

# HITACHI

HEAT PUMPS

## REMOTE CONTROLLER FUNCTIONS & OPERATIONS



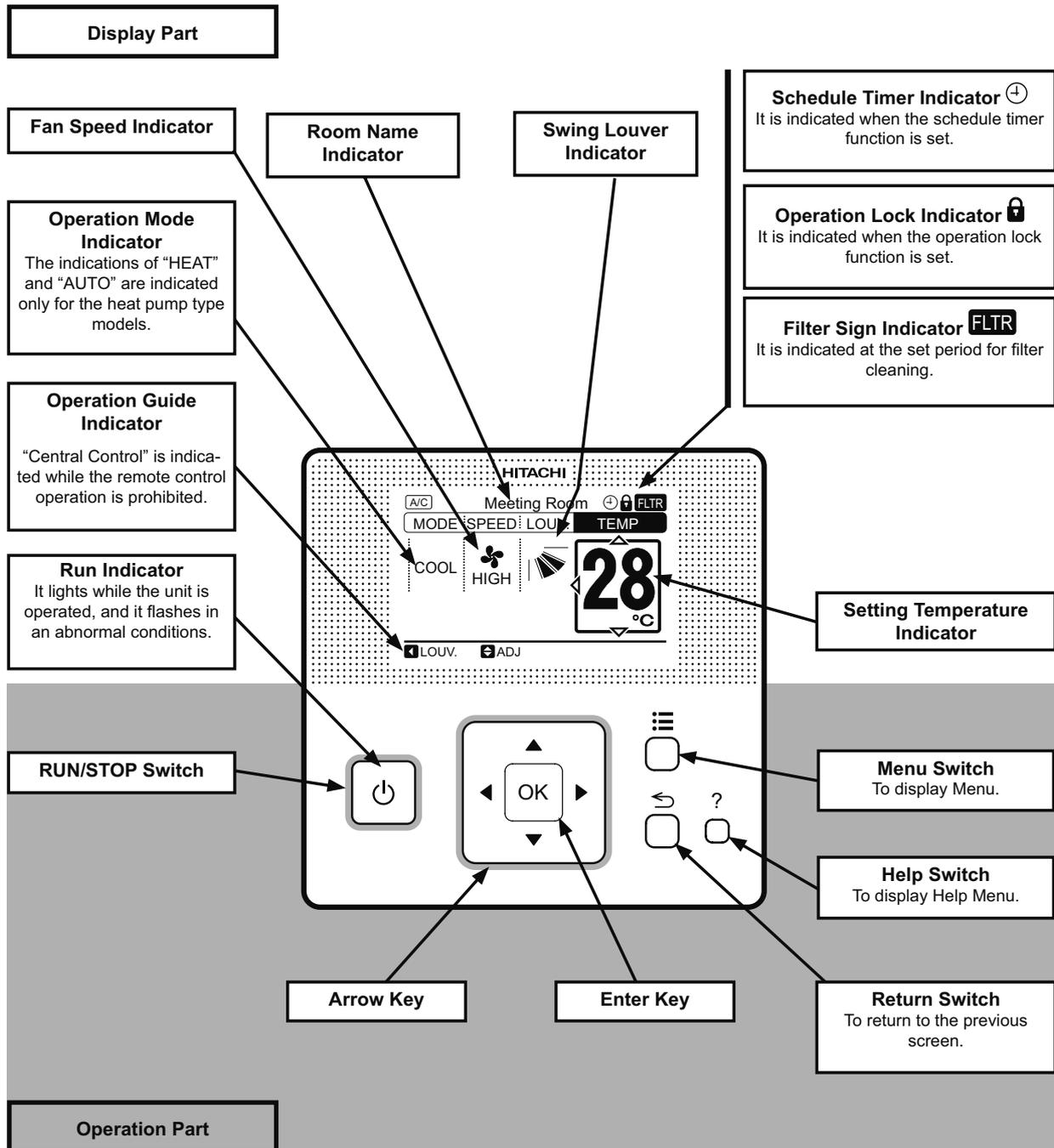
## PC-ARF User Guide

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### SWITCH NAMES AND FUNCTIONS

The figure below shows all the indications for reference. The actual display during operation is different.



**NOTE**

Do NOT press the switches hard or press with sharply pointed material such as a ball point pen. The operation part of the remote control switch may be damaged.

Make sure that the switches are pressed softly with fingers.

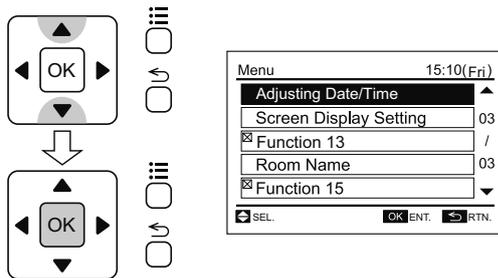
### ADJUSTING DATE/TIME

This function is used to adjust the date and time.

Periodic time setting is recommended. (Clock accuracy: difference within  $\pm 70$  seconds by month).

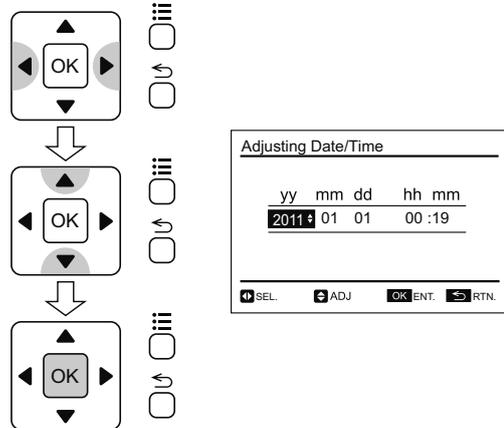
As for this remote control switch, the clock can work up to 72 hours when power failure occurs. Reset the date and time if the remote control switch remains without power supply for longer than 72 hours or main power supply is OFF for long time.

- 1 Select "Adjusting Date/Time" from the menu and press "OK".

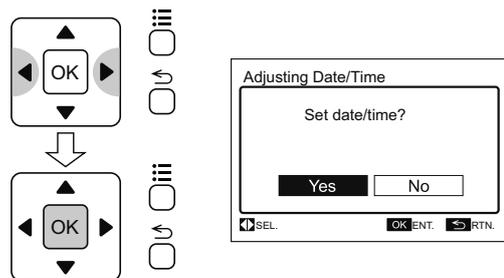


- 2 Press " $\triangleleft$ " or " $\triangleright$ " and select "yy/mm/dd/hh/mm".
- 3 Press " $\Delta$ " or " $\nabla$ " to change the setting. Press or keep pressing " $\Delta$ " or " $\nabla$ " to adjust numbers.

- 4 After the setting is completed, press "OK" and the confirmation screen will be displayed.



- 5 Select "Yes" by pressing " $\triangleleft$ " or " $\triangleright$ " and press "OK". The setting will be confirmed and the screen will return to the normal mode.

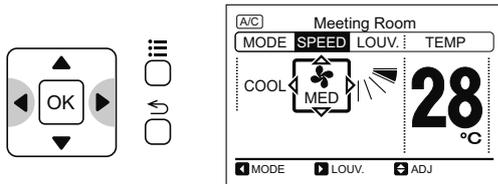


## OPERATION METHOD

### 1 BASIC OPERATION

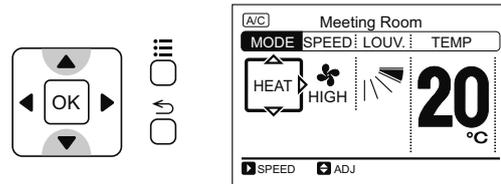
#### 1 Item Selection.

By pressing “◀” or “▶”, the icon “” will move to the next item in order of the indications “MODE”, “SPEED”, “LOUV.” and “TEMP”.



#### 2 Change of Settings

With the item (“MODE”, “SPEED”, “LOUV.” or “TEMP”) selected, press “Δ” or “∇”. The setting will be changed.



### 2 OPERATION MODE (COOLING, HEATING, DRY, COOLING/HEATING AUTOMATIC AND AIR FLOW OPERATION)

#### ◆ Function

- Cooling Operation (COOL):

To decrease the room temperature.

- Heating Operation (HEAT):

To increase the room temperature.

- Dry Operation (DRY):

To decrease the humidity in the room.

- Cooling/Heating Automatic Operation (AUTO):

To cooling and heating automatic changeover.

- Air Flow Operation (FAN):

To circulate the air in the room.

#### NOTE

The available set temperature is as follows:

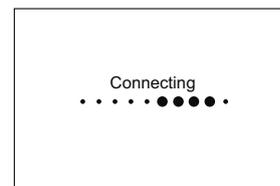
- Cooling Operation: 19 to 30°C
- Heating Operation: 17 to 30°C
- Dry Operation: 19 to 30°C

#### ◆ Before Operation

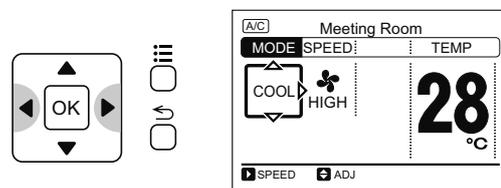
#### CAUTION

- Supply the electrical power to the system for approximately 12 hours before start-up after long shutdown. Do not start the system immediately after the power supply, it may cause a compressor failure, because the compressor is not heated well. Do NOT turn OFF the power supply during the seasons.
- Make sure that the outdoor unit is not covered with snow or ice. If covered, remove it by using hot water (less than 50°C).
- If the water temperature is higher than 50°C, it will cause damage to plastic parts.

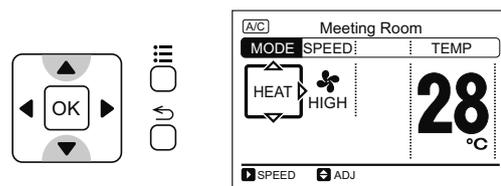
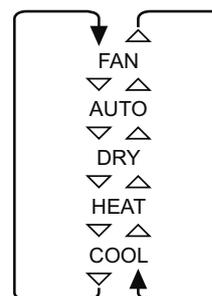
#### 1 Turn ON the power supply.



#### 2 Press “◀” or “▶” and select “MODE”.



#### 3 By pressing “Δ” or “∇”, the operation mode will be changed as follows.



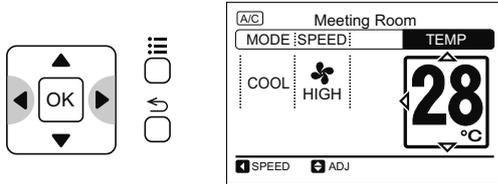
#### NOTE

The advanced setting is required for the “AUTO” operation. Contact your distributor or dealer of HITACHI for detailed information.

### SETTING METHOD

#### 1 TEMPERATURE SETTING

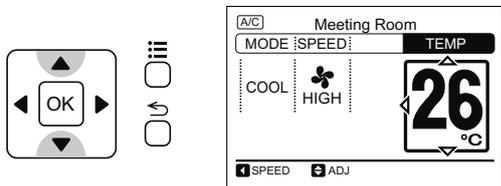
1.1 Press “◀” or “▶” and select “TEMP”.



#### **i** NOTE

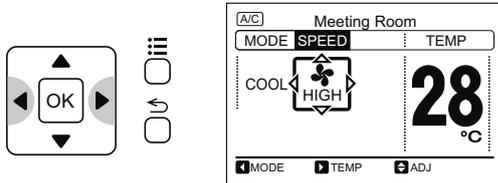
The max/min temperature is available to change by setting the cooling lower limit for setting temperature (or heating upper limit for setting temperature) from the function selection.

1.2 By pressing “Δ”, the temperature is increased by 1°C. (Max. 30°C). By pressing “∇”, the temperature is decreased by 1°C. (Cooling, Dry, Air Flow operation: Min. 19°C) (Heating operation: Min. 17°C).



#### 2 FAN SPEED

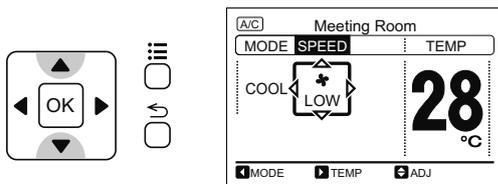
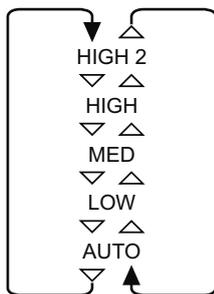
2.1 Press “◀” or “▶” and select “SPEED”.



#### **i** NOTE

- During the dry operation, the fan speed is automatically changed to “LOW” and cannot be changed to other fan speed. (“LOW” will NOT be displayed on LCD (liquid crystal display) at this time. The present setting condition will be displayed on LCD).
- The fan speed settings “HIGH 2” and (or) “AUTO” may not be available depending on the indoor unit type.

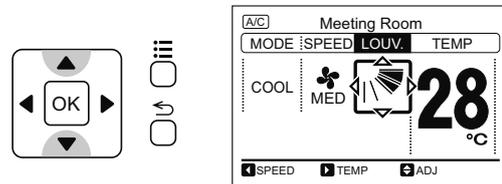
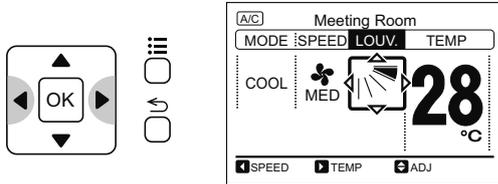
2.2 By pressing “Δ” or “∇”, the fan speed will be changed as follows.



### 3 SWING LOUVER DIRECTION

- 1 Press "⏻" (run/stop). Make sure that the operation is started. Press "◀" or "▶" and select "LOUV".

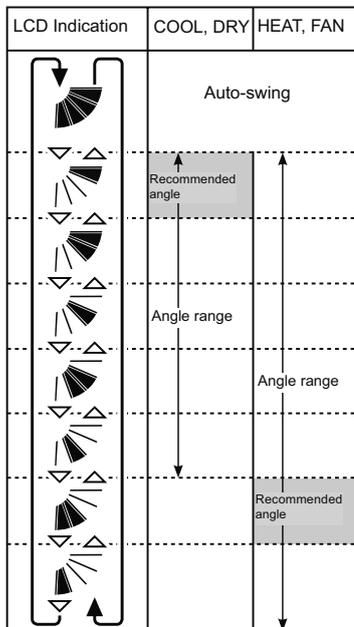
 : Auto swing operation will be started. At this time, the louver will swing repeatedly on LCD.



#### NOTE

For the indoor unit without the auto louver mechanism, the indication of "LOUV." will NOT be displayed on LCD.

- 2 By pressing "▲" or "▼", the louver direction will be changed as follows.



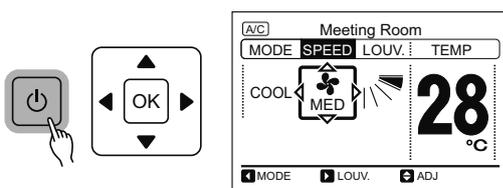
#### NOTE

- The air flow angle is different for each indoor unit type. Check Installation & Operation Manual for Indoor Unit to be used for the detailed information.
- Louver position on LCD and the actual louver position may not match during the auto swing operation. To fix the louver positions, set the angle after checking the position on LCD.
- The louver may NOT stop immediately right after the switch is pressed.

## OPERATION

### 1 OPERATION START

Press "⏻" (run/stop). The run indicator will be turned on and the operation will be started.



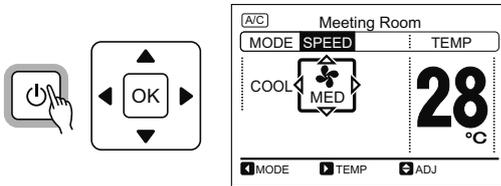
#### NOTE

##### Temperature/Air Flow Setting

The setting condition will be memorized once after the setting is confirmed, therefore the daily setting is not required. In case that the setting change is required, refer to the Operation Method and Setting Method chapters.

### 2 OPERATION STOP

Press “” (run/stop) again. The run indicator will be turned off and the operation will be stopped.



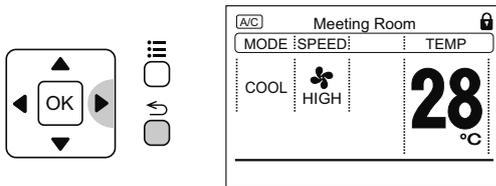
#### NOTE

After the heating operation is stopped, the air flow operation may be activated for approximately 2 minutes.

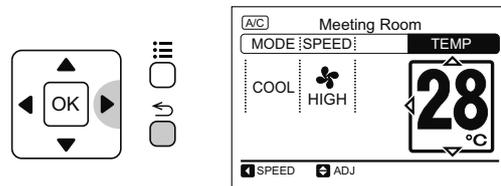
### 3 OPERATION LOCK

- This function is used to lock the setting from the remote control switch.
- The following functions are applicable.
  - a. Operation Mode (MODE)
  - b. Temperature Setting (TEMP)
  - c. Fan Speed (SPEED)
  - d. Swing Louver Direction (LOUV)

- 1 Setting of the operation lock, press “” and “” (return) simultaneously for 3 seconds. The icon of “” will be turned ON. Even when “” or “” is pressed, locked setting items will be skipped.



- 2 Cancellation of the operation lock, press “” and “” (return) simultaneously for 3 seconds. “” will be turned OFF, and operation lock will be canceled.



#### NOTE

- Every time pressing “” and “” (return) simultaneously for 3 seconds, the operation lock state will be switched alternately to locked/unlocked.
- Select the functions to lock at the function selection setting. Contact your distributor or dealer of HITACHI for detailed information.

## MENU OPERATION

### 1 MENU

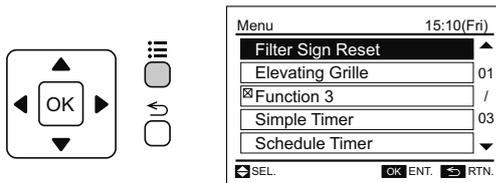
Every setting function is displayed in the menu. Refer to the following sections for each function.

#### NOTE

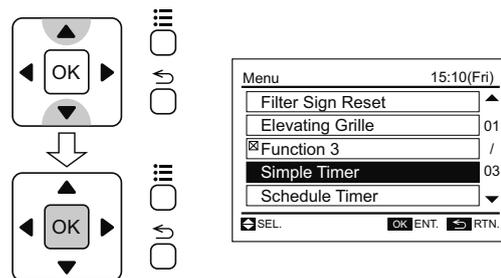
: Unable to set.

If the function with “” is selected from the menu, “No Function” or “Setting Disabled” will be displayed on the lower screen.

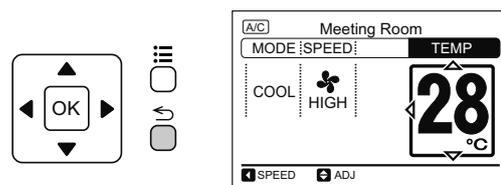
- 1 Press “” (menu). The menu will be displayed.



- 2 Select the function by pressing “” or “” and press “OK”. (“” will be displayed if the function is not available).



- 3 Press “” (return) to return to the normal mode (Operation Mode Indication).



#### NOTE

If the menu screen remains unchanged for approximately 10 minutes, the screen will automatically return to the normal mode.

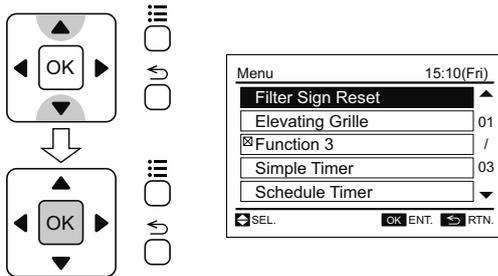
### 2 FILTER SIGN RESET

This function is used to turn off the filter sign indication.

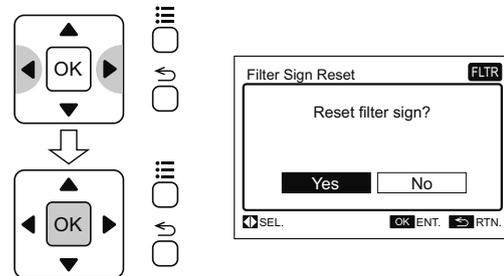
#### **i** NOTE

If the function with the indication of "☒" is selected from the menu, "Setting Disabled" will be displayed because the setting accumulated time by function b4 is insufficient.

- 1 Select "Filter Sign Reset" from the menu and press "OK". The confirmation screen will be displayed.



- 2 Select "Yes" by pressing "<" or ">" and press "OK". The indication of "FLTR" will be turned OFF and the screen will return to the normal mode.

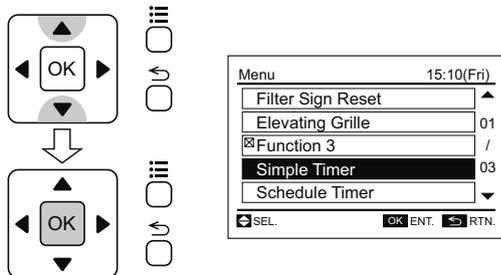


### 3 SIMPLE TIMER OPERATION

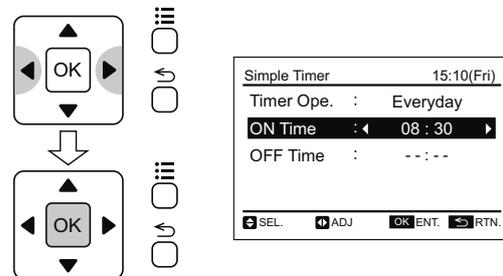
This function is used to start or stop the unit operation at the setting time.

The timer operation contents can be set from "Once" or "Everyday".

- 1 Select "Simple Timer" from the menu and press "OK". The simple timer setting will be displayed.



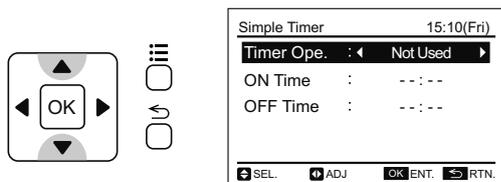
- 3 Press "<" or ">" to set each setting content for the selected item. When "Timer Ope." is selected, the setting contents are switched in order of "Not Used" ↔ "Once" ↔ "Everyday" by repeatedly pressing "<" or ">". When "ON Time" or "OFF Time" is selected, the setting time can be set every 30 minutes by pressing "<" or ">". Press and hold "<" or ">", the setting time can be continuously indicated.



#### **i** NOTE

If the present time has not been set yet, automatically "Set Date/Time" will be displayed. Refer to Adjusting Date/Time section.

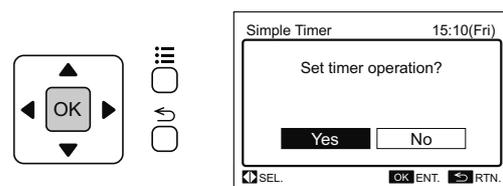
- 2 Press "Δ" or "∇" to select the setting items. The setting items are displayed "Timer Ope.", "ON Time" and "OFF Time".



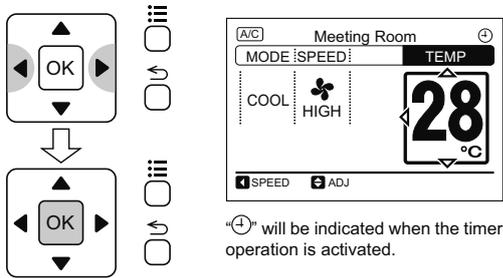
#### **i** NOTE

If "Once" of the timer operation setting is selected, the setting content will be automatically changed to "Not Used" after "Once" timer operation.

- 4 Press "OK" to finish the simple timer setting. The confirmation screen will be displayed.



- Select "Yes" by pressing "<" or ">" and press "OK". The setting will be confirmed and the screen will return to the normal mode.



### NOTE

In the case of the following condition, the simple timer operation is NOT available:

- When the prohibiting operation by remote control switch is set from the central controller.
- When “⊗” is indicated on LCD, the timer operation cannot perform. Set the date and time according to Adjusting Date/Time section.

## 4 SCHEDULED OPERATION

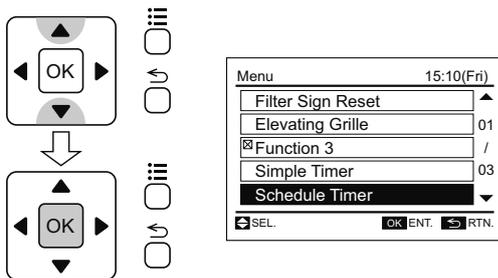
### 4.1 Schedule Setting

This function is used to start or stop the unit operation at the setting time.

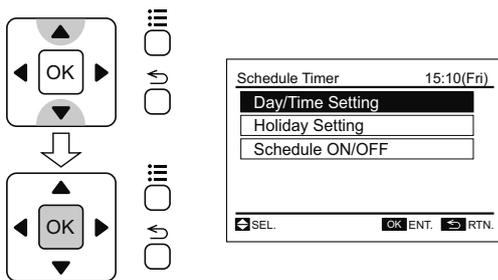
Temperature can be also set when the unit is operated.

Five different schedule timers (max.) can be set for each day of the week.

- Select "Schedule Timer" from the menu and press "OK".



- Select "Day/Time Setting" by pressing "Δ" or "∇" and press "OK".



### NOTE

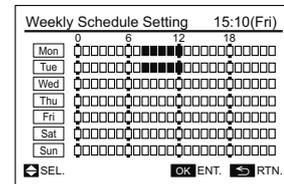
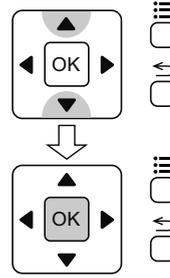
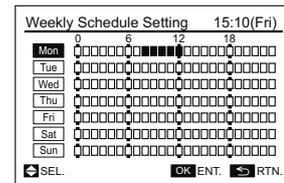
If the present time has not been set yet, automatically "Set Date/Time" will be displayed. Refer to Adjusting Date/Time.

- Select the day of the week (from Monday to Sunday) by pressing "Δ" or "∇". Press "OK".
  - “■” (run) and “□” (stop) will be displayed on LCD.
  - To copy the setting contents of the previous day, press "<" and "OK" simultaneously.

### Example:

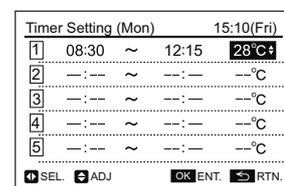
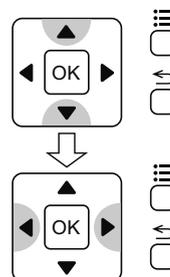
The setting contents of Monday are copied in Tuesday.

- Select "Tue".
- Press "<" and "OK" simultaneously.
- The setting contents of Monday are copied in Tuesday.



- Select the schedule No (from 1 to 5) by pressing "Δ" or "∇". Select "ON Time", "OFF Time" or "Setting Temperature" by pressing "<" or ">". Set the ON/OFF timer and temperature by pressing "Δ" or "∇".

- Press or keep pressing "Δ" or "∇" to adjust numbers.
- Five different schedule timers (max) can be set for each day of the week.



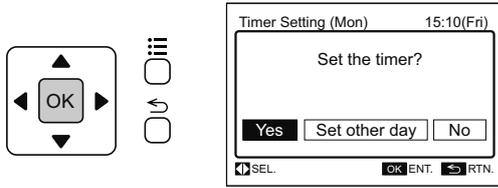
The figure shows that following timers are set for Monday;

ON Timer: 8:30

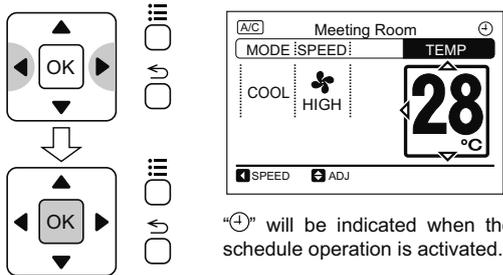
OFF Timer: 12:15

Setting Temperature: 28°C

5 Press "OK". The confirmation screen will be displayed.



6 Select "Yes" by pressing "<" or ">" and press "OK". The setting will be confirmed and the screen will return to the normal mode. To set other days of the week, select "Set other day" and press "OK".



"+" will be indicated when the schedule operation is activated.

### NOTE

In the case of the following condition, the schedule operation is NOT available;

- When the prohibiting operation by remote control switch is set from the central controller.
- When "⊗" is indicated on LCD, the schedule operation cannot perform. Set the date and time according to Adjusting Date/Time section.

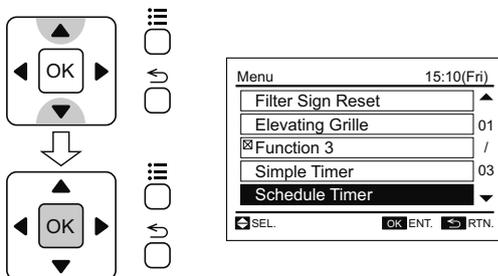
## 4.2 Holiday Setting

This function is used to deactivate the schedule operation temporarily.

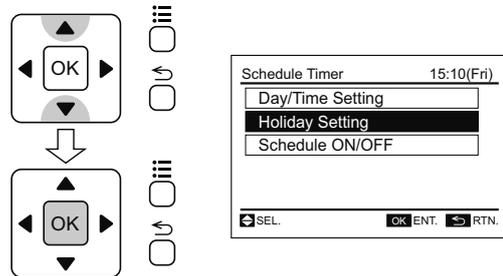
This function is used to deactivate the schedule operation just for one day. After that, the schedule operation will recover automatically.

This function is used to set irregular schedules such as national holidays.

1 Select "Schedule Timer" from the menu and press "OK". The schedule timer setting will be displayed.

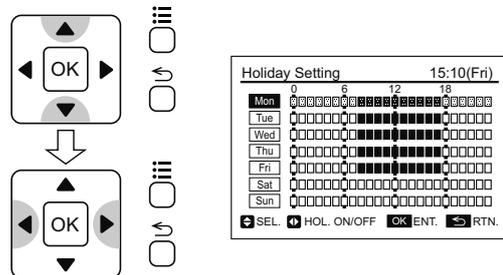


2 Select "Holiday Setting" by pressing "Δ" or "∇" and press "OK".

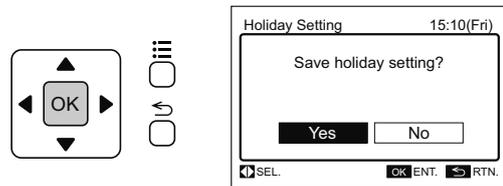


3 Select the day of the week to stop the operation by pressing "Δ" or "∇". Select "HOL. ON/OFF" by pressing "<" or ">".

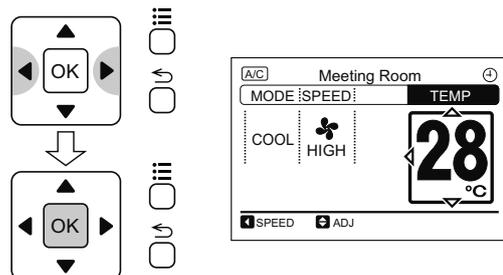
"⊗" and "⊕" will be changed to "⊗" and "⊕" on LCD.



4 Press "OK" after the setting is completed. The confirmation screen will be displayed.



5 Select "Yes" by pressing "<" or ">" and press "OK". The holiday setting will be confirmed and the screen will return to the normal mode.



### NOTE

"⊕" will be turned off when the holiday setting is activated.

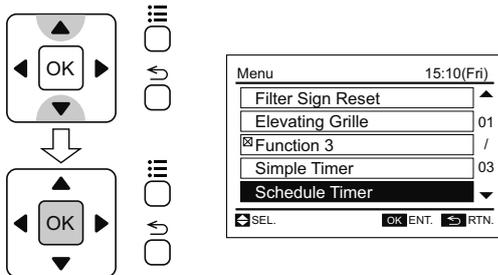
### 4.3 Schedule ON/OFF Setting

This function is used to deactivate the schedule operation temporarily.

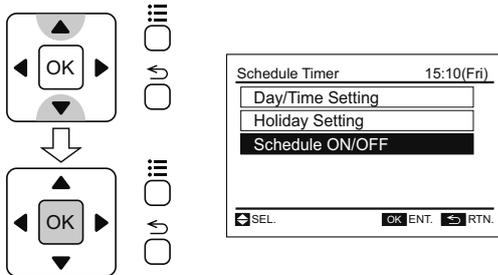
The schedule operation will not be carried out when "OFF" is set in this function.

This function is used to apply for long period of holidays.

- 1 Select "Schedule Timer" from the menu and press "OK".



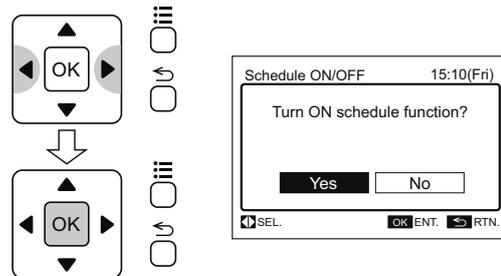
- 2 Select "Schedule ON/OFF" by pressing "Δ" or "∇" and press "OK". The confirmation screen will be displayed.



- 3 Select "Yes" by pressing "◀" or "▶" and press "OK". The schedule ON/OFF setting will be confirmed and the screen will return to the normal mode.

"⊕" will be turned on when the setting of schedule operation is valid.

"⊕" will be turned off when the setting of schedule operation is invalid.



#### **i** NOTE

**Even if the setting of schedule operation is invalid, the schedule operation will be activated.**

## 5 INDIVIDUAL LOUVER SETTING

### 5.1 Setting

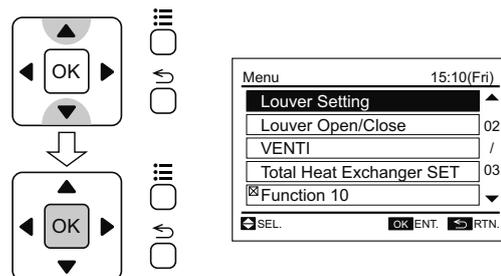
This setting is available only for the indoor unit adopting the individual louver. The each louver angle can be set individually.

#### **i** NOTE

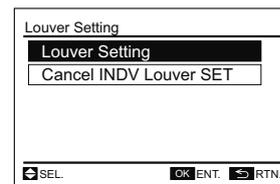
- This function is available only when the indoor unit corresponds to the individual louver.
- This function cannot be set when the unit is stopped.
- The fan speed will be changed to "LOW" while this function is being set. (After the setting is completed, the unit operation will be back to normal).
- As for "Start-up of Heating Operation", "During Defrost Operation" and "Activation of Thermo-Controller", all the louver angles will be fixed at horizontal position automatically even when this function is activated.
- This function will not be available if 2 (two) remote control switches (including multifunctional remote control switch + wireless remote control switch) are used.
- With one multifunctional remote control switch, the maximum of 4 (four) indoor units can be set for this function.

- 1 Select "Louver Setting" from the menu and press "OK".

The individual louver setting menu will be displayed.



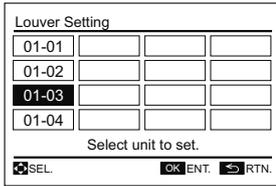
- 2 Select "Louver Setting" from the individual louver setting menu and press "OK".



#### **i** NOTE

**If the number of indoor unit connected with the remote control switch is 1 (one), (4) will be displayed after the procedure (2).**

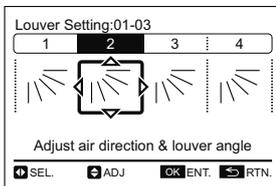
- Select the indoor unit to change the louver direction by pressing “Δ”, “∇”, “◀” or “▶”. Press “OK”.



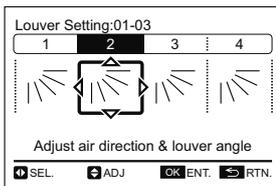
### **i** NOTE

The indoor unit displayed on the screen flashes if the individual louver is set.

- Press “◀” or “▶” and select the louver from 1 to 4. The selected louver is opened and the other louvers are closed.



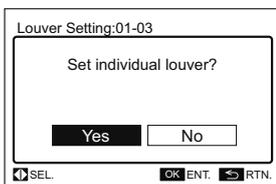
- Select the louver angle by pressing “Δ” or “∇” and press “OK”. The confirmation screen will be displayed.



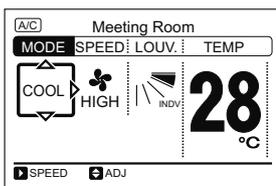
The louver angle will be changed as follows.



- Select “Yes” by pressing “◀” or “▶” and press “OK”. The setting is confirmed and the screen will return to the normal mode.

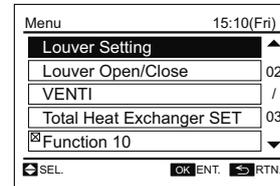


- Ensure that “INDV” is turned on at the air flow section on the normal mode.

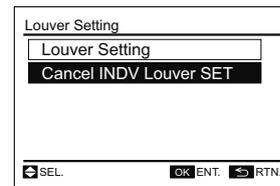


## 5.2 Cancellation of Louver Setting

- Select “Louver Setting” from the menu and press “OK”.



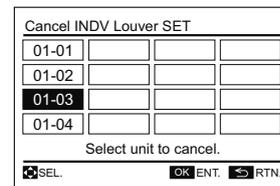
- Select “Cancel INDV Louver SET” from the individual louver set and press “OK”.



### **i** NOTE

If the number of indoor unit connected with the remote control switch is 1 (one), (4) will be displayed after the procedure (2).

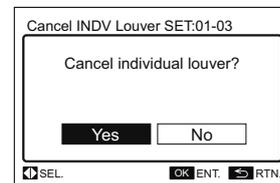
- Select the indoor unit to cancel by pressing “Δ”, “∇”, “◀” or “▶”. Press “OK”. The confirmation screen will be displayed.



### **i** NOTE

The indoor unit displayed on the screen flashes if the individual louver is set.

- Select “Yes” by pressing “◀” or “▶” and press “OK”. The individual louver setting will be cancelled and the screen will return to the normal mode.



### **i** NOTE

All the individual louver setting will be cancelled.

### 6 SCREEN DISPLAY SETTING

#### Display Adjustment

##### ◆ Function

- Time Format:

To change the time form to 12 hour or 24 hour.

- Brightness:

To adjust the brightness of backlight.

- Back light:

To change the time (5, 15 or 30 seconds) between ON and OFF of backlight.

- Contrast:

To adjust the degree of difference between light and dark parts of LCD.

- On/Off lamp (Run Indicator Lamp Brightness):

To adjust the brightness of run indicator.

- 4 Press “<” or “>” and set the display.

- Time Format:

The time form is changed as follows; 12 Hour ↔ 24 Hour

- Brightness:

Press “<” or “>” and the brightness of backlight is changed.

- Back light:

The display backlight is OFF after the specified time interval of inactivity (no input from touch screen). The backlight off time interval can be selected as follows;

5 Seconds ↔ 15 Seconds ↔ 30 Seconds

- Contrast:

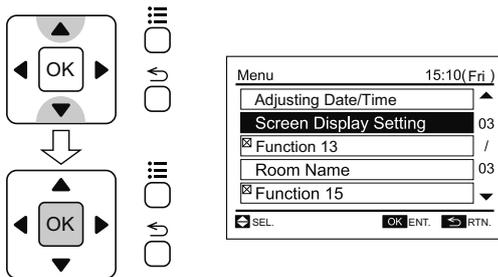
Press “<” or “>” and the degree of difference between light and dark parts of LCD is changed.

- On/Off lamp:

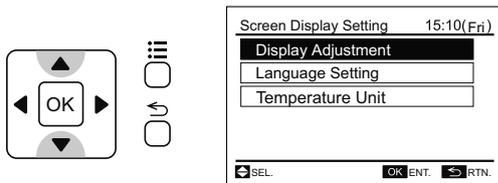
Press “<” or “>” and the brightness of run indicator is changed.

After the setting is completed, press “OK”. The confirmation screen will be displayed.

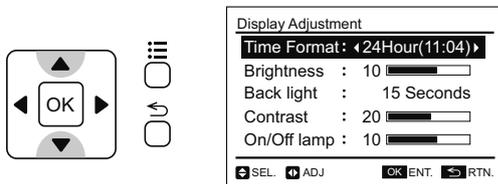
- 1 Select “Screen Display Setting” from the menu and press “OK”.



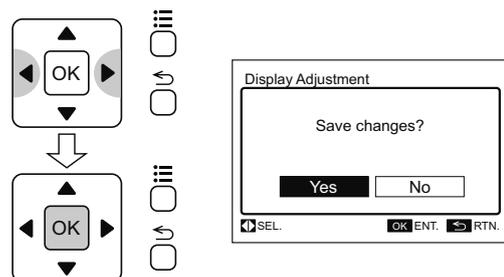
- 2 Select “Display Adjustment” by pressing “△” or “▽”.



- 3 Select the setting item by pressing “△” or “▽”. The indication is changed in order of “Time Format”, “Brightness”, “Back light”, “Contrast” and “On/Off lamp”



- 5 Select “Yes” by pressing “<” or “>” and press “OK”. The setting will be confirmed and the screen will return to the normal mode.



## HELP MENU

### 1 HELP MENU

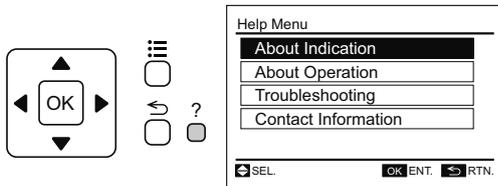
The explanation of indicators on LCD and operations can be found in the help menu.

The purpose of this function is to support manual operation.

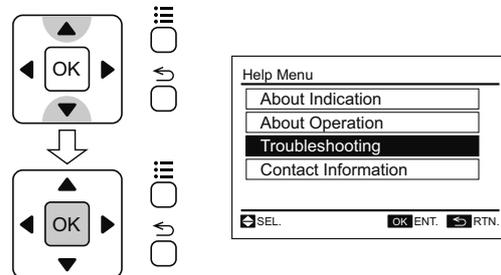
Refer to the following sections for more details.

#### 1 Press “?” (help).

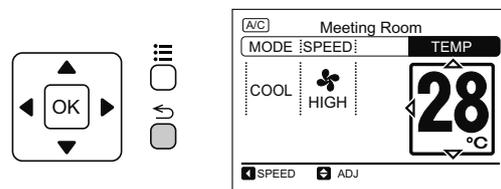
The help menu will be displayed.



#### 2 Select the item from the help menu by pressing “△” or “▽” and press “OK”.



#### 3 To return to the normal mode, press “↵” (return).



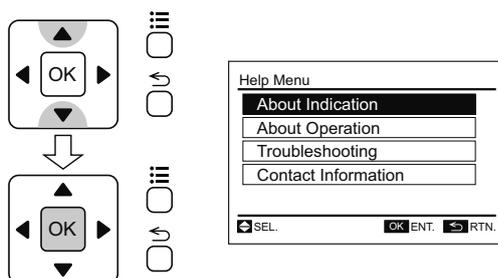
#### **i** NOTE

*If the menu screen remains unchanged for approximately 10 minutes, the screen will automatically return to the normal mode.*

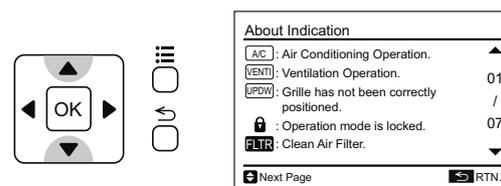
## 2 INDICATORS ON LCD

This function is used when the explanation of each icon on LCD is required.

#### 1 Select “About Indication” from the help menu and press “OK”. The explanation of indicators on LCD will be displayed.

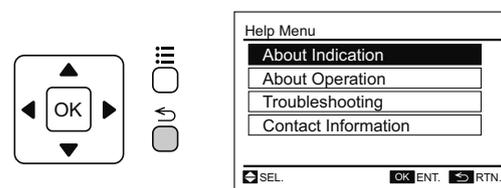


#### 2 Press “△” or “▽” to scroll the text up and down.



#### 3 Press “↵” (return). The screen will return to the help menu.

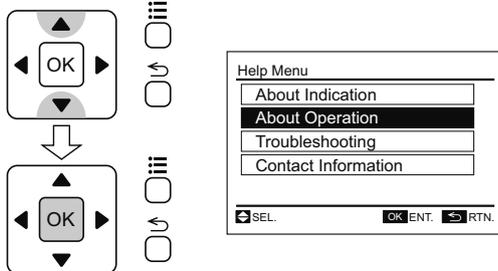
To return to the normal mode, press “↵” (return) again.



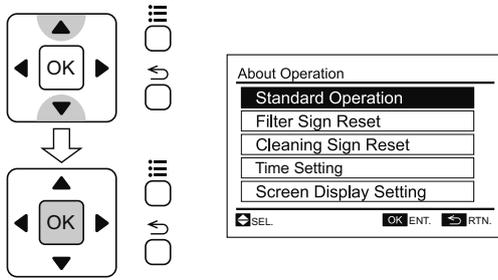
### 3 ABOUT OPERATION

This function is used when the explanation of operations and operation methods is required.

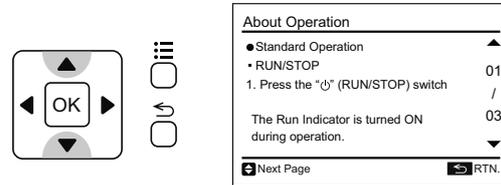
- 1 Select "About Operation" from the help menu and press "OK".  
The explanation of operation list will be displayed.



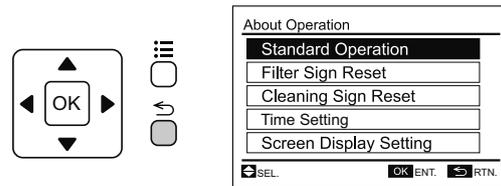
- 2 Select the operation from the list by pressing "Δ" or "∇" and press "OK". The explanation of the selected operation will be displayed.



- 3 Press "Δ" or "∇" to scroll the text up and down.

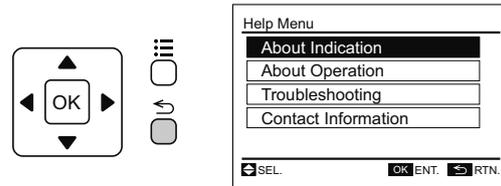


- 4 Press "↵" (return). The screen will return to the operation item.



- 5 Press "↵" (return). The screen will return to the help menu.

To return to the normal mode, press "↵" (return) again.

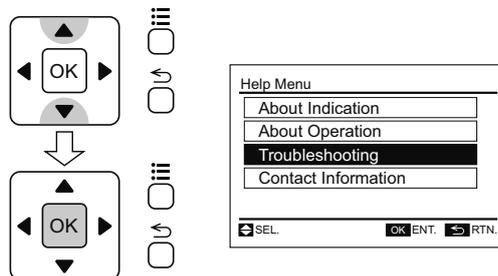


### 4 TROUBLESHOOTING

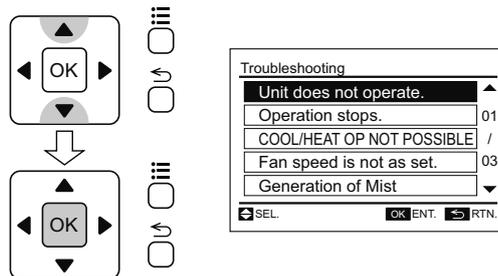
This function is used to troubleshoot.

Make sure that the troubleshooting is read carefully before requesting for repairs.

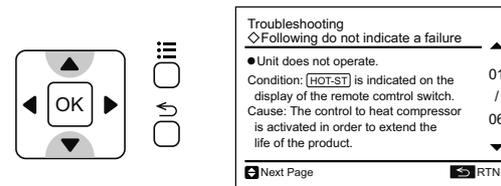
- 1 Select "Troubleshooting" from the help menu and press "OK".  
The list of troubleshooting will be displayed.



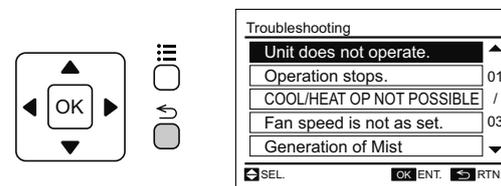
- 2 Select a problem from the list by pressing "Δ" or "∇" and press "OK". The details of the selected problem will be displayed.



- 3 Press "Δ" or "∇" to scroll the text up and down.

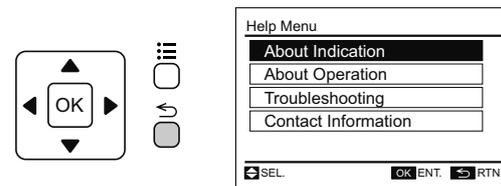


- 4 Press "↵" (return). The screen will return to the list of troubleshooting.



- 5 Press "↵" (return). The screen will return to the help menu.

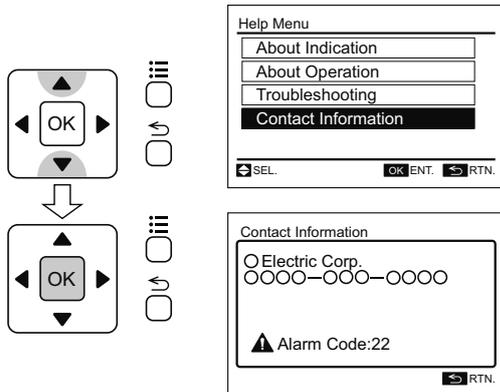
To return to the normal mode, press "↵" (return) again.



### 5 CONTACT INFORMATION

The screen will display contact information and the latest alarm code.

- 1 Select "Contact Information" from the help menu and press "OK". The contact information and the latest alarm code will be displayed.



- 2 Press "↵" (return). The screen will return to the help menu.

To return to the normal mode, press "↵" (return) again.



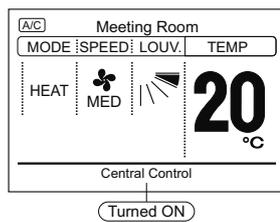
## OTHER INDICATIONS

### 1 IN NORMAL CONDITION

#### 1.1 Central Control

“Central Control” is turned ON.

In case that the prohibiting operation by remote control switch is set from the central controller, operation, temperature setting, fan speed and direction setting are not available from the remote control switch.



#### 1.2 Thermo-controller

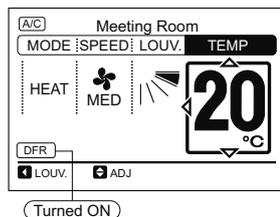
The fan speed is changed to “LOW” at the thermo-controller actuation. However, the indication is not changed. (Only in the heating operation mode)

#### 1.3 Defrost

- Defrost Operation

“DFR” is turned ON during the defrosting.

The indoor fan is stopped though the indication is not changed. The louver is fixed at the horizontal position. However, the louver indication of LCD continues to activate.



- Operation Stoppage during Defrosting Operation

The RUN indicator (Green) is turned OFF when the operation is stopped during the defrosting.

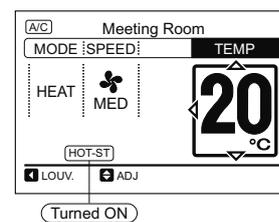
However, the operation continues with “DFR” indication, and the unit is stopped after the defrost operation is finished.

#### 1.4 Operation Control

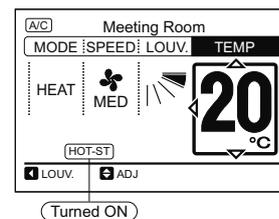
- Supplying Electrical Power

“HOT-ST” is turned ON when the electrical power is turned ON.

In this case, the compressor is under preheating. The operation may not be available for max 4 hours. Do not turn off the outdoor unit electrical power during the high season for Cooling/Heating operation.



- During Hot Start (Heating Operation Only) “HOT-ST” is turned ON.

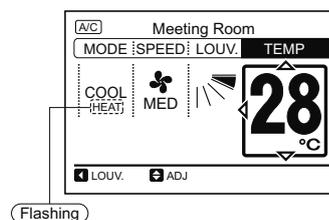


- Different Operation Mode

The operation mode set by the remote control switch is different with the outdoor unit operation mode.

(Except for the heat recovery system models.)

The indication of the actual operation mode flashes.



Indication when “COOL” operation is set by the remote control switch at the outdoor unit “HEAT” operation.

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## 2 IN ABNORMAL CONDITION

### 2.1 Abnormality

The RUN indicator (Red) is flashing.

The indoor unit number, the alarm code, the model code and the connected number of indoor units are displayed on LCD.

In case that the plural indoor units are connected, the above items for each indoor unit are displayed one by one.

### 2.2 Power Failure

All the indications are OFF.

Once the unit is stopped by the power failure, the unit will not be started again although the power recovers. Perform the starting procedures again.

In case of instantaneous power failure within 2 seconds, the unit will be started again automatically.

### 2.3 Electric Noise

There could be a case that all the indications are OFF and the unit is stopped. This is occurred by the activation of the micro computer for the unit protection from the electric noise.

Perform the starting procedures again.

**HITACHI**

**HEAT PUMPS**