

When the timer is switched to Day Off, you can skip directly to step 5.

5. Click the "^" or "v" button to select the hour value of the timer, then click the "ENTER" button to confirm.

6. Click the "^" or "v" button to select the minute value of the timer, then click the "ENTER" button to confirm.

7. Repeat steps 2-6 to set other tasks under the WEEK TIMER 2.

8. After completing the timer setting operations, click the "Power" button to exit from the timer settings.

Note:

1. On the WEEK TIMER 2 function of the setting interface, click the "BACK" button to return to the previous setting interface.

2. In step 1, if you press and hold the "TIMER" button for more than 2 seconds, you can clear the settings of the WEEK TIMER 2.

3. In step 2, if you press and hold the "TIMER" for more than 2 seconds, you can clear the settings of the current task.



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The design and specifications of this product and/or manual are subject to change without prior notice.
Consult with the sales agency or manufacturer for details.