LG
Life's Good

INSTALLATION MANUAL

AIR CONDITIONER

- Please read this installation manual completely before installing the product.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.
- Please retain this installation manual for future reference after reading it thoroughly.

TYPE : MULTI TYPE CEILING CONCEALED DUCT-HIGH STATIC



P/NO : MFL63750404

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Safety Precautions

To prevent the injury of the user or other people and property damage, the following instructions must be followed.

- Be sure to read before installing the air conditioner.
- Be sure to observe the cautions specified here as they include important items related to safety.
- Incorrect operation due to ignoring instruction will cause harm or damage. The seriousness is classified by the following indications.

⚠WARNING	This symbol indicates the possibility of death or serious injury.
⚠CAUTION	This symbol indicates the possibility of injury or damage to properties only.

- The meanings of the symbols used in this manual are as shown below.

	**Be sure not to do.**
	**Be sure to follow the instruction.**

⚠WARNING

■ Installation

Always perform grounding.

- Otherwise, it may cause electrical shock.

Don't use the damaged power cable.

- Otherwise, it may cause a fire or electrical shock.

For installation of the product, always contact the service center or a professional installation agency.

- Otherwise, it may cause a fire, electrical shock, explosion or injury.

Securely attach the electrical part cover to the indoor unit and the service panel to the outdoor unit.

- If the electrical part cover of the indoor unit and the service panel of the outdoor unit are not attached securely, it could result in a fire or electric shock due to dust, water, etc.

Always install an air leakage breaker and a dedicated switching board.

- No installation may cause a fire and electrical shock.

Do not keep or use flammable gases or combustibles near the air conditioner.

- Otherwise, it may cause a fire or the failure of product.

Ensure that an installation frame of the outdoor unit is not damaged due to use for a long time.

- It may cause injury or an accident.

Do not disassemble or repair the product randomly.

- It will cause a fire or electrical shock.

Do not install the product at a place that there is concern of falling down.

- Otherwise, it may result in personal injury.

Use caution when unpacking and installing.

- Sharp edges may cause injury.

Use a vacuum pump or Inert (nitrogen) gas when doing leakage test or air purge. Do not compress air or oxygen and do not use Flammable gases. Otherwise, it may cause fire or explosion.

- There is the risk of death, injury, fire or explosion.

■ Operation

Do not share the outlet with other appliances.

- It will cause an electric shock or a fire due to heat generation.

Do not use the damaged power cable.

- Otherwise, it may cause a fire or electrical shock.

Do not modify or extend the power cable randomly.

- Otherwise, it may cause a fire or electrical shock.

Turn the breaker off if strange sounds, smell, or smoke comes from it.

- Otherwise, it may cause electrical shock or a fire.

Keep the flames away.

- Otherwise, it may cause a fire.

Do not touch(operate) product with wet hands.

- Otherwise, it may cause a fire or electrical shock.

Do not use the power cable near the heating tools.

- Otherwise, it may cause a fire and electrical shock.

Do not open the suction inlet of the indoor/outdoor unit during operation.

- Otherwise, it may electrical shock and failure.

Do not allow water to run into electrical parts.

- Otherwise, it may cause the failure of machine or electrical shock.

Never touch the metal parts of the unit when removing the filter.

- They are sharp and may cause injury.

Do not step on the indoor/outdoor unit and do not put anything on it.

- It may cause an injury through dropping of the unit or falling down.

Do not place a heavy object on the power cord.

- Otherwise, it may cause a fire or electrical shock.

When the product is submerged into water, always contact the service center.

- Otherwise, it may cause a fire or electrical shock.

Take care so that children may not step on the outdoor unit.

- Otherwise, children may be seriously injured due to falling down.

⚠CAUTION

■ Installation

Install the drain hose to ensure that drain can be securely done.

• Otherwise, it may cause water leakage.

Install the product so that the noise or hot wind from the outdoor unit may not cause any damage to the neighbors.

• Otherwise, it may cause dispute with the neighbors.

Always inspect gas leakage after the installation and repair of product.

• Otherwise, it may cause the failure of product.

Keep level parallel in installing the product.

• Otherwise, it may cause vibration or water leakage.

■ Operation

Avoid excessive cooling and perform ventilation sometimes.

• Otherwise, it may do harm to your health.

Use a soft cloth to clean. Do not use wax, thinner, or a strong detergent.

• The appearance of the air conditioner may deteriorate, change color, or develop surface flaws.

Do not use an appliance for special purposes such as preserving animals vegetables, precision machine, or art articles.

• Otherwise, it may damage your properties.

Do not place obstacles around the flow inlet or outlet.

• Otherwise, it may cause the failure of appliance or an accident.

Introduction

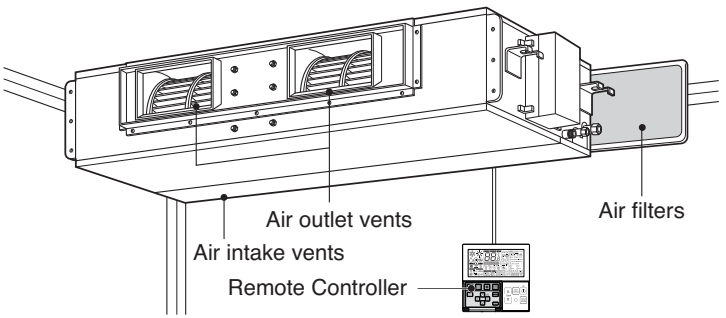
Symbols Used in this Manual

This symbol alerts you to the risk of electric shock.

This symbol alerts you to hazards that could cause harm to the air conditioner.

NOTICE **This symbol indicates special notes.**

Features



Installation of Indoor

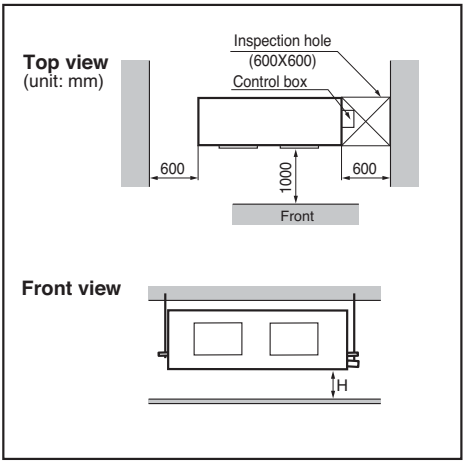
Selection of the best location

1) Indoor unit

Select location

Install the air conditioner in the location that satisfies the following conditions.

- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place shall be able to inspect the unit as the figure.
- The place where the unit shall be leveled.
- The place shall allow easy water drainage.(Suitable dimension "H" is necessary to get a slope to drain as figure.)
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good .
- There should not be any heat source or steam near the unit



Indoor unit installation

■ **Installation of Unit**

Install the unit above the ceiling correctly.

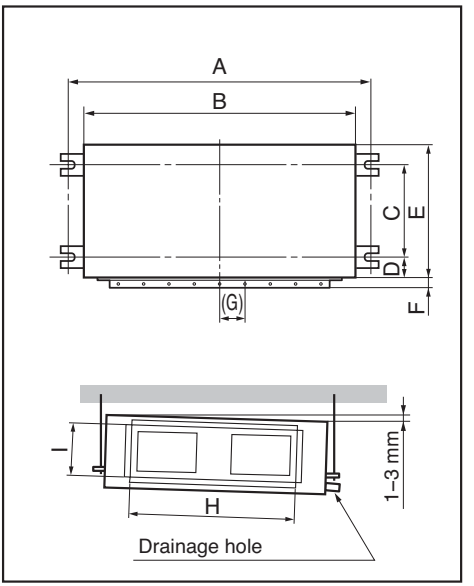
CASE 1

POSITION OF SUSPENSION BOLT

- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter Accessory at air return hole.

(Unit:mm)

Dimension / Capacity	A	B	C	D	E	F	(G)	H	I
18k, 24k	932	880	355	45.5	450	30	87	750	163
30k, 36k	1232	1180	355	45.5	450	30	87	830	186

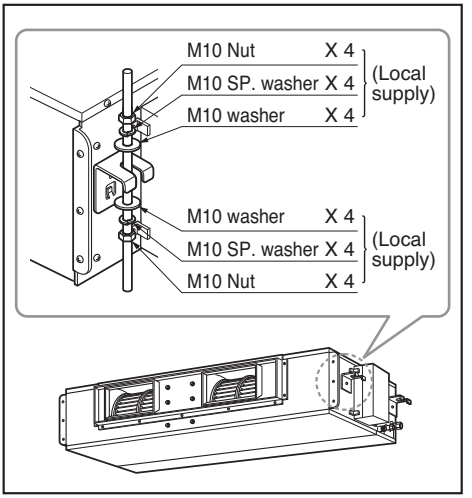


CASE 2

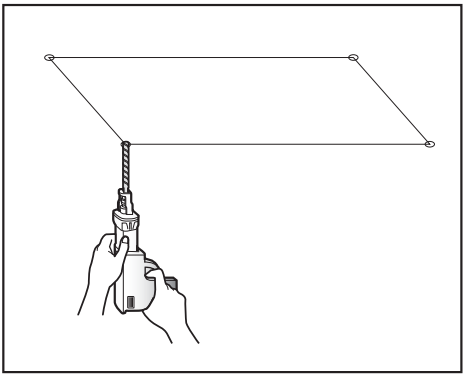
- Install the unit leaning to a drainage hole side as a figure for easy water drainage.

POSITION OF CONSOLE BOLT

- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.

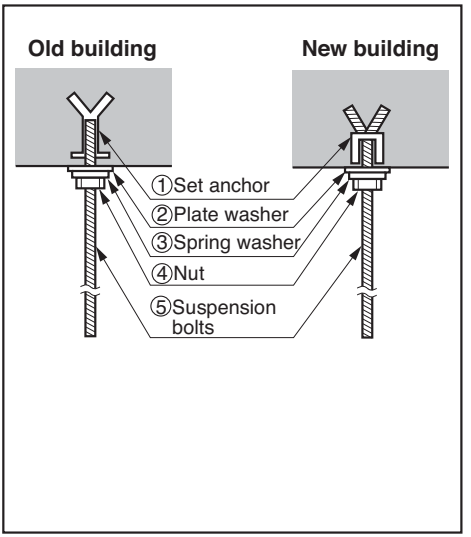


- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of ceiling.



- Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the set anchor firmly.
- Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.

⚠ CAUTION: Tighten the nut and bolt to prevent unit falling

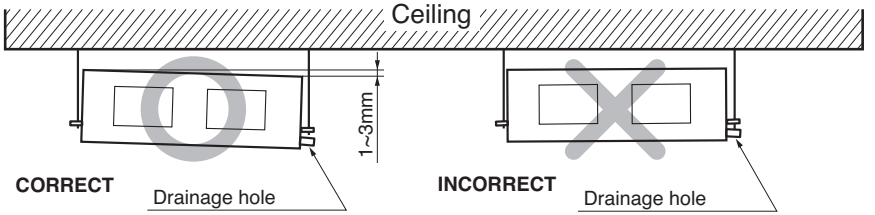


CAUTION

1. **Install declination** of the indoor unit is very **important for the drain** of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe shall be 5mm.

Front of view

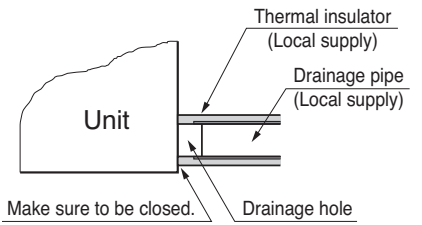
• The unit must be horizontal or declined to the drain hose connected when finished installation.

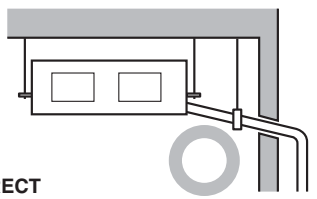


CAUTION FOR GRADIENT OF UNIT AND DRAIN PIPING

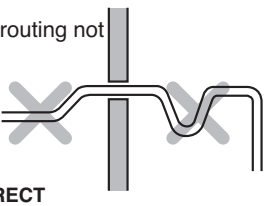
Lay the drain hose with a downward inclination so water will drain out.

• Always lay the drain with downward inclination (1/50 to 1/100).
Prevent any upward flow or reverse flow in any part.
• 5mm or thicker formed thermal insulator shall always be provided for the drain pipe.




CORRECT

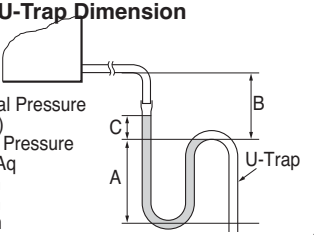
• Upward routing not allowed


INCORRECT

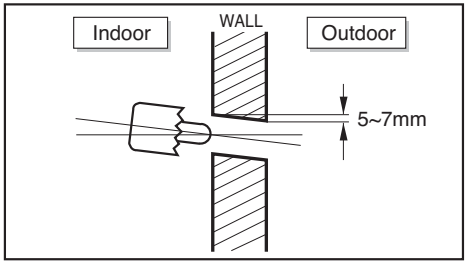
• Install the P-Trap (or U-Trap) to prevent a water leakage caused by the blocking of intake air filter.

Applied U-Trap Dimension

A 70mm
B 2C
C 2 x SP
SP = External Pressure (mmAq)
Ex) External Pressure = 10mmAq
A 70mm
B 40mm
C 20mm



- Drill the piping hole with 70mm dia, hole core drill.
- Piping hole should be slightly slant to the outdoor side.

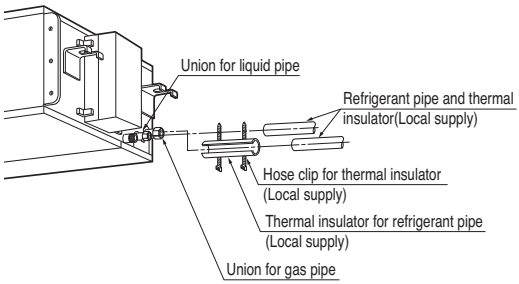


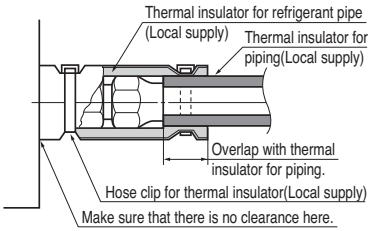
INSULATION, OTHERS

Insulate the joint and tubes completely.

THERMAL INSULATION All thermal insulation must comply with local requirement.

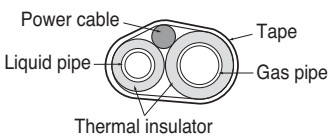
INDOOR UNIT





REFRIGERANT PIPE

- Insulate and tape both the gas piping and liquid piping.



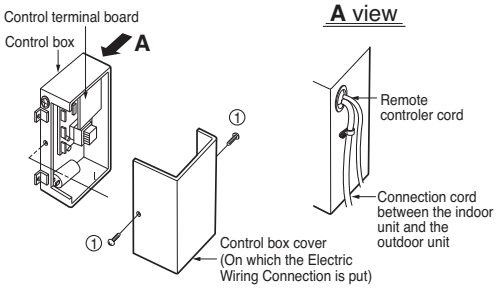
TEST AND CHECK

■ *After all workings are finished, check the working and operation.*

- Air distribution ——— Is the air circulation good?
- Drain ——— Is the drainage smoothly and no sweating?
- Gas leakage ——— Is the piping connection correctly?
- Wiring ——— Is the wiring connection correctly?
- Lock-bolt ——— Is the lock-bolt of compressor loosened?

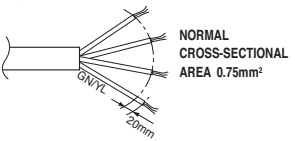
Wiring Connection

- Open the control box cover and connect the Remote controller cord and Indoor power wires.
- Remove the control box cover for electrical connection between the indoor and outdoor unit. (Remove screws ①.)
- Use the cord clamper to fix the cord.



⚠ CAUTION

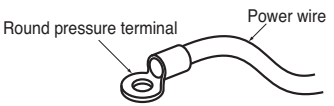
The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.
When the connection line between the indoor unit and outdooor unit and outdoor unit is over 40m, connect the telecommunication line and power line separately.

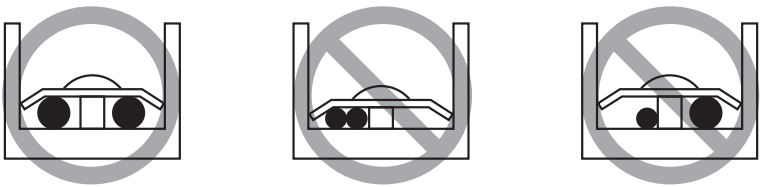
Precautions when laying power wiring

Use round pressure terminals for connections to the power terminal block.



When none are available, follow the instructions below.

- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.



⚠ WARNING

Make sure that the screws of the terminal are free from looseness.

Wired Remote Controller Installation

1. Please fix tightly using provided screw after placing remote controller setup board on the place where you like to setup.

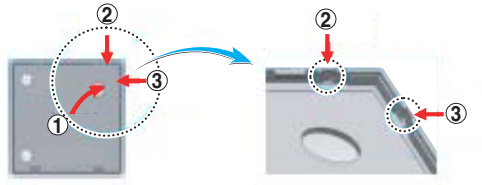
- Please set it up not to bend because poor setup could take place if setup board bends.
- Please set up remote controller board fit to the reclamation box if there is a reclamation box.
- Install the product so as not to make a gap with the wall side and to prevent shaking after the installation.

2. Can set up Wired remote controller cable into three directions.

- Setup direction: the surface of wall reclamation, upper, right
- If setting up remote controller cable into upper and right side, please set up after removing remote controller cable guide groove.

❉ Remove guide groove with long nose.

① Reclamation to the surface of the wall
② Upper part guide groove
③ Right part guide groove

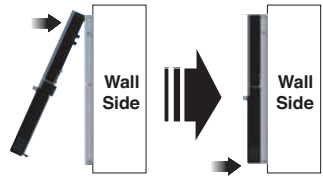


<Wire guide grooves>

3. Please fix remote controller upper part into the setup board attached to the surface of the wall, as the picture below, and then, connect with setup board by pressing lower part.

- Please connect not to make a gap at the remote controller and setup board's upper and lower, right and left part.

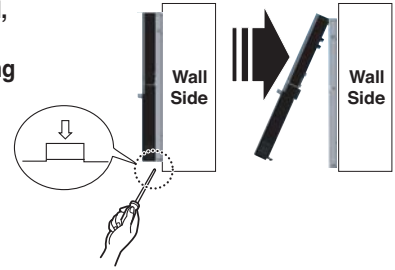
<Connecting order>



When separating remote controller from setup board, as the picture below, after inserting into the lower separating hole using screw driver and then, spinning clockwise, remote controller is separated.

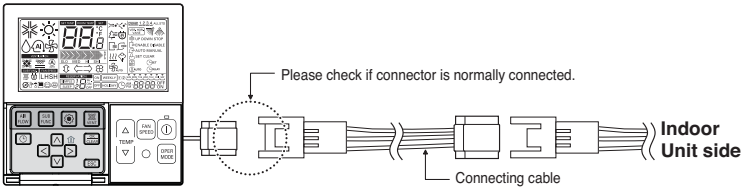
- There are two separating holes. Please individually separate one at a time.
- Please be careful not to damage the inside components when separating.

<Separating order>



4. Please connect indoor unit and remote controller using connection cable.

12V	Red
Signal	Yellow
GND	Black



5. Please use extension cable if the distance between wired remote controller and indoor unit is more than 10m.

⚠CAUTION

When installing the wired remote controller, do not bury it in the wall.
(It can cause damage in the temperature sensor.)
Do not install the cable to be 50m or above.
(It can cause communication error.)

- When installing the extension cable, check the connecting direction of the connector of the remote controller side and the product side for correct installation.
- If you install the extension cable in the opposite direction, the connector will not be connected.
- Specification of extension cable: 2547 1007 22# 2 core 3 shield 5 or above.

NOTICE

- Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature. Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.

Do not install the remote controller where it can be affected by:

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly as shown in Fig.1. (The standard height is 1.2~1.5 m from floor level.)

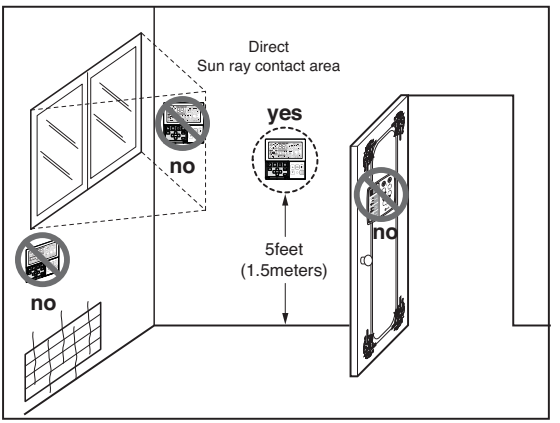
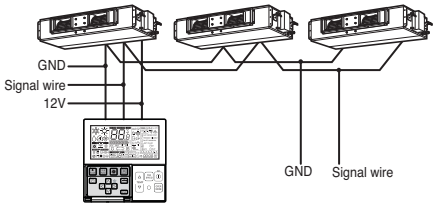


Fig.1 Typical locations for remote controller

Group control

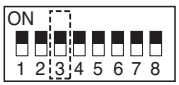
1. When installing more than 2 units of air conditioner to one wired remote controller, please connect as the right figure.

- If it is not event communication indoor unit, set the unit as slave.
- Check for event communication through the product manual.

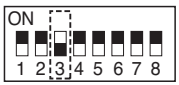


When controlling multiple indoor units with event communication function with one remote controller, you must change the master/slave setting from the indoor unit.

- Indoor units, the master/slave configuration of the product after completion of indoor unit power 'OFF' and then 'ON' the power after 1 minutes elapsed sign up.
- For ceiling type cassette and duct product group, change the switch setting of the indoor PCB.



#3 switch OFF: Master
(Factory default setting)



#3 switch ON: Slave

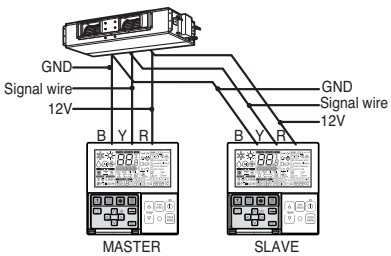
- For wall-mount type and stand type product, change the master/slave setting with the wireless remote controller. (Refer to wireless remote controller manual for detail)

❊ When installing 2 remote controllers to one indoor unit with event communication function, set the master/slave of the remote controller. (Refer to remote controller master/slave selection)

When controlling the group, some functions excluding basic operation setting, fan level Min/Mid/Max, remote controller lock setting and time setting may be limited.

2. When installing more than 2 wired remote controllers to one air conditioner, please connect as the right picture.

- When installing more than 2 units of wired remote controller to one air conditioner, set one wired remote controller as master and the others all as slaves, as shown in the right picture.
- You cannot control the group as shown in the right for some products.



<When simultaneously connecting
2 sets of wired remote controller>

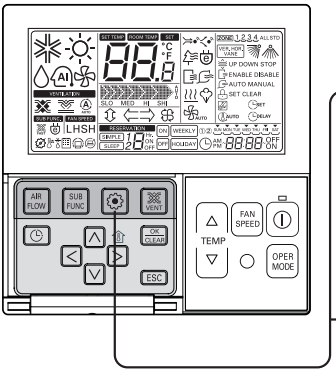
- When controlling in groups, set the master/slaver of the remote controller. Refer to Installer setting section on how to set group setting for more detail.

Optional Operation

Installer Setting -How to enter installer setting mode

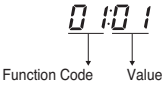
⚠CAUTION

Installer setting mode is to set the detail function of the remote controller.
If the installer setting mode is not set correctly, it can cause problems to the product, user injury or property damage. This must be set by an certificated installer, and any installation or change that is carried out by a non-certificated person should be responsible for the results. In this case, free service cannot be provided.



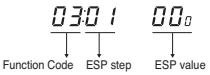
1 If pressing ⚙ button long for 3 seconds, it enters into remote controller setter setup mode.
- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.

2 When you enter the setting mode initially, Function code is displayed on the bottom of the LCD screen.



• Some categories of the menu may not be displayed according to the function of the product, or the menu name may be different.

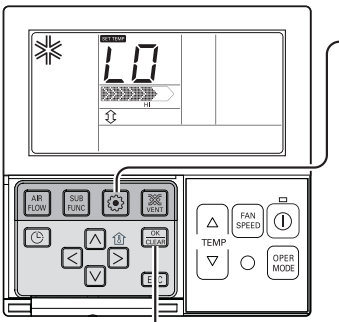
<Installer Setting Code Table>

No.	Function	Code	Value
1	Test Run	01	01:Set
2	Address Setting	02	00~FF : Address
3	E.S.P. Value	03	<ESP Step> <ESP Value> <Example> 01:VeryLow 0 ~ 255 02:Low 03:Med 04:High 05:Very High 
4	Thermistor	04	01:Remo 02:Indoor 03:2TH
5	Ceiling Height	05	01:Med 02:Low 03:High 04:Very High
6	Static Pressure	06	01:V-H 02:F-H 03:V-L 04:F-L
7	Master Setting	07	00:Slave 01:Master
8	Override Setting	08	00:Slave 01:Master
9	Dry Contact	09	00:Auto-Off 01:Auto-On
10	Release 3 Min. Delay	10	01:Set
11	Zone State	11	01:Variable 02:Fixed
12	Celsius Fahrenheit Switching	12	00:Celsius 01:Fahrenheit (Optimized only for U.S.A)
13	Zone Type	13	00:Zone Controller 01:Damper Controller
14	Zone Number	14	02~04(Zone number)
15	Plasma	20	00: Not Installed 01: Installed
16	Electric heater	21	
17	Humidifier	22	
18	Elevation Grill	23	
19	Ventilation Kit	24	

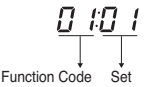
※ Some contents may not be displayed depending on the product function

Installer Setting -Test Run Mode

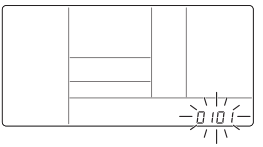
After installing the product, you must run a Test Run mode.



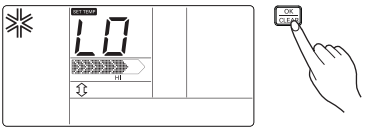
1 If pressing ⚙ button long for 3 seconds, it enters into remote controller setter setup mode.
- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.
- Please cancel the right and left of wind direction for RAC product.



2 Setup figure '01' blinks at the lower part of indication window.



3 Press OK CLEAR button to start.



4 During the test run, pressing the below button will exit the test run.
- Select operation, temperature up/down, wind flow control, wind direction, start/stop button.

※ 18˚C cooling, High Fan Speed, Airflow direction mode will be operated during 18 minutes with ignoring room temperature.

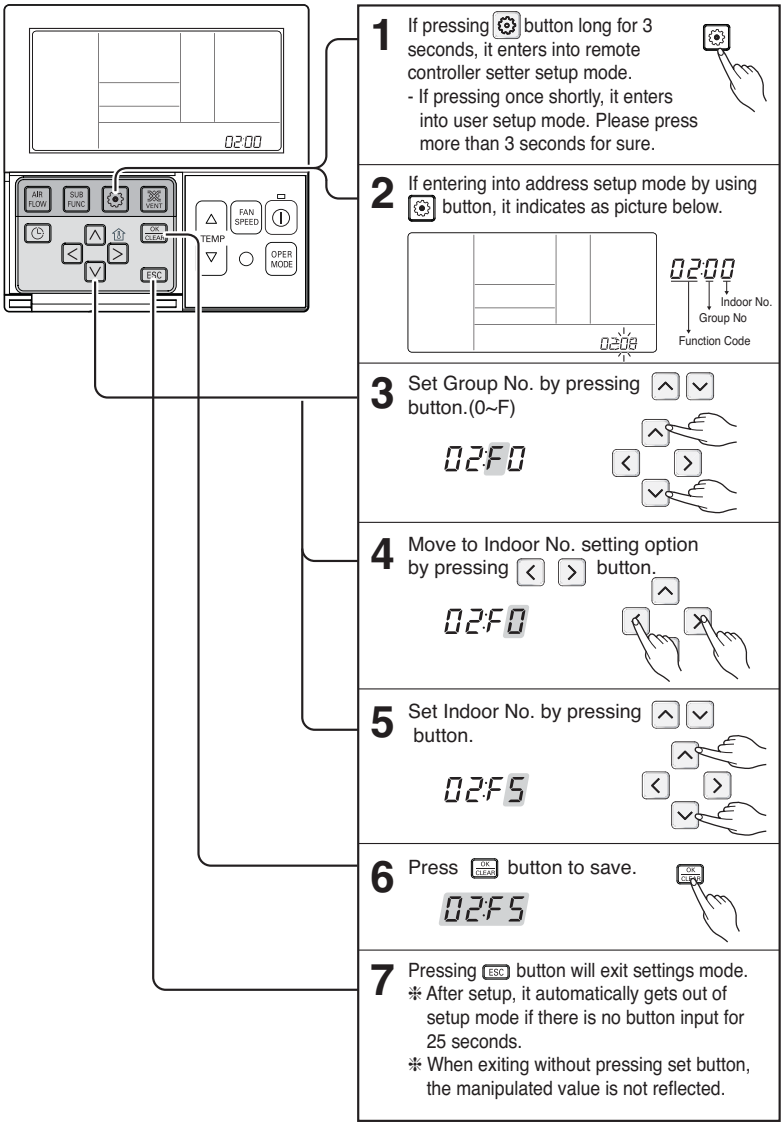
※ After running 18 minutes under test run mode, system will automatically turn OFF.

※ In case of duct type, the Airflow UP/DOWN function is not displayed.

※ During test run mode, receiving signal from wireless remote controller will release this operation. If you press any kind of button, Test Run mode will be released.

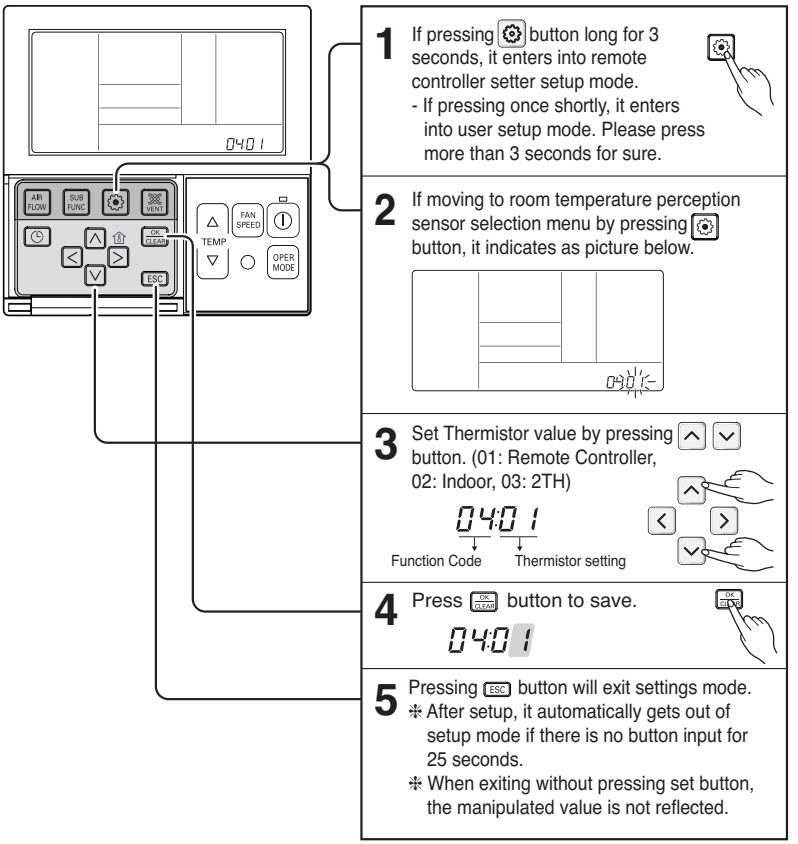
Installer Setting - Setting Address of Central Control

It's the function to use for connecting central control.
Please refer to central controller manual for the details.



Installer Setting -Thermistor

This is the function to select the temperature sensor to judge the room temperature.

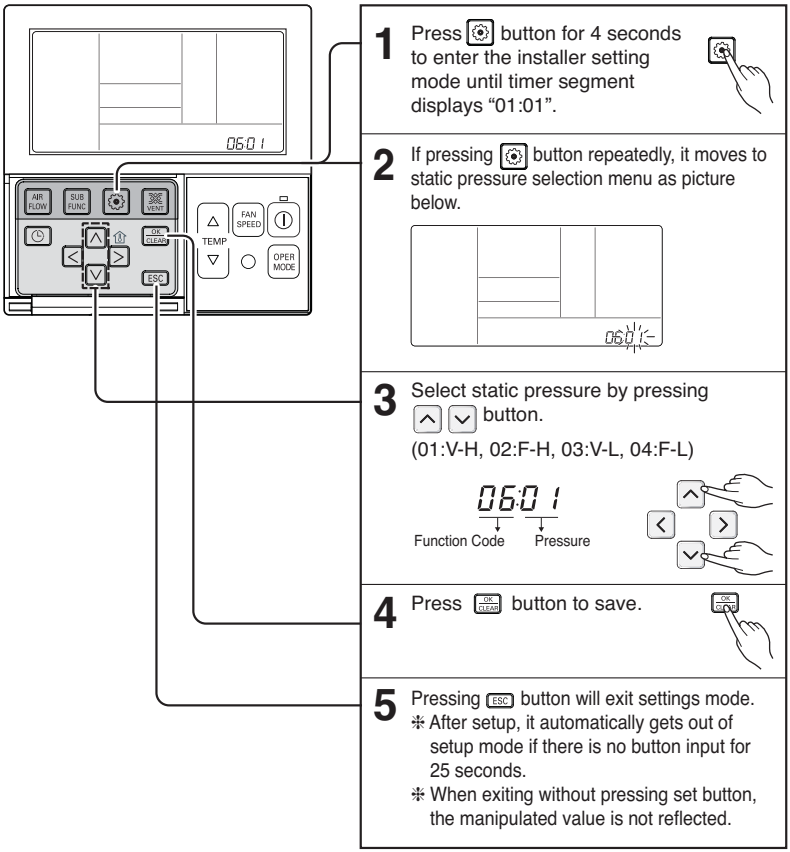


<Thermistor Table>

Temperature sensor selection			Function
01	Remote controller		Operation in remote controller temperature sensor
02	Indoor unit		Operation in indoor unit temperature sensor
03	2TH	Cooling	Operation of higher temperature by comparing indoor unit's and wired remote controller's temperature. (There are products that operate at a lower temperature.)
		Heating	Operation of lower temperature by comparing indoor unit's and wired remote controller's temperature.

※ The function of 2TH has different operation characteristics according to the product.

Installer Setting -Static Pressure Setting

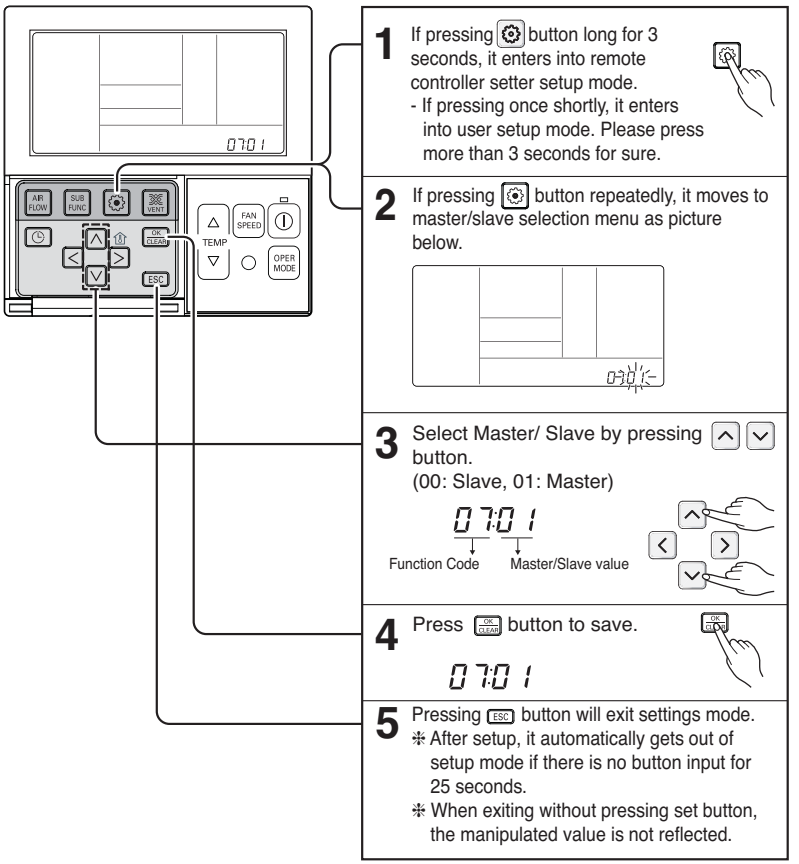


<Static Pressure Setting Table>

Pressure selection		Function	
		Zone state	ESP standard value
01	V-H	Variable	High
02	F-H	Fixed	High
03	V-L	Variable	Low
04	F-L	Fixed	Low

Installer Setting-Group Setting

It is a function for settings in group control, or 2-remote controller control.
Please don't set this function in case of non-group control.

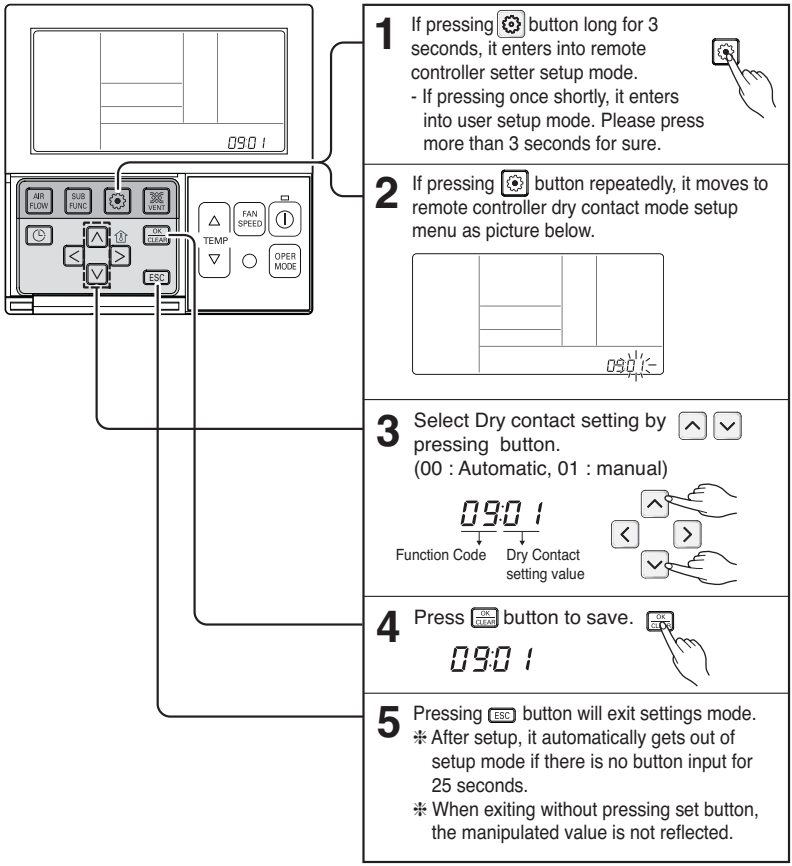


Remote controller	Function
Master	Indoor unit operates based on master remote controller at group control. (Master is set when delivering from the warehouse.)
Slave	Setup all remote controllers except one master remote controller to slave at group control

• When controlling in groups, basic operation settings, airflow strength weak/medium/strong, lock setting of the remote controller, time settings, and other functions may be restricted.

Installer Setting-Dry Contact Mode Setting

Dry contact function is the function that is possible to use only when dry contact equipment is separately purchased/setup.



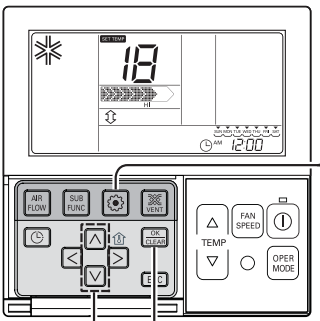
▶ What is Dry Contact?

Like hotel card key and body perception sensor, it is the signal of the point of contact when using air-conditioner by interlocking.

• Please refer to dry contact manual for more details.

Installer Setting-Celsius / Fahrenheit Switching

This function is used for switching the display between Celsius and Fahrenheit.
(Optimized only for U.S.A)



1 If pressing ⚙ button long for 3 seconds, it enters into remote controller setter setup mode.
- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.



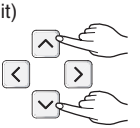
2 Repeat pressing ⚙ button to select Function code 12.

12:00
Function Code — conversion mode value

Ex) Fahrengeit Setting

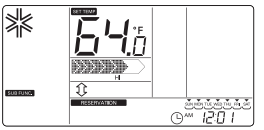
3 Select Temperature unit mode by pressing ∧ ∨ button.
(00: Celsius, 01: Fahrenheit)

12:01



4 Press OK CLEAR button to save or release.

12:01





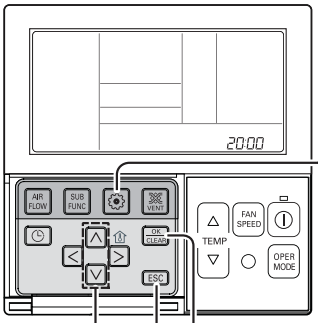
5 Press ESC button to exit or system will automatically exit after 25 seconds without any input.



❉ Whenever press ∧ ∨ button in Fahrenheit mode, the temperature will increase/drop 2 degrees.

Installer Setting -Optional Function Setting

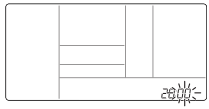
Setting feature for indoor unit when air cleaning / heater / humidifier / Up/down grill / Ventilation KIT is newly installed, or installed unit is removed.



1 If pressing ⚙ button long for 3 seconds, it enters into remote controller setter setup mode.
- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.

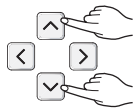


2 If pressing ⚙ button repeatedly, it moves to the selected option function code as picture below.



Function	Code
Plasma purification	20
Electric heater	21
Dehumidifier	22
Elevation grill	23
Ventilation kit	24

3 Select existing condition of each mode by pressing ^ v button.
(00: not installed,
01 : installed)



20:01
Function Code — Existing condition

4 Press OK CLEAR button to save.

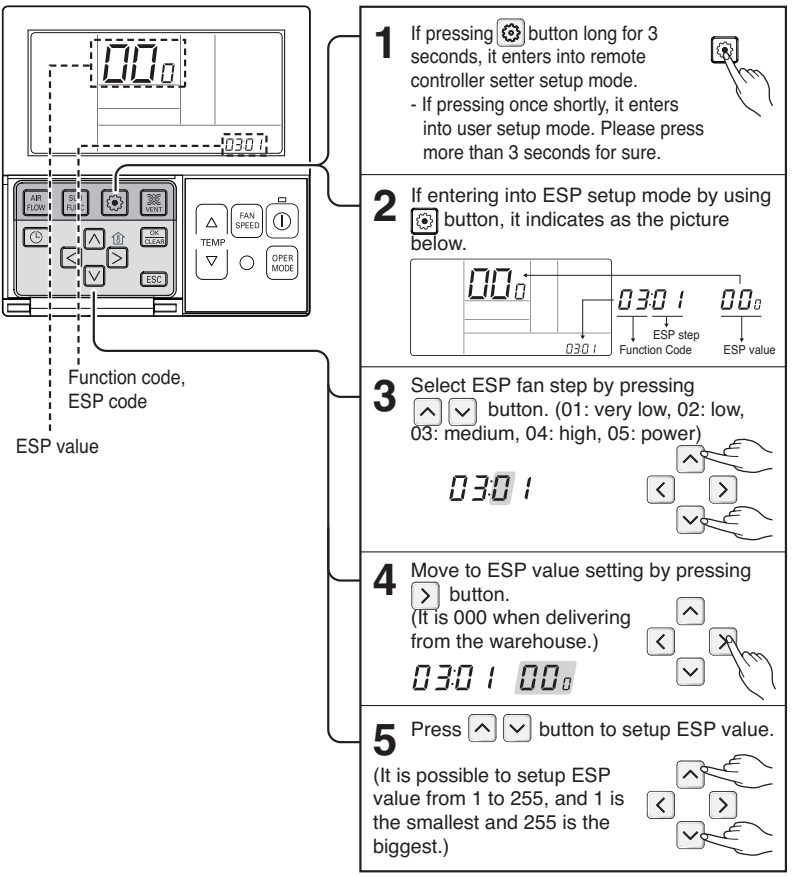


5 Pressing ESC button will exit settings mode.
- ❊ After setup, it automatically gets out of setup mode if there is no button input for 25 seconds.
- ❊ When exiting without pressing set button, the manipulated value is not reflected.

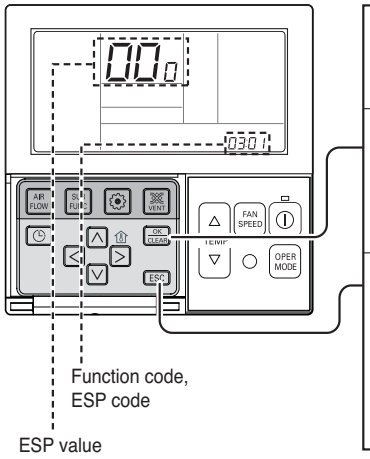
How to Set E.S.P?

This is the function that decides the strength of the wind for each wind level and because this function is to make the installation easier.

- **If you set ESP incorrectly, the air conditioner may malfunction.**
- **This setting must be carried out by a certificated-technician.**



- When setting ESP value on the product without very weak wind or power wind function, it may not work.



6 Select ESP fan step again by using ◁ ▷ button and setup ESP value, as No. 4 and 5, that corresponds each wind flow

7 Press OK/CLEAR button to save.



8 Press ESC button to exit.
- ❊ After setup, it automatically gets out of setup mode if there is no button input for 25 seconds.
- ❊ When exiting without pressing set button, the manipulated value is not reflected.

- Please be careful not to change the ESP value for each fan step.
- It does not work to setup ESP value for very low/power step for some products.
- ESP value is available for specific range belongs to the product.

[Table. 1]

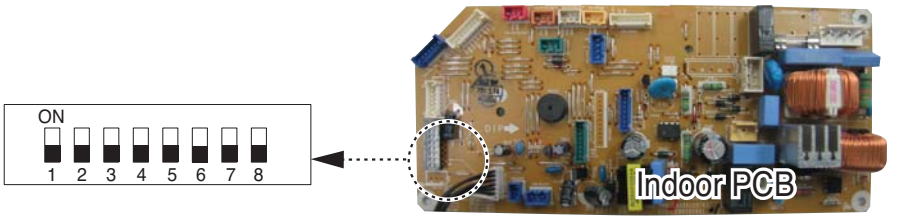
Static Pressure(Pa)		0	20	40	60	80	100
Model Name	Step(H/M/L)	Setting Value					
18k	275 ℓ/s	235	230	225	215	180	
	242 ℓ/s	245	238	235	230	215	
	217 ℓ/s	254	252	248	245	240	
24k	300 ℓ/s	220	205	190	50	1	
	275 ℓ/s	235	230	220	200	100	
	233 ℓ/s	250	240	235	230	210	
30k	442 ℓ/s	153	150	150	148	130	1
	383 ℓ/s	173	173	175	175	170	155
	333 ℓ/s	190	190	190	190	190	190
36k	533 ℓ/s	230	230	230	220	150	1
	483 ℓ/s	240	240	240	235	230	220
	433 ℓ/s	245	245	245	245	240	240

NOTICE : 1. Be sure to set the value refering table 1. Unexpected set value will cause mal-function.
2. Table 1 is based at 230V. According to the fluctuation of voltage, air flow rate varies.

❊ Weak and Power setting is not available for some products.

❊ Because the ESP value is already appropriately set when manufactured from the factory, it is recommended that you do not change the ESP value.

Dip Switch Setting



Function		Description	Setting Off	Setting On	Default
SW4	Fan	Fan continuous operation	Continuous operation Removal	Working	Off
SW5	Dry Contact Mode	Selection of Dry Contact Mode	Wired/Wireless remote controller Selection of Manual or Auto operation Mode	Auto	Off
SW6	Group Control	Selection of Master or Slave	Master	Slave	Off


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