# Wired Controller Manual

KJR-120N




kaden

your perfect climate

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## Important note

Read this manual carefully before installing or operating your new air conditioning unit. Make sure to save this manual for future reference.

# 1. Safety precautions

## Read safety precautions before operation and installation

**Read the safety precautions carefully before installing the unit. Stated below are important safety issues that must be obeyed.**



Means improper handling may lead to personal death or severe injury.



Means improper handling may lead to personal injury or property loss.

### WARNING

- Please entrust the distributor or professionals to install the unit.
- Installation by other persons may lead to imperfect installation, electric shock or fire.
- Adhere to this installation manual.
- Improper installation may lead to electric shock or fire.
- Reinstallation must be performed by professionals.
- **Do not** uninstall the unit randomly.
- Random uninstalling may lead to abnormal operation, heating or fire of the air condition.

### CAUTION

- **Do not** install the unit in a place vulnerable to leakage of flammable gases. Leaking flammable gases around the controller can result in fire.
- **Do not** operate with wet hands or let water enter the wired controller. Otherwise, electric shock may occur.
- The wiring should adapt to the wired controller current. Otherwise, electric leakage or over heating may occur and result in fire.
- The specified cables shall be used in the wiring. No external force should be applied to the terminal.
- This may result in damaged wiring and/or overheating which can create a fire hazard.

## ⚠ WARNING

If connecting power to fixed wiring, an all-pole disconnection device with at least 3mm clearance on all poles must be used. Where leakage current may exceed 10 mA, a residual current device (RCD) with a rated residual operating current not exceeding 30mA must be incorporated. Disconnection must be provided in the fixed wiring in accordance with the applicable wiring regulations.

# 2. Accessories

## Select the installation location

**Do not** install in areas that contain oil, vapour or sulfureted gas, otherwise, this product can deform which could permanently damage the product.

## Preparation before installation

1. Please confirm that you have all the following parts.

| No. | Name | Quantity | Remarks |
|---|---|---|---|
| 1 | Wired controller | 1 |  |
| 2 | Wired controller manual | 1 |  |
| 3 | Screws | 3 | ST3.9*25 (for mounting on the wall) |
| 4 | Wall plugs | 3 | For mounting on the wall |
| 5 | Screws | 2 | M4X25 (for mounting on switch box) |
| 6 | Plastic screw bars | 2 | For fixing on switch box |
| 7 | The connective wires group-1 | 1 | Optional |
| 8 | The connective wires group-2 | 1 | Connect to mainboard |

2. Prepare the following assemblies on the site..

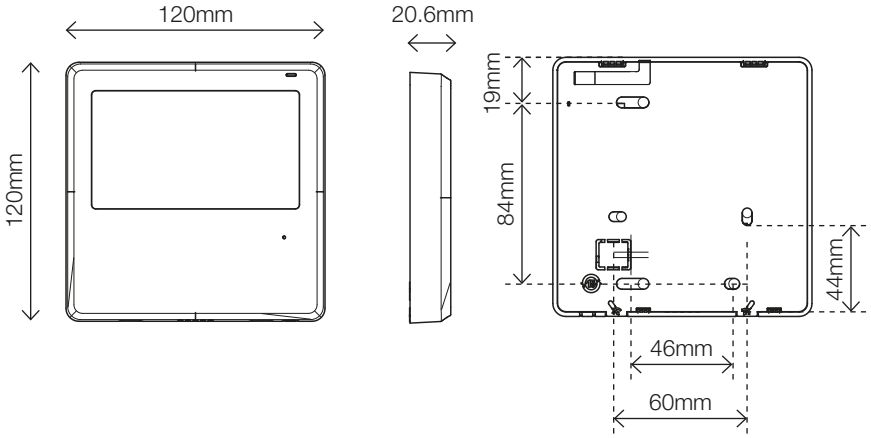
| No. | Name | Quantity (embedded into wall) |
|---|---|---|
| 1 | Switch box | 1 |
| 2 | Wiring tube (insulating sleeve and tightening screw) | 1 |

## Precautions

1. This manual explains the installation requirements for the wired controller. Please refer to the wiring diagram of this installation manual to correctly wire the controller to the indoor unit.
2. The wired controller operates in a low voltage loop circuit. **Do not** directly connect the cable to 220V-240V power or 380V high voltage power. **Do not** wire in a loop; wiring clearance between configured tubes should be at the range of 300mm – 500mm or above.
3. The shielded wire of the twin shielded signal cable used for the wired controller must be grounded.
4. The connective twin shielded signal cable of the wired controller should not be longer than 20 meters.

# 3. Installation method

## 1. Wired controller size

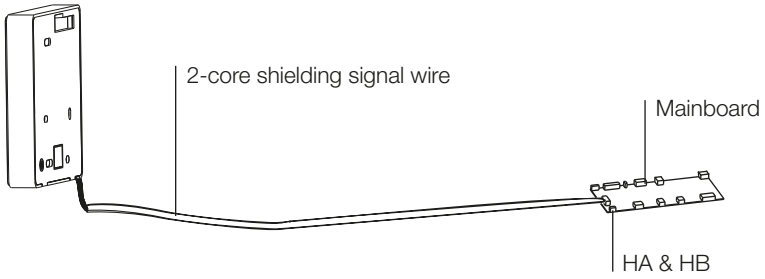



## 2. Wiring principle sketch




2-core shielded signal cable must be used.
The total length of the cable cannot
exceed 20 metres.

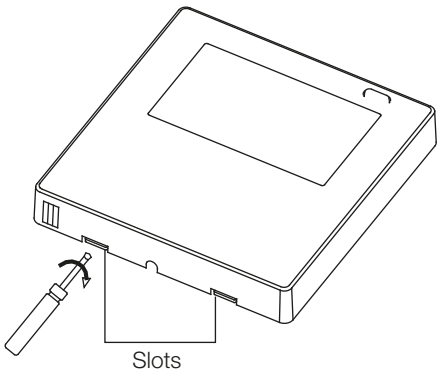
## 3. Wiring figure




Connect the terminals on the wired controller (HA ,HB), and the terminals of the indoor unit (HA ,HB). (HA and HB are not polarity sensitive).

## 4. Remove the upper part of the wired controller

Insert a slotted screwdriver into the slots in the lower part of the wired controller (2 places), and remove the upper part of the wired controller.

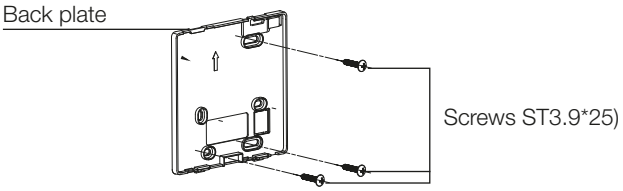



### ⚠ WARNING

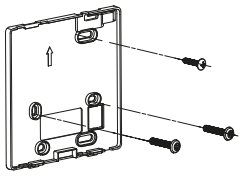
The PCB is mounted in the upper part of the wired controller. Be careful not to damage the board with the slotted screwdriver.

## 5. Fasten the back plate of the wired controller

For exposed mounting, fasten the back plate on the wall with the 3 screws (ST3.9 x 25) and plugs.



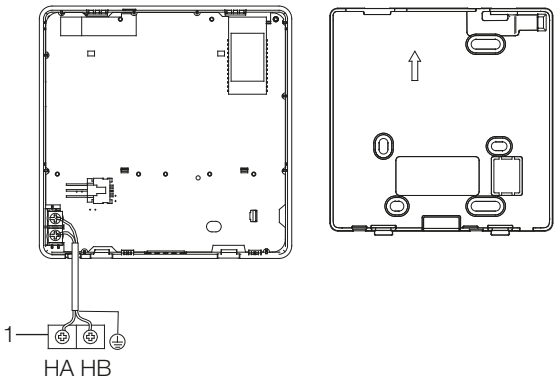

For flush-mounting, fasten the back plate on the switch box with 2 screws (M4 × 25) and fasten it on the wall with 1 screw (ST3.9 x 25).



### ⚠ WARNING

Put on a flat surface. Be careful not to distort the back plate of the wired controller by over-tightening the mounting screws.

## 6. Wiring

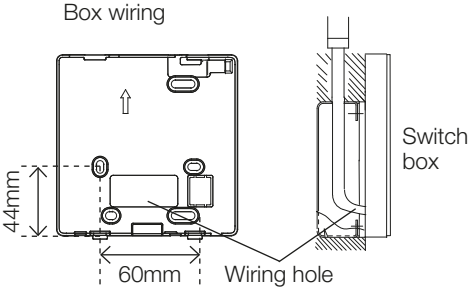



### CAUTION

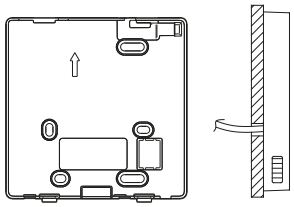
- Avoid water ingress into the wired controller, use trap and putty to seal the connectors of wires during wiring installation.
- During installation, leave some length of the connecting wires for convenient maintenance, when the controller needs to be removed from its location.

### B. Shielded wiring

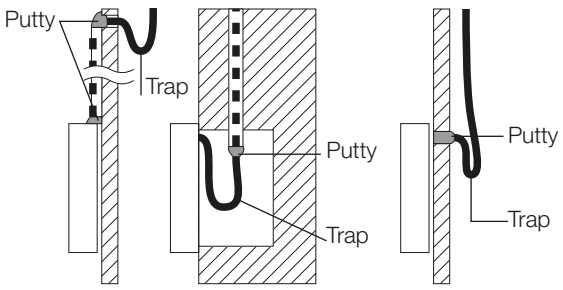
Box wiring




Wiring through the wall



Wall hole and wiring hole diameter of wall hole: ø20mm



## 7. Wiring connection for Multiple Controllers on KDI R32 Model

The KJR-120N wired controller can be wired in parallel to allow two wired controller to control one unit. Both KJR-120N wired controller connect to the HA and HB port on the indoor board. The HA and HB ports are not polarity sensitive. Refer to Fig. 3-10

**NOTE:** Each 2-core shielded data cable cannot exceed 20 metres in length.

### CAUTION

- Avoid water ingress into the wired controller, use trap and putty to seal the connectors of wires during wiring installation.
- During installation, leave some length of the connecting wires for convenient maintenance, when the controller needs to be removed from its location.

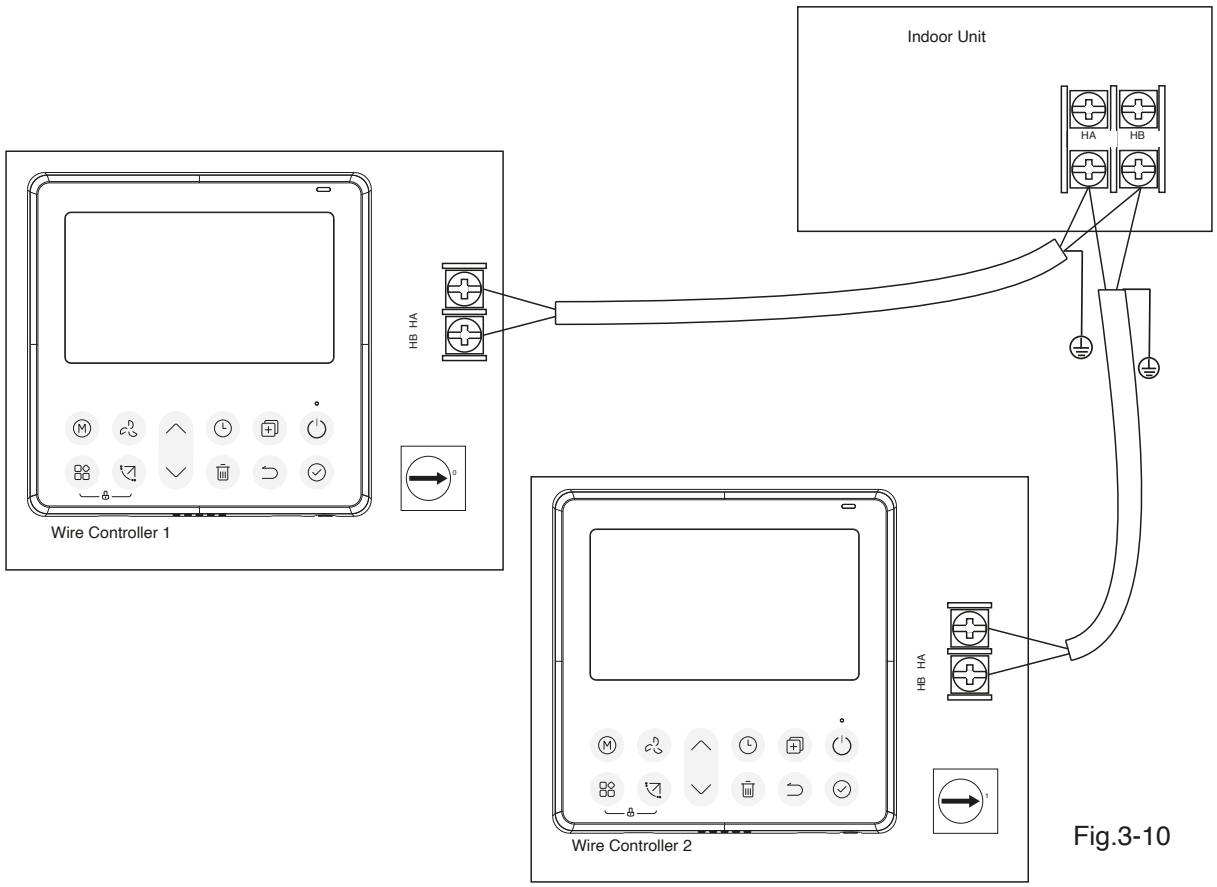



Fig.3-10

## 8. Wiring connection for Multiple Units to One Controller on KDI R32 Model

One KJR-120N wired controller can support multiple units (Max. 16 units). The wired controller and units must be wired in a daisy chain configuration using HA and HB ports as seen in Fig 3-11.

The ENC1 network address dial on each unit must be set. E.G Unit 1 = 0, Unit 2 = 1, Unit 3=2 (see attached Figure 3-11)

In group control all units will operate according to the controller settings.

**NOTE:** In group control no error codes are displayed on the KJR-120N wired controller.

**NOTE:** Each 2-core shielded data cable cannot exceed 20 metres in length

### CAUTION

- Avoid water ingress into the wired controller, use trap and putty to seal the connectors of wires during wiring installation.
- During installation, leave some length of the connecting wires for convenient maintenance, when the controller needs to be removed from its location.

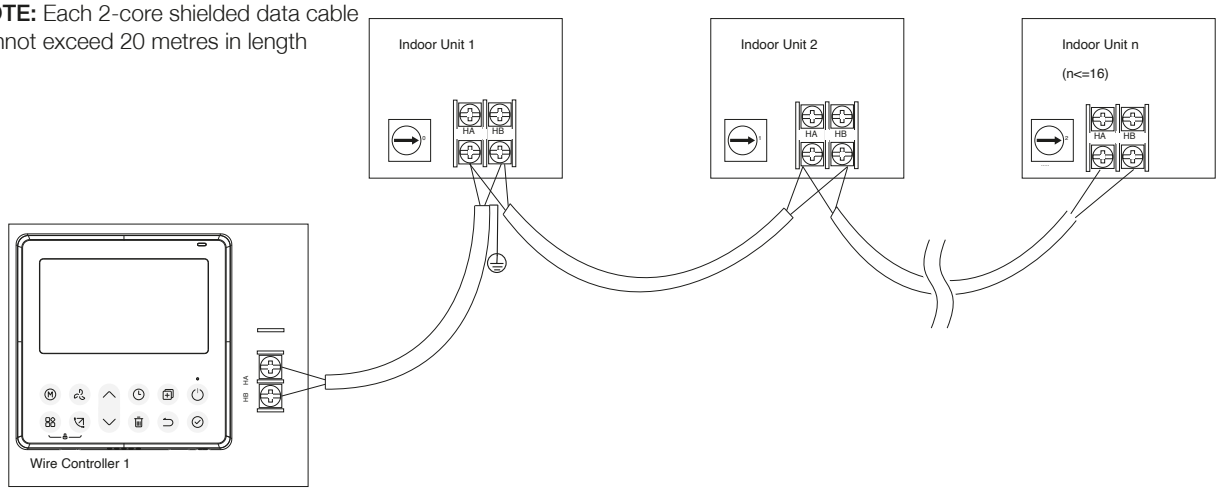
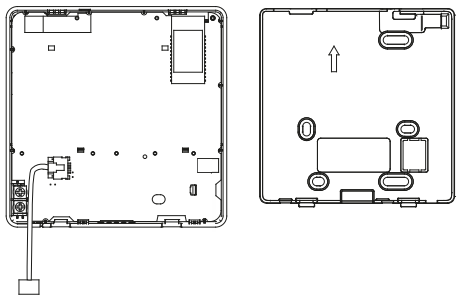



Fig. 3-11

## 9. Wiring connection for KD R410A Model

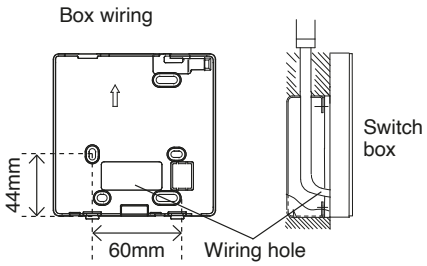


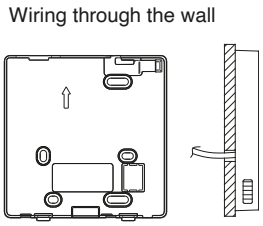

### CAUTION

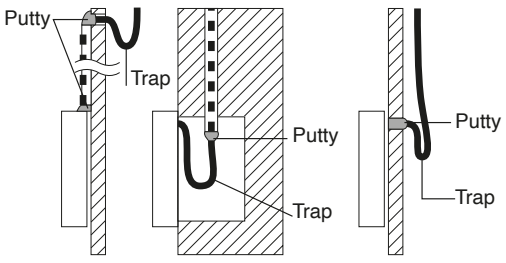
- Avoid water ingress into the wired controller, use trap and putty to seal the connectors of wires during wiring installation.
- During installation, leave some length of the connecting wires for convenient maintenance, when the controller needs to be removed from its location.

**NOTE:** An additional wiring harness is required to connect the KJR-120N to a KD R410A Model.

B. 4-Pin Plug Loom



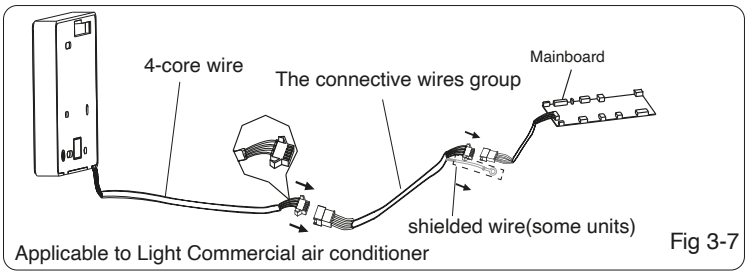




Fig 3-7

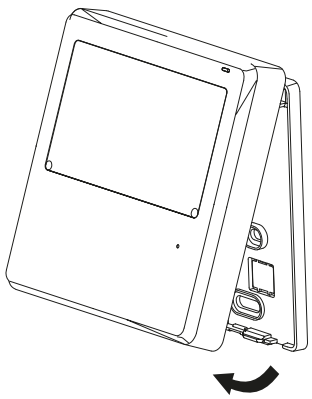
### 10. Reattach the upper part of the wired controller

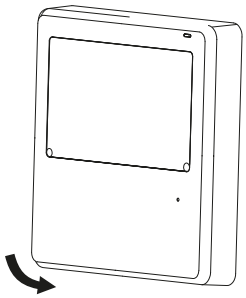
After adjusting the upper case click it into place; avoid clamping the wiring during this process.

### Note

All the pictures in this manual are for explanation purpose only.

Your wired controller may be slightly different. In this case the actual shape shall prevail.

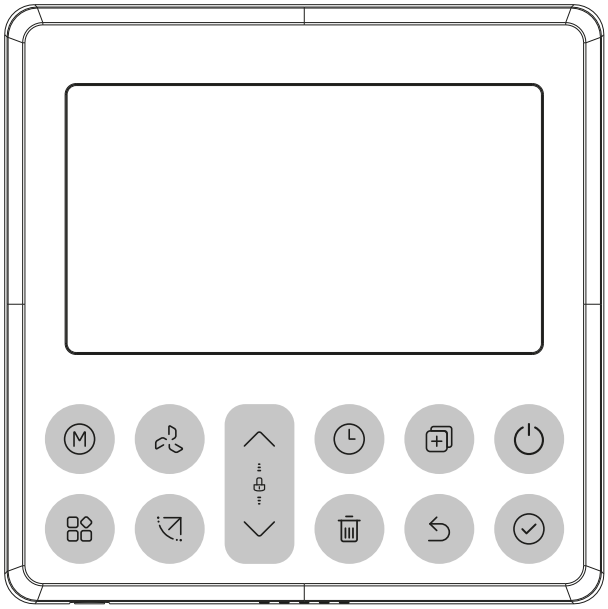




# 4. Specification

| Input voltage | Ambient temperature | Ambient humidity |
|---|---|---|
| DC 5V/DC 12V | -5 – 43ºC | RH40% – RH90% |

# 5. Features and functions



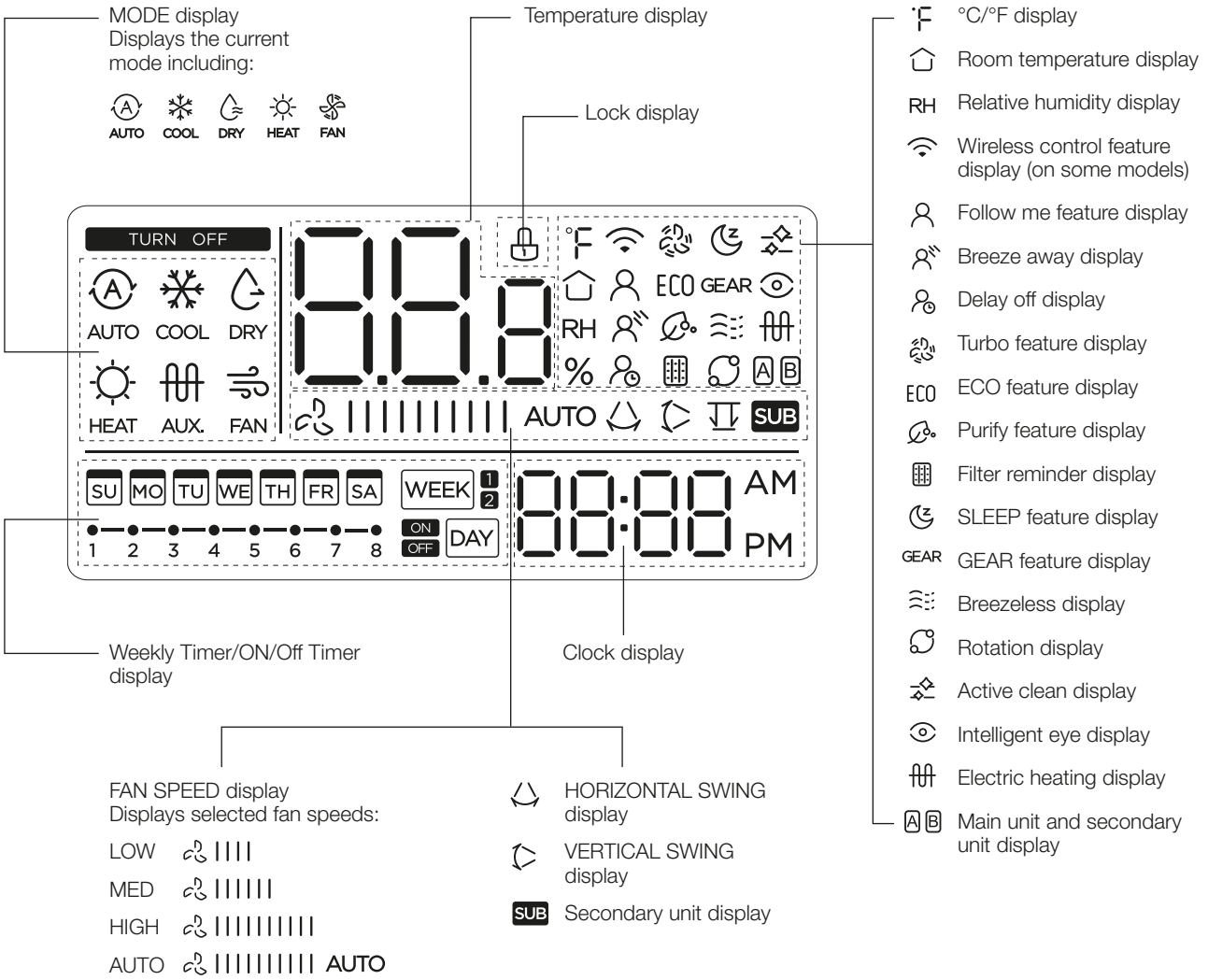
## Features

- LCD display
- Malfunction code display: displays error codes
- 4-way wire layout design, no raised part at back, more convenient to place the wires and install the device
- Room temperature display
- Weekly timer

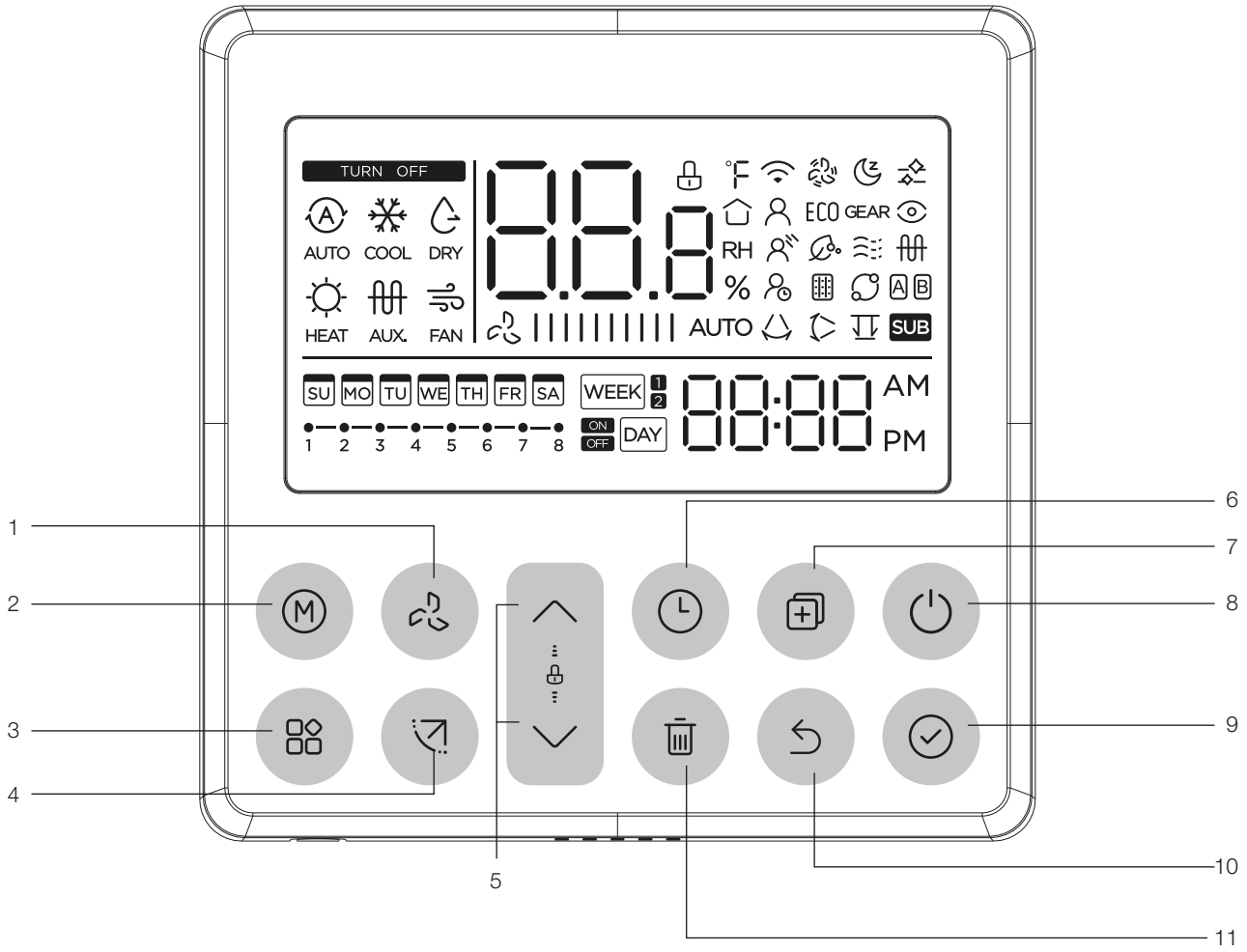
## Functions

- Mode: Auto – Cool – Dry – Heat – Fan
- Fan speed: Auto/Low/Med/High
- Timer ON/OFF
- Temp setting
- Weekly timer
- Follow me
- Child lock
- LCD display
- Clock
- Turbo mode
- Swing (on some models)

# 6. Display screen



# 7. Buttons




1. Fan-speed
2. Mode
3. Function
4. Swing
5. Adjust
6. Timer
7. Copy
8. Power
9. Confirm
10. Back
11. Day off/delay

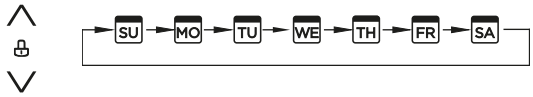
# 8. Operation

## Set the current day and time

1. Press the TIMER button for 3 seconds or more.
   The selected day will begin to flash.



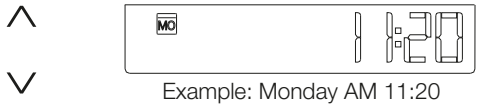

2. Press the button “^” or “v” to set the day.




3. To confirm the day setting press either the timer button or the confirm button. The current time will then begin to flash.




4. Press the button “^” or “v” to set the current time.
   Press repeatedly to adjust the current time in 1 minute increments. Press and hold to adjust the current time quickly.




Example: Monday AM 11:20

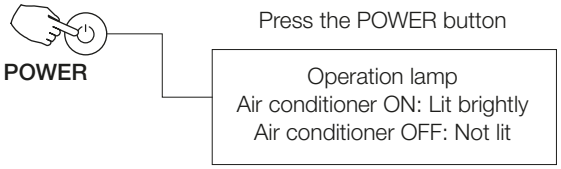
5. To confirm the timer setting press either the timer button or the confirm button.




6. Time scale operation
   Press the buttons “🕒” and “🗑” for 2 seconds will alternate the clock time display between the 12h and 24h scale.

## To start/stop operation

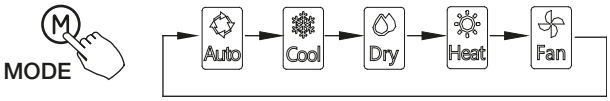
1. Press the ON/OFF button.
   The LED will light up.




## To set the operation mode

### Mode setting

Press the MODE button to set the mode.




### Room temperature

Press the button “^”or “v” to set the room temperature. Indoor Setting Temperature Range: 16 – 30ºC.

^ — Increase

v — Decrease

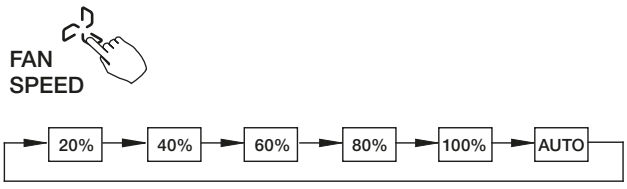
### ºC & ºF scale selection

Press and hold the "^" and "v" arrows for 3 seconds to change between the C and F scale.



### Fan speed setting

Press the FAN SPEED button to set the fan speed.
(This button does not work when in Auto or Dry mode.)

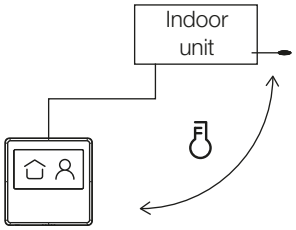


## Room temperature sensor selection

Press the "FUNCTION" button until the "FOLLOW ME" icon is flashing on the controller. Press the "CONFIRM" button to activate "FOLLOW ME". The "FOLLOW ME" icon will remain solid. The room temperature will now be displayed on the controller and the "HOUSE" icon will be shown.

To deactivate "FOLLOW ME" press the "FUNCTION" button until the "icon" is flashing. Press "CONFIRM" and the icon will disappear.






When the Follow Me function indicator appears, the room temperature is detected at the wired controller.

## Turbo mode (on some models)

While in COOL/HEAT mode, press the "FUNCTION" button until the "TURBO" icon is flashing. Press the "CONFIRM" button to activate turbo mode. When "TURBO MODE" is activated the "icon" will be solid.

To deactivate turbo mode, press the "FUNCTION" button until the "TURBO" icon is flashing and press the "CONFIRM" button. The "icon will disappear.



When TURBO MODE is activated the icon mark appears.

## Child lock function

Press the "FUNCTION" and "SWING" buttons simultaneously for 3 seconds or more to activate the child lock function and lock all buttons on the wired controller.
To deactivate the child lock press and hold the buttons simultaneously again for 3 seconds or more.

When the child lock function is activated, the icon mark appears.



## Keypad tone setting

Press the "MODE" and "FAN SPEED" buttons simultaneously for 3 seconds or more to turn off or turn off the keypad tone.




## Swing function (for units with swing features only)

## Left-right swing

Press the “SWING” button to for 2 seconds to start left-right swing function.



When the swing function is activated the “” icon will appear.

## Up-down airflow direction and swing

Press the “SWING” button to start the UP-DOWN swing function.



When the swing function is activated the “ ” icon will appear.

# 9. Timer functions

WEEK

**WEEKLY timer**
Use this timer function to set operating times for each day of the week.

ON DAY

**On timer**
Use this timer function to start air conditioner operation. The timer operates and air conditioner operation starts after the time has passed.

OFF DAY

**Off timer**
Use this timer function to stop air conditioner operation. The timer operates and air conditioner operation stops after the time has passed.

ON OFF DAY

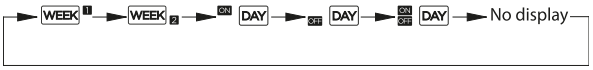
**On and Off timer**
Use this timer function to start and stop air conditioner operation. The timer operates and air conditioner operation starts and stops after the time has passed.

## To set the On or Off TIMER

1. Press the TIMER button to select the ON DAY OFF DAY



TIMER




2. Press the CONFIRM button and the Clock display will flash.



CONFIRM

3. Press the button “^” or “v” to set the time. After the time is set, the timer will start or stop automatically.



OFF DAY



Example: Off timer set at 6:00PM

4. Press the CONFIRM button again to finish.



CONFIRM

## To set the On and Off TIMER

1. Press the TIMER button to select the ON OFF DAY



TIMER

2. Press the CONFIRM button and the Clock display will flash.



CONFIRM

3. Press the button“^” or “v” to set the time of On timer, and then press the CONFIRM button to confirm.





CONFIRM

4. Press the button “^” or “v” to set the time of Off timer.



5. Press the CONFIRM button to finish.

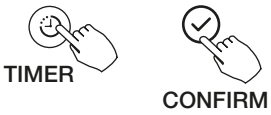


CONFIRM

# 10. Weekly timer 1

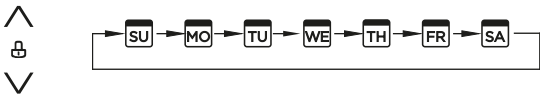
### 1. Weekly timer setting

Press the TIMER button to select the WEEK 1 and then press the CONFIRM button to confirm.



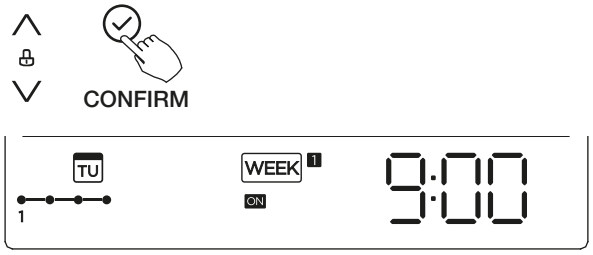

### 2. Day of the week setting

Press the button "^" or "v" to select the day of the week and then press the CONFIRM button to confirm the setting.




### 3. ON timer setting of timer setting 1

Press the button "^" or "v" to set the time of On timer and then press the CONFIRM button to confirm the setting.

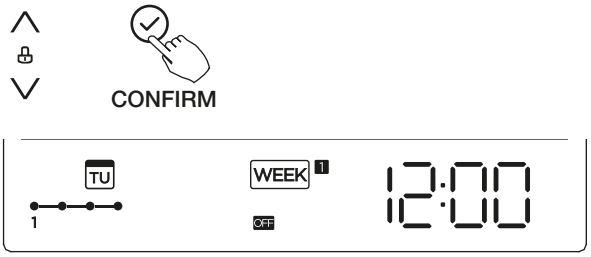



Example: Tuesday time scale 1

Up to 4 timer settings can be saved for each day of the week. It is convenient if the WEEKLY TIMER is set according to the user's life style.

### 4. Off timer setting of timer setting 1

Press the button "^" or "v" to set the time of Off timer and then press the Confirm button to confirm the setting.




### 5. Different timer settings can be set by repeating steps 3 to 4.

### 6. Other days in one week can be set by repeating steps 2 to 5.

## Note

- In the weekly timer setting you can return to the previous step by pressing the BACK button.
- The time of the timer setting can be deleted by pressing the DAY OFF button.
- The current setting will be restored and withdrawn automatically when there is no operation for 30 seconds.

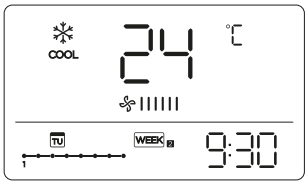
## WEEKLY timer operation

**To activate WEEKLY TIMER function**

Press the "TIMER" button until WEEK 1 is displayed on the LCD screen.



TIMER

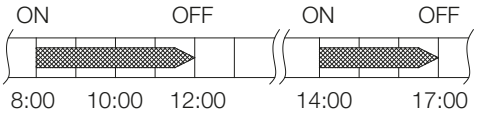



**To deactivate WEEKLY TIMER function**

Press the TIMER button while WEEK 1 disappears from the LCD screen.

**To turn off the air conditioner during the weekly timer**

1. If you press the POWER button once and quickly, the air conditioner will turn off temporarily. And the air conditioner will turn on automatically until the time of On timer.




   Example: If you press the POWER button once and quickly at 10:00, the air conditioner will turn on at 14:00.

2. When you press the POWER button for 2 seconds, the air conditioner will turn off completely.

## To set the DAY OFF (for a holiday)

1. With the weekly timer active and the "WEEK 1 or "WEEK 2" icon showing, press the "CONFIRM" button



CONFIRM

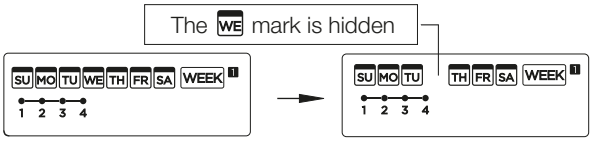
2. Press the button “^” or “v” to select the day in the week.



3. Press the DAY OFF button to set the DAY OFF.



DELAY




Example: the DAY OFF is set for Wednesday

4. The DAY OFF can be set for other days by repeating steps 2 and 3.
5. Press the BACK button to go back to the weekly timer.



BACK

## Note

- To cancel: Follow the same procedures as those for setup.
- The DAY OFF setting is cancelled automatically after the set day has passed.

## DELAY function

With the weekly timer active and the "WEEK 1" or "WEEK 2" icon showing, press the "FUNCTION" button until the "DELAY OFF" icon is flashing. Press the "CONFIRM" button to enter the setting. Press the "CONFIRM" button to scroll between 0h 1h 2h and wait for 3 seconds after to confirm the selection. When the delay off function is activated the will be solid on the screen.

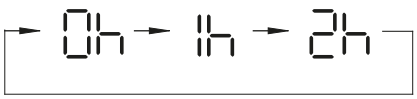


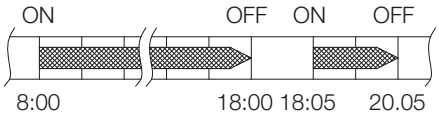
Pressing "CONFIRM", displays 1h and wait 3 seconds to confirm. It means the unit will override 1 hours.

Pressing "CONFIRM" three times, displays 2h and wait 3 seconds to confirm. It means the unit will override 2 hours.



DELAY/DAY OFF




Example: If you press the DELAY button to select 2h at 18:05, the air conditioner will delay to turn off to 20:05.

## Copy the setting from one day to another day

An existing timer schedule can be copied to another day of the week. The setting of the selected day of the week will be copied. The effective use of the copy mode ensures ease of making other timer settings.

1. With the weekly timer active and "WEEK 1" or "WEEK 2" icons showing, press the confirm button.



CONFIRM

2. Press the button "^" or "v" to select the day to copy from.



3. Press the COPY button, the letters "CY" will be shown on the LCD screen.



COPY

4. Press the button "^" or "v" to select the day to copy to.

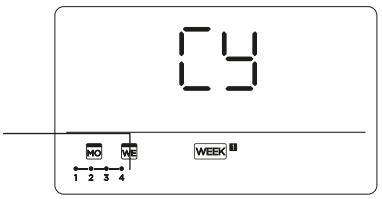


5. Press the COPY button to confirm.



COPY

The WE mark flashes quickly




Example: copied the setting of Monday to Wednesday

6. Other days can be copied by repeating steps 4 and 5.
7. Press the Confirm button to confirm the settings.



CONFIRM

8. Press the Back button to go back to the weekly timer.

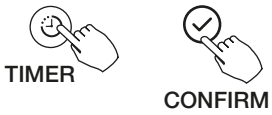


BACK

# 11. Weekly timer 2

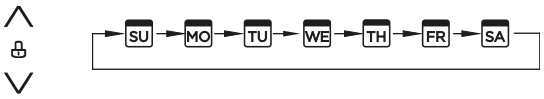
### 1. Weekly timer setting

Press the TIMER button to select the WEEK 2 and then press the CONFIRM button to confirm.




### 2. Day of the week setting

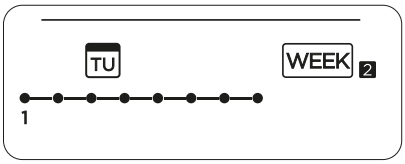
Press the button "^" or "v" to select the day of the week and then press the CONFIRM button to confirm the setting.




### 3. ON timer setting of timer setting 1

Press the button "^" or "v" to set the time of On timer and then press the CONFIRM button to confirm the setting.




Example: Tuesday time scale 1

Up to 8 scheduled events can be set on one day. Various events can be scheduled in either MODE, TEMPERATURE and Fan speeds to suit the user's life style.

### 4. Time setting

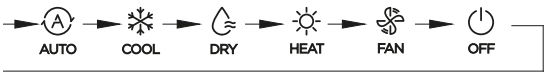
Press the button "^" or "v" to set the time, timer then press the Confirm button.




### 5. Operation mode setting

Press the button "^" or "v" to set the operation mode, then press the Confirm button.




### 6. Room temperature setting

Press the button "^" or "v" to set the operation mode, then press the Confirm button. NOTE: This setting is unavailable in the FAN or OFF modes.

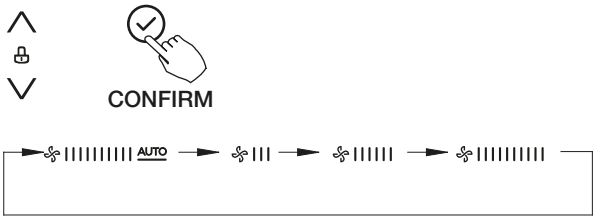



## Note

- In the weekly timer setting you can return to the previous step by pressing the BACK button.
- The time of the timer setting can be deleted by pressing the DAY OFF button.
- The current setting will be restored and withdrawn automatically when there is no operation for 30 seconds.

### Fan speed setting

Press the TIMER button to select the press the CONFIRM button to confirm. NOTE: This setting is unavailable in the AUTO, DRY and OFF modes.



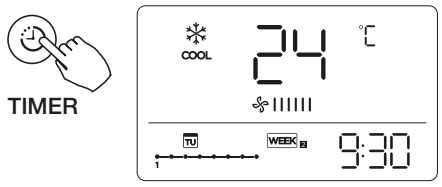

## Note

- Different scheduled events can be set by repeating steps 3 to 7.
- Additional days, in a one week period, can be set by repeating steps 3 to 8.
- The current setting will be restored and withdrawn automatically when there is no operation for 30 seconds.
- The weekly timer setting can be returned to the previous step by pressing BACK. The current setting will then be restored. The controller will not save the weekly timer settings if there is no operation within 30 seconds.

## WEEKLY timer operation

#### To activate WEEKLY TIMER function

Press the TIMER button while WEEK 2 is displayed on the LCD screen.




#### To deactivate

Press the POWER button for 2 seconds to cancel the timer mode.




## To set the DAY OFF (for a holiday)

1. After setting the weekly timer, press the CONFIRM button.

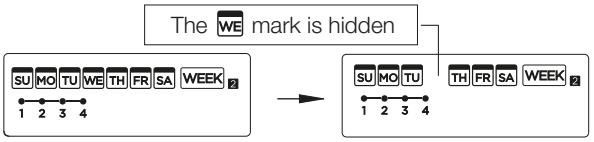



2. Press the button "^" or "v" to select the day in the week.



3. Press the DAY OFF button to set the DAY OFF.




Example: the DAY OFF is set for Wednesday

4. Set the day OFF for the other days by repeating the steps 2 and 3
5. Press BACK to revert to the weekly timer.




## Note

The DAY OFF setting is cancelled automatically after the set day has passed.

## Copy the setting from one day to another day

A timer made once can be copied to another day of the week. The setting of the selected day of the week will be copied. The effective use of the copy mode ensures ease of making other timer settings.

1. During weekly timer, press the CONFIRM button.



CONFIRM

2. Press the button "^" or "v" to select the day in the week.



3. Press the COPY button, the letters "CY" will be shown on the LCD screen.



COPY

4. Press the button "^" or "v" to select the day to copy to.

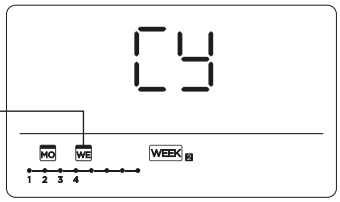


5. Press the COPY button to confirm.



COPY

The WE mark flashes quickly



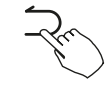

Example: copied the setting of Monday to Wednesday

6. Other days can be copied by repeating steps 4 and 5.
7. Press the Confirm button to confirm the settings.



CONFIRM

8. Press the Back button to go back to the weekly timer.



BACK

## Delete the time scale in one day

1. During the weekly timer, press the CONFIRM button.



CONFIRM

2. Press the button "^" or "v" to select the day in the week, the press the CONFIRM button.

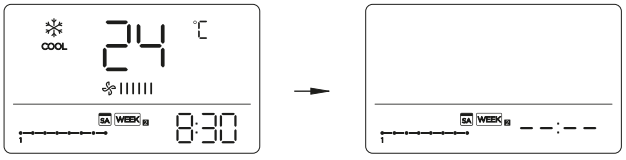


CONFIRM

3. Press the button "^" or "v" to select the setting time you want to delete. The setting time, mode, temperature and fan speed will appear on the LCD. The setting time, mode, temperature and fan speed can be deleted by pressing the DEL button.



DELAY




## Wi-Fi operation setup

For instructions on setting up Wi-Fi connectivity for your Kaden air conditioner, please scan the QR code below, or visit kadenair.com.au

# 12. Fault alarms

**If the system does not properly operate, investigate according to the following procedures.**

| Number | Cause | Display digital tube |
|---|---|---|
| 1 | Error of communication between wired controller and indoor unit | EH63 |

# Notes

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