

TOSHIBA

SERVICE MANUAL

AIR-CONDITIONER MULTI TYPE

INDOOR UNIT

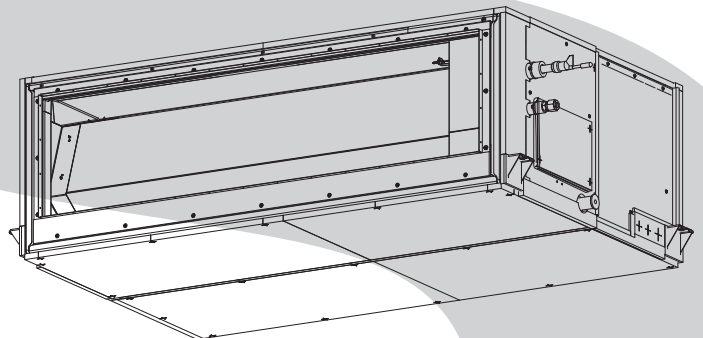
< Fresh Air Intake Indoor Unit >

MMD-UP0721HFP Series

MMD-UP0961HFP Series

MMD-UP1121HFP Series

MMD-UP1281HFP Series



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Please read carefully through these instructions that contain important information and ensure that you understand them.

Definition of Qualified Installer or Qualified Service Person

The air conditioner must be installed, maintained, repaired and removed by a qualified installer or qualified service person. When any of these jobs is to be done, ask a qualified installer or qualified service person to do them.

A qualified installer or qualified service person is an agent who has the qualifications and knowledge described in the table below.

Agent	Qualifications and knowledge which the agent must have
Qualified installer *1	<ul style="list-style-type: none"> • The qualified installer is a person who installs, maintains, relocates and removes the air conditioners made by Toshiba Carrier Corporation. He or she has been trained to install, maintain, relocate and remove the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations. • The qualified installer who is allowed to do the electrical work involved in installation, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified installer who is allowed to do the refrigerant handling and piping work involved in installation, relocation and removal has the qualifications pertaining to this refrigerant handling and piping work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to refrigerant handling and piping work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified installer who is allowed to work at heights has been trained in matters relating to working at heights with the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.
Qualified service person *1	<ul style="list-style-type: none"> • The qualified service person is a person who installs, repairs, maintains, relocates and removes the air conditioners made by Toshiba Carrier Corporation. He or she has been trained to install, repair, maintain, relocate and remove the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such operations by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to these operations. • The qualified service person who is allowed to do the electrical work involved in installation, repair, relocation and removal has the qualifications pertaining to this electrical work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to electrical work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified service person who is allowed to do the refrigerant handling and piping work involved in installation, repair, relocation and removal has the qualifications pertaining to this refrigerant handling and piping work as stipulated by the local laws and regulations, and he or she is a person who has been trained in matters relating to refrigerant handling and piping work on the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work. • The qualified service person who is allowed to work at heights has been trained in matters relating to working at heights with the air conditioners made by Toshiba Carrier Corporation or, alternatively, he or she has been instructed in such matters by an individual or individuals who have been trained and is thus thoroughly acquainted with the knowledge related to this work.

Definition of Protective Gear

When the air conditioner is to be transported, installed, maintained, repaired or removed, wear protective gloves and 'safety' work clothing.

In addition to such normal protective gear, wear the protective gear described below when undertaking the special work detailed in the table below.




Failure to wear the proper protective gear is dangerous because you will be more susceptible to injury, burns, electric shocks and other injuries.

Work undertaken	Protective gear worn
All types of work	Protective gloves 'Safety' working clothing
Electrical-related work	Gloves to provide protection for electricians Insulating shoes Clothing to provide protection from electric shock
Work done at heights (50 cm or more)	Helmets for use in industry
Transportation of heavy objects	Shoes with additional protective toecap
Repair of outdoor unit	Gloves to provide protection for electricians

The important contents concerned to the safety are described on the product itself and on this Service Manual.




Please read this Service Manual after understanding the described items thoroughly in the following contents (Indications / Illustrated marks), and keep them.

[Explanation of indications]

Indication	Explanation
 DANGER	Indicates contents assumed that an imminent danger causing a death or serious injury of the repair engineers and the third parties when an incorrect work has been executed.
 WARNING	Indicates possibilities assumed that a danger causing a death or serious injury of the repair engineers, the third parties, and the users due to troubles of the product after work when an incorrect work has been executed.
 CAUTION	Indicates contents assumed that an injury or property damage (*) may be caused on the repair engineers, the third parties, and the users due to troubles of the product after work when an incorrect work has been executed.

* Property damage: Enlarged damage concerned to property, furniture, and domestic animal / pet





[Explanation of illustrated marks]

Indication	Explanation
	Indicates prohibited items (Forbidden items to do) The sentences near an illustrated mark describe the concrete prohibited contents.
	Indicates mandatory items (Compulsory items to do) The sentences near an illustrated mark describe the concrete mandatory contents.
	Indicates cautions (Including danger / warning) The sentences or illustration near or in an illustrated mark describe the concrete cautious contents.

PRECAUTIONS FOR SAFETY



The manufacturer shall not assume any liability for the damage caused by not observing the description of this manual.

DANGER







 Turn off breaker	<p>Before carrying out the installation, maintenance, repair or removal work, be sure to set the circuit breaker for both the indoor and outdoor units to the OFF position. Otherwise, electric shocks may result.</p>
	<p>Before opening the intake grille of the indoor unit or service panel of the outdoor unit, set the circuit breaker to the OFF position. Failure to set the circuit breaker to the OFF position may result in electric shocks through contact with the interior parts. Only a qualified installer (*1) or qualified service person (*1) is allowed to remove the intake grille of the indoor unit or service panel of the outdoor unit and do the work required.</p>
	<p>Before opening the electric box cover set the circuit breaker to the OFF position. Failure to set the circuit breaker to the OFF position may result in injury through contact with the rotation parts. Only a qualified installer (*1) or qualified service person (*1) is allowed to remove the electric box cover and do the work required.</p>
	<p>Before starting to repair the outdoor unit fan or fan guard, be absolutely sure to set the circuit breaker to the OFF position, and place a "Work in progress" sign on the circuit breaker.</p>
	<p>When cleaning the filter or other parts of the indoor unit, set the circuit breaker to OFF without fail, and place a "Work in progress" sign near the circuit breaker before proceeding with the work.</p>
	<p>When you have noticed that some kind of trouble (such as when a check code display has appeared, there is a smell of burning, abnormal sounds are heard, the air conditioner fails to cool or heat or water is leaking) has occurred in the air conditioner, do not touch the air conditioner yourself but set the circuit breaker to the OFF position, and contact a qualified service person. Take steps to ensure that the power will not be turned on (by marking "out of service" near the circuit breaker, for instance) until qualified service person arrives. Continuing to use the air conditioner in the trouble status may cause mechanical problems to escalate or result in electric shocks or other failure.</p>
 Electric shock hazard	<p>When you access inside of the electric cover to repair electric parts, wait for about five minutes after turning off the breaker. Do not start repairing immediately. Otherwise you may get electric shock by touching terminals of high-voltage capacitors. Natural discharge of the capacitor takes about five minutes.</p>
	<p>When checking the electric parts, removing the cover of the electric parts box of Indoor Unit and/or service panel of Outdoor Unit inevitably to determine the failure, use gloves to provide protection for electricians, insulating shoes, clothing to provide protection from electric shock and insulating tools. Be careful not to touch the live part. Electric shock may result. Only "Qualified service person" is allowed to do this work.</p>
 Prohibition	<p>Place a "Work in progress" sign near the circuit breaker while the installation, maintenance, repair or removal work is being carried out. There is a danger of electric shocks if the circuit breaker is set to ON by mistake.</p>
	<p>When checking the electric parts, removing the cover of the electric parts box of Indoor Unit and/or front panel of Outdoor Unit inevitably to determine the failure, put a sign "Do not enter" around the site before the work. Failure to do this may result in third person getting electric shock.</p>
	<p>Before operating the air conditioner after having completed the work, check that the electrical parts box cover of the indoor unit and service panel of the outdoor unit are closed, and set the circuit breaker to the ON position. You may receive an electric shock if the power is turned on without first conducting these checks.</p>
 Stay on protection	<p>If, in the course of carrying out repairs, it becomes absolutely necessary to check out the electrical parts with the electrical parts box cover of one or more of the indoor units and the service panel of the outdoor unit removed in order to find out exactly where the trouble lies, wear insulated heat-resistant gloves, insulated boots and insulated work overalls, and take care to avoid touching any live parts. You may receive an electric shock if you fail to heed this warning. Only qualified service person (*1) is allowed to do this kind of work.</p>








(*1) Refer to the "Definition of Qualified Installer or Qualified Service Person"

 **WARNIG**



 General	<p>Before starting to repair the air conditioner, read carefully through the Service Manual, and repair the air conditioner by following its instructions.</p>
	<p>Only qualified service person (*1) is allowed to repair the air conditioner. Repair of the air conditioner by unqualified person may give rise to a fire, electric shocks, injury, water leaks and / or other problems.</p>
	<p>Do not use any refrigerant different from the one specified for complement or replacement. Otherwise, abnormally high pressure may be generated in the refrigeration cycle, which may result in a failure or explosion of the product or an injury to your body.</p>
	<p>Only a qualified installer (*1) or qualified service person (*1) is allowed to carry out the electrical work of the air conditioner. Under no circumstances must this work be done by an unqualified individual since failure to carry out the work properly may result in electric shocks and / or electrical leaks.</p>
	<p>When the air conditioner is to be transported, installed, maintained, repaired or removed, wear protective gloves and 'safety' work clothing.</p>
	<p>To connect the electrical wires, repair the electrical parts or undertake other electrical jobs, wear gloves to provide protection for electricians, insulating shoes and clothing to provide protection from electric shocks. Failure to wear this protective gear may result in electric shocks.</p>
	<p>Electrical wiring work shall be conducted according to law and regulation in the community and Installation Manual. Failure to do so may result in electrocution or short circuit.</p>
	<p>Use wiring that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may give rise to electric shocks, electrical leakage, smoking and/or a fire.</p>
	<p>Only a qualified installer (*1) or qualified service person (*1) is allowed to undertake work at heights using a stand of 50 cm or more or to remove the intake grille of the indoor unit to undertake work.</p>
	<p>When working at heights, use a ladder which complies with the ISO 14122 standard, and follow the procedure in the ladder's instructions. Also wear a helmet for use in industry as protective gear to undertake the work.</p>
	<p>Before working at heights, put a sign in place so that no-one will approach the work location, before proceeding with the work. Parts and other objects may fall from above, possibly injuring a person below. While carrying out the work, wear a helmet for protection from falling objects.</p>
	<p>When executing address setting, test run, or troubleshooting through the checking window on the electric parts box, put on insulated gloves to provide protection from electric shock. Otherwise you may receive an electric shock.</p>
	<p>Do not touch the aluminum fin of the unit. You may injure yourself if you do so. If the fin must be touched for some reason, first put on protective gloves and safety work clothing, and then proceed.</p>
	<p>Do not climb onto or place objects on top of the outdoor unit. You may fall or the objects may fall off the outdoor unit and result in injury.</p>
	<p>Use forklift truck to carry in the air conditioner units and use winch or hoist at installation of them.</p>
	<p>When transporting the air conditioner, wear shoes with protective toe caps, protective gloves and other protective clothing.</p>
	<p>When transporting the air conditioner, do not hold the bands around the packing carton. You may injure yourself if the bands should break.</p>
<p>Be sure that a heavy unit (10 kg or heavier) such as a compressor is carried by four persons.</p>	
 Check earth wires.	<p>Before troubleshooting or repair work, check the earth wire is connected to the earth terminals of the main unit, otherwise an electric shock is caused when a leak occurs. If the earth wire is not correctly connected, contact an electric engineer for rework.</p>
	<p>After completing the repair or relocation work, check that the ground wires are connected properly.</p>
	<p>Connect earth wire. (Grounding work) Incomplete grounding causes an electric shock. Do not connect earth wires to gas pipes, water pipes, and lightning rods or ground wires for telephone wires.</p>

(*1) Refer to the "Definition of Qualified Installer or Qualified Service Person"

 Prohibition of modification.	Do not modify the products. Do not also disassemble or modify the parts. It may cause a fire, electric shock or injury.
 Use specified parts.	When any of the electrical parts are to be replaced, ensure that the replacement parts satisfy the specifications given in the Service Manual (or use the parts contained on the parts list in the Service Manual). Use of any parts which do not satisfy the required specifications may give rise to electric shocks, smoking and / or a fire.
 Do not bring a child close to the equipment.	If, in the course of carrying out repairs, it becomes absolutely necessary to check out the electrical parts with the electrical parts box cover of one or more of the indoor units and the service panel of the outdoor unit removed in order to find out exactly where the trouble lies, put a sign in place so that no one will approach the work location before proceeding with the work. Third-party individuals may enter the work site and receive electric shocks if this warning is not heeded.
 Insulating measures	Connect the cut-off lead wires with crimp contact, etc., put the closed end side upward and then apply a watercut method, otherwise a leak or production of fire is caused at the users' side.
 No fire	When performing repairs using a gas burner, replace the refrigerant with nitrogen gas because the oil that coats the pipes may otherwise burn. When repairing the refrigerating cycle, take the following measures. 1) Be attentive to fire around the cycle. When using a gas stove, etc., be sure to put out fire before work; otherwise the oil mixed with refrigerant gas may catch fire. 2) Do not use a welder in the closed room. When using it without ventilation, carbon monoxide poisoning may be caused. 3) Do not bring inflammables close to the refrigerant cycle, otherwise fire of the welder may catch the inflammables.
 Refrigerant	The refrigerant used by this air conditioner is the R410A. Check the used refrigerant name and use tools and materials of the parts which match with it. For the products which use R410A refrigerant, the refrigerant name is indicated at a position on the outdoor unit where is easy to see. To prevent miss charging, the route of the service port is changed from one of the former R22. Do not use any refrigerant different from the one specified for complement or replacement. Otherwise, abnormally high pressure may be generated in the refrigeration cycle, which may result in a failure or explosion of the product or an injury to your body. For an air conditioner which uses R410A, never use other refrigerant than R410A. For an air conditioner which uses other refrigerant (R22, etc.), never use R410A. If different types of refrigerant are mixed, abnormal high pressure generates in the refrigerating cycle and an injury due to breakage may be caused. When the air conditioner has been installed or relocated, follow the instructions in the Installation Manual and purge the air completely so that no gases other than the refrigerant will be mixed in the refrigerating cycle. Failure to purge the air completely may cause the air conditioner to malfunction. Do not charge refrigerant additionally. If charging refrigerant additionally when refrigerant gas leaks, the refrigerant composition in the refrigerating cycle changes resulted in change of air conditioner characteristics or refrigerant over the specified standard amount is charged and an abnormal high pressure is applied to the inside of the refrigerating cycle resulted in cause of breakage or injury. Therefore if the refrigerant gas leaks, recover the refrigerant in the air conditioner, execute vacuuming, and then newly recharge the specified amount of liquid refrigerant. In this time, never charge the refrigerant over the specified amount. When recharging the refrigerant in the refrigerating cycle, do not mix the refrigerant or air other than R410A into the specified refrigerant. If air or others is mixed with the refrigerant, abnormal high pressure generates in the refrigerating cycle resulted in cause of injury due to breakage. After installation work, check the refrigerant gas does not leak. If the refrigerant gas leaks in the room, poisonous gas generates when gas touches to fire such as fan heater, stove or cooking stove though the refrigerant gas itself is innocuous. Never recover the refrigerant into the outdoor unit. When the equipment is moved or repaired, be sure to recover the refrigerant with recovering device. The refrigerant cannot be recovered in the outdoor unit; otherwise a serious accident such as breakage or injury is caused.

 Assembly / Wiring	After repair work, surely assemble the disassembled parts, and connect and lead the removed wires as before. Perform the work so that the cabinet or panel does not catch the inner wires. If incorrect assembly or incorrect wire connection was done, a disaster such as a leak or fire is caused at user's side.
 Insulator check	After the work has finished, be sure to use an insulation tester set (500VMΩ) to check the resistance is 1 MΩ or more between the charge section and the non-charge metal section (Earth position). If the resistance value is low, a disaster such as a leak or electric shock is caused at user's side.
 Ventilation	When the refrigerant gas leaks during work, execute ventilation. If the refrigerant gas touches to a fire, poisonous gas generates. A case of leakage of the refrigerant and the closed room full with gas is dangerous because a shortage of oxygen occurs. Be sure to execute ventilation. If refrigerant gas has leaked during the installation work, ventilate the room immediately. If the leaked refrigerant gas comes in contact with fire, noxious gas may generate. After installation work, check the refrigerant gas does not leak. If the refrigerant gas leaks in the room, poisonous gas generates when gas touches to fire such as fan heater, stove or cooking stove though the refrigerant gas itself is innocuous.
 Compulsion	When the refrigerant gas leaks, find out the leaked position and repair it surely. If the leaked position cannot be found out and the repair work is interrupted, pump-down and tighten the service valve, otherwise the refrigerant gas may leak into the room. The poisonous gas generates when gas touches to fire such as fan heater, stove or cooking stove though the refrigerant gas itself is innocuous. When installing equipment which includes a large amount of charged refrigerant in a sub-room, it is necessary that the concentration does not the limit even if the refrigerant leaks. If the refrigerant leaks and exceeds the limit concentration, an accident of shortage of oxygen is caused. Tighten the flare nut with a torque wrench in the specified manner. Excessive tighten of the flare nut may cause a crack in the flare nut after a long period, which may result in refrigerant leakage. Nitrogen gas must be used for the airtight test. The charge hose must be connected in such a way that it is not slack. For the installation / moving / reinstallation work, follow to the Installation Manual. If an incorrect installation is done, a trouble of the refrigerating cycle, water leak, electric shock or fire is caused.
 Check after repair	Once the repair work has been completed, check for refrigerant leaks, and check the insulation resistance and water drainage. Then perform a trial run to check that the air conditioner is running properly. After repair work has finished, check there is no trouble. If check is not executed, a fire, electric shock or injury may be caused. For a check, turn off the power breaker. After repair work (installation of front panel and cabinet) has finished, execute a test run to check there is no generation of smoke or abnormal sound. If check is not executed, a fire or an electric shock is caused. Before test run, install the front panel and cabinet. Be sure to fix the screws back which have been removed for installation or other purposes.
 Do not operate the unit with the valve closed.	Check the following matters before a test run after repairing piping. <ul style="list-style-type: none"> • Connect the pipes surely and there is no leak of refrigerant. • The valve is opened. Running the compressor under condition that the valve closes causes an abnormal high pressure resulted in damage of the parts of the compressor and etc. and moreover if there is leak of refrigerant at connecting section of pipes, the air is sucked and causes further abnormal high pressure resulted in burst or injury.
 Check after reinstallation	Only a qualified installer (*1) or qualified service person (*1) is allowed to relocate the air conditioner. It is dangerous for the air conditioner to be relocated by an unqualified individual since a fire, electric shocks, injury, water leakage, noise and / or vibration may result. Check the following items after reinstallation. <ol style="list-style-type: none"> 1) The earth wire is correctly connected. 2) The power cord is not caught in the product. 3) There is no inclination or unsteadiness and the installation is stable. If check is not executed, a fire, an electric shock or an injury is caused. When carrying out the pump-down work shut down the compressor before disconnecting the refrigerant pipe. Disconnecting the refrigerant pipe with the service valve left open and the compressor still operating will cause air, etc. to be sucked in, raising the pressure inside the refrigeration cycle to an abnormally high level, and possibly resulting in rupture, injury, etc.

(*1) Refer to the "Definition of Qualified Installer or Qualified Service Person"

 Cooling check	<p>When the service panel of the outdoor unit is to be opened in order for the compressor or the area around this part to be repaired immediately after the air conditioner has been shut down, set the circuit breaker to the OFF position, and then wait at least 10 minutes before opening the service panel. If you fail to heed this warning, you will run the risk of burning yourself because the compressor pipes and other parts will be very hot to the touch. In addition, before proceeding with the repair work, wear the kind of insulated heat-resistant gloves designed to protect electricians.</p>
	<p>Take care not to get burned by compressor pipes or other parts when checking the cooling cycle while running the unit as they get heated while running. Be sure to put on gloves providing protection for heat.</p>
	<p>When the service panel of the outdoor unit is to be opened in order for the fan motor, reactor, inverter or the areas around these parts to be repaired immediately after the air conditioner has been shut down, set the circuit breaker to the OFF position, and then wait at least 10 minutes before opening the service panel. If you fail to heed this warning, you will run the risk of burning yourself because the fan motor, reactor, inverter heat sink and other parts will be very hot to the touch. In addition, before proceeding with the repair work, wear the kind of insulated heat-resistant gloves designed to protect electricians.</p>
 Installation	<p>Only a qualified installer or service person is allowed to do installation work. Inappropriate installation may result in water leakage, electric shock or fire.</p>
	<p>Before starting to install the air conditioner, read carefully through the Installation Manual, and follow its instructions to install the air conditioner.</p>
	<p>Be sure to use the company-specified products for the separately purchased parts. Use of non-specified products may result in fire, electric shock, water leakage or other failure. Have the installation performed by a qualified installer.</p>
	<p>Do not supply power from the power terminal block equipped on the outdoor unit to another outdoor unit. Capacity overflow may occur on the terminal block and may result in fire.</p>
	<p>Do not install the air conditioner in a location that may be subject to a risk of exposure to a combustible gas. If a combustible gas leaks and becomes concentrated around the unit, a fire may occur.</p>
	<p>Install the indoor unit at least 2.5 m above the floor level since otherwise the users may injure themselves or receive electric shocks if they poke their fingers or other objects into the indoor unit while the air conditioner is running.</p>
	<p>Install a circuit breaker that meets the specifications in the Installation Manual and the stipulations in the local regulations and laws.</p>
	<p>Install the circuit breaker where it can be easily accessed by the agent.</p>
	<p>If you install the unit in a small room, take appropriate measures to prevent the refrigerant from exceeding the limit concentration even if it leaks. Consult the dealer from whom you purchased the air conditioner when you implement the measures. Accumulation of highly concentrated refrigerant may cause an oxygen deficiency accident.</p>
<p>Do not place any combustion appliance in a place where it is directly exposed to the wind of air conditioner, otherwise it may cause imperfect combustion.</p>	

Explanations given to user

If you have discovered that the fan grille is damaged, do not approach the outdoor unit but set the circuit breaker to the OFF position, and contact a qualified service person to have the repairs done. Do not set the circuit breaker to the ON position until the repairs are completed.

Relocation

- Only a qualified installer (*1) or qualified service person (*1) is allowed to relocate the air conditioner. It is dangerous for the air conditioner to be relocated by an unqualified individual since a fire, electric shocks, injury, water leakage, noise and / or vibration may result.
- When carrying out the pump-down work shut down the compressor before disconnecting the refrigerant pipe. Disconnecting the refrigerant pipe with the service valve left open and the compressor still operating will cause air, etc. to be sucked in, raising the pressure inside the refrigeration cycle to an abnormally high level, and possibly resulting in rupture, injury, etc.

(*1) Refer to the “Definition of Qualified Installer or Qualified Service Person”

1. Summary of product characteristics

(1) Refrigerant

This air conditioner adopts a HFC type R410A refrigerant which does not deplete the ozone layer.

(2) 5 levels of fan speed

The fan speed can be adjusted from 5 levels through the compatible remote controller.

(3) External static pressure setting

The external static pressure can be set from 7 levels, from 50 Pa min. to 200 Pa max.

(4) Filter

Optional parts including a high performance and long life filter are equipped.

(5) New communication "TU2C-LINK"

In addition to our previous year's "TCC-LINK", a new communication "TU2C-LINK" is also applicable. The TU2C-LINK allows a group operation up to 4 indoor units.

(6) New electronic control valve

A coil can be replaced without using tools.

Definition

This is an air conditioner for processing outside air.

Since an introduction of an outside air causes disturbance to a control system of an air conditioning system and puts a considerable loads on the air conditioner, and cooling and heating device, the outside air is often processed to a certain state before entering a main air conditioner. This processing equipment is called an outside air processing unit. (The Energy Conservation Center, Japan Glossary)

Note 1 :

This air conditioner is aimed for reducing outside air loads, not for maintaining a room temperature constant.

The air conditioner will regulate the temperature of discharge air to achieve the set temperature of remote controller (temperature of discharge air).

For in-room air-conditioning loads, air-conditioners should separately be installed to reduce it.

Also, since the temperature of discharge air is different from those of air conditioners for in-room temperature regulation, an outlet should be installed with taking into consideration.

2. SYSTEM CONTROL OF FRESH AIR INTAKE UNIT

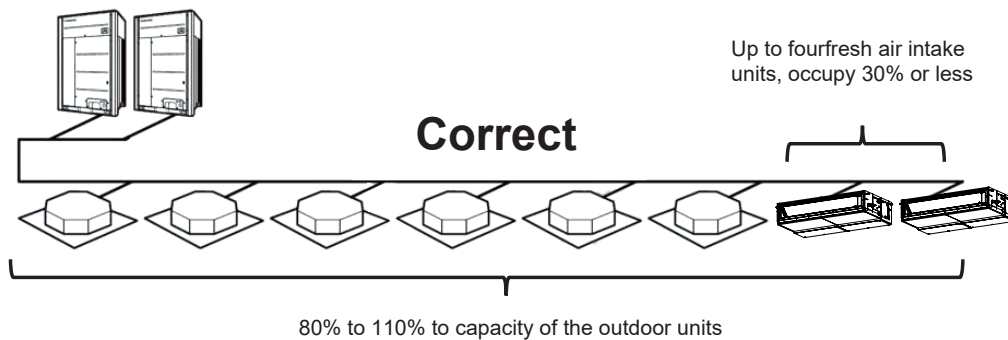
■ System able to be combined

The fresh air intake unit is connectable to SMMS (Super Modular Multi system series). However this is not connectable to SHRM (Super Heat Recovery Multi system series), and MiNi-SMMS (MCY-**) series.

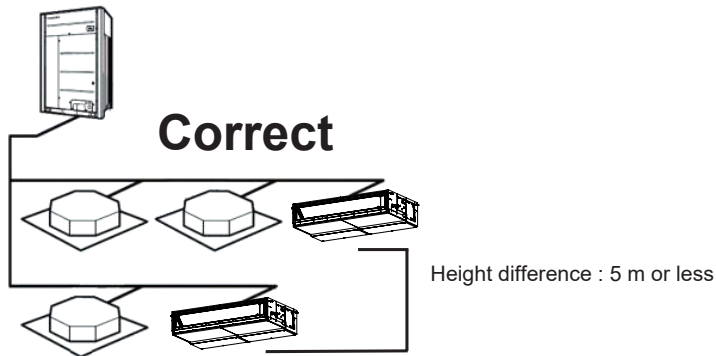
■ System combination

<Super Modular Multi System u series (SMMS-u)>

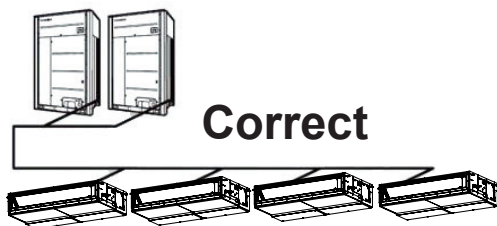
1. The total capacity of the indoor units and the fresh air intake units is restricted to 80% to 110% against the capacity of the outdoor units.
 2. Up to fresh air intake units can be connected on one line of the multi system. The allowable total capacity of the four fresh air intake units shall be 30% or less against the total capacity of the indoor units (including the fresh air intake units).
- When two Fresh air intake units or more are installed into one refrigerant line, all the units to be installed must be the same model (MMD-UP***HFP*).



- Keep the height difference between the fresh air intake units to 5 m or less.



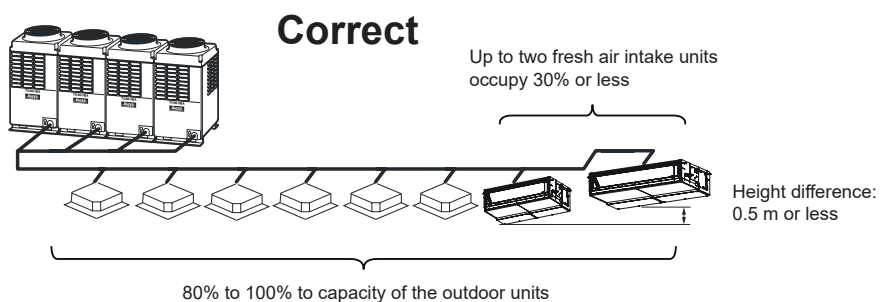
- All fresh air intake unit connection



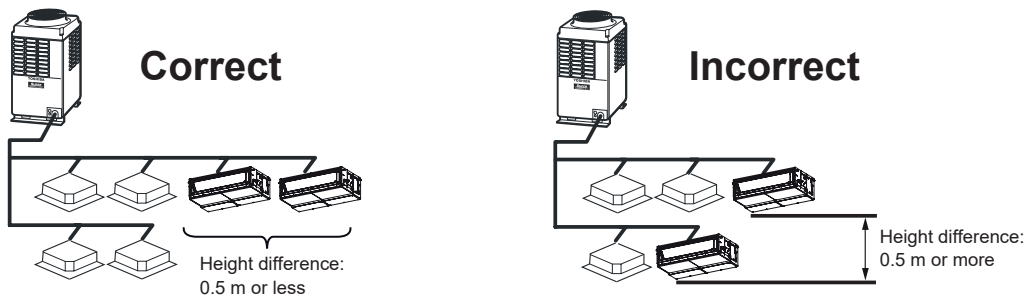
<Combination other than Super Modular Multi System u series (SMMS-u)>

■ Allowable connection capacity

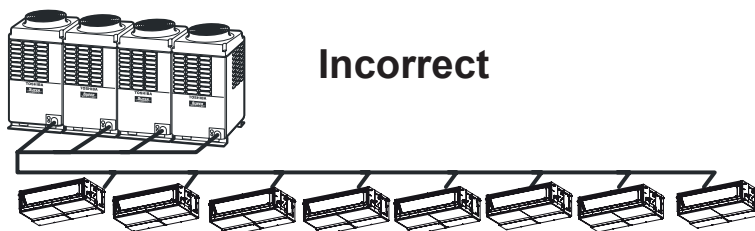
1. The fresh air intake unit is usually used together with the indoor units on one line of the multi system.
The fresh air intake unit only cannot be connected.
 2. The total capacity of the indoor units and the fresh air intake units is restricted to 80% to 100% against the capacity of the outdoor units. (This restriction should be strictly kept for correct control of the refrigerant.)
 3. Up to two fresh air intake units can be connected on one line of the multi system.
The allowable total capacity of the fresh air intake units shall be 30% or less against the total capacity of the indoor units (including the fresh air intake units).
- When two Fresh air intake units or more are installed into one refrigerant line, all the units to be installed must be the same model (MMD-UP***HFP*).



- Keep the height difference between the fresh air intake units to 0.5 m or less.



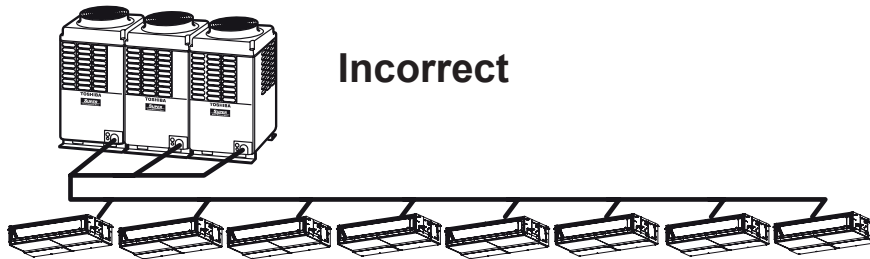
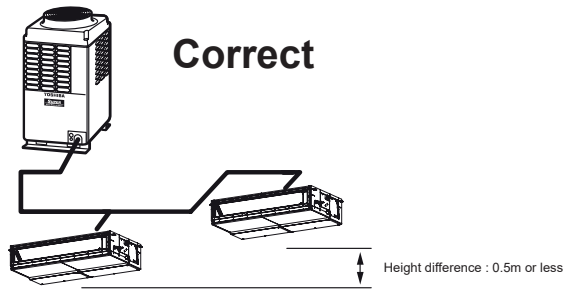
- All fresh air intake unit connection



* In SMMS-e series, the fresh air intake units only can be connected.
For details, refer to the next page.

■ Setting for All Fresh Air Intake Unit connection (SMMS-e)

- System that connected to Fresh Air Intake Unit only can be used with only single Outdoor unit on one line of the multi system. The combination of indoor units is only available specified in following Table 2.



■ The combination of Indoor units

1. The capacity code of Indoor unit is decided for each capacity type.

Indoor unit model name	MMD-	UP0721HFP*	UP0961HFP*
Indoor unit capacity type		072	096
Indoor unit capacity code		8.00	10.00

2. Combination of Indoor units is decided for Outdoor unit capacity type. It allows only the combinations of Indoor units below.

Outdoor unit capacity type	Outdoor unit capacity code	Combination of Indoor unit capacity type		
		Number of indoor units		
		1	2	3
MMY-MAP0806*	8.00	072	-	-
MMY-MAP1006*	10.00	096	048 + 048	-
MMY-MAP1406*	14.00	-	072 + 048	-
MMY-MAP1606*	16.00	-	072 + 072	048 + 048 + 048
		-	096 + 048	-
MMY-MAP1806*	18.00	-	096 + 072	072 + 048 + 048
MMY-MAP2006*	20.00	-	096+ 096	096 + 048 + 048
MMY-MAP2206*	22.00	-	-	072 + 072 + 048

3. SPECIFICATIONS

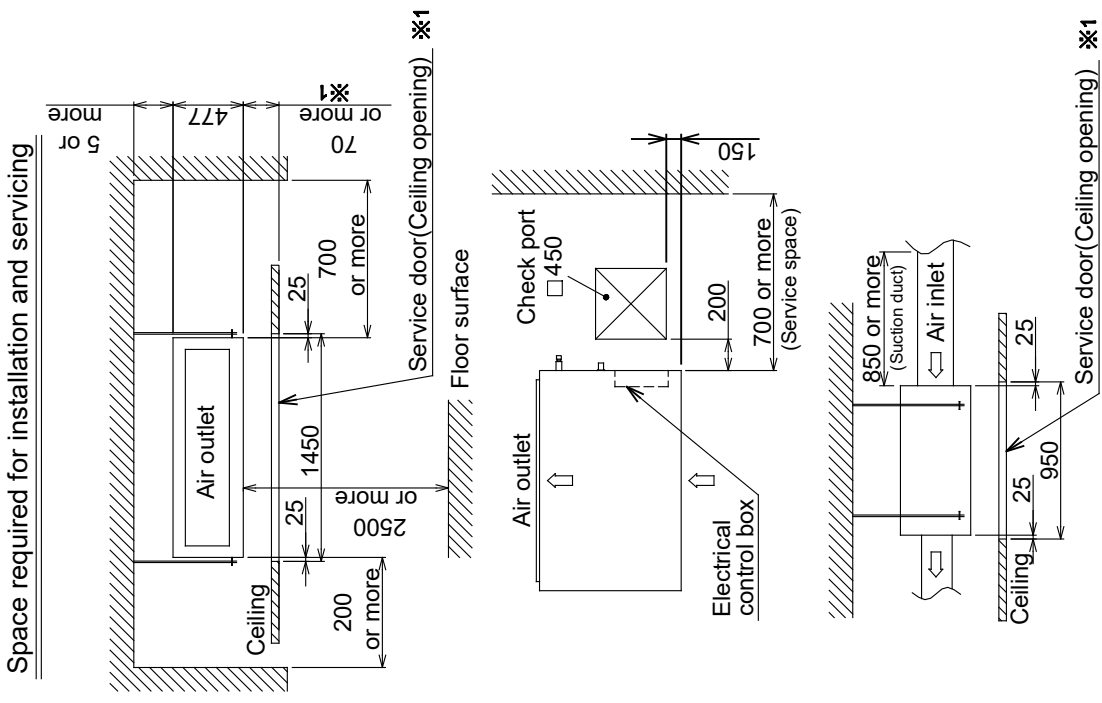
Concealed Duct High static pressure Fresh Air Intake type

Model name		MMD-UP0721HFP-E1(TR1)	MMD-UP0961HFP-E1(TR1)	MMD-UP1121HFP-E1(TR1)	MMD-UP1281HFP-E1(TR1)	
Cooling Capacity (kW)		22.40	28.00	33.50	40.00	
Heating Capacity (kW)		13.90	17.40	20.80	25.20	
Electrical characteristics	Power supply	1Ph. 230V(220V-240V) ~50Hz. & 1Ph. 220V(208-230) ~60Hz.				
	Running current (A)	0.86	1.07	1.30	1.82	
	Power consumption (kW)	0.153	0.198	0.243	0.330	
	Starting current (A)	7.8	7.8	7.8	7.8	
Appearance	Main unit	Zinc hot dipping steel plate				
	Ceiling panel	Model name	-			
		Panel Color	-			
Outer dimension	Main unit	Height (mm)	448	448	448	448
		Width (mm)	900	900	900	900
		Depth (mm)	1400	1400	1400	1400
	Ceiling panel	Height (mm)	-	-	-	-
		Width (mm)	-	-	-	-
		Depth (mm)	-	-	-	-
Total weight	Main unit (kg)	99	99	99	99	
	Ceiling panel (kg)	-	-	-	-	
Heat exchanger		Finned tube				
Fan unit	Fan		Centrifugal (Multi Blade)			
	Standard air flow	H/M/L (m ³ /hr)	1680/1440/1200	2100/1800/1470	2520/2130/1770	3060/2580/2130
	Motor (W)		1000	1000	1000	1000
	External static pressure (PA)		100	100	100	100
Air filte		Standard filter attached (Long life filter)				
Controller		-	-	-	-	
Sound pressure level	H/M/L (dBA)	38/36/34	39/36/33	40/37/34	42/38/35	
Sound power level	H/M/L (dBA)	73/71/69	74/71/68	75/72/69	77/73/70	
Connecting pipe	Gas side (mm)	22.2	22.2	28.6	28.6	
	Liquid (mm)	12.7	12.7	15.9	15.9	
	Drain port (mm)	VP25				

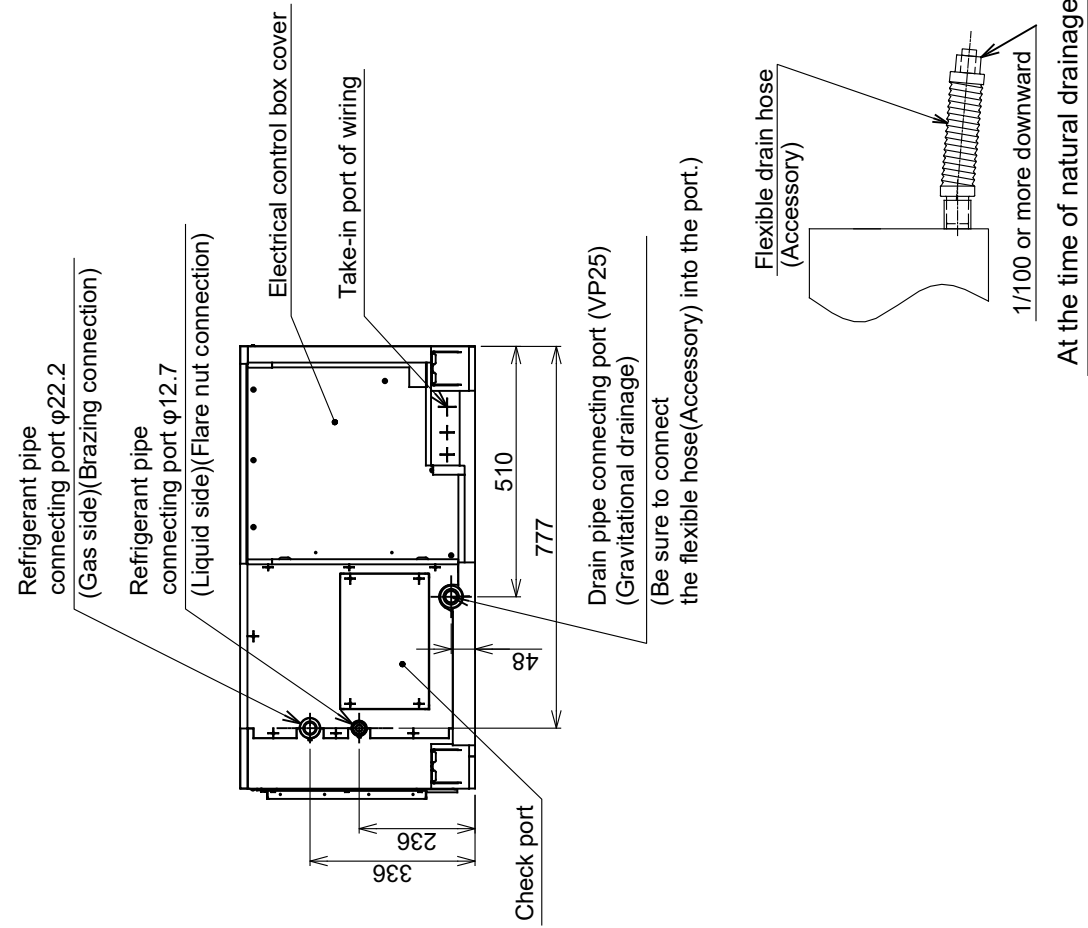
Model name		MMD-UP0721HFP-K	MMD-UP0961HFP-K	MMD-UP1121HFP-K	MMD-UP1281HFP-K	
Cooling Capacity (kW)		22.40	28.00	33.50	40.00	
Heating Capacity (kW)		13.90	17.40	20.80	25.20	
Electrical characteristics	Power supply	1Ph. (220V-240V) ~60Hz.				
	Running current (A)	0.90	1.12	1.36	1.91	
	Power consumption (kW)	0.153	0.198	0.243	0.330	
	Starting current (A)	8.15	8.15	8.15	8.15	
Appearance	Main unit	Zinc hot dipping steel plate				
	Ceiling panel	Model name	-			
		Panel Color	-			
Outer dimension	Main unit	Height (mm)	448	448	448	448
		Width (mm)	900	900	900	900
		Depth (mm)	1400	1400	1400	1400
	Ceiling panel	Height (mm)	-	-	-	-
		Width (mm)	-	-	-	-
		Depth (mm)	-	-	-	-
Total weight	Main unit (kg)	99	99	99	99	
	Ceiling panel (kg)	-	-	-	-	
Heat exchanger		Finned tube				
Fan unit	Fan	Centrifugal (Multi Blade)				
	Standard air flow	H/M/L (m ³ /hr)	1680/1440/1200	2100/1800/1470	2520/2130/1770	3060/2580/2130
	Motor (W)		1000	1000	1000	1000
	External static pressure (PA)		100	100	100	100
Air filter		Standard filter attached (Long life filter)				
Controller		-	-	-	-	
Sound pressure level	H/M/L (dBA)	38/36/34	39/36/33	40/37/34	42/38/35	
Sound power level	H/M/L (dBA)	73/71/69	74/71/68	75/72/69	77/73/70	
Connecting pipe	Gas side (mm)	22.2	22.2	28.6	28.6	
	Liquid (mm)	12.7	12.7	15.9	15.9	
	Drain port (mm)	VP25				

Model name		MMD-UP0721HFP-T	MMD-UP0961HFP-T	MMD-UP1121HFP-T	MMD-UP1281HFP-T	
Cooling Capacity (kW)		22.40	28.00	33.50	40.00	
Heating Capacity (kW)		13.90	17.40	20.80	25.20	
Electrical characteristics	Power supply		1Ph. (220V-240V) ~50Hz.			
	Running current (A)	0.90	1.12	1.36	1.91	
	Power consumption (kW)	0.153	0.198	0.243	0.330	
	Starting current (A)	8.15	8.15	8.15	8.15	
Appearance	Main unit		Zinc hot dipping steel plate			
	Ceiling panel	Model name	-			
		Panel Color	-			
Outer dimension	Main unit	Height (mm)	448	448	448	448
		Width (mm)	900	900	900	900
		Depth (mm)	1400	1400	1400	1400
	Ceiling panel	Height (mm)	-	-	-	-
		Width (mm)	-	-	-	-
		Depth (mm)	-	-	-	-
Total weight	Main unit (kg)		99	99	99	99
	Ceiling panel (kg)		-	-	-	-
Heat exchanger		Finned tube				
Fan unit	Fan		Centrifugal (Multi Blade)			
	Standard air flow	H/M/L (m ³ /hr)	1680/1440/1200	2100/1800/1470	2520/2130/1770	3060/2580/2130
	Motor (W)		1000	1000	1000	1000
	External static pressure (PA)		100	100	100	100
Air filter		Standard filter attached (Long life filter)				
Controller		-	-	-	-	
Sound pressure level	H/M/L (dBA)	38/36/34	39/36/33	40/37/34	42/38/35	
Sound power level	H/M/L (dBA)	73/71/69	74/71/68	75/72/69	77/73/70	
Connecting pipe	Gas side (mm)	22.2	22.2	28.6	28.6	
	Liquid (mm)	12.7	12.7	15.9	15.9	
	Drain port (mm)	VP25				

4. CONSTRUCTION VIEWS (EXTERIVAL VIEWS)



※1 If there are enough space under the unit (more than 1000mm) the service door(Ceiling opening) is not necessary.

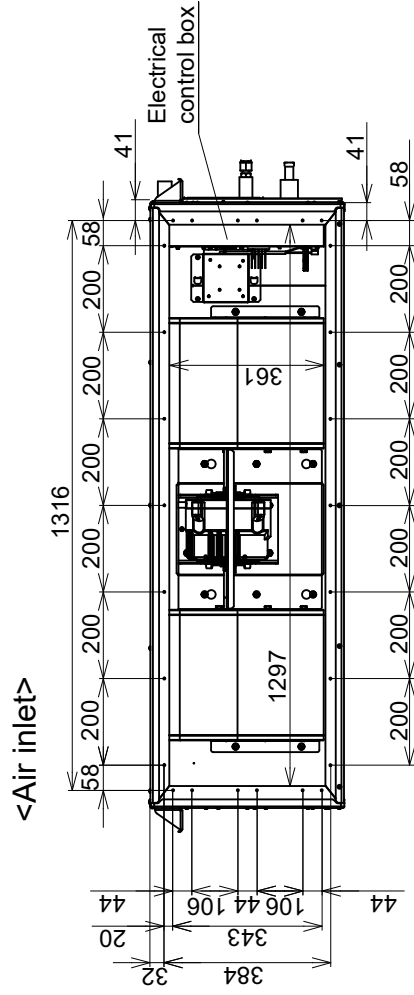
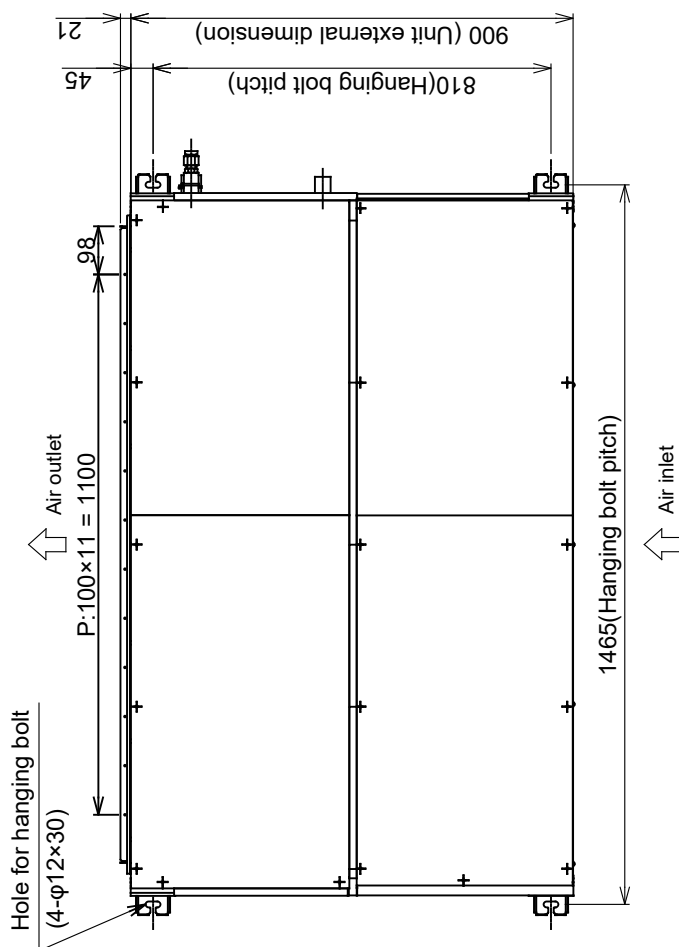
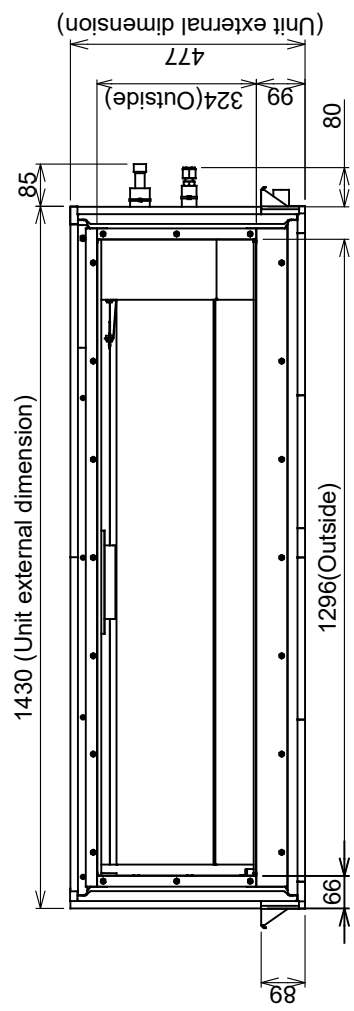


At the time of natural drainage

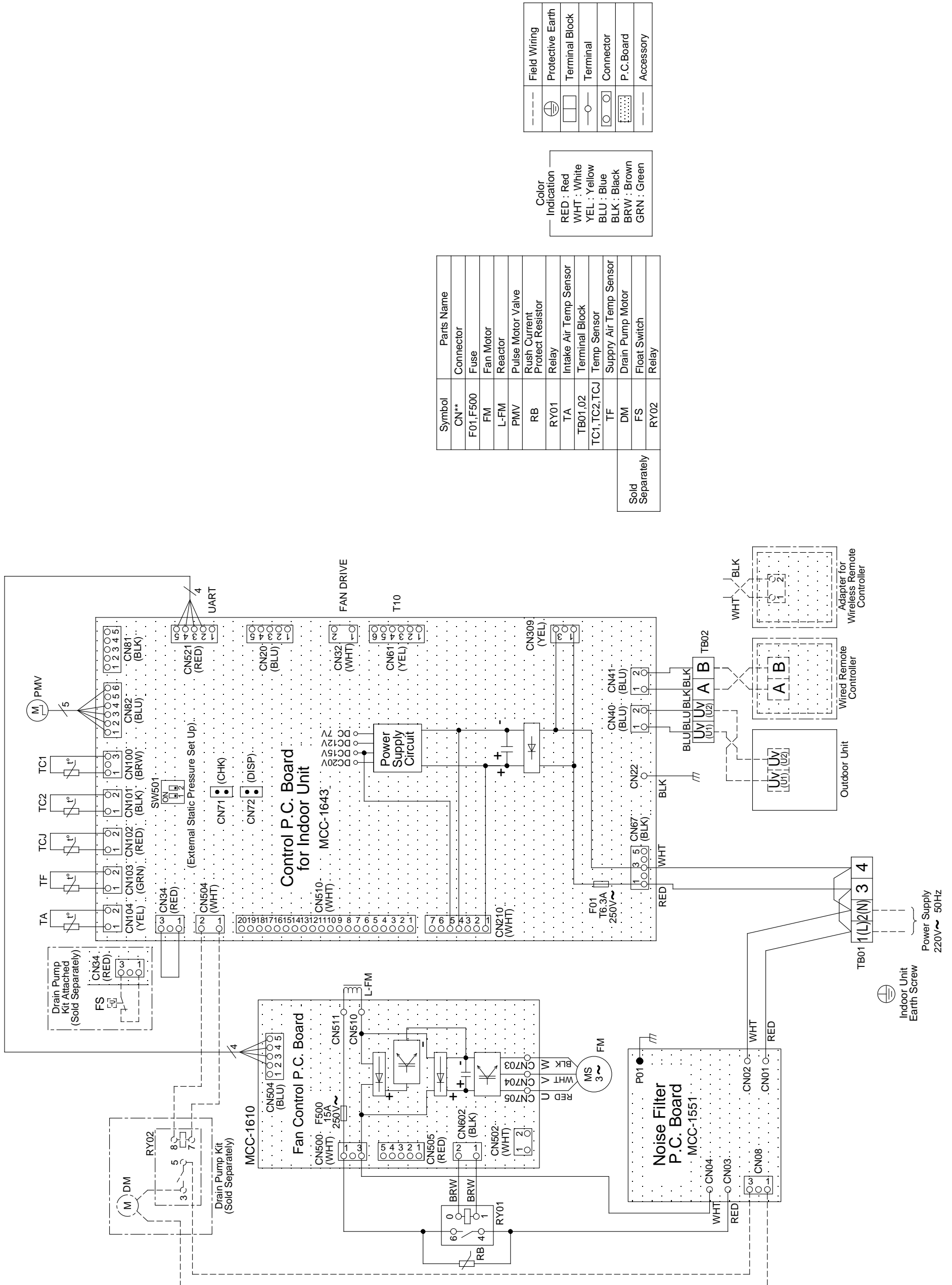
<Installation notice>

- Be sure to install an inspection port to the right of the air discharge.(450x450mm)
- The drain pipe and drain hose must be sloping downward (at an angle of 1/100 or more). Be sure to apply the heat insulator to the piping part connecting with the indoor unit. Incomplete heat insulation may cause a dew.
- Be sure to perform a drainage test to check that the water drains safely.
- Do not install this indoor unit in the salty place (seaside area) or place with much gas sulfide (hot spring area).
- The air filter is not built into the Fresh Air Intake Unit.
- Remove dust coming from outside air by installing optional Filter Chamber, Long Life Filter, and High Efficiency Filter. If the air filter is not installed into the unit, dust will clog in the heat exchanger, which may cause the air conditioner to fail or to leak.
- Use the canvas duct at air inlet port and air supply port so that vibration or abnormal resonance sound from the unit does not propagate to the duct or wall and the main unit can be easily disassembled in service time.
- The heat insulator is applied to the main body surface of the indoor unit. (15mm)
- Be sure to install the outside air inlet with its opening pointing downward to prevent rainwater from entering and install a metal mesh into the opening so that leaves and birds do not enter in the duct.
- Be sure to apply the heat insulator to the outside air intake duct to prevent dewing. When outside air is inhaled for heating, cold air enters into the duct, causing a dew on the surface of the duct.

(Unit:mm)



5. WIRING DIAGRAMS



---	Field Wiring
⊕	Protective Earth
□	Terminal Block
○	Terminal
○	Connector
⋮	P.C. Board
---	Accessory

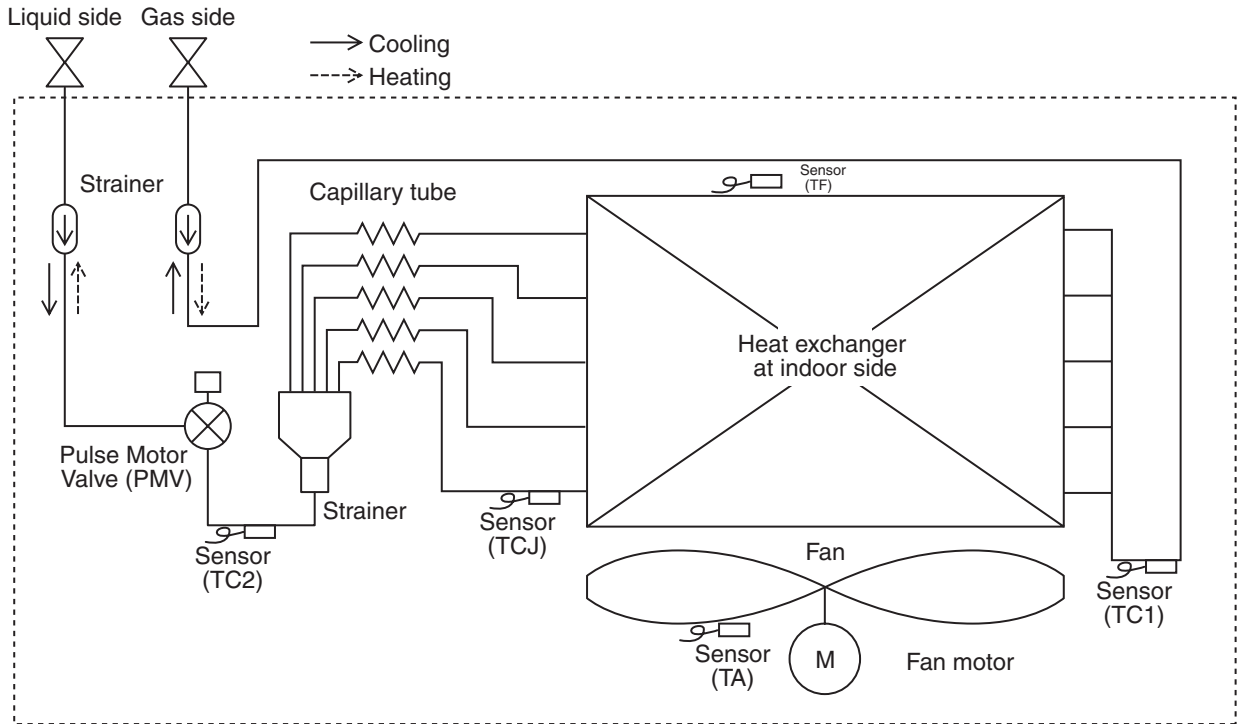
Color Indication	
RED	: Red
WHT	: White
YEL	: Yellow
BLU	: Blue
BLK	: Black
BRW	: Brown
GRN	: Green

Symbol	Parts Name
CN**	Connector
F01, F500	Fuse
FM	Fan Motor
L-FM	Reactor
PMV	Pulse Motor Valve
RB	Rush Current Protect Resistor
RY01	Relay
TA	Intake Air Temp Sensor
TB01, 02	Terminal Block
TC1, TC2, TCJ	Temp Sensor
TF	Supply Air Temp Sensor
DM	Drain Pump Motor
FS	Float Switch
RY02	Relay

Sold Separately

6. REFRIGERANT CYCLE DIAGRAM

Indoor unit



Explanation of functional parts in indoor unit

Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN82 (6P): Blue) 1) Controls super heat in cooling operation 2) Controls subcool in heating operation 3) Recovers refrigerant oil in cooling operation 4) Recovers refrigerant oil in heating operation
Temp. Sensor	TA	(Connector CN104 (2P): Yellow) 1) Detects outdoor/suction
	TC1	(Connector CN100 (3P): Brown) 1) Controls PMV super heat in cooling operation
	TC2	(Connector CN101 (2P): Black) 1) Controls PMV sub cool in heating operation
	TCJ	(Connector CN102 (2P): Red) 1) Controls PMV super heat in cooling operation
	TF	(Connector CN103 (2P): Green) 1) Detects indoor discharge temperature

7. PARTS RATING

Capability rank	P072 type	P096 type	P112 type	P128 type
Fan motor	ICF-340WD940-1			
Electronic control valve	PAM-BA0YGTF-1			
Electronic control valve coil	PAM-MD12TF-301			
TA sensor	Lead wire length 218 mm			
TF sensor	Lead wire length 1100 mm			
TC1 sensor	Dia. 4 size lead wire length 1000 mm Vinyl tube (blue)			
TC2 sensor	Dia. 6 size lead wire length 1000 mm Vinyl tube (black)			
TCJ sensor	Dia. 6 size lead wire length 1000 mm Vinyl tube (red)			


8. CONTROL OUTLINE

■ Indoor unit

Control specifications

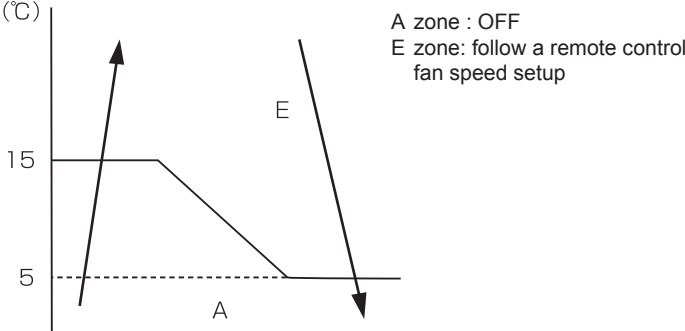
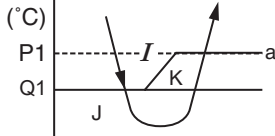
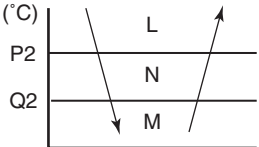
NO.	item	Outline of specifications	Remarks																		
1	When power supply is reset	<p>(1) Distinction of outdoor unit When the power supply is reset, the outdoor units are distinguished and the control is selected according to the distinguished result.</p> <p>(2) Setting of indoor fan speed Based on EEPROM data, select setting of the indoor fan speed.</p> <p>(3) If resetting the power supply during occurrence of a trouble, the check code is once cleared. After On/OFF button of the remote control was pushed and the operation was resumed, if the abnormal status continues, the check code is again displayed on the remote control.</p>																			
2	Operation mode selection	<p>(1) Based on the operation mode selecting command through the remote control, the operation mode is selected.</p> <table border="1"> <thead> <tr> <th>Remote control command</th> <th>Control outline</th> </tr> </thead> <tbody> <tr> <td>STOP</td> <td>Air conditioner stops.</td> </tr> <tr> <td>FAN</td> <td>Fan operation</td> </tr> <tr> <td>COOL</td> <td>Cooling operation</td> </tr> <tr> <td>HEAT</td> <td>Heating operation</td> </tr> </tbody> </table>	Remote control command	Control outline	STOP	Air conditioner stops.	FAN	Fan operation	COOL	Cooling operation	HEAT	Heating operation									
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3	Remote controller temperature setting (temperature of discharge air (TF))	<p>(1) Temperature adjustment range The outdoor unit is Super Multi u series one.</p> <table border="1"> <thead> <tr> <th>Operation mode</th> <th>Adjustment range</th> <th>Setting at shipment</th> </tr> </thead> <tbody> <tr> <td>COOL</td> <td>13~25°C</td> <td>18°C</td> </tr> <tr> <td>HEAT</td> <td>18~30°C</td> <td>25°C</td> </tr> </tbody> </table> <p>The outdoor unit is the other model than Super Multi u series one.</p> <table border="1"> <thead> <tr> <th>Operation mode</th> <th>Adjustment range</th> <th>Setting at shipment</th> </tr> </thead> <tbody> <tr> <td>COOL</td> <td>16~27°C</td> <td>18°C</td> </tr> <tr> <td>HEAT</td> <td>16~27°C</td> <td>25°C</td> </tr> </tbody> </table>	Operation mode	Adjustment range	Setting at shipment	COOL	13~25°C	18°C	HEAT	18~30°C	25°C	Operation mode	Adjustment range	Setting at shipment	COOL	16~27°C	18°C	HEAT	16~27°C	25°C	TF : Temperature of discharge air
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4	Capacity control of the Fresh air intake unit	<table border="1"> <thead> <tr> <th>The outdoor unit to be connected</th> <th>For Super Multi u series</th> <th>For other models than Super Multi u series</th> </tr> </thead> <tbody> <tr> <td>System configuration</td> <td></td> <td></td> </tr> <tr> <td>Combination with other indoor units</td> <td>Always operates at maximum capacity. The Thermo-Off will be activated only when Forced Thermo-OFF conditions are satisfied.</td> <td>Always operates at maximum capacity. The Thermo-Off will be activated only when Forced Thermo-OFF conditions are satisfied.</td> </tr> <tr> <td>All Fresh air intake connection</td> <td>Based on the difference between TF and Ts, and the amount of temperature change, the operation capacity is determined by the Fresh air intake to command the operating frequency to the outdoor unit. 1) COOL operation TF(n)-Ts(n) : Temperature difference n : Times of detection TF(n-1)-TF(n) : Temperature change amount 2) HEAT operation Ts(n)-TF(n) : Temperature difference amount n : Times of detection TF(n)-TF(n-1) : Temperature change amount The Thermo-Off will be activated only when Forced Thermo-OFF conditions are satisfied.</td> <td></td> </tr> </tbody> </table>	The outdoor unit to be connected	For Super Multi u series	For other models than Super Multi u series	System configuration			Combination with other indoor units	Always operates at maximum capacity. The Thermo-Off will be activated only when Forced Thermo-OFF conditions are satisfied.	Always operates at maximum capacity. The Thermo-Off will be activated only when Forced Thermo-OFF conditions are satisfied.	All Fresh air intake connection	Based on the difference between TF and Ts, and the amount of temperature change, the operation capacity is determined by the Fresh air intake to command the operating frequency to the outdoor unit. 1) COOL operation TF(n)-Ts(n) : Temperature difference n : Times of detection TF(n-1)-TF(n) : Temperature change amount 2) HEAT operation Ts(n)-TF(n) : Temperature difference amount n : Times of detection TF(n)-TF(n-1) : Temperature change amount The Thermo-Off will be activated only when Forced Thermo-OFF conditions are satisfied.		TF : Temperature of discharge air Ts : Temperature set by remote controller						
The outdoor unit to be connected	For Super Multi u series	For other models than Super Multi u series																			
System configuration																					
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Control outline (continued)

NO.	item	Outline of specifications	Remarks																																						
5	Forced Thermo-OFF	<p>The Forced Thermo-OFF will be activated when conditions below are satisfied.</p> <p>(1) Outdoor / Suction air temp. (TA) · COOL ... When $TA \leq 19^{\circ}\text{C}$ (T_{a c}) · HEAT ... When $TA \geq 15^{\circ}\text{C}$ (T_{a h}) or when $TA \leq -10^{\circ}\text{C}$ (※1)(※1 : When connecting to Super Multi u series : -10°C When connecting to other models than Super Multi u series: -5°C)</p> <p>(2) Outdoor / Suction air temp. (TA) and temperature set by remote controller (Ts) · COOL ... When $TA \leq Ts + 3^{\circ}\text{C}$ (T_{β c}) · HEAT ... When $TA \geq Ts - 3^{\circ}\text{C}$ (T_{β h})</p> <p>(3) Temperature of discharge air (TF) · COOL ... When $TF \leq 3^{\circ}\text{C}$ (T_{γ c}) · HEAT ... When $TF \geq 60^{\circ}\text{C}$ (T_{γ h})</p>	<p>CODE No. (DN) T_{a c} : (DN) 「402」 =0019 T_{a h} : (DN) 「403」 =0015</p> <p>T_{β c} : (DN) 「404」 =0003 T_{β h} : (DN) 「405」 =0003</p> <p>T_{γ c} : (DN) 「406」 =0003 T_{γ h} : (DN) 「407」 =0060</p>																																						
6	Forced Fan OFF	<p>When the Outdoor / Suction air temp. is low, the following controls will be operated.</p> <p>(1) The fan is forcibly turned off according to the temperature of outdoor ambient (suction) (TA) · COOL · FAN ... When $TA \leq 5^{\circ}\text{C}$ · HEAT ... When $TA \leq -10^{\circ}\text{C}$ (when connecting to other than Super Multi u series, -5°C)</p> <p>(2) After FAN OFF for 60 minutes, FAN will be ON for 1 minute. If the Forced Fan OFF will be continued or released depends on the Outdoor / Suction air temp. (TA) at that time. <Deactivate condition> · COOL · FAN ... When $TA \geq 7^{\circ}\text{C}$ · HEAT ... When $TA \geq -8^{\circ}\text{C}$ (when connecting to other than Super Multi u series, -3°C)</p> <p>(3) Other deactivate conditions of Forced Fan-OFF · Turn off · Mode setting · Test run mode</p> <table border="1" data-bbox="440 1133 1198 1469"> <thead> <tr> <th rowspan="2">Operation mode</th> <th colspan="6">Outdoor / Suction air temp. (°C)</th> </tr> <tr> <th>-10</th> <th>0</th> <th>10</th> <th>20</th> <th>30</th> <th>40</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>COOL</td> <td></td> <td></td> <td>FAN</td> <td>Ts+3</td> <td>COOL</td> <td></td> <td></td> </tr> <tr> <td>HEAT</td> <td>-10(※)</td> <td>HEAT</td> <td>Ts-3</td> <td>FAN</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FAN</td> <td></td> <td></td> <td>FAN</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>※When connecting to Super Multi u series: -10°C When connecting to other models than Super Multi u series: -5°C</p>	Operation mode	Outdoor / Suction air temp. (°C)						-10	0	10	20	30	40	50	COOL			FAN	Ts+3	COOL			HEAT	-10(※)	HEAT	Ts-3	FAN				FAN			FAN					<p>OPERATION STANDBY is displayed</p> <p></p>
Operation mode	Outdoor / Suction air temp. (°C)																																								
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FAN			FAN																																						

NO.	item	Outline of specifications	Remarks																																																																																																																																																																																																																																																															
7	Fan speed control	<p>(1) The unit adjust the fan speed to "HIGH (HH)", "MID+ (H+)", "MID (H)", "LOW+ (L+)", and "LOW (L)" according to the command through the remote controller.</p> <p>(2) Under "AUTO" speed, the unit will adjust the fan speed to "HIGH (HH)".</p> <table border="1" data-bbox="395 309 1412 1012"> <thead> <tr> <th data-bbox="395 309 560 367">Static pressure mode</th> <th colspan="2" data-bbox="560 309 683 367">50Pa</th> <th colspan="2" data-bbox="683 309 805 367">75Pa</th> <th colspan="2" data-bbox="805 309 928 367">100Pa</th> <th colspan="2" data-bbox="928 309 1051 367">125Pa</th> <th colspan="2" data-bbox="1051 309 1174 367">150Pa</th> <th colspan="2" data-bbox="1174 309 1297 367">175Pa</th> <th colspan="2" data-bbox="1297 309 1412 367">200Pa</th> </tr> <tr> <th data-bbox="395 367 560 461">CODE No. (DN) "5D" setting data</th> <td colspan="2" data-bbox="560 367 683 461">1</td> <td colspan="2" data-bbox="683 367 805 461">2</td> <td colspan="2" data-bbox="805 367 928 461">0 At shipment</td> <td colspan="2" data-bbox="928 367 1051 461">4</td> <td colspan="2" data-bbox="1051 367 1174 461">3</td> <td colspan="2" data-bbox="1174 367 1297 461">5</td> <td colspan="2" data-bbox="1297 367 1412 461">6</td> </tr> <tr> <th data-bbox="395 461 560 501">SW501(1)/(2)</th> <td colspan="2" data-bbox="560 461 683 501">ON/OFF</td> <td colspan="2" data-bbox="683 461 805 501">—</td> <td colspan="2" data-bbox="805 461 928 501">OFF/OFF</td> <td colspan="2" data-bbox="928 461 1051 501">—</td> <td colspan="2" data-bbox="1051 461 1174 501">OFF/ON</td> <td colspan="2" data-bbox="1174 461 1297 501">—</td> <td colspan="2" data-bbox="1297 461 1412 501">ON/ON</td> </tr> <tr> <th data-bbox="395 501 560 542">Tap</th> <td>COOL</td><td>HEAT</td> <td>COOL</td><td>HEAT</td> <td>COOL</td><td>HEAT</td> <td>COOL</td><td>HEAT</td> <td>COOL</td><td>HEAT</td> <td>COOL</td><td>HEAT</td> <td>COOL</td><td>HEAT</td> </tr> </thead> <tbody> <tr> <td>F1</td> 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<td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td><td>UL</td> </tr> </tbody> </table> <p>※ The rotation speed will be adjusted according to the operating environment.</p> <p>(3) When the Thermo-OFF is activated during heating operation, the unit will adjust the fan speed to "ULTRA LOW (UL)".</p>	Static pressure mode	50Pa		75Pa		100Pa		125Pa		150Pa		175Pa		200Pa		CODE No. (DN) "5D" setting data	1		2		0 At shipment		4		3		5		6		SW501(1)/(2)	ON/OFF		—		OFF/OFF		—		OFF/ON		—		ON/ON		Tap	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	F1													HH	HH	F2											HH	HH			F3									HH	HH			H+	H+	F4							HH	HH	H+	H+	H+	H+	H	H	F5					HH	HH	H+	H+	H	H			L+	L+	F6			HH	HH	H+	H+	H	H	L+	L+	L+	L+			F7													L	L	F8	HH	HH	H+	H+	H	H	L+	L+			L	L			F9	H+	H+	H	H	L+	L+			L	L					FA	H	H					L	L							FB	L+	L+	L+	L+	L	L									FC	L	L													FD	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	<p>HH > H+ > H > L+ > L > UL</p> <p>The static pressure mode can be set by the CODE No. (DN) or the switch on the indoor control board.</p>
Static pressure mode	50Pa		75Pa		100Pa		125Pa		150Pa		175Pa		200Pa																																																																																																																																																																																																																																																					
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Control outline (continued)

NO.	item	Outline of specifications	Remarks															
8	Cold air discharge prevention control	<p>(1) Under HEAT operation, the higher temperature of TC2 sensor and TCJ sensor is compared with temperature of TC1 sensor then lower temperature is used to set the upper limit of the fan tap. Under defrosting operation, the control point is set to +6°C.</p> 	<p>TCJ : Temperature of Indoor heat exchange sensor</p> <ul style="list-style-type: none"> In zone A, "PRE-HEAT" is displayed. 															
9	Freeze prevention control (Low temp. release)	<p>1. In all cooling operation, the air conditioner operates as described below based upon temp. detected by TC1, TC2 and TCJ sensors.</p> <ul style="list-style-type: none"> When "J" zone is detected for 5 minutes, the thermostat is forcedly off. In "K" zone, the timer count is interrupted, and held. When "I" zone is detected, the timer is cleared and the operation returns to the normal operation. If "J" zone continues, operation of the indoor fan in LOW mode continues until it reaches the "I" zone. It is reset when the following conditions are satisfied. <p>Reset conditions</p> <ol style="list-style-type: none"> TC1 $\geq 12^{\circ}\text{C}$ and TCJ $\geq 12^{\circ}\text{C}$ 20 minutes passed after stop.  <table border="1" data-bbox="794 1243 1109 1355"> <thead> <tr> <th></th> <th>TC1</th> <th>TC2, TCJ</th> </tr> </thead> <tbody> <tr> <td>P1</td> <td>10°C (5°C)</td> <td>-10°C</td> </tr> <tr> <td>Q1</td> <td>0°C</td> <td>-14°C</td> </tr> </tbody> </table> <p>2. In all cooling operation, the air conditioner operates as described below based upon temp. detected by TCJ sensor.</p> <ul style="list-style-type: none"> When "M" zone is detected for 45 minutes, the thermostat is forcedly off. In "N" zone, the timer count is interrupted and held. When shifting to "M" zone again, the timer count restarts and continues. If "L" zone is detected, the timer is cleared and the operation returns to normal operation. <p>Reset conditions</p> <ol style="list-style-type: none"> TC1 $\geq 12^{\circ}\text{C}$ and TCJ $\geq 12^{\circ}\text{C}$ 20 minutes passed after stop.  <table border="1" data-bbox="769 1787 1034 1892"> <thead> <tr> <th></th> <th>TCJ</th> </tr> </thead> <tbody> <tr> <td>P2</td> <td>5°C</td> </tr> <tr> <td>Q2</td> <td>-2.0°C</td> </tr> </tbody> </table>		TC1	TC2, TCJ	P1	10°C (5°C)	-10°C	Q1	0°C	-14°C		TCJ	P2	5°C	Q2	-2.0°C	<p>TC1: Temperature of indoor heat exchanger sensor</p> <p>() value: When the power supply is turned on, the forced thermostat becomes OFF if the temperature is less than this indicated temperature.</p>
	TC1	TC2, TCJ																
P1	10°C (5°C)	-10°C																
Q1	0°C	-14°C																
	TCJ																	
P2	5°C																	
Q2	-2.0°C																	

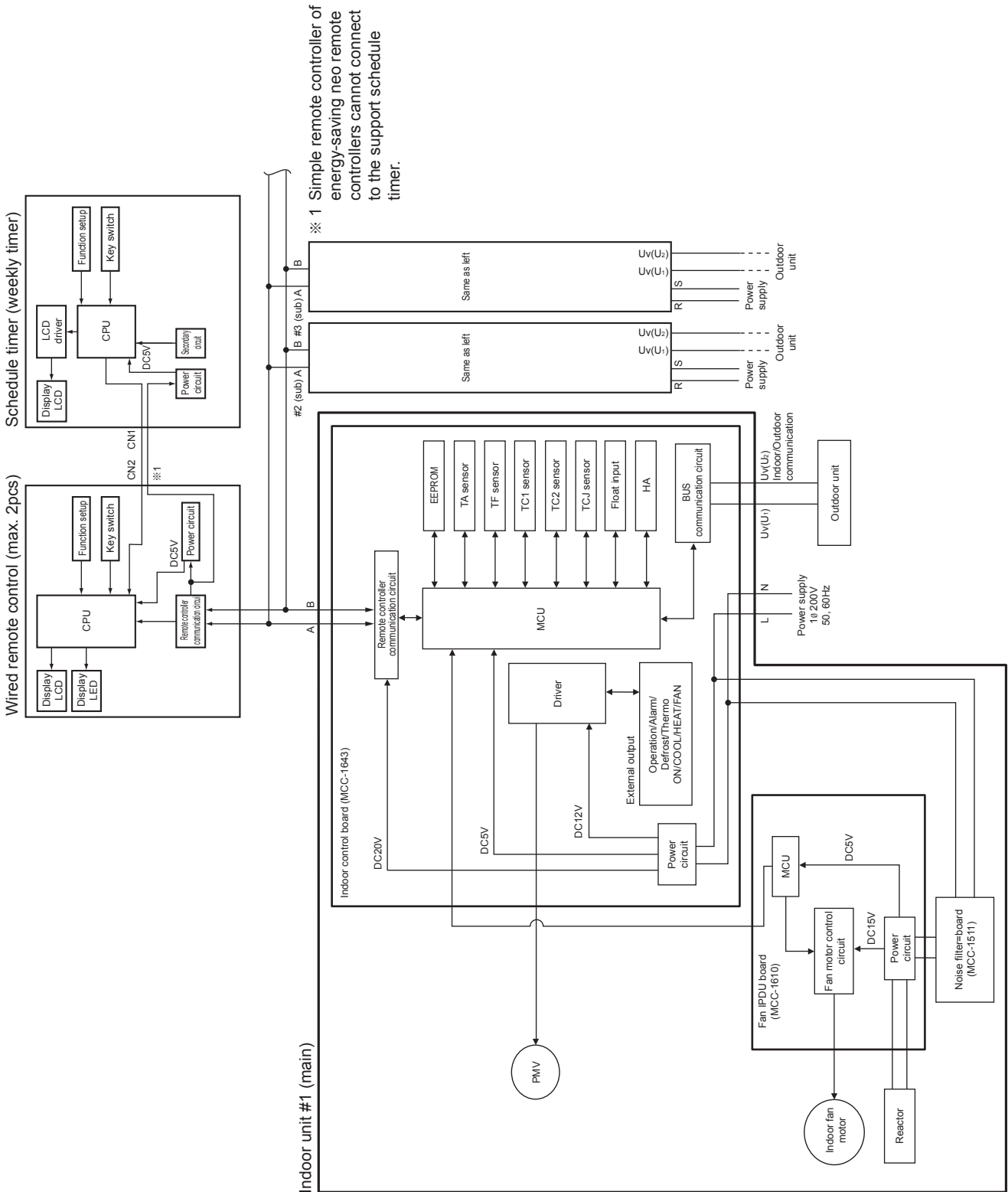
NO.	item	Outline of specifications	Remarks								
10	Recovery control for cooling oil (refrigerant)	<p>Recovery control for cooling oil (refrigerant)</p> <p>The indoor unit under STOP/Thermo-OFF or "FAN" operations will perform the following controls when it receives the cooling oil (refrigerant) recovery signal from the outdoor unit.</p> <ul style="list-style-type: none"> ① Opens PMV of the indoor unit with a certain opening degree. (maximum 4 minutes) ② Operates the drain pump during the recovery control, and after the recovery control for 1 minute 	The recovery control is performed every 2 hours or when the outdoor unit determined. (It depends on the outdoor unit to be connected.)								
11	Recovery control for heating refrigerant (oil)	<p>The indoor unit under STOP/Thermo-OFF or "FAN" operations will performs the following controls when it receives the heating refrigerant (Oil) recovery signal from the outdoor unit.</p> <ul style="list-style-type: none"> ① Opens PMV of the indoor unit with a certain opening degree. (maximum 20 minutes) ② Detects the temperature of TC2 and close the PMV. <p>Depending on the type of indoor unit, the indoor fan, flap and drain pump may be operated until the counted times of recovery controls will reach the specified times, and after the completion of the recovery for about 1 minute.</p> <p>(Note) Depending on the outdoor unit to be connected, the PMV, indoor fan and flap may separately be operated following a command from the outdoor unit. For details, refer to the service guide for the outdoor unit.</p>	<p>The indoor unit under COOL / Thermo-OFF or "FAN" operation will stop the indoor fan and display "OPERATION READY."</p> <p>The recovery control is performed every 2 hours or when the outdoor unit determined. The control time may different for different operating conditions. (According to the outdoor unit to be connected.)</p>								
12	Compensation control for short intermittent outdoor unit operation	<ul style="list-style-type: none"> (1) For 5minutes after having started operating the compressor, the operation will be forcedly continued without activating the Thermo-OFF even if the unit enters in the Thermo-OFF conditions. (2) However, the Thermo-OFF is given prior to COOL/HEAT selection, OPERATION READY and protective control. 									
13	Elimination of retained heat	<ul style="list-style-type: none"> (1) When the unit stopped the "HEAT" operation, the indoor fan will be operated in "LOW" for about 30 seconds. 									
14	HA control	<ul style="list-style-type: none"> (1) By connecting to a tele-converter or a remote start and stop I/F, the unit can be remotely ON/OFF through an inputting HA signal from distnace. (2) Outputs the ON/OFF status to the HA terminal. (3) HA input and output specifications accordance with JEMA standard. 	Used for remote start and stop command When using the HA terminal (CN61), an optional connector is required. Connect to either the main/sub indoor unit.								
15	Alarm output setting	<p>For group control, the alarm output from the indoor board shows the status of each indoor unit. The setting to let the main unit output the whole statuses including the sub-unit is also applicable.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>DN</th> <th>Indoor/main unit alarm output</th> <th>SET DATA</th> </tr> </thead> <tbody> <tr> <td rowspan="2">79</td> <td>Not include the status of the sub-unit</td> <td>0000 (at the time of shipment)</td> </tr> <tr> <td>Include the status of the sub-unit</td> <td>0001</td> </tr> </tbody> </table>	DN	Indoor/main unit alarm output	SET DATA	79	Not include the status of the sub-unit	0000 (at the time of shipment)	Include the status of the sub-unit	0001	<p>Connector: CN 61 (see Section 9.2)</p> <p>Stop operation during the operation settings</p>
DN	Indoor/main unit alarm output	SET DATA									
79	Not include the status of the sub-unit	0000 (at the time of shipment)									
	Include the status of the sub-unit	0001									
16	Display of filter sign (Not provided to the wireless type)	<ul style="list-style-type: none"> (1) When the integrated operating time of the indoor fan reached the specified time (2500H), a filter replacement signal will be sent to the remote controller to display on the LCD. (2) When the filter reset signal is received from the remote control, the integration timer will be cleared. In this time, if the integrated time has passed the specified time, the measurement time will be reset and the indicator on the LCD will be OFF. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>Filter time</td> <td>2500H</td> </tr> </table>	Filter time	2500H	"FILTER" displayed						
Filter time	2500H										

Control outline (continued)

NO.	item	Outline of specifications	Remarks																																																
17	Display of "OPERATION READY" and "PRE-HEAT"	<p><OPERATION READY> Displayed on the remote control</p> <p>(1) When the following check codes are indicated</p> <ul style="list-style-type: none"> • Open phase of power supply wiring "P5" was detected. • There is an indoor unit that detected indoor overflow "P10". • There is an indoor unit that detected the interlock alarm "L30". <p>(2) During Forced Thermo-OFF</p> <ul style="list-style-type: none"> • "COOL" operation is unavailable because the other indoor unit is operating with "HEAT" mode. • "HEAT" operation is unavailable because COOL priority (SW11-bit1 of the Outdoor I/F P.C.board is ON) is set and the other indoor unit is operating with "COOL" mode. <p>(3) The fan is stopped by the Enforced Thermo-OFF control.</p> <p>(4) The above indoor units that cannot operate stay in Thermo-OFF status.</p> <p>(5) The indoor fan stops because the system performs "Recovery operation for heating refrigerant (Oil)".</p> <p><PRE-HEAT> Displayed on the remote control</p> <p>(1) When an air conditioner starts heating operation or during heating operation, the indoor fan has turned off to prevent discharge of cool air. (including the defrosting operation under the Thermo-OFF state).</p>	<p>● "OPERATION READY" is displayed No display for wireless remote control</p> <p>● "PRE-HEAT" is displayed</p>																																																
18	Selection of central control mode	<p>(1) Selection of the contents that can be operated by the remote control at the indoor unit side is possible according to setting at the central control device side.</p> <p>(2) Setting contents</p> <table border="1" data-bbox="432 927 1161 1193"> <thead> <tr> <th rowspan="2">Operation from central control device</th> <th colspan="6">Operation with remote control</th> </tr> <tr> <th>ON/OFF setting</th> <th>Operation selection</th> <th>Timer setting</th> <th>Temp. setting</th> <th>Fan speed setting</th> <th>Louver direction setting</th> </tr> </thead> <tbody> <tr> <td>Individual</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>○</td> <td>—</td> </tr> <tr> <td>[Central 1]</td> <td>×</td> <td>○</td> <td>×</td> <td>○</td> <td>○</td> <td>—</td> </tr> <tr> <td>[Central 2]</td> <td>×</td> <td>×</td> <td>×</td> <td>×</td> <td>○</td> <td>—</td> </tr> <tr> <td>[Central 3]</td> <td>○</td> <td>×</td> <td>○</td> <td>×</td> <td>○</td> <td>—</td> </tr> <tr> <td>[Central 4]</td> <td>○</td> <td>×</td> <td>○</td> <td>○</td> <td>○</td> <td>—</td> </tr> </tbody> </table> <p>○ : Operation possible × : Operation impossible ※The air flow direction setting function is not applicable to the air conditioner for outside air processing.</p> <p>(3) "CENTRAL CONTROL OPERATION LOCK" or "CENTRAL CONTROL" is displayed while in central control mode.</p> <p>(4) "Operation lock has been set by central control" is displayed when control function inaccessible to a remote controller is selected.</p>	Operation from central control device	Operation with remote control						ON/OFF setting	Operation selection	Timer setting	Temp. setting	Fan speed setting	Louver direction setting	Individual	○	○	○	○	○	—	[Central 1]	×	○	×	○	○	—	[Central 2]	×	×	×	×	○	—	[Central 3]	○	×	○	×	○	—	[Central 4]	○	×	○	○	○	—	
Operation from central control device	Operation with remote control																																																		
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[Central 1]	×	○	×	○	○	—																																													
[Central 2]	×	×	×	×	○	—																																													
[Central 3]	○	×	○	×	○	—																																													
[Central 4]	○	×	○	○	○	—																																													
19	DC motor	<p>(1) DC motor operate according to the command from the indoor control device. (Note) If the fan lock is detected, the air conditioner will stop the operation and the check code will be displayed.</p>	Check codes [P12]																																																

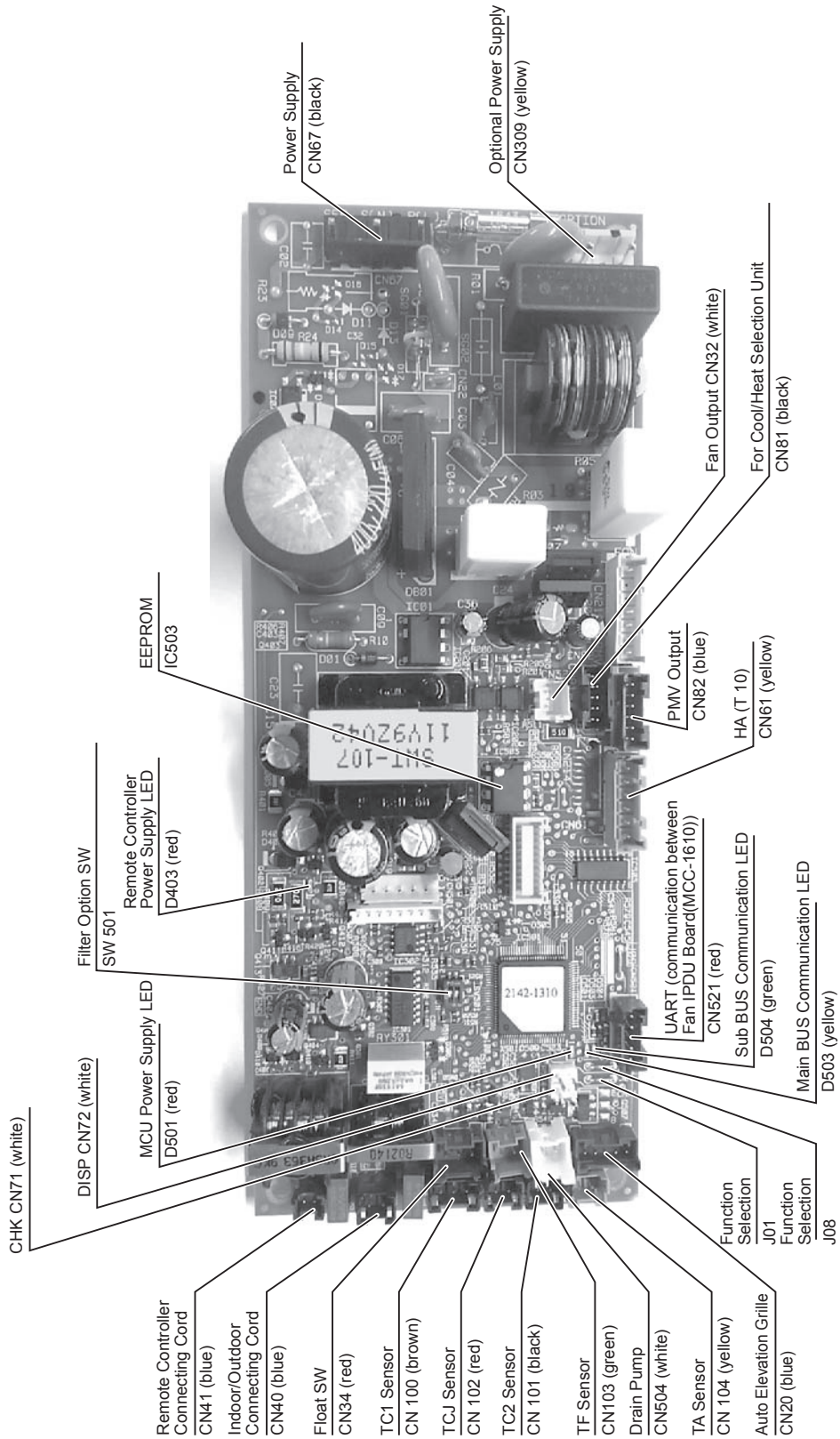
10. INDOOR CONTROL CIRCUIT

10-1. Indoor controller block diagram

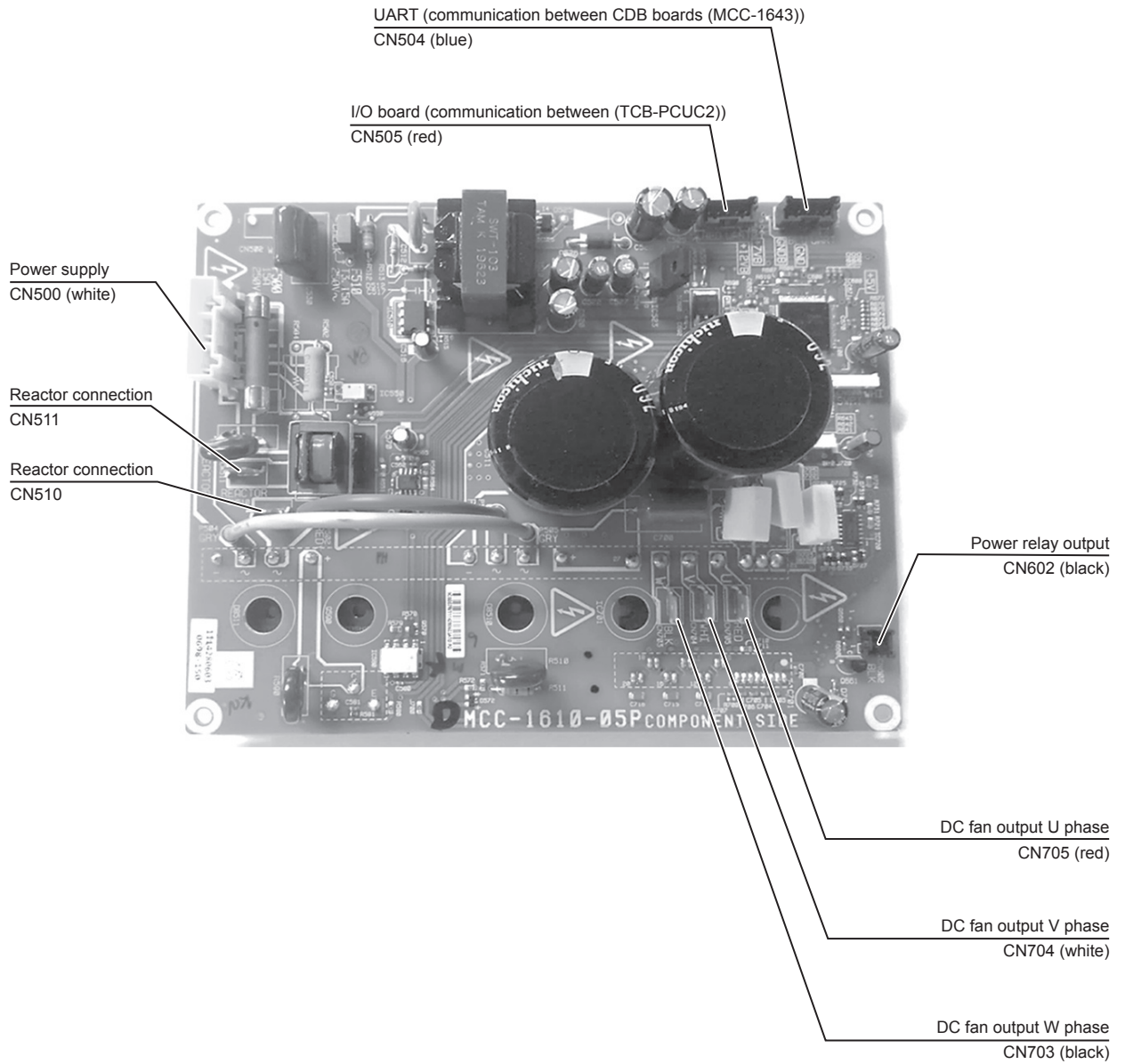


10-2. Indoor Print Circuit Board

MCC-1643

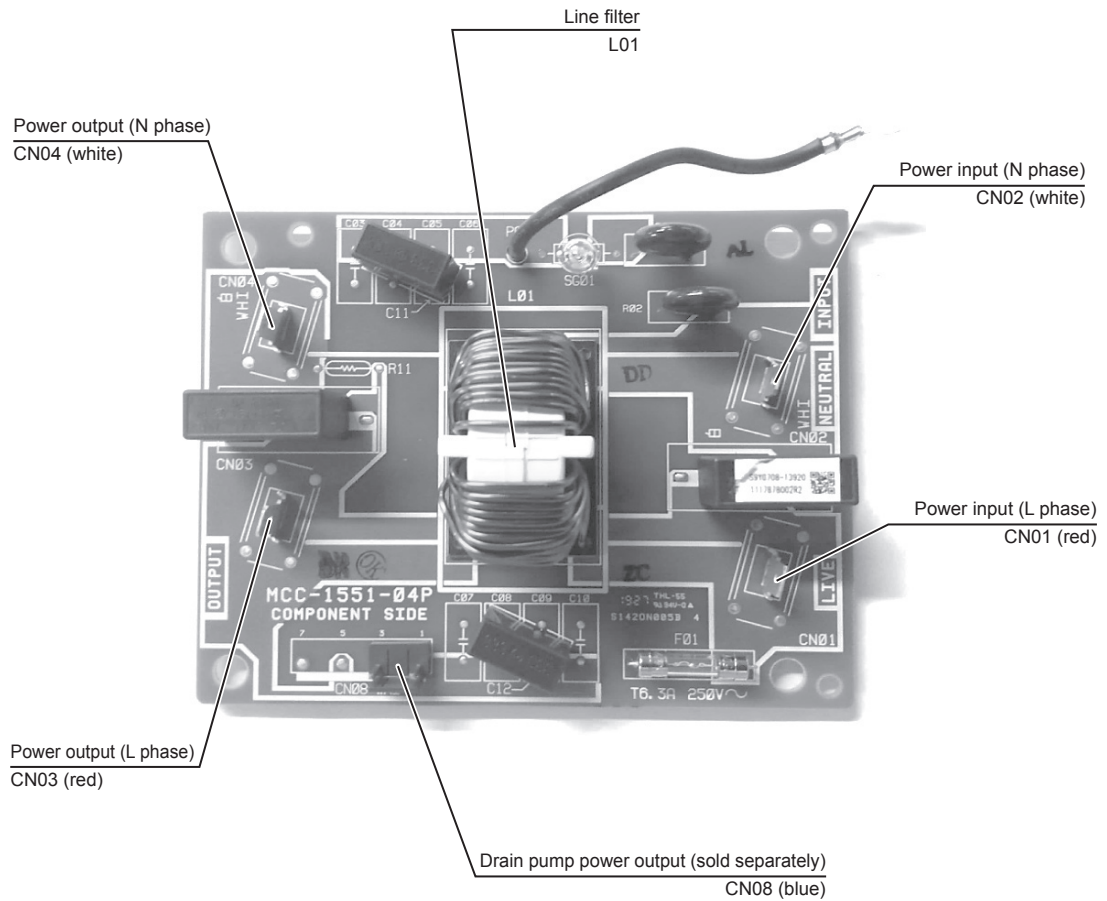


Fan IPDU board (MCC-1610)



Indoor control circuit (continued)

Noise filter board (MCC-1551)



Optional connector specifications of indoor P.C. board (Fresh Air Intake Unit)

Connector No.	Color	Function	Model Name		Pin No.	Specifications	Remarks
			MMD-UP 048*HFP*	MMD-UP 072*-HFP* to 128*HFP*			
CN32	White	Ventilation output	○	○	① DC12V (COM) ② Output (Open collector)	Setting at shipment: Interlock of ON by indoor unit operation, with OFF by stop operation * The single operation setting by FAN button on the remote controller is performed on the remote controller (DN=31).	
CN34	Red	Input for float SW	●	●	① DC12V ② NC ③ Float SW input	Normal when between ①-③ short-circuits, but abnormal when open-circuits. (check code "P10" appears)	
CN60	White	Option output	○	x(*)	① DC12V (COM) ② Defrost output (Open collector) ③ Thermostat-off output (Open collector) ④ Cooling output (Open collector) ⑤ Heating output (Open collector) ⑥ Fan output (Open collector)	ON when outdoor unit is on defrost operation. ON when actual thermostat is ON (Comp. ON). ON when the operation mode is on cooling system (Cool, Dry, Auto (Cooling)). ON when the operation mode is on heating system (Heat, Auto (Heating)). ON when the indoor fan is on, (When an air cleaner is used) OFF when the clean operation is on.	
CN61	Yellow	HA	○	○	① ON/OFF input ② 0V (COM) ③ Remote controller prohibited input ④ Operation output (Open collector) ⑤ DC12V (COM) ⑥ Warning output (Open collector)	HA ON/OFF input (01): YES/NO=Pulse (At shipment from factory)/Static input selection Please see "8-4. Method to set indoor unit function DN code"	
CN70	White	Filter Option abnormality	○	x(*)	① Input ② 0V	Permission/Prohibition of remote controller operation stop is performed by input. Operation ON (Answer back of HA)	
CN71	White	CHK Operation check	○	○	① Check mode input ② 0V	Warning output (Open collector)	
CN72	White	DISP Exhibition mode	○	○	① DISP mode input ② 0V	Option abnormal input (Display of protective operation for equipment installed to the outside) * Perform the settings having option abnormal input from the remote controller. (DN [2A] = 0 0 0 2 → 0 0 0 1)	
CN73	Red	EXCT demand	○	x(*)	① Demand input ② 0V	Use for operation check of indoor unit. (Performs operation of indoor fan "H", Louver horizontal and Drain pump ON without communication with outdoor and remote controller)	
CN80	Green	External abnormal input	○	x(*)	① DC12V ② NC ③ External abnormal input	Communication is available by indoor unit and remote controller only (When the power is turned on). Shortening time of timer (Always) Forced thermostat OFF operation for indoor unit	
CN81	Black	Output for Flow selector unit	△	△	① DC12V ② EP valve output (Open collector) ③ Balance valve output (Open collector) ④ Suction valve output (Open collector) ⑤ Discharge valve output (Open collector)	Make the check code of "L30" occur (by continuing operation for one min) and perform the forced stop.	
CN309	Yellow	Output power supply for option devices	○	○	① AC230V ② AC230V ③ AC230V	Fresh Air Intake Unit is not connectable to SHRM (Super Heat Recovery Multi system) series.	
CN521	Red	Connect with Input / Output P.C. board	x	●	① DC12V ② DC5V ③ Signal transmit ④ Signal receive ⑤ 0V	This can be used as power supply for option devices. Connect with P.C. board (MCC-1610)	

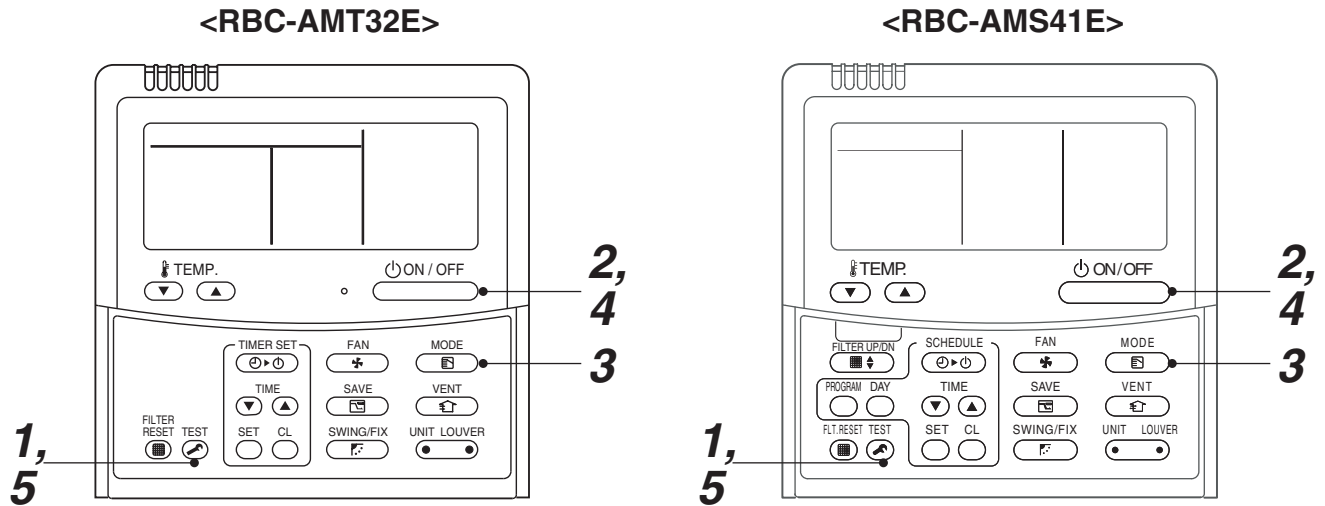
● : Use in standard, ○ : Available, △ : Use by connecting parts sold separately, x : Unavailable
(*) : Available by Application control kit (TCB-PCUC2E)

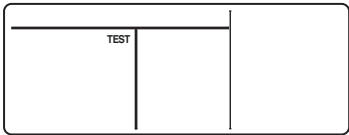
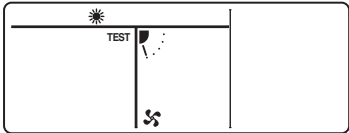
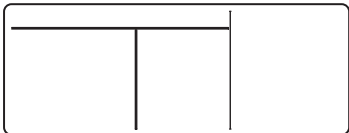
10-3. Test run of indoor unit

■ Cooling/Heating test run check

The test run for cooling/heating can be performed from either indoor remote controller or outdoor interface P.C. board. Refer to the Installation Manual and Service Manual of outdoor unit for the procedure of the test run from an outdoor interface P.C. board.

◆ In case of wired remote controller



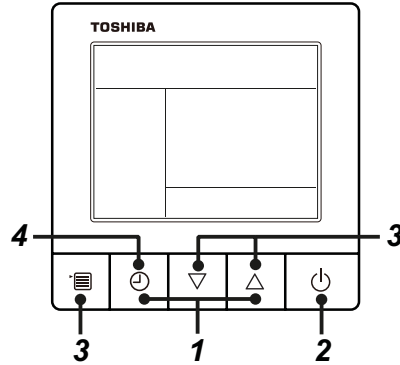
Procedure	Operation contents
1	<p>Push [TEST] button for 4 seconds or more. [TEST] is displayed at the display part and the mode enters in TEST mode.</p> 
2	<p>Push [ON/OFF] button.</p>
3	<p>Change the mode from [COOL] to [HEAT] using [MODE] button.</p> <ul style="list-style-type: none"> Do not use [MODE] button for other mode except [COOL]/[HEAT] modes. The temperature cannot be adjusted during test run. The trouble detection is performed as usual. 
4	<p>After test run, push [ON/OFF] button to stop the operation. (Display on the display part is same to that in Procedure 1.)</p>
5	<p>Push [TEST] button to clear the TEST mode. ([TEST] display in the display part disappears and status becomes the normal stop status.)</p> 

Note) The test run returns to the normal operation after 60 minutes.

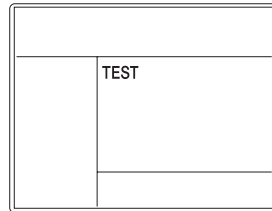
<RBC-ASCU11-C>

Be sure to stop the air conditioner before making settings.

(Change the setup while the air conditioner is not working.)



- 1** Push and hold OFF timer button and [Δ] setting button simultaneously for 10 seconds or more. [TEST] is displayed on the display part and the test run is permitted.



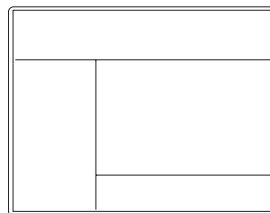
- 2** Push ON/OFF button.

- 3** Push menu button to select the operation mode. Select [\odot Cool] or [\odot Heat] with [∇] [Δ] setting button.

- Do not run the air conditioner in a mode other than [Cool] or [Heat].
- The temperature setting function does not work during test run.
- The check code is displayed as usual.




- 4** After the test run, push OFF timer button to stop a test run.

([TEST] disappears on the display and the air conditioner enters the normal stop mode.)



◆ In case of wireless remote controller

1 Turn on the power of the air conditioner.
 When power is turned on for the first time after installation, it takes approx. 5 minutes until the remote controller becomes available. In the case of subsequent power-on, it takes approx. 1 minute until the remote controller becomes available.
 Execute a test run after the predetermined time has passed.

2 Push “ON/OFF” button on the remote controller, select [ Cool] or [ Heat] with “MODE” button, and then select [ HIGH] with “FAN” button.

3

Cooling test run	Heating test run
Set the temperature to 17 °C with the temp. setup buttons.	Set the temperature to 30 °C with the temp. setup buttons.

4

Cooling test run	Heating test run
After confirming a signal receiving sound “beep” immediately set the temperature to 18 °C with the temp. setup buttons.	After confirming a signal receiving sound “beep” immediately set the temperature to 29 °C with the temp. setup buttons.

5

Cooling test run	Heating test run
After confirming a signal receiving sound “beep” immediately set the temperature to 17 °C with the temp. setup buttons.	After confirming a signal receiving sound “beep” immediately set the temperature to 30 °C with the temp. setup buttons.

6 Repeat procedures **4 → 5 → 4 → 5**.
 Indicators “Operation” (green), “Timer” (green), and “Ready” (orange) in the wireless receiver section flash in approx. 10 seconds, and the air conditioner starts operation. If any of these indicators does not flash, repeat procedures 2 to 5.

7 Upon completion of the test run, push “ON/OFF” button to stop operation.

<Overview of test run operations using the wireless remote controller>

▼ Cooling test run:
 ON/OFF → 17 °C → 18 °C → 17 °C → 18 °C → 17 °C → 18 °C → 17 °C → (test run) → ON/OFF

▼ Heating test run:
 ON/OFF → 30 °C → 29 °C → 30 °C → 29 °C → 30 °C → 29 °C → 30 °C → (test run) → ON/OFF

■ Check function for operation of indoor unit (Functions at indoor unit side)

This function is provided to check the operation of the indoor unit singly without communication with the remote controller or the outdoor unit. This function can be used regardless of operation or stop of the system. However, if using this function for a long time, a trouble of the equipment may be caused. Limit using this function within several minutes.

[How to operate]

- 1) Short-circuit CHK pin (CN71 on the indoor P.C. board).
The operation mode differs according to the indoor unit status in that time.
Normal time: Both float SW and fan motor are normal.
Abnormal time: Either one of float SW or fan motor is abnormal.
- 2) Restricted to the normal time, if short-circuiting DISP pin (CN72 on the indoor P.C. board) in addition to short-circuit of CHK pin (CN71 on the indoor P.C. board), the minimum opening degree (30 pls) can be set to the indoor PMV only.
When open DISP pin, the maximum opening degree (1500 pls) can be obtained again.
 - For the detailed positions of CHK pin (CN71 on indoor P.C. board) and DISP pin (CN72 on indoor P.C. board), refer to the indoor P.C. board.

[How to clear]

Open CHK pin. While the system is operating, it stops once but automatically returns to operation after several minutes.

	Short-circuit of CHK pin		
	Normal time		Abnormal time
	DISP pin open	DISP pin short circuit	
Fan motor	(H)	(H)	Stop
Indoor PMV (*)	Max. opening degree (1500 pls)	Min. opening degree (30 pls)	Min. opening degree (30 pls)
Louver	Vertical	Vertical	Immediate stop
Communication	All ignored	All ignored	All ignored
P.C. board LED	Lights	Lights	Flashes

* The actual indoor PMV opening degree may differ from the described values due to adjustment depending on PMV types.

- To exchange the indoor PMV coil, set the indoor PMV to Max. opening degree.

10-4. Method to set indoor unit function DN code

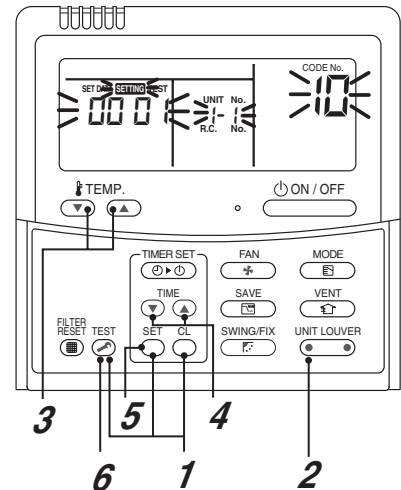
(When performing this task, be sure to use a wired remote controller.)

◆ Procedure

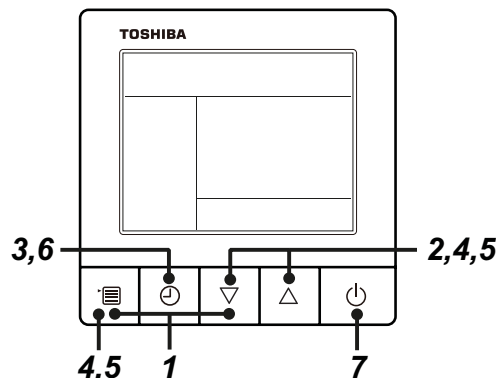
Be sure to stop the air conditioner before making settings

<RBC-AMT32E>

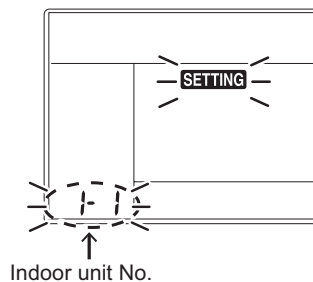
- 1** Push the + + buttons simultaneously and hold for at least 4 seconds.
The unit No. displayed first is the address of the header indoor unit in group control.
Then the fan and louver of the selected indoor unit move.
- 2** Each time the button (left side of the button) is pressed, one of the indoor unit Nos. under group control is displayed in turn. Then the fan and louver of the selected indoor unit move.
- 3** Use the button to select the CODE No. (DN code) of the desired function.
- 4** Use the button to select the desired SET DATA associated with the selected function.
- 5** Push the button. (The display changes from flashing to steady.)
 - To change the selected indoor unit, go back to step 2.
 - To change the selected function, go back to step 3.
- 6** When the button is pushed, the system returns to normal off state.



<RBC-ASCU11-C>

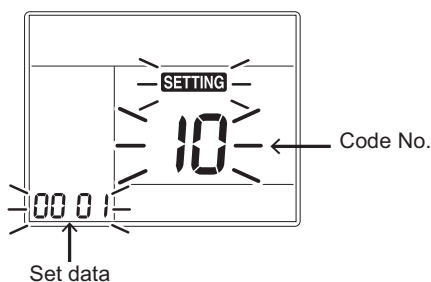


- 1** Push and hold menu button and [] setting button simultaneously for 10 seconds or more.
 - After a while, the display flashes as shown in the figure. "ALL" is displayed as indoor unit numbers during initial communication immediately after the power has been turned on.



- 2** Each time [] [] setting button is pushed, indoor unit numbers in the group control change cyclically. Select the indoor unit to change settings for.
 - The fan of the selected indoor unit runs. The indoor unit can be confirmed for which to change settings.

3 Push OFF timer button to confirm the selected indoor unit.



4 Push the menu button to make Code No. [**] flash. Change Code No. [**] with [▽] [△] setting button.

5 Push the menu button to make Set data [**] flash. Change Set data [****] with [▽] [△] setting button.**

6 Push OFF timer button to complete the set up.

- To change other settings of the selected indoor unit, repeat from Procedure **4**.

7 When all the settings have been completed, push ON/OFF button to finish the settings. (Return to the normal mode)

“ **SETTING** ” flashes and then the display content disappears and the air conditioner enters the normal stop mode. (The remote controller is unavailable while “ **SETTING** ” is flashing.)

- To change settings of another indoor unit, repeat from Procedure **1**.

DN	Item	Description	At shipment
01	Filter display delay timer	0000: None 0002: 2500H 0004: 10000H 0001: 150H 0003: 5000H type	Depending on model
02	Dirty state of filter	0000: Standard 0001: High degree of dirt (Half of standard time)	0000: Standard
03	Central control address	0001: No.1 unit to 0064: No.64 unit ... TCC-LINK 0001: No.1 unit to 0128: No.128 unit ... TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
04	Specific indoor unit priority	0000: No priority 0001: Priority	0000: No priority
0b	Demand control (CN73 / TCB-PCUC2E : CN4)	0000: Demand input 0002: Card input setup.3 0004: Card input setup.4 0006: Notice code (202) signal 0008: Card input setup.1 (Notice code : TU2C-LINK only) 0001: O2 sensor input 0003: Fire alarm input (Normal open) 0005: Fire alarm input (Normal close) 0007: Card input setup.5 0009: Card input setup.2	0000: Demand input
0F	Cooling only	0000: Heat pump 0001: Cooling only (No display of [AUTO] [HEAT])	0000: Heat pump
10	Type	Refer to Type DN code "10" list	Depending on model type
11	Indoor unit capacity	0000: Unfixed 0001 to 0034 Refer to Indoor Unit Capacity DN code "11" list	According to capacity type
12	Line address	0001: No.1 unit to 0064: No.30 unit ... TCC-LINK 0001: No.1 unit to 0128: No.128 unit ... TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
13	Indoor unit address	0001: No.1 unit to 0064: No.30 unit ... TCC-LINK 0001: No.1 unit to 0128: No.128 unit ... TU2C-LINK 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
14	Group address	0000: Individual 0001: Header unit of group 0002: Follower unit of group 00Un: Unfixed (When using U series remote controller) 0099: Unfixed (Other than U series remote controller)	00Un/0099: Unfixed *1
28	Automatic restart of power failure	0000: None 0001: Restart	0000: None
2A	Selection of option/Trouble input (TCB-PCUC2E: CN3)	0000: Filter input 0002: None 0001: Alarm input (Air washer, etc.)	0002: None
2E	HA terminal (CN61) select	0000: Usual 0002: Fire alarm input (arbiter contact) 0003: Card input setup.2 (4) 0001: Card input setup.1 (3)	0000: Usual (HA terminal)
31	Ventilating fan control	0000: Unavailable 0001: Available	0000: Unavailable
33	Temperature unit select	0000: °C 0001: °F	0000: °C
5d	External static pressure setting	0000: 100Pa 0002: 75Pa 0004: 125Pa 0006: 200Pa 0001: 50Pa 0003: 150Pa 0005: 175Pa	0000: 100Pa
60	Timer setting (wired remote controller)	0000: Available (can be performed) 0001: Unavailable (cannot be performed)	0000: Available
72	Fan Control during defrost	0000: Fan ON 0001: Fan OFF	0001: Fan OFF
79	Alarm output setup of the header unit	0000: Not including the state of following unit 0001: Including the state of following unit	0000: Not including the state of following unit
F6	Presence of Application control kit (TCB-PCUC2E)	0000: None 0001: Exist	0000: None
FC	Communication protocol *2	0000: TCC-LINK 0003: TU2C-LINK	0000: TCC-LINK

DN	Item	Description	At shipment
180	Effective notice code number 01	0000: None 0001 ~ 0255 : Notice code	0000: None
181	Effective notice code number 02	0129 : Notice code (201) 0129 : Notice code (202)	0000: None
182	Effective notice code number 03	(0001 ~ 0255 : TU2C-LINK only)	0000: None
183	Effective notice code number 04		0000: None
184	Effective notice code number 05		0000: None
185	Effective notice code number 06		0000: None
186	Effective notice code number 07		0000: None
187	Effective notice code number 08		0000: None
188	Effective notice code number 09		0000: None
189	Effective notice code number 10		0000: None
103	Remote controller	0000: Use 0001: Do not use • Indoor unit production after Jun-2021 does not need this DN setting. The serial number is 12600012 or upper.	0000: Use
1FB	Central device control state	0000: No central device control (Remote controller use is possible) 0001: Central device control (Remote controller use is impossible)	0000: No central device control
1FC	Indoor Unit terminating resistance	0000: OFF 0001: ON	0000: OFF
402	Cooling forced thermostat OFF temp. Tac (Minimum Outdoor/Suction air temp.)	0018: 18°C ~ 0025: 25°C	0019: 19°C
403	Heating forced thermostat OFF temp. Tah (Maximum Outdoor/Suction air temp.)	0000: 0°C ~ 0017: 17°C	0015: 15°C
404	Cooling design thermostat ON/OFF temp. Tβc (Difference the setup temp. and Outdoor/Suction air temp.)	0000: 0°C ~ 0010: 10°C	0003: 3°C
405	Heating design thermostat ON/OFF temp. Tβh (Difference the setup temp. and Outdoor/Suction air temp.)	0000: 0°C ~ 0010: 10°C	0003: 3°C
406	Cooling forced thermostat OFF temp. Tyc (Minimum Discharge air temp.)	0000: 0°C ~ 0060: 60°C	0003: 3°C
407	Heating forced thermostat OFF temp. Tyh (Maximum Discharge air temp.)	0000: 0°C ~ 0060: 60°C	0060: 60°C

*1 Display order of "00Un" and "0099" varies depending on remote controller models or communication types.

For Central control address (DN [03]), Indoor unit address (DN [13]), FS unit address (DN [FE])

Remote controller	Communication type	Display order
U series	TU2C-LINK	... ⇔ 0128 ⇔ 00Un ⇔ 0001 ⇔ ...
	TCC-LINK	... ⇔ 0064 ⇔ 00Un ⇔ 0001 ⇔ ...
Other than U series	TCC-LINK	... ⇔ 0064 ⇔ 0099 ⇔ 0001 ⇔ ...

For Line address (DN [12])

Remote controller	Communication type	Display order
U series	TU2C-LINK	... ⇔ 0128 ⇔ 00Un ⇔ 0001 ⇔ ...
	TCC-LINK	... ⇔ 0030 ⇔ 00Un ⇔ 0001 ⇔ ...
Other than U series	TCC-LINK	... ⇔ 0030 ⇔ 0099 ⇔ 0001 ⇔ ...

For Group address (DN [14])

Remote controller	Communication type	Display order
U series	TU2C-LINK	... ⇔ 0002 ⇔ 00Un ⇔ 0001 ⇔ ...
	TCC-LINK	... ⇔ 0002 ⇔ 0099 ⇔ 0001 ⇔ ...
Other than U series	TCC-LINK	... ⇔ 0002 ⇔ 0099 ⇔ 0001 ⇔ ...

*2 Communication protocol can be automatically switched with the setup in the outdoor unit during installation.

**Type
CODE No. (DN) "10"**

Setting data	Type	Model
0000	1-way Ceiling Cassette	MMU-※P ※ ※ SH
0001 ※1	4-way Ceiling Cassette	MMU-※P ※ ※ H MMU-※P ※ ※ HD
0002	2-way Ceiling Cassette	MMU-※P ※ ※ WH
0003	1-way Ceiling Cassette (compact)	MMU-※P ※ ※ YH
0004	Concealed Built-In	MMD-※P ※ ※ BH
	Concealed Compact Duct	MMD-※P ※ ※ NH(L)
0005	-	
0006	Concealed Duct	MMD-※P ※ ※ H
0007	Under Ceiling	MMC-※P ※ ※ H
0008	High Wall	MMK-※P ※ ※ H
		MMK-※P ※ ※ H-1
0009	Under Ceiling for Kitchen	MMC-※P ※ ※ PH
0010	Floor Standing Console	MML-※P ※ ※ H
0011	Floor Standing Concealed	MML-※P ※ ※ BH
0012	Floor Standing (8/10hp)	MMF-※P ※ ※ H
0013	Floor Standing (up to 6hp)	MMF-※P ※ ※ H
0014	Compact 4-way Ceiling Cassette	MMU-※P ※ ※ MH
0016	Air conditioner for outside air processing	MMD-※P ※ ※ HF
~	-	

※ 1: Default value stored in EEPROM mounted on service board

**Indoor unit capacity
CODE No. (DN) " 11 "**

Setup data	Ability rank
0000※	Invalid
0001	007 type
0002	008 type
0003	009 type
0004	010 type
0005	012 type
0006	014 type
0007	015 type
0008	017 type
0009	018 type
0010	020 type
0011	024 type
0012	027 type
0013	030 type
0015	036 type
0017	048 type
0018	056 type
0021	072 type
0023	096 type
0024	112 type
0025	128 type

※ 1: Default value stored in EEPROM mounted on service board

■ How to set fan operation during defrosting

Since the air conditioner for outside air processing gives priority to the introduction of outside air, the fan operation can be set even during defrosting.

Set the CODE No. (DN) "72"=0000 (fan ON when defrosting).

Set the CODE No. (DN) "9B"=0002 (no hot start control).

**■ How to All Fresh Air Intake Unit connect setting
(Case of SMMS-e series)**

When only Fresh Air Intake Units connected to Outdoor unit, set the all Fresh Air Intake Unit connection setting at Fresh Air Intake Units. Set DN data is below :-

DN	SET DATA
C8	0000
AE	0016
AF	0010

NOTE : Firstly, set up CODE No. (DN) "C8", then change other two CODEs.

10-5. Applied control of indoor unit

■ Control system using Remote location ON/OFF control box (TCB-IFCB-4E2)

Wiring and setting

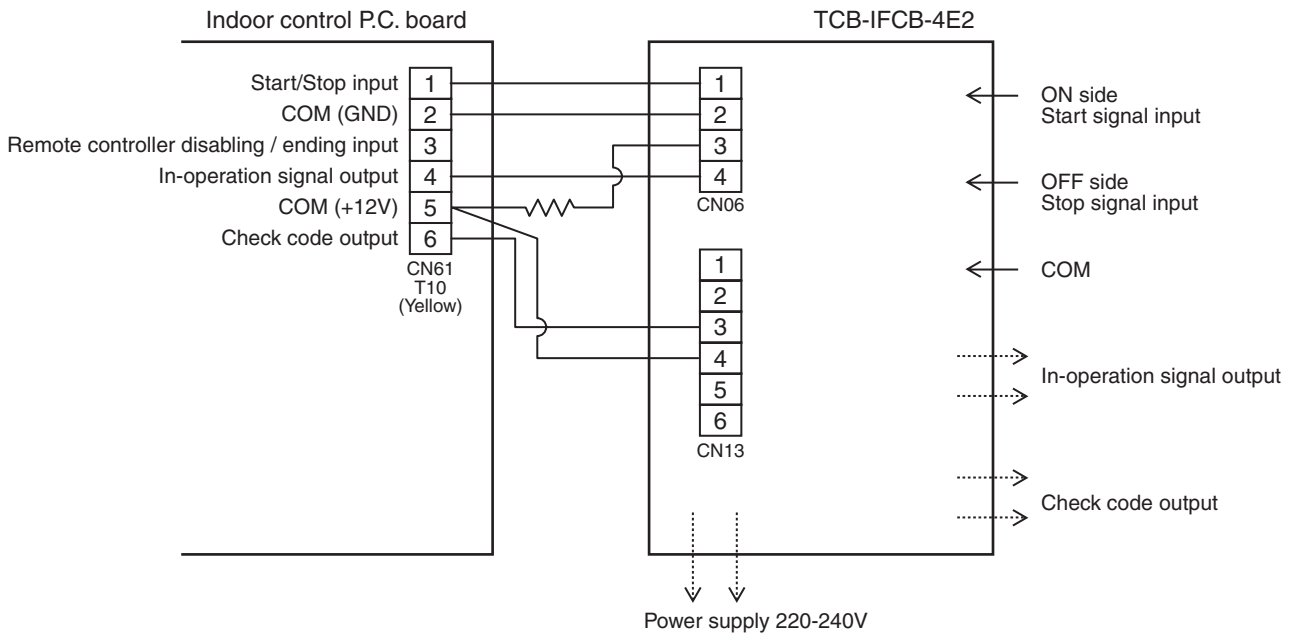
- In the case of group control, the control system functions as long as it is connected to one of the indoor units (control P.C. board) in the group. If it is desired to access the operation and trouble statuses of other units, relevant signals must be brought to it from those units individually.

1. Control items

- | | |
|-------------------------------|---|
| (1) Start / Stop input signal | Start / stop of unit |
| (2) In-operation signal | Output present while unit in normal operation |
| (3) Check code Output | present while alarm (e.g. serial communication trouble or operation of protective device for indoor / outdoor unit) being activated |

2. Wiring diagram of control system using Remote location ON/OFF control box (TCB-IFCB-4E2)

- Input IFCB-4E2: No-voltage ON / OFF serial signal
- Output No-voltage contact (in-operation and check code indication)
Contact capacity: Max. AC 240 V, 0.5 A



■ Ventilating fan control from remote controller

[Function]

- The start / stop operation can be operated from the wired remote controller when air to air heat exchanger or ventilating fan is installed in the system.
- The fan can be operated even if the indoor unit is not operating.
- Use a fan which can receive the no-voltage A contact as an outside input signal.
- In a group control, the units are collectively operated and they cannot be individually operated.

1. Operation

Handle a wired remote controller in the following procedure.

- * Use the wired remote controller during stop of the system.
- * Be sure to set up the wired remote controller to the header unit. (Same in group control)
- * In a group control, if the wired remote controller is set up to the header unit, both header and follower units are simultaneously operable.

<RBC-AMT32E>

- 1 Push concurrently**  +  +  **buttons for 4 seconds or more.**

The unit No. displayed firstly indicates the header indoor unit address in the group control. In this time, the fan of the selected indoor unit turns on.

- 2 Every pushing**  **button (left side of the button), the indoor unit numbers in group control are displayed successively.**


In this time, the fan of the selected indoor unit only turns on.

- 3 Using the setup temp**  or  **button, specify the CODE No. 31.**

- 4 Using the timer time**  or  **button, select the SET DATA. (At shipment: 0000)**

The setup data are as follows:

SET DATA	Handling of operation of air to air heat exchanger or ventilating fan
0000	Unavailable (At shipment)
0001	Available

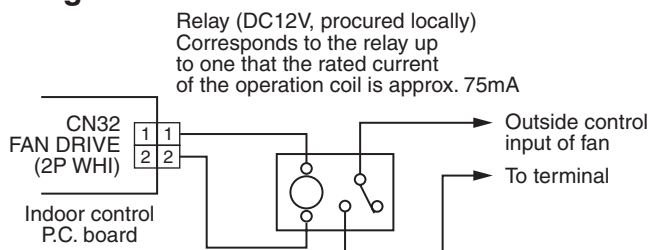
- 5 Push**  **button. (OK if display goes on.)**

- To change the selected indoor unit, go to the procedure 2).
- To change the item to be set up, go to the procedure 3).

- 6 Pushing**  **returns the status to the usual stop status.**

- * The ventilating fan control may be unavailable depending on the remote controllers. (RBC-ASCU11-C does not have this function.)

2. Wiring



Note) Determine the cable length between the indoor control P.C. board and the relay within 2m.

■ Auto-off feature control

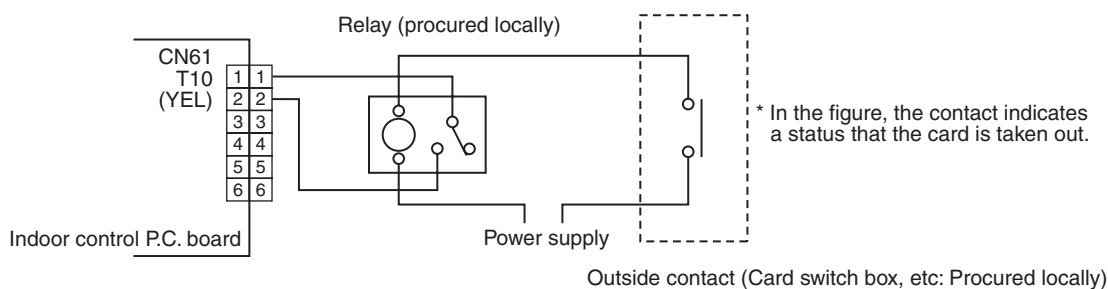
[Function]

- This function controls the indoor units individually. It is used when the start operation from outside is unnecessary but the stop operation is necessary.
 - A card switch box or card lock helps protect customers from forgetting to turn off the indoor unit. (not including the following Card Input 3)
 - It is connected with connector on the indoor control P.C. board, and switched with the Code No. and jumper wire setup for use.
 - Available connectors are CN61 or CN73. For models without CN73, CN4 on the optional Application control kit (TCB-PCUC2E) can be used.
- * Leaving-ON prevention control cannot be set with both CN61 and CN73 (CN4).
If both of them are set, CN73 (CN4) setting automatically turns to a factory default.

[Setup method]

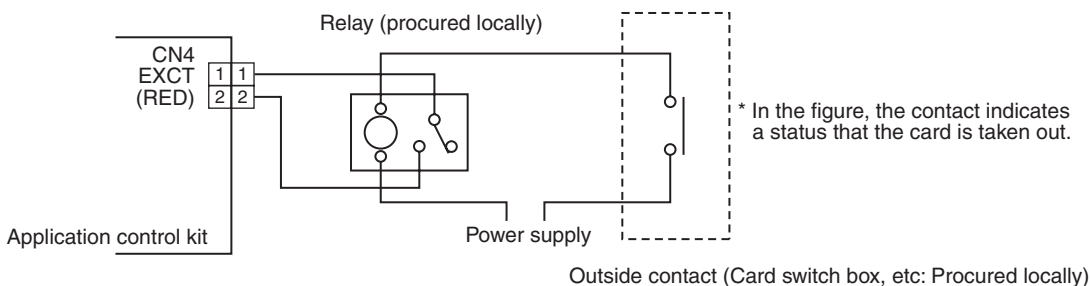
(1) Wiring

Connecting to the CN61 connector



NOTE) Determine the cable length between the indoor control P.C. board and the relay within 3m.

Connecting to the Application control kit (TCB-PCUC2E, connector : CN4)



NOTE) Determine the cable length between the indoor control P.C. board and the relay within 3m.

(2) Code (DN) setup

Set Code (DN) according to "10-4. Method to set indoor unit function DN code".

Connector	Jumper wire (J01)	Code No. (DN)	Set data	Function
CN61	Short-circuit (Factory default)	002E	0000 (Factory default)	"HA normal setup" (pulse)
			0001	"Card Input 1" setup
			0003	"Card Input 2" setup
	Open-circuit (cut)		0005	"Card Input 5" setup
			0000 (Factory default)	"HA normal setup" (Static)
			0001	"Card Input 3" setup
CN73 (CN4)	Short-circuit (Factory default) or Open-circuit (cut)	000b	0003	"Card Input 4" setup
			0000 (Factory default)	"EXCT demand" setup (Forced thermostat-OFF)
			0002	"Card Input 3" setup
			0004	"Card Input 4" setup
			0007	"Card Input 5" setup
			0008	"Card Input 1" setup
0009	"Card Input 2" setup			

* If you set "Card Input 1 to 5" for Code No. of CN61 and CN73, Code No. 000b setup becomes unavailable and the functions of Card Input 1 to 5 in CN73 cannot be used.

[Control items]

Function	External contact terminal	
	Close (Status that card is inserted)	Open (Status that card is taken out)
Card Input 1	Manual prohibition release (Manual operation)	Manual prohibition (Operation stop)
Card Input 2	Manual prohibition release (Automatic operation)	Manual prohibition (Operation stop)
Card Input 3	Operation status continues (Do nothing)	Operation status continues and setting temperature changes (COOL/DRY: 29°C, HEAT: 18°C)
Card Input 4	Manual prohibition release (The status returns to operating condition before removing the card.)	Manual prohibition (Operation stop)
Card Input 5	<p>1) To change a setting temperature by changing data at DN code No. 172 to 173.</p> <p>2) The operation mode can be set by changing data (0000, 0001, 0002) at DN code No. 16B.</p> <p>0000: operation mode is the same at the current mode. (factory setting default)</p> <p>0001: operation mode returns to the previous mode when card was inserted. (in case of the previous mode is off operation, the operation mode is also off.)</p> <p>0002: operation mode starts at the same previous mode when the card was inserted. (the operation mode is on operation even the previous mode is off operation.)</p> <p>See contents below for DN settings and detailed operations.</p>	<p>1) To change a setting temperature, fan speed and wind direction by changing data at DN code No. 16C to 16D.</p> <p>2) The operation mode can be set by changing data (0000, 0001) at DN code No. 16A.</p> <p>0000: operation mode is the same at the current mode. (factory setting default)</p> <p>0001: operation automatically starts.</p> <p>See contents below for DN settings and detailed operations.</p>

* For the card switch box that does not involve contact operation described above, convert signals with a relay including a normally-closed contact.

[Card input setup.5 Code (DN)]

DN	Item	Description	At shipment
16C	Open mode Set temp. (Cool, Dry)	-0015 : -15°C to 0060 : 60°C	0018 : 18°C
16D	Open mode Set temp. (Heat)	-0015 : -15°C to 0060 : 60°C	0025 : 25°C
16E	Open mode Set temp. (Auto)	-0015 : -15°C to 0060 : 60°C	No function
170	Open mode Wind direction (Cool, Dry, Fan)	0000 : No change 0001 : F1 0002 : F2 0003 : F3	No function
171	Open mode Wind direction (Heat)	0000 : No change 0001 : F1 0002 : F2 0003 : F3 0004 : F4 0005 : F5	No function
172	Close mode Set temp. (Cool, Dry)	-0015 : -15°C to 0060 : 60°C	0018 : 18°C
173	Close mode Set temp. (Heat)	-0015 : -15°C to 0060 : 60°C	0025 : 25°C
174	Close mode Set temp. (Auto)	-0015 : -15°C to 0060 : 60°C	No function

[The example of Card Input 5 setting]

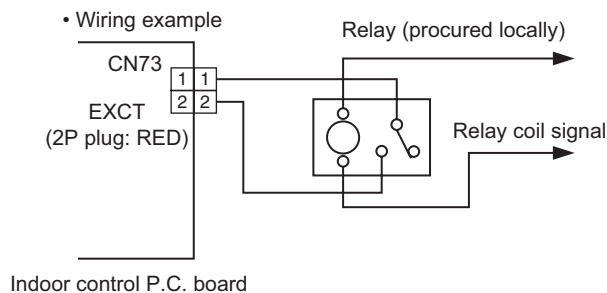
Case.	Code No. (DN) setting									External contact terminal	
	[16A] data	[16b] data	[16C] data	[16d] data	[16F] data	[170] data	[171] data	[172] data	[173] data	Close (Status that card is inserted)	Open (Status that card is taken n out)
(1)	0000	0000	0027	0020	0000	0000	0000	0024	0024	<ul style="list-style-type: none"> The operation mode continues running at the same as the current mode. The setting temperature of cooling/dry and heating mode is changed to 24°C and 24°C respectively due to change in code No. 172, 173. 	<ul style="list-style-type: none"> The operation mode continues running at the same as the current mode. The setting temperature of cooling/dry and heating mode is changed to 27°C and 20°C respectively due to change in code No. 16C, 16d.
(2)*	0000	0001	0027	0020	0003	0001	0001	0024	0024	<ul style="list-style-type: none"> The operation mode is running at the same mode as the last time when the card was inserted due to change in code no. 16b. * The operation mode will be off if the mode at the last time was in off operation. Also, the fan speed will the same as the last time when the card is inserted. The setting temperature of cooling/dry and heating mode is changed to 24°C and 24°C respectively due to change in code No. 172, 173. 	<ul style="list-style-type: none"> The operation mode continues running at the same as the current mode. The setting temperature of cooling/dry and heating mode is changed to 27°C and 20°C respectively due to change in code no. 172, 173. The fan speed for all operation modes is changed due to change in code no.16F. The wind direction of Cooling/dry/fan and heating mode are changed due to change in code No. 170, 171 respectively.
(3)*	0000	0002	0027	0020	0003	0001	0001	0024	0024	<ul style="list-style-type: none"> The operation mode is running at the same mode as the last time when the card was inserted. Also, the operation mode will be on even the mode was in off operation at the last time due to change in code no. 16B. * The fan speed will the same as the last time when the card is inserted. The setting temperature of cooling/dry and heating mode is changed to 24°C and 24°C respectively due to change in code No. 172, 173. 	Same operation as case (2)
(4)	0001	0000	0027	0020	0003	0001	0001	0024	0024	<ul style="list-style-type: none"> The operation mode continues running at the same as the current mode. The setting temperature of cooling/dry and heating mode is changed to 24°C and 24°C respectively due to change in code No. 172, 173. 	<ul style="list-style-type: none"> Due to change in code no. 16A, the operation mode will be as below. When the operation is ON, the operation mode will continue running at the same as the current mode. When the operation is OFF, the air conditioner will turn on automatically. The setting temperature of cooling/dry and heating mode is changed to 27°C and 20°C respectively due to change in code No. 172, 173. The fan speed for all operation modes is changed due to change in code no.16F. The wind direction of Cooling/dry/fan and heating mode are changed due to change in code No. 170, 171 respectively.

* The history operation mode is only recorded when the card is inserted even if the operation mode is changed when the card is taken out, there is no related to the history operation mode.

■ Power peak-cut from indoor unit

When the relay is turned on, a forced thermostat OFF operation starts.

- For indoor P.C. boards other than MCC-1643, the “EXCT” is input with connector CN73 on the P.C. board. MCC-1643 requires Application control kit (TCB-PCUC2E) for input of a forced thermostat OFF “EXCT”. Please refer to the manual of Application control kit for a detailed setting.



Note) Determine the cable length between the indoor or outdoor control P.C. board and the relay within 2 m.

■ Notice code signal

Notice code is a function dedicated to TU2C-Link communication.
See service manual for u series outdoor unit for details of Notice code.

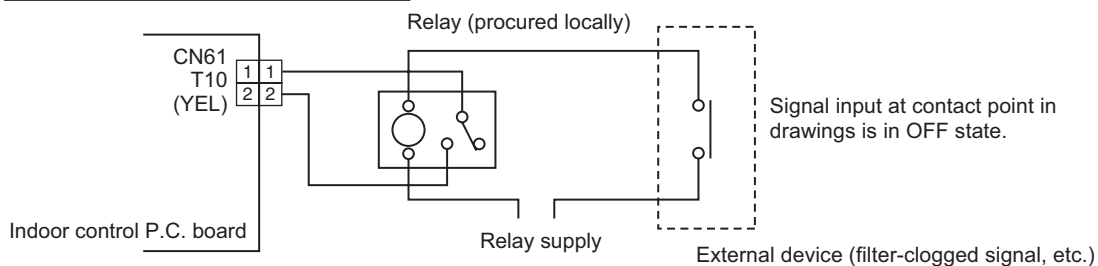
[Function]

- Notice Code is issued if there is signal input to connector of outdoor unit P.C. board. This can be used in cases such as when confirming state of outdoor unit (filter clogging, etc.) by air conditioner system.
- Connector that can be used is CN61 or CN73. CN4 of separately-sold "option input/output P.C. board (TCB-PCUC2E)" can be used for models that do not have CN73.
- Used by switching functions with settings of Code No. (DN Code).
- Notice Code is continuously issued while input signal is ON.

[Setup method]

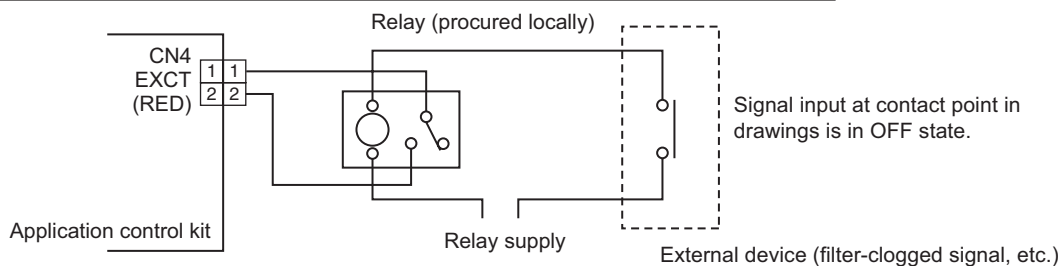
(1) Wiring

Connecting to the CN61 connector



Note) Determine the cable length between the indoor control P.C. board and the relay within 3m.

Connecting to the Application control kit (TCB-PCUC2E, connector : CN4)



Note) Determine the cable length between the indoor control P.C. board and the relay within 3m.

(2) Code (DN) setup and Notice code

Set Code (DN) according to "10-4. Method to set indoor unit function DN code".

Connector	Code No. (DN)	Set data	Notice code
CN61	002E	0004	201
CN73 (CN4)	000B	0006	202

* Setting of Code No. (DN Code) is necessary to display Notice code mark at remote controller.
Set data corresponding to Notice code to be used to one of Code No. 180 to 189, in accordance with following table.
In case where data other than 0000 is already set, set to other Code No. (DN Code).

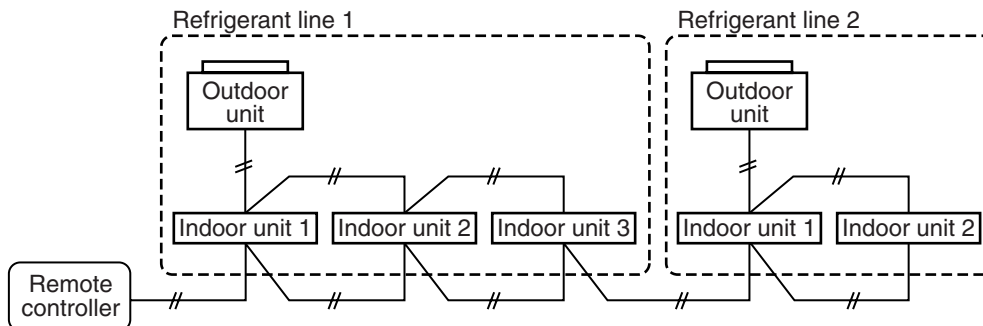
Code No. (DN)	Set data	Notice code
0180	0000	OFF (Factory default)
to	0129	201
0189	0130	202

* It may take up to ten minutes to be displayed on remote controller after Notice code is issued.

Manual address setting using the remote controller

Procedure when setting indoor units' addresses first under the condition that indoor wiring has been completed and outdoor wiring has not been started (manual setting using the remote controller)

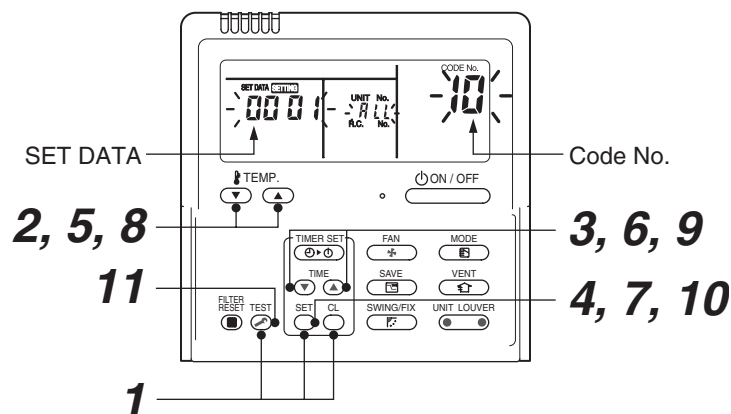
Wiring example of 2 refrigerant lines



Line (system) address	1	1	1	2	2
Indoor unit address	1	2	3	1	2
Group address	1 Header unit	2 Follower unit	2 Follower unit	2 Follower unit	2 Follower unit

In the example above, disconnect the remote controller connections between the indoor units and connect a wired remote controller to the target unit directly before address setting.

<RBC-AMT32E>



Pair the indoor unit to set and the remote controller one-to-one.

Turn on the power.

- 1 Push and hold the **SET**, **CL** and **TEST** buttons at the same time for more than 4 seconds.
LCD starts flashing.

<Line (system) address>

- 2 Push the **TEMP.** (down/up) buttons repeatedly to set the **CODE No.** to **12**.
- 3 Push the **TIME** (down/up) buttons repeatedly to set a system address.
(Match the address with the address on the interface P.C. board of the header outdoor unit in the same refrigerant line.)
- 4 Push **SET** button.
(It is OK if the display turns on.)

<Indoor unit address>

- 5 Push the TEMP. (▼) / (▲) buttons repeatedly to set the CODE No. to 13.
- 6 Push the TIME (▼) / (▲) buttons repeatedly to set an indoor unit address.
- 7 Push the SET button.
(It is OK if the display turns on.)

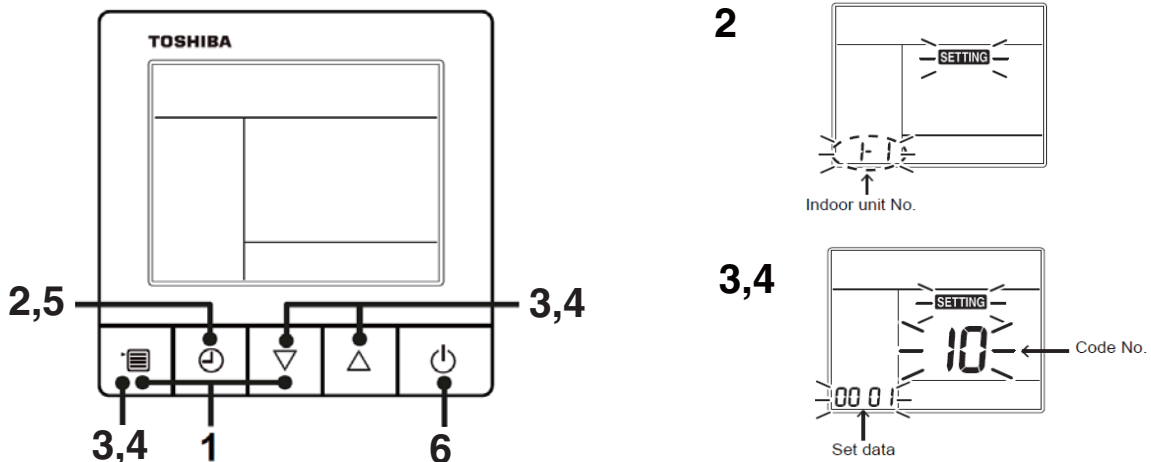
<Group address>

- 8 Push the TEMP. (▼) / (▲) buttons repeatedly to set the CODE No. to 14.
- 9 Push the TIME (▼) / (▲) buttons repeatedly to set a group address. If the indoor unit is individual, set the address to 0000 ; header unit, 0001 ; follower unit, 0002 .

Individual	: 0000	} In case of group control
Header unit	: 0001	
Follower unit	: 0002	

- 10 Push the SET button.
(It is OK if the display turns on.)
- 11 Push the TEST button.
The address setting is complete.
(SETTING flashes. You can control the unit after SETTING has disappeared.)

<RBC-ASCU11-C>



- 1 Push and hold the [menu + ▼] buttons at same time for more than 10 seconds.
- 2 Push the [OFF timer] button to confirm the selected indoor unit.

<Line (system) address>

- 3 Push the [menu] button until the CODE No. flashes. And using the [▼ or ▲] buttons, specify the CODE No.12.
- 4 Push the [menu] button until the SET DATA flashes. And using the [▼ or ▲] buttons, set a system address.
- 5 Push the [OFF timer] button to confirm the SET DATA.

<Indoor unit address>

- 3** Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.13.
- 4** Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set an indoor unit address.
- 5** Push the [OFF timer] button to confirm the SET DATA.

<Group address>

- 3** Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.14.
- 4** Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set a group address.
If the indoor unit is individual, set the address to 0000. (header unit : 0001, follower unit : 0002)

Individual	:0000	} In case of group control
Header unit	:0001	
Follower unit	:0002	

- 5** Push the [OFF timer] button to confirm the SET DATA.
- 6** When all the settings have been completed, push the [ON/OFF] button to return to normal mode.

NOTE

<In the case of combining with outdoor units of Super Modular Multi System u series (SMMS-u)>

- Turn ON DIP switch 1 of SW100 on the header outdoor unit interface P.C. board the lowest system address number.
- After finishing all the settings above, set the address of the central control devices. (For the setting of the central control address, refer to the installation manual of the central control devices.)

<In the case of combining with outdoor units other than Super Modular Multi System u series (SMMS-u)>

- Set a system address for the header outdoor unit of each line with SW13 and 14 of their interface P.C. boards.
 - Turn off dip switch 2 of SW30 on the interface P.C. boards of all the header outdoor units connected to the same central control, except the unit that has the lowest address. (For unifying the termination of the wiring for the central control of indoor and outdoor units)
 - Connect the relay connectors between the [U1, U2] and [U3, U4] terminals on the header outdoor unit of each refrigerate line.
 - After finishing all the settings above, set the address of the central control devices. (For the setting of the central control address, refer to the installation manuals of the central control devices.)
-

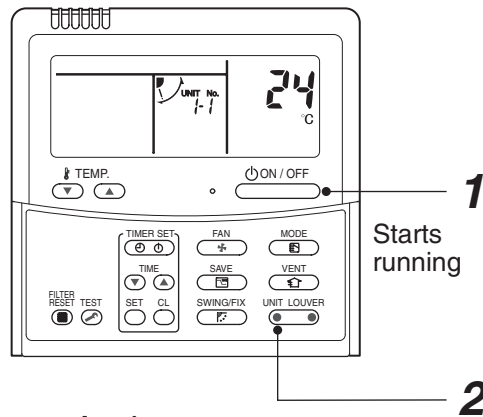
■ Confirming the indoor unit addresses and the position of an indoor unit using the remote controller

◆ Confirming the numbers and positions of indoor units

To know the indoor unit addresses though position of the indoor unit is recognized

- ▼ When the unit is individual (the indoor unit is paired with a wired remote controller one-to-one), or it is a group-controlled one.

<RBC-AMT32E>



(Execute it while the units are running.)

1 Push the  button if the units stop.

2 Push the  button (left side of the button).

A unit numbers **1-1** is indicated on the LCD (it will disappear after a few seconds). The indicated number shows the system address and indoor unit address of the unit.

When 2 or more indoor units are connected to the remote controller (group-controlled units), a number of other connected units appears each time you push the  button (left side of the button).

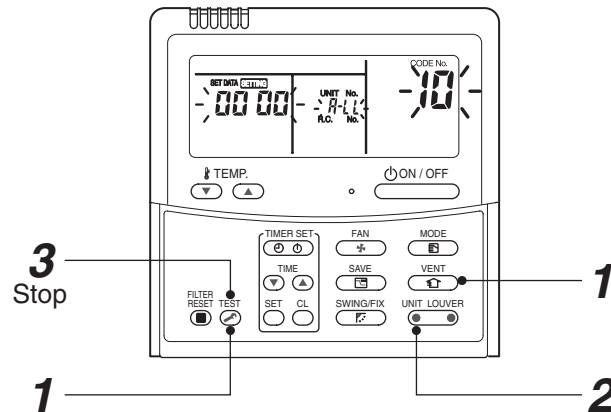
<RBC-ASCU11-C>

There is no such function in the remote controller.

◆ To find an indoor unit's position from its address





▼ When checking unit numbers controlled as a group

<RBC-AMT32E>

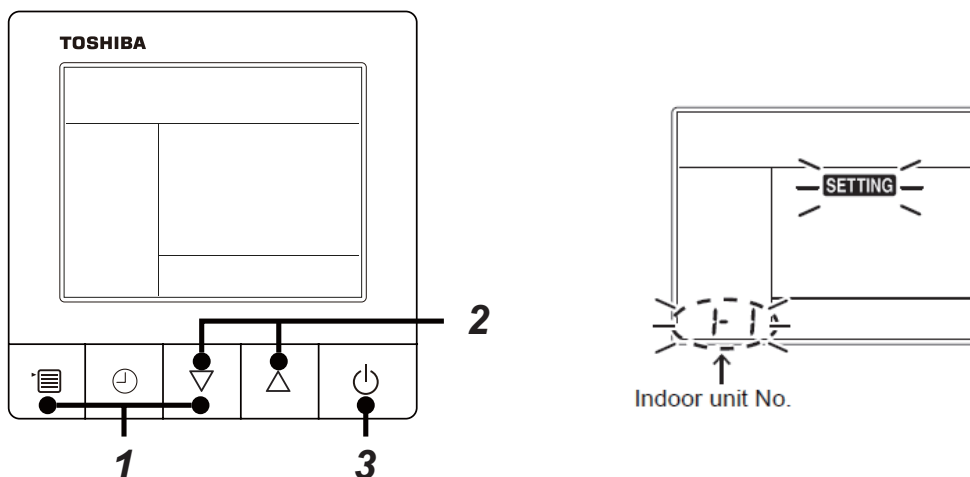





(Execute it while the units are stopped.)

The indoor unit numbers in a group are indicated one after another. The fan and louvers of the indicated units are activated.

- 1** Push and hold the  and  buttons at the same time for more than 4 seconds.
 - **ALL** appears on UNIT No. on the LCD display.
 - The fans and louvers of all the indoor units in the group are activated.
- 2** Push the  button (left side of the button). Each time you push the button, the indoor unit numbers are indicated one after another.
 - The first-indicated unit number is the address of the header unit.
 - Only the fan and louvers of the indicated indoor unit are activated.
- 3** Push the  button to finish the procedure.
All the indoor units in the group stop.

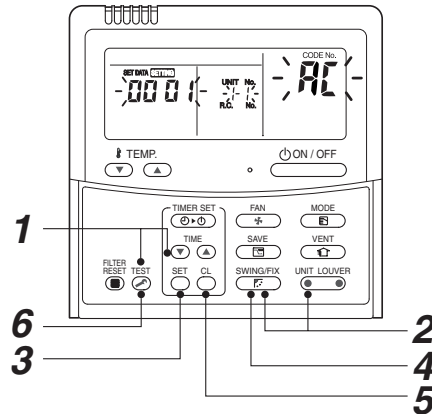
<RBC-ASCU11-C>



- 1** Push and hold the [menu + ] buttons at same time for more than 10 seconds. e.g.)A unit number 1-1 is indicated on the LCD. The indicated number shows the system address and indoor unit address of the unit.
- 2** When 2 or more indoor units are connected to the remote controller (group-controlled units), a number of other connected units appears each time you push the [ or ] buttons.
- 3** Push the [ON/OFF] button, return to the normal mode.

- ▼ To check all the indoor unit addresses using an arbitrary wired remote controller.
(When communication wirings of 2 or more refrigerant lines are interconnected for central control)

<RBC-AMT32E>



(Execute it while the units are stopped.)

You can check indoor unit addresses and positions of the indoor units in a single refrigerant line. When an outdoor unit is selected, the indoor unit numbers of the refrigerant line of the selected unit are indicated one after another and the fan and louvers of the indicated indoor units are activated.

- 1** Push and hold the TIME and ^{TEST} buttons at the same time for more than 4 seconds. At first, the line 1 and CODE No. AC (Address Change) are indicated on the LCD display. (Select an outdoor unit.)
 - 2** Push the ^{UNIT LOUVER} button (left side of the button) and ^{SWING/FIX} buttons repeatedly to select a system address.
 - 3** Push the ^{SET} button to confirm the system address selection.
 - The address of an indoor unit connected to the selected refrigerant line is indicated on the LCD display and its fan and louvers are activated.
 - 4** Push the ^{UNIT LOUVER} button (left side of the button). Each time you push the button, the indoor unit numbers of the selected refrigerant line are indicated one after another.
 - Only the fan and louvers of the indicated indoor unit are activated.
- ◆ To select another system address
- 5** Push the ^{CL} button to return to step 2.
 - After returning to step 2, select another system address and check the indoor unit addresses of the line.
 - 6** Push the ^{TEST} button to finish the procedure.

<RBC-ASCU11-C>

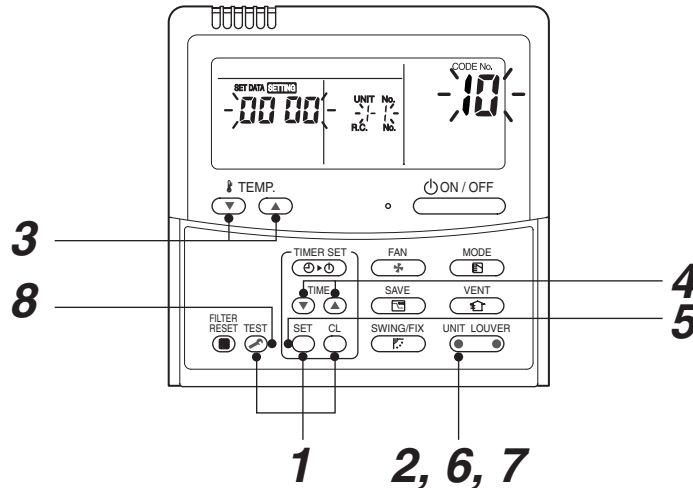
There is no such function in the remote controller.

◆ **Changing the indoor unit address using a remote controller**

To change an indoor unit address using a wired remote controller.

- ▼ **The method to change the address of an individual indoor unit (the indoor unit is paired with a wired remote controller one-to-one), or an indoor unit in a group. (The method is available when the addresses have already been set automatically.)**

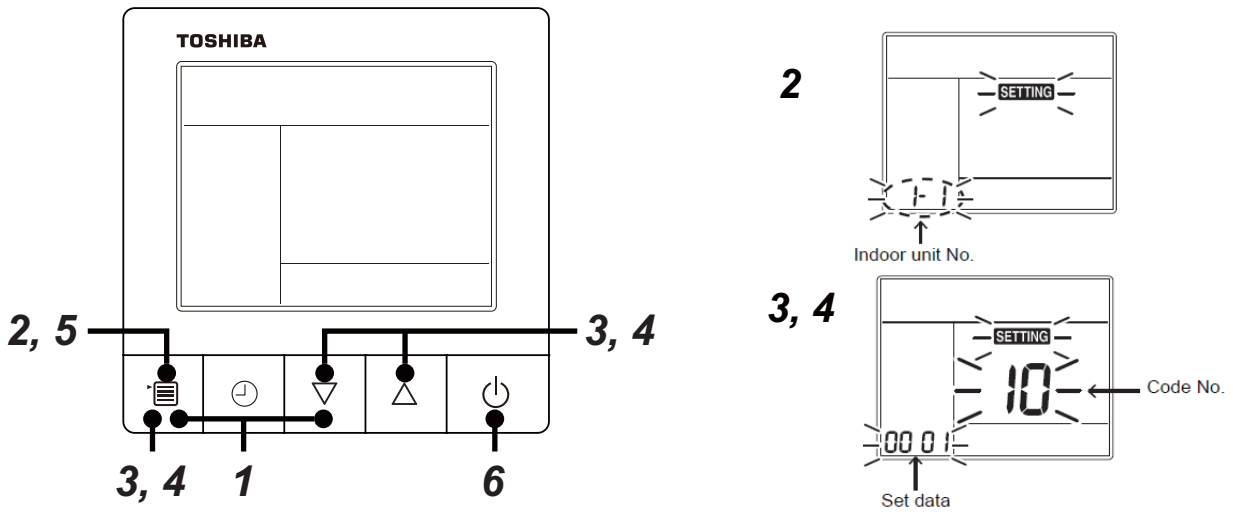
<RBC-AMT32E>



(Execute it while the units are stopped.)

- 1** Push and hold the ^{SET} ○, ^{CL} ○, and ^{TEST} ⚙ buttons at the same time for more than 4 seconds.
(If 2 or more indoor units are controlled in a group, the first indicated UNIT No. is that of the head unit.)
- 2** Push the ^{UNIT LOUVER} ⏪ button (left side of the button) repeatedly to select an indoor unit number to change if 2 or more units are controlled in a group. (The fan and louvers of the selected indoor unit are activated.)
(The fan of the selected indoor unit is turned on.)
- 3** Push the TEMP. ⏴ / ⏵ buttons repeatedly to select **13** for CODE No.
- 4** Push the TIME ⏴ / ⏵ buttons repeatedly to change the value indicated in the SET DATA section to that you want.
- 5** Push the ^{SET} ○ button.
- 6** Push the ^{UNIT LOUVER} ⏪ button (left side of the button) repeatedly to select another indoor UNIT No. to change.
Repeat steps **4** to **6** to change the indoor unit addresses so as to make each of them unique.
- 7** Push the ^{UNIT LOUVER} ⏪ button (left side of the button) to check the changed addresses.
- 8** If the addresses have been changed correctly, push the ^{TEST} ⚙ button to finish the procedure.

<RBC-ASCU11-C>



- 1** Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.
- 2** Push the [OFF timer] button to confirm the selected indoor unit.
- 3** Push the [menu] button until the CODE No. flashes. And using the [▽ or △] buttons, specify the CODE No.13.
- 4** Push the [menu] button until the SET DATA flashes. And using the [▽ or △] buttons, set an indoor unit address.
- 5** Push the [OFF timer] button to confirm the SET DATA.
- 6** When all the settings have been completed, push the [ON/OFF] button, return to normal mode.

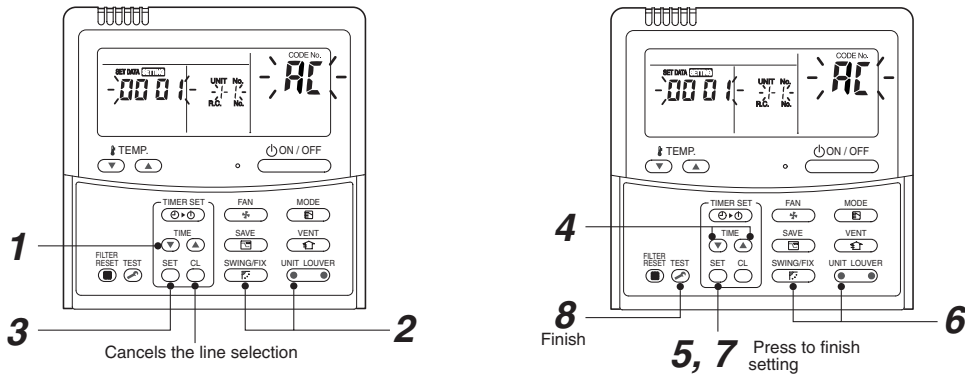
- ▼ To change all the indoor unit addresses using an arbitrary wired remote controller. (The method is available when the addresses have already been set automatically.)

(When communication wirings of 2 or more refrigerant lines are interconnected for central control)

NOTE
 You can change the addresses of indoor units in each refrigerant line using an arbitrary wired remote controller.

* Enter the address check / change mode and change the addresses.

<RBC-AMT32E>



If no number appears on UNIT No., no outdoor unit exists on the line. Push button and select another line following step 2.

(Execute it while the units are stopped.)

- 1 Push and hold the TIME (▼) / (▲) buttons at the same time for more than 4 seconds. At first, the line 1 and CODE No. AC (Address Change) are indicated on the LCD display.
- 2 Push the UNIT LOUVER button (left side of the button) and the SWING/FIX buttons repeatedly to select a system address.
- 3 Push the SET button.
 - The address of one of the indoor units connected to the selected refrigerant line is indicated on the LCD display and the fan and louvers of the unit are activated. At first, the current indoor unit address is displayed in SET DATA. (No system address is indicated.)
- 4 Push the TIME (▼) / (▲) buttons repeatedly to change the value of the indoor unit address in SET DATA. Change the value in SET DATA to that of a new address.
- 5 Push the SET button to confirm the new address on SET DATA.
- 6 Push the UNIT LOUVER button (left side of the button) repeatedly to select another address to change. Each time you push the button, the indoor unit numbers in a refrigerant line are indicated one after another. Only the fan and louvers of the selected indoor unit are activated. Repeat steps 4 to 6 to change the indoor unit addresses so as to make each of them unique.
- 7 Push the SET button. (All the segments on the LCD display light up.)
- 8 Push the TEST button to finish the procedure.

<RBC-ASCU11-C>

There is no such function in the remote controller.

◆ Check code clearing function

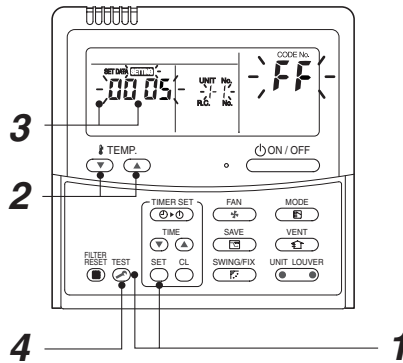
How to clear the check code using the wired remote controller

<RBC-AMT32E>

▼ Clearing a check code of the outdoor unit

Clear the currently detected outdoor unit for each refrigerant line to which the indoor unit controlled by the remote controller is connected. (The indoor unit check code is not cleared.)
Use the service monitoring function of the remote controller.

- 1 Push and hold the **CL** , and **TEST** for 4 seconds or longer to enter the service monitoring mode.
- 2 Push the **TEMP.** button to set CODE No. to "FF".
- 3 The display in A of the following figure counts down as follows at 5-second intervals:
"0005" → "0004" → "0003" → "0002" → "0001" → "0000".
The check code is cleared when "0000" appears.
However, the display counts down from "0005" again.
- 4 Push the **TEST** to return the display to normal.



▼ Clearing a check code of the indoor unit

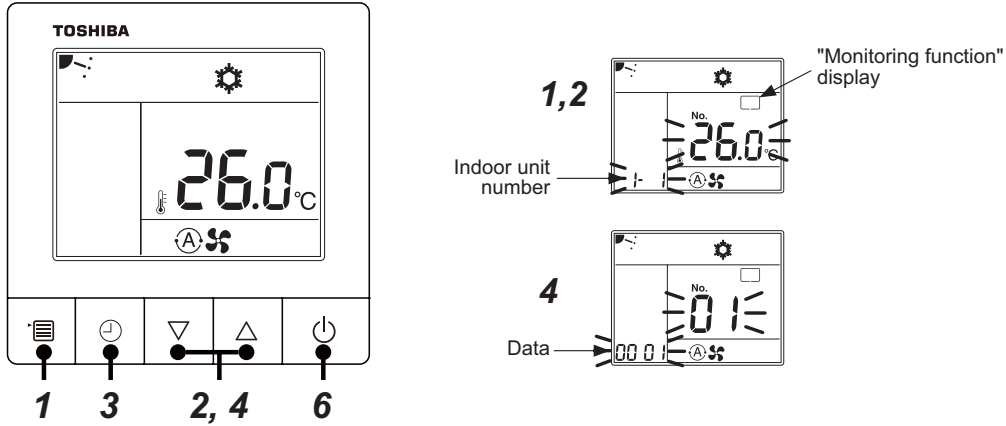
Push the **ON / OFF** button on the remote controller.

(Only the check code of the indoor unit controlled by the remote controller will be cleared.)

<RBC-ASCU11-C>

▼ Clearing a check code of the outdoor unit

Clear the currently detected outdoor unit for each refrigerant line to which the indoor unit controlled by the remote controller is connected. (The indoor unit check code is not cleared.)
Use the service monitoring function of the remote controller.



1 Push the [menu] button for over 10 seconds.

2 Every pushing [▽ or △] buttons, the indoor unit numbers in group control are displayed successively.

3 Push the [OFF timer] button to confirm the selected indoor unit.

4 Every pushing [▽ or △] buttons to set CODE No. to "F"

5 The display in A of the following figure counts down as follows at 5-second intervals:
"0005" → "0004" → "0003" → "0002" → "0001" → "0000"

The check code is cleared when "000" appears.

However, the display counts down from "005" again.

6 After you have finished checking, push the [ON/OFF] button to return to normal mode.

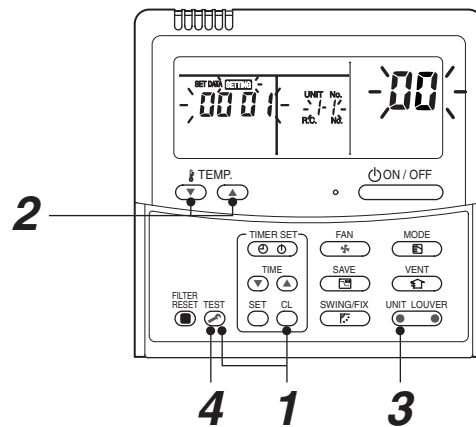
▼ Clearing a check code of the indoor unit

Push the ON / OFF button on the remote controller.

(Only the check code of the indoor unit controlled by the remote controller will be cleared.)






▼ Monitoring function of wired remote controller

<RBC-AMT32E>

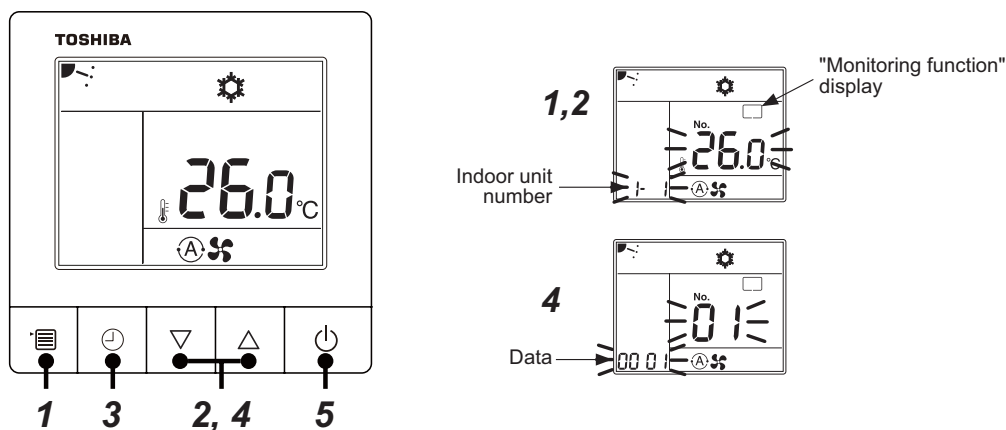






Content

Enter the service monitoring mode using the remote controller to check the sensor temperature or operation status of the remote controller, indoor unit, and outdoor unit.

- 1** Push and hold the , and  for 4 seconds or longer to enter the service monitoring mode. The service monitor lights up. The CODE No. **00** appears at first.
- 2** Push the  button to change to CODE No. of the item to monitor. Refer to the next page for CODE No.
- 3** Push the left part of the  button (left side of the button) to change to the item to monitor. Monitor the sensor temperature or operation status of the indoor unit and outdoor unit in the refrigerant line.
- 4** Push the  button to return the display to normal.

<RBC-ASCU11-C>



- 1** Push the [menu] button for over 10 seconds. "Monitoring function" is displayed on a screen.
- 2** Every pushing [ or ] buttons, the indoor unit numbers in group control are displayed successively.
- 3** Push the [OFF timer] button to confirm the selected indoor unit.
- 4** Every pushing [ or ] buttons, CODE No. of the item is changed successively.
- 5** After you have finished checking, push the [ON/OFF] button, return to normal mode.

◆ Indoor service monitor list

	Code No.	Data name	Display format	Unit	Remote controller display example
Indoor unit data *	00	Room temperature (Use to control)	×1	°C	
	01	Room temperature (Remote controller)	×1	°C	
	02	Indoor suction air temperature (TA)	×1	°C	
	03	Indoor coil temperature (TCJ)	×1	°C	
	04	Indoor coil temperature (TC2)	×1	°C	
	05	Indoor coil temperature (TC1)	×1	°C	
	06	Indoor discharge air temperature (TF) *	×1	°C	
	07	Indoor fan motor number of revolutions**	×1	rpm	[0600] = 600rpm
	08	Indoor PMV opening	×1/10	pls	[0150]=1500pls
	F3	Filter sign time	×1	h	[2500] = 2500h
	F9	Suction temperature of air to air heat exchanger (TSA) *	×1	°C	[0024] = 24°C
	FA	Outside air temperature (TOA) *	×1	°C	

* When the units are connected to a group, data of the header indoor unit only can be displayed.

** There is also a model which cannot be displayed.

- Refer to the service manual of an outdoor unit for "outdoor service monitor list".

■ LED display on P.C. board

1. D501 (Red)

- D501 goes on at the same time when the power supply is turned on.
(Goes on with operation of the main microprocessor)
- D501 flashes with 1-second interval (every 0.5 second) : When there is no EEPROM or write-in error
- D501 flashes with 10-seconds interval (every 5 second) : In DISP mode
- D501 flashes with 2-seconds interval (every 1 second) : During setting of function exchange (EEPROM)

2. D403 (Red)

- D403 goes on when power is supplied to the remote controller. (ON in hardware)

3. D503 (Yellow): Indoor/Outdoor central control

- D503 goes on for 5 seconds at the first half during communication with the central controller.
- D503 flashes for 5 seconds with 0.2-second interval at the latter half during communication with outdoor unit. (Goes on for 0.1 second, goes off for 0.1 second)

4. D504 (Green): Remote controller communication

- D504 goes on for 5 seconds at the first half during communication with remote controller.
(Header unit of group)
- In the group indoor unit, D504 flashes for 5 seconds with 0.2-second interval at the latter half during communication between header and follower unit. (Goes on for 0.1 second, goes off for 0.1 second)

11. TROUBLESHOOTING

11-1. Overview

(1) Before engaging in troubleshooting

(a) Applicable models

All Super Modular Multi System (SMMS-*) models.

(Indoor units: MM*-UP***, Outdoor units: MMY-M*P***)

(b) Tools and measuring devices required

- Screwdrivers (Philips, flat head), spanners, long-nose pliers, nipper, pin to push reset switch, etc.
- Multimeter, thermometer, pressure gauge, etc.

(c) Things to check prior to troubleshooting (behaviors listed below are normal)

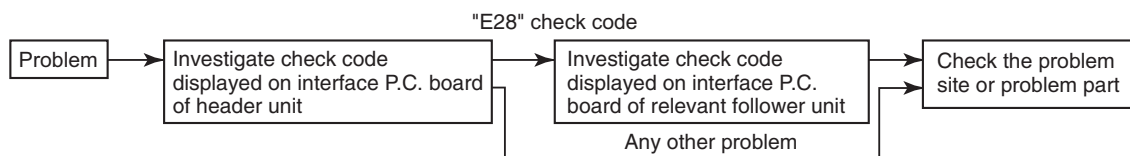
NO.	Behavior	Possible cause
1	A compressor would not start	<ul style="list-style-type: none"> • The air conditioner is being controlled by the 3-minute protective function. • It is in standby status though the room temperature has reached the setup temperature. • It is being operated in timer mode or fan mode. • It is being in initial communication.
2	An indoor fan would not start	<ul style="list-style-type: none"> • The air conditioner is being controlled by the cool air discharge preventive function in "heating"?
3	An outdoor fan would not start or would change speed for no reason	<ul style="list-style-type: none"> • The air conditioner is being operated in "cooling" under the low outside air temperature. • It is being operated in defrost operation.
4	An indoor fan would not stop	<ul style="list-style-type: none"> • The air conditioner is being controlled by function of residual heat elimination being performed as part of the air conditioner shutdown process after heating operation.
5	The air conditioner would not respond to a start/stop command from a remote controller	<ul style="list-style-type: none"> • The air conditioner is being operated under external or remote controller.

CAUTION

The cooling performance may be declining considerably when total operating capacity of cooling indoor units is less than 4 HP while ambient temperature is below.

(2) Troubleshooting procedure

When a problem occurs, proceed with troubleshooting in accordance with the procedure shown below.



NOTE

Rather than a product trouble (see the List of Check Codes below), the problem could have been caused by a microprocessor malfunction attributable to a poor quality of the power source or an external noise. Check for possible noise sources, and shield the remote controller wiring and signal wires as necessary.

11-2. Troubleshooting method

The remote controllers (main remote controller and central control device) and the interface P.C. board of an outdoor unit are provided with an a 7-segment display (outdoor interface P.C. board) to display operational status. Using this self-diagnosis feature, the trouble site / trouble part may be identified in the event of a trouble by following the method described below.

The list below summarizes check codes detected by various devices. Analyze the check code according to where it is displayed and work out the nature of the trouble in consultation with the list.

- When investigating a trouble on the basis of a display provided on the indoor remote controller or central control device - See the “central control device or main remote controller display” section of the list.
- When investigating a trouble on the basis of a display provided on an outdoor unit - See the “Outdoor 7-segment display” section of the list.
- When investigating a trouble on the basis of a wireless remote controller-controlled indoor unit - See the “Indicator light block” section of the list.

List of check codes (indoor unit)

(Check code detected by indoor unit)

IPDU: Compressor / Fan inverter P.C. board

○: Lighting, ⊙: Flashing, ●: Goes off

ALT.: Flashing is alternately when there are two flashing LED

SIM: Simultaneous flashing when there are two flashing LED

Check code			Display of receiving unit				Typical trouble on site	Description of check code
Remote controller display	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation ⏻	Timer ⌚	Ready ⊙	Flash		
E03	—	—	⊙	●	●		Indoor-remote controller periodic communication check code	Communication from remote controller or network adaptor has been lost (so has central control communication).
E04	—	—	●	●	⊙		Indoor-outdoor periodic communication check code	Signals are not being received from outdoor unit.
E08	E08	Duplicated indoor address	⊙	●	●		Duplicated indoor address	Indoor unit detects address identical to its own.
E10	—	—	⊙	●	●		Communication trouble between indoor unit MCU	Communication trouble between main MCU and the motor microcomputer MCU
E11	—	—	⊙	●	●		Communication check code between Application control kit and indoor unit	Communication check code between Application control kit and indoor unit P.C. board
E18	—	—	⊙	●	●		Check cod in periodic communication between indoor header and follower unit	Periodic communication between indoor header and follower units cannot be maintained.
F01	—	—	⊙	⊙	●	ALT	Indoor heat exchanger temperature sensor (TCJ) check code	Heat exchanger temperature sensor (TCJ) has been open / short-circuit.
F02	—	—	⊙	⊙	●	ALT	Indoor heat exchanger temperature sensor (TC2) check code	Heat exchanger temperature sensor (TC2) has been open / short-circuit.
F03	—	—	⊙	⊙	●	ALT	Indoor heat exchanger temperature sensor (TC1) check code	Heat exchanger temperature sensor (TC1) has been open / short-circuit.
F10	—	—	⊙	⊙	●	ALT	Ambient temperature sensor (TA) check code	Ambient temperature sensor (TA) has been open / short-circuit.
F11	—	—	⊙	⊙	●	ALT	Discharge temperature sensor (TF) check code	Discharge temperature sensor (TF) has been open / short-circuit.
F29	—	—	⊙	⊙	●	SIM	P.C. board or other indoor check code	Indoor EEPROM is abnormal (some other trouble may be detected).
F30	—	—	⊙	⊙	○	ALT	Occupancy sensor trouble	Occupancy sensor trouble has been detected.
L03	—	—	⊙	●	⊙	SIM	Duplicated indoor group header unit	There is more than one header unit in group.
L07	—	—	⊙	●	⊙	SIM	Connection of group control cable to a single indoor unit	There is at least one a single indoor unit to which group control cable is connected.
L08	L08	—	⊙	●	⊙	SIM	Indoor group address not set	Address setting has not been performed for one or more indoor units (also detected at outdoor unit end).
L09	—	—	⊙	●	⊙	SIM	Indoor capacity not set	Capacity setting has not been performed for indoor unit.
L20	—	—	⊙	○	⊙	SIM	Duplicated central control address	There is duplication in central control address setting.
L30	L30	Detected indoor unit No.	⊙	○	⊙	SIM	Indoor external check code input (interlock)	Unit shutdown has been caused by external check code input (CN80).
P01	—	—	●	⊙	⊙	ALT	Indoor AC fan check code	Indoor AC fan check code is detected (activation of fan motor thermal relay).
P10	P10	Detected indoor unit No.	●	⊙	⊙	ALT	Indoor overflow check code	Float switch has been activated.
P12	—	—	●	⊙	⊙	ALT	Indoor DC fan check code	• Indoor DC fan check code (e.g. overcurrent or lock-up) is detected.
P31	—	—	⊙	●	⊙	ALT	Other indoor unit check code	Follower unit cannot be operated due to header unit alarm (E03 / L03 / L07 / L08).

(Check code detected by remote controller)

Check code			Display of receiving unit				Typical trouble site	Description of trouble
Remote control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation ⏻	Timer ⌚	Ready ⊗	Flash		
E01	-	-	⊙	●	●		No master remote control, failure remote control communication (reception)	Signals cannot be received from indoor unit; master remote control has not been set (including two remote control).
E02	-	-	⊙	●	●		Failure remote control communication (transmission)	Signals cannot be transmitted to indoor unit.
E09	-	-	⊙	●	●		Duplicated master remote control	Both remote controls have been set as master remote control in two remote control (alarm and shutdown for header unit and continued operation for follower unit)

(Check code detected by central control device)

Check code			Display of receiving unit				Typical trouble site	Description of trouble
Central control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation ⏻	Timer ⌚	Ready ⊗	Flash		
C05	-	-					Failure central control communication (transmission)	Central control device is unable to transmit signal due to duplication of central control device
C06	-	-						Failure central control communication (reception)
C12	-	-				-	Blanket alarm for general-purpose device control interface	Device connected to general-purpose device control interface is trouble.
P30 (L20)	-	-				(L20 is displayed.)	Communication Link	<ul style="list-style-type: none"> Duplication addresses of indoor units in central control device With the combination of air conditioning system, the indoor unit may detect the check code of L20

Note: The same trouble, e.g. a communication trouble, may result in the display of different check codes depending on the device that detects it. Moreover, check codes detected by the main remote controller / central control device do not necessarily have a direct impact on air conditioner operation.

Flow selector unit (FS unit) Relation

(Check code detected by indoor unit)

Check code			Display of receiving unit				Typical trouble site	Description of trouble
Main remote control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation ⏻	Timer ⌚	Ready ⊗	Flash		
E17	-	-	⊙	●	●		Communication trouble between indoor unit (s) and FS unit (s)	There is no communication from FS unit(s)
J03	-	-	●	⊙	⊙		Duplicated FS units	More than one FS units have been set up in one refrigerant line.
J10	-	-	●	⊙	⊙		FS unit overflow trouble	FS unit has been shutdown in one refrigerant line due to detection of overflow
J11	-	-	●	⊙	⊙		FS unit temperature sensor (TCS) trouble	FS unit temperature sensor (TCS) has been open/short-circuited.
L12	L12	-	⊙	○	⊙		FS unit(s) system trouble	FS unit(s) outside the application setting


List of Check Codes (Outdoor Unit)

(Check code detected by outdoor interface - typical examples)

If "HELLO" is displayed on the outdoor 7-segment for 1 minute or more, turn off the power supply once and then turn on the power supply again after passage of 30 seconds or more. When the same symptom appears, it is considered there is a possibility of I/F board trouble.

○ : Lighting, ⊙ : Flashing, ● : Goes off
 ALT.: Flashing is alternately when there are two flashing LED
 SIM: Simultaneous flashing when there are two flashing LED




Check code		Central control or main remote controller display	Display of receiving unit				Typical problem site	Description of problem																																																																																								
Outdoor 7-segment display			Indicator light block																																																																																													
Sub-code			Operation ⏻	Timer ⌚	Ready ⦿	Flash																																																																																										
E06	Number of indoor units from which signal is received normally	E06	●	●	⊙		Signal lack of indoor unit	Indoor unit initially communicating normally fails to return signal (reduction in number of indoor units connected).																																																																																								
E07	–	(E04)	●	●	⊙		Indoor-outdoor communication circuit trouble	Signal cannot be transmitted to indoor units (→ indoor units left without communication from outdoor unit).																																																																																								
E08	Duplicated indoor address	(E08)	⊙	●	●		Duplicated indoor address	More than one indoor unit are assigned same address (also detected at indoor unit end).																																																																																								
E12	01: Indoor-outdoor communication 02: Outdoor-outdoor communication	E12	⊙	●	●		Automatic address starting trouble	<ul style="list-style-type: none"> Indoor automatic address setting is started while automatic address setting for equipment in other refrigerant line is in progress. Outdoor automatic address setting is started while automatic address setting for indoor units is in progress. 																																																																																								
E15	–	E15	●	●	⊙		Indoor unit not found during automatic address setting	Indoor unit fails to communicate while automatic address setting for indoor units is in progress.																																																																																								
E16	00: Capacity over 01: Number of units connected	E16	●	●	⊙		Too many indoor units connected/capacity over	Combined capacity of indoor units is too large. Exceeds the total capacity of outdoor units X α % <table border="1" style="margin-left: 20px;"> <thead> <tr> <th></th> <th>α %</th> </tr> </thead> <tbody> <tr> <td>SMMS-u series</td> <td>115</td> </tr> <tr> <td>Other than SMMS-u series</td> <td>105</td> </tr> </tbody> </table> The maximum combined of indoor units shown in the specification table.		α %	SMMS-u series	115	Other than SMMS-u series	105																																																																																		
	α %																																																																																															
SMMS-u series	115																																																																																															
Other than SMMS-u series	105																																																																																															
E19	00: No header unit 02: Two or more header units	E19	●	●	⊙		Trouble in number of outdoor header units	There is no or more than one outdoor header unit in one refrigerant line.																																																																																								
E20	01: Connection of outdoor unit from other refrigerant line 02: Connection of indoor unit from other refrigerant line	E20	●	●	⊙		Connection to other refrigerant line found during automatic address setting	Indoor unit from other refrigerant line is detected while indoor automatic address setting is in progress.																																																																																								
E23	–	E23	●	●	⊙		Outdoor-outdoor communication transmission trouble	Signal cannot be transmitted to other outdoor units.																																																																																								
E25	–	E25	●	●	⊙		Duplicated follower outdoor address	There is duplication in outdoor addresses set manually.																																																																																								
E26	Address of outdoor unit from which signal is not received normally	E26	●	●	⊙		Signal lack of outdoor unit	Follower outdoor unit initially communicating normally fails to do so (reduction in number of follower outdoor units connected).																																																																																								
E28	Detected outdoor unit No.	E28	●	●	⊙		Outdoor follower unit trouble	Outdoor header unit detects trouble relating to follower outdoor unit (detail displayed on follower outdoor unit).																																																																																								
E31	<table border="1" style="margin-left: 20px;"> <thead> <tr> <th colspan="4">P.C.board</th> <th colspan="4">P.C.board</th> </tr> <tr> <th colspan="2">Compressor</th> <th colspan="2">Fan Motor</th> <th colspan="2">Compressor</th> <th colspan="2">Fan Motor</th> </tr> <tr> <th>1</th><th>2</th><th>1</th><th>2</th><th>1</th><th>2</th><th>1</th><th>2</th> </tr> </thead> <tbody> <tr><td>01</td><td>○</td><td></td><td></td><td>11</td><td>○</td><td></td><td>○</td></tr> <tr><td>02</td><td></td><td>○</td><td></td><td>12</td><td></td><td>○</td><td>○</td></tr> <tr><td>03</td><td>○</td><td>○</td><td></td><td>13</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>08</td><td></td><td></td><td>○</td><td>18</td><td></td><td></td><td>○</td></tr> <tr><td>09</td><td>○</td><td></td><td>○</td><td>19</td><td>○</td><td></td><td>○</td></tr> <tr><td>0A</td><td></td><td>○</td><td>○</td><td>1A</td><td></td><td>○</td><td>○</td></tr> <tr><td>0B</td><td>○</td><td>○</td><td>○</td><td>1B</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>10</td><td></td><td></td><td>○</td><td></td><td></td><td></td><td></td></tr> </tbody> </table> Circle (○): Trouble P.C. board 80 : Communication trouble between MCU and Sub MCU	P.C.board				P.C.board				Compressor		Fan Motor		Compressor		Fan Motor		1	2	1	2	1	2	1	2	01	○			11	○		○	02		○		12		○	○	03	○	○		13	○	○	○	08			○	18			○	09	○		○	19	○		○	0A		○	○	1A		○	○	0B	○	○	○	1B	○	○	○	10			○					E31	●	●	⊙		P.C. board communication trouble Sub MCU communication trouble	There is no communication between P.C. boards in inverter box.
P.C.board				P.C.board																																																																																												
Compressor		Fan Motor		Compressor		Fan Motor																																																																																										
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0B	○	○	○	1B	○	○	○																																																																																									
10			○																																																																																													
F04	–	F04	⊙	⊙	○	ALT	Outdoor discharge temperature sensor (TD1) trouble	Outdoor discharge temperature sensor (TD1) has been open/short-circuited.																																																																																								
F05	–	F05	⊙	⊙	○	ALT	Outdoor discharge temperature sensor (TD2) trouble	Outdoor discharge temperature sensor (TD2) has been open/short-circuited.																																																																																								
F06	01: TE1 sensor 02: TE2 sensor 03: TE3 sensor	F06	⊙	⊙	○	ALT	Outdoor heat exchanger liquid side temperature sensor (TE1, TE2, TE3) trouble	Outdoor heat exchanger liquid side temperature sensors (TE1, TE2, TE3) have been open/short-circuited.																																																																																								
F07	01: TL1 sensor 02: TL2 sensor 03: TL3 sensor	F07	⊙	⊙	○	ALT	Outdoor liquid temperature sensor (TL1, TL2, TL3) trouble	Outdoor liquid temperature sensor (TL1, TL2, TL3) has been open/short-circuited.																																																																																								
F08	–	F08	⊙	⊙	○	ALT	Outdoor outside air temperature sensor (TO) trouble	Outdoor outside air temperature sensor (TO) has been open/short-circuited.																																																																																								
F09	01: TG1 sensor 02: TG2 sensor 03: TG3 sensor	F09	⊙	⊙	○	ALT	Outdoor heat exchanger gas side temperature sensor (TG1, TG2, TG3) trouble	Outdoor heat exchanger gas side temperature sensors (TG1, TG2, TG3) have been open/short-circuited.																																																																																								

Check code		Display of receiving unit				Typical problem site	Description of problem	
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
Sub-code			Operation 	Timer 	Ready 	Flash		
F12	01: TS1 sensor 03: TS3 sensor	F12	☉	☉	○	ALT	Outdoor suction temperature sensor (TS1,TS3) trouble	Outdoor suction temperature sensor (TS1,TS3) has been open/short-circuited.
F15	–	F15	☉	☉	○	ALT	Outdoor temperature sensor (TE1,TL1) wiring trouble	Wiring trouble in outdoor temperature sensors (TE1,TL1) has been detected.
F16	–	F16	☉	☉	○	ALT	Outdoor pressure sensor (Pd, Ps) wiring trouble	Wiring trouble in outdoor pressure sensors (Pd, Ps) has been detected.
F23	–	F23	☉	☉	○	ALT	Low pressure sensor (Ps) trouble	Output voltage of low pressure sensor (Ps) is zero.
F24	–	F24	☉	☉	○	ALT	High pressure sensor (Pd) trouble	Output voltage of high pressure sensor (Pd) is zero or provides abnormal readings when compressors have been turned off.
F31	–	F31	☉	☉	○	SIM	Outdoor EEPROM trouble	Outdoor EEPROM is faulty (alarm and shutdown for header unit and continued operation for follower unit)
H05	–	H05	●	☉	●		Outdoor discharge temperature sensor (TD1) wiring trouble	Wiring/installation trouble or detachment of outdoor discharge temperature sensor (TD1) has been detected.
H06	–	H06	●	☉	●		Activation of low-pressure protection	Low pressure (Ps) sensor detects abnormally low operating pressure.
H07	–	H07	●	☉	●		Low oil level protection	Temperature sensor for oil level detection (TK1,TK2) detects abnormally low oil level.
H08	01: TK1 sensor trouble 02: TK2 sensor trouble	H08	●	☉	●		Trouble in temperature sensor for oil level detection (TK1,TK2)	Temperature sensor for oil level detection (TK1,TK2) has been open/short-circuited.
H15	–	H15	●	☉	●		Outdoor discharge temperature sensor (TD2) wiring trouble	Wiring/installation trouble or detachment of outdoor discharge temperature sensor (TD2) has been detected.
H16	01: TK1 oil circuit trouble 02: TK2 oil circuit trouble	H16	●	☉	●		Oil level detection circuit trouble	No temperature change is detected by temperature sensor for oil level detection (TK1,TK2) despite compressor having been started.
L04	–	L04	☉	○	☉	SIM	Duplicated outdoor refrigerant line address	Identical refrigerant line address has been assigned to outdoor units belonging to different refrigerant piping systems.
L06	Number of priority indoor units (check code L05 or L06 depending on individual unit)	L05	☉	●	☉	SIM	Duplicated priority indoor unit (as displayed on priority indoor unit)	More than one indoor unit have been set up as priority indoor unit.
		L06	☉	●	☉	SIM	Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)	More than one indoor unit have been set up as priority indoor unit.
L08	–	(L08)	☉	●	☉	SIM	Indoor group address not set	Address setting have not been performed for one or more indoor units (also detected at indoor end).
L10	–	L10	☉	○	☉	SIM	Outdoor capacity not set	Outdoor unit capacity has not been set (after P.C. board replacement).
L17	–	L17	☉	○	☉	SIM	Outdoor model incompatibility trouble	Old model outdoor unit has been connected.
L23	–	L23	☉	○	☉	SIM	SW setting mistake	
L28	–	L28	☉	○	☉	SIM	Too many outdoor units connected	More than three outdoor units have been connected.

Check code			Display of receiving unit				Typical problem site	Description of problem																																																																																								
Outdoor 7-segment display			Indicator light block																																																																																													
Sub-code	Central control or main remote controller display		Operation	Timer	Ready	Flash																																																																																										
	Compressor	Fan Motor	⏻	⌚	⊙	⚡																																																																																										
L29	<table border="1"> <thead> <tr> <th colspan="4">P.C.board</th> <th colspan="4">P.C.board</th> </tr> <tr> <th colspan="2">Compressor</th> <th colspan="2">Fan Motor</th> <th colspan="2">Compressor</th> <th colspan="2">Fan Motor</th> </tr> <tr> <th>1</th><th>2</th><th>1</th><th>2</th><th>1</th><th>2</th><th>1</th><th>2</th> </tr> </thead> <tbody> <tr><td>01</td><td>○</td><td></td><td></td><td>11</td><td>○</td><td></td><td>○</td></tr> <tr><td>02</td><td></td><td>○</td><td></td><td>12</td><td></td><td>○</td><td>○</td></tr> <tr><td>03</td><td>○</td><td>○</td><td></td><td>13</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>08</td><td></td><td></td><td>○</td><td>18</td><td></td><td></td><td>○</td></tr> <tr><td>09</td><td>○</td><td></td><td>○</td><td>19</td><td>○</td><td></td><td>○</td></tr> <tr><td>0A</td><td></td><td>○</td><td>○</td><td>1A</td><td></td><td>○</td><td>○</td></tr> <tr><td>0B</td><td>○</td><td>○</td><td>○</td><td>1B</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>10</td><td></td><td></td><td></td><td></td><td></td><td></td><td>○</td></tr> </tbody> </table> <p>Circle (O): Trouble P.C. board</p>	P.C.board				P.C.board				Compressor		Fan Motor		Compressor		Fan Motor		1	2	1	2	1	2	1	2	01	○			11	○		○	02		○		12		○	○	03	○	○		13	○	○	○	08			○	18			○	09	○		○	19	○		○	0A		○	○	1A		○	○	0B	○	○	○	1B	○	○	○	10							○	L29	⊙	○	⊙	SIM	Trouble in number of P.C. boards	There are insufficient number of P.C. board in inverter box.
P.C.board				P.C.board																																																																																												
Compressor		Fan Motor		Compressor		Fan Motor																																																																																										
1	2	1	2	1	2	1	2																																																																																									
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0B	○	○	○	1B	○	○	○																																																																																									
10							○																																																																																									
L30	Detected indoor unit No.	(L30)	⊙	○	⊙	SIM	Indoor external trouble input (interlock)	Indoor unit has been shut down for external trouble input in one refrigerant line (detected by indoor unit).																																																																																								
P03	—	P03	⊙	●	⊙	ALT	Outdoor discharge (TD1) temperature trouble	Outdoor discharge temperature sensor (TD1) has detected abnormally high temperature.																																																																																								
P05	00: Power detection trouble 01: Open phase 02: Power supply miswiring	P05	⊙	●	⊙	ALT	Power detection trouble /Open phase detection /Power supply miswiring detection	Open phase is detected when power is turned on. Inverter DC voltage is too high (overvoltage) or too low (undervoltage).																																																																																								
P07	1 : Compressor 1 heat sink trouble 2 : Compressor 2 heat sink trouble	P07	⊙	●	⊙	ALT	Heat sink overheating trouble	Temperature sensor built into IPM (TH) detects overheating.																																																																																								
	04: Heat sink dew condensation						Heat sink dew condensation trouble	Outdoor liquid temperature sensor (TL2) has detected abnormally low temperature.																																																																																								
P10	Indoor unit No. detected	(P10)	●	⊙	⊙	ALT	Indoor unit overflow	Indoor unit has been shutdown in one refrigerant line due to detection of overflow (detected by indoor unit).																																																																																								
P11	—	P11	●	⊙	⊙	ALT	Outdoor heat exchanger freeze trouble	Remaining frost on outdoor heat exchanger has been detected repeatedly.																																																																																								
P13	—	P13	●	⊙	⊙	ALT	Outdoor liquid backflow detection trouble	State of refrigerant cycle circuit indicates liquid backflow operation.																																																																																								
P15	01: TS condition 02: TD condition	P15	⊙	●	⊙	ALT	Gas leak detection	Outdoor suction temperature sensor (TS1) detects sustained and repeated high temperatures that exceed standard value.																																																																																								
P17	—	P17	⊙	●	⊙	ALT	Outdoor discharge (TD2) temperature trouble	Outdoor discharge temperature sensor (TD2) detects abnormally high temperature.																																																																																								
P19	Outdoor unit No. detected	P19	⊙	●	⊙	ALT	4-way valve reversing trouble	Abnormality in refrigerating cycle is detected during heating operation.																																																																																								
P20	—	P20	⊙	●	⊙	ALT	Activation of high-pressure protection	High pressure (Pd) sensor detects high pressure that exceeds standard value.																																																																																								

MG-CTT: Magnet contactor

(Check code detected by Inverter of Compressor featuring in outdoor unit - typical examples)

Check code		Display of receiving unit				Typical problem site	Description of proplem	
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
Sub-code			Operation 	Timer 	Ready 	Flash		
F13	1*: Compressor 1 2*: Compressor 2	F13	⊙	⊙	○	ALT	Trouble in temperature sensor built into indoor IPM (TH)	Temperature sensor built into indoor IPM (TH) has been open/short-circuited.
H01	1*: Compressor 1 2*: Compressor 2	H01	●	⊙	●		Compressor breakdown	Inverter current (Idc) detection circuit detects overcurrent.
H02	1*: Compressor 1 2*: Compressor 2	H02	●	⊙	●		Compressor trouble (lockup)	Compressor lockup is detected
H03	1*: Compressor 1 2*: Compressor 2	H03	●	⊙	●		Current detection circuit trouble	Abnormal current is detected while inverter compressor is turned off.
P04	01: Compressor 1 02: Compressor 2	P04	⊙	●	⊙	ALT	Activation of high-pressure SW	High-pressure SW is activated.
P05	01: Compressor 1 side 02: Compressor 2 side	P05	⊙	●	⊙	ALT	Compressor Vdc trouble	Inverter DC voltage is too high (overvoltage) or too low (undervoltage).
P07	01: Compressor 1 side 02: Compressor 2 side	P07	⊙	●	⊙	ALT	Heat sink overheat trouble	Temperature sensor built into IPM (TH) detects overheating.
P11	–	P11	●	⊙	⊙	ALT	Outdoor heat exchanger freeze trouble	Remaining frost on outdoor heat exchanger has been detected repeatedly.
P22	1*: Fan P.C. board 1 2*: Fan P.C. board 2	P22	⊙	●	⊙	ALT	Outdoor fan P.C. board trouble	Outdoor fan P.C. board detects trouble.
P26	1*: Compressor 1 2*: Compressor 2	P26	⊙	●	⊙	ALT	Activation of IPM, compressor short-circuit protection	Short-circuit protection for compressor motor driver circuit components is activated (momentary overcurrent).
P29	1*: Compressor 1 2*: Compressor 2	P29	⊙	●	⊙	ALT	Compressor position detection circuit trouble	Compressor motor position detection trouble is detected.

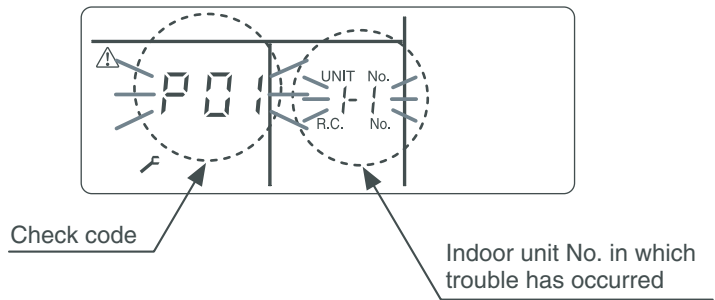
Note: The above check codes are examples only, and different check codes may be displayed depending on the outdoor unit configuration

11-3. Troubleshooting based on information displayed on remote controller

<RBC-AMT32E>

(1) Checking and testing

When a trouble occurs to an air conditioner, a check code and indoor unit No. are displayed on the display window of the remote controller. Check codes are only displayed while the air conditioner is in operation. If the display has already disappeared, access check code history by following the procedure described below.



(2) Trouble history

The trouble history access procedure is described below (up to four check codes stored in memory). Check code history can be accessed regardless of whether the air conditioner is in operation or shut down.

<Procedure> To be performed when system at rest

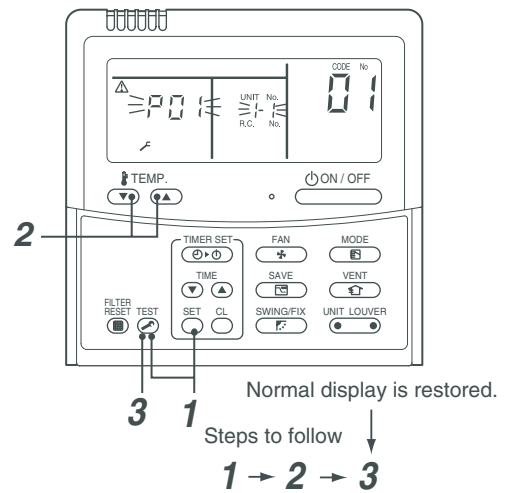
1 Invoke the **SERVICE CHECK** mode by pressing the **TEST** + **SET** buttons simultaneously and holding for at least **4 seconds**.

The letters "SERVICE CHECK" light up, and the check code "01" is displayed, indicating the trouble history. This is accompanied by the indoor unit No. to which the trouble history is related and a check code.

2 To check other trouble history items, press the **TEMP.** button to select another check code.

Check code "01" (latest) → Check code "04" (oldest)
Note: Trouble history contains four items.

3 When the **TEST** button is pushed, normal display is restored.



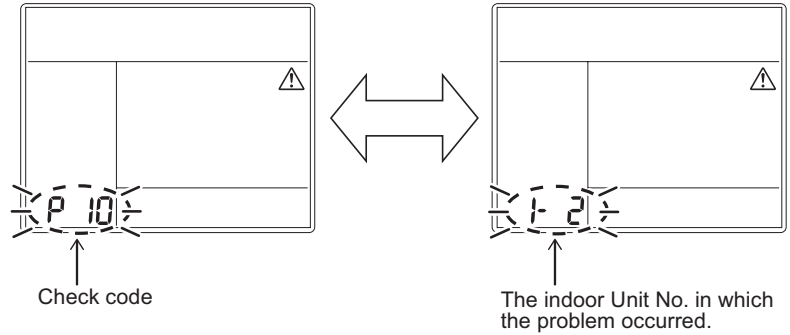
CAUTION

Do not push the **TEST** button as it would erase the whole trouble history of the indoor unit.

<RBC-ASCU11-C>

(1) Confirmation and check

If a problem occurs with the air conditioner, the OFF timer indicator alternately shows the check code and the indoor Unit No. in which the problem occurred.



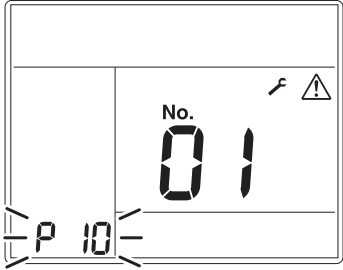
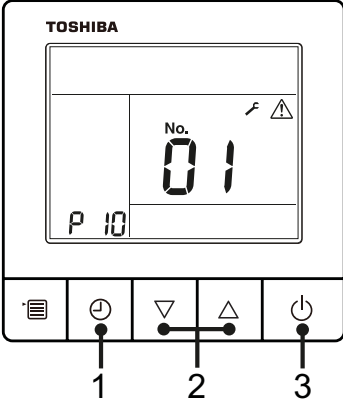
(2) Troubleshooting history and confirmation

You can check the troubleshooting history with the following procedure if a problem occurs with the air conditioner.

(The troubleshooting history records up to 4 incidents.)

You can check it during operation or when operation is stopped.

- If you check the troubleshooting history during OFF timer operation, the OFF timer will be canceled.

Procedure	Description of operation
<p>1</p>	<p>Push the OFF timer button for over 10 seconds and the indicators appear as an image indicating the troubleshooting history mode has been entered. If [Service check] is displayed, the mode enters in the troubleshooting history mode.</p> <ul style="list-style-type: none"> • [01: Order of troubleshooting history] appears in the temperature indicator. • The OFF timer indicator alternately shows the [check code] and the [indoor Unit No.] in which the problem occurred. 
<p>2</p>	<p>Each time the setting button is pushed, the recorded troubleshooting history is displayed in sequence. The troubleshooting history appears in order from [01] (newest) to [04] (oldest).</p> <p>CAUTION</p> <p>In the troubleshooting history mode, DO NOT push the Menu button for over 10 seconds, doing so deletes the entire troubleshooting history of the indoor unit.</p> 
<p>3</p>	<p>After you have finished checking, push the ON/OFF button to return to the regular mode.</p> <ul style="list-style-type: none"> • If the air conditioner is operating, it remains operated even after the ON/OFF button has been pushed. To stop its operation, push the ON/OFF button again.

How to read displayed information

<7-segment display symbols>



<Corresponding alphanumerical letters>

0 1 2 3 4 5 6 7 8 9 A b C d E F H J L P

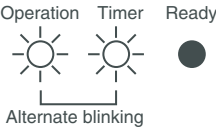
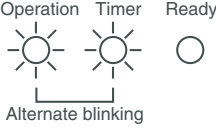
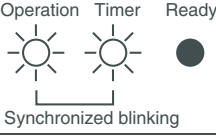
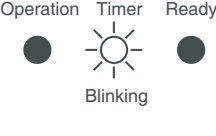
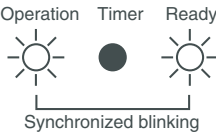
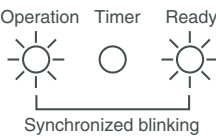
Using indoor unit indicators (receiving unit light block) (wireless type)

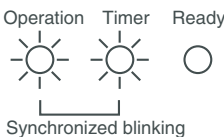
To identify the check code, check the 7-segment display on the header unit. To check for check codes not displayed on the 7-segment display, consult the “List of Check Codes (Indoor Unit)” in “11-2. Troubleshooting method”.

● : Goes off ○ : Lighting ☀ : Blinking (0.5 seconds)

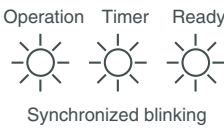
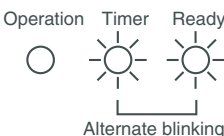
Light block	Check code	Cause of trouble			
Operation ● Timer ● Ready ● All lights out	–	Power turned off or trouble in wiring between receiving and indoor units			
Operation ☀ Timer ● Ready ● Blinking	E01	Trouble reception	Receiving unit	Trouble or poor contact in wiring between receiving unit and indoor units	
	E02	Trouble transmission			
	E03	Loss of communication			
		E08	Duplicated indoor unit No. (address)		Setting trouble
		E09	Duplicated master remote controller		
		E10	Communication trouble between indoor unit MCU		
		E11	Communication trouble between Application control kit and indoor unit P.C. board		
		E12	Automatic address starting trouble		
		E18	Trouble or poor contact in wiring between indoor units, indoor power turned off		
Operation ● Timer ● Ready ☀ Blinking		E04	Trouble or poor contact in wiring between indoor and outdoor units (loss of indoor-outdoor communication)		
		E06	Trouble reception in indoor-outdoor communication (dropping out of indoor unit)		
	E07	Trouble transmission in indoor-outdoor communication			
	E15	Indoor unit not found during automatic address setting			
	E16	Too many indoor units connected / overloading			
	E19	Trouble in number of outdoor header units			
	E20	Detection of refrigerant piping communication trouble during automatic address setting			
	E23	Trouble transmission in outdoor-outdoor communication			
	E25	Duplicated follower outdoor address			
	E26	Trouble reception in outdoor-outdoor communication, dropping out of outdoor unit			
	E28	Outdoor follower unit trouble			
	E31	P.C. board communication trouble			
Operation ● Timer ☀ Ready ☀ Alternate blinking	P01	Indoor AC fan trouble			
	P10	Indoor overflow trouble			
	P11	Outdoor heat exchanger freezing trouble			
	P12	Indoor DC fan trouble			
	P13	Outdoor liquid backflow detection trouble			
Operation ☀ Timer ● Ready ☀ Alternate blinking	P03	Outdoor discharge (TD1) temperature trouble			
	P04	Activation of outdoor high-pressure SW			
	P05	Open phase / power failure			
		Inverter DC voltage (Vdc) trouble MG-CTT trouble			
	P07	Outdoor heat sink overheating trouble - Poor cooling of electrical component (IGBT) of outdoor unit			
	P15	Gas leak detection - insufficient refrigerant charging			
	P17	Outdoor discharge (TD2) temperature trouble			
	P18	Outdoor discharge (TD3) temperature trouble			
	P19	Outdoor 4-way valve reversing trouble			
	P20	Activation of high-pressure protection			
	P22	Outdoor fan P.C. board trouble			
	P26	Outdoor IPM, Compressor short-circuit trouble			
	P29	Compressor position detection circuit trouble			
	P31	Shutdown of other indoor unit in group due to trouble (group follower unit trouble)			

MG-CTT: Magnet contactor

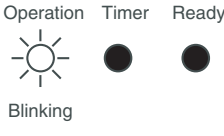
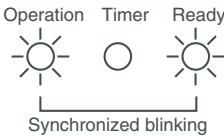
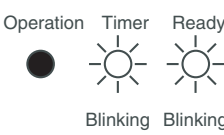
Light block	Check code	Cause of trouble		
Operation Timer Ready 	F01	Heat exchanger temperature sensor (TCJ) trouble	Indoor unit temperature sensor trouble	
	F02	Heat exchanger temperature sensor (TC2) trouble		
	F03	Heat exchanger temperature sensor (TC1) trouble		
	F10	Ambient temperature sensor (TA) trouble		
	F11	Discharge temperature sensor (TF) trouble		
Operation Timer Ready 	F04	Discharge temperature sensor (TD1) trouble	Outdoor unit temperature sensor trouble	
	F05	Discharge temperature sensor (TD2) trouble		
	F06	Heat exchanger temperature sensor (TE1, TE2) trouble		
	F07	Liquid temperature sensor (TL) trouble		
	F08	Outside air temperature sensor (TO) trouble		
	F09	TG1, TG2 or TG3 sensor trouble		
	F12	Suction temperature sensor (TS1) trouble		
	F13	Heat sink sensor (TH) trouble		
	F15	Wiring trouble in heat exchanger sensor (TE1) and liquid temperature sensor (TL) Outdoor unit temperature sensor wiring / installation trouble	Outdoor unit pressure sensor trouble	
	F16	Wiring trouble in outdoor high pressure sensor (Pd) and low pressure sensor (Ps) Outdoor pressure sensor wiring trouble		
	F22	Outdoor discharge temperature sensor (TD3) trouble		
	F23	Low pressure sensor (Ps) trouble		
	F24	High pressure sensor (Pd) trouble		
	F30	Occupancy sensor trouble		
F31	Indoor unit EEPROM trouble			
Operation Timer Ready 	F29	Failure in indoor EEPROM		
Operation Timer Ready 	H01	Compressor breakdown	Outdoor unit compressor related trouble	
	H02	Compressor lockup		
	H03	Current detection circuit trouble		
	H04	Comp. 1 case thermostat operation		
	H05	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD1)		
	H06	Abnormal drop in low-pressure sensor (Ps) reading	Protective shutdown of outdoor unit	
	H07	Abnormal drop in oil level		
	H08	Trouble in temperature sensor for oil level detection circuit (TK1, TK2, TK3, TK4 or TK5)		
	F14	Comp. 2 case thermostat operation		
	H15	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD2)		
	H16	Oil level detection circuit trouble - Trouble in outdoor unit TK1, TK2, TK3, TK4 or TK5 circuit		
	H25	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD3)		
	Operation Timer Ready 	L02	Model mismatch of indoor and outdoor unit	
L03		Duplicated indoor group header unit		
L05		Duplicated priority indoor unit (as displayed on priority indoor unit)		
L06		Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)		
L07		Connection of group control cable to a single indoor unit		
L08		Indoor group address not set		
L09		Indoor capacity not set		
Operation Timer Ready 		L04	Duplicated outdoor refrigerant line address	
		L10	Outdoor capacity not set	
	L17	Outdoor model incompatibility trouble		
	L18	Flow selector units trouble		
	L20	Duplicated central control address		
	L28	Too many outdoor units connected		
	L29	Trouble in number of P.C. boards		
L30	Indoor external interlock trouble (External abnormal input)			

Light block	Check code	Cause of trouble
Operation Timer Ready 	F30	Occupancy sensor trouble
	F31	Outdoor EEPROM trouble

Other (indications not involving check code)

Light block	Check code	Cause of trouble
Operation Timer Ready 	–	Test run in progress
Operation Timer Ready 	–	Setting incompatibility (automatic cooling / heating setting for model incapable of it and heating setting for cooling-only model)


Flow selector unit (FS unit) Relation

Light block	Check code	Cause of trouble
Operation Timer Ready 	E17	Communication trouble between indoor unit(s) and FS unit(s)
Operation Timer Ready 	L12	FS unit(s) system trouble
	L24	FS unit(s) setting trouble
Operation Timer Ready 	J03	Duplicated FS units
	J10	FS unit overflow trouble
	J11	FS unit temperature sensor(TCS) trouble

11-4. Check Codes Displayed on Remote Controller and SMMS series Outdoor Unit (7-Segment Display on I/F Board) and Locations to Be Checked

For other types of outdoor units, refer to their own service manuals.

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display	Sub-code					
Check code	Sub-code						
E01	—	—	Remote controller	Indoor-remote controller communication trouble (detected at remote controller end)	Stop of corresponding unit	Communication between indoor P.C. board and remote controller is disrupted.	<ul style="list-style-type: none"> • Check remote controller inter-unit tie cable (A/B). • Check for broken wire or connector bad contact. • Check indoor power supply. • Check for failure in indoor P.C. board. • Check remote controller address settings (when two remote controllers are in use). • Check remote controller P.C. board.
E02	—	—	Remote controller	Remote controller transmission trouble	Stop of corresponding unit	Signal cannot be transmitted from remote controller to indoor unit.	<ul style="list-style-type: none"> • Check internal transmission circuit of remote controller. --- Replace remote controller as necessary.
E04	—	—	Indoor unit	Indoor-outdoor communication circuit trouble (detected at indoor end)	Stop of corresponding unit	Indoor unit is not receiving signal from outdoor unit.	<ul style="list-style-type: none"> • Check order in which power was turned on for indoor and outdoor units. • Check indoor address setting. • Check indoor-outdoor tie cable. • Check outdoor terminator resistor setting (SW100, Bit 2).
E04	E06	No. of indoor units from which signal is received normally	I/F	Dropping out of indoor unit	All stop	<p>Condition 1 All indoor unit initially communicating normally fails to return signal for specified length of time.</p> <p>Condition 2 Outdoor I / F board SW103, Bit4 : OFF (Factory default)</p>	<ul style="list-style-type: none"> • Check power supply to indoor unit. (Is power turned on?) • Check connection of indoor-outdoor communication cable. • Check connection of communication connectors on indoor P.C. board. • Check connection of communication connectors on outdoor P.C. board. • Check for failure in indoor P.C. board. • Check for failure in outdoor P.C. board (I/F).
	—	—	Indoor unit	Indoor-outdoor communication circuit trouble	Only specified indoor units stop	<p>Condition 1 Indoor unit initially communicating normally fails to return signal for specified length of time.</p>	<ul style="list-style-type: none"> • Check power supply to indoor unit. (Is power turned on?) • Check indoor-outdoor power-on sequence. • Check indoor address setting • Check wiring of Indoor-outdoor communication wires • Check outdoor terminator resistor setting (SW100, Bit 2).

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
E04/E06	E06	No. of indoor units from which signal is received normally	Indoor unit	Indoor-outdoor communication circuit trouble (E04)	All stop	<p>Condition 1 One indoor unit or more initially communicating normally fails to return signal for specified length of time.</p> <p>Condition 2 Outdoor I / F board SW103, Bit4 : ON (To switch the check code detection condition.)</p> 	<ul style="list-style-type: none"> • Check power supply to indoor unit. (Is power turned on?) • Check indoor-outdoor power-on sequence. • Check indoor address setting • Check wiring of Indoor-outdoor communication wires • Check outdoor terminator resistor setting (SW100, Bit 2).
			I/F	Dropping out of indoor unit (E06)			
—	E07	—	I/F	Indoor-outdoor communication circuit trouble (detected at outdoor end)	All stop	Signal cannot be transmitted from outdoor to indoor units for 30 seconds continuously.	<ul style="list-style-type: none"> • Check outdoor terminator resistor setting (SW100, Bit 2). • Check connection of indoor-outdoor communication circuit.
E08	E08	Duplicated indoor address	Indoor unit I/F	Duplicated indoor address	All stop	More than one indoor unit are assigned same address.	<ul style="list-style-type: none"> • Check indoor addresses. • Check for any change made to remote controller connection (group/ individual) since indoor address setting.
E09	—	—	Remote controller	Duplicated master remote controller	Stop of corresponding unit	In two remote controller configuration (including wireless), both controllers are set up as master. (Header indoor unit is shut down with alarm, while follower indoor units continue operating.)	<ul style="list-style-type: none"> • Check remote controller settings. • Check remote controller P.C. boards.
E10	—	—	Indoor unit	Indoor inter-MCU communication trouble	Stop of corresponding unit	Communication cannot be established/maintained upon turning on of power or during communication.	<ul style="list-style-type: none"> • Check for failure in indoor P.C. board
E12	E12	01: Indoor-outdoor communication 02: Outdoor-outdoor communication	I/F	Automatic address starting trouble	All stop	<ul style="list-style-type: none"> • Indoor automatic address setting is started while automatic address setting for equipment in other refrigerant line is in progress. • Outdoor automatic address setting is started while automatic address setting for indoor units is in progress. 	<ul style="list-style-type: none"> • Perform automatic address setting again after disconnecting communication cable to that refrigerant line.
E15	E15	—	I/F	Indoor unit not found during automatic address setting	All stop	Indoor unit cannot be detected after indoor automatic address setting is started.	<ul style="list-style-type: none"> • Check connection of indoor-outdoor communication line. • Check for trouble in indoor power supply system. • Check for noise from other devices. • Check for power failure. • Check for failure in indoor P.C. board.

Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)							
Main remote controller	Outdoor 7-segment display												
Check code	Sub-code												
E16	E16	00: Capacity over 01-: No. of units connected	I/F	Too many indoor units connected	All stop	<ul style="list-style-type: none"> • Combined capacity of indoor units is too large. Exceeds the total capacity of outdoor units X_α% <table border="1"> <thead> <tr> <th></th> <th>α %</th> </tr> </thead> <tbody> <tr> <td>SMMS-u series</td> <td>115</td> </tr> <tr> <td>Other than SMMS-u series</td> <td>105</td> </tr> </tbody> </table> <p>Note: If this code comes up after backup setting for outdoor unit failure is performed, perform "No capacity over detected" setting. <"No capacity over detected" setting method> Turn on SW103 / Bit 3 on I/F P.C. board of outdoor header unit. For Cooling Only model, this check code is not displayed even if it exceeds the combined capacity of indoor units.</p> <ul style="list-style-type: none"> • More than 128 indoor units are connected. 		α %	SMMS-u series	115	Other than SMMS-u series	105	<ul style="list-style-type: none"> • Check capacities of indoor units connected. • Check combined HP capacities of indoor units. • Check HP capacity settings of outdoor units. • Check No. of indoor units connected. • Check for failure in outdoor P.C. board (I/F).
	α %												
SMMS-u series	115												
Other than SMMS-u series	105												
E18	—	—	Indoor unit	Trouble in communication between indoor header and follower units	Stop of corresponding unit	<p>Periodic communication between indoor header and follower units cannot be maintained.</p>	<ul style="list-style-type: none"> • Check remote controller wiring. • Check indoor power supply wiring. • Check P.C. boards of indoor units. 						
E19	E19	00: No header unit 02: Two or more header units	I/F	Trouble in number of outdoor header units	All stop	<ul style="list-style-type: none"> • There are more than one outdoor header units in one line. • There is no outdoor header unit in one line. 	<ul style="list-style-type: none"> • Outdoor header unit is outdoor unit to which indoor-outdoor tie cable (U1,U2) is connected. • Check connection of indoor-outdoor communication line. • Check for failure in outdoor P.C. board (I/F). 						
E20	E20	01: Connection of outdoor unit from other line 02: Connection of indoor unit from other line	I/F	Connection to other line found during automatic address setting	All stop	<p>Equipment from other line is found to have been connected when indoor automatic address setting is in progress.</p>	<p>Disconnect inter-line tie cable in accordance with automatic address setting method explained in "Address setting" section.</p>						
E23	E23	—	I/F	Outdooroutdoor communication transmission trouble	All stop	<p>Signal cannot be transmitted to other outdoor units for at least 30 seconds continuously.</p>	<ul style="list-style-type: none"> • Check power supply to outdoor units. (Is power turned on?) • Check connection of tie cables between outdoor units for bad contact or broken wire. • Check communication connectors on outdoor P.C. boards. • Check for failure in outdoor P.C. board (I/F). • Check termination resistance setting for communication between outdoor units. 						
E25	E25	—	I/F	Duplicated follower outdoor address	All stop	<p>There is duplication in outdoor addresses set manually.</p>	<p>Note: Do not set outdoor addresses manually.</p>						
E26	E26	Address of outdoor unit from which signal is not received normally	I/F	Signal lack of outdoor unit	All stop	<p>Outdoor unit initially communicating normally fails to return signal for specified length of time.</p>	<ul style="list-style-type: none"> • Backup setting is being used for outdoor units. • Check power supply to outdoor unit. (Is power turned on?) • Check connection of tie cables between outdoor units for bad contact or broken wire. • Check communication connectors on outdoor P.C. boards. • Check for failure in outdoor P.C. board (I/F). 						

Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)																																																																								
Main remote controller	Outdoor 7-segment display																																																																														
	Check code	Sub-code																																																																													
E28	E28	Detected outdoor unit No.	I/F	Outdoor follower unit trouble	All stop	Outdoor header unit receives trouble code from outdoor follower unit.	<ul style="list-style-type: none"> • Check check code displayed on outdoor follower unit. <Convenient functions> If SW04 is pressed and held for at least 1 second while [E28] is displayed on the 7-segment display of outdoor header unit, the fan of the outdoor unit that has been shut down due to a trouble comes on. If SW04 and SW05 are pressed simultaneously, the fans of normal outdoor units come on. To stop the fan or fans, press SW05 on its own.																																																																								
E31	E31	<table border="1"> <thead> <tr> <th colspan="4">P.C. board</th> </tr> <tr> <th colspan="2">Compressor</th> <th colspan="2">Fan Motor</th> </tr> <tr> <th>1</th> <th>2</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr><td>01</td><td>○</td><td></td><td></td></tr> <tr><td>02</td><td></td><td>○</td><td></td></tr> <tr><td>03</td><td>○</td><td>○</td><td></td></tr> <tr><td>08</td><td></td><td></td><td>○</td></tr> <tr><td>09</td><td>○</td><td></td><td>○</td></tr> <tr><td>0A</td><td></td><td>○</td><td>○</td></tr> <tr><td>0B</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>10</td><td></td><td></td><td>○</td></tr> <tr><td>11</td><td>○</td><td></td><td>○</td></tr> <tr><td>12</td><td></td><td>○</td><td>○</td></tr> <tr><td>13</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>18</td><td></td><td></td><td>○</td></tr> <tr><td>19</td><td>○</td><td></td><td>○</td></tr> <tr><td>1A</td><td></td><td>○</td><td>○</td></tr> <tr><td>1B</td><td>○</td><td>○</td><td>○</td></tr> </tbody> </table> Circle (O): Trouble P.C. board	P.C. board				Compressor		Fan Motor		1	2	1	2	01	○			02		○		03	○	○		08			○	09	○		○	0A		○	○	0B	○	○	○	10			○	11	○		○	12		○	○	13	○	○	○	18			○	19	○		○	1A		○	○	1B	○	○	○	I/F	P.C. board communication trouble	All stop	Communication is disrupted between P.C. board in inverter box.	<ul style="list-style-type: none"> • Check wiring and connectors involved in communication between P.C. board I/F P.C. board for bad contact or broken wire. • Check for failure in outdoor P.C. board (I/F, comp. P.C. board or Fan P.C. board). • Check for external noise.
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		80		Communication trouble between MCU and Sub MCU	All stop	Communication between MCU and Sub MCU stopped.	<ul style="list-style-type: none"> • Operation of power supply reset (OFF for 60 seconds or more) • Outdoor I/F PC board trouble check 																																																																								
F01	—	—	Indoor unit	Indoor TCJ sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TCJ sensor connector and wiring. • Check resistance characteristics of TCJ sensor. • Check for failure in indoor P.C. board. 																																																																								
F02	—	—	Indoor unit	Indoor TC2 sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TC2 sensor connector and wiring. • Check resistance characteristics of TC2 sensor. • Check for failure in indoor P.C. board. 																																																																								
F03	—	—	Indoor unit	Indoor TC1 sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TC1 sensor connector and wiring. • Check resistance characteristics of TC1 sensor. • Check for failure in indoor P.C. board. 																																																																								
F04	F04	—	I/F	TD1 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TD1 sensor connector. • Check resistance characteristics of TD1 sensor. • Check for failure in outdoor P.C. board (I/F). 																																																																								

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
F05	F05	—	I/F	TD2 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TD2 sensor connector. • Check resistance characteristics of TD2 sensor. • Check for failure in outdoor P.C. board (I/F).
F06	F06	01: TE1 sensor trouble 02: TE2 sensor trouble 03: TE3 sensor trouble	I/F	TE1/TE2/TE3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TE1/TE2/TE3 sensor connectors. • Check resistance characteristics of TE1/TE2/TE3 sensors. • Check for failure in outdoor P.C. board (I/F).
F07	F07	01: TL1 sensor trouble 02: TL2 sensor trouble 03: TL3 sensor trouble	I/F	TL1/TL2/TL3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TL1/TL2/TL3 sensor connector. • Check resistance characteristics of TL1/TL2/TL3 sensor. • Check for failure in outdoor P.C. board (I/F).
F08	F08	—	I/F	TO sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TO sensor connector. • Check resistance characteristics of TO sensor. • Check for failure in outdoor P.C. board (I/F).
F09	F09	01: TG1 sensor trouble 02: TG2 sensor trouble 03: TG3 sensor trouble	I/F	TG1/TG2/TG3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TG1/TG2/TG3 sensor connectors. • Check resistance characteristics of TG1/TG2/TG3 sensors. • Check for failure in outdoor P.C. board (I/F).
F10	—	—	Indoor unit	Indoor TA sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TA sensor connector and wiring. • Check resistance characteristics of TA sensor. • Check for failure in indoor P.C. board.
F11	—	—	Indoor unit	Indoor TF sensor trouble	Stop of corresponding unit	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TF sensor connector and wiring. • Check resistance characteristics of TF sensor. • Check for failure in indoor P.C. board.
F12	F12	01: TS1 sensor trouble 03: TS3 sensor trouble	I/F	TS1/TS3 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TS1/TS3 sensor connector • Check resistance characteristics of TS1/TS3 sensor. • Check for failure in indoor P.C. board.
F13	F13	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	TH sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Failure in IPM built-in temperature sensor → Replace Compressor P.C. board.
F15	F15	—	I/F	Outdoor temperature sensor wiring trouble (TE1, TL1)	All stop	During compressor operation in HEAT mode, TL1 continuously provides temperature reading higher than indicated by TL1 by at least specified margin for 3 minutes or more.	<ul style="list-style-type: none"> • Check installation of TE1 and TL1 sensors. • Check resistance characteristics of TE1 and TL1 sensors. • Check for outdoor P.C. board (I/F) trouble

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
F16	F16	—	I/F	Outdoor pressure sensor wiring trouble (Pd, Ps)	All stop	Readings of high-pressure Pd sensor and low-pressure Ps sensor are switched. Output voltages of both sensors are zero.	<ul style="list-style-type: none"> • Check connection of high-pressure Pd sensor connector. • Check connection of low-pressure Ps sensor connector. • Check for failure in pressure sensors Pd and Ps. • Check for trouble in outdoor P.C. board (I/F). • Check for deficiency in compressive output of compressor.
F23	F23	—	I/F	Ps sensor trouble	All stop	Output voltage of Ps sensor is zero.	<ul style="list-style-type: none"> • Check for connection trouble involving Ps sensor and Pd sensor connectors. • Check connection of Ps sensor connector. • Check for failure in Ps sensor. • Check for deficiency in compressive output of compressor. • Check for failure in 4-way valve. • Check for failure in outdoor P.C. board (I/F). • Check for failure in SV4 circuit.
F24	F24	—	I/F	Pd sensor trouble	All stop	Output voltage of Pd sensor is zero (sensor open-circuited). Pd > 4.15MPa despite compressor having been turned off.	<ul style="list-style-type: none"> • Check connection of Pd sensor connector. • Check for failure in Pd sensor. • Check for failure in outdoor P.C. board (I/F).
F29	—	—	Indoor unit	Other indoor trouble	Stop of corresponding unit	Indoor P.C. board does not operate normally.	<ul style="list-style-type: none"> • Check for failure in indoor P.C. board (faulty EEPROM)
F31	F31	—	I/F	Outdoor EEPROM trouble	All stop *1	Outdoor P.C. board (I/F) does not operate normally.	<ul style="list-style-type: none"> • Check power supply voltage. • Check power supply noise. • Check for failure in outdoor P.C. board (I/F).
H01	H01	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Compressor breakdown	All stop	Inverter current detection circuit detects overcurrent and shuts system down.	<ul style="list-style-type: none"> • Check power supply voltage. (AC380V ± 10%). • Check for failure in compressor. • Check for possible cause of abnormal overloading. • Check for failure in outdoor P.C. board (Compressor).
H02	H02	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Compressor trouble (lockup) MG-CTT trouble	All stop	Overcurrent is detected several seconds after startup of inverter compressor.	<ul style="list-style-type: none"> • Check for failure in compressor. • Check power supply voltage. (AC380V ± 10%). • Check compressor system wiring, particularly for open phase. • Check connection of connectors/terminals on Compressor P.C. board. • Check conductivity of case heater. (Check for refrigerant problem inside compressor.) • Check for failure in outdoor P.C. board (Compressor). • Check outdoor MG-CTT.
H03	H03	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Current detection circuit trouble	All stop	Current flow of at least specified magnitude is detected despite inverter compressor having been shut turned off.	<ul style="list-style-type: none"> • Check current detection circuit wiring. • Check failure in outdoor P.C. board (Compressor).

*1 Total shutdown in case of header unit
Continued operation in case of follower unit

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
H05	H05	—	I/F	TD1 sensor miswiring (incomplete insertion)	All stop	Discharge temperature of compressor 1 (TD1) does not increase despite compressor being in operation.	<ul style="list-style-type: none"> • Check installation of TD1 sensor. • Check connection of TD1 sensor connector and wiring. • Check resistance characteristics of TD1 sensor. • Check for failure in outdoor P.C. board (I/F).
H06	H06	—	I/F	Activation of low-pressure protection	All stop	Low-pressure Ps sensor detects operating pressure lower than 0.02MPa.	<ul style="list-style-type: none"> • Check service valves to confirm full opening (both gas and liquid sides). • Check outdoor PMVs for clogging (PMV1, 2, 3). • Check for failure in SV4 circuits. • Check for failure in low-pressure Ps sensor. • Check indoor filter for clogging. • Check valve opening status of indoor PMV. • Check refrigerant piping for clogging. • Check operation of outdoor fan (during heating). • Check for insufficiency in refrigerant quantity.
H07	H07	—	I/F	Low oil level protection	All stop	Operating compressor detects continuous state of low oil level for about 2 hours.	<p><All outdoor units in corresponding line to be checked></p> <ul style="list-style-type: none"> • Check connection and installation of TK1 and TK2 sensors. • Check resistance characteristics of TK1 and TK2 sensors. • Check for gas or oil leak in same line. • Check for refrigerant problem inside compressor casing. • Check SV3D, SV3F valves for failure. • Check oil return circuit of oil separator for clogging. • Check oil equalizing circuit for clogging.
H08	H08	01: TK1 sensor trouble 02: TK2 sensor trouble	I/F	Trouble in temperature sensor for oil level detection	All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TK1 sensor connector. • Check resistance characteristics of TK1 sensor. • Check for failure in outdoor P.C. board (I/F).
					All stop	Sensor resistance is infinity or zero (open/short circuit).	<ul style="list-style-type: none"> • Check connection of TK2 sensor connector. • Check resistance characteristics of TK2 sensor. • Check for failure in outdoor P.C. board (I/F).
H15	H15	—	I/F	TD2 sensor miswiring (incomplete insertion)	All stop	Discharge temperature of (TD2) does not increase despite compressor 2 being in operation.	<ul style="list-style-type: none"> • Check installation of TD2 sensor. • Check connection of TD2 sensor connector and wiring. • Check resistance characteristics of TD2 sensor. • Check for failure in outdoor P.C. board (I/F).

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
H16	H16	01: TK1 oil circuit trouble 02: TK2 oil circuit trouble	I/F	Oil level detection circuit trouble	All stop	No temperature change is detected by TK1 despite compressor 1 having been started.	<ul style="list-style-type: none"> • Check for disconnection of TK1 sensor. • Check resistance characteristics of TK1 sensor. • Check for connection trouble involving TK1 and TK2 sensors • Check for clogging in oil equalizing circuit capillary. • Check for refrigerant entrapment inside compressor.
		No temperature change is detected by TK2 despite compressor 2 having been started.				<ul style="list-style-type: none"> • Check for disconnection of TK2 sensor. • Check resistance characteristics of TK2 sensor. • Check for connection trouble involving TK1 and TK2 sensors • Check SV3F valve malfunction. • Check for clogging in oil equalizing circuit capillary. • Check for refrigerant entrapment inside compressor. 	
H17	H17	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Compressor trouble (out of sync)	All stop	Judged that the synchronization could not be taken.	<ul style="list-style-type: none"> • Check power supply voltage. (AC380V ± 10%). • Check for failure in compressor. • Check for possible cause of abnormal overloading. • Check for failure in outdoor P.C. board (compressor).
L02	L02	—	Indoor unit	Outdoor units model disagreement trouble	Stop of corresponding unit	In case of different outdoor unit (Not corresponded to Air to Air Heat Exchanger type)	<ul style="list-style-type: none"> • Check outdoor unit model. (Check whether the outdoor unit corresponds to Air to Air Heat Exchanger type or not.)
L03	—	—	Indoor unit	Duplicated indoor header unit	Stop of corresponding unit	There are more than one header units in group.	<ul style="list-style-type: none"> • Check indoor addresses. • Check for any change made to remote controller connection (group/individual) since indoor address setting.
L04	L04	—	I/F	Duplicated outdoor line address	All stop	There is duplication in line address setting for outdoor units belonging to different refrigerant piping systems.	<ul style="list-style-type: none"> • Check line addresses.
L05	—	—	I/F	Duplicated priority indoor unit (as displayed on priority indoor unit)	All stop	More than one indoor units have been set up as priority indoor unit.	<ul style="list-style-type: none"> • Check display on priority indoor unit.
L06	L06	No. of priority indoor units	I/F	Duplicated priority indoor unit (as displayed on indoor unit other than priority indoor unit)	All stop	More than one indoor units have been set up as priority indoor unit.	<ul style="list-style-type: none"> • Check displays on priority indoor unit and outdoor unit.
L07	—	—	Indoor unit	Connection of group control cable to standalone indoor unit	Stop of corresponding unit	There is at least one standalone indoor unit to which group control cable is connected.	<ul style="list-style-type: none"> • Check indoor addresses.
L08	L08	—	Indoor unit	Indoor group / addresses not set	Stop of corresponding unit	Address setting has not been performed for indoor units.	<ul style="list-style-type: none"> • Check indoor addresses. <p>Note: This code is displayed when power is turned on for the first time after installation.</p>
L09	—	—	Indoor unit	Indoor capacity not set	Stop of corresponding unit	Capacity setting has not been performed for indoor unit.	Set indoor capacity. (DN = 11)

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)																																																																								
	Outdoor 7-segment display																																																																														
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L10	L10	—	I/F	Outdoor capacity not set	All stop	Initial setting of I/F P.C. board has not been implemented.	• Check model setting of P.C. board for servicing outdoor I/F P.C. board.																																																																								
L20	—	—	Network adaptor Indoor unit	Duplicated central control address	All stop	There is duplication in central control address setting.	• Check central control addresses.																																																																								
L23	—	—	I/F	SW setting mistake	All stop	Outdoor P.C. board (I/F) does not operate normally.	• Check switch setting of outdoor P.C. board (I/F).																																																																								
L28	L28	—	I/F	Too many outdoor units connected	All stop	There are more than 5 outdoor units.	• Check No. of outdoor units connected (Only up to 5 units per system allowed). • Check communication lines between outdoor units. • Check for failure in outdoor P.C. board (I/F).																																																																								
L29	L29	<table border="1"> <thead> <tr> <th colspan="4">P.C. board</th> </tr> <tr> <th colspan="2">Compressor</th> <th colspan="2">Fan Motor</th> </tr> <tr> <th>1</th> <th>2</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr><td>01</td><td>○</td><td></td><td></td></tr> <tr><td>02</td><td></td><td>○</td><td></td></tr> <tr><td>03</td><td>○</td><td>○</td><td></td></tr> <tr><td>08</td><td></td><td></td><td>○</td></tr> <tr><td>09</td><td>○</td><td></td><td>○</td></tr> <tr><td>0A</td><td></td><td>○</td><td>○</td></tr> <tr><td>0B</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>10</td><td></td><td></td><td>○</td></tr> <tr><td>11</td><td>○</td><td></td><td>○</td></tr> <tr><td>12</td><td></td><td>○</td><td>○</td></tr> <tr><td>13</td><td>○</td><td>○</td><td>○</td></tr> <tr><td>18</td><td></td><td></td><td>○</td></tr> <tr><td>19</td><td>○</td><td></td><td>○</td></tr> <tr><td>1A</td><td></td><td>○</td><td>○</td></tr> <tr><td>1B</td><td>○</td><td>○</td><td>○</td></tr> </tbody> </table> <p>Circle (○): Trouble P.C. board</p>	P.C. board				Compressor		Fan Motor		1	2	1	2	01	○			02		○		03	○	○		08			○	09	○		○	0A		○	○	0B	○	○	○	10			○	11	○		○	12		○	○	13	○	○	○	18			○	19	○		○	1A		○	○	1B	○	○	○	I/F	Trouble in No. of P.C. board	All stop	Insufficient number of P.C. board are detected when power is turned on.	• Check model setting of P.C. board for servicing outdoor I/F P.C. board. • Check connection of UART communication connector. • Check compressor P.C. board, fan P.C. board, and I/F P.C. board for failure.
P.C. board																																																																															
Compressor		Fan Motor																																																																													
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L30	L30	Detected indoor address	Indoor unit	Indoor external interlock (External abnormal input)	Stop of corresponding unit	• Indoor unit has been shut down due to external abnormal input signal.	When external device is connected: 1) Check for trouble in external device. 2) Check for trouble in indoor P.C. board. When external device is not connected: 1) Check for trouble in indoor P.C. board.																																																																								
—	L31	—	I/F	Extended IC trouble	Continued operation	There is part failure in P.C. board (I/F).	Check outdoor P.C. board (I/F).																																																																								
P01	—	—	Indoor unit	Indoor fan motor trouble	Stop of corresponding unit		• Check the lock of fan motor (AC fan). • Check wiring.																																																																								
P03	P03	—	I/F	Discharge temperature TD1 trouble	All stop	Discharge temperature (TD1) exceeds 115 °C.	• Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check outdoor PMVs (PMV1, 2, 3, 4) for clogging. • Check resistance characteristics of TD1 sensor. • Check for insufficiency in refrigerant quantity. • Check for failure in 4-way valve. • Check for leakage of SV4 circuit. • Check SV4 circuit (wiring or installation trouble in SV41 or SV42).																																																																								

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
P04	P04	1*: Compressor 1 side 2*: Compressor 2 side	I/F	Activation of high-pressure SW	All stop	High-pressure SW is activated.	<ul style="list-style-type: none"> • Check connection of high-pressure SW connector. • Check for failure in Pd pressure sensor. • Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check for failure in outdoor fan. • Check for failure in outdoor fan motor. • Check outdoor PMVs (PMV1, 2, 3) for clogging. • Check indoor/outdoor heat exchangers for clogging. • Check for short-circuiting of outdoor suction/discharge air flows. • Check for failure in outdoor P.C. board (I/F). • Check for trouble in indoor fan system (possible cause of air flow reduction). • Check opening status of indoor PMV. • Check indoor-outdoor communication line for wiring trouble. • Check for faulty operation of check valve in discharge pipe convergent section. • Check gas balancing SV4 valve circuit. • Check for refrigerant overcharging.
P05	P05	00: Power detection trouble 01: Open phase 02: Power supply miswiring	I/F	Power detection trouble / Open phase detection / Power supply miswiring	All stop	<ul style="list-style-type: none"> • Open phase is detected when power is turned on. • Inverter DC voltage is too high (overvoltage) or too low (undervoltage). 	<ul style="list-style-type: none"> • Check for failure in outdoor P.C. board (I/F). • Check wiring of outdoor power supply. • Check power supply voltage.
		1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Compressor Vdc trouble			
P07	P07	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Heat sink overheating trouble	All stop	Temperature sensor built into IPM (TH) is overheated.	<ul style="list-style-type: none"> • Check outdoor fan system trouble. • Check IPM and heat sink for thermal performance for faulty installation. (e.g. mounting screws and thermal conductivity) • Check for failure in Compressor P.C. board. (faulty IPM built-in temperature sensor (TH))
		01: Compressor 1 heat sink trouble 02: Compressor 2 heat sink trouble 04: Heat sink dew condensation	I/F	Heat sink overheating trouble Heat sink dew condensation trouble			

Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
P10	P10	Detected indoor address	Indoor unit	Indoor overflow trouble	All stop	<ul style="list-style-type: none"> • Float switch operates. • Float switch circuit is open-circuited or disconnected at connector. 	<ul style="list-style-type: none"> • Check float switch connector. • Check operation of drain pump. • Check drain pump circuit. • Check drain pipe for clogging. • Check for failure in indoor P.C. board.
P11	—	—	I/F	Outdoor heat exchanger freeze trouble	All stop	<ul style="list-style-type: none"> • Outdoor heat exchanger remaining frost detection has occurred eight times or more due to abnormal frost formation in heating operation. 	<ul style="list-style-type: none"> • Check shortage of refrigerant. • Check connection of TE1, TE2 and TE3 sensors. • Check resistance characteristics of TE1, TE2, and TE3 sensors. • Check disconnection of TS1 sensor. • Check resistance characteristics of TS1 sensor. • Check outdoor I/F P.C. board malfunction. • Check operation of 4 way valve. • Check operation of outdoor PMV (1, 2, 3). • Check short circuit from outlet air to inlet air.
P12	—	—	Indoor unit	Indoor fan motor trouble	Stop of corresponding unit	<ul style="list-style-type: none"> • Motor speed measurements continuously deviate from target value. • Overcurrent protection is activated. 	<ul style="list-style-type: none"> • Check connection of fan connector and wiring. • Check for failure in fan motor. • Check for failure in indoor P.C. board. • Check impact of outside air treatment (OA).
P13	P13	—	I/F	Outdoor liquid backflow detection trouble	All stop	<p><During cooling operation> When system is in cooling operation, high pressure is detected in the unit that has been turned off.</p> <p><During heating operation> When system is in heating operation, low pressure is detected to be high in unit that has been turned off.</p>	<ul style="list-style-type: none"> • Check full-close operation of outdoor PMV (1, 2, 3, 4). • Check for failure in Pd or Ps sensor. • Check failure in outdoor P.C. board (I/F). • Check capillary of oil separator oil return circuit for clogging. • Check for leakage of check valve in discharge pipe
P15	P15	01: TS condition	I/F	Gas leak detection (TS1 condition)	All stop	Protective shutdown due to sustained suction temperature at or above judgment criterion for at least 10 minutes is repeated four times or more. <TS trouble judgment criterion> In cooling operation: 60 °C In heating operation: 40 °C	<ul style="list-style-type: none"> • Check for insufficiency in refrigerant quantity. • Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check PMVs (PMV1, 2, 3, 4) for clogging. • Check resistance characteristics of TS1 sensor. • Check for failure in 4-way valve. • Check SV4 circuit for leakage
		02: TD condition	I/F	Gas leak detection (TD condition)	All stop	Protective shutdown due to sustained discharge temperature (TD1 or TD2) at or above 108 °C for at least 10 minutes is repeated four times or more.	<ul style="list-style-type: none"> • Check for insufficiency in refrigerant quantity. • Check PMVs (PMV 1, 2, 3, 4) for clogging. • Check resistance characteristics of TD1 and TD2 sensors. • Check indoor filter for clogging. • Check piping for clogging. • Check SV4 circuit (for leakage or coil installation trouble).

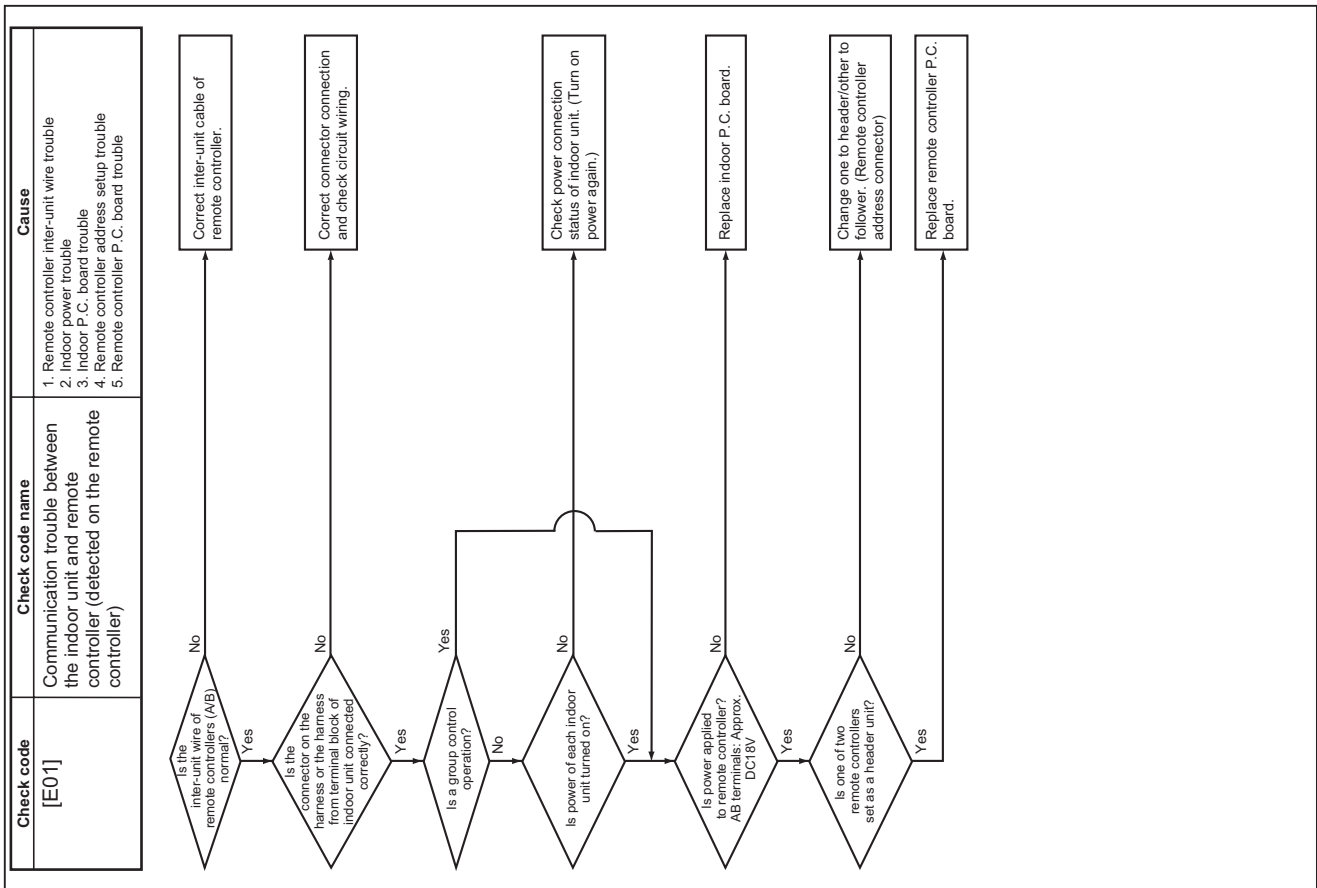
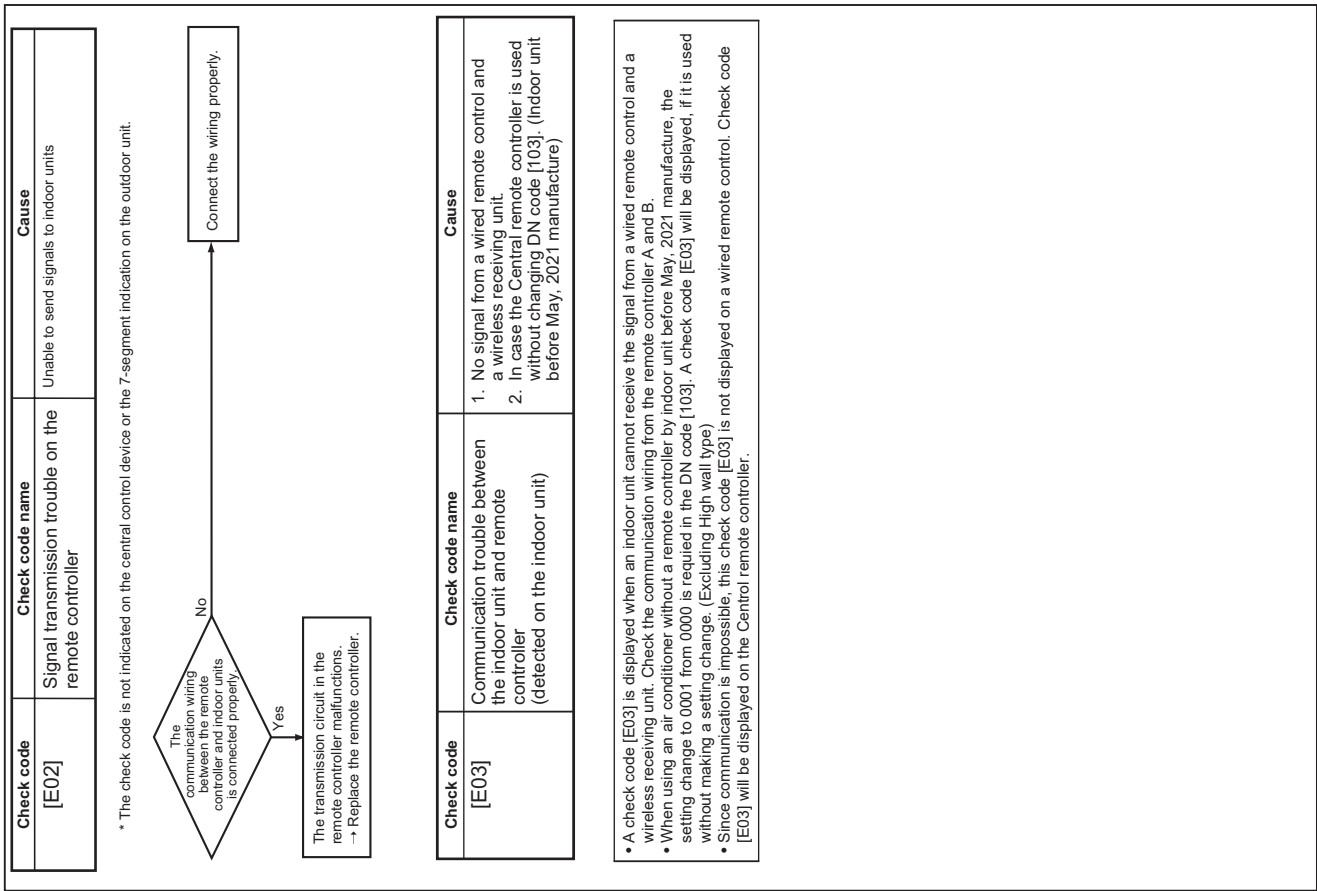
Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display						
	Check code	Sub-code					
P17	P17	—	I/F	Discharge temperature TD2 trouble	All stop	Discharge temperature (TD2) exceeds 115 °C.	<ul style="list-style-type: none"> • Check outdoor service valves (gas side, liquid side) to confirm full opening. • Check outdoor PMVs (PMV1, 2, 3, 4) for clogging. • Check resistance characteristics of TD2 sensor. • Check for failure in 4-way valve. • Check SV4 circuit for leakage. • Check SV4 circuit (for wiring or installation trouble involving SV41 and SV42).
P19	P19	Detected outdoor unit No.	I/F	4-way valve reversing trouble	All stop	Abnormal refrigerating cycle data is collected during heating operation.	<ul style="list-style-type: none"> • Check for failure in main body of 4-way valve. • Check for coil failure in 4-way valve and loose connection of its connector. • Check resistance characteristics of TS1 and TE1, TE2 sensors. • Check output voltage characteristics of Pd and Ps pressure sensors. • Check for wiring trouble involving TE1 and TL1 sensors.
P20	P20	—	I/F	Activation of high-pressure protection	All stop	<p><During cooling operation> Pd sensor detects pressure equal to or greater than 3.85 MPa.</p> <p><During heating operation> Pd sensor detects pressure equal to or greater than 3.6 MPa.</p>	<ul style="list-style-type: none"> • Check for failure in Pd pressure sensor. • Check service valves (gas side, liquid side) to confirm full opening. • Check for failure in outdoor fan. • Check for failure in outdoor fan motor. • Check outdoor PMV (PMV1, 2, 3, 4) for clogging. • Check indoor/outdoor heat exchangers for clogging. • Check for short-circuiting of outdoor suction/discharge air flows. • Check for failure in outdoor P.C. board (I/F). • Check for failure in indoor fan system (possible cause of air flow reduction). • Check opening status of indoor PMV. • Check indoor-outdoor communication line for wiring trouble. • Check for trouble operation of check valve in discharge pipe convergent section. • Check gas balancing SV4 valve circuit. • Check for refrigerant overcharging.

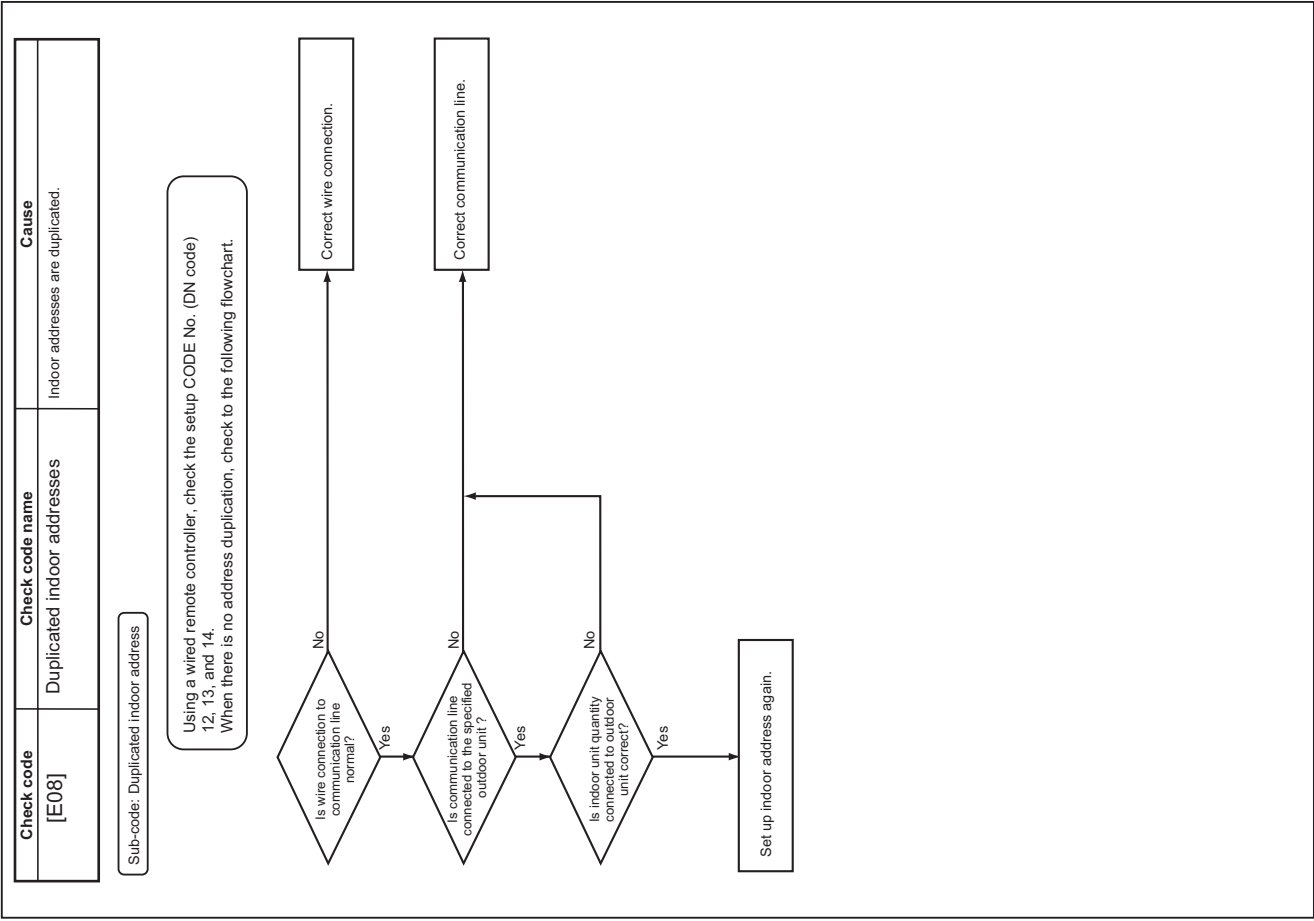
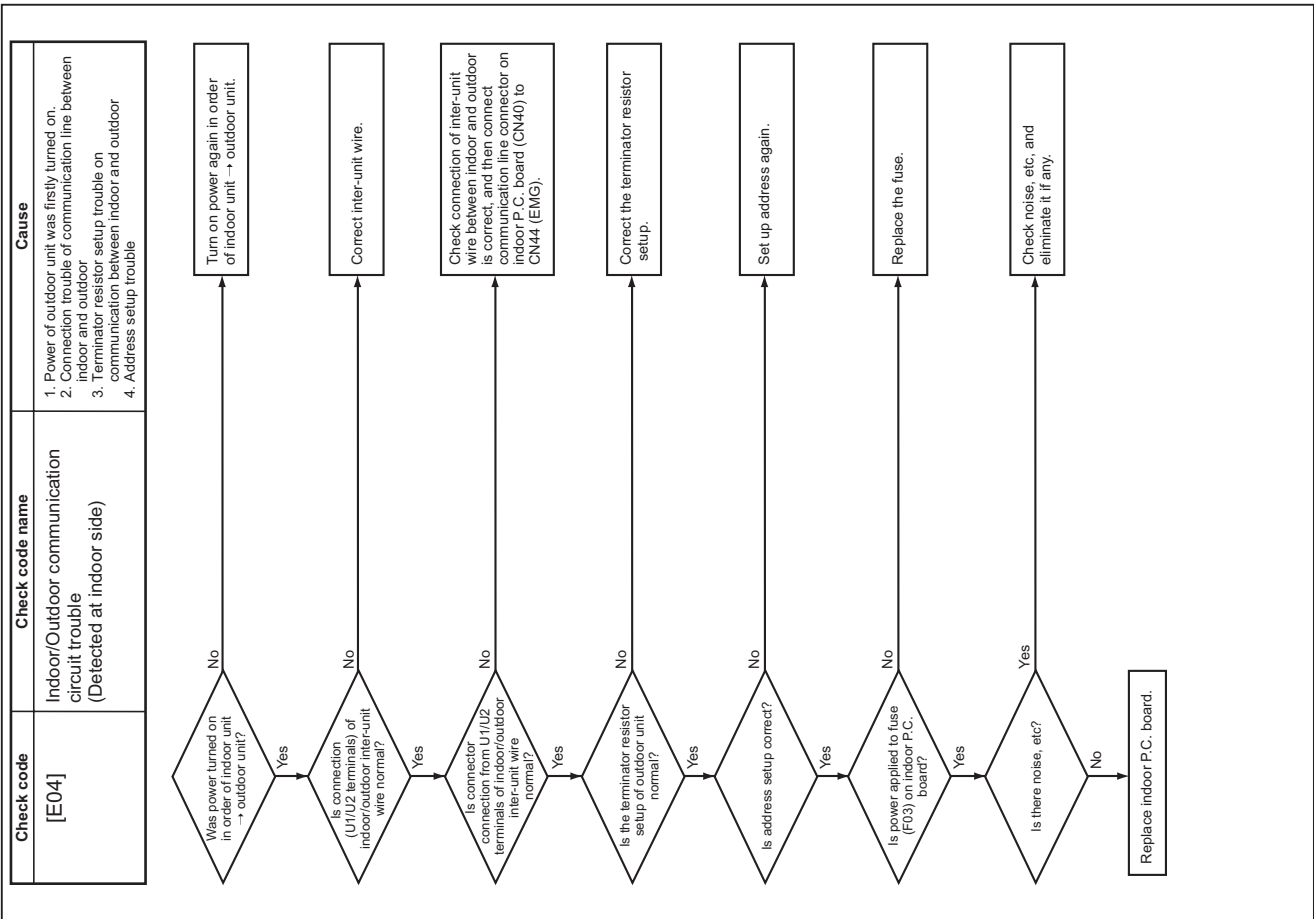
Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
P22	P22	1*: Fan P.C. board 1 2*: Fan P.C. board 2	Fan INV. P.C. board	Outdoor fan P.C. board trouble	All stop	Protected operation of Fan inverter P.C. board	<ul style="list-style-type: none"> • Check fan motor. • Check for failure in fan P.C. board. • Check connection of fan motor connector. • Check power voltage of the main power supply.
P26	P26	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	IPM, Compressor shortcircuit protection trouble	All stop	Overcurrent is momentarily detected during startup of compressor.	<ul style="list-style-type: none"> • Check connector connection and wiring on compressor P.C. board. • Check for failure in compressor (layer shortcircuit). • Check for failure in outdoor P.C. board (Compressor).
P29	P29	1*: Compressor 1 side 2*: Compressor 2 side	Compressor P.C. board	Compressor position detection circuit trouble	All stop	Position detection is not going on normally.	<ul style="list-style-type: none"> • Check wiring and connector connection. • Check for compressor layer short-circuit. • Check for failure in compressor P.C. board.
P31	—	—	Indoor unit	Other indoor trouble (group follower unit trouble)	Stop of corresponding unit	There is trouble in other indoor unit in group, resulting in detection of E07/L07/L03/L08.	<ul style="list-style-type: none"> • Check indoor P.C. board.

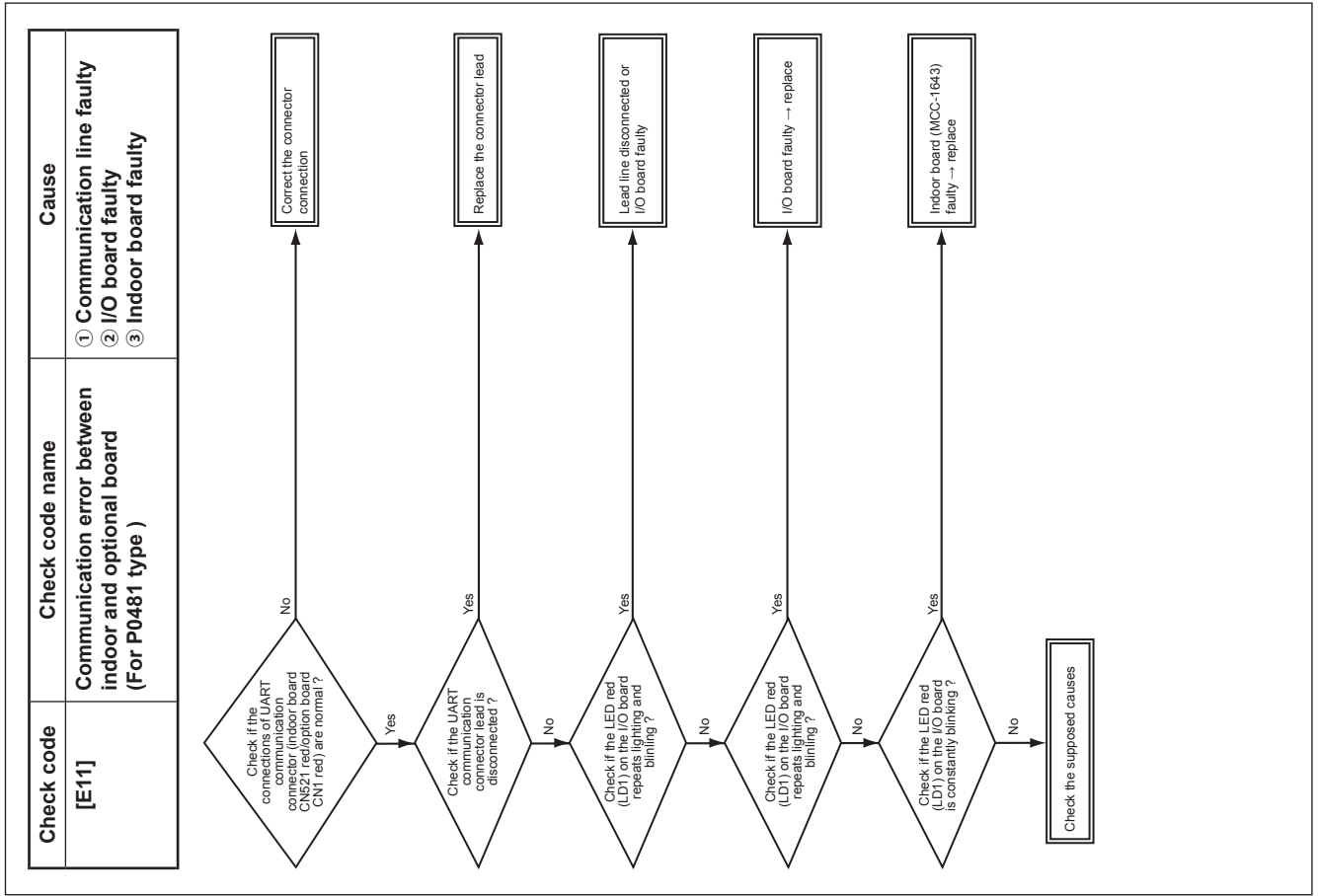
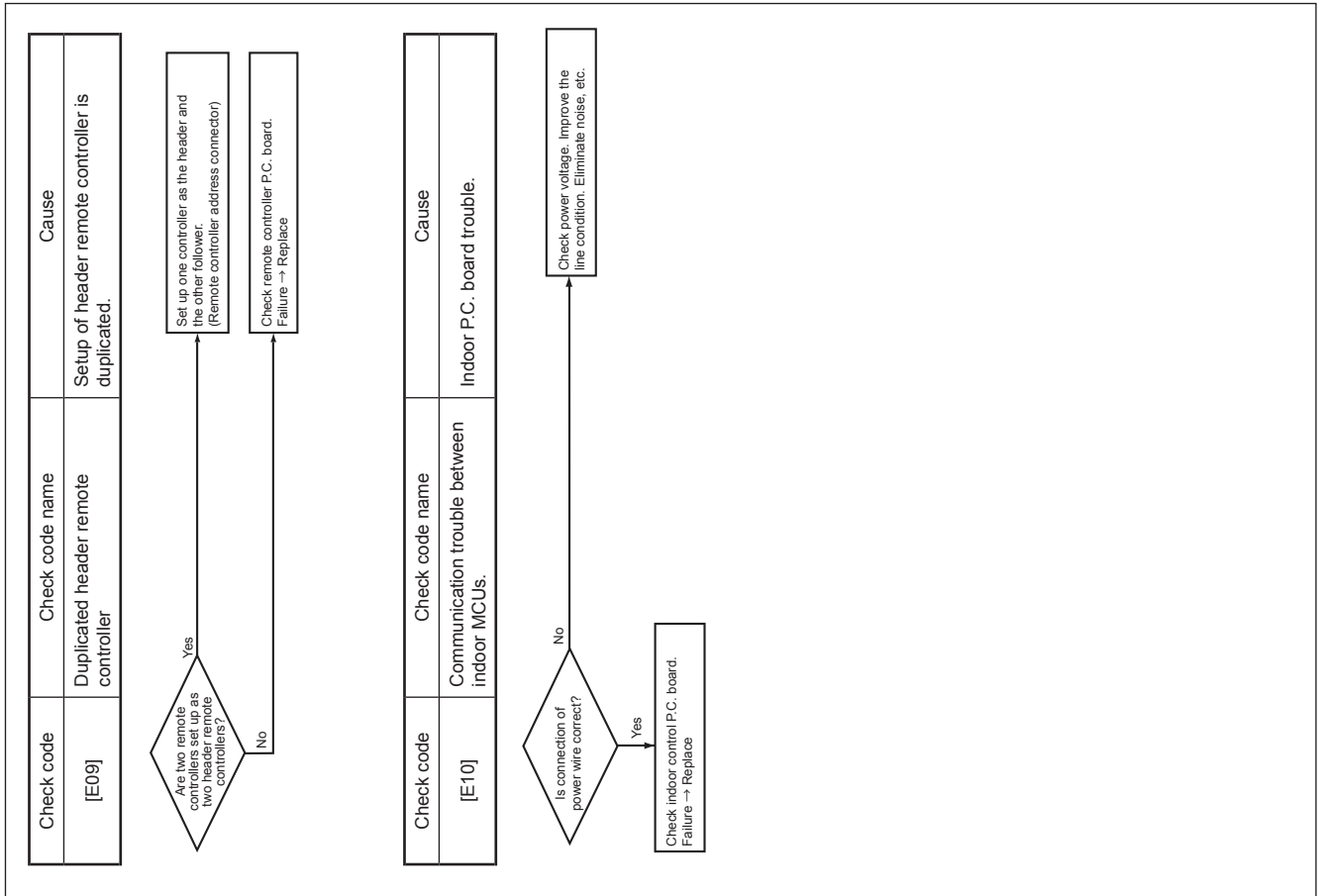
Check codes Displayed on by Central Control Device

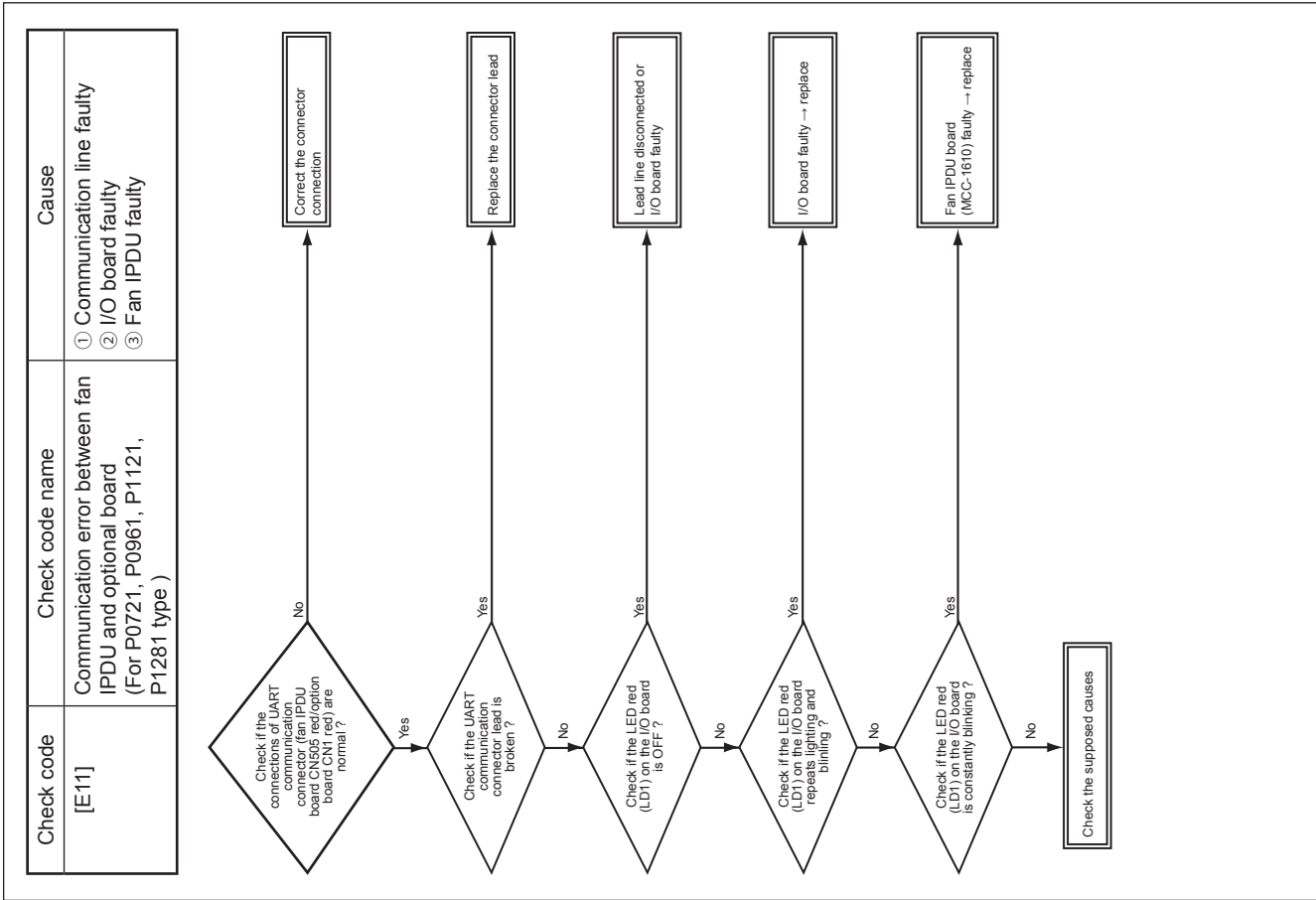
Main remote controller	Check code		Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
	Outdoor 7-segment display	Sub-code					
E03	—	—	Indoor unit	Indoor-remote controller communication trouble (detected at indoor end)	Stop of corresponding unit	There is no communication from remote controller (including wireless) or network adaptor.	<ul style="list-style-type: none"> • Check remote controller and network adaptor wiring.
C05	—		Central control device	Central control device transmission trouble	Continued operation	Central control device is unable to transmit signal.	<ul style="list-style-type: none"> • Check for failure in central control device. • Check for failure in central control communication line. • Check termination resistance setting.
C06	—		Central control device	Central control device reception trouble	Continued operation	Central control device is unable to receive signal.	<ul style="list-style-type: none"> • Check for failure in central control device. • Check for failure in central control communication line. • Check terminator resistor setting. • Check power supply for devices at other end of central control communication line. • Check failure in P.C. boards of devices at other end of central control communication line.
C12	—		General-purpose device I/F	Batch alarm for general-purpose device control interface	Continued operation	Trouble signal is input to control interface for general-purpose devices.	<ul style="list-style-type: none"> • Check trouble input.
P30	Differs according to nature of alarm-causing trouble		Central control device	Group control follower unit trouble	Continued operation	Trouble occurs in follower unit under group control. ([P30] is displayed on central control remote controller.)	<ul style="list-style-type: none"> • Check check code of unit that has generated alarm.
	(L20 displayed.)			Duplicated central control address	Continued operation	There is duplication in central control addresses.	<ul style="list-style-type: none"> • Check address settings.

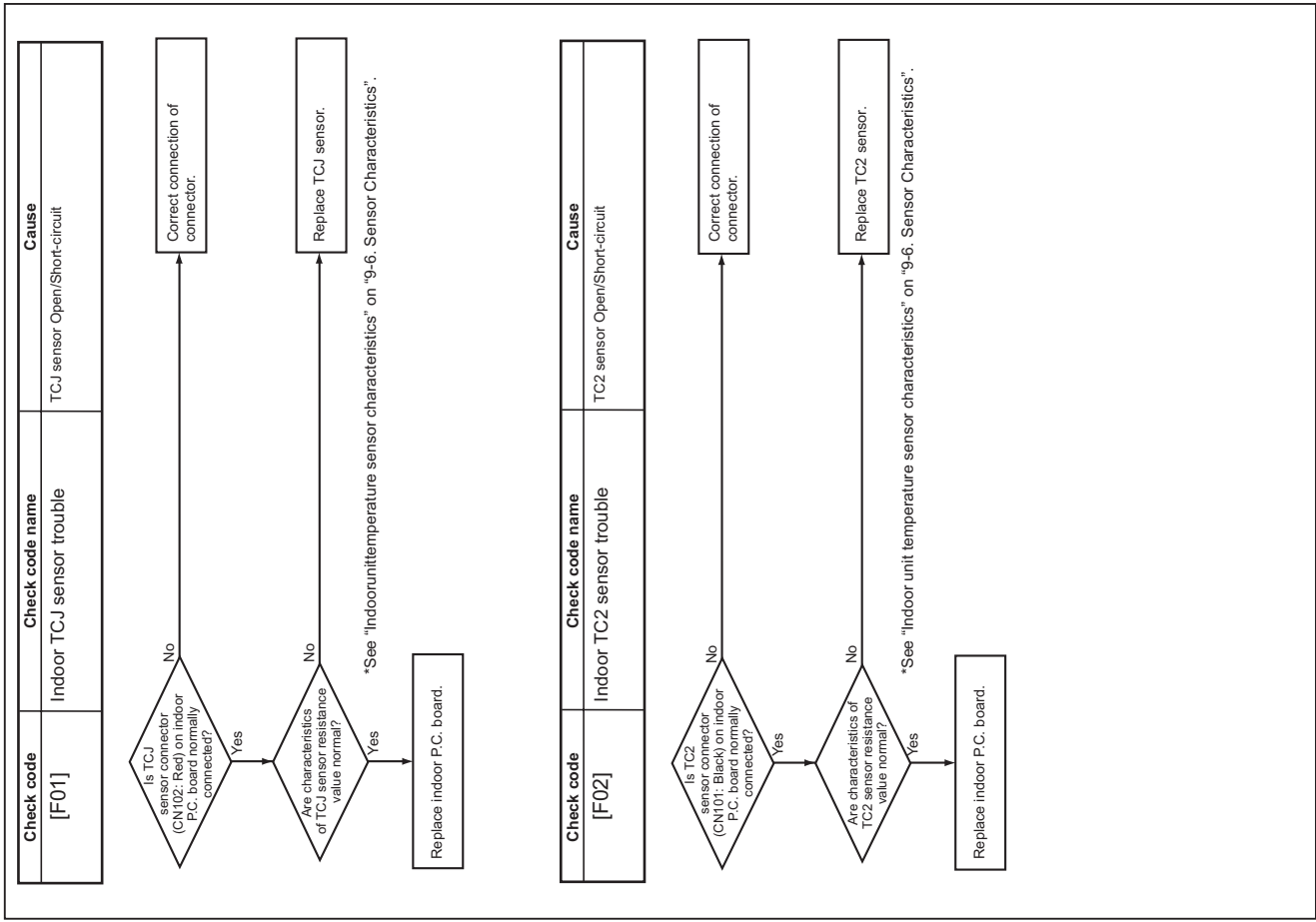
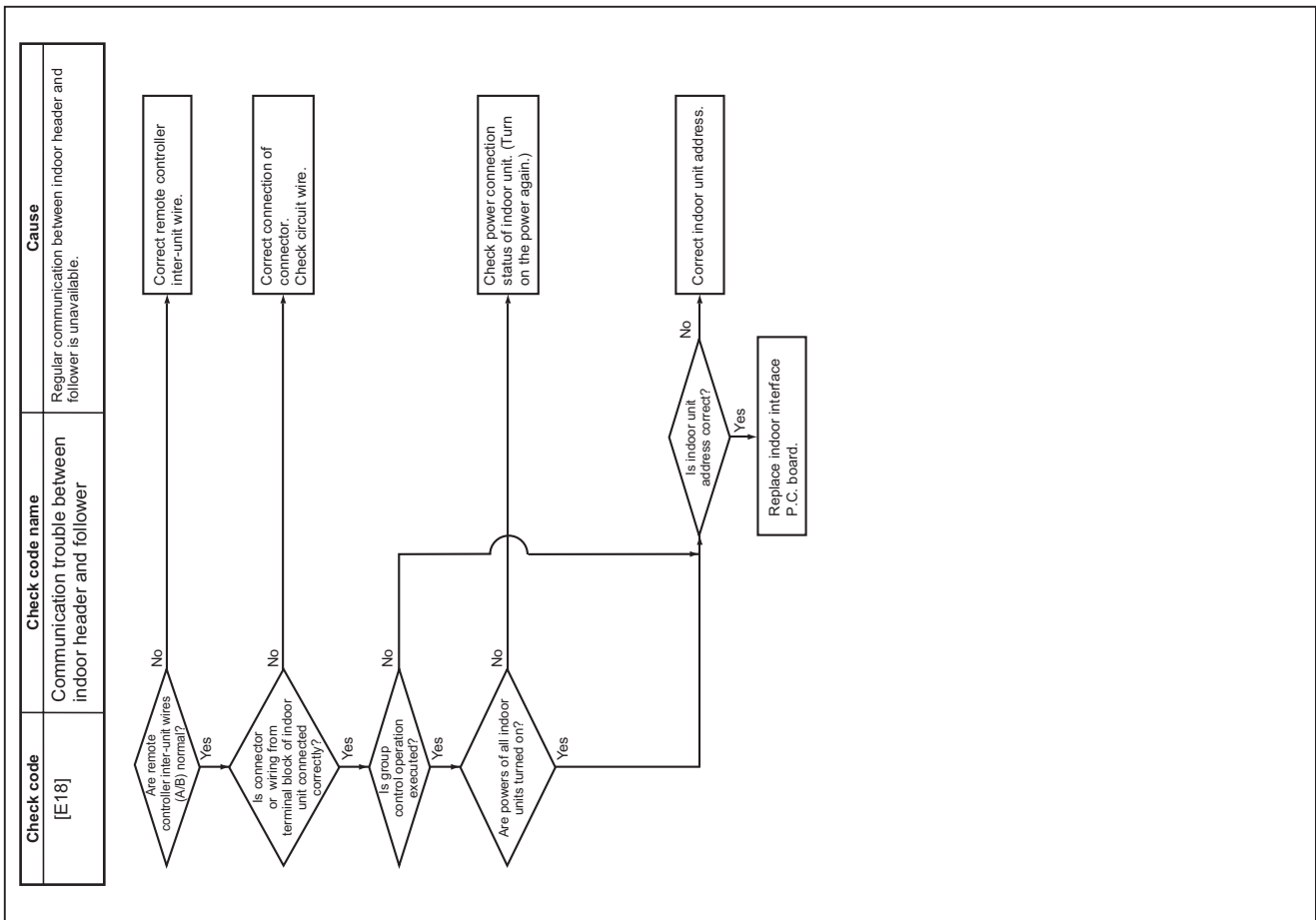
11-5. Diagnostic Procedure for Each Check Code (Indoor Unit)



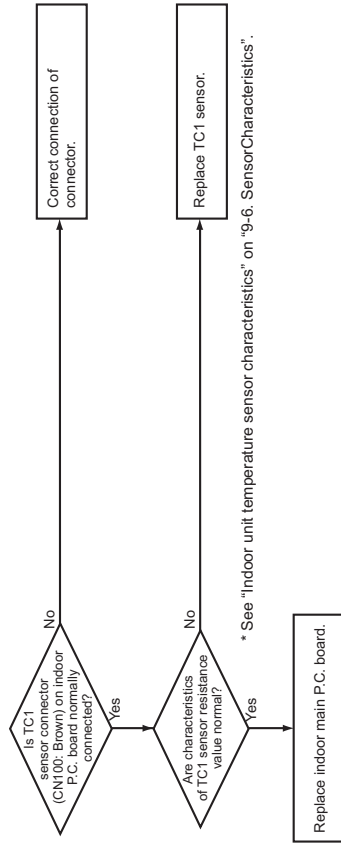








Check code	Check code name	Cause
[F03]	Indoor TC1 sensor trouble	TC1 sensor Open/Short-circuit



Check code	Check code name	Cause
[F10]	Indoor TA/TSA sensor trouble	TA sensor Open/Short-circuit

This trouble code means detection of Open/Short-circuit of TA sensor. Check disconnection of circuit for connection of connector (TA/TSA sensor: CN104: Yellow) and characteristics of sensor resistance value. (See "Indoor unit temperature sensor characteristics" on "9-6. Sensor Characteristics".)

Check code	Check code name	Cause
[F29]	Indoor other trouble	Indoor P.C. board trouble

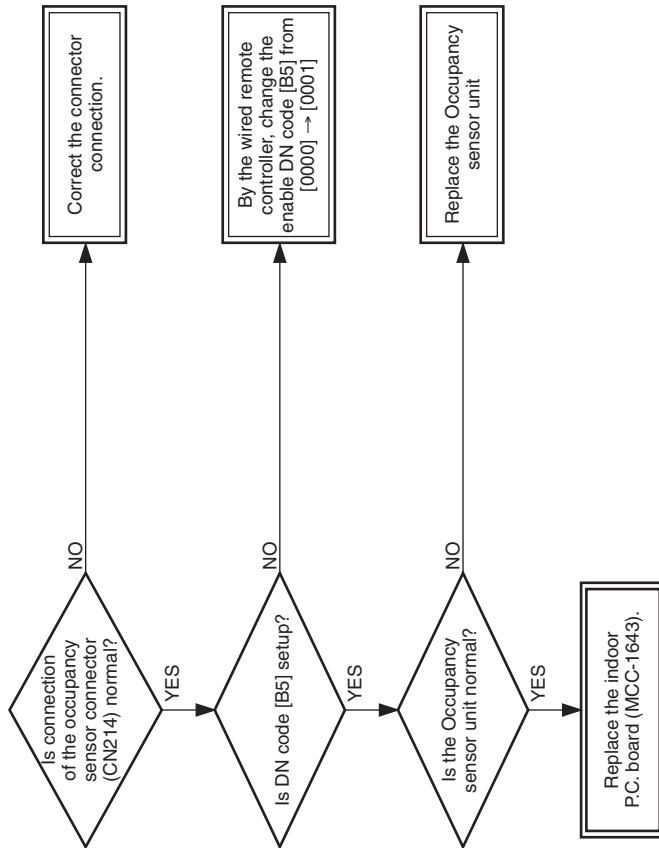
This trouble is detected during operation of air conditioner of IC10 non-volatile memory (EEPROM) on indoor unit P.C.board. Replace service P.C. board.

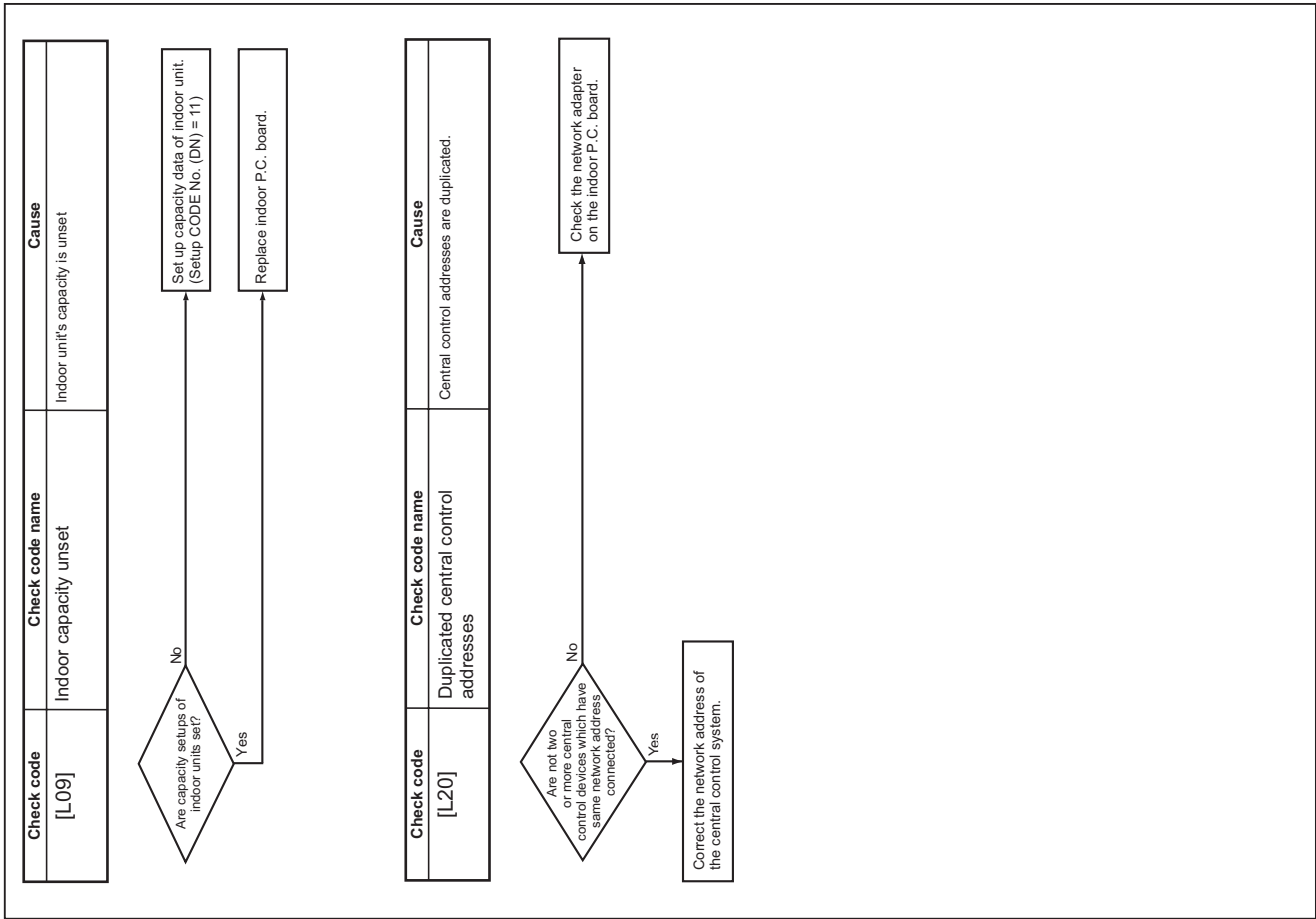
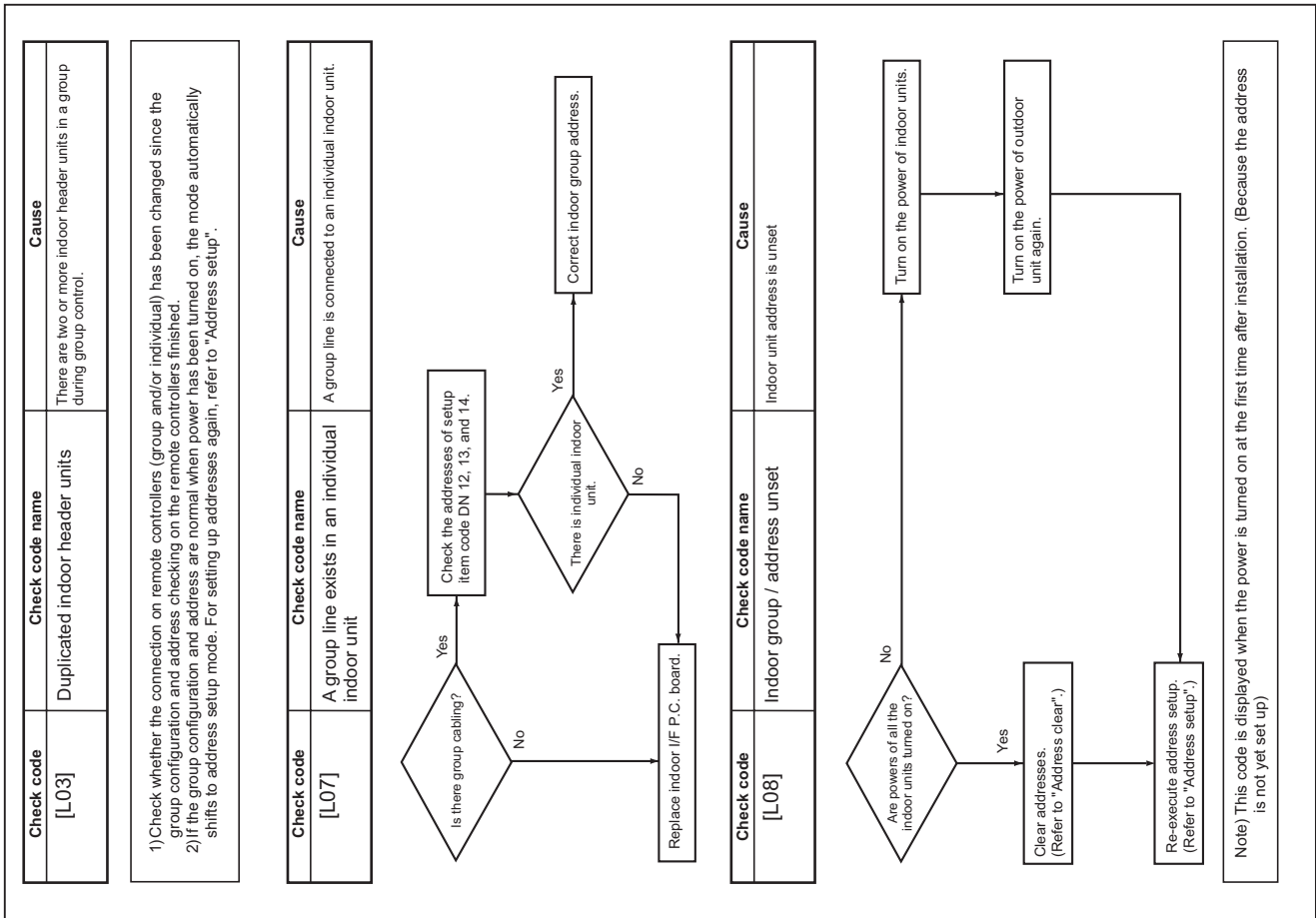
* If EEPROM was not inserted when power was turned on or it is absolutely impossible to read/write EEPROM data, the automatic address mode is repeated.

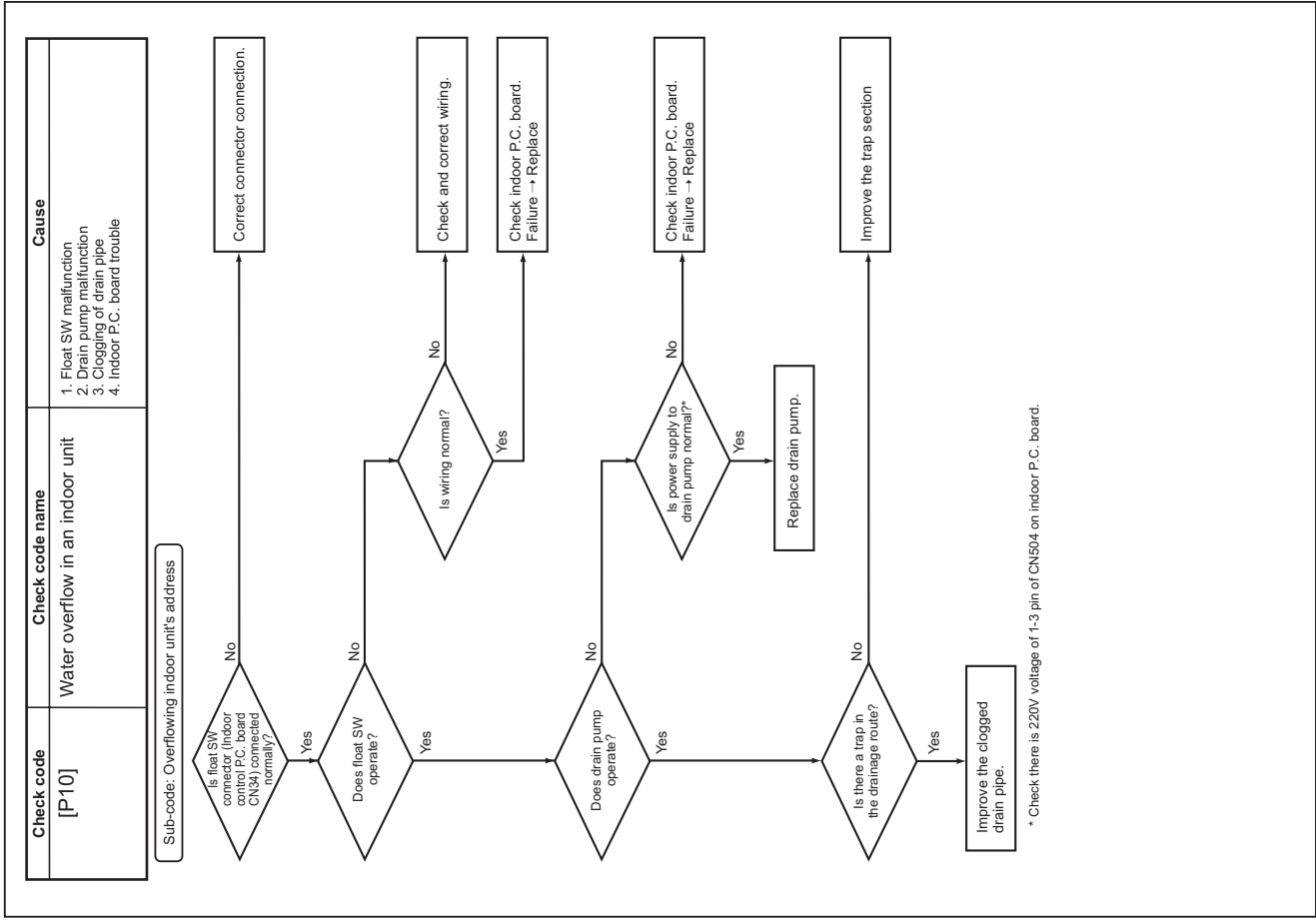
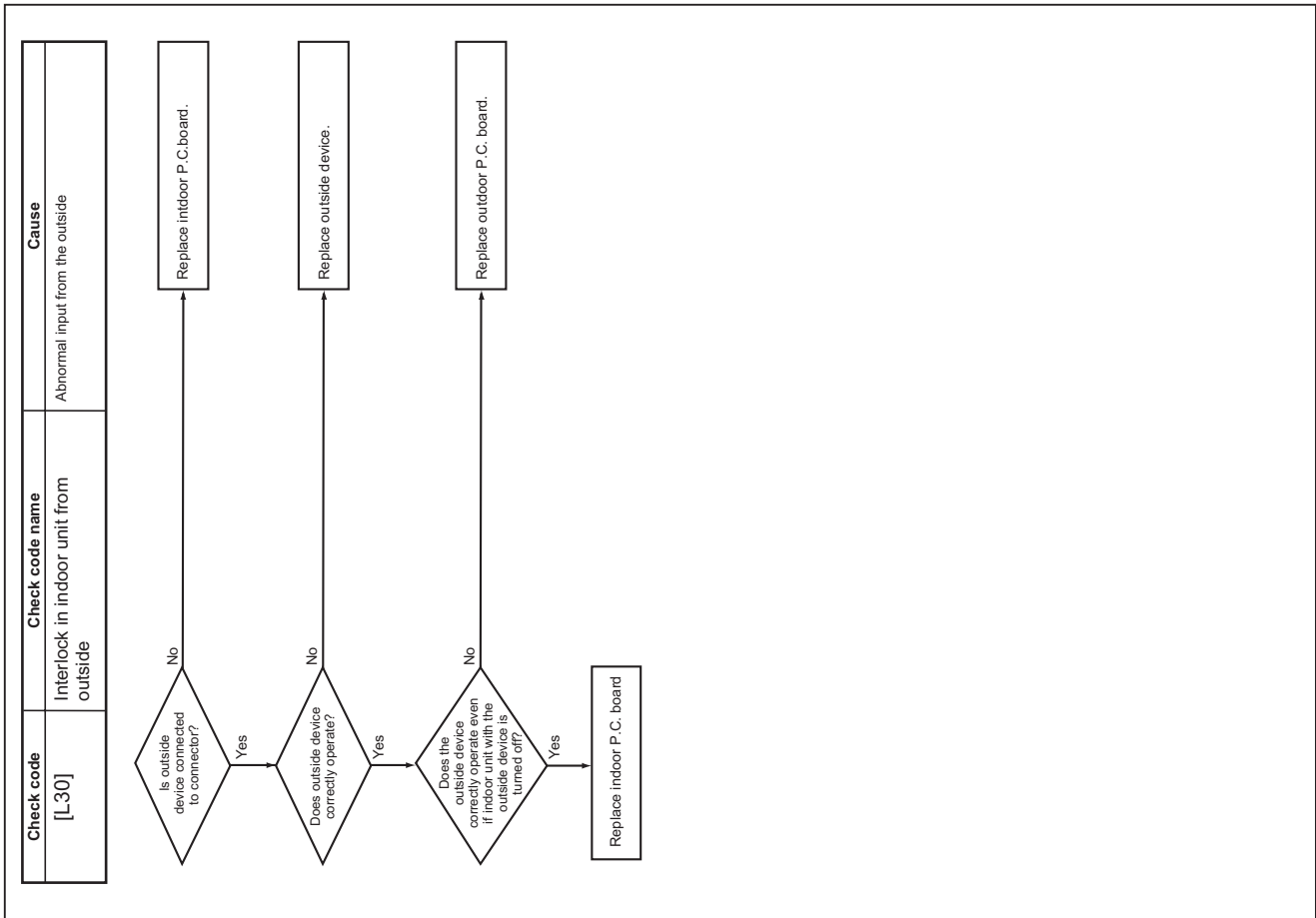


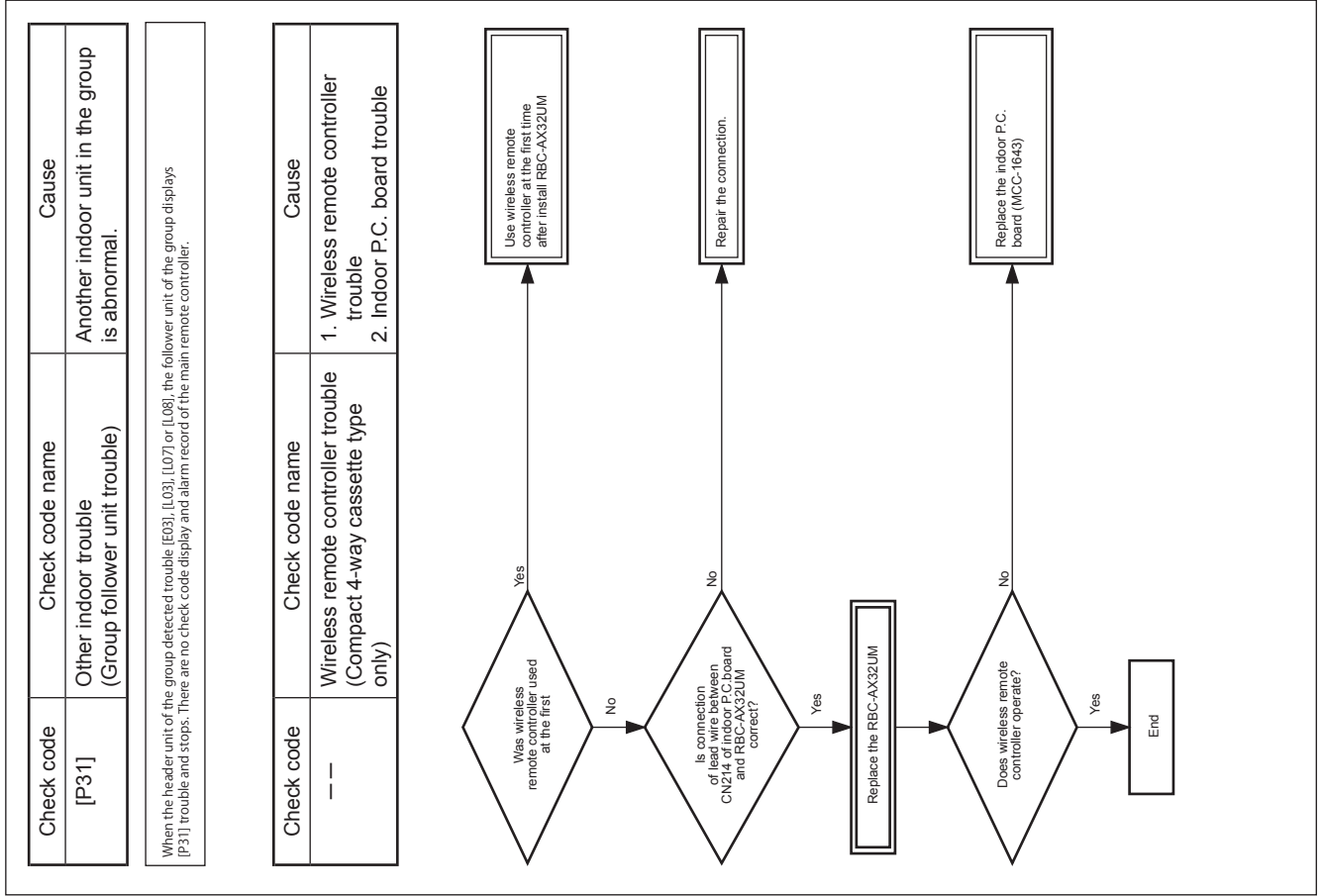
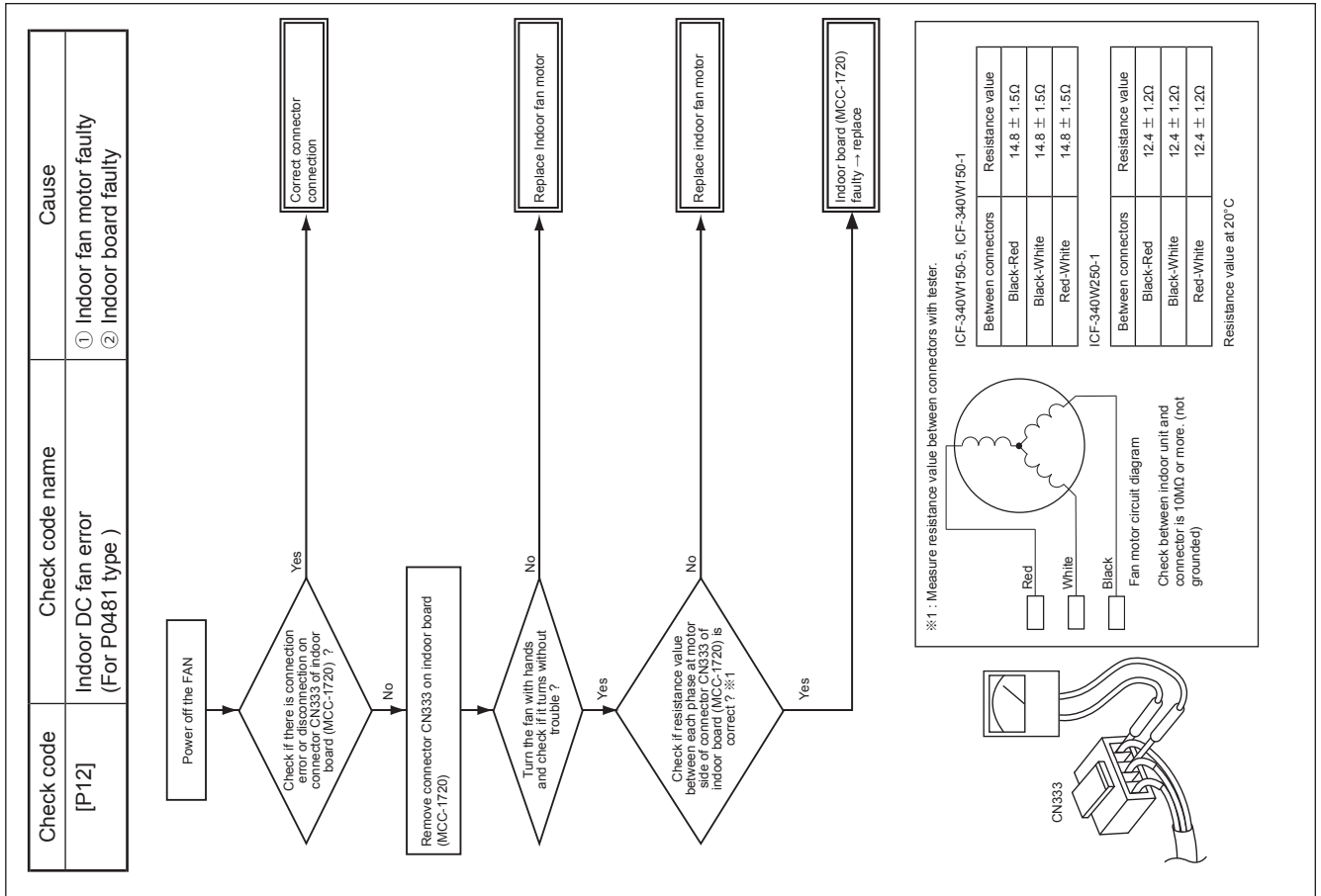
Check code	Check code name	Cause
[F30]	Occupancy sensor trouble	1. Occupancy sensor trouble 2. Indoor P.C. board trouble

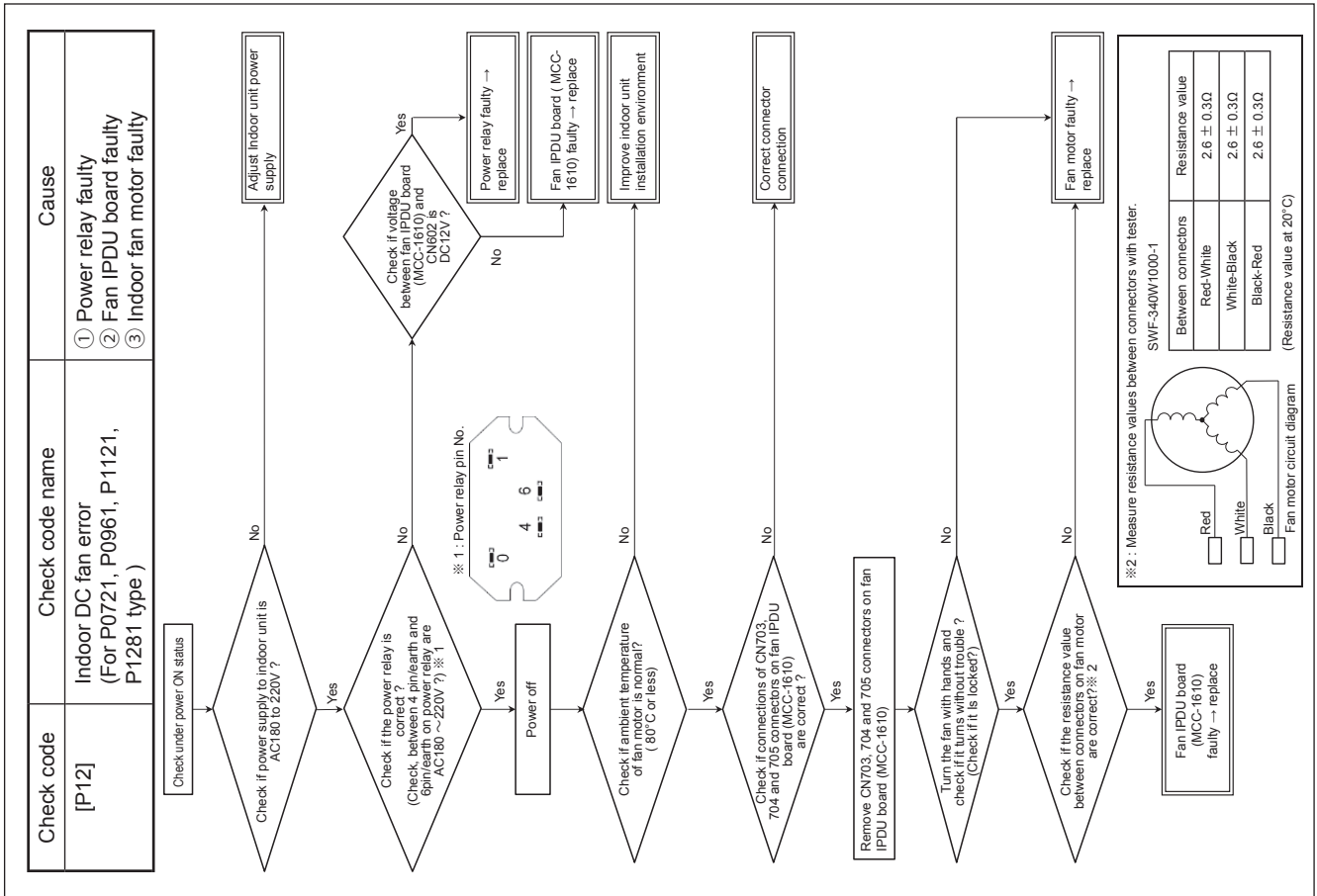
(4-way cassette type, Compact 4-way cassette type)









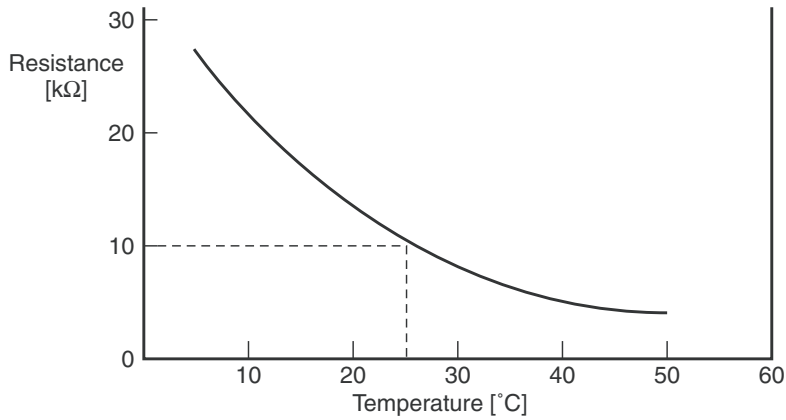


11-6. Sensor characteristics

Indoor unit

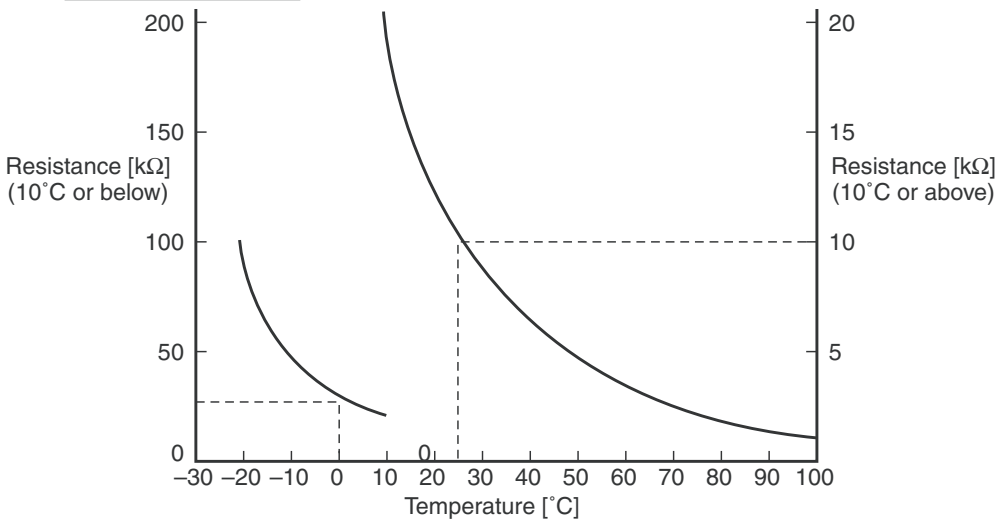
▼ Temperature sensor characteristics

Indoor TA sensor



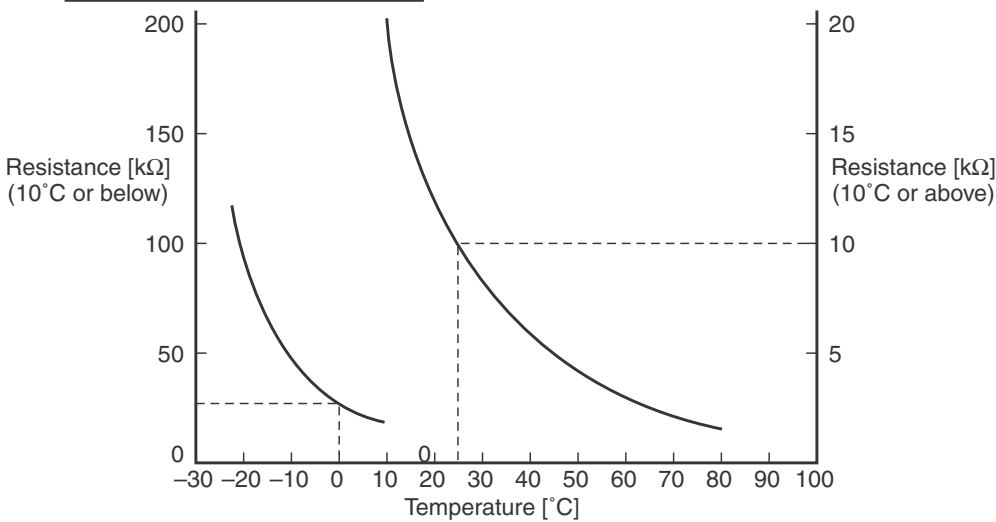
Temperature [°C]	Resistance [kΩ]
0	33.9
5	26.1
10	20.3
15	15.9
20	12.6
25	10.0
30	8.0
35	6.4
40	5.2
45	4.2
50	3.5
55	2.6
60	2.4

Indoor TC1 sensor



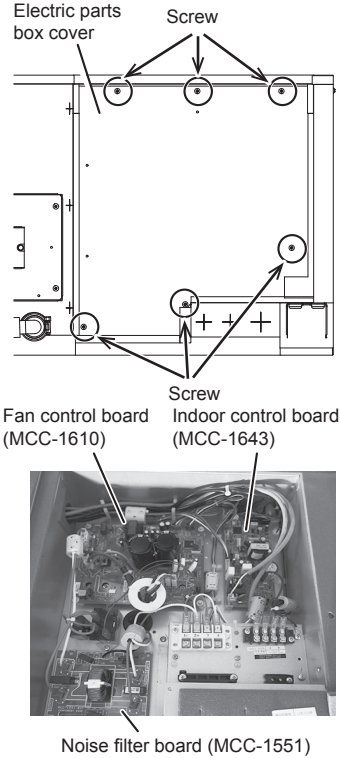
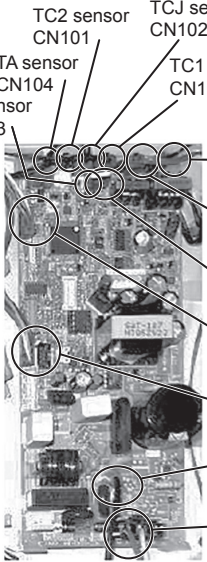
Temperature [°C]	Resistance [kΩ]
-20	99.9
-15	74.1
-10	55.6
-5	42.2
0	32.8
5	25.4
10	19.8
15	15.6
20	12.4
25	10.0
30	8.1
35	6.5
40	5.3
45	4.4
50	3.6
55	3.0
60	2.5
65	2.1
70	1.8
75	1.5
80	1.3
85	1.1
90	1.0
95	0.8
100	0.7

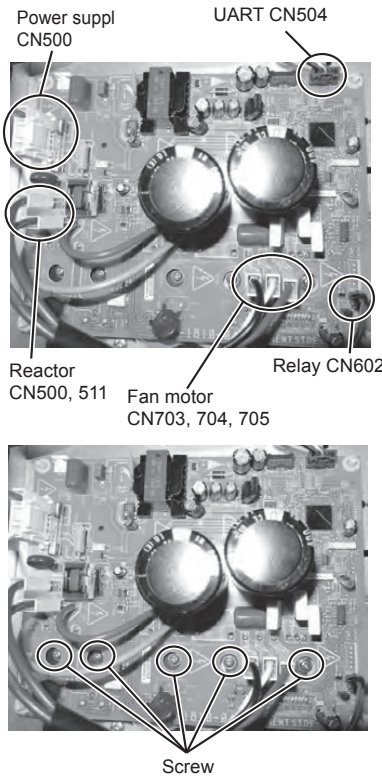
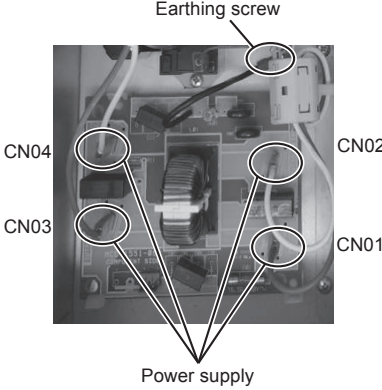
Indoor TC2 and TCJ sensors

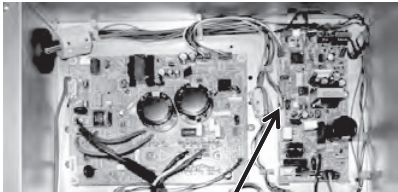
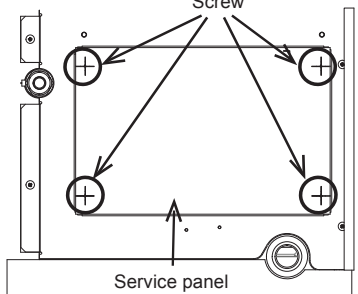
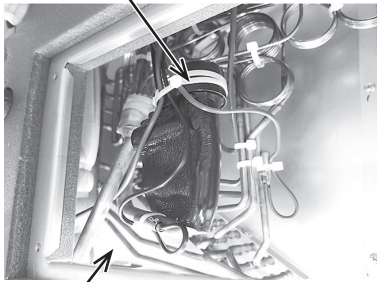
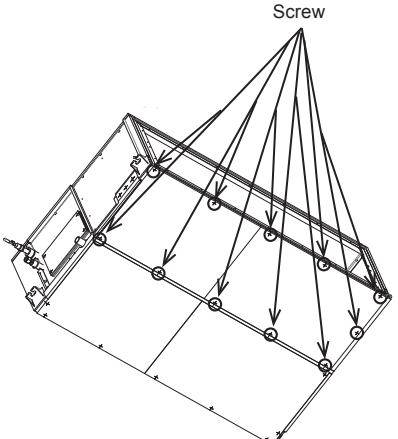


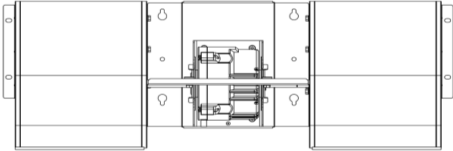
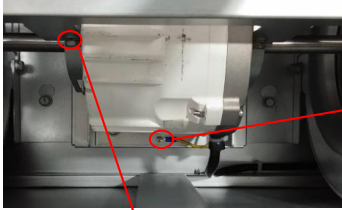
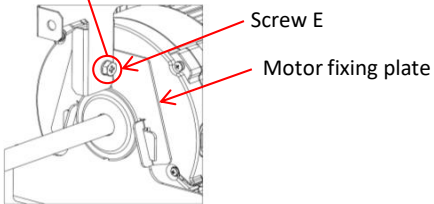
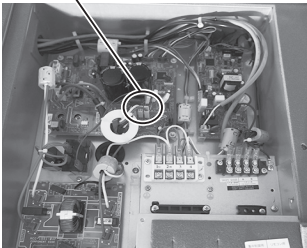
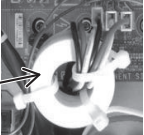
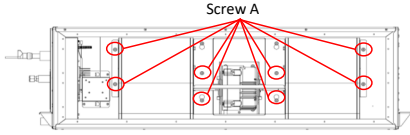
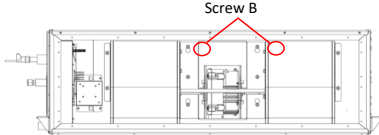
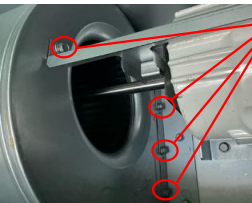

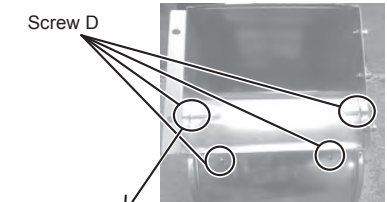
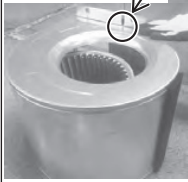

Temperature [°C]	Resistance [kΩ]
-20	115.2
-15	84.2
-10	62.3
-5	46.6
0	35.2
5	26.9
10	20.7
15	16.1
20	12.6
25	10.0
30	8.0
35	6.4
40	5.2
45	4.2
50	3.5
55	2.8
60	2.4
65	2.0
70	1.6
75	1.4
80	1.2

12. MAIN PART REPLACEMENT METHODS

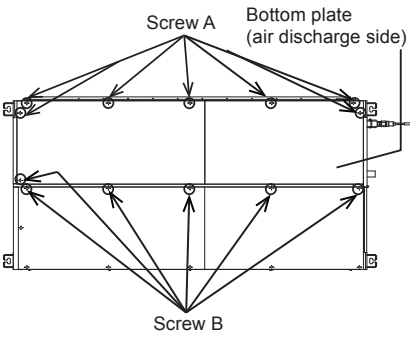

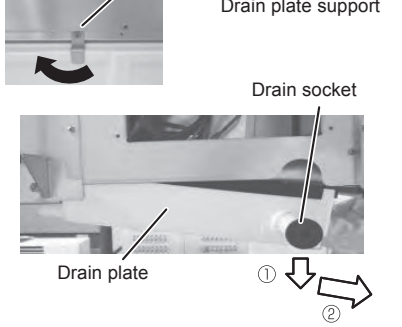

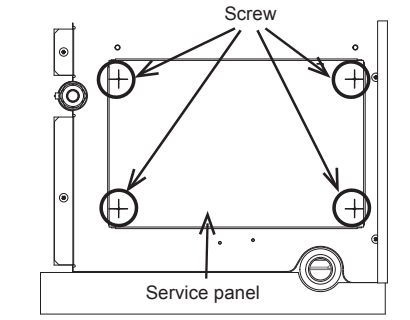
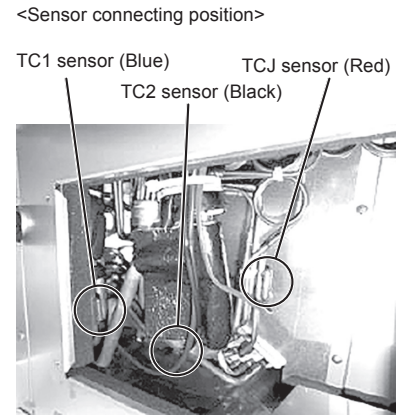
No.	Part to be replaced	Work procedure	Remarks
①	Electric parts box cover	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Turn OFF the air conditioner operation, and turn off the electric breaker. 2) Remove the screws (colored, 6 pcs) for the electrical parts box cover. 3) Remove the electric parts box cover. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Screw (colored, 6 pcs) and reinstall the electric parts box cover in the same way as before replacement. 	 <p>Electric parts box cover</p> <p>Screw</p> <p>Fan control board (MCC-1610)</p> <p>Indoor control board (MCC-1643)</p> <p>Noise filter board (MCC-1551)</p>
②	Indoor control board (MCC-1643)	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover. (see the 1. of ①) 2) Detach the connectors connected to the board. CN41 : Remote controller cord (Blue) CN40 : Indoor/outdoor connecting cord (Blue (leads : Black)) CN 67 : Power supply (Black) CN100 : TC1 sensor (Brown) CN101 : TC2 sensor (Black) CN102 : TCJ sensor (Red) CN103 : TF sensor (2P : Green) CN104 : TA sensor (Yellow) CN82 : Electronic control valve coil (Blue) CN521 : UART (Red) CN34 : Float switch (Red) CN22 : Earthing wire (Faston) <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Note Unlock the locks on the housing to remove the connector.</p> </div> <ol style="list-style-type: none"> 3) Unlock the card edge spacers (4 pcs) at the four corners of the board, and remove the board. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Secure the board to the card edge spacers (4 pcs). 2) Re-connect the connector which has been removed in step 1. in the same way as before replacement. 3) Attach the electric parts box cover. (See the 2. of No. ①) 	 <p>TC2 sensor CN101</p> <p>TCJ sensor CN102</p> <p>TA sensor CN104</p> <p>TC1 sensor CN100</p> <p>TF sensor CN103</p> <p>Remote controller cord CN41</p> <p>Indoor/outdoor connecting cord CN40</p> <p>Float switch CN34</p> <p>UART CN521</p> <p>Electronic control valve coil CN82</p> <p>Earthing wire (Faston) CN22</p> <p>Power supply CN67</p>

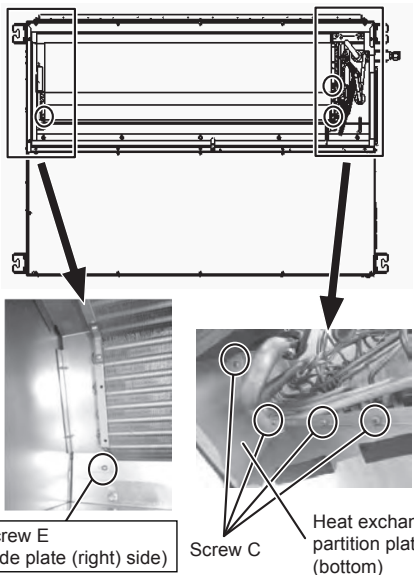
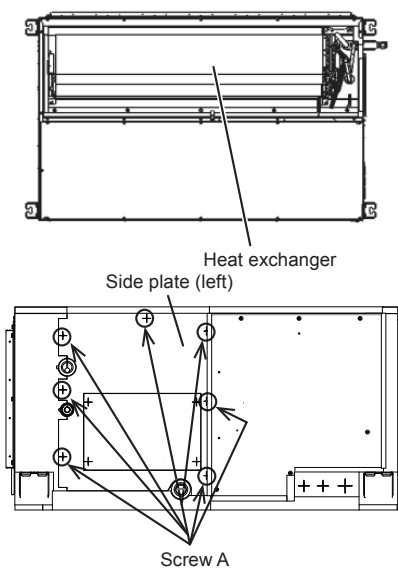
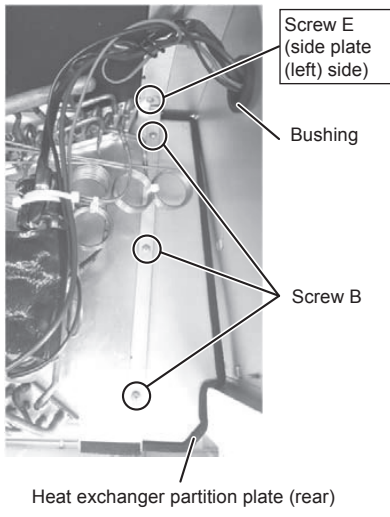
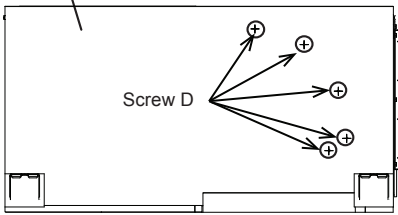
No.	Part to be replaced	Work procedure	Remarks
③	Fan control board (MCC-1610)	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover. (see the 1. of ①) 2) Detach the connector connected to the board, and remove the wiring from the clamp. CN504 : UART (Blue) CN510 : Reactor (Faston) CN511 : Reactor (Faston) CN602 : Relay (Black) CN703 : Fan motor (W phase) (leads : Black) CN704 : Fan motor (V phase) (leads : White) CN705 : Fan motor (U phase) (leads: Red) <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Note Unlock the locks on the housing to remove the connector.</p> </div> <ol style="list-style-type: none"> 3) Remove the screws (5 pcs), and remove the sub heat sink. (The sub heat sink is attached to the back side of the board with screws (5 pcs).) 4) Unlock the card edge spacers (4 pcs) at the four corners of the board, and remove the board. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Temporarily secure the board to the card edge spacers (4 pcs), and then screw (5 pcs) the sub heat sink on the board to secure. 2) Re-connect the connector which has been removed in step 1. in the same way as before replacement. 3) Attach the electric parts box cover. (see the 2 of No. ①) 	 <p>Power suppl CN500 UART CN504</p> <p>Reactor CN500, 511 Fan motor CN703, 704, 705 Relay CN602</p> <p>Screw</p>
④	Noise filter board (MCC-1511)	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover. (see the 1. of ①) 2) Disconnect the Faston connected to the board. CN01 : Power output (L phase) (leads : Red) CN02 : Power output (N phase) (leads : White) CN03 : Power output (L phase) (leads : Red) CN04 : Power output (N phase) (leads : White) 3) Remove the earthing screw (1 pcs). 4) Unlock the card edge spacers (4 pcs) at the four corners of the board, and remove the board. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Secure the board to the card edge spacers (4 pcs). 2) Re-connect the Faston which has been removed in the step 1. in in the same way as before replacement. 3) Attach the electric parts box cover. (see the 2. of No. ①) 	 <p>Earthing screw</p> <p>CN04 CN02</p> <p>CN03 CN01</p> <p>Power supply</p>

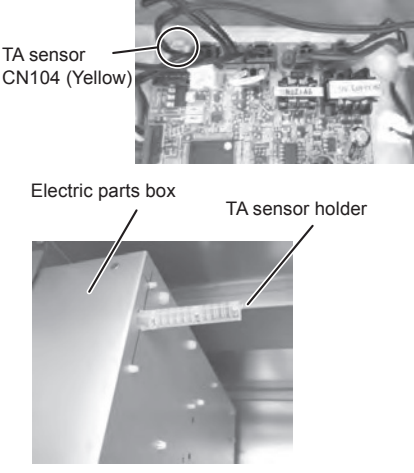
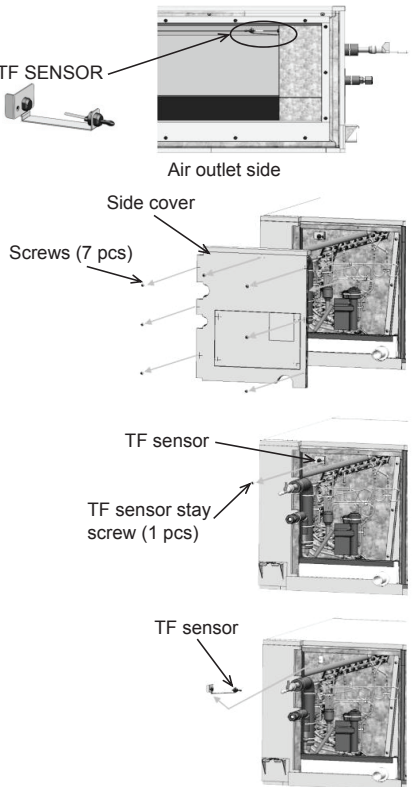
No.	Part to be replaced	Work procedure	Remarks
⑤	Electronic control valve coil	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover. (see the 1. of ①) 2) Remove the screws (4 pcs), and remove the service panel. 3) Disconnect the PMV relay connector. 4) While securing the electronic control valve body, remove the electronic control valve coil by turning it. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Attach the electronic control valve coil. 2) Re-connect the relay connector of the electronic control valve in the same way as before replacement. 3) Attach the service panel. 4) Attach the electric parts box cover. (see the 2. of No. ①) 	 <p>Electronic control valve coil connector CN82 (Blue)</p>  <p>Screw</p> <p>Service panel</p> <p>Electronic control coil</p>  <p>Service panel</p>
⑥	Bottom plate (suction side)	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the screws (11 pcs) to secure the bottom plate (suction side). (Screws locate under the cross slit on the heat-insulating material) <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Screw (11 pcs) the bottom plate in the same way as before replacement. 	 <p>Screw</p>

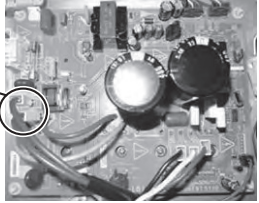
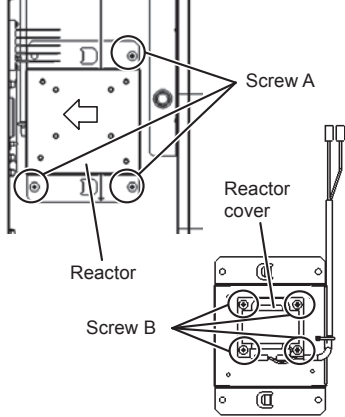
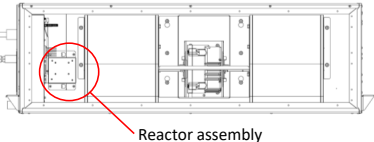
No.	Part to be replaced	Work procedure	Remarks
⑦	Fan motor, fan	<p>1. Detachment</p> <ol style="list-style-type: none"> Remove the electric parts box cover. (see the 1. of ①) Disconnect the leads for the fan motor from the fan control board. CN703 : Fan motor (leads : Black), W CN704 : Fan motor (leads: White), V CN705 : Fan motor (leads: Red), U <div data-bbox="507 450 1015 517" style="border: 1px solid black; padding: 2px;"> <p>Note Unlock the locks on the housing to remove the connector.</p> </div> <ol style="list-style-type: none"> Remove the ferrite core from the leads of the fan motor. <div data-bbox="507 600 1015 685" style="border: 1px solid black; padding: 2px;"> <p>Note After replacing the fan motor, re-connect motor leads with the ferrite core rang around the leads by 1 loop.</p> </div> <ol style="list-style-type: none"> Remove the bottom plate (suction side). (see the 1. of No. ⑥) Remove the screws A (8 pcs), and loosen the screws B (2 pcs). Don't remove the screws B (2 pcs) since they are used as hooks later. Remove the fan assembly. <div data-bbox="515 882 970 1032" style="text-align: center;">  <p>Fan assembly</p> </div> <div data-bbox="507 1088 1015 1223" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">⚠ Caution</p> <p>The fan assembly weighs 30 kg. Be sure that the work is performed by two persons or more with great care.</p> </div> <ol style="list-style-type: none"> Remove the screws C (8 pcs). Loosen the hexagonal bolts (2 pcs) which secure the fan to the motor shaft, and remove the fan from the motor shaft. Remove the screws D (4 pcs) for the fan case, and remove the fan after removing the nose plate. Remove the earthing screw for the fan motor. Remove the screws E (2 pcs), and remove the motor anchor plate and the fan motor. <div data-bbox="499 1518 842 1727" style="text-align: center;">  <p>Earth screw</p> </div> <div data-bbox="563 1787 999 1989" style="text-align: center;">  <p>Screw E Motor fixing plate</p> </div>	<p>Fan motor leads CN703 CN704 CN705</p>   <p>Ferrite core</p>  <p>Screw A</p>  <p>Screw B</p>  <p>Screw C</p>  <p>Hexagonal bolt</p>  <p>Screw D</p>   <p>Nose plate</p>

No.	Part to be replaced	Work procedure	Remarks
⑦	Fan motor, fan (continued)	<p>2. Attachment</p> <p>1) Secure the fan motor with the motor anchor plate. (Screws E (2 pcs))</p> <div data-bbox="496 383 1007 472" style="border: 1px solid black; padding: 5px;"> <p>Note Take care to mount the fan motor so that the motor leads are placed to the electric parts box side as right figure.</p> </div> <p>2) Install the earthing screw to the motor.</p> <p>3) After mounting the fan within the fan case, secure the nose plate in the same way as before replacement.</p> <div data-bbox="496 573 1007 651" style="border: 1px solid black; padding: 5px;"> <p>Note The fan has a direction. Align the turning direction with the fan blade as right figure.</p> </div> <p>4) While inserting the fan into the motor shaft, secure the fan case with screws C (8 pcs).</p> <p>5) After inserting the fan until the fan motor shaft stops, be sure to adjust the flat surface (2 pcs) of the shaft, and secure it with hexagonal bolts.</p> <div data-bbox="496 801 1007 1021" style="border: 1px solid black; padding: 5px;"> <p>Note Be sure to secure the hexagonal bolts to the flat surface of the fan motor shaft, otherwise the fan will not be able to be removed. After securing the fan, confirm that the fan turns smoothly without touching the fan case by turning it by hand. Secure the hexagonal bolts using a torque wrench to tighten at a torque of 10.8N·m.</p> </div> <p>6) Temporarily hang the fan assembly on the screws B (2 pcs).</p> <p>7) Secure the fan assembly with the fan assembly screws A (8 pcs), and screws B (2 pcs).</p> <p>8) Pull the fan motor leads into the electric parts box, attach the ferrite core in the same way as before replacement, and then re-connect to the fan control board.</p> <p>9) Reinstall the electric parts box cover and bottom plate (suction side) in the same way as before replacement. (see the 2. of No. ①, 2. of No. ⑥)</p>	<div data-bbox="1043 309 1437 465"> </div> <div data-bbox="1054 546 1401 909"> </div> <div data-bbox="1102 949 1417 1189"> </div> <div data-bbox="1098 1211 1417 1554"> <p>Fan motor leads CN703 CN704 CN705</p> </div> <div data-bbox="1038 1621 1417 1877"> <p>Ferrite core</p> </div>

No.	Part to be replaced	Work procedure	Remarks
⑧	Drain plate	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the screws A (8 pcs (locate under the cross slit on the heat-insulating material)) and screws B (5 pcs (locate under the cross slit on the heat-insulating material)) to secure the bottom plate (air discharge side), and remove the bottom plate. 2) Loosen the screws to secure the drain plate and lower it to the position where the bottom surface of the drain plate will part from the drain plate supports. 3) Pull down the drain socket side of the drain pan and slowly remove it towards the arrow direction. <div data-bbox="504 528 1013 618" style="border: 1px solid black; padding: 5px;"> <p>Note Do not apply excessive force to the drain socket when removing the drain pan. (It may cause water leakage.)</p> </div> <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Attach the drain plate in the same way as before replacement, and turn the drain plate support to its original position. 2) Attach the bottom plate with the screws A (8 pcs) and the screws B (5 pcs). 	 <p>Screw A Bottom plate (air discharge side) Screw B</p>  <p>Drain plate support</p>  <p>Drain socket Drain plate ① ②</p>
⑨	TC1, TC2, TCJ sensor	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover. (see the 1. of ①) 2) Remove the screws (4 pcs) for the service panel, and remove the service panel. 3) Disconnect the TC1, TC2, and TCJ sensor connectors from the indoor control board. 4) Remove the sensors from the sensor holders. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Re-connect the TC1, TC2, TCJ sensors in the same positions as before replacement. 2) Attach the service panel in the same way as before replacement. 3) Re-connect the TC1, TC2, and TCJ sensor connectors to the indoor control board. 4) Attach the electric parts box cover. (see the 2. of No. ①) <div data-bbox="518 1585 970 1989" style="margin-top: 20px;">  <p>CN100 : TC1 sensor (Brown) CN101: TC2 sensor (Black) CN102: TCJ sensor (Red)</p> </div>	 <p>Screw Service panel</p> <p><Sensor connecting position></p>  <p>TC1 sensor (Blue) TC2 sensor (Black) TCJ sensor (Red)</p>

No.	Part to be replaced	Work procedure	Remarks
⑩	Heat exchanger	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Recover the refrigerant gas, and remove the refrigerant pipe connection of the indoor unit. 2) Remove the drain plate. (see the 1. of No. ⑧) 3) Remove the screws A (7 pcs), and remove the side plate (left). (Screws locate under the cross slit on the heat-insulating material) 4) Remove the electric parts box cover. Remove the TC1 / TC2 / TCJ sensor connectors from the board, and pull out the sensor from the bushing to the heat exchanger side. 5) Remove the screws B (3 pcs), and remove the heat exchanger partition plate (rear). 6) Remove the screws C (4 pcs), and remove the heat exchanger partition plate (bottom). 7) Remove the screws D (5 pcs) to secure the heat exchanger and the side plate (right). (Screws locate under the cross slit on the heat-insulating material) 8) While supporting the heat exchanger, remove the screws E (2 pcs) and then slowly remove the heat exchanger. <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p style="text-align: center;">⚠ Caution</p> <p style="text-align: center;">Be sure that the work is performed by two persons or more with great care.</p> </div>  <p style="margin-left: 20px;">Screw E (side plate (right) side)</p> <p style="margin-left: 20px;">Screw C</p> <p style="margin-left: 20px;">Heat exchanger partition plate (bottom)</p> <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Mount the heat exchanger in the same position as before replacement. (Screw E (2 pcs)) 2) Secure the heat exchanger to the side plate (right). (Screw D (5 pcs)) 3) Reinstall the heat exchanger partition plate (bottom) in the same way as before replacement. (Screw C (4 pcs)) 4) Reinstall the heat exchanger partition plate (rear) in the same way as before replacement. (Screw B (3 pcs)) 5) Re-connect the TC sensor in the same way as before replacement. (see the 1), 3), 4) under 2. of No. ⑨) 6) Reinstall the side plate (left) in the same way as before replacement. (Screw A (7 pcs)) 7) Attach the drain pan. (see the 2. of No. ⑧) 	 <p style="margin-left: 20px;">Heat exchanger</p> <p style="margin-left: 20px;">Side plate (left)</p> <p style="margin-left: 20px;">Screw A</p>  <p style="margin-left: 20px;">Screw E (side plate (left) side)</p> <p style="margin-left: 20px;">Bushing</p> <p style="margin-left: 20px;">Screw B</p> <p style="margin-left: 20px;">Heat exchanger partition plate (rear)</p> <p style="margin-left: 20px;">Side plate (right)</p>  <p style="margin-left: 20px;">Screw D</p>

No.	Part to be replaced	Work procedure	Remarks
⑪	TA sensor	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover and the bottom plate (suction side). (see the 1. of No. ①, 1. of No. ⑥) 2) Disconnect the TA sensor connector from the indoor control board. 3) Remove the TA sensor by pinching the lock for the TA sensor holder from the outside of the electric parts box and pushing it to inside of the electric parts box. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Secure the TA sensor to the holder, and attach it to the electric parts box. 2) Re-connect the TA sensor connector to the indoor control board in the same way as before replacement. 3) Attach the electronic parts box cover and the bottom plate. (see the 2. of No. ①, 2. of No. ⑥) 	 <p>TA sensor CN104 (Yellow)</p> <p>Electric parts box</p> <p>TA sensor holder</p>
⑫	Sensor TA	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover. (See the 1. of ①) 2) Disconnect the connector for the TF sensor from the indoor control board. 3) Remove the screws for the side cover and remove the side cover. (screws, 7 pcs, locate under the cross slit of heat-insulating material) 4) Remove the TF sensor stay screw. (screw 1pcs) 5) Pull out the TF sensor. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Mount the TF sensor in the same position as before the replacement. 2) Install the side cover in the same way as before the replacement. 3) Re-connect the connector for the TF sensor to the indoor control board. 4) Install the electric parts box cover. (See the 2. of ①) 	 <p>TF SENSOR</p> <p>Air outlet side</p> <p>Side cover</p> <p>Screws (7 pcs)</p> <p>TF sensor</p> <p>TF sensor stay screw (1 pcs)</p> <p>TF sensor</p>

No.	Part to be replaced	Work procedure	Remarks
⑬	Reactor	<p>1. Detachment</p> <ol style="list-style-type: none"> 1) Remove the electric parts box cover and the bottom plate (suction side). (see the 1.of No. ①, 1.of No. ⑥) 2) Remove the Fastons for the reactor leads (CN511, CN510) from the fan control board. 3) Remove the screws A (3 pcs) for the reactor cover, and slide in the arrow direction to remove. 4) Remove the screws B (4 pcs) to secure the reactor, and remove the reactor from the reactor cover. <p>2. Attachment</p> <ol style="list-style-type: none"> 1) Mount the reactor to the reactor cover. (Screw B (4 pcs)) 2) Reinstall the reactor cover in the same way as before replacement. (Screw A (3 pcs)) 3) Pull the leads for the reactor into the electric parts box, and connect to the fan control board in the same way as before replacement. 	  

13. P.C. BOARD EXCHANGE PROCEDURES

■ Indoor unit

Replacement of indoor P.C. boards

<Note: when replacing the P.C. board for indoor unit servicing>

The nonvolatile memory (hereafter called EEPROM, IC503) on the indoor unit P.C. board before replacement includes the model specific type information and capacity codes as the factory-set value and the important setting data which have been automatically or manually set when the indoor unit is installed, such as system/indoor/group addresses, high ceiling select setting, etc.

When replacing the P.C. board for indoor unit servicing, follow the procedures below.

After replacement completes, confirm whether the settings are correct by checking the indoor unit No., Group header unit/follower unit settings and perform the cooling cycle confirmation through the trial operation.

<Replacement procedures>

CASE 1

Before replacement, the indoor unit can be turned on and the setting data can be read out by wired remote control operation.

EEPROM data read out [1]



Replacement of P.C. board for Indoor unit servicing and power on [2]



Writing the read out EEPROM data [3]



Power reset

(for all indoor units connected to the remote control when the group operation control is performed.)

CASE 2

The EEPROM before replacement is incomplete and the setting data cannot be read out.

Replacement of P.C. board for Indoor unit servicing and power on [2]



Writing the setting data to EEPROM, such as high ceiling installation setting and optional connection setting, etc., based on the customer information. [3]



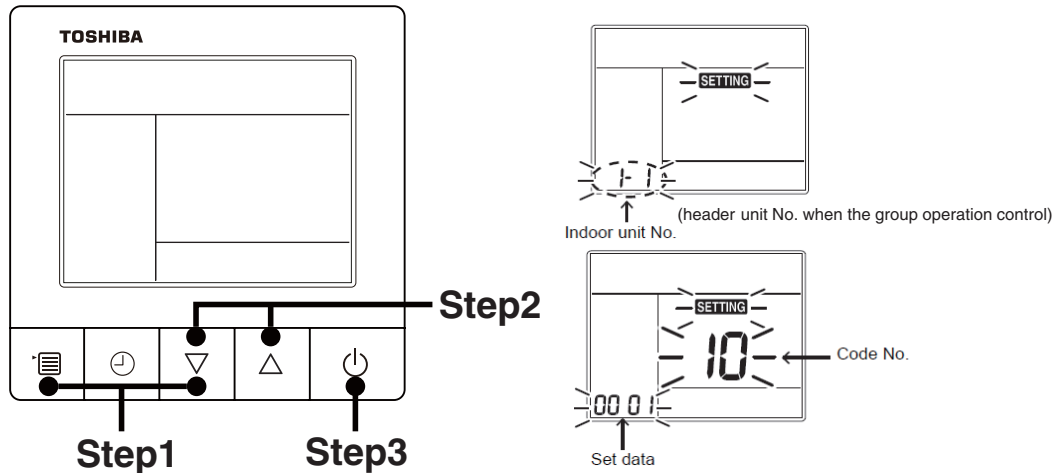
Power reset

(for all indoor units connected to the remote control when the group operation control is performed.)

[1] Setting data read out from EEPROM

The setting data modified on the site, other than factory-set value, stored in the EEPROM shall be read out.

<RBC-ASCU11-C>



Step1 Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.

*When the group operation control is performed, the unit No. displayed for the first time is the header unit No.

At this time, the Code No. (DN) shows “10”. Also, the fan of the indoor unit selected starts its operation and the swing operation also starts if it has the louvers.

Step2 Every time when the [▽ or △] button is pushed, the indoor unit No. under the group control is displayed in order. Specify the indoor unit No. to be replaced.

1. Change the Code No. (DN) to 10 → 01 by pushing [▽ or △] buttons setting. (this is the setting for the filter sign lighting time.)

At this time, be sure to write down the setting data displayed.

2. Change the Code No. (DN) by pushing [▽ or △] buttons. Similarly, be sure to write down the setting data displayed.

3. Repeat the step 2-2 to set the other settings in the same way and write down the setting data as shown in the table 1 (example).

* The Code No. (DN) are ranged from “01” to “FE”. The Code No. (DN) may skip.

<RBC-AMT32E>

[1] Setting data read out from EEPROM

The setting data modified on the site, other than factory-set value, stored in the EEPROM shall be read out.

Step 1 Push SET , ON and TEST button on the remote controller simultaneously for more than 4 seconds.

*When the group operation control is performed, the unit No. displayed for the first time is the header unit No.

At this time, the CODE No. (DN) shows “ 10 ”. Also, the fan of the indoor unit selected starts its operation and the swing operation also starts if it has the louvers.

Step 2 Every time when the UNIT LOUVER (left side button) button is pushed, the indoor unit No. under the group control is displayed in order. Specify the indoor unit No. to be replaced.

1. Change the CODE No. (DN) to $\text{10} \rightarrow \text{01}$ by pushing $\text{▽} / \text{△}$ buttons for the temperature setting. (this is the setting for the filter sign lighting time.)

At this time, be sure to write down the setting data displayed.

2. Change the CODE No. (DN) by pushing $\text{▽} / \text{△}$ buttons for the temperature setting. Similarly, be sure to write down the setting data displayed.

3. Repeat the step 2-2 to set the other settings in the same way and write down the setting data as shown in the table 1 (example).

* The CODE No. (DN) are ranged from “ 01 ” to “ FE ”. The CODE No. (DN) may skip.

CODE No. required at least

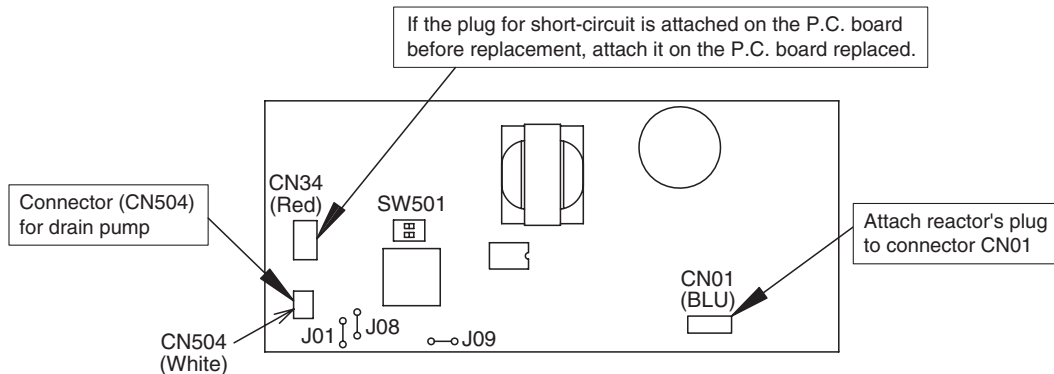
DN	Contents
10	Type
11	Indoor unit capacity
12	System address
13	Indoor unit address
14	Group address

1. The Code No. for the Indoor unit type and Indoor unit capacity are required to set the rotation number setting of the fan.
2. If the system/indoor/group addresses are different from those before replacement, the auto-address setting mode starts and the manual resetting may be required again.
(when the multiple units group operation including twin system.)

Step3 After writing down all setting data, push [ON/OFF] button to return to the normal stop status.
(It takes approx. 1 min until the remote controller operation is available again.)

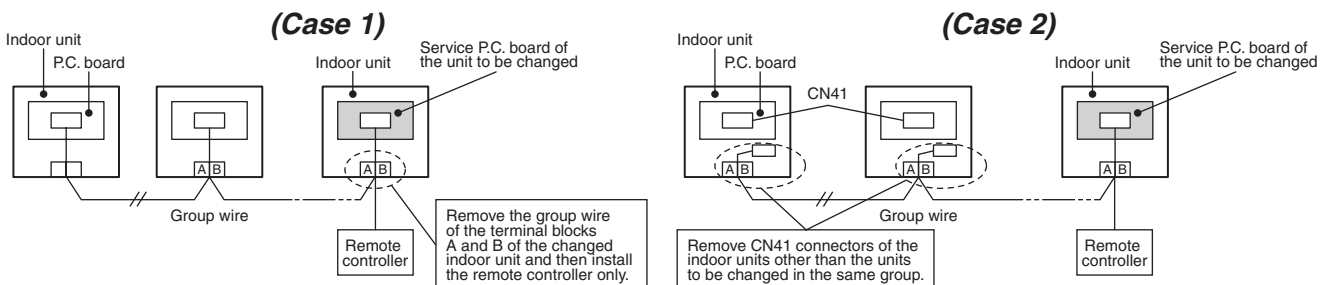
[2] P.C. Board for indoor unit servicing replacement procedures (e.g. MCC-1643)

- Step1** Replace the P.C. board to the P.C. board for indoor unit servicing.
At this time, perform the same setting of the jumper wire (J01, J08, J09) setting (cut), switch SW501, (short-circuit) connector CN34 as the setting of the P.C. board before replacement.



- Step2** It is necessary to set indoor unit to be exchanged: Remote controller = 1 : 1
Based upon the system configuration, turn on power of the indoor unit with one of the following items.

- 1) Single (Individual) operation. Turn on power of the indoor units and proceed to [3].
- 2) Group operation
 - A) In case that power of the exchanged indoor unit only can be turned on
Turn on power of the exchanger indoor unit only and proceed to [3].
 - B) In case that power of the indoor units cannot be turned on individually (Case 1)
 - a) Remove temporarily the group wire connected to the terminal blocks A and B of the indoor unit.
 - b) After connecting the remote controller wire only to the removed terminal block, turn on power of the indoor units and proceed to [3].
 - * When the above methods cannot be used, follow to the two cases below.
 - C) In case that power of the indoor units cannot be turned in individually (Case 2)
 - a) Remove all CN41 connectors of the indoor units in the same group except those of the exchanged indoor unit.
 - b) Turn on power of the indoor units and proceed to [3].
 - * After [3] operation has finished, be sure to return the temporarily removed group wire or CN41 connector to the original connection.



[3] Writing the setting data to EEPROM

The settings stored in the EEPROM of the P.C. board for indoor unit servicing are the factory-set values.

<RBC-ASCU11-C>

- Step 1** Push and hold the [menu + ▽] buttons at same time for more than 10 seconds.
*When the group operation control is performed, the unit No. displayed for the first time is the header unit No.
At this time, the Code No. (DN) shows "10". Also, the fan of the indoor unit selected starts its operation and the swing operation also starts if it has the louvers.
- Step 2** Every time when the [▽ or △] button is pushed, the indoor unit No. in the group control operation are displayed in order.
(The settings stored in the EEPROM of the P.C. board for indoor unit servicing are the factory-set values.)
Specify the indoor unit No. with its P.C. board replaced to the P.C. board for indoor unit servicing.
(You cannot perform this operation if "ALL" is displayed.)
- Step 3** Select the Code No. (DN) can be selected by pushing the [▽ or △] button.
• Set the indoor unit type and capacity.
The factory-set values shall be written to the EEPROM by changing the type and capacity.
1. Push the [menu] button to make Code No. flash. And set the Code No. (DN) to 10 .
 2. Push the [menu] button to make SET DATA flash. And select the type by pushing the [▽ or △] buttons.
(For example, 4-way Cassette Type is set to "0001". Refer to table 2)
 3. Push [OFF timer] button.
(The changed data is set.)
 4. Change the Code No. (DN) to "11" by pushing the [▽ or △] buttons.
 5. Select the capacity by pushing the [▽ or △] buttons.
(For example, UP009 Type is set to "0003". Refer to table 3)
 6. Push [OFF timer] button.
(The changed data is set.)
- Step 4** Write the on-site setting data to the EEPROM, such as address setting, etc. Perform the steps 1 and 2 above again.
- Step 5** Change the Code No. (DN) to "01" by pushing the [▽ or △] buttons.
(this is the setting for the filter sign lighting time.)
- Step 6** Check the setting data displayed at this time with the setting data put down in [1].
1. If the setting data is different, modify the setting data by pushing the [▽ or △] buttons to the data put down in [1].
 2. If the data is the same, proceed to next step.
- Step 7** Change the Code No. (DN) by pushing the [▽ or △] buttons.
As described above, check the setting data and modify to the data put down in [1].
- Step 8** Repeat the steps 6 and 7.
- Step 9** After the setting completes, push the [ON/OFF] button to return to the normal stop status.
(It takes approx. 1 min until the remote controller operation is available again.)

<RBC-AMT32E>

Step 1 Push SET , ON/OFF and TEST buttons on the remote controller simultaneously for more than 4 seconds.

* In the group control operation, the unit No. displayed for the first time is the header unit No..

At this time, the CODE No. (DN) shows "10". Also, the fan of the indoor unit selected starts its operation and the swing operation starts if it has the louvers.

(The unit No. "ALL" is displayed if the auto-address setting mode is interrupted in [2] step 2 a))

Step 2 Every time when UNIT LOUVER (left side button) button is pushed, the indoor unit No. in the group control operation are displayed in order.

(The settings stored in the EEPROM of the P.C. board for indoor unit servicing are the factory-set values.)

Specify the indoor unit No. with its P.C. board replaced to the P.C. board for indoor unit servicing. (You cannot perform this operation if "ALL" is displayed.)

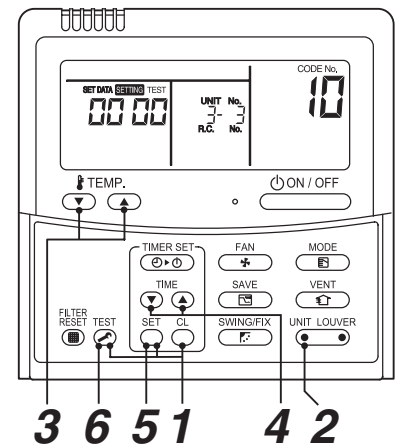
Step 3 Select the CODE No. (DN) can be selected by pushing the TEMP. / ON/OFF button for the temperature setting.

• Set the indoor unit type and capacity.

The factory-set values shall be written to the EEPROM by changing the type and capacity.

1. Set the CODE No. (DN) to "10". (without change)
2. Select the type by pushing TEMP. / ON/OFF buttons for the timer setting. (For example, 4-way Cassette Type is set to "0001". Refer to table 2)
3. Push SET button. (The operation completes if the setting data is displayed.)
4. Change the CODE No. (DN) to "11" by pushing TEMP. / ON/OFF buttons for the temperature setting.
5. Select the capacity by pushing TEMP. / ON/OFF buttons for the timer setting. (For example, AP018 Type is set to "0009". Refer to table 3)
6. Push SET button. (The setting completes if the setting data are displayed.)

<Fig. 1 RBC-AMT32E>



Step 4 Write the on-site setting data to the EEPROM, such as address setting, etc. Perform the steps 1 and 2 above again.

Step 5 Change the CODE No. (DN) to "11" by pushing TEMP. / ON/OFF buttons for the temperature setting. (this is the setting for the filter sign lighting time.)

Step 6 Check the setting data displayed at this time with the setting data put down in [1].

1. If the setting data is different, modify the setting data by pushing TEMP. / ON/OFF buttons for the timer setting to the data put down in [1]. The operation completes if the setting data is displayed.
2. If the data is the same, proceed to next step.

Step 7 Change the CODE No. (DN) by pushing TEMP. / ON/OFF buttons for the temperature setting. As described above, check the setting data and modify to the data put down in [1].

Step 8 Repeat the steps 6 and 7.

Step 9 After the setting completes, push TEST button to return to the normal stop status. (It takes approx. 1 min until the remote controller operation is available again.)

* The CODE No. (DN) are ranged from "11" to "FE". The CODE No. (DN) is not limited to be serial No.

Even after modifying the data wrongly and pushing SET button, it is possible to return to the data before modification by pushing ON/OFF button if the CODE No. (DN) is not changed.

Table 1. Setting data (CODE No. table (example))

CODE No. (DN)	Item	Setting data	Factory-set value
01	Filter sign lighting time		Depending on Type
02	Filter pollution level		0000: standard
03	Central control address		0099: Not determined
06	Heating suction temperature shift		Depending on Type
0F	Cooling only		0000: Heat pump
10	Type		Depending on model type
11	Indoor unit capacity		Depending on capacity type
12	System address		0099: Not determined
13	Indoor unit address		0099: Not determined
14	Group address		0099: Not determined
19	Louver type (wind direction adjustment)		Depending on Type.
1E	Temperature range of cooling/heating automatic SW control point		0003: 3 deg (Ts ±1.5)
28	Power failure automatic recovery		0000: None
2b	Thermostat output SW (T10 ③)		0000: Thermostat ON
31	Ventilation fan (standalone)		0000: Not available
32	Sensor SW (Selection of static pressure)		0000: Body sensor
5d	High ceiling SW		0000: Standard
60	Timer setting (wired remote controller)		0000: Available
77	Dual set point		0000: Unavailable
b3	Soft cooling		0001: Available
b5	Occupancy sensor: Provided/None		0000: None
b6	Occupancy sensor: Enable/Invalid (Judgment time of absence)		0002: Enable (60 min.)
b7	Occupancy sensor: Operation at absent time		0000: Stand by
d0	Remote controller operation save function		0001: Enable
F0	Swing mode		0001: Standard
F1	Louver fixing position (Flap No. 1)		0000: Not fixed
F2	Louver fixing position (Flap No. 2)		0000: Not fixed
F3	Louver fixing position (Flap No. 3)		0000: Not fixed
F4	Louver fixing position (Flap No. 4)		0000: Not fixed
F6	Presence of Application control kit		0000: None
Fd	Priority operation mode (FS unit)		0000: Heating
FE	FS unit address		0099: Unfixed

Table 2. Type: Code No.10

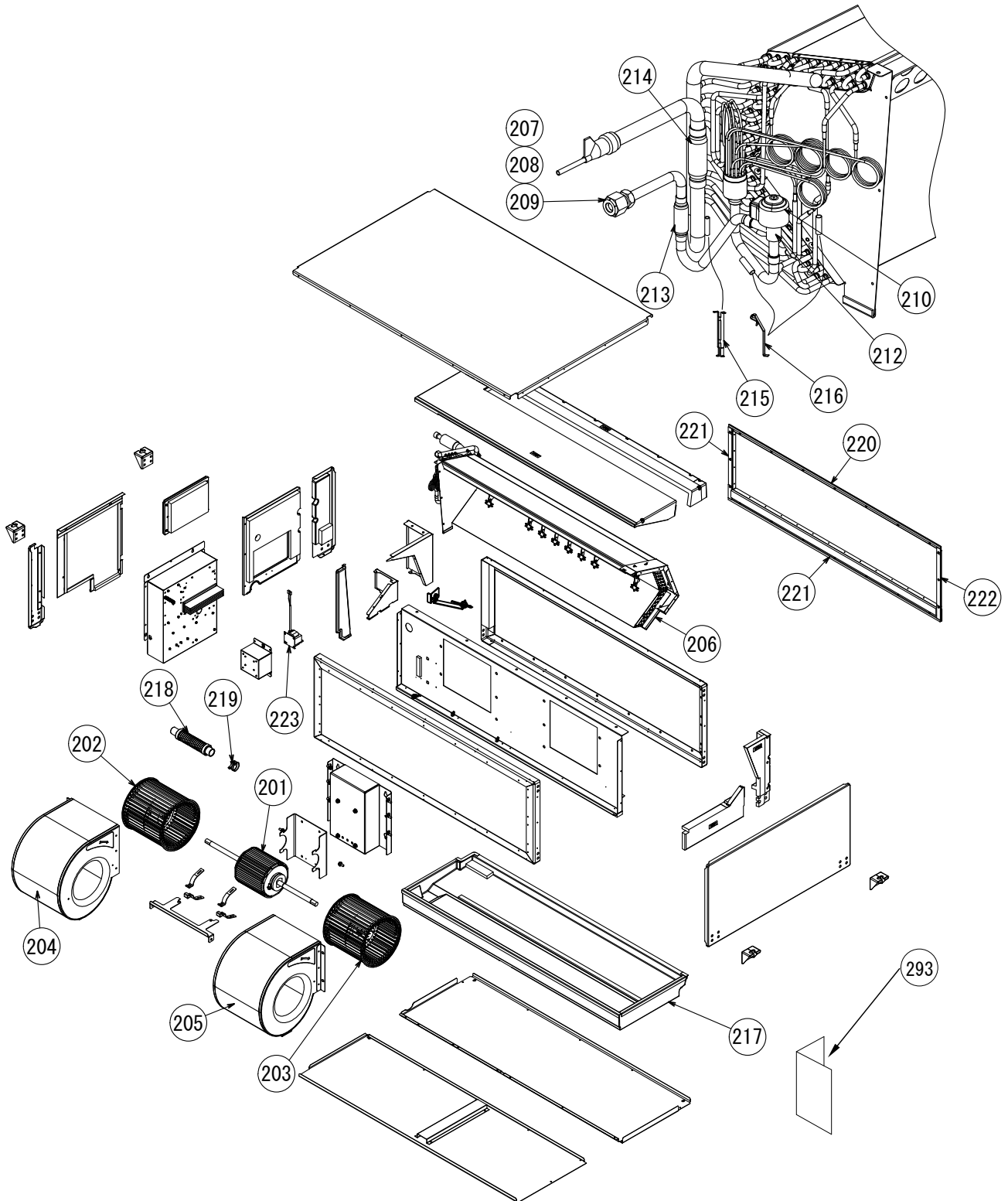
Setting data	Type	Model name
0016	Fresh Air Intake Indoor Unit	MMD-UP***HFP-*

Table 3. Indoor unit capacity: Code No.11

Setting data	Model
0000*	Invalid
0017	048 type
0021	072 type
0023	096 type
0024	112 type
0025	128 type

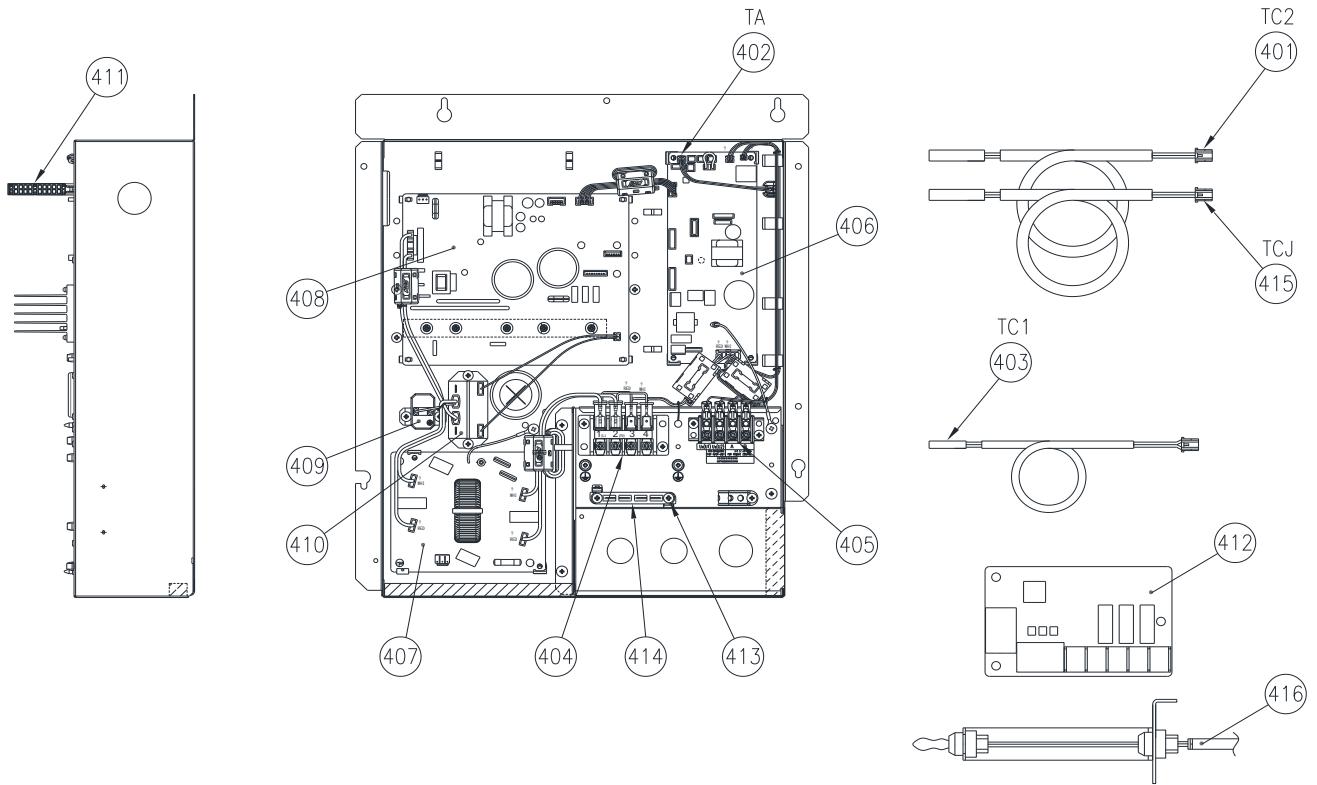
14. EXPLODED VIEWS AND PARTS LIST

14-1. Indoor unit exploded view



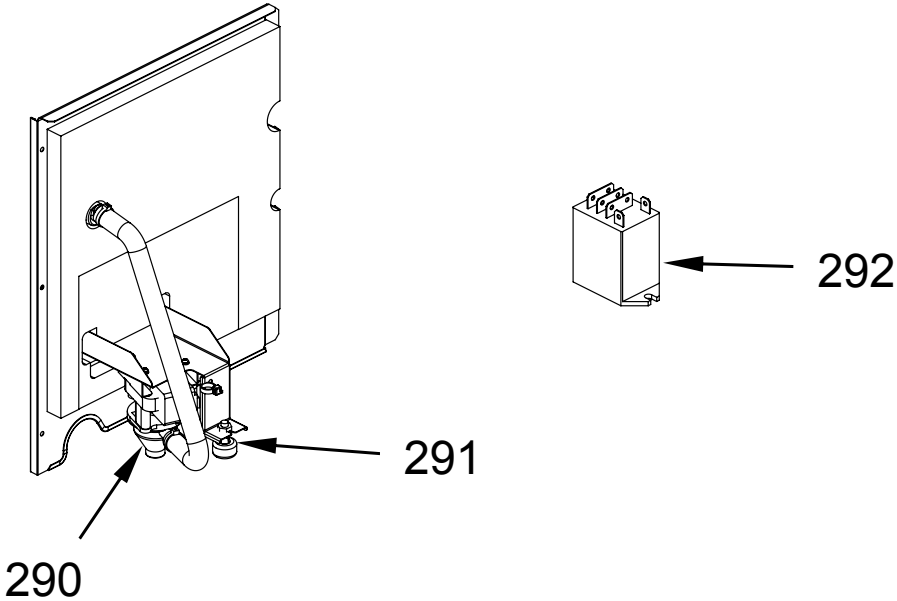
Location No.	Part No.	Description	Q'ty / set MMD-			
			UP0721HFP-*	UP0961HFP-*	UP1121HFP-*	UP1281HFP-*
201	43T21530	MOTOR, FAN	1	1	1	1
202	43T20346	FAN, MULTI BLADE, LEFT	1	1	1	1
203	43T20345	FAN, MULTI BLADE, RIGHT	1	1	1	1
204	43T22347	CASE, FAN, LEFT	1	1	1	1
205	43T22346	CASE, FAN, RIGHT	1	1	1	1
206	43T44694	REFRIGERATION CYCLE ASSY	1	1	1	1
207	43T47333	BONNET, 12.70 DIA	1	1	1	1
208	43T82333	SOCKET	1	1	1	1
209	43T97317	NUT, FLARE, 1/2 IN	1	1	1	1
210	43T46515	COIL, PMV	1	1	1	1
212	43T46514	BODY, PMV	1	1	1	1
213	43T47387	STRAINER	1	1	1	1
214	43T47407	STRAINER, GAS	1	1	1	1
215	43T19333	HOLDER, SENSOR	2	2	2	2
216	43T19321	FIX-P-SENSOR	1	1	1	1
217	43T72326	ASM-DR-GENE	1	1	1	1
218	43T70315	HOSE, DRAIN	1	1	1	1
219	43T83311	BAND, HOSE	1	1	1	1
220	43T39371	FLANGE, UPPER	1	1	1	1
221	43T39372	FLANGE, LOWER	1	1	1	1
222	43T39373	FLANGE, SIDE	2	2	2	2
223	43T58332	REACTOR	1	1	1	1
290	43T77302	PUMP DRAIN	1	1	1	1
291	43T51313	FLOT SWITCH	1	1	1	1
292	43T54325	RELAY	1	1	1	1
293	43T85846	OWNER'S MANUAL	1	-	-	-
293	43T85847	OWNER'S MANUAL	-	1	-	-
293	43T85840	OWNER'S MANUAL	-	-	1	-
293	43T85841	OWNER'S MANUAL	-	-	-	1

14-2. Electric Parts



Location No.	Part No.	Description	Q'ty / set MMD-			
			UP0721HFP-*	UP0961HFP-*	UP1121HFP-*	UP1281HFP-*
401	43150440	TC-SENSOR	1	1	1	1
402	43T50476	SERVICE-SENSOR	1	1	1	1
403	43T50477	TC-SENSOR (TC1)	1	1	1	1
404	43T60458	SERV-TERMINAL	1	1	1	1
405	43T60362	TERMINAL	1	1	1	1
406	43T6W953	PC BOARD ASSY	1	1	1	1
407	43T6V670	PC BOARD ASSY	1	1	1	1
408	43TN9442	PC BOARD ASSY (MCC-1610)	1	1	1	1
409	43T50345	THERMISTOR,PTC	1	1	1	1
410	43T54324	POWER-RELAY	1	1	1	1
411	43T63356	HOLDER-TA	1	1	1	1
412	43459017	ASM-PCB(OP)	1	1	1	1
413	43T63348	CLAMP, DOWN	1	1	1	1
414	43T63349	CLAMP, UP	1	1	1	1
415	43150439	TC-SENSOR	1	1	1	1
416	43T50397	TF SENSOR ASSY	1	1	1	1

Drain pump kit (TCB-DP40DFP-E)



Location No.	Part No.	Description	Q'ty/Set
			TCB-DP40DFP-E
290	43T77302	PUMP DRAIN	1
291	43T51313	FLOAT SWITCH	1
292	43T54325	RELAY	1

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