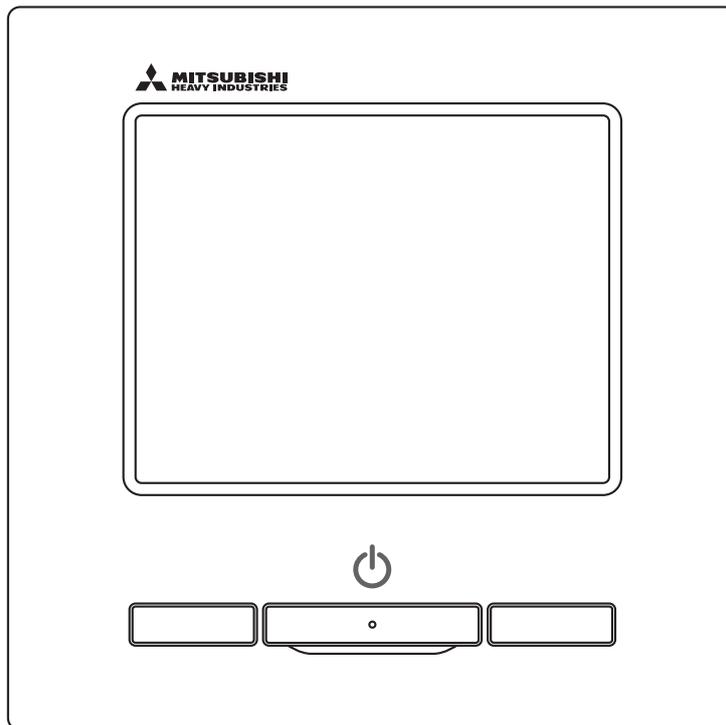


REMOTE CONTROL RC-MCU-E USER'S MANUAL



Thank you very much for your purchasing the REMOTE CONTROL for our heat pump chiller.

This user's manual describes cautions for safety. Please read this manual carefully before use in order to operate the unit properly.

Keep this manual, after reading, at a safe place where you can consult it whenever it is necessary.

When the ownership of the unit is changed, please be sure to transfer this manual and the "Installation Manual" to a new owner.

It is not recommended for a user to install or move the unit by the user's own discretion. (Safety or functions may not be assured.)



This air to water heat pump complies with Machinery Directive 2006/42/EC, EMC Directive 2014/30/EU, Pressure Equipment Directive 2014/68/EU, RoHS Directive 2011/65/EU, (EU) 2015/863, Ecodesign requirement Directive 2009/125/EC.

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Note

Please turn on the power switch 6 hours before operation to protect the heat pump chiller (the crank case heater is conducted and the compressor is heated).

Also, be sure not to turn off the power switch (the crank case heater is conducted and the compressor is heated during stop of the compressor. It protect the fault of the compressor caused by liquid refrigerant stagnation).

1. Before you use

1.1 Safety precautions

- Please read the precautions written here carefully to operate the unit properly. You are required to observe these fully because every item of these instructions is important for safety.

 WARNING	Failure to follow these instructions may result in serious consequences such as death, severe injury, etc.
 CAUTION	Failure to follow these instructions may cause injury, property damage or, serious consequences depending on.

- The following pictograms are used in the text.

	Never do.		Always follow the instructions given.
	Absolutely keep water away.		Absolutely keep wet hands away.

- Keep this manual at a safe place where you can consult with whenever necessary. Show this manual to installers when moving or repairing the unit. When the ownership of the unit is transferred, this manual should be given to a new owner.
- **Electrical wiring work must be implemented only by qualified specialists.**

WARNING

 **Consult your dealer or a professional contractor to install the unit.**
Improper installation made on your own may cause electric shocks, fire or dropping of the unit.

 **Consult your dealer when moving, disassembling or repairing the unit. Never modify the unit.**
Improper handling may result in injury, electric shocks, fire, etc.

 **Avoid using combustible substances (hair spray, insecticide, etc) near the unit.**
Do not use benzene or paint thinner to clean the unit.
It could cause cracks, electric shocks or fire.

 **Stop operation under abnormal situation.**
If continued, it could result in break-down, electric shocks, fire, etc.
If any abnormal condition (burnt odor etc.) occurs, stop operation, turn off the power switch and consult your dealer.

 **This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.**

CAUTION

 **Do not use or let use the unit or remote control as play equipment.**
Improper operations could cause ill health or health disorder.

**Never disassemble the remote control.**

If you touch internal parts accidentally, you could get electric shocks or cause trouble. Consult your dealer when it is necessary to inspect its interior.

**Do not wash the remote control with water or liquid.**

It could cause electric shocks, fire or break-down.

**Do not touch electric parts or operate buttons or screens with wet hands.**

It could cause electric shocks, fire or break-down.

**Do not dispose the remote control by yourself.**

It could destruct the environment. Ask your dealer when it is necessary to dispose the remote control.

Note**The remote control should not be installed where it is exposed to direct sunlight or the ambient temperatures become higher than 40°C or lower than 0°C.**

It could cause deformation, discoloration or break-down.

**Do not use benzene, paint thinner, wipes etc. to clean the remote control.**

It could discolor or break-down the remote control. Wipe it with a piece of cloth which is squeezed tightly after wetting with diluted neutral detergent. Finish up the cleaning by wiping with a piece of dry cloth.

**Do not pull or twist the cable of the remote control.**

It could cause break-down.

**Do not tap the remote control buttons or screen with pointed objects.**

It could damage or cause break-down.

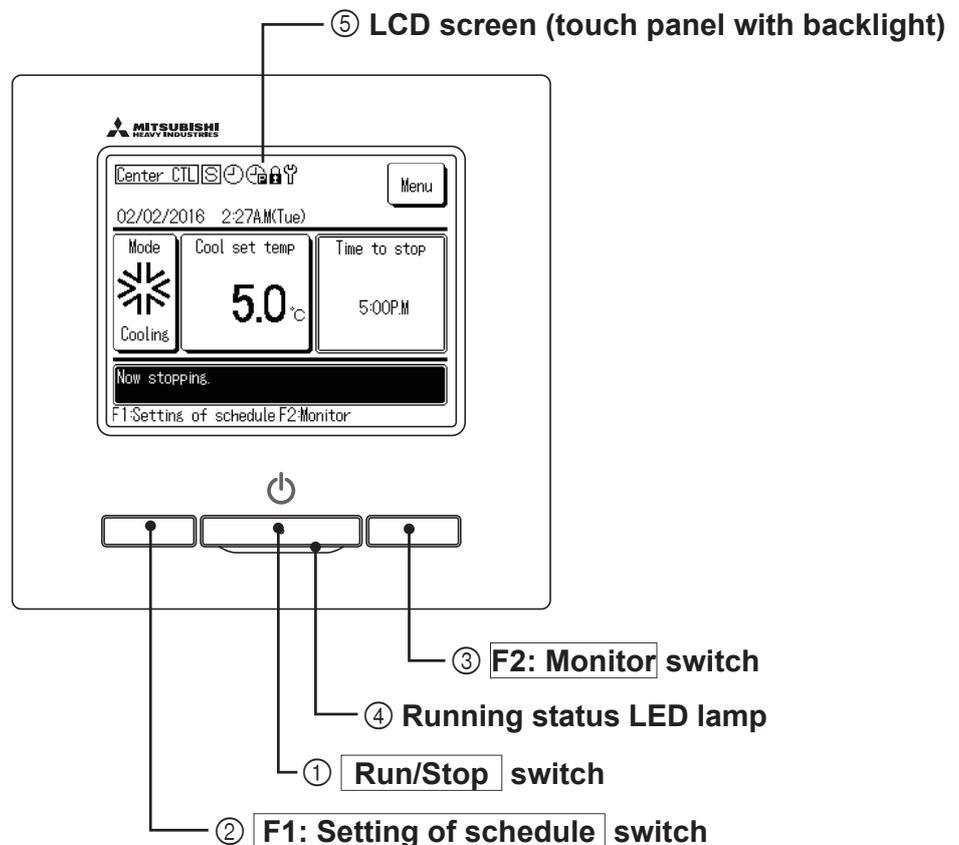
1.2 Precautions for waste disposal

Your Air Conditioning product may be marked with this symbol. It means that waste electrical and electronic equipment (WEEE as in directive 2012/19/EU) should not be mixed with general household waste. Air conditioners should be treated at an authorized treatment facility for re-use, recycling and recovery and not be disposed of in the municipal waste stream. Please contact the installer or local authority for more information.

1.3 Unit specifications

Item	Description
Product dimensions	120 (W) x 120 (H) x 19 (D) mm (not including protruded section)
Weight	0.20 kg
Power supply	DC 18 V
Power consumption	0.6 W
Usage environment	Temperature: 0 to 40 °C
Material	Casing: ABS

1.4 Names and functions of sections on the R/C



Beside the 3 physical switches ① Run/Stop, ② F1: Setting of schedule switch, and ③ F2: Monitor switch, operations could also be performed through touch panel.

① Run/Stop switch

Runs and stops the unit.

② F1: Setting of schedule switch

Press to set the schedule. (☞ page 9)

③ F2: Monitor switch

Press to check the unit status. (☞ page 25)

④ Running status LED lamp

Lights up red (orange) during running. This lamp flashes red (orange) when an error occurs. The LED that lights up during running can also be changed to green (yellow green).

⑤ LCD screen (touch panel with backlight)

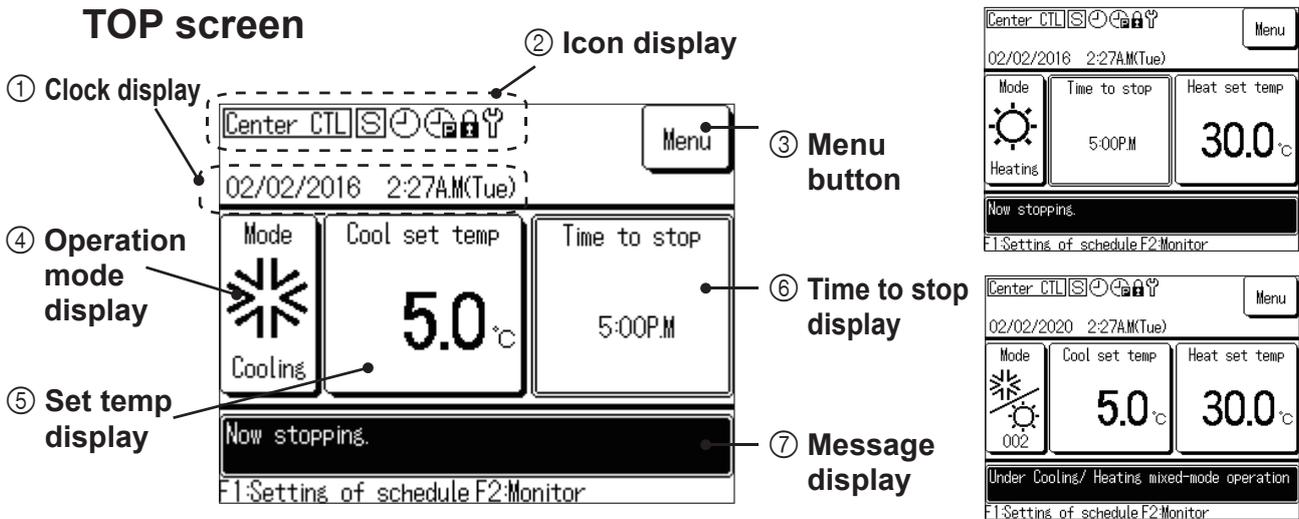
Tap the LCD screen turns on the backlight.

If no operation is performed for a certain period of time, the LCD screen automatically turns off.

The backlight lighting time can be set.

When the backlight is set to Valid, if you tap the screen while the backlight is off, only the backlight turns on. (Unless operation including ①, ② or ③ is made.)

* All icons are shown for the sake of explanation.



① Clock display

Displays the current time.

② Icon display

Each icon is displayed when the following settings are enabled.

Center CTL

Displayed when the unit is managed by a centralized control device (MCU controller, local switch, etc.) other than the R/C.



Displayed when the sub R/C is set.



Displayed when the schedule function is set.



Displayed when the peak-cut timer is set.



Displayed when operation restrictions ("Run/Stop", "Set temp", "Setting of schedule", or "Operation mode") are set.



Displayed when it is time for regular inspection.

③ Menu button

If you want to set or change items other than ④ to ⑥ shown below, tap the menu button and make each setting from the displayed menu items. Various remote control settings and peak cut timer can be set. Selecting **Administrator settings** → **Stop running for OU temp** allows you to monitor the outside air temperature of the unit to prevent operating beyond the limits. This function is set to Invalid by default. When it is set to Valid, if the outside air temperature is lower than the set cooling temperature, the unit will not run even if cooling is set in the schedule.

If the temperature is higher than the set heating temperature, the unit does not run even if heating is set in the schedule. You can also select Valid or Invalid in "Change today's schedule" or "Change tomorrow's schedule".

④ Operation mode display

- Displays the currently set operation mode. Tap this button to change the operation mode.
- For the C/H mix operation, set the cooling/heating boundary address (biggest address in cooling mode).

⑤ Set temp display

Displays the currently set temperature. Tap this button to change the set temperature.

⑥ Time to stop display

Displays the time to stop the today's final schedule. Otherwise, "No schedule" is displayed. This is not displayed when the schedule is set to Invalid.

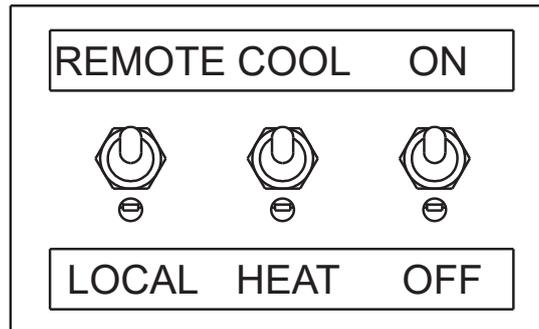
This is not displayed in C/H mix mode. Check the time to set "Stop" in "Today's schedule" or "Tomorrow's schedule".

2. Initial settings

2.1 Unit settings

If the torque switch in the power supply box of the unit is set to "REMOTE", various functions can be set with a simple operation by connecting the R/C to the unit.

When the torque switch inside the electrical cabinet of the unit is set to "LOCAL", "Center CTL" is displayed on the R/C screen, prioritizing the switch inside electrical cabinet. While "Center CTL" is displayed, you can check the operation mode and setting of temperature on the R/C screen.



Note

- It is necessary to do a trial run of the unit before the R/C operation. Operation is not possible if the trial run has not been performed.
- When the MCU controller (sold separately) is connected, "Center CTL" may be displayed even if the torque switch is set to "REMOTE". For details, refer to the MCU controller's technical document.

One R/C enables the simultaneous operations of up to 20 units.

Note

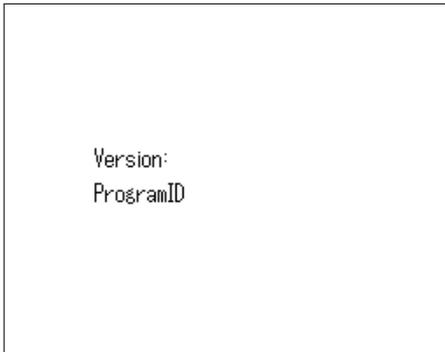
- All units connected to the R/C start running simultaneously when the R/C is turned on. After this, each unit starts and stops individually. Turning the R/C off stops all the units. The separate control of each unit cannot be done. To control each unit separately, use the MCU controller (sold separately).

2.2 R/C initial settings

As the initial settings when turning on the R/C for the first time, Main/Sub settings, Clock setting, and Setting of schedule should be made.

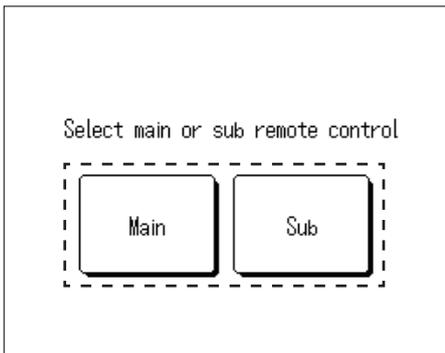
If the power is turned on after the Main/Sub setting and Clock setting are made in the first initial settings, the Initial settings screen is not displayed.

(1) Main/Sub of R/C setting



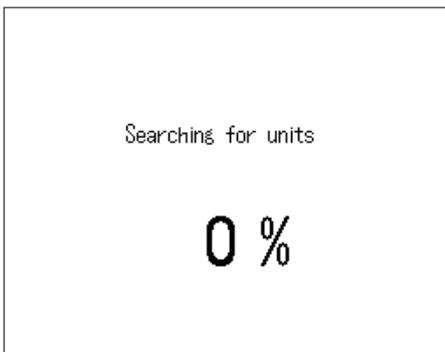
- 1 Turn on the R/C to display the version information and program ID.

After a few seconds, the "Main/Sub selection" screen is automatically displayed.

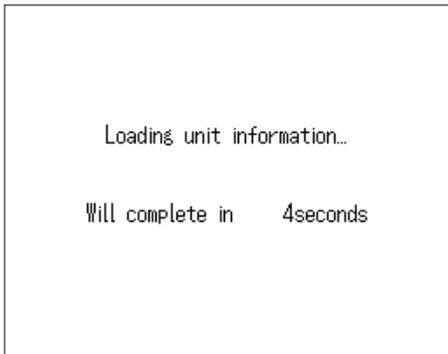


- 2 Tap **Main**/**Sub** on the "Main/Sub selection" screen.

- For one R/C, select **Main**.
- When the power is turned on for the first time, the unit continues to wait until either one is selected.
- For multiple R/Cs, the screen will not change, until 1 of them is set as Main.

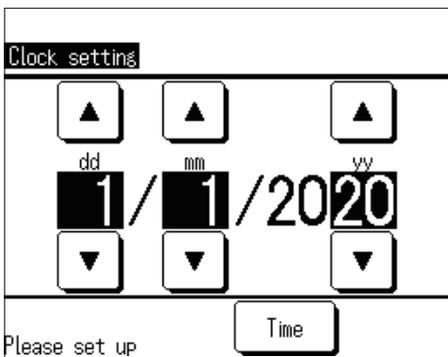


- 3 The "Searching for units" screen is displayed. Please wait until processing completes (100%).



- The "Loading unit information..." screen is displayed. Please wait until processing completes.

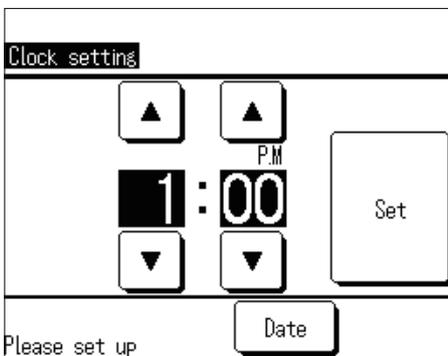
(2) Clock setting



- When unit information is acquired, the "Clock setting" screen is displayed.

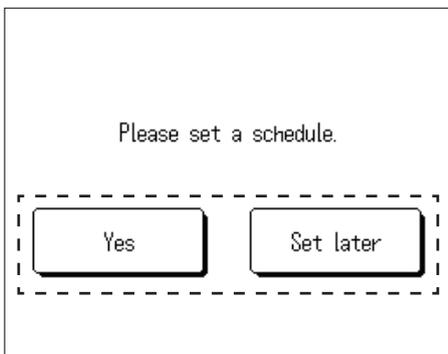
Press / , and change the date.

Tap [Time].



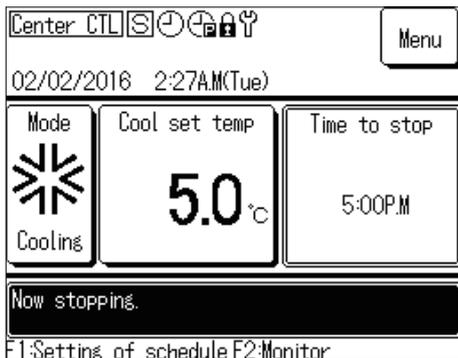
- Press / , and change the time.

Tap [Set].



- If you want to set the schedule now, press on the "Schedule setting reminder" screen.

If you want to set the schedule later, press .



4 The TOP screen is displayed.

When the power is turned on, the operation mode is set to "Stop".

- is displayed in the center of the screen even when the setting of schedule is not completed.
- If you press the "Run" button on the main unit while the setting of schedule is not completed, the "Please set a schedule." message is displayed. Make settings according to "3.1 When using the schedule function".
- If you do not use the schedule function, set to Invalid in Initial settings according to "3.2 When not using the schedule function".

3. Running status setting

3.1 When using the schedule function

For the Heat pump chiller, you can use the R/C to change Run/Stop, Operation mode, or the water temperature setting according to the set schedule.

[Schedule setting procedure]

- ① Setting of day off: Synchronizes the holidays of facilities and plants with the heat pump chiller
- ② Setting the date to start operation: Changes the operation mode and water temperature setting for each period or season
- ③ Set a weekly timer for each operation start date: Changes the Run/Stop time and water temperature setting in a day.

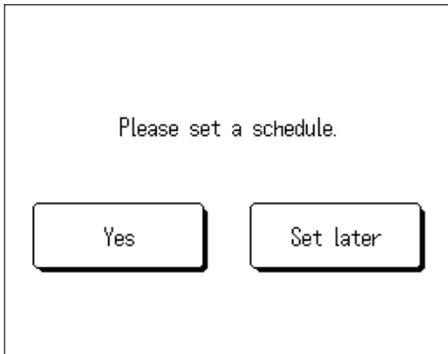
Note

- The setting ①, ②, ③ will be applied from 2 days after the day when schedule is set.
- Setting of item ④ is required when the scheduled operation is to be performed on the same day and the following day for which the settings of items ①, ②, and ③ are configured.
- You can reconfigure ① Setting of day off after setting items ② and ③.

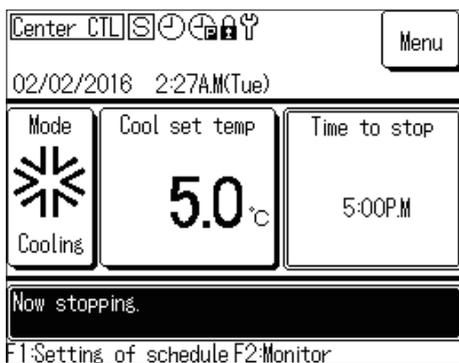
- ④ Set or change the today's or tomorrow's schedule: Temporarily changes the settings for the current day or the following day when weather conditions change or a problem occurs. Also, this setting is required for the schedule for the day when the schedule is set, and the schedule for the following day. From two days after the day you set the schedule, the schedule is applied automatically.

When using the switch to perform Run/Stop, set the schedule function to Invalid (3.2 When not using the schedule function).

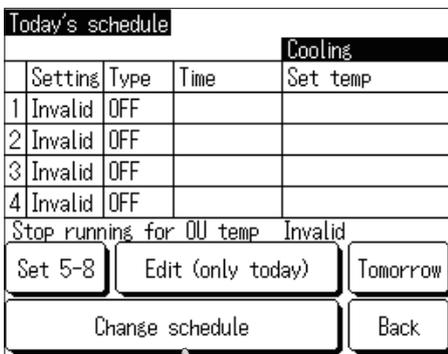
(1) Displaying the Setting of schedule menu



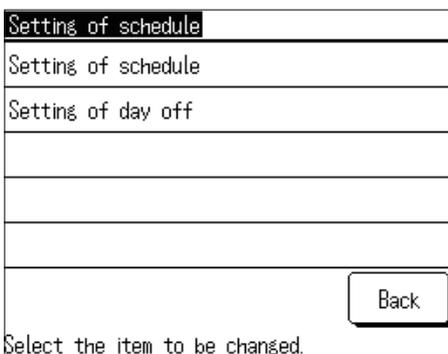
- 1 Press **Yes** on the "Schedule setting reminder" screen in Initial settings.



Or, press the **F1: Setting of schedule** switch on the TOP screen.



Press **Change schedule** on the "Today's schedule" or "Tomorrow's schedule" screen.



- 2 The "Setting of schedule" menu is displayed.

(2) Setting of day off

Set the holidays on which you want to pause operation.

Holidays can be set for each day of the week or on the calendar.

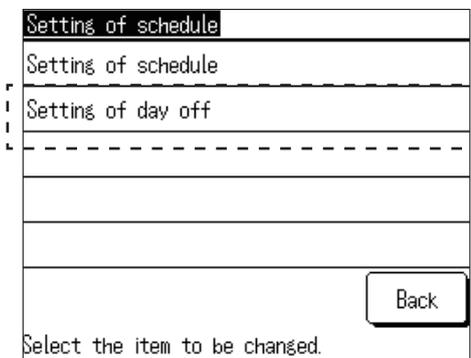
All days are set as non-holidays by factory default.

On days with "Setting of day off" specified, "OFF" is set at 00:00, and the subsequent timer settings become invalid, consequently, the unit becomes inactive between 00:00 and 24:00.

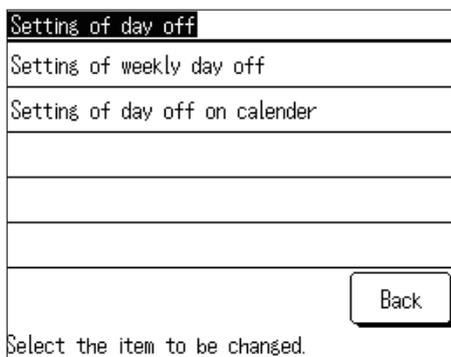
Note

If you make a cross-date setting such as running over 24:00 and stopping at 02:00 the following day, do not set the following day to a holiday. If it is set to a holiday, the unit will stop at 24:00.

① Displaying the Setting of day off menu screen

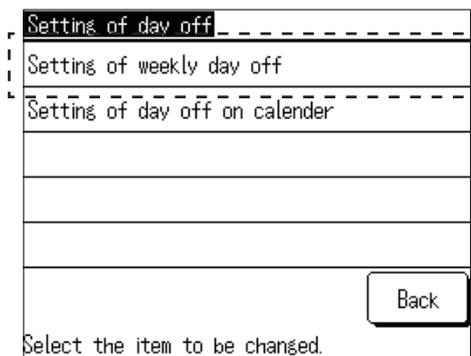


- 1 Tap **Setting of day off** on the "Setting of schedule" menu screen.



- 2 The "Setting of day off" menu is displayed.

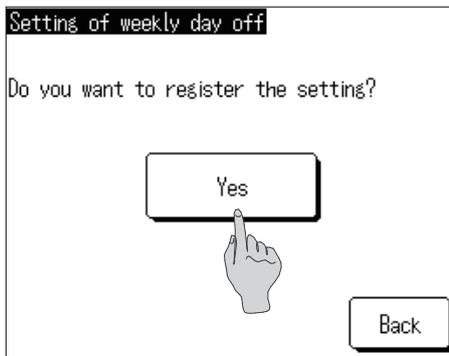
② Setting holidays for each day of the week



- 1 Tap **Setting of weekly day off** on the "Setting of day off" menu screen.



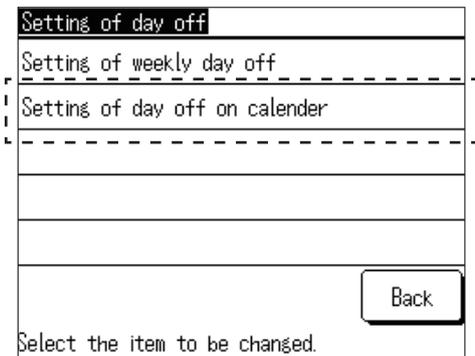
- 2 Tap the box under the day of the week to be a holiday.
 is displayed and the specified day is set to a holiday.
 - To cancel the holiday, tap the box under the day of the week again.  disappears, and the holiday is cancelled.



- 3 Press **Save**, and press **Yes** on the confirmation screen.
 The set holiday is registered, and the screen returns to the "Setting of day off" menu.

The days of the week that are set as days off in this setting are also applied to Setting of day off on calendar.

③ Setting day off on the calendar



- 1 Tap **Setting of day off on calendar** on the "Setting of day off" menu screen.



- 2 The current month's calendar is displayed.
 To display another month, press **Next mo.** or **Prev mo.**. You can display and set the calendar up to 11 months in advance (one year).
 Tap the date to set it to day off.
 The background becomes black, and the target day is set to day off.
 To cancel day off, tap the date again.
 The background becomes white, and the day off setting is cancelled.

Setting of day off on calendar							02/2020	
Mon	Tue	Wed	Thu	Fri	Sat	Sun		
					1	2		
3	4	5	6	7	8	9		
10	11	12	13	14	15	16		
17	18	19	20	21	22	23		
24	25	26	27	28	29	30		
31								

to see holidays

- After the setting of day off is completed, press to return to the "Setting of schedule" menu.

(3) Setting the date to start operation

Set the operation start date and its operation mode (heating/cooling).

Up to six operation start date settings can be registered within a year, and operation can be performed by switching between Valid and Invalid.

Each setting is continued until the next operation start date.

① Displaying the setting of the schedule list screen

Display the registered schedule (operation start date and its operation mode).

Setting of schedule	
Setting of schedule	
Setting of day off	
<input type="button" value="Back"/>	

Select the item to be changed.

- 1 Tap on the "Setting of schedule" menu screen.

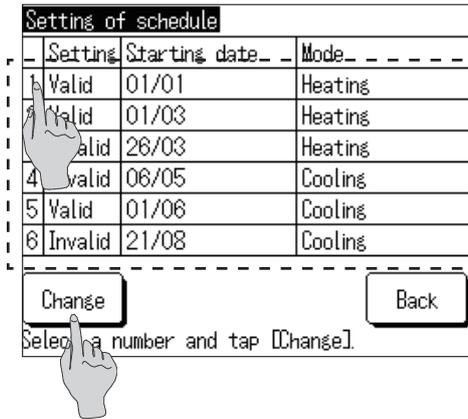
Setting of schedule			
	Setting	Starting date	Mode
1	Valid	01/01	Heating
2	Valid	01/03	Heating
3	Invalid	28/03	Heating
4	Invalid	06/05	Cooling
5	Valid	01/06	Cooling
6	Invalid	21/08	Cooling

Select a number and tap [Change].

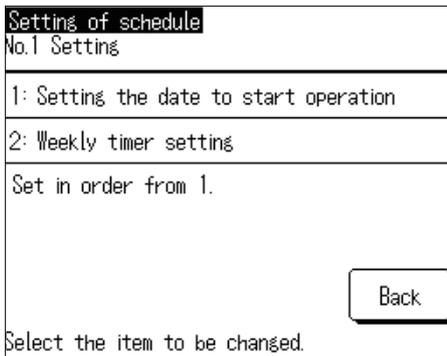
- 2 The "Setting of schedule" list screen is displayed. This displays Valid/Invalid, Operation start date, and Heating/Cooling setting for six schedules. If Valid is selected, operation starts from the starting date in the specified mode. These settings are maintained until the next operation start date. If Invalid is selected, the schedule becomes invalid, and the unit will not run on the starting date. When you made settings in the past and want to save the settings, use this option.

② Displaying the Change schedule setting menu

When changing the schedule, display the menu to select whether to change the operation start date or weekly timer.

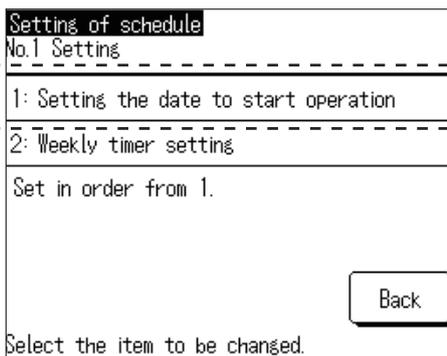


1 Tap the rows of setting numbers 1 to 6 to change on the "Setting of schedule" list screen, and press **Change**.

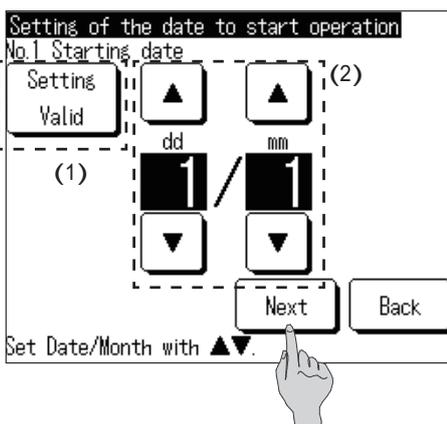


2 The "Change schedule setting" menu is displayed.

③ Setting the date to start operation

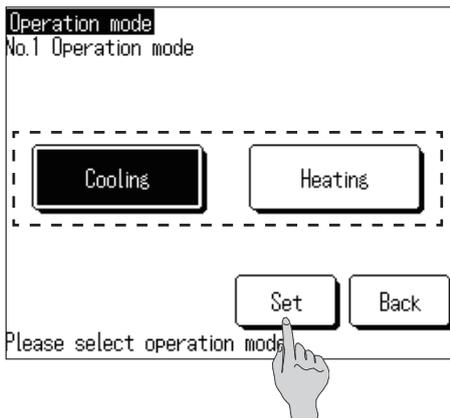


1 Tap **1: Setting the date to start operation** on the "Change schedule setting" menu screen.



2 (1) Switch between Valid and Invalid in Setting.
Tap **Setting: Valid** or **Setting: Invalid**.

(2) Changing the date to start operation.
Press **▲** / **▼**, and change the date.



3 Press **Next**.

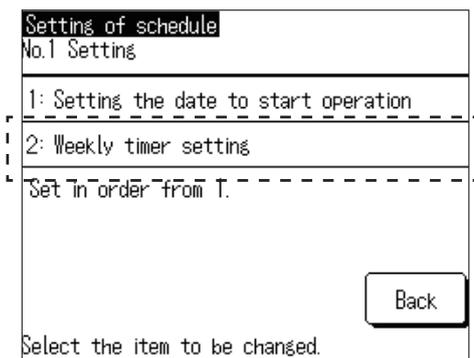
4 Tap **Cooling** or **Heating**, and press **Set**.

The operation start date is set, and the screen returns to the "Setting of schedule" list screen.

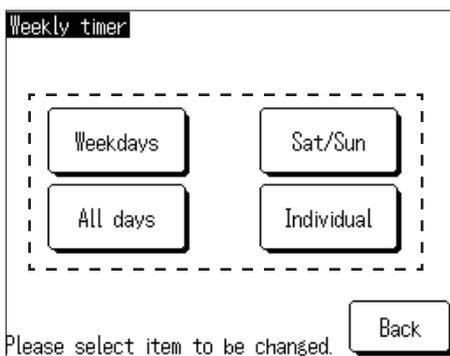
(4) Weekly timer setting

The timer setting is possible for each of the six operation start date settings.

You can set the operation ON/OFF time and the operation temperature for each day of the week. Up to eight timer settings can be registered per day, and operation can be performed by switching between Valid and Invalid.

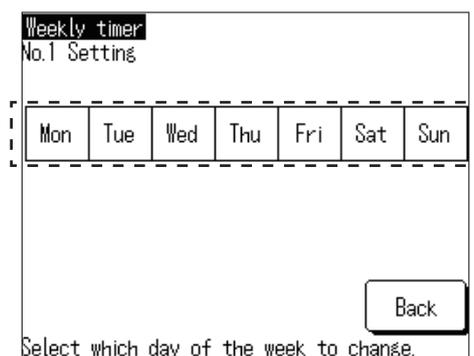


1 Tap **2. Weekly timer setting** on the "Change schedule setting" menu screen.



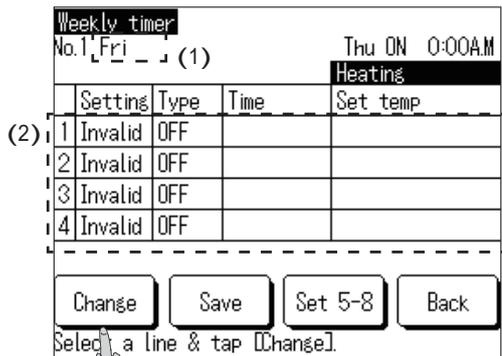
2 Tap **Weekdays**, **Sat/Sun**, **All days** or **Individual**.

- Press the button according to whether you want to set weekdays (Monday to Friday), Saturdays and Sundays, and all days (Monday to Sunday) all at once, or select and set the days of the week individually.

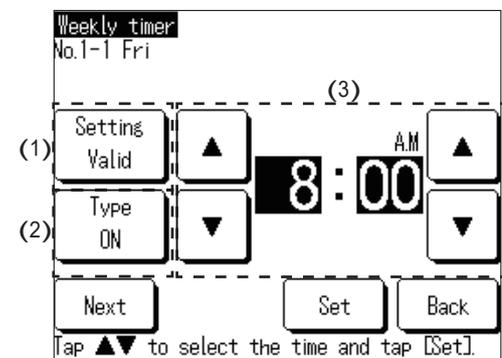


3 If you press **Individual**, tap and select the target day of the week.

This setting is for each day of the week, and you cannot set multiple days of the week simultaneously.



(2)



(1)

(2)

(3)

4 This lists the timer settings within one day. All the default timer settings are "Invalid" or "OFF". For Type, set the timer to ON or OFF.

(1) This displays the day of the week to change, "Weekdays", "Sat/Sun", and "All days" on the upper left corner of the screen.

(2) Tap the setting number to change, and press **Change**.

• To display settings 5 to 8, press **Set 5-8**.

5 (1) Switch between Valid and Invalid in Setting.

Setting: Valid or, tap **Setting: Invalid**.

Valid/Invalid is switched in Setting, and the button display changes to **Setting: Valid** or **Setting: Invalid**.

(2) Switch the timer between ON/OFF

Type: ON or, tap **Type: OFF**.

Timer ON/OFF is switched, and the button display changes to **Type: ON** or **Type: OFF**.

(3) Changing the timer time

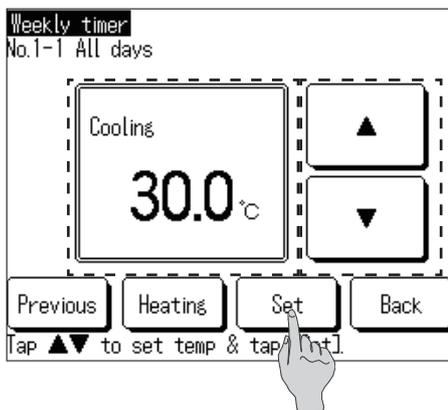
Tap **▲** / **▼**, and change hour or minute.

6 If **Type: ON** is set, press **Next**, tap **▲** / **▼** to set the operation temperature.

Cooling: 4.0°C to 30.0°C

Heating: 25.0°C to 55.0°C

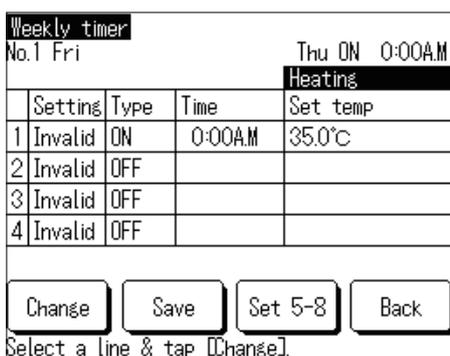
The operation temperature can be set in increments of 0.5°C within the range shown above.



7 After the setting is complete, press **Set**.

Return to the "Weekly timer" list screen.

The most recent "ON" timer setting of the weekly timers for the past week is displayed at the top right of the screen. This is useful when making settings across dates.



Weekly timer				
No.1 Fri				Thu ON 10:00P.M
				Heating
	Setting	Type	Time	Set temp
1	Valid	OFF	2:00A.M	
2	Valid	ON	8:00A.M	35.0°C
3	Valid	OFF	5:00P.M	
4	Invalid	OFF		

Change Save Set 5-8 Back

Select a line & tap [Change].

8 If you want to make settings across days of the week, refer to the setting details below.

Displays the weekly timer setting screen for Friday.

<Setting details>

"ON" at 10:00 p.m. Thursday.

"OFF" at 02:00 a.m. Friday.

Set "ON" at 10:00 p.m. in the Thursday weekly timer setting, and

Set "OFF" at 2:00 p.m. in the Friday weekly timer setting respectively.

(5) Today's or tomorrow's schedule setting

Set the Today's schedule or Tomorrow's schedule.

Set this schedule when you want to change the schedule settings for the current day or the following day due to changes in weather conditions, problems, etc.

Make this setting when setting the schedule for the day when the schedule is set, and the following day. From two days after the day you set the schedule, schedule is applied automatically.

Eight schedules 1 to 8 can be set for each schedule, and settings 1 to 4 and settings 5 to 8 are displayed by switching the screen.

① Displaying the Today's schedule

Center CTL [S] [A] [Y]			Menu
02/02/2016 2:27A.M(Tue)			
Mode ❄ Cooling	Cool set temp 5.0°C	Time to stop 5:00P.M	
Now stopping.			
F1:Setting of schedule F2:Monitor			

1 Press the **F1: Setting of schedule** switch on the TOP screen.

Today's schedule				
				Cooling
	Setting	Type	Time	Set temp
1	Invalid	OFF		
2	Invalid	OFF		
3	Invalid	OFF		
4	Invalid	OFF		

Stop running for OU temp Invalid

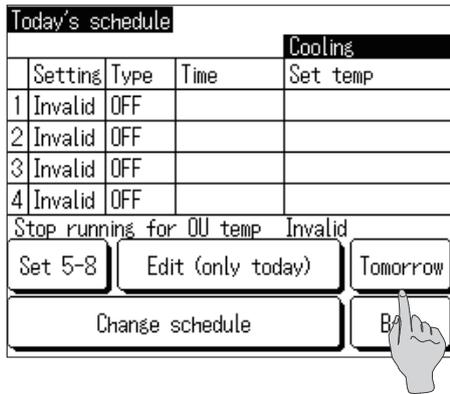
Set 5-8 Edit (only today) Tomorrow

Change schedule Back

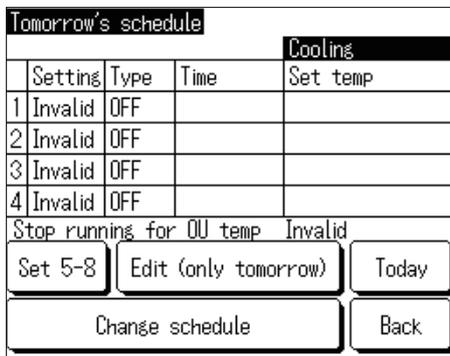
2 The "Today's schedule" is displayed.

- The schedule displays Valid/Invalid setting, Type (ON/OFF in RUN mode), operation starting time, Set temp, and Valid/Invalid of Stop running for OU temp.

② Displaying the Tomorrow's schedule

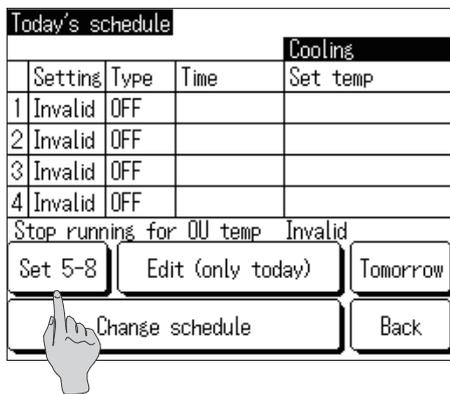


1 Press **Tomorrow** on the "Today's schedule" screen.

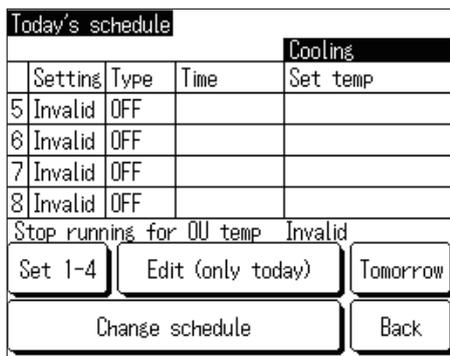


2 The "Tomorrow's schedule" is displayed.
 • To return to Today's schedule, press **Today**.

③ Displaying schedules 5 to 8



1 Press **Set 5-8** on the "Today's schedule" screen or "Tomorrow's schedule" screen.



2 Schedules 5 to 8 are displayed.
 • To return to schedules 1 to 4, press **Set 1-4**.

④ Displaying the Change today's or tomorrow's schedule menu

Today's schedule			
	Setting	Type	Time
			Cooling Set temp
1	Invalid	OFF	
2	Invalid	OFF	
3	Invalid	OFF	
4	Invalid	OFF	
Stop running for OU temp			Invalid
Set 5-8		Edit (only today)	Tomorrow
Change schedule			Back

1 Press **Edit (only today)** on the "Today's schedule" screen. Or, press **Edit (only tomorrow)** on the "Tomorrow's schedule" screen.

Change today's schedule
Change weekly timer
Stop running for OU temp
Back
Select the item to be changed.

2 This displays the "Change today's schedule" menu or "Change tomorrow's schedule" menu. You can press **Change weekly timer** to change the today's schedule.

Change tomorrow's schedule
Change weekly timer
Change operation mode
Stop running for OU temp
Back
Select the item to be changed.

- In Change tomorrow's schedule, you can also perform **Change operation mode** in addition to the items for Change today's schedule.

⑤ Changing the today's or tomorrow's schedule

Change today's schedule
Change weekly timer
Stop running for OU temp
Back
Select the item to be changed.

1 Tap **Change weekly timer** on the "Change today's schedule" screen or "Change tomorrow's schedule" screen. You can change the today's or tomorrow's schedule that has been set in advance. (This schedule is not applied to the day two days from now and subsequent days.)

Weekly timer
No.1 Edit (only today)

	Setting	Type	Time	Set temp
1	Invalid	OFF		
2	Invalid	OFF		
3	Invalid	OFF		
4	Invalid	OFF		

Change Save Set 5-8 Back

Select a line & tap [Change].

- The "Weekly timer setting target selection" screen is displayed.
For details about the setting operation, refer to "3.1 (4) Weekly timer setting".

⑥ Changing the operation mode (only from the "Change tomorrow's schedule" screen)

Change tomorrow's schedule

Change weekly timer

Change operation mode

Stop running for OU temp

Back

Select the item to be changed.

- The tomorrow's schedule can only be changed.
Tap **Change operation mode**.

Operation mode
No.1 Operation mode

Cooling Heating

Set Back

Please select operation mode.

- Tap **Cooling** or **Heating** and press **Set**.
The operation mode is changed, and the screen returns to the "Change tomorrow's schedule" menu.

⑦ Setting Stop running for OU temp

Change today's schedule

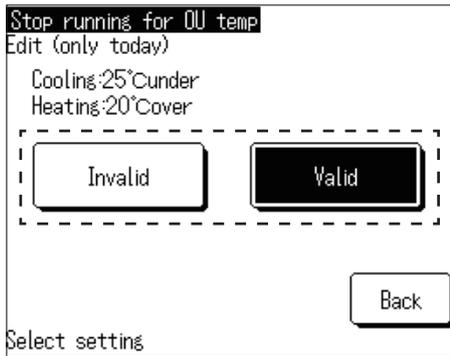
Change weekly timer

Stop running for OU temp

Back

Select the item to be changed.

- Tap **Stop running for OU temp** on the "Change today's schedule" screen or "Change tomorrow's schedule" screen.



2 Tap **Invalid** or **Valid**.

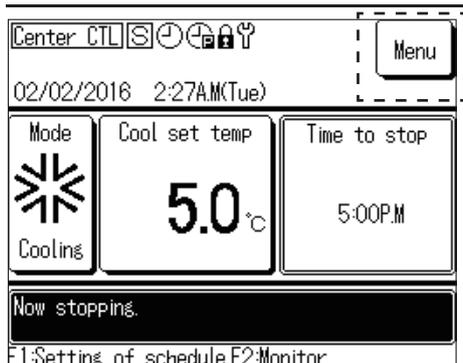
The setting is changed, and the screen returns to the "Change today's schedule" menu or "Change tomorrow's schedule" menu.

3.2 When not using the schedule function

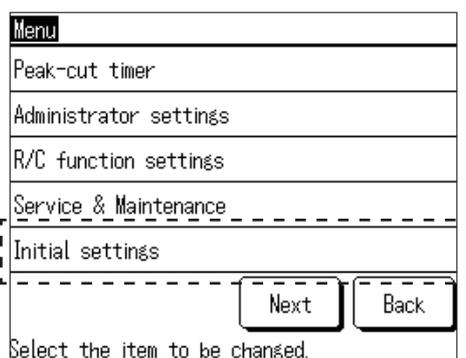
Make settings for operating with the main unit's Run/Stop switch without using the schedule function of the R/C.

- ① Schedule setting invalidation procedure
- ② Changing the operation mode or temperature setting
- ③ Run/stop of the unit

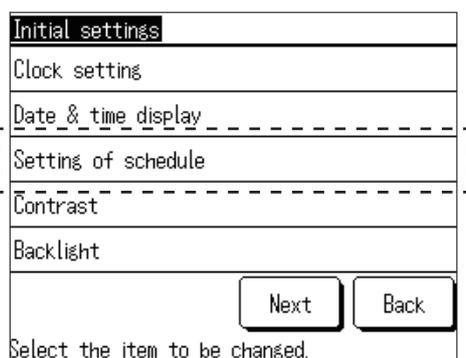
(1) Invalidating the schedule setting



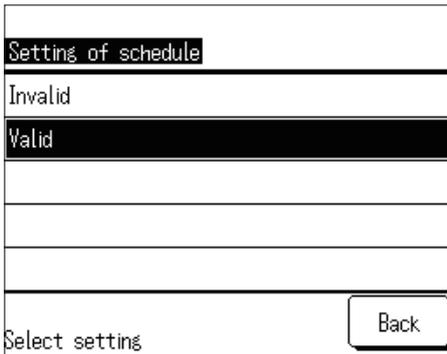
1 Tap the **Menu** switch on the TOP screen.



2 Tap **Initial settings** on the "Menu" screen.



3 Tap **Setting of schedule** on the "Initial settings" menu screen.

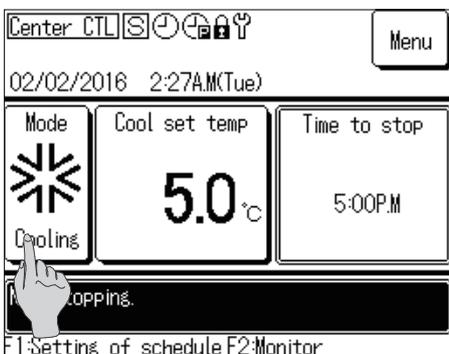


- 4 Tap **Invalid** on the **Setting of schedule** screen.

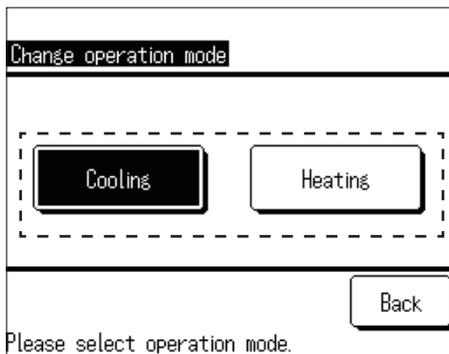
The schedule function becomes invalid, and you can operate Run/Stop of the unit using the **Run/Stop** switch of the main unit.

(2) Changing the operation mode or set temperature

① Change operation mode

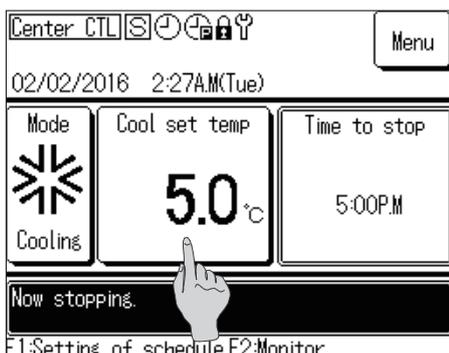


- 1 Tap the **Mode** button on the TOP screen.
 - If the schedule setting is disabled,  disappears from the top center of the TOP screen.

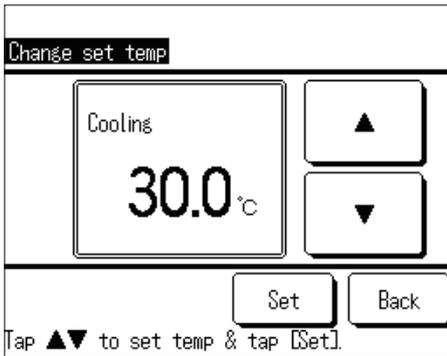


- 2 Tap **Cooling** / **Heating** on the "Change operation mode" screen.

② Change set temp



- 1 Tap the **Set temp** button on the TOP screen.

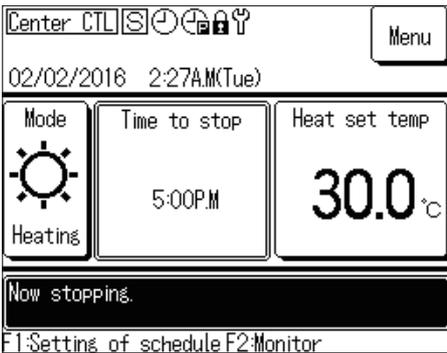


- 2 Tap / , change the set temperature, and tap .

Cooling: 4.0°C to 30.0°C

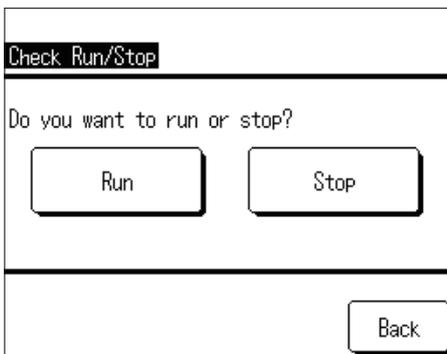
Heating: 25.0°C to 55.0°C

The operation temperature can be set in increments of 0.5°C within the range shown above.



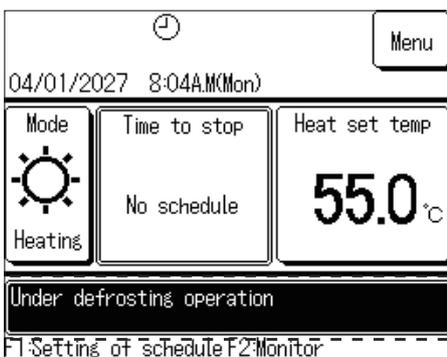
If Heating is selected, the TOP screen will be rearranged.

(3) Run/stop of the unit



- 1 Press the switch on the TOP screen to display the "Check Run/Stop" screen.

Tap or .

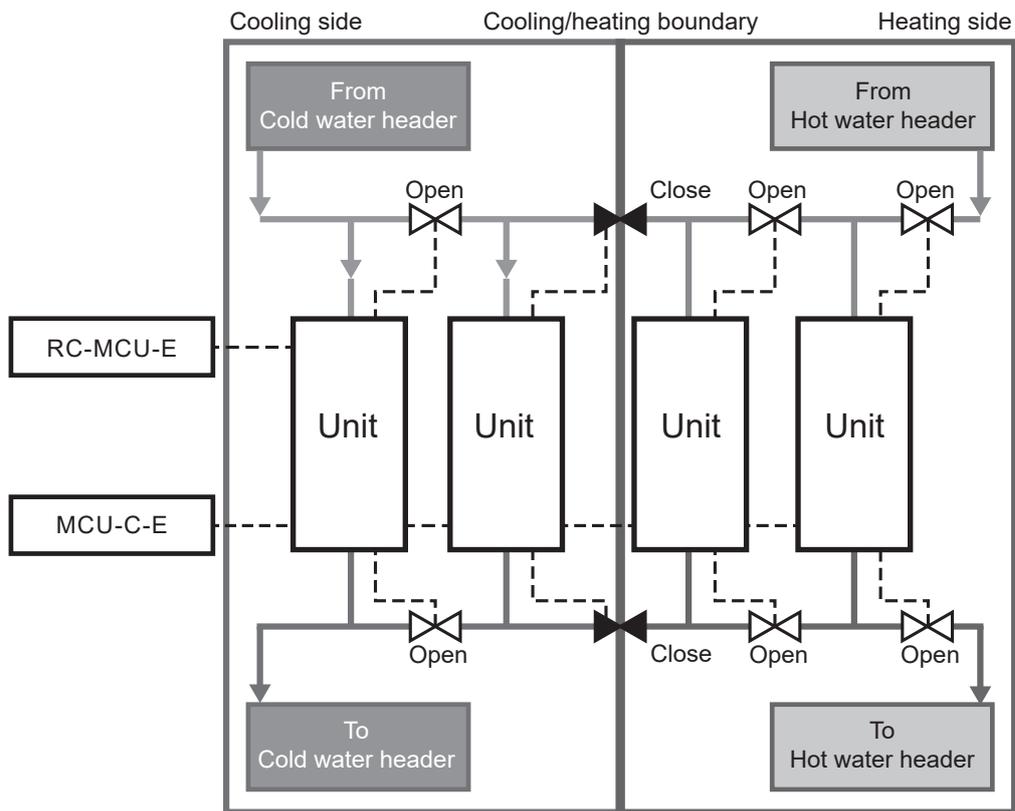


- 2 Tap to display "In operation" on the TOP screen. The unit starts running.

3.4 For the C/H mix mode system

(1) Cooling/heating dual system control

- Even if the cooling/heating load fluctuates depending on the season, you can operate with the optimum number of units and settings for each.
- It is possible to respond to load fluctuations throughout the year and optimise the facility heat source capacity.



C/H mix mode control

- (1) The smaller address is for the cooling operation, and the larger one is for the heating operation.
- (2) Among the units assigned to cooling, the unit with the highest address closes the inlet/outlet solenoid valves.
The cooling/heating boundary can be made by the closed solenoid valve.

* Branch the solenoid valve output from the unit into two, and use the inlet/outlet solenoid valve B contact.

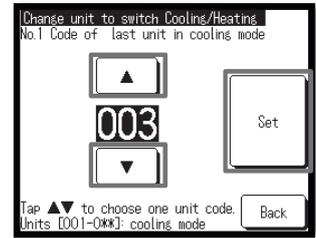
* If switching is not required, it can be used without a solenoid valve.

* The cooling operation is possible for all units, but the heating operation is not.

(2) Definition of heating/cooling boundary

- Touch the screen to select and set the boundary address (maximum address in the cooling such as "003"). Units with addresses below the specified address are set to cooling operation, and units with addresses greater than the specified address are set to heating operation.

<R/C screen>



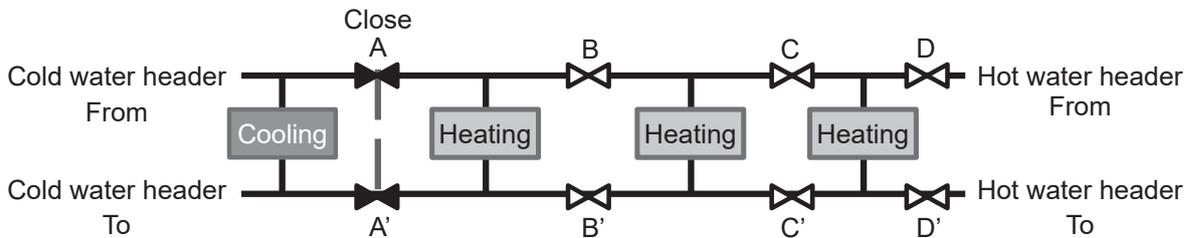
- The set temperature of the cooling and heating operation units can also be changed.
- Using the Heat pump chiller R/C, you can switch the schedule (switching by month/day) to change the operation pattern on the calendar information of the R/C.

<Conceptual diagram of the system for each of the patterns described above>

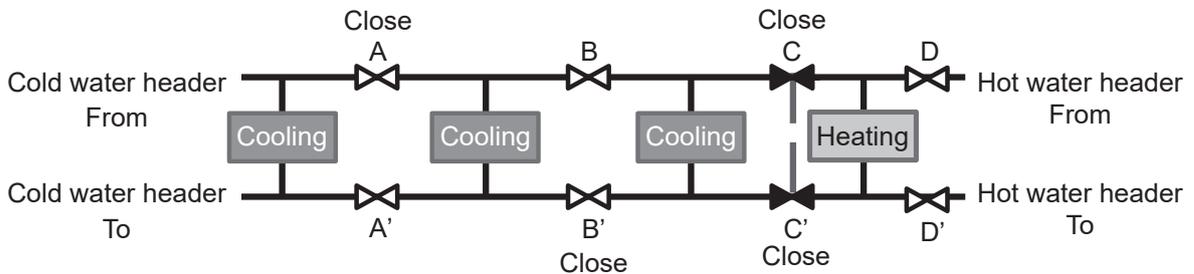
☒ : Solenoid valve "Close"

☒ : Solenoid valve "Open"

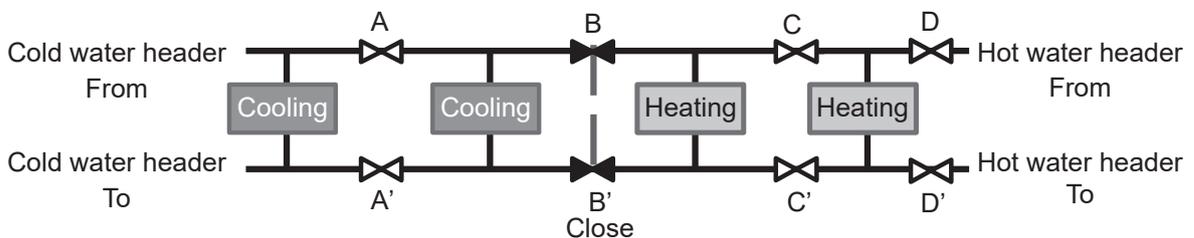
Operation pattern ① (Assumed in winter)



Operation pattern ⑦ (Assumed in summer)



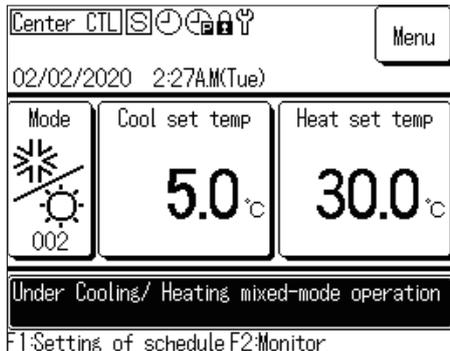
Operation patterns ② and ③ (Assumed in interim period)



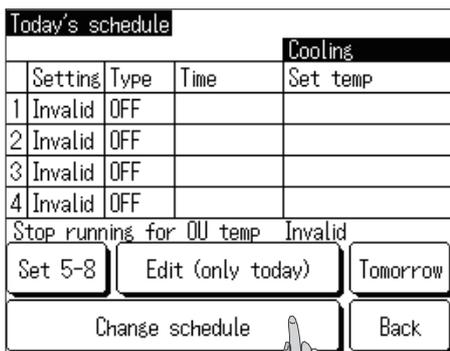
(3) Setting of schedule

When setting the C/H mix mode schedule, change the heating/cooling boundary address instead of changing the operation mode.

The boundary address is set as the biggest address for cooling.



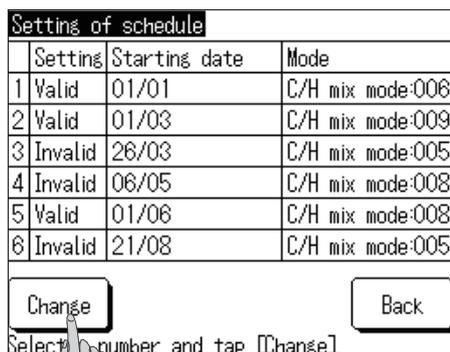
- 1 Press the **F1: Setting of schedule** switch on the TOP screen.



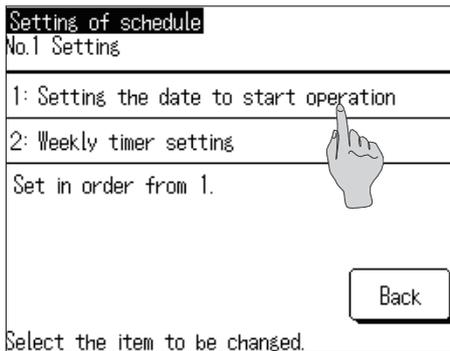
- 2 The today's schedule is displayed.

Press **Change schedule**.

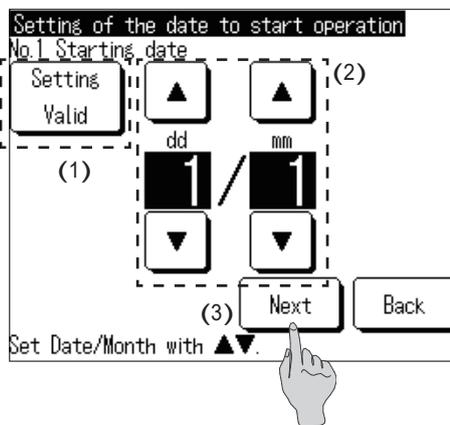
- In the Cooling/Heating mixed-mode, the cooling and heating temperatures are individually displayed in Set temp.



- 3 Press **Change**.



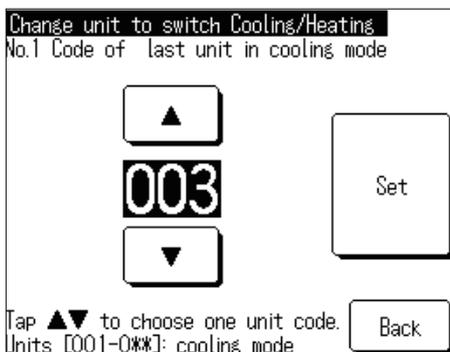
4 Press **Setting the date to start operation** on the "Setting of schedule" screen.



5 (1) Switch between Valid and Invalid in Setting.
Tap **Setting: Valid** or **Setting: Invalid**.

(2) Changing the date to start operation
Press **▲** / **▼**, and change the date.

(3) Press **Next**.



6 Press **▲** / **▼**, and set the biggest address for cooling.

* The available addresses are limited depending on the number of connected units.

Setting of schedule			
	Setting	Starting date	Mode
1	Valid	01/01	C/H mix mode-006
2	Valid	01/03	C/H mix mode-009
3	Invalid	26/03	C/H mix mode-005
4	Invalid	06/05	C/H mix mode-008
5	Valid	01/06	C/H mix mode-008
6	Invalid	21/08	C/H mix mode-005

Change Back

Select a number and tap [Change].

7 Press **Set**. After setting is completed, the "Setting of schedule" list screen is displayed. The starting date and cooling/heating boundary address are displayed.

- Today's schedule setting
- Tomorrow's schedule setting
- Weekly timer setting

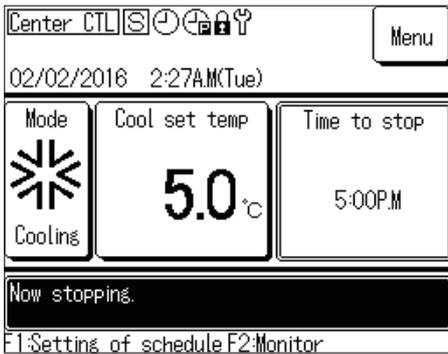
The above settings can be made in the same way as Section 3.2.

4. Other settings

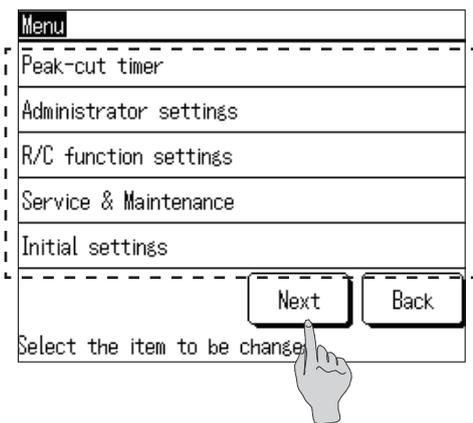
Make other settings below.

- ① Peak-cut timer settings: Set the start time, end time, and limit value for the operation that limits the capacity.
- ② Administrator settings: Operation restriction settings, R/C display settings, administrator password settings, operation LED lighting settings, operation prohibition settings due to outside temperature
- ③ R/C settings: R/C Main/Sub setting, power failure compensation setting, R/C sensor setting
- ④ Service & Maintenance: Next maintenance date setting, inspection display setting, special settings
- ⑤ Initial settings: Clock setting, Date & time display, Setting of schedule, Contrast setting, Backlight setting, Buzzer sound setting
- ⑥ Installation settings: Registration of installation date, entry of service information
- ⑦ Select language: Switching the displayed language

Display the Setting menu.

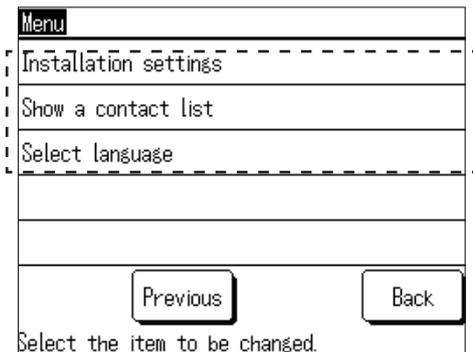


1 Tap the **Menu** button on the TOP screen.



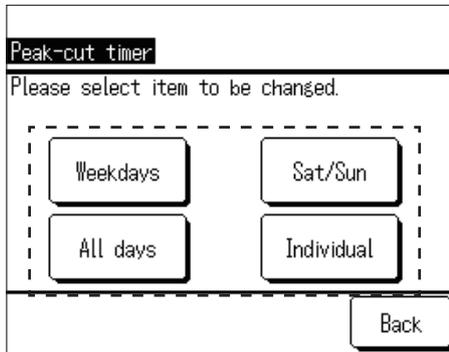
2 Tap "Peak-cut timer", "Administrator settings", "R/C function settings", "Service & Maintenance", and "Initial settings".

To display the "Installation settings", "Show a contact list", or "Select language" menu, tap **Next**.



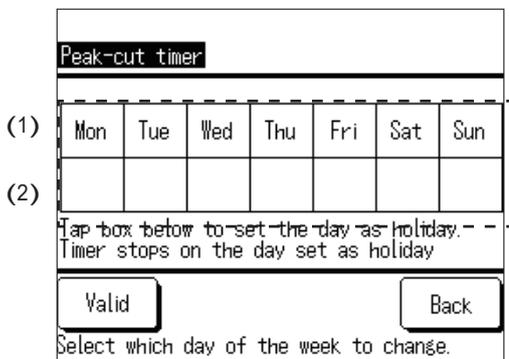
4.1 Peak-cut timer settings

You can set the Time to run, Time to end limit four times a day every week.



1 Press **Weekdays**, **Sat/Sun**, **All days** or **Individual**.

- Press the button according to whether you want to set weekdays (Monday to Friday), Saturdays and Sundays, and all days (Monday to Sunday) all at once, or select and set the days of the week individually.



(1)

(2)

2 (1) If you press **Individual**, tap and select the target day of the week.

This setting is for each day of the week, and you cannot set multiple days of the week simultaneously.

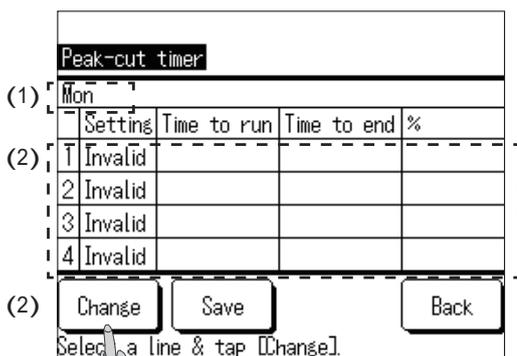
(2) To disable peak-cut for each day of the week, tap the box under the day of the week to disable.

 is displayed.

[Note] "Setting of day off" and "Day off" on the screen indicate that the peak-cut timer is invalid.

To cancel Invalid, tap the frame under the day of the week again.

 disappears, and the peak-cut becomes valid.



(1)

(2)

(2)

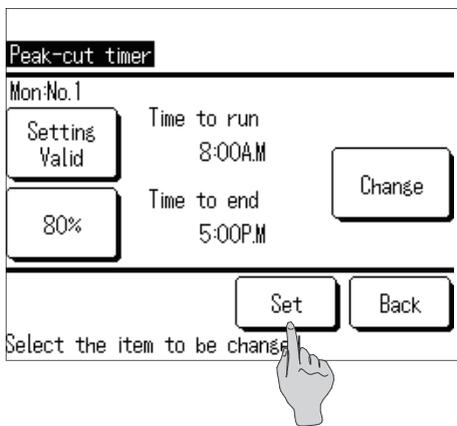
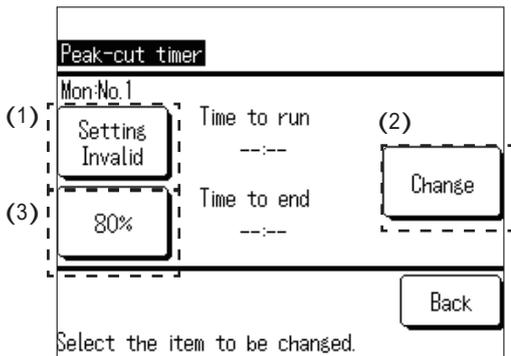
3 This lists the peak-cut timer settings within one day.

Up to four timers can be set within one day.

All the default timer settings are "Invalid".

(1) This displays the day of the week to change, "Weekdays", "Sat/Sun", and "All days" on the upper left corner of the screen.

(2) Tap the setting number to change, and press **Change**.



Peak-cut timer				
Mon				
	Setting	Time to run	Time to end	%
1	Valid	8:00AM	5:00PM	80%
2	Invalid			
3	Invalid			
4	Invalid			

Change Save Back

Select a line & tap [Change].

4 (1) Switch between Valid and Invalid in Setting.
Tap **Setting: Valid** or **Setting: Invalid**.
Valid/Invalid is switched in Setting, and the button display changes to **Setting: Valid** or **Setting: Invalid**.

(2) Switch the timer time.
Tap **Change**. The Time to run setting screen is displayed.
Tap **▲** / **▼**, change hour or minute, and tap **Set**. Change the Time to end in the same way, and tap **Set**.

(3) Change Peak-cut.
Tap **80%**, **60%**, **40%**, or **0%**. The display changes to the Peak-cut setting screen. Tap **▲** / **▼**, and change the peak-cut. Tap **Set**.

5 This displays the peak-cut timer settings.

Setting example

Set the capacity of 80% between 8:00 a.m. and 5:00 p.m.

Press **Set**.

6 This lists the peak-cut timer setting list for "Weekdays", "Sat/Sun", "All days", and "Individual day of the week".

Press **Save**.

- For "Individual", the display returns to the "Day of the week selection" screen.

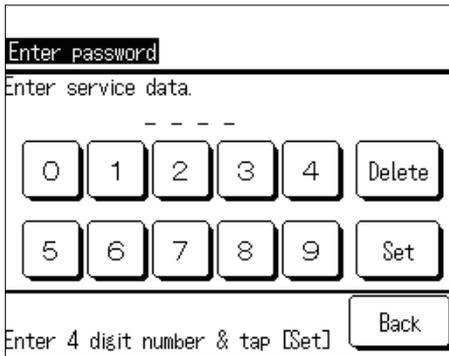
- For "Weekdays", "Sat/Sun", "All days", the confirmation screen is displayed. Press **Yes**.

4.2 Administrator settings

The below settings can be made in the Administrator settings menu.

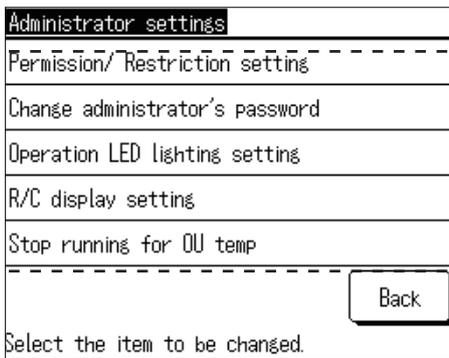
- Permission/ Restriction setting: Switches between the permission and prohibition of change operation for "Run/Stop", "Set temp", "Setting of schedule", "Operation mode", or "Language change setting". To prohibit operation by non-administrators, set Restriction.
- Change administrator's password: Changes the administrator password.
- Operation LED lighting setting: Changes the LED lighting status, or changes the LED colour (red/green).
- R/C display setting: Enter or change the R/C name, enter or change the Name of Unit, and switch the Display for defrosting operation.
- Stop running for OU temp: Changes the outside temperature limits to stop the unit.

① Displaying the Administrator settings menu



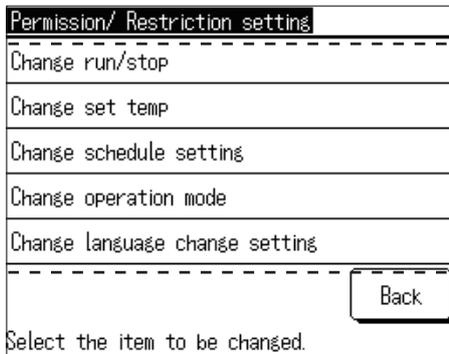
- 1 Press and enter the four-digit number of the administrator password, and tap **Set**.

The administrator password is set to "0000" by default.

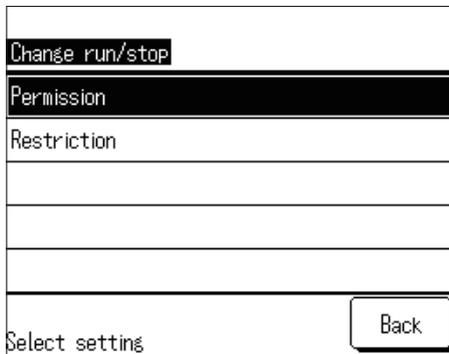


- 2 Tap the menu to change the setting on the "Administrator settings" menu screen: "Permission/Restriction setting", "Change administrator's password", "Operation LED lighting setting", "R/C display setting", or "Stop running for OU temp".

② Changing the Permission/Restriction setting



- 1 Tap the setting to change on the "Permission/Restriction setting" menu screen.



- 2 Tap **Permission** or **Restriction**.

If **Restriction** is set, you will not be able to operate or change each setting item from the current settings. To prevent accidental changes, set it to **Restriction**.

③ Change administrator's password

- 1 Press numbers and enter the four-digit number of the administrator password, and tap **Set**.

The "Password change completed" screen is displayed. After a few seconds, the display returns to the "Administrator settings" menu screen.

④ Changing the Operation LED lighting setting

- 1 Tap **Change LED lighting mode** or **Change LED colour**.

- 2 Tap **Setting 1 (LED ON during operation)** or **Setting 2 (LED ON in compressor's operation)**.

Setting 1 (LED ON during operation):

Lights "when the unit is running".

Setting 2 (LED ON in compressor's operation):

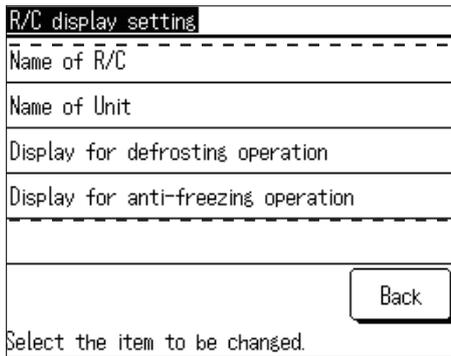
Lights when "Compressor is running".

* The running unit in this case includes status like "Thermostat OFF" or "OFF by timer function" in addition to "Compressor ON".

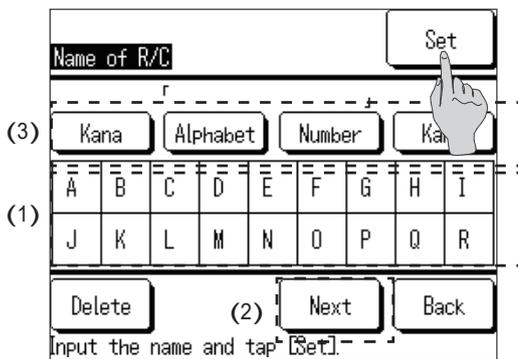
- 3 Tap **Red** or **Green**.

The colour of the LED lamp that lights up in Setting 1 or Setting 2 changes.

⑤ Changing the R/C function settings



- 1 On the "R/C display setting" menu screen, tap "Name of R/C", "Name of Unit", "Display for defrosting operation" or "Display for anti-freezing operation".



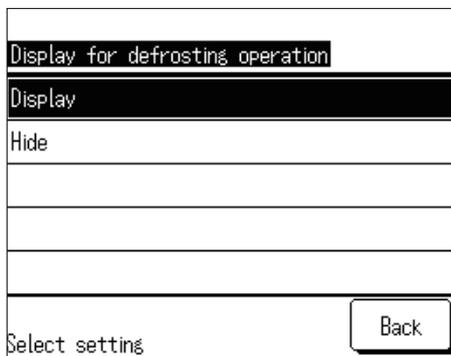
- 2 Enter "Name of R/C" or "Name of Unit".

- (1) Press and enter characters.
- (2) Press **Next** to change the displayed characters.
- (3) Press **Kana**, **Alphabet**, **Number**, or **Kanji** to change the character type.

After the entry is complete, tap **Set**.

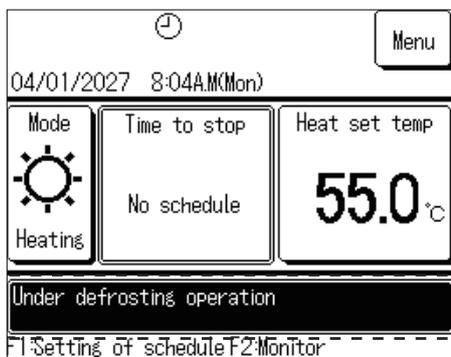
Name of R/C: Max. nine double-byte characters

Name of Unit: Max. four double-byte characters



- 3 Change "Display for defrosting operation".

Tap **Display** or **Hide**.

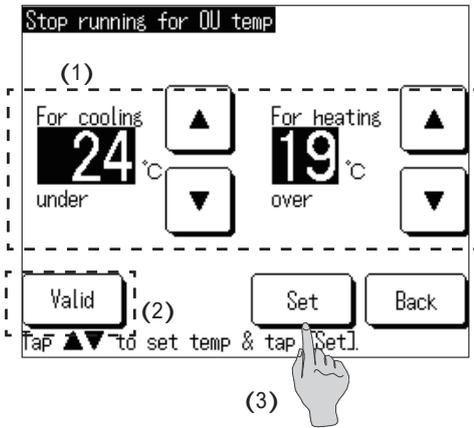


- 4 Tap **Display** to display the "Under defrosting operation" message on the TOP screen of the R/C under the unit defrosting operation.

This product defrosts one circuit at a time. When there're 2 circuits in 1 unit, this is displayed when either is running the defrost operation.

When multiple units are connected, this message is displayed if more than one unit is defrosting. "Display for anti-freezing operation" could be set in the same way.

⑥ Changing the Stop running for OU temp settings



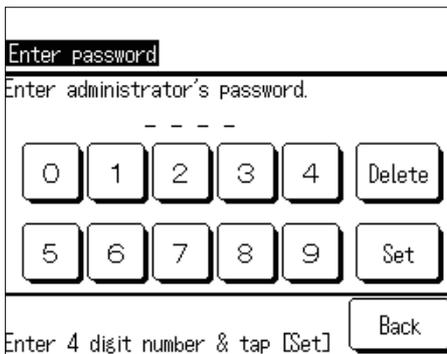
- 1 (1) Tap ▲ / ▼ to change the outside temperature limit.
- (2) Press Valid or Invalid to change Valid/Invalid of the "Stop running for OU temp" setting.
- (3) Tap Set.

4.3 R/C settings

The following R/C function settings are available.

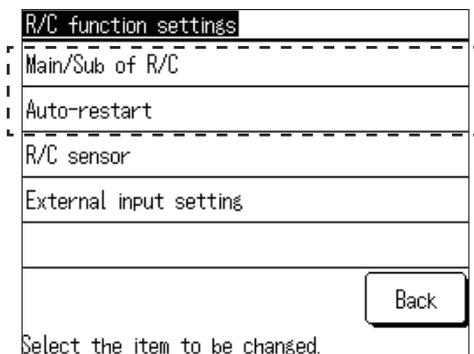
- Main/Sub of R/C: Change the Main/Sub setting of this device.
- Auto-restart: Set Auto-restart to Valid or Invalid.

① Displaying the R/C function settings menu



- 1 Press numbers and enter the four-digit number of the service password, and tap Set.

The service password is set to "9999" by default.



- 2 Tap "Main/Sub of R/C" or "Auto-restart" on the menu to change a setting on the "R/C function settings" menu screen.

② Changing the Main/Sub of R/C

Main/Sub of R/C

Main

Sub

Back

Select setting

1 Tap **Main** or **Sub**.

- If you select a setting opposite to the current setting, the CPU is reset to change the setting.
- If you have two R/Cs and change one to the opposite setting, the another R/C is also automatically set to the opposite setting.

③ Changing the Auto-restart

Auto-restart

Valid

Invalid

Back

Select setting

1 Tap **Valid** or **Invalid**.

- The Auto-restart function automatically restores the operating status before the power failure occurred. Once the power is back, the unit will recover from the restored operating status, mode, temp, etc.
- You can set Auto-restart to **Valid** to automatically restart the operation after the power is restored even if a power failure occurs.
- Factory setting: **Valid**

4.4 Service & Maintenance setting

The following Service & Maintenance settings are available.

- Next maintenance date: Set the date for next maintenance.
- Error display: Display the error history and delete the history.
- Special settings: CPU resetting (restore the default setting), Touch panel adjustment

Note

If the Restore the default setting is executed, the settings will revert to factory setting, including clock and schedule setting.

① Display the Service & Maintenance menu screen.

Enter password

Enter administrator's password.

0 1 2 3 4 Delete

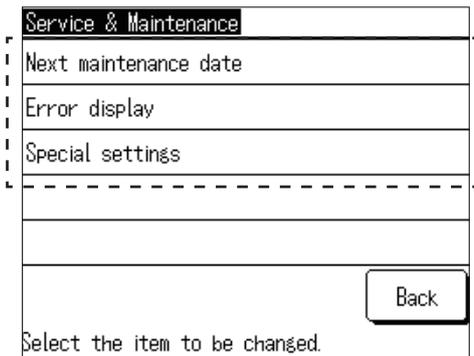
5 6 7 8 9 Set

Enter 4 digit number & tap [Set]

Back

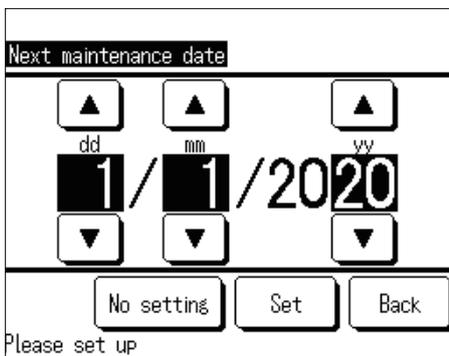
1 Press numbers and enter the four-digit number of the service password, and tap **Set**.

The service password is set to "9999" by default.

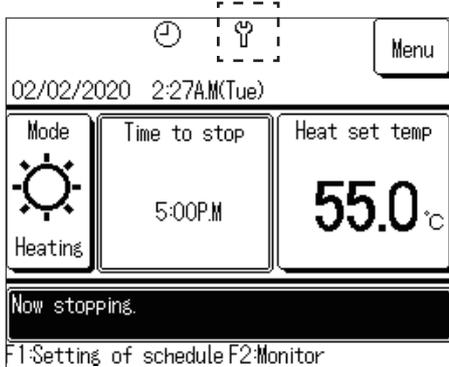


- 2 On the "Service & Maintenance" menu screen, tap the menu to change the settings: "Next maintenance date", "Error display", "Special settings".

② Next maintenance date

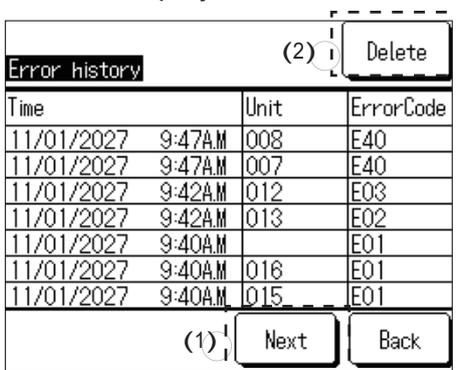


- 1 Press / , and change the month and day of the next maintenance date.
Tap .
• Skip the step by tapping .



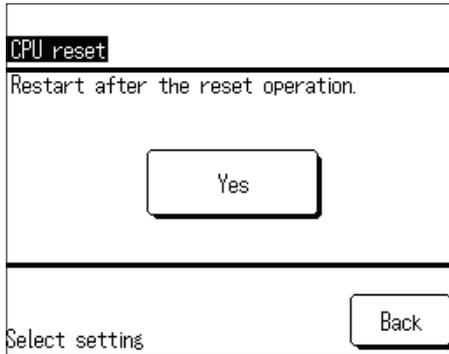
- 2 When the set date is reached, the maintenance mark  will be displayed on the TOP screen.

③ Error display



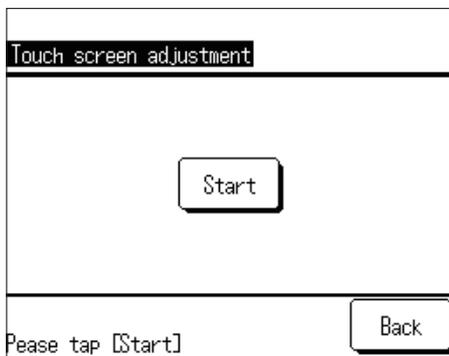
- 1 Tap to display the "Error history" screen.
• This displays the error occurrence time, unit address, and error code. If the unit address is displayed, it indicates some errors in certain units.
If MCU-C is displayed, this indicates an error in the MCU controller.
(1) Press to display the previous history.
• You can view information on the most recent 16 error occurrences.
(2) Tap , on the "Error history deletion confirmation" screen, then press to delete the error history.

④ Special settings: CPU reset (restore the default setting)

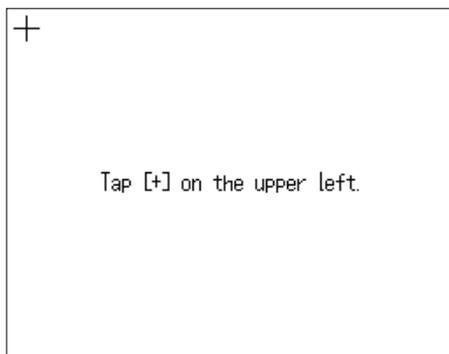


- 1 Tap **Yes** to execute CPU reset i.e. initialisation at first.
 - If CPU reset i.e. initialisation is executed, the white screen is displayed, then the unit restarts. After the power is back on, make initial settings again.
 - If initialisation is executed, the Clock setting and Setting of schedule are reset to the factory default.

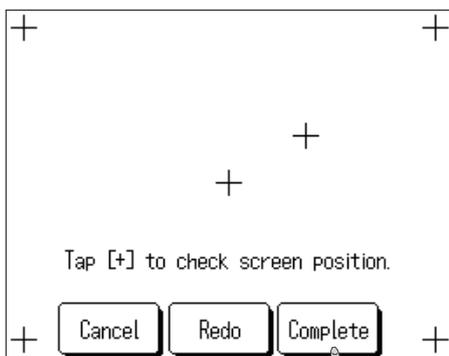
⑤ Special settings: Touch panel operation



- 1 Tap **Start**.



- 2 Tap **+**.
 - Follow the guide, to tap "+" on the upper left and lower right.



- 3 Check if "+" is displayed at the position you tapped on the screen.

If the position you tapped does not match the "+" display position, tap **Redo** to readjust.

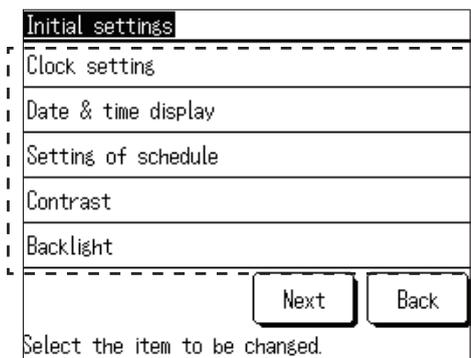
After checking, press **Complete**.

4.5 Initial settings

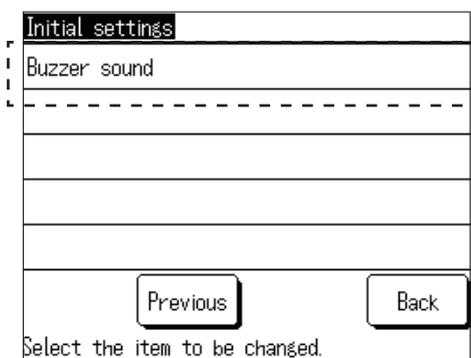
The initial settings below are available.

- Clock setting: Adjust the time.
- Date & time display: Change the Time on the TOP screen (Change the date, time, or day of the week, switch 12H/24H, or change the location of a.m./p.m. display).
- Setting of schedule: Switch the schedule function between Valid and Invalid.
- Contrast setting: Adjust the contrast of the touch panel (Entire, Top/Bottom).
- Backlight setting: Switch the backlight ON/OFF of the touch panel, Change the lighting time.
- Buzzer sound setting: Switch the buzzer sound ON/FF when tapped.

① Displaying the Initial settings menu



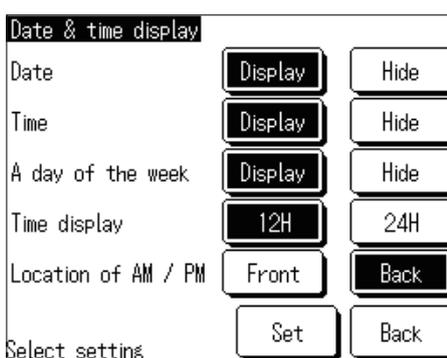
- 1 The "Initial settings" menu screen is displayed. Tap the menu to change the settings: "Clock setting", "Date & time display", "Setting of schedule", "Contrast", or "Backlight".



- 2 Press **Next** to display the "Buzzer sound" setting menu.

- ② Clock setting: Press **▲** / **▼** and change the date and time (refer to "2.2 R/C initial settings" - "(2) Clock setting").

③ Date & time display

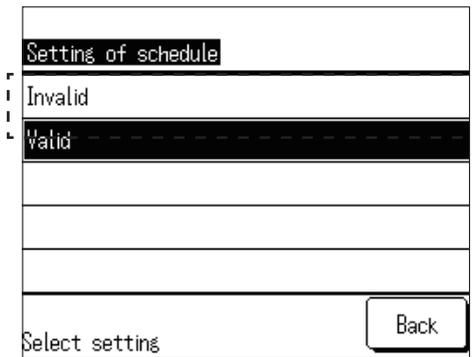


- 1 In each setting item, tap **Display** or **Hide**, **12H** or **24H**, or **Front** or **Back**.

Tap **Set**.

- If the display method is changed, the clock display method is changed on both the TOP screen and schedule screen.

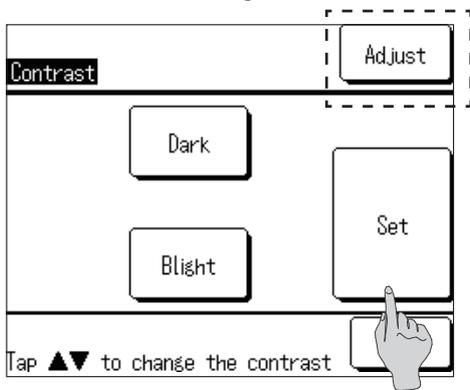
④ Setting of schedule



- 1 Tap **Valid** or **Invalid** on the "Setting of schedule" screen.

If you press **Invalid**, the schedule function becomes invalid, and you can operate Run/Stop of the unit using the **Run/Stop** switch of the main unit.

⑤ Contrast setting

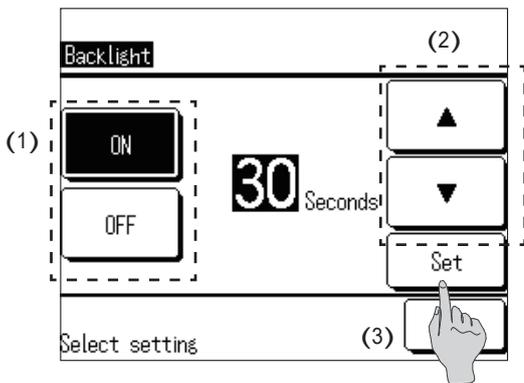


- 1 Press **▲Dark** / **▼Blight** on the "Contrast" screen (entire) to make adjustments.

Tap **Adjust** to display the "Upper/Lower Contrast" screen. Press **▲Dark** / **▼Blight** to make adjustments.

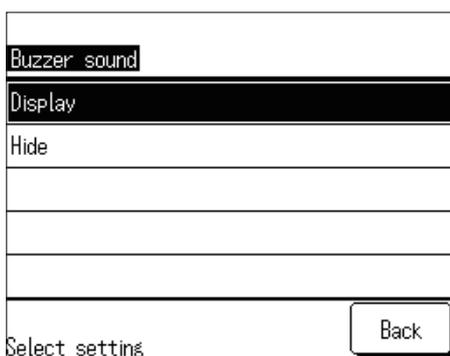
Tap **Set**.

⑥ Backlight setting



- 1 (1) Tap **ON** or **OFF** on the "Backlight" screen.
 (2) In the "ON" setting, press **▲** / **▼** and adjust the lighting time.
 - The lighting time can be set between five seconds and 90 seconds in five second increments.
 (3) Tap **Set**.

⑦ Buzzer sound setting



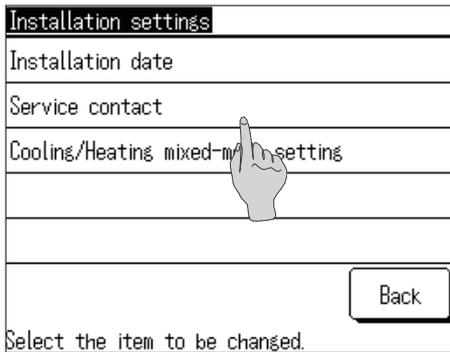
- 1 Press **Display** or **Hide**.

4.6 Installation settings

The Installation settings below are available.

- Installation date: Save the date when the unit was installed.
- Service contact: Save the contact name and phone number.
- Cooling/Heating mixed-mode setting: Switch the cooling/heating mixed mode.

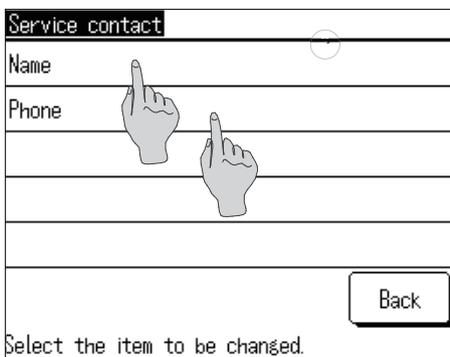
① Displaying the Installation settings menu.



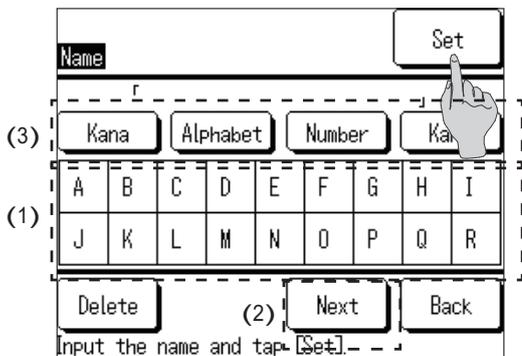
- 1 The "Installation settings" menu screen is displayed. Tap the menu to change the setting: "Installation date" or "Service contact".

② Installation date: Press / , change the date, and tap .

③ Service contact



- 1 Tap or on the "Service contact" menu screen.

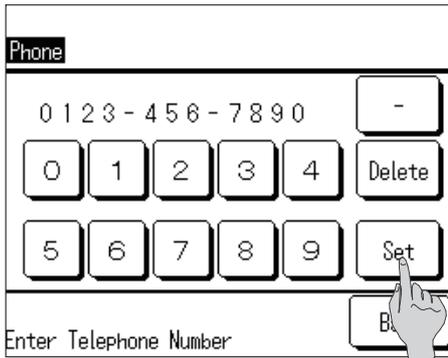


2 Enter "Name".

- (1) Press and enter characters.
- (2) Press to change the displayed characters.
- (3) Press , , , or to change the character type.

After the entry is complete, tap .

Max. 13 double-byte characters



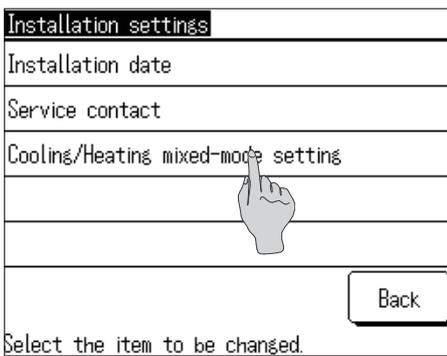
3 Enter "Phone".

Tap characters on the screen to enter the phone number.

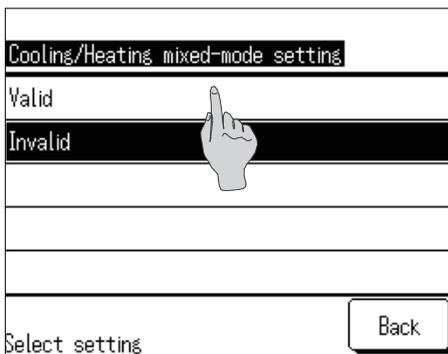
After the entry is complete, tap **Set**.

Max. 13 digits

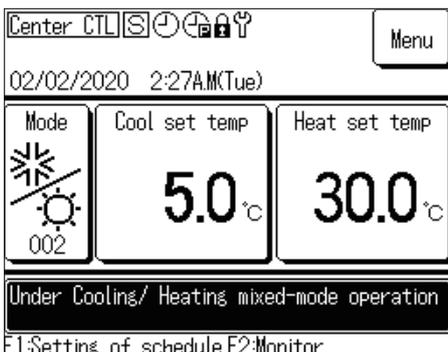
④ Cooling/Heating mixed-mode setting method



1 Press **Cooling/Heating mixed-mode setting** on the "Installation settings" menu screen.



2 Press **Valid**.



3 The display changes to the TOP screen of the C/H mix mode system.

4.7 Select language

The below display languages can be set.

Display languages: English, Italiano, Deutsch, Français, Español, Nederlandse

① Display the Select language menu.

Select language		
English		
Italiano		
Deutsch		
Français		
Español		
Set	Next	Back

Select a language

1 The "Select language" menu screen is displayed.

Tap the language you want to display.

To display the "Nederlandse", tap **Next**.

Select language		
Nederlandse		
Set	Previous	Back

Select a language