TOSHIBA
Carrier

FILE NO. A10-2209

AIR CONDITIONER (MULTI TYPE)

SERVICE MANUAL

Indoor unit

<Compact 4-way Cassette type>

MMU-UP0071MH-UL
MMU-UP0091MH-UL
MMU-UP0121MH-UL
MMU-UP0151MH-UL
MMU-UP0181MH-UL
Ceiling panel: RBC-UM21PG-UL

<Slim Duct type>

MMD-UP0071SPH-UL
MMD-UP0091SPH-UL
MMD-UP0121SPH-UL
MMD-UP0151SPH-UL
MMD-UP0181SPH-UL

<Floor Console Exposed type>

MML-UP0071H-UL
MML-UP0091H-UL
MML-UP0121H-UL
MML-UP0151H-UL
MML-UP0181H-UL
MML-UP0241H-UL

<Floor Console Recessed type>

MML-UP0071BH-UL
MML-UP0091BH-UL
MML-UP0121BH-UL
MML-UP0151BH-UL
MML-UP0181BH-UL
MML-UP0241BH-UL

PRINTED IN JAPAN, Jan., 2023 ToMo

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SAFETY CAUTION

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

[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]

Mark	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.

⚠ DANGER	
 Turn off breaker.	**Turn "OFF" the breaker before removing the front panel and cabinet, otherwise an electric shock is caused by high voltage resulted in a death or injury.** During operation, a high voltage with 400V or higher of circuit (∗) at secondary circuit of the high-voltage transformer is applied. If touching a high voltage with the naked hands or body, an electric shock is caused even if using an electric insulator. ∗ : For details, refer to wiring diagram.
 Execute discharge between terminals.	**When removing the front panel or cabinet, execute short-circuit and discharge between high-voltage capacitor terminals.** If discharge is not executed, an electric shock is caused by high voltage resulted in a death or injury. After turning off the breaker, high voltage also keeps to apply to the high-voltage capacitor.
 Prohibition	**Do not turn on the breaker under condition that the front panel and cabinet are removed.** An electric shock is caused by high voltage resulted in a death or injury.

⚠ WARNING	
 Check ground wires.	**Before troubleshooting or repair work, check the ground wire is connected to the ground terminals of the main unit, otherwise an electric shock is caused when a leak occurs.** If the ground wire is not correctly connected, contact an electric engineer for rework.
 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.	**For spare parts, use those specified (∗).** If unspecified parts are used, a fire or electric shock may be caused. ∗: For details, refer to the parts list.
 Do not bring a child close to the equipment.	**Before troubleshooting or repair work, do not bring a third party (a child, etc.) except the repair engineers close to the equipment.** It causes an injury with tools or disassembled parts. Please inform the users so that the third party (a child, etc.) does not approach the equipment.
 Insulating measures	**Connect the cut-off lead wires with crimp contact, etc, put the closed end side upward and then apply a water-cut method, otherwise a leak or production of fire is caused at the users' side.**
 No fire	**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	**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. **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 cocking 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/Cabling	**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.

⚠ WARNING	
 Insulator check	**After the work has finished, be sure to use an insulation tester set (500V Megger) to check the resistance is 2MΩ or more between the charge section and the non-charge metal section (Ground 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.
 Be attentive to electric shock	**When checking the circuit inevitably under condition of the power-ON, use rubber gloves and others not to touch to the charging section.** If touching to the charging section, an electric shock may be caused.
 Compulsion	**When the refrigerant gas leaks, find up the leaked position and repair it surely.** If the leaked position cannot be found up 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 cocking stove though the refrigerant gas itself is innocuous. **When installing equipment which includes a large amount of charged refrigerant such as a multi air conditioner in a sub-room, it is necessary that the density does not the limit even if the refrigerant leaks.** If the refrigerant leaks and exceeds the limit density, an accident of shortage of oxygen is caused. **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	**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.
 Check after reinstallation	**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.
	Check the following items after reinstallation. 1) The ground 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.

⚠ CAUTION	
 Put on gloves	**Be sure to put on the gloves (*) and a long sleeved shirt: otherwise an injury may be caused with the parts, etc.** (*) Heavy gloves such as work gloves
 Cooling check	**When the power was turned on, start to work after the equipment has been sufficiently cooled.** As temperature of the compressor pipes and others became high due to cooling/heating operation, a burn may be caused.

• Refrigerant (R410A)

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

1. Safety Caution Concerned to Refrigerant (R410A)

The pressure of R410A is high 1.6 times of that of the former refrigerant (R22).
Accompanied with change of refrigerant, the refrigerating oil has been also changed.
Therefore, be sure that water, dust, the former refrigerant or the former refrigerating oil is not mixed into the refrigerating cycle of the air conditioner with refrigerant (R410A) during installation work or service work.
If an incorrect work or incorrect service is performed, there is a possibility to cause a serious accident.
Use the tools and materials exclusive to R410A to purpose a safe work.

2. Cautions on Installation/Service

1) Do not mix the other refrigerant or refrigerating oil.
   For the tools exclusive to R410A, shapes of all the joints including the service port differ from those of the former refrigerant in order to prevent mixture of them.
2) As the use pressure of the refrigerant (R410A) is high, use material thickness of the pipe and tools which are specified for R410A.
3) In the installation time, use clean pipe materials and work with great attention so that water and others do not mix in because pipes are affected by impurities such as water, oxide scales, oil, etc.
   Use the clean pipes.
   Be sure to brazing with flowing nitrogen gas. (Never use gas other than nitrogen gas.)
4) For the ground protection, use a vacuum pump for air purge.
5) R410A refrigerant is azeotrope mixture type refrigerant.
   Therefore use liquid type to charge the refrigerant. (If using gas for charging, composition of the refrigerant changes and then characteristics of the air conditioner change.)

3. Pipe Materials

For the refrigerant pipes, copper pipe and joints are mainly used.
It is necessary to select the most appropriate pipes to conform to the standard.
Use clean material in which impurities adhere inside of pipe or joint to a minimum.

1) Copper pipe

<Piping>
The pipe thickness, flare finishing size, flare nut and others differ according to a refrigerant type.
When using a long copper pipe for R410A, it is recommended to select “Copper or copper-base pipe without seam” and one with bonded oil amount 0.0001 lbs / 32’ 10” (40mg / 10m) or less.
Also do not use crushed, deformed, discolored (especially inside) pipes.
(Impurities cause clogging of expansion valves and capillary tubes.)

<Flare nut>
Use the flare nuts which are attached to the air conditioner unit.

2) Joint

The flare joint and socket joint are used for joints of the copper pipe.
The joints are rarely used for installation of the air conditioner. However clear impurities when using them.

4. Tools

1. Required Tools for R410A

Mixing of different types of oil may cause a trouble such as generation of sludge, clogging of capillary, etc. Accordingly, the tools to be used are classified into the following three types.

1) Tools exclusive for R410A (Those which cannot be used for conventional refrigerant (R22))
2) Tools exclusive for R410A, but can be also used for conventional refrigerant (R22)
3) Tools commonly used for R410A and for conventional refrigerant (R22)

The table below shows the tools exclusive for R410A and their interchangeability.

Tools exclusive for R410A (The following tools for R410A are required.)

Tools whose specifications are changed for R410A and their interchangeability

No.	Used tool	Usage	R410A air conditioner installation		Conventional air conditioner installation
			Existence of new equipment for R410A	Whether conventional equipment can be used	Whether conventional equipment can be used
①	Flare tool	Pipe flaring	Yes	*(Note)	Yes
②	Copper pipe gauge for adjusting projection margin	Flaring by conventional flare tool	Yes	*(Note)	*(Note)
③	Torque wrench	Tightening of flare nut	Yes	No	No
④	Gauge manifold	Evacuating, refrigerant charge, run check, etc.	Yes	No	No
⑤	Charge hose				
⑥	Vacuum pump adapter	Vacuum evacuating	Yes	No	Yes
⑦	Electronic balance for refrigerant charging	Refrigerant charge	Yes	Yes	Yes
⑧	Refrigerant cylinder	Refrigerant charge	Yes	No	No
⑨	Leakage detector	Gas leakage check	Yes	No	Yes

(Note) When flaring is carried out for R410A using the conventional flare tools, adjustment of projection margin is necessary. For this adjustment, a copper pipe gauge, etc. are necessary.

General tools (Conventional tools can be used.)

In addition to the above exclusive tools, the following equipment which serve also for R22 are necessary as the general tools.

1) Vacuum pump. Use vacuum pump by attaching vacuum pump adapter.
2) Torque wrench
3) Pipe cutter
4) Reamer
5) Pipe bender
6) Level vial
7) Screwdriver (+, –)
8) Spanner or Adjustable wrench
9) Hole core drill
10) Hexagon wrench (Opposite side 4mm)
11) Tape measure
12) Metal saw

Also prepare the following equipment for other installation method and run check.

1) Clamp meter
2) Thermometer
3) Insulation resistance tester (Megger)
4) Electroscope

1. SPECIFICATIONS

1-1. Compact 4-way Cassette type

Model name				MMU-UP0071MH-UL	MMU-UP0091MH-UL	MMU-UP0121MH-UL	MMU-UP0151MH-UL	MMU-UP0181MH-UL
Cooling Capacity			kBtu/h	7.5	9.5	12	15.4	18.0
Heating Capacity			kBtu/h	8.5	10.5	13.5	17.0	20.0
Electrical characteristics	Power supply			230V (208V/230V) 1 phase 60Hz				
	Running current		A	0.23	0.24	0.25	0.28	0.36
	Power consumption		kW	0.023	0.025	0.027	0.030	0.039
	Starting current		A	0.41	0.43	0.44	0.50	0.62
Appearance	Main Unit			Zinc hot dipping steel plate				
	Ceiling Panel (*1)	Model Name		RBC-UM21PG-UL				
		Panel Color		Gran White (Mansell 5PB9/1)				
Outer dimension	Main Unit	Height (*2)	In	10.1				
		Width	In	22.6				
		Depth (*3)	In	22.6				
	Ceiling Panel	Height (*2)	In	0.5				
		Width	In	24.4				
		Depth	In	24.4				
Total weight	Main Unit		lbs	33.1				
	Ceiling Panel		lbs	5.5				
Heat exchanger				Finned tube				
Soundproof / Heat-insulating material				Non-flammable insulation				
Fan unit	Fan			Turbo fan				
	Standard air flow (H/M+/M/L+/L)		cfm	320/290/270/230/220	340/310/280/230/220	350/320/300/250/240	390/350/320/280/270	450/420/380/320/310
	Motor		W	60				
Air filter				Standard filter (Long life filter)				
Controller			(*1)	Remote controller				
Connecting pipe	Gas side		In	3/8"			1/2"	
	Liquid side		In	1/4"				
Drain port (Nominal dia. mm)				VP20 (Polyvinyl chloride tube)				
Sound pressure level (H/M+/M/L+/L)			dB	39 / 36 / 35 / 32 / 31	40 / 37 / 35 / 33 / 31	40 / 38 / 36 / 34 / 32	43 / 39 / 38 / 35 / 33	46 / 44 / 42 / 39 / 37
Sound power level (H/M+/M/L+/L)			dB	52 / 49 / 48 / 45 / 44	53 / 50 / 48 / 45 / 44	53 / 51 / 49 / 46 / 45	55 / 52 / 50 / 47 / 46	59 / 57 / 54 / 51 / 49

Note
(*1) Remote controller and ceiling panel are sold separately.
(*2) Height from the ceiling.
(*3) Depth doesn't include the Electric parts box.

1-2. Slim Duct type

MODEL NAME			MMD-UP0071SPH-UL	MMD-UP0091SPH-UL	MMD-UP0121SPH-UL	MMD-UP0151SPH-UL	MMD-UP0181SPH-UL
Cooling Capacity		kBtu/h	7.5	9.5	12.0	15.4	18.0
Heating Capacity		kBtu/h	8.5	10.5	13.5	17.0	20.0
Electrical characteristics	Power supply		230V (208V/230V) 1 phase 60Hz				
	Running current	A	0.53	0.57	0.63	0.59	0.69
	Power consumption	kW	0.048	0.051	0.057	0.054	0.069
	Starting current	A	0.93	1.00	1.10	1.03	1.21
Appearance			Zinc hot dipping steel plate				
Outer dimension	Height	In	8.3				
	Width	In	27.6			35.4	
	Depth	In	17.7				
Total weight		lbs	37.5			44.1	
Heat exchanger			Finned tube				
Soundproof / Heat-insulating material			Polyethylene foam + Polyurethane foam				
Fan			Centrifugal fan (Sirocco fan)				
Standard air flow (H/M+/M/L+/L)		cfm	320/290/270/250/240	340/310/290/260/250	350/320/310/280/260	410/390/380/350/320	460/450/430/410/380
Motor output		W	31			46	
External Static Pressure (No filter)		inWG	0.05 (Factory setting)-0.09-0.13-0.17-0.21<5step>			0.07 (Factory setting)-0.11-0.15-0.19-0.23<5step>	
Air filter			Local procurement				
Controller			Remote controller				
Connecting pipe	Gas side	In	3/8"			1/2"	
	Liquid side	In	1/4"				
	Drain port(Nominal dia. mm)		25 (Polyvinyl chloride tube)				
Sound pressure level (H/M+/M/L+/L)	Under air intake	dB	43 / 41 / 39 / 37 / 35	44 / 42 / 40 / 38 / 37	45 / 43 / 41 / 39 / 38	41 / 40 / 39 / 37 / 36	44 / 43 / 42 / 40 / 39
	Back air intake	dB	33 / 32 / 30 / 29 / 27	34 / 33 / 31 / 30 / 28	36 / 33 / 32 / 30 / 29	31 / 30 / 29 / 28 / 27	33 / 32 / 31 / 30 / 29

1-3. Floor Console Exposed type

Model name				MML-	UP0071H-UL	UP0091H-UL	UP0121H-UL	UP0151H-UL
Cooling capacity				kBtu/h	7.5	9.5	12.0	15.4
Heating Capacity				kBtu/h	8.5	10.5	13.5	17.0
Electrical characteristics	Power supply				230V (208V/230V) 1phase 60Hz			
	Power consumption		208V	kW	0.049	0.049	0.080	0.080
			230V	kW	0.058	0.058	0.093	0.093
Appearance					Silky shade (Munsell 1Y8.5/0.5)			
Dimension	Unit	Height		In	24.8	24.8	24.8	24.8
		Width		In	37.4	37.4	37.4	37.4
		Depth		In	9.1	9.1	9.1	9.1
	Packing	Height		In	29.0	29.0	29.0	29.0
		Width		In	41.3	41.3	41.3	41.3
		Depth		In	12.9	12.9	12.9	12.9
Total weight	Unit			lbs	81.6	81.6	81.6	81.6
	Packing			lbs	88.2	88.2	88.2	88.2
Heat exchanger					Finned tube			
Fan unit	Fan				Centrifugal fan			
	Standard air flow (High/Mid/Low)			cfm	280 / 250 / 210	280 / 250 / 210	530 / 460 / 380	530 / 460 / 380
	Motor			W	19	19	45	45
Connecting pipe	Gas side			In	3/8"	3/8"	3/8"	1/2"
	Liquid side			In	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia. mm)				20 (Polyvinyl chloride tube)			
Sound pressure level (High/Mid./Low) (*1)			208V	dB(A)	39 / 38 / 35	39 / 38 / 35	47 / 44 / 40	47 / 44 / 40
			230V	dB(A)	42 / 40 / 38	42 / 40 / 38	50 / 46 / 42	50 / 46 / 42

Model name				MML-	UP0181H-UL	UP0241H-UL
Cooling capacity				kBtu/h	18.0	24.0
Heating Capacity				kBtu/h	20.0	27.0
Electrical characteristics	Power supply				230V (208V/230V) 1phase 60Hz	
	Power consumption		208V	kW	0.098	0.098
			230V	kW	0.113	0.113
Appearance					Silky shade (Munsell 1Y8.5/0.5)	
Dimension	Unit	Height		In	24.8	24.8
		Width		In	37.4	37.4
		Depth		In	9.1	9.1
	Packing	Height		In	29.0	29.0
		Width		In	41.3	41.3
		Depth		In	12.9	12.9
Total weight	Unit			lbs	88.2	88.2
	Packing			lbs	94.8	94.8
Heat exchanger					Finned tube	
Fan unit	Fan				Centrifugal fan	
	Standard air flow (High/Mid/Low)			cfm	640 / 550 / 460	640 / 550 / 460
	Motor			W	70	70
Connecting pipe	Gas side			In	1/2"	5/8"
	Liquid side			In	1/4"	3/8"
	Drain port (Nominal dia. mm)				20 (Polyvinyl chloride tube)	
Sound pressure level (High/Mid./Low) (*1)			208V	dB(A)	51 / 46 / 41	51 / 46 / 41
			230V	dB(A)	53 / 48 / 43	53 / 48 / 43

Note

(*1) The actual value s in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

1-4. Floor Console Recessed type

Model name				MML-	UP0071BH-UL	UP0091BH-UL	UP0121BH-UL	UP0151BH-UL
Cooling capacity				kBtu/h	7.5	9.5	12.0	15.4
Heating Capacity				kBtu/h	8.5	10.5	13.5	17.0
Electrical characteristics	Power supply				230V (208V/230V) 1phase 60Hz			
	Power consumption		208V	kW	0.047	0.047	0.047	0.095
			230V	kW	0.056	0.056	0.056	0.114
Appearance					Zinc hot dipping steel plate			
Dimension	Unit	Height		In	23.6	23.6	23.6	23.6
		Width		In	29.3	29.3	29.3	41.1
		Depth		In	8.7	8.7	8.7	8.7
	Packing	Height		In	26.9	26.9	26.9	26.9
		Width		In	31.9	31.9	31.9	43.7
		Depth		In	10.8	10.8	10.8	10.8
Total weight	Unit			lbs	50.7	50.7	50.7	68.3
	Packing			lbs	57.3	57.3	57.3	75.0
Heat exchanger					Finned tube			
Fan unit	Fan				Centrifugal fan			
	Standard air flow (High/Mid/Low)			cfm	270 / 240 / 180	270 / 240 / 180	270 / 240 / 180	440 / 350 / 290
	Motor			W	19	19	19	70
Connecting pipe	Gas side			In	3/8"	3/8"	3/8"	1/2"
	Liquid side			In	1/4"	1/4"	1/4"	1/4"
	Drain port (Nominal dia. mm)				20 (Polyvinyl chloride tube)			
Sound pressure level (High/Mid./Low) (*1)			208V	dB(A)	40 / 36 / 33	40 / 36 / 33	40 / 36 / 33	40 / 36 / 33
			230V	dB(A)	42 / 39 / 36	42 / 39 / 36	42 / 39 / 36	43 / 39 / 36

Model name				MML-	UP0181BH-UL	UP0241BH-UL
Cooling capacity				kBtu/h	18.0	24.0
Heating Capacity				kBtu/h	20.0	27.0
Electrical characteristics	Power supply				230V (208V/230V) 1phase 60Hz	
	Power consumption		208V	kW	0.095	0.104
			230V	kW	0.114	0.120
Appearance					Zinc hot dipping steel plate	
Dimension	Unit	Height		In	23.6	23.6
		Width		In	41.1	41.1
		Depth		In	8.7	8.7
	Packing	Height		In	26.9	26.9
		Width		In	43.7	43.7
		Depth		In	10.8	10.8
Total weight	Unit			lbs	68.3	68.3
	Packing			lbs	75.0	75.0
Heat exchanger					Finned tube	
Fan unit	Fan				Centrifugal fan	
	Standard air flow (High/Mid/Low)			cfm	440 / 350 / 290	560 / 470 / 380
	Motor			W	70	70
Connecting pipe	Gas side			In	1/2"	5/8"
	Liquid side			In	1/4"	3/8"
	Drain port (Nominal dia. mm)				20 (Polyvinyl chloride tube)	
Sound pressure level (High/Mid./Low) (*1)			208V	dB(A)	40 / 36 / 33	47 / 42 / 35
			230V	dB(A)	43 / 39 / 36	49 / 44 / 37

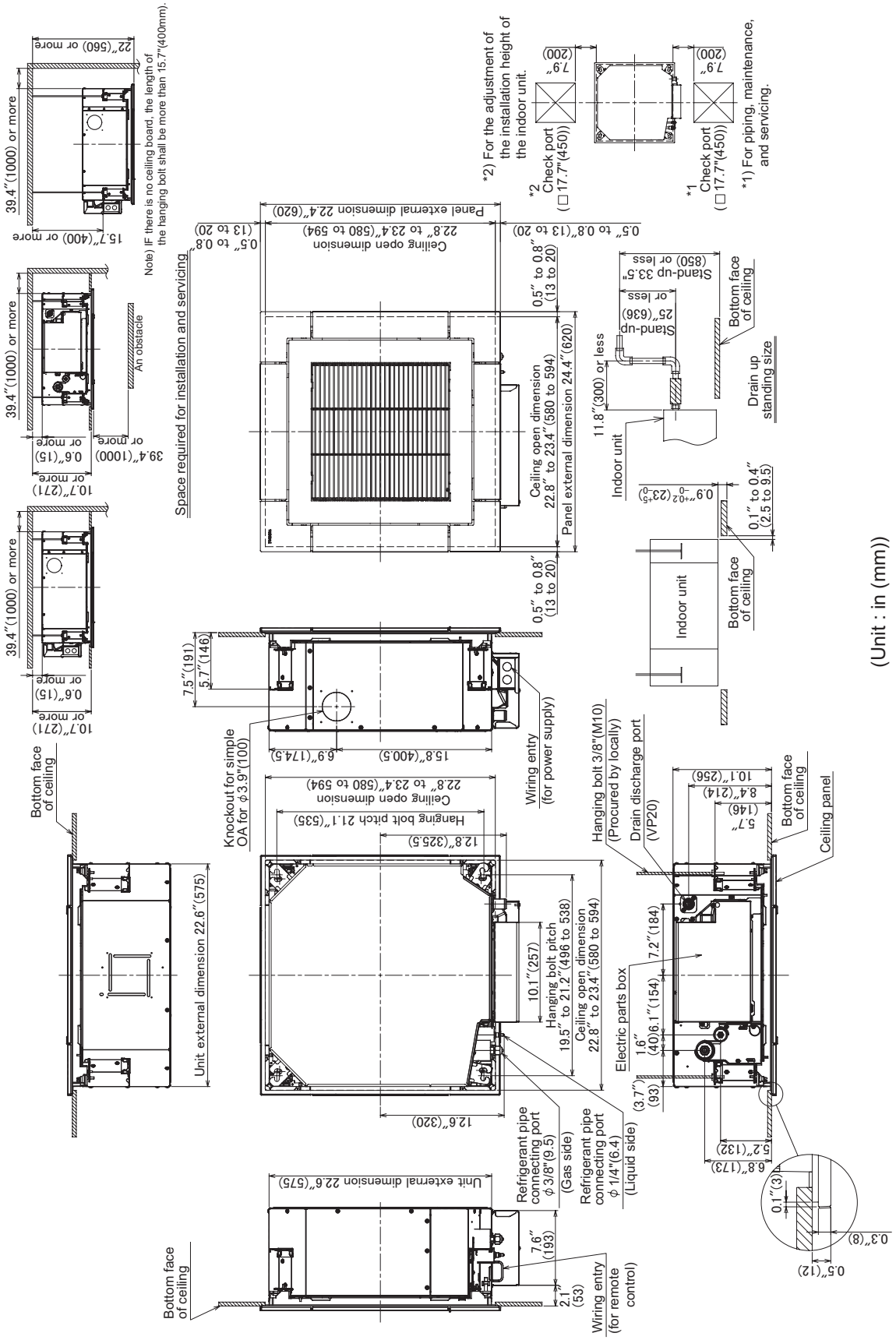
Note

(*1) The actual value s in an external operating environment are generally higher than the indicated values due to the contribution from ambient noise.

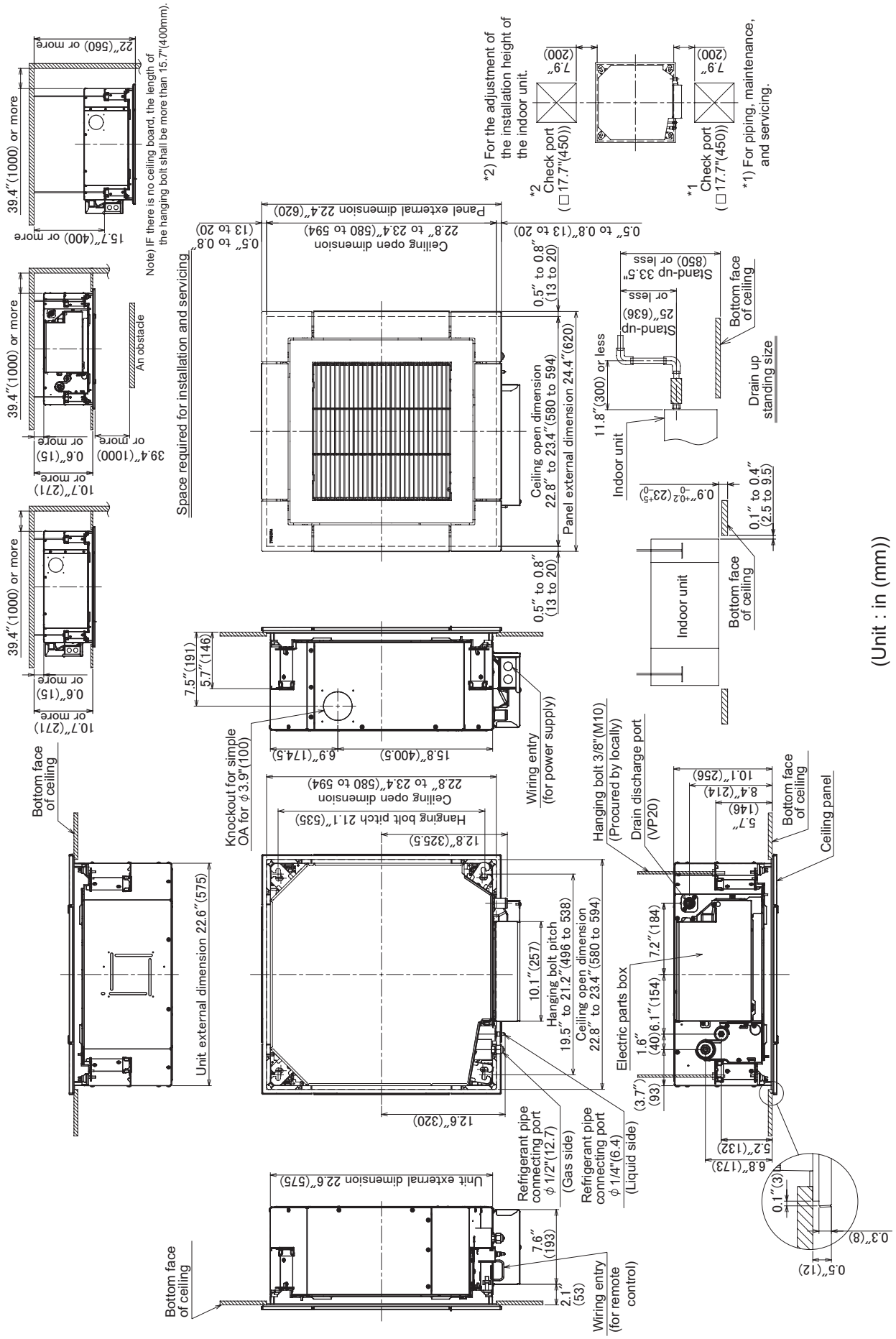
2. CONSTRUCTION VIEWS (EXTERNAL VIEWS)

2-1. Compact 4-way Cassette type

MMU-UP0071MH-UL, UP0091MH-UL, UP0121MH-UL

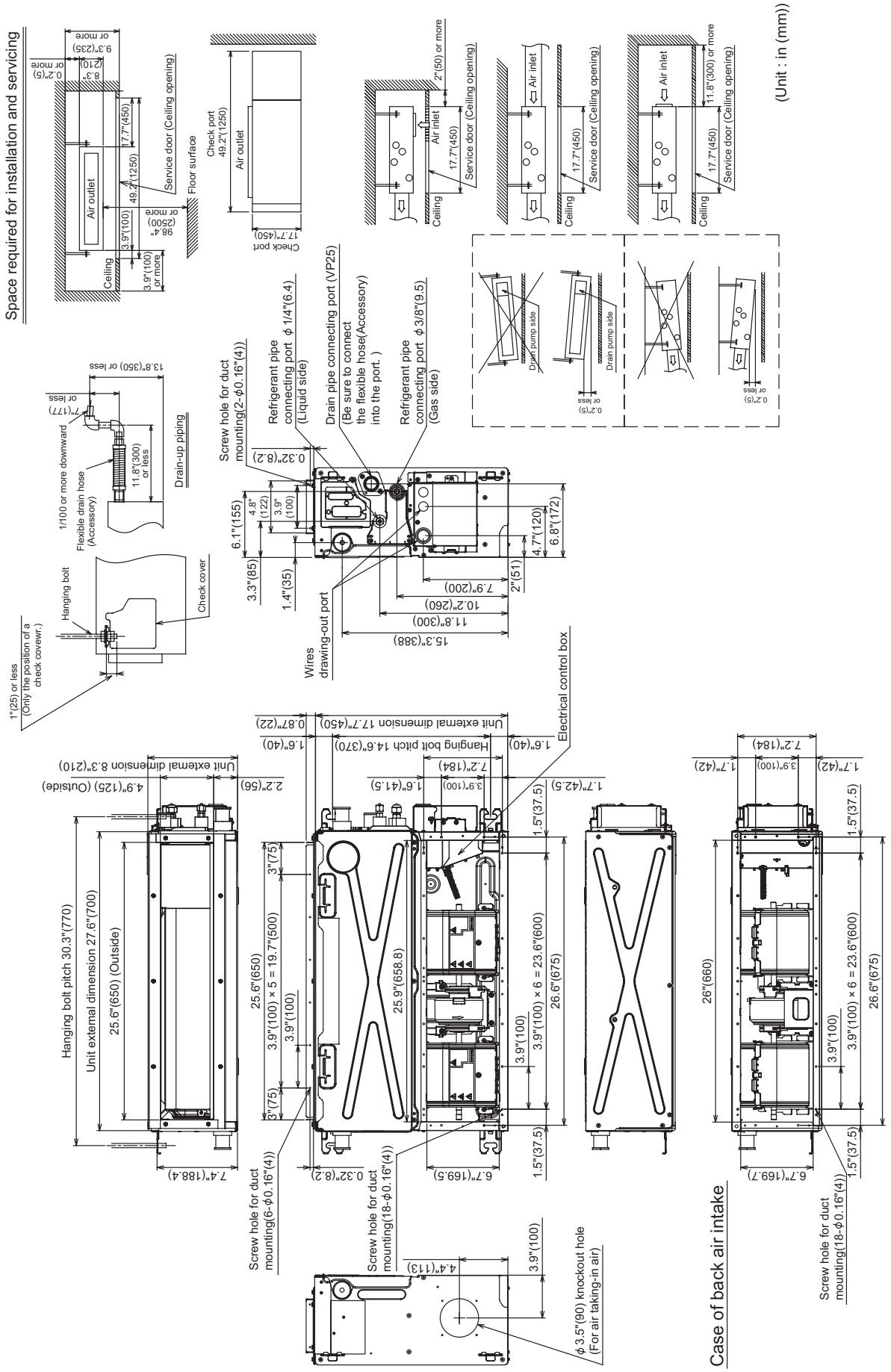


MMU-UP0151MH-UL, UP0181MH-UL

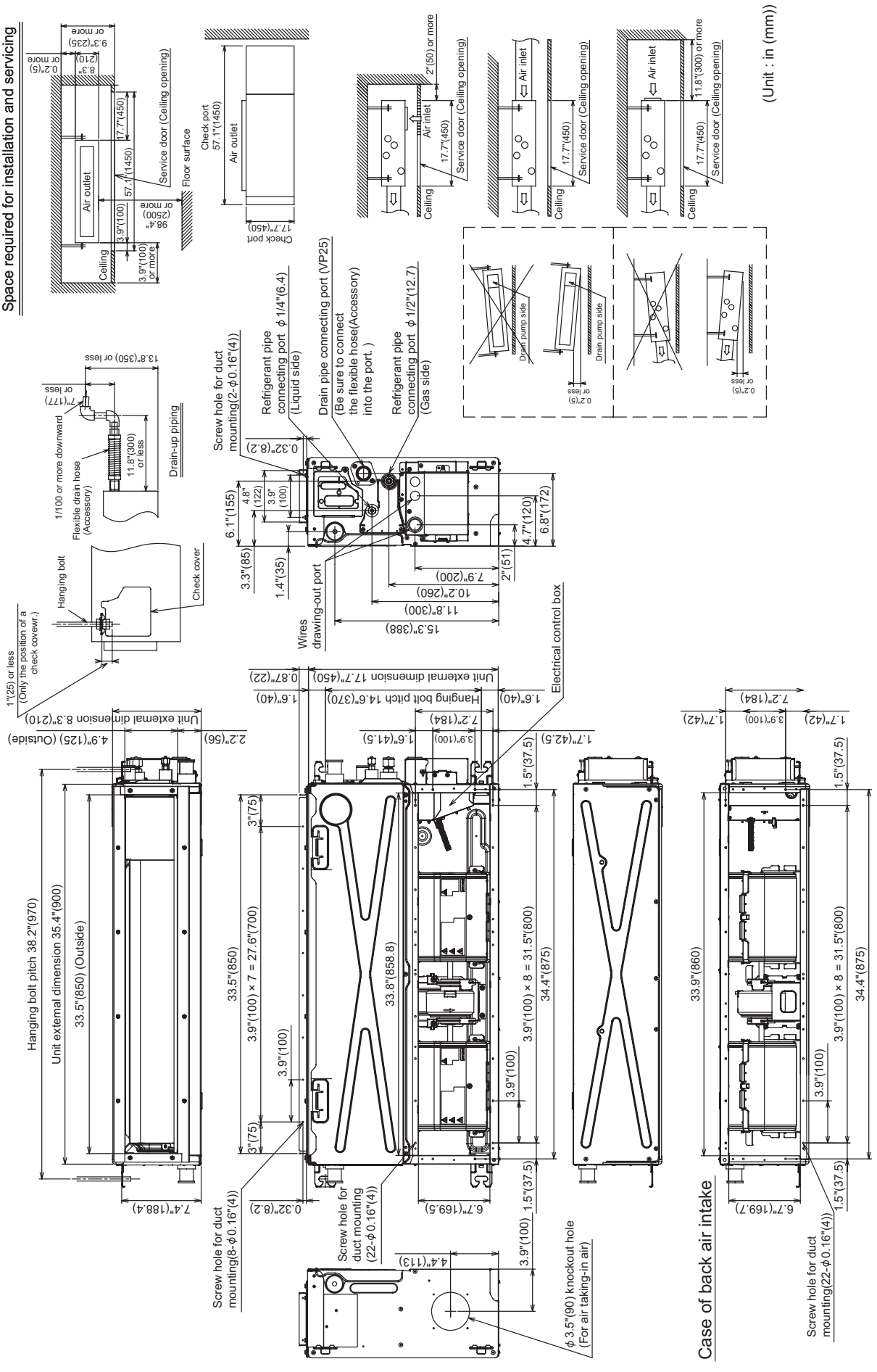


2-2. Slim Duct type

MMD-UP0071SPH-UL, UP0091SPH-UL, UP0121SPH-UL

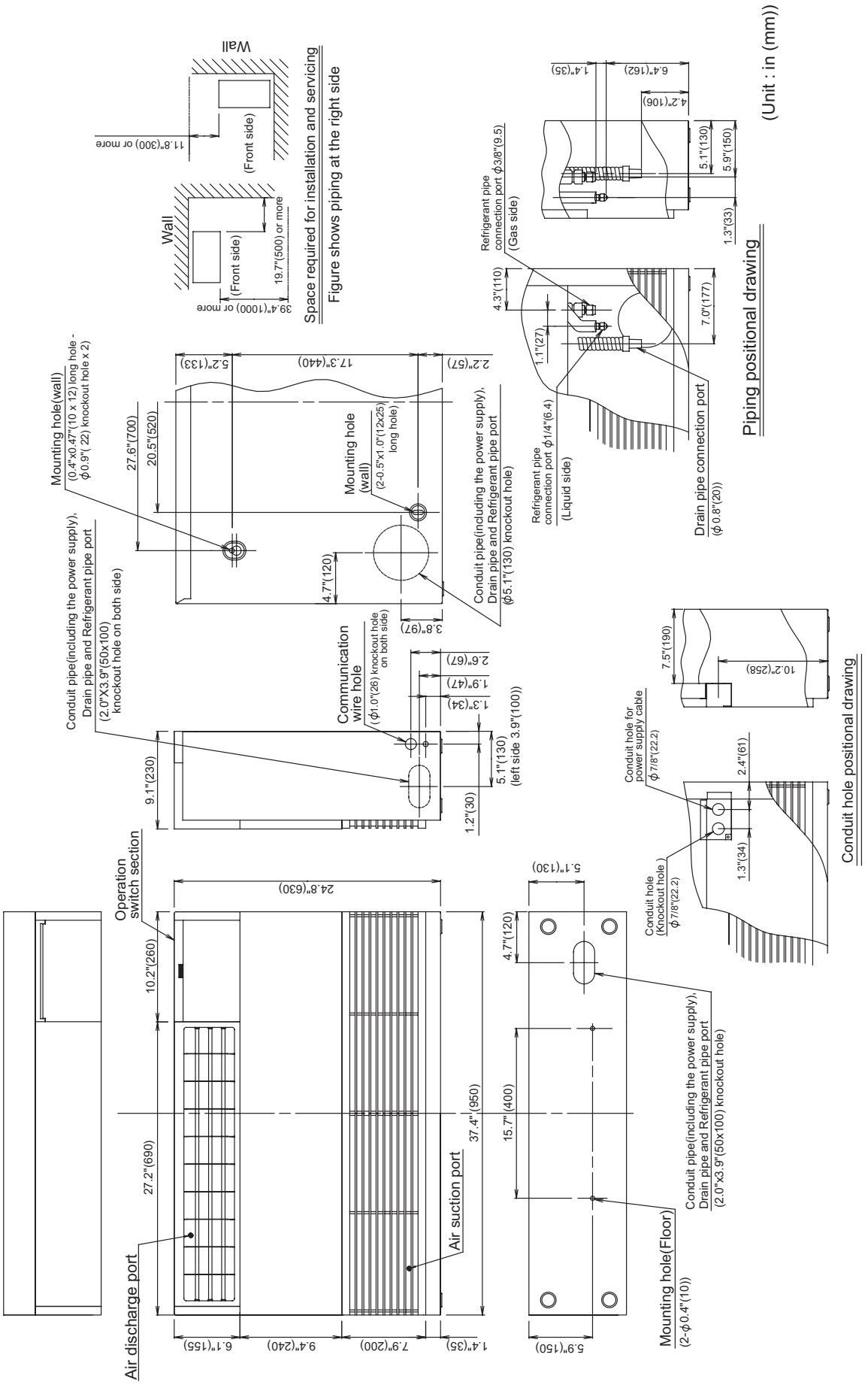


MMD-UP0151SPH-UL, UP0181SPH-UL

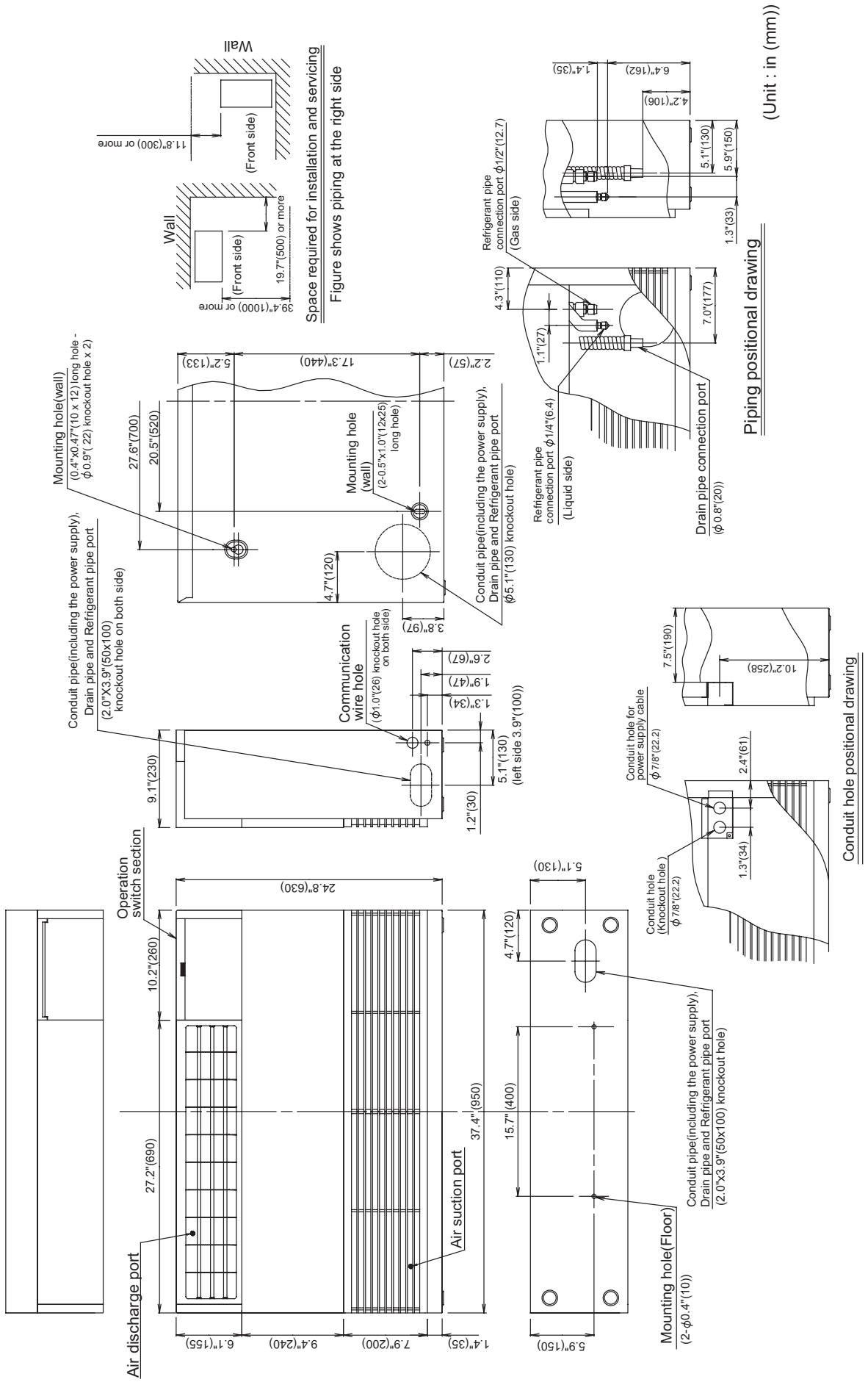


2-3. Floor Console Exposed type

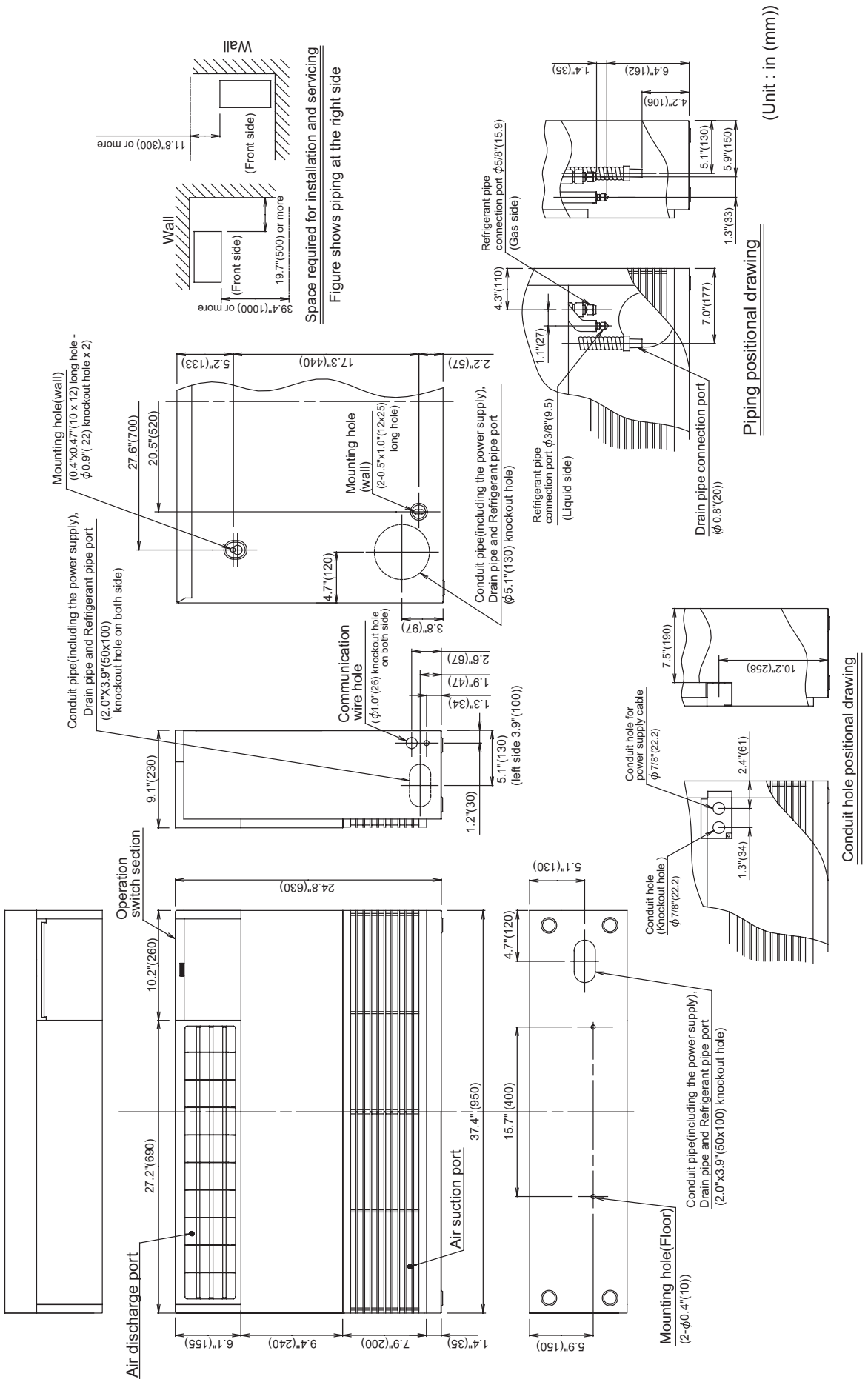
MML-UP0071H-UL, UP0091H-UL, UP0121H-UL



MML-UP0151H-UL, UP0181H-UL

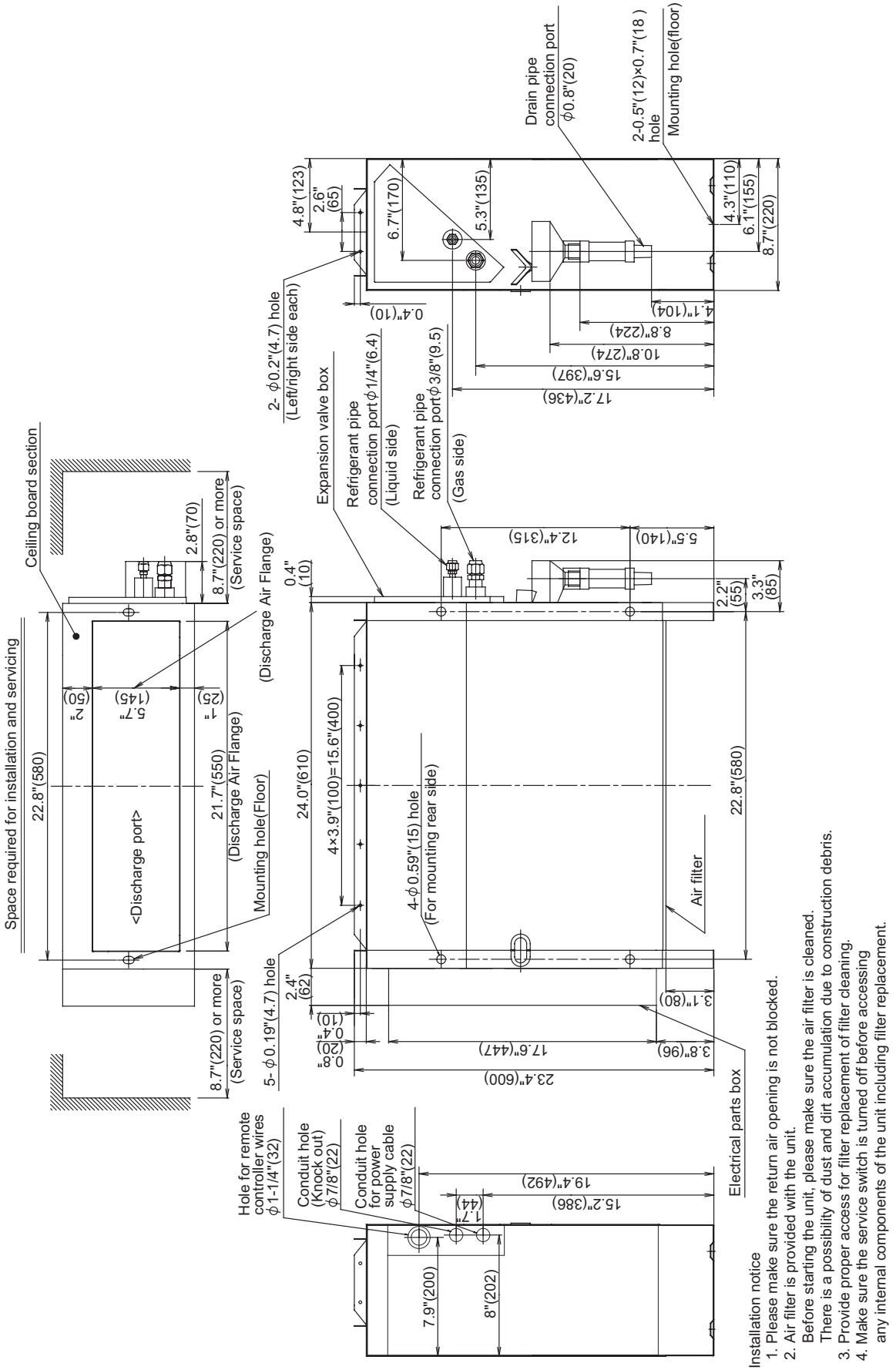


MML-UP0241H-UL



2-4. Floor Console Recessed type

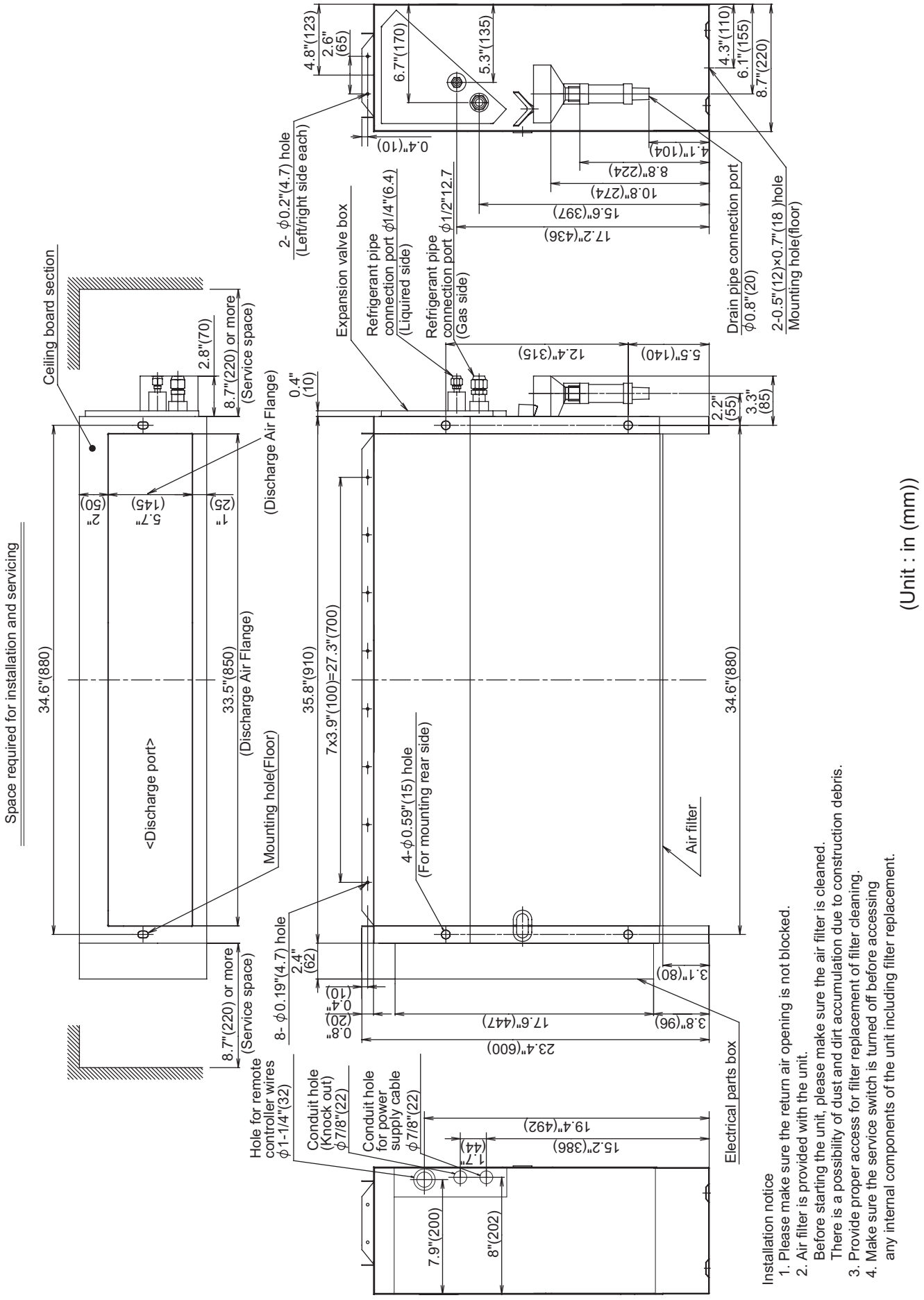
MML-UP0071BH-UL, UP0091BH-UL, UP0121BH-UL



(Unit : in (mm))

Installation notice
1. Please make sure the return air opening is not blocked.
2. Air filter is provided with the unit.
   Before starting the unit, please make sure the air filter is cleaned.
   There is a possibility of dust and dirt accumulation due to construction debris.
3. Provide proper access for filter replacement of filter cleaning.
4. Make sure the service switch is turned off before accessing any internal components of the unit including filter replacement.

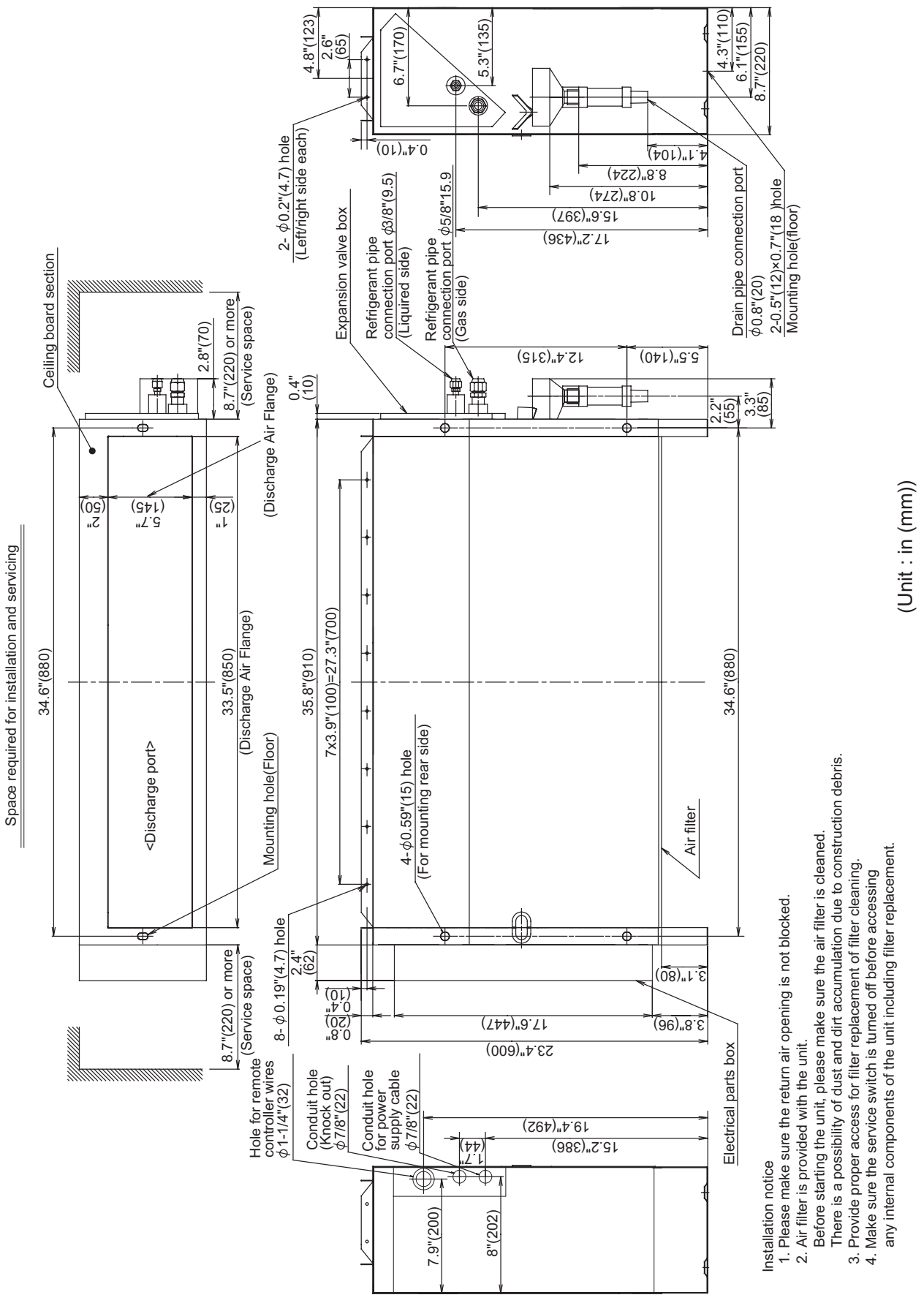
MML-UP0151BH-UL, UP0181BH-UL



(Unit : in (mm))

Installation notice
1. Please make sure the return air opening is not blocked.
2. Air filter is provided with the unit.
   Before starting the unit, please make sure the air filter is cleaned.
   There is a possibility of dust and dirt accumulation due to construction debris.
3. Provide proper access for filter replacement of filter cleaning.
4. Make sure the service switch is turned off before accessing
   any internal components of the unit including filter replacement.

MML-UP0241BH-UL



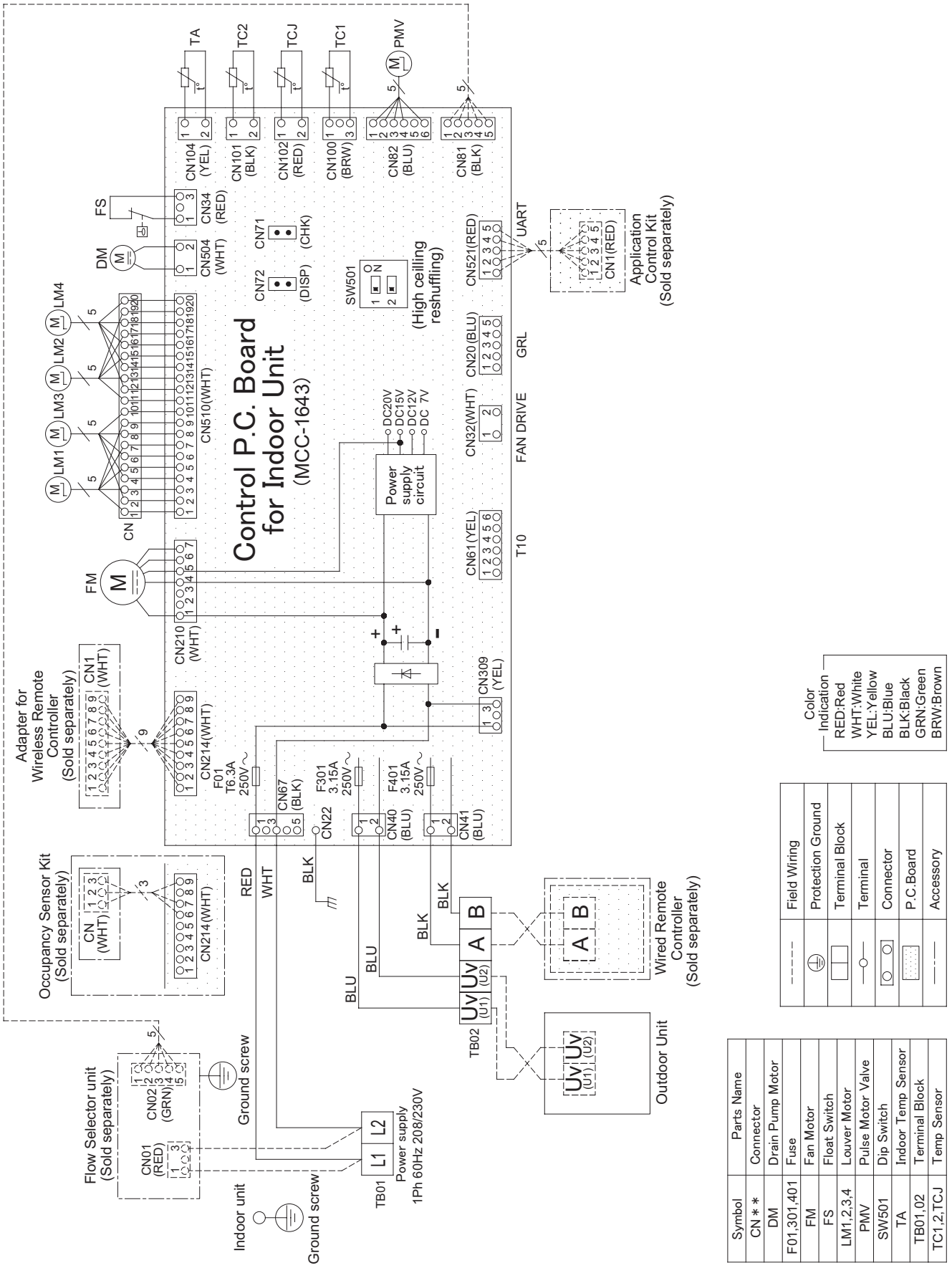
(Unit : in (mm))

Installation notice
1. Please make sure the return air opening is not blocked.
2. Air filter is provided with the unit.
   Before starting the unit, please make sure the air filter is cleaned.
   There is a possibility of dust and dirt accumulation due to construction debris.
3. Provide proper access for filter replacement of filter cleaning.
4. Make sure the service switch is turned off before accessing
   any internal components of the unit including filter replacement.

3. WIRING DIAGRAMS

3-1. Compact 4-way Cassette type

MMU- UP0071MH-UL, UP0091MH-UL, UP0121MH-UL, UP0151MH-UL, UP0181MH-UL



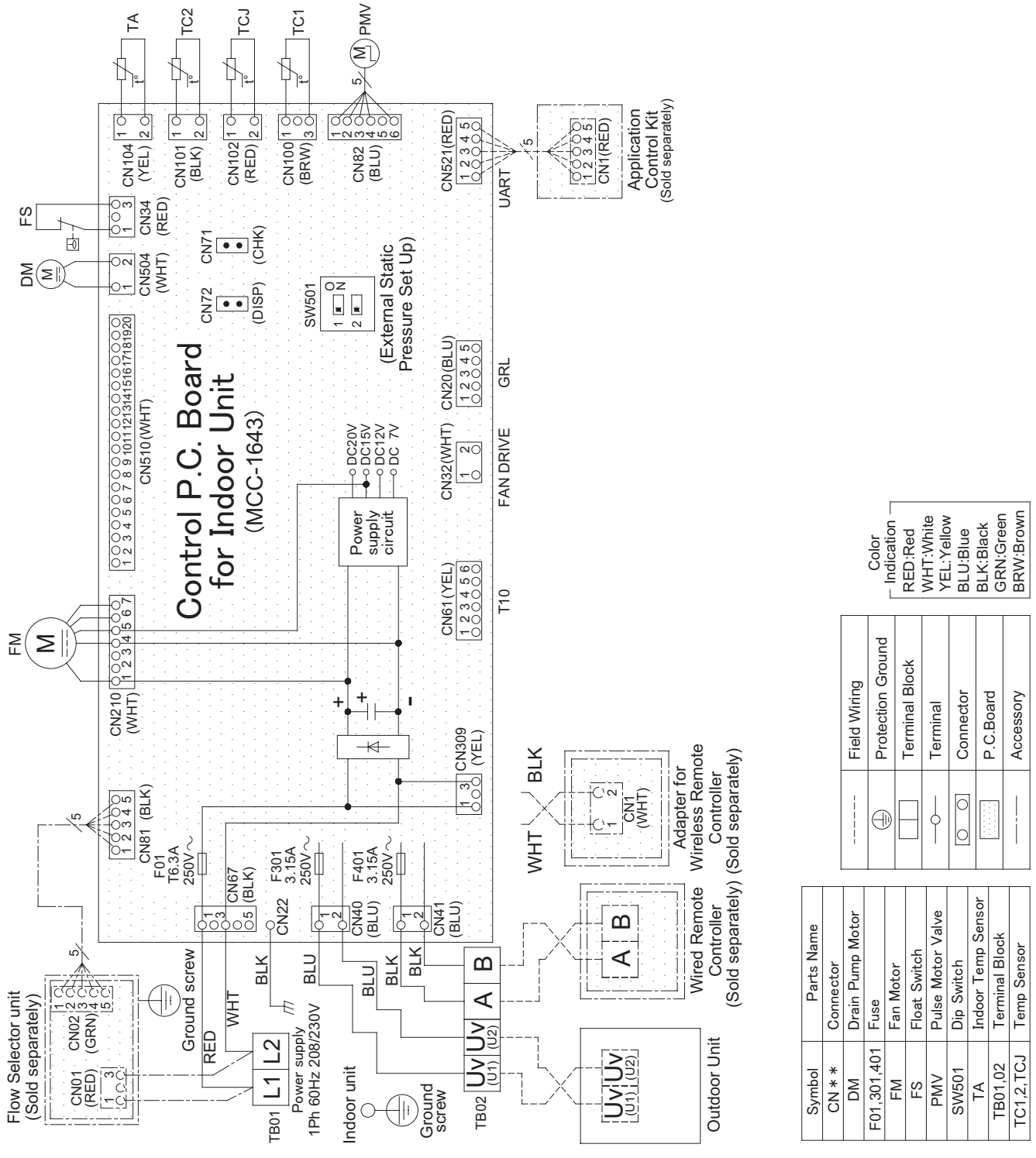
Symbol	Parts Name
CN * *	Connector
DM	Drain Pump Motor
F01,301,401	Fuse
FM	Fan Motor
FS	Float Switch
LM1,2,3,4	Louver Motor
PMV	Pulse Motor Valve
SW501	Dip Switch
TA	Indoor Temp Sensor
TB01,02	Terminal Block
TC1,2,TCJ	Temp Sensor

	Field Wiring
	Protection Ground
	Terminal Block
	Terminal
	Connector
	P.C.Board
	Accessory

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

3-2. Slim Duct type

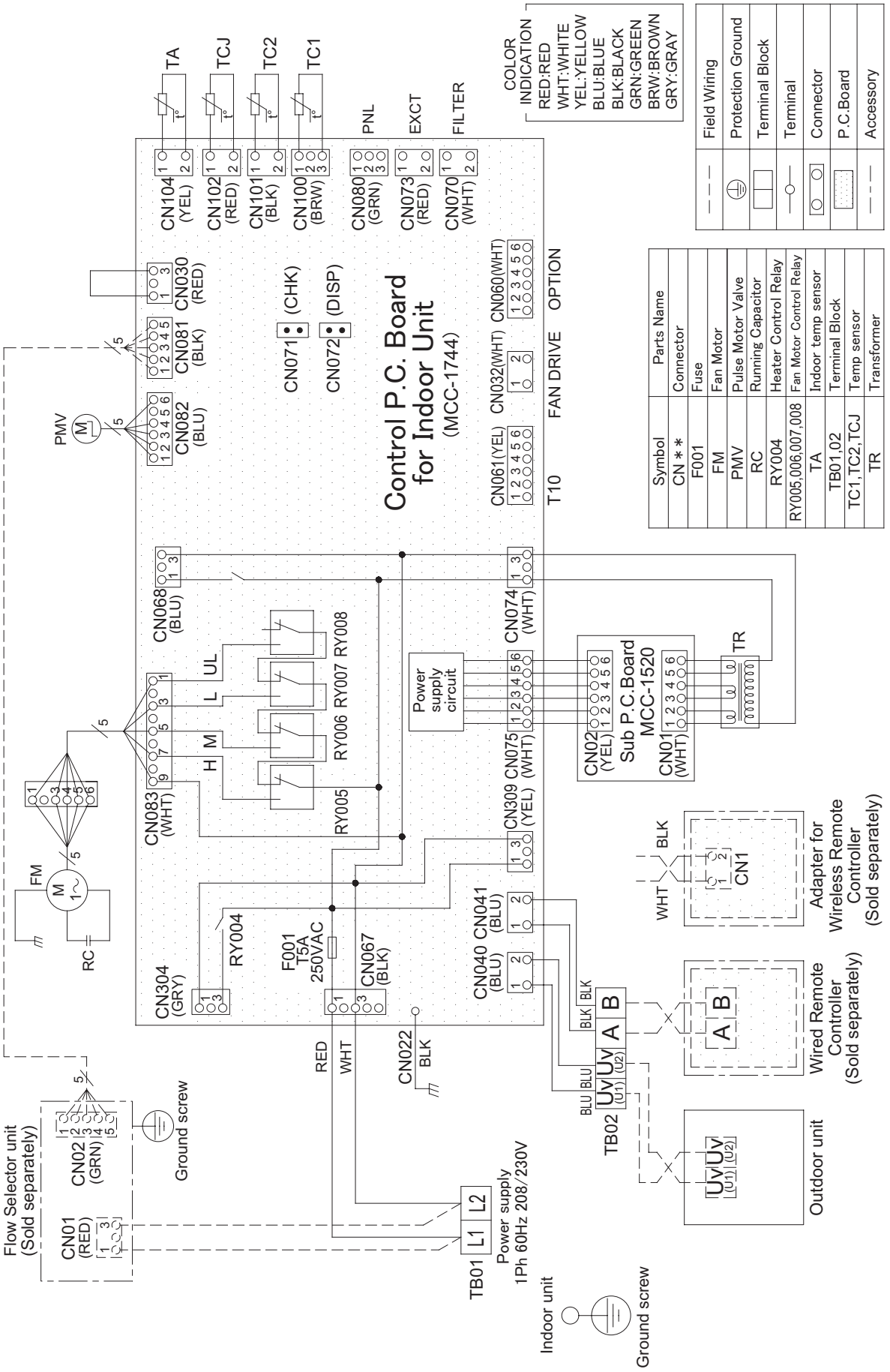
MMD- UP0071SPH-UL, UP0091SPH-UL, UP0121SPH-UL, UP0151SPH-UL, UP0181SPH-UL



Symbol	Parts Name
CN＊＊	Connector
DM	Drain Pump Motor
F01,301,401	Fuse
FM	Fan Motor
FS	Float Switch
PMV	Pulse Motor Valve
SW501	Dip Switch
TA	Indoor Temp Sensor
TB01,02	Terminal Block
TC1,2,TCJ	Temp Sensor

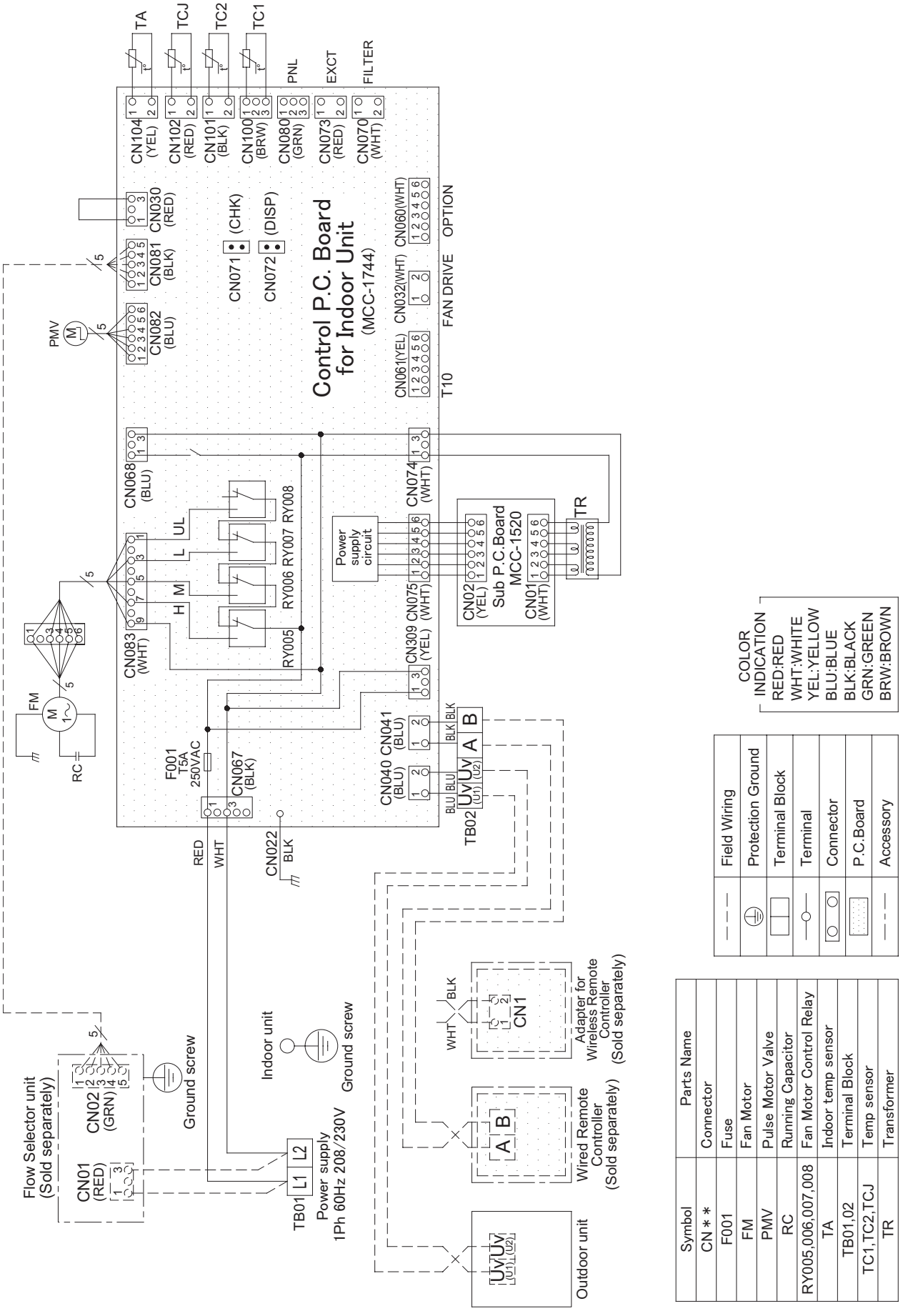
3-3. Floor Console Exposed type

MML- UP0071H-UL, UP0091H-UL, UP0121H-UL, UP0151H-UL, UP0181H-UL, UP0241H-UL



3-4. Floor Console Recessed type

MML- UP0071BH-UL, UP0091BH-UL, UP0121BH-UL, UP0151BH-UL, UP0181BH-UL, UP0241BH-UL



Symbol	Parts Name
CN * *	Connector
F001	Fuse
FM	Fan Motor
PMV	Pulse Motor Valve
RC	Running Capacitor
RY005,006,007,008	Fan Motor Control Relay
TA	Indoor temp sensor
TB01,02	Terminal Block
TC1,TC2,TCJ	Temp sensor
TR	Transformer

	Field Wiring
	Protection Ground
	Terminal Block
	Terminal
	Connector
	P.C.Board
	Accessory

4. PARTS RATING

Indoor unit

Compact 4-way Cassette type

Model MMU-UP***1MH-UL	007	009	012	015	018
Fan motor	ICF-340D60-1 (N) (A)				
Drain pump motor	PMD-08D12TF-2				
Float switch	FS-0218-102				
Pulse motor valve	PAM-B25YGTF-2			PAM-B40YGTF-1	
P.C. board	MCC-1643				
TA sensor	Lead wire length: 32.2" (818mm) Vinyl tube				
TC1 sensor	Dia.4 size lead wire length: 15.7" (400mm) Vinyl tube				
TC2 sensor	Dia.6 size lead wire length: 19.7" (500mm) Vinyl tube (Black)				
TCJ sensor	Dia.6 size lead wire length: 15.7" (400mm) Vinyl tube (Red)				

Slim Duct type

Model MMD-UP***1SPH-UL	007	009	012	015	018
Fan motor	ICF-340WD94-7			ICF-340WD94-6	
Drain pump	MDP-1401				
Float switch	FS-0218-102				
Pulse motor valve	PAM-B25YGTF-2			PAM-B40YGTF-1	
P.C. board	MCC-1643				
TA sensor	Lead wire length : 13" (328mm) Vinyl tube				
TC1 sensor	0.16" (Ø4) size lead wire length: 47" (1200 mm) Vinyl tube (Blue)				
TC2 sensor	0.24" (Ø6) size lead wire length: 39" (1000 mm) Vinyl tube (Black)				
TCJ sensor	0.16" (Ø4) size lead wire length: 39" (1000 mm) Vinyl tube (Blue)				

Floor Console Exposed type

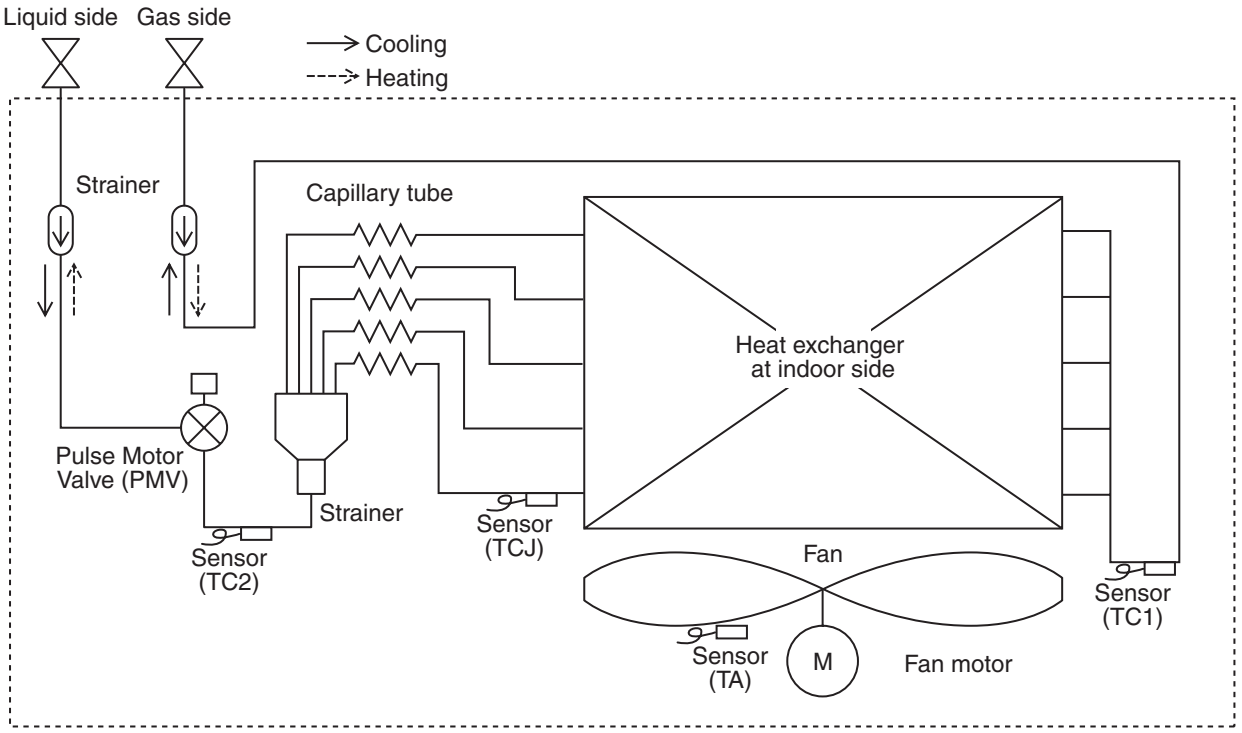
Model MML-UP***1H-UL	007	009	012	015	018	024
Fan motor	SWA-200U19A4A		AF-200-45-4FU		AF-200-70-4KU	
Running condenser for fan motor	AC450 V, 1.2 µF		AC400 V, 3 µF		AC400 V, 3 µF	
Transformer	TT12					
Pulse motor valve	PAM-B25YGTF-2		PAM-B40YGTF-1			
P.C. board	MCC-1744					
TA sensor	Lead wire length: 32" (818 mm) Vinyl tube					
TC1 sensor	0.16" (Ø4) size lead wire length: 47" (1200 mm) Vinyl tube (Blue)					
TC2 sensor	0.24" (Ø6) size lead wire length: 47" (1200 mm) Vinyl tube (Black)					
TCJ sensor	0.24" (Ø6) size lead wire length: 47" (1200 mm) Vinyl tube (Red)					

Floor Console Recessed type

Model MML-UP***1BH-UL	007	009	012	015	018	024
Fan motor	SWA-200U19A4B			AF-200-70-4KU		
Running condenser for fan motor	AC450 V, 1.5 µF			AC400 V, 3 µF		
Transformer	TT12					
Pulse motor valve	PAM-B25YGTF-2			PAM-B40YGTF-1		
P.C. board	MCC-1744					
TA sensor	Lead wire length: 32" (818 mm) Vinyl tube					
TC1 sensor	0.16" (Ø4) size lead wire length: 79" (2000 mm) Vinyl tube (Blue)					
TC2 sensor	0.24" (Ø6) size lead wire length: 79" (2000 mm) Vinyl tube (Black)					
TCJ sensor	0.24" (Ø6) size lead wire length: 79" (2000 mm) Vinyl tube (Red)					

5. REFRIGERANT CYCLE DIAGRAM

Indoor unit

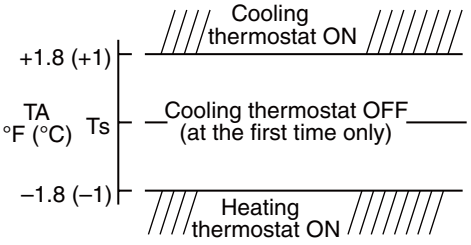


Explanation of functional parts in indoor unit

Functional part name		Functional outline
Pulse Motor Valve	PMV	(Connector CN82 (6P): Blue) 1) Controls superheat 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 indoor suction temperature
	TC1	(Connector CN100 (3P): Brown) 1) Controls PMV superheat in cooling operation
	TC2	(Connector CN101 (2P): Black) 1) Controls PMV subcool in heating operation
	TCJ	(Connector CN102 (2P): Red) 1) Controls PMV superheat in cooling operation

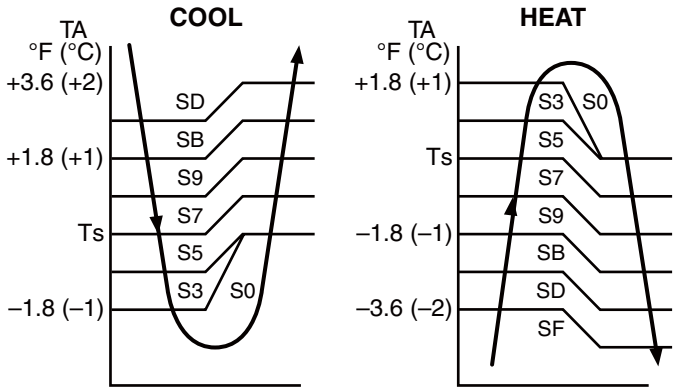
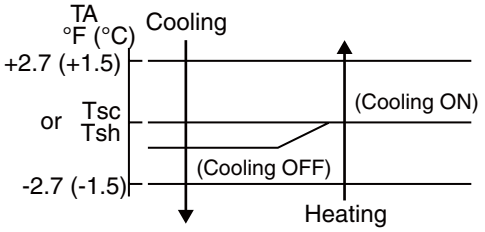
6. CONTROL OUTLINE

Control Specifications

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>1</td><td>When power supply is reset</td><td>1) Distinction of outdoor unit
When the power supply is reset, the outdoors are distinguished and the control is selected according to the distinguished result.
2) Setting of indoor fan speed and existence of air direction adjustment
Based on EEPROM data, select setting of the indoor fan speed and the existence of air direction adjustment.
3) If resetting the power supply during occurrence of a trouble, the check code is once cleared. After ON/OFF button of the remote controller was pushed and the operation was resumed, if the abnormal status continues, the check code is again displayed on the remote controller.</td><td></td></tr>
<tr><td>2</td><td>Operation mode selection</td><td>1) Based on the operation mode selecting command from the remote controller, the operation mode is selected.
<table>
<tr><th>Remote controller command</th><th>Control outline</th></tr>
<tr><td>STOP</td><td>Operation stops.</td></tr>
<tr><td>FAN</td><td>Fan operation</td></tr>
<tr><td>COOL</td><td>Cooling operation</td></tr>
<tr><td>DRY</td><td>Dry operation</td></tr>
<tr><td>HEAT</td><td>Heating operation</td></tr>
<tr><td>AUTO
Heat recovery system outdoor unit type</td><td>• TA and Ts automatically select COOL/HEAT operation mode for operation.
• The operation is performed as shown in the following figure according to TA value at the first time only.
(In the range of Ts –1.8 (–1) < TA < Ts + 1.8 (+1), Cooling thermostat OFF (Fan) / Setup air volume operation continues.)</td></tr>
</table>


∗ Heat recovery system outdoor unit type can select automatic mode.
While a wireless remote controller is used, the mode is notified by “Pi Pi” (two times) receiving sound and the alternate flashing of [TIMER] and [READY].
To clear the alternate flashing, change the mode on the wireless remote controller.</td><td>TA: Room temp.
Ts: Setup temp.</td></tr>
<tr><td>3</td><td>Room temp. control</td><td>1) Adjustment range: Remote controller setup temperature (°F [°C])
<table>
<tr><th></th><th>COOL/DRY</th><th>HEAT</th><th>AUTO∗</th></tr>
<tr><td>Wired type</td><td colspan="3">64°F [18°C] to 84°F [29°C]</td></tr>
<tr><td>Wireless type</td><td colspan="3">62°F [17°C] to 86°F [30°C]</td></tr>
</table></td><td>* Heat recovery system only</td></tr>
</table>

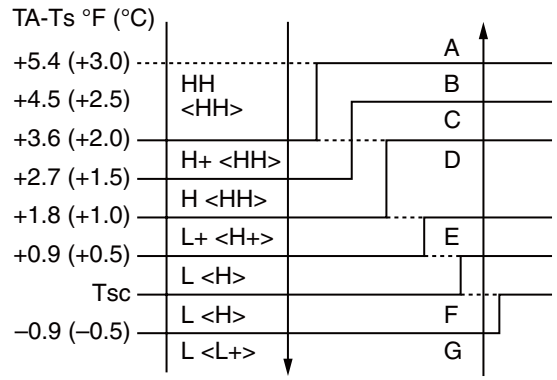
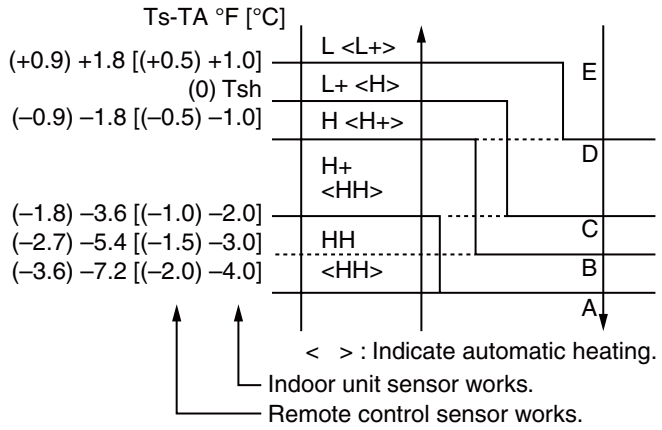
<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>3</td><td>Room temp. control (Continued)</td><td>2) By setting the Set data [06], the setup temperature in heating operation can be compensated.
<table>
<tr><th>Set data</th><td>+0K</td><td>+2K</td><td>+4K</td><td>+6K</td></tr>
<tr><th>Setup temp. compensation</th><td>+0°F [+0°C]</td><td>+3.6°F [+2°C]</td><td>+7.2°F [+4°C]</td><td>+10.8°F [+6°C]</td></tr>
</table>
The initial factory default value
<table>
<tr><th>Model</th><th>Set data</th></tr>
<tr><td>Floor Console Exposed type,
Floor Console Recessed Type</td><td>0</td></tr>
<tr><td>Other models</td><td>2</td></tr>
</table></td><td>Return air temperature shift of heating operation

Except while sensor of the remote controller is controlled
(Set data [32], “0001”)</td></tr>
<tr><td>4</td><td>Automatic capacity control</td><td>1) Based on the difference between TA and Ts, the operation capacity is determined by the outdoor unit.
 
</td><td>Ts: Setup temp.
TA: Room temp.</td></tr>
<tr><td>5</td><td>Automatic cooling/heating control</td><td>1) The judgment of selecting COOL/HEAT is carried out as shown below. When TA exceeds Tsh by 2.7°F (1.5°C) for 10 minutes, the operation is thermostat OFF then, the heating operation (thermostat OFF) is changed to cooling operation.
 

Description in the parentheses shows an example of cooling ON/OFF. When TA is less than Tsh by 2.7°F (1.5°C) for 10 minutes, the operation is thermostat OFF then, the cooling operation(thermostat OFF) is changed to heating operation.

2) For the automatic capacity control after judgment of cooling/heating, refer to item No.4.
3) For temperature compensation of room temp. control in automatic heating, refer to item No.3.</td><td>∗ Heat recovery system only

Tsc: Setup temp. in cooling operation
Tsh: Setup temp. in heating operation + temp. compensation of room temp. control</td></tr>
</table>

No.	Item	Outline of specifications	Remarks
6	Fan speed selection	1) By the command from remote control, fan speed is changed. ((HH), (H+), (H), (L+), (L) or [AUTO]) 2) When the fan speed mode [AUTO] is selected, the fan speed varies by the difference between TA and Ts. **<COOL>**  < > : Indicate automatic cooling. • Fan speed mode [AUTO] in case when remote control sensor works is equal to that in case when indoor unit sensor works. • If the fan speed has been changed once, it is not changed for 3 minutes. However when the air volume is changed, the fan speed changes. • When cooling operation has started, select a downward slope for the fan speed, that is, the high position. • If the temperature is just on the difference boundary, the fan speed is not changed. **<HEAT>**  < > : Indicate automatic heating. Indoor unit sensor works. Remote control sensor works. ( ) : indicate the value when the remote control sensor is worked. • If the fan speed has been changed once, it is not changed for 1 minute. However when the fan speed changed, the fan speed changes. • When heating operation has started, select an upward slope for the fan speed, that is, the high position. • If the temperature is at the difference boundary, the fan speed is not changed. • If TC2 ≥ 140°F (60°C), the fan speed increases by 1 step.	HH > H+ > H > L+ > L > UL Depends on fan speed mode selection at the remote controller. (H+) and (L+) cannot be selected. For Floor Console Exposed type, or Floor Console Recessed Type,, (HH), (H), (L) or [AUTO] can be selected regardless of remote controller models. Set data [32] 0000: Indoor unit sensor (Main unit) 0001: Remote control sensor TC2: Temperature of indoor heat exchanger sensor

No.	Item	Outline of specifications	Remarks
6	Fan speed selection (Continued):		Setting of height ceiling mode at Set data [5D] or at SW501 on P.C. board.

Compact 4-way (only UP015, UP018)
(Fan speed selection of UP012 or less are only Standard.)

Set data [5d]	Factory default		Type 1		Type 3	
	0000		0001		0003	
SW501 (1)/(2)	OFF/OFF		ON/OFF		OFF/ON	
Tap	COOL	HEAT	COOL	HEAT	COOL	HEAT
F1					HH	HH
F2			HH	HH		
F3				H+	H+, H	H+, H
F4			H+			
F5		HH		H		
F6	HH		H		L+	L+
F7	H+	H+			L	L
F8		H		L+		
F9	H		L+	L		
FA		L+	L			
FB	L+	L				
FC	L					
FD	LL	LL	LL	LL	LL	LL

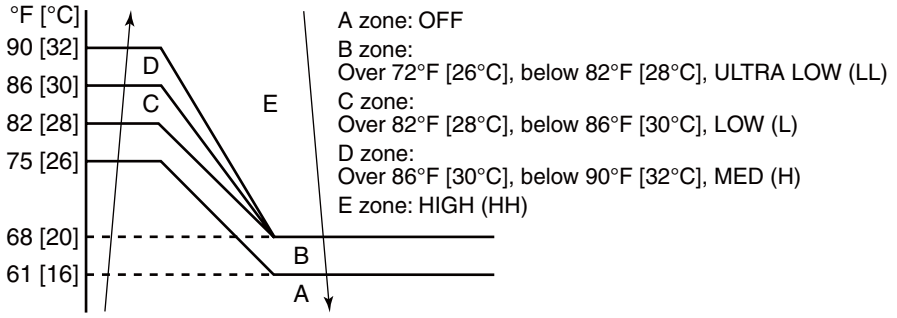
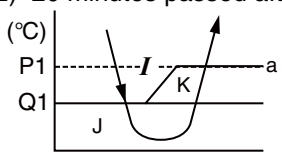
Slim Duct (UP007~012)

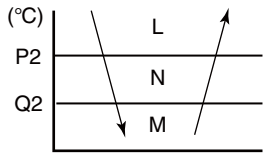
Set data [5d]	Factory default		Type 1		Type 3		Type 4		Type 6	
	0000		0001		0003		0004		0006	
SW501 (1)/(2)	OFF/OFF		ON/OFF		OFF/ON		–		ON/OFF	
Tap	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT
F1									HH	HH
F2							HH	HH	H+	H+
F3					HH	HH	H+	H+	H	H
F4			HH	HH	H+	H+	H	H		
F5									L+	L+
F6	HH	HH	H+	H+	H	H				
F7							L+	L+	L	L
F8	H+	H+	H	H						
F9					L+	L+	L	L		
FA	H	H	L+	L+	L	L				
FB	L+	L+	L	L						
FC	L	L								
FD	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL

Slim Duct (UP015, 018)

Set data [5d]	Factory default		Type 1		Type 3		Type 4		Type 6	
	0000		0001		0003		0004		0006	
SW501 (1)/(2)	OFF/OFF		ON/OFF		OFF/ON		–		ON/ON	
Tap	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT	COOL	HEAT
F1									HH	HH
F2							HH	HH	H+	H+
F3							H+	H+	H	H
F4					HH	HH	H	H	L+	L+
F5					H+	H+	L+	L+		
F6			HH	HH	H	H			L	L
F7			H+	H+	L+	L+	L	L		
F8	HH	HH	H	H						
F9	H+	H+	L+	L+	L	L				
FA	H	H								
FB	L+	L+	L	L						
FC	L	L								
FD	LL	LL	LL	LL	LL	LL	LL	LL	LL	LL

3) In heating operation, the mode changes to [LL] if thermostat is turned off.

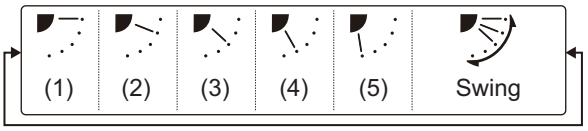
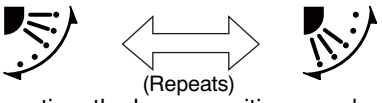
<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>7</td><td>Prevention of cold air discharge</td><td>1. In heating operation, the lowest temperature between TC1 sensor and the highest temperature between TC2 and TCJ sensor is set as the upper bound of the fan speed mode control.
• When B zone has been continuing for 6 minutes, the operation shifts to C zone.
• For the defrosting operation, the control point is set to +10.8°F (+6°C).
 
</td><td>TCJ: Temperature of indoor heat exchanger sensor
• In D and E zones, priority is given to remote controller fan speed setup.
• In A zone “ ❁ ” is displayed.</td></tr>
<tr><td>8</td><td>Freeze prevention control (Low temp. release)</td><td>1. In all cooling operation, the air conditioner operates as described below based upon temp. detected by TC1, TC2 and TCJ sensors.
• 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.
Reset conditions
1) TC1 ≥ 54°F [12°C] and TC2 ≥ 54°F [12°C] and TCJ ≥ 54°F [12°C]
2) 20 minutes passed after stop.
 

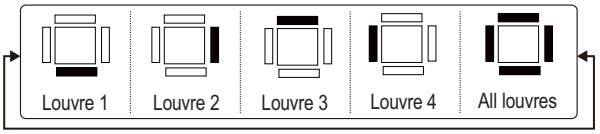
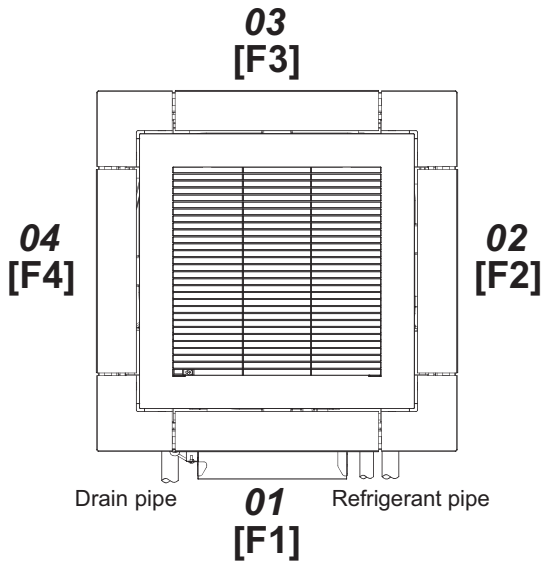
<table>
<tr><th></th><th>TC1</th><th>TC2,TCJ</th></tr>
<tr><td>P1</td><td>50°F (41°F) [10°C (5°C)]</td><td>14°F [–10°C]</td></tr>
<tr><td>Q1</td><td>32°F [0°C]</td><td>7°F [–14°C]</td></tr>
</table>
2. In all cooling operation, the air conditioner operates as described below based upon temp. detected by TC2 and TCJ sensors.
• 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.
Reset conditions
1) TC1 ≥ 54°F [12°C] and TC2 ≥ 54°F [12°C] and TCJ ≥ 54°F [12°C]
2) 20 minutes passed after stop.
 

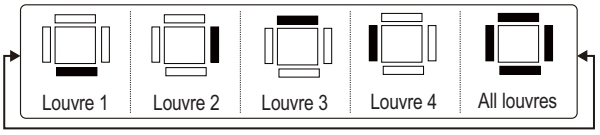
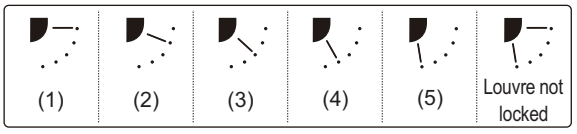
<table>
<tr><th></th><th>TC2,TCJ</th></tr>
<tr><td>P2</td><td>41°F [5°C]</td></tr>
<tr><td>Q2</td><td>28°F [–2.0°C]</td></tr>
</table></td><td>TC1: Temperature of indoor heat exchanger sensor
( ) value:
When the power supply is turned on, the forced thermostat becomes OFF if the temperature is less than this indicated temperature.</td></tr>
</table>

No.	Item	Outline of specifications	Remarks
9	Refrigerant (Oil) recovery control in cooling operation	Indoor units during stop/thermostat OFF or FAN operation perform following controls when a refrigerant (compressor oil) recovery signal is received from outdoor unit at the cooling operation, (1) Opening the indoor unit PMV at constant valve opening. (For a maximum of about 4 minutes) (2) Operating the drain pump for about one minute, during recovery control and after the control finished. Also, indoor unit fan or louvers may operate depending on the indoor unit type.	Control is performed per two hours or when the outdoor unit determines its need.(It varies depending on the indoor units connected.)
10	Refrigerant (Oil) recovery control in heating operation	Indoor units during stop/thermostat OFF or FAN operation perform following controls when a refrigerant (compressor oil) recovery signal is received from outdoor unit at the heating operation, (1) Opening the indoor unit PMV at constant valve opening. (For a maximum of about 20 minutes) (2) TC2 temperature is detected to close its PMV. Also, the fan, louvers, drain pump may operate for about one minute after recovery control finished depending on indoor unit types, until the number of recovery control reaches the predetermined number. NOTE The PMV, indoor fan, or louvers may operate through the outdoor unit instruction. For its detail, refer to the outdoor unit service guide.	Indoor unit during cooling thermostat OFF or FAN operation stops the indoor fan and displays "**Preparing to operate** ⏻ ". Control is performed per one hour or when the outdoor unit determines its need.(It varies depending on the indoor units connected.)
11	Compensation control for short intermittent operation	1) For 3 minutes after start of operation, the operation is forcedly continued even if the unit enters in Thermostat-OFF condition. 2) However the thermostat is OFF giving prior to COOL/HEAT selection, **Preparing to heat** ✳ for operation and protective control.	Usually the priority is given to 5 minutes at outdoor controller side.
12	Drain pump control	1) Drain pump operates while in cooling operation. (including DRY operation) 2) While the drain pump is operating, if the float switch is operated, the outdoor unit will stop operating but the drain pump will keep continuously operating. After that, the check code is issued. 3) When the drain pump stops operating, if the float switch is operated, the outdoor unit will stop and the drain pump will start operating. After the float switch is being operating for roughly 5 minutes, the check code will be issued.	Check Code [P10]
13	Elimination of retained heat	1) When the unit stopped from [HEAT] operation, the indoor fan operates with [L] for approx. 30 seconds.	
14	HA control	1) ON/OFF operation is available by input of HA signal from the remote site when connecting to remote controller or the remote ON/OFF interface. 2) The HA terminal is ON/OFF depending on HA control output. 3) The I/O specifications of HA is in accordance with JEMA standard.	When using HA terminal (CN61) for the remote ON/OFF, a connector sold separately is necessary. In case of group operation, use the connector to connect HA terminal to either master or follower indoor unit.

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>15</td><td>Alarm output setup</td><td>The alarm output from the indoor P.C. board is output in each indoor unit during group control, but it can be set so as to be output in the header unit and follower units.
Following the table below, register the setting data in Set data [79].
<table>
<tr><th>Set data</th><th>Alarm output of the header indoor unit</th><th>Setting data</th></tr>
<tr><td rowspan="2">79</td><td>Not including the state of follower units</td><td>0000 (Factory default)</td></tr>
<tr><td>Including the state of follower units</td><td>0001</td></tr>
</table></td><td>Connector CN61
(Refer to 8-3-1,8-3-2. Optional connector specifications of indoor P.C. board (MCC-1643, MCC-1744)
Be sure to change the setting data while operation stops.</td></tr>
<tr><td>16</td><td>Display of filter sign [▦!]
(Not provided to the wireless type)</td><td>1) The filter sign is displayed with LC by sending the filter-reset signal to the remote controller when the specified time (150H/2500H) elapsed as a result of integration of the operation time of the indoor fan.
2) The integrated timer is cleared when the filter-reset signal is received from the remote controller.
In this time, if the specified time elapsed, the counted time is reset and the liquid crystal display is deleted.
<table>
<tr><th>Filter service life</th><th>2500H</th><th>150H</th></tr>
<tr><td>Type</td><td>Compact 4-way Cassette type
Slim Duct</td><td>Floor Console Exposed type
Floor Console Recessed type</td></tr>
</table></td><td></td></tr>
<tr><td>17</td><td>Display of [Preparing to operate]
[Preparing to heat]</td><td>< Preparing to operate > Displayed on the remote controller
1) When the following check codes are indicated.
• Open phase of power supply wiring [P05] was detected.
• There is an indoor unit that detected the indoor overflow [P10].
• There is an indoor unit that detected the interlock alarm [L30].
2) During Forced Thermostat-OFF
• [COOL/DRY] operation is unavailable because the other indoor unit operates 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 operates with [COOL/DRY] mode.
3) When the indoor unit which is in the condition of 1) or 2) keeps being in thermostat OFF status.
4) The indoor fan stops because the system performs [Recovery operation for heating refrigerant (Oil)].
< Preparing to heat > Displayed on the remote controller
The indoor fan stops in order to prevent discharge of cool air when heating operation started or during heating operation. (including the defrost operation during thermostat-OFF)</td><td>• < Preparing to operate ⏻ > display
No display for wireless type remote controller
• <Preparing to heat ☀ > display</td></tr>
<tr><td>18</td><td>Selection of central control mode</td><td>1) Selection of the contents that can be operated by the remote controller at the indoor unit side is possible according to setting at the central controller side.
2) Setting contents
<table>
<tr><th rowspan="2">Operation from central controller</th><th colspan="6">Operation on remote controller</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>Air direction setting</th></tr>
<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>
</table>
(○: Operation possible ×: Operation impossible)</td><td></td></tr>
</table>

No.	Item	Outline of specifications	Remarks
19	Louver control	1) Louver position setup • When the louver position is changed, the position moves necessarily to downward discharge position once to return to the set position. • The louver position can be set up in the following operation range. **In cooling / dry operation** **In heating / fan operation**   • In group twin/triple operation, the louver positions can be set up collectively or individually. In case that HEAT refrigerant recovery control was performed in STOP status, the louver position becomes horizontal when the operation is resumed.  Operation mode / Settable angles Heat, Fan, Auto (Heat) / (1), (2), (3), (4), (5), Swing Cool, Dry, Auto (Cool) / (1), (2), (3), Swing 2) Swing setup • [SWING] is displayed and the following display is repeated. **In all operations**  • In group operation, the louver positions can be set up collectively or individually. 3) When the unit stopped or the warning was output, the louver is automatically set to full closed position. 4) When ❁ (Preparing to heat) is displayed (Heating operation started or defrost operation is performed), heating thermostat is off or self-cleaning is performed, the louver is automatically set to horizontal discharge position. * The louver which air direction is individually set or the locked louver closes fully when the unit stops and the louver is automatically set to horizontal discharge position when ❁ (Preparing to heat) is displayed, heating thermostat is off.	Subject model : Compact 4-way

No.	Item	Outline of specifications	Remarks
19	Louver control (Continued)	**<<Individual air direction setup>>** Push the menu button and select 1. Individual louver in the remote control menu, you can set the wind direction for each outlet of indoor units that have 4-way air discharge.   **Compact 4-way Cassette type**	Subject model : Compact 4-way

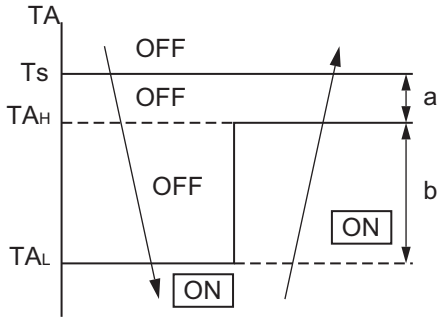
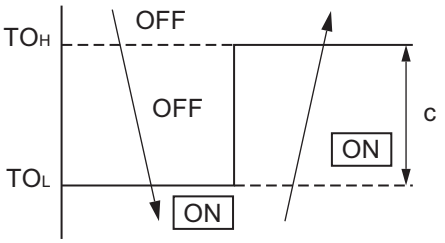
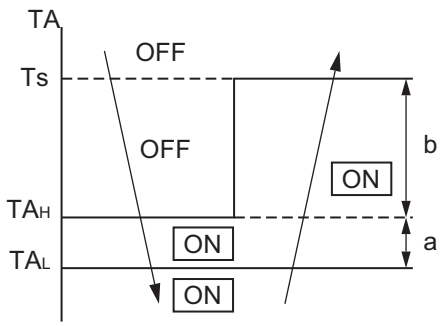
No.	Item	Outline of specifications	Remarks
19	Louver control (Continued)	**<<Selection of Swing mode>>** Push the menu button, select 2. louver setting in the remote controller menu, then select 1. Swing type, you can select from 3 types of swing operation: “Standard”, “Dual”, or “Cycle”. you can select from 3 types of swing operation: “Standard”, “Dual”, or “Cycle”. 1) Standard (4 pieces: same phase) swing When Swing operation is selected, four louvers align at the horizontal discharge position and then start the Swing operation at the same time. 2) Dual swing When operation is selected, the louvers of louver No. [01] and [03] move to the horizontal discharge position, the louvers of louver No. [02] and [04] move to the downward discharge position and then start the Swing operation at the same time. 3) Cycle swing When operation is selected, the louver No. [01] moves to the horizontal discharge position, [03] to the downward discharge position, [02] and [04] to the middle position and then start the Swing operation at the same time. **<<Louver lock (Louver fix)>>** Push the menu button, select 2.louver setting in the remote control menu, then select 2. Louver lock, you can set and fix the angle of louvers individually for each air outlet.  →Push [∧] to raise a louvre and push [∨] to lower a louvre.  	Subject model : Compact 4-way Carry out setting operation during stop of the unit; otherwise the unit stops operation. Carry out setting operation during stop of the unit; otherwise the unit stops operation.

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>19</td><td>Louver control
(Continued)</td><td>• If there is the locked louver in the unit, [⊕] goes on the remote controller screen.
• While the following controls are performed, the louvers operate even if executing the louver lock.
<table><tr><th></th><th>Control which ignores lock</th><th>Objective louver No.</th></tr><tr><td>①</td><td>Operation stop</td><td>Full-close position</td></tr><tr><td>②</td><td>When heating operation started</td><td>Horizontal discharge position</td></tr><tr><td>③</td><td>Heating thermostat OFF</td><td>Horizontal discharge position</td></tr><tr><td>④</td><td>During defrost operation</td><td>Horizontal discharge position</td></tr><tr><td>⑤</td><td>Initialize operation</td><td>Full-close position</td></tr></table>• The real louver corresponding to the louver No. displayed on the remote controller screen during setting of louver lock operates swinging.</td><td>For the setting operation, refer to [How to set louver lock] of Owner's Manual.

It is position check operation and it does not link with the real louver and air direction setup (Illustration on the remote controller screen).</td></tr>
<tr><td>20</td><td>DC motor</td><td>1) When the fan starts, positioning is performed for the starter and the rotor. (Vibrate slightly)
2) DC motor operates according to the command from the indoor controller.
(Note) If the fan rotates by entry of outside air, etc while the air conditioner stopped, the indoor unit may operate as the fan motor stops.
(Note) If the fan lock was detected, the operation of the indoor unit stops and the check code is displayed.</td><td>Check code [P12]
Subject model :
Compact 4-way
Slim Duct</td></tr>
<tr><td>21</td><td>Power saving mode</td><td>1. Push the menu button, select 8. Energy saving in the remote controller menu, do settings related to energy savings, such as “Energy saving operation”, “Set temp. range limit”, “Return back”, “Saving operation”.
2. The requirement capacity ratio is limited to approximately 75 %.
3. If the power saving operation is enabled, the settings are retained when the operation is stopped, when the mode is changed, or when the power is reset.
The power saving operation will be enabled at the next time the operation starts.
• The operation may differ depending on the connected outdoor unit. Refer to the Service Manual of the outdoor unit.</td><td></td></tr>
</table>

<table>
<tr><th>No.</th><th>Item</th><th>Outline of specifications</th><th>Remarks</th></tr>
<tr><td>22</td><td>Occupancy sensor</td><td>1) During the Occupancy sensor operation when there is no people in the Occupancy sensor range, it is automatically switched to the operation for the absence.
2) The Occupancy sensor operation can change by selecting 13. Occupancy sensor in the remote controller menu as follows, and operates according to the operation at absent time, if time or absence of the setting contents continues. However time counting starts after the room temperature is stabilized. (after for 30 minutes operation)
<table><tr><td>Item</td><td>Setting contents</td></tr><tr><td>Invalid</td><td>Invalid</td></tr><tr><td>Enable</td><td>30 minutes to 150 minutes (30 minutes each)</td></tr></table>
3) The operation at absent time can be changed by selecting 13. Occupancy sensor in the remote controller menu.
<table><tr><td>Item</td><td>Operation at absent time</td></tr><tr><td>Standby</td><td>Circulator</td></tr><tr><td>Stopped</td><td>Operation stop</td></tr></table>
4) If the operation at absent time stops during group operation, or absence is fixed in each system, the operation starts circular operation once, and then the operation stops when absence was determined on all group.</td><td>The Occupancy sensor can be set up by wired remote controller RBC-AWSU5*

This can only be used when the Occupancy sensor, which is sold separately, is connected.</td></tr>
<tr><td>23</td><td>Soft cooling</td><td>* Wired remote controller : RBC-AWSU5* is required.
1) Sensation of draft can be suppressed by controlling performance and correcting the louver angle during cooling operation.
2) However, it may not cool well because the operation will be performed with the cooling capacity suppressed.
3) Perform operations from the remote controller menu to use soft cooling.</td><td></td></tr>
<tr><td>24</td><td>Dual set point (AUTO mode)</td><td>1) The temperature for heating operations and cooling operations can be set separately in AUTO mode when dual set point is valid.
2) The compressor will turn off (thermostat-OFF) when reaching the set temperature for heating operations and cooling operations.
3) Set CODE No. (DN) [77] to enable Dual set point.
<table><tr><td>DN [77]</td><td>Data</td><td>Dual set point</td></tr><tr><td></td><td>0000</td><td>Unavailable (Factory default)</td></tr><tr><td></td><td>0002</td><td>Available</td></tr></table></td><td>This function cannot be used with remote controllers that are not RBC-AWSU5*.</td></tr>
</table>

No.	Item	Outline of specifications	Remarks
25	Secondary heating	Secondary heating can be used while heating operations are performed. <Control Outline (Normal Mode)> 1) If the difference between the indoor temperature and the outdoor temperature is large while the air conditioner is operating, turn ON the secondary heating. 2) This function is valid when the CODE No. (DN) [DC] is set to ”0001” (1°F(0.5°C)) to “0010” (9.0°F(5.0°C)) using the wired remote controller, and the output to the external heating source will turn ON if the room temperature satisfies the condition. 3) The output will always stay ON while defrosting operations are being performed.  4) The output can be turned on by the outdoor temperature when CODE No. (DN) [C7] is set to “0001” (2°F(1°C)) to “0010” (18°F(10°C)) using the wired remote controller.  <Control Outline (Flip Mode)> 1) If the difference between the room temperature and the set temperature is large while using secondary heating, run the air conditioner. 2) This function is valid when the CODE No. (DN) [C5] is set to ”0001” (Flip mode) or the CODE No. (DN) [C7] is set to “0001” (2°F(1°C)) to “0010” (18°F(10°C)) using the wired remote controller, and when the output is switched ON when the room temperature satisfies the conditions. * The outdoor temperature determination is invalid whilst this control is performed.  	TAH : Temp.set air high (= Ts - a) TAL : Temp.set air low (= TAH - b) TOH : Temp.set out high TOL : Temp.set out low (= TOH - c)

No.	Item	Outline of specifications	Remarks
25	Secondary heating (Continued)		

DN [C5]

Data	Secondary heating mode
0000	Normal mode (Factory default)
0001	Flip mode

DN [C6]

Data	TO_H: Set temp. out (high) [ºF(ºC)]
-0015 to 0015	"-0015": 5°F(-15°C) to "0015": 59°F(15°C) "0000": 32°F(0°C) (Factory default)

DN [C7]

Data	c : TO_H - TO_L [ºF(ºC)]
0000	Unavailable (Factory default)
0001 to 0010	0001: 2°F(1°C) to "0010": 18°F(10°C)

DN [DB]

Data	b : TA_H - TA_L [ºF(ºC)]
0001 to 0010	"0001": 0.5°F(0.5°C) to "0010": 9°F(5°C) "0006": 5°F(3°C) (Factory default)

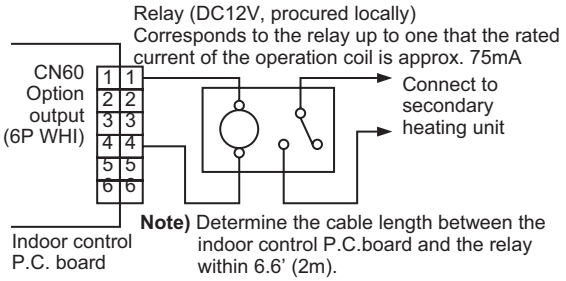
DN [DC]

Data	a : Ts - TA_H (Normal mode) [ºF(ºC)] TA_L - Ts (Flip mode) [ºF(ºC)]
0000	Unavailable (Factory default)
0001 to 0010	0001: 2°F(1°C) to "0010": 18°F(10°C)

<Wiring>

• MCC-1744 model

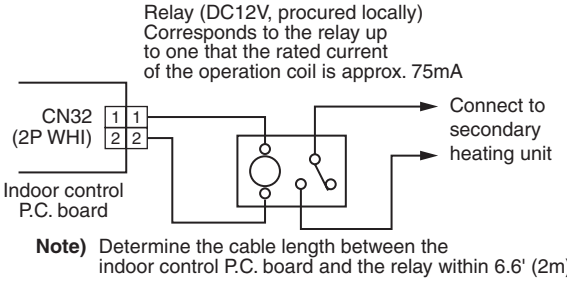
Use ① - ④ pin (Cooling output, DC 12 V) of CN60 on indoor P.C. board for output.



• MCC-1643 model

Use CN32 on indoor P.C. board for output.

Set DN[191] to 0001 and wire as shown below.



* The output state can be checked from “Monitor function” on the wired remote controller. See page 83 or the manual for the remote controller for operation methods of “Monitor function”.

Monitor CODE No.	Secondary heating output
E5	- - - -: Unavailable 0000: OFF 0001: ON

7. COMMUNICATION TYPE, MODEL NAMES AND THE MAXIMUM NUMBER OF CONNECTABLE UNITS

7-1. This air conditioning (U series) has new communication specifications, and TU2C-LINK (U series) and TCC-LINK (other than U series) differ in a communication type. For the communication type and the model names such as each unit or remote controllers, refer to the following table.

Communication type	TU2C-LINK (U series and future models)	TCC-LINK (Other than U series)
Outdoor unit	MMY-M**U**P∗∗∗ ↑ This letter indicates U series model.	Other than U series MMY-MAP∗∗∗ MCY-MAP∗∗∗
Indoor unit	MM∗-**U**P∗∗∗ ↑ This letter indicates U series model.	Other than U series MM∗-AP∗∗∗
Wired remote controller	RBC-A∗∗**U**∗∗∗ ↑ This letter indicates U series model.	Other than U series
Wireless remote controller kit & receiver unit	RBC-AX**U**∗∗∗ ↑ This letter indicates U series model.	Other than U series
Remote sensor	TCB-TC∗∗**U**∗∗∗ ↑ This letter indicates U series model.	Other than U series

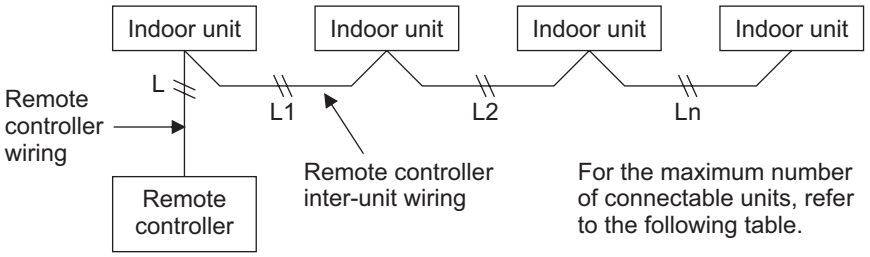
U series outdoor unit : SMMS-u
Other than U series outdoor unit : SMMS-i, SMMS-e, SHRM-e, MiNi-SMMS etc.

7-2. If TU2C-LINK (U series) is combined with TCC-LINK (other than U series), the wiring specifications and the maximum number of connectable indoor units during group control operation will be changed.

(1) For wiring specifications, carry out the installation, maintenance, or repair according to the attached Installation Manual.

(2) For a communication type combination and the max. number of connectable indoor units, refer to the following table.

- Only when all outdoor unit, indoor unit and remote control are a U series, communication method is TU2C-LINK, and the maximum number of connectable units will be 16.



The combination of unit type and the number of the maximum connection of a communication method

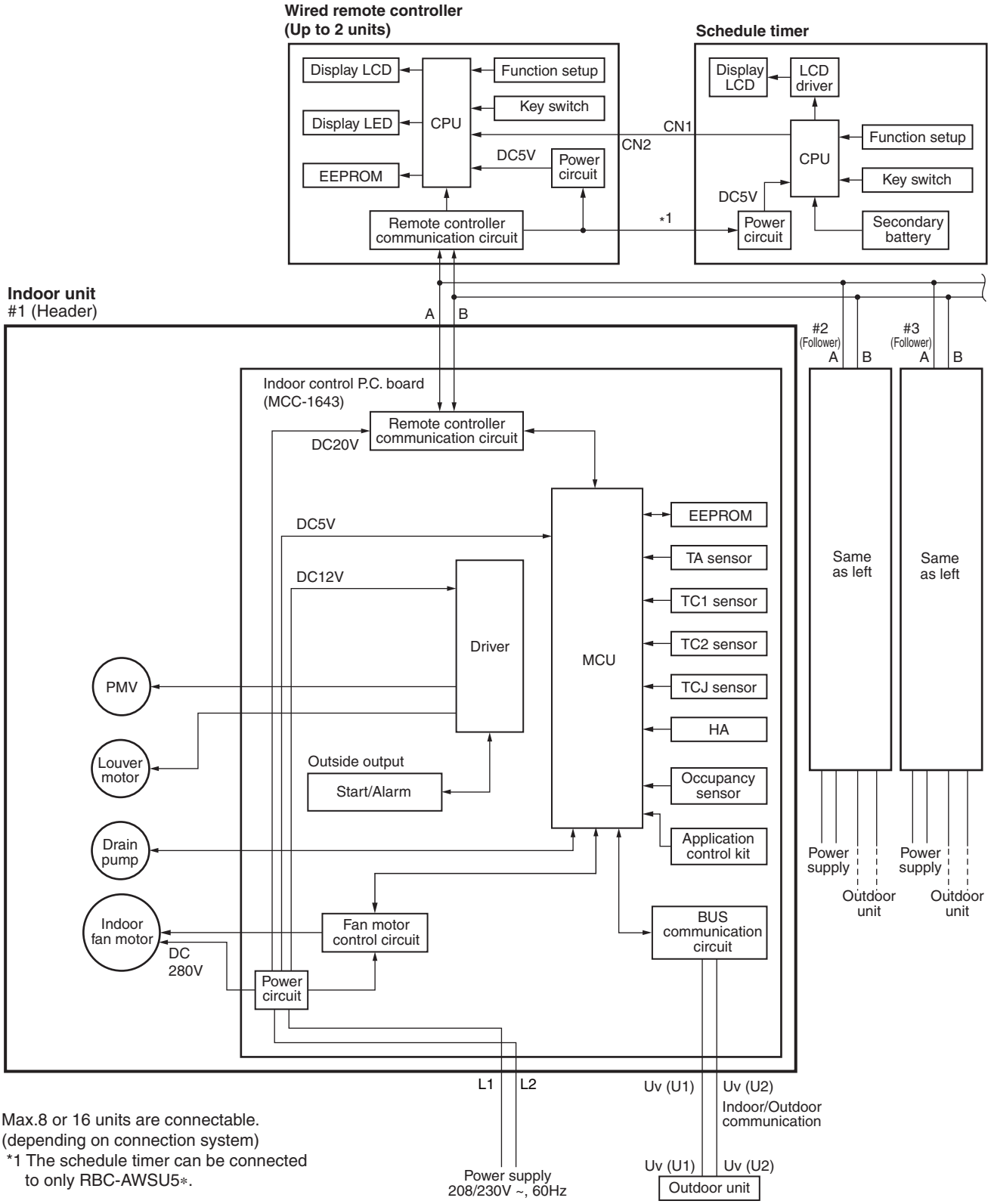
	Unit type							
Outdoor unit	U series	U series	U series	U series	*	*	*	*
Indoor unit	U series	U series	*	*	U series	U series	*	*
Remote controller Remote sensor	U series	*	U series	*	U series	*	U series	*
Communication type	TU2C-LINK	TCC-LINK						
Maximum number of connectable units	16	8						

***** Other than U series

8. APPLIED CONTROL AND FUNCTIONS (INCLUDING CIRCUIT CONFIGURATION)

8-1. Indoor controller block diagram (MCC-1643)

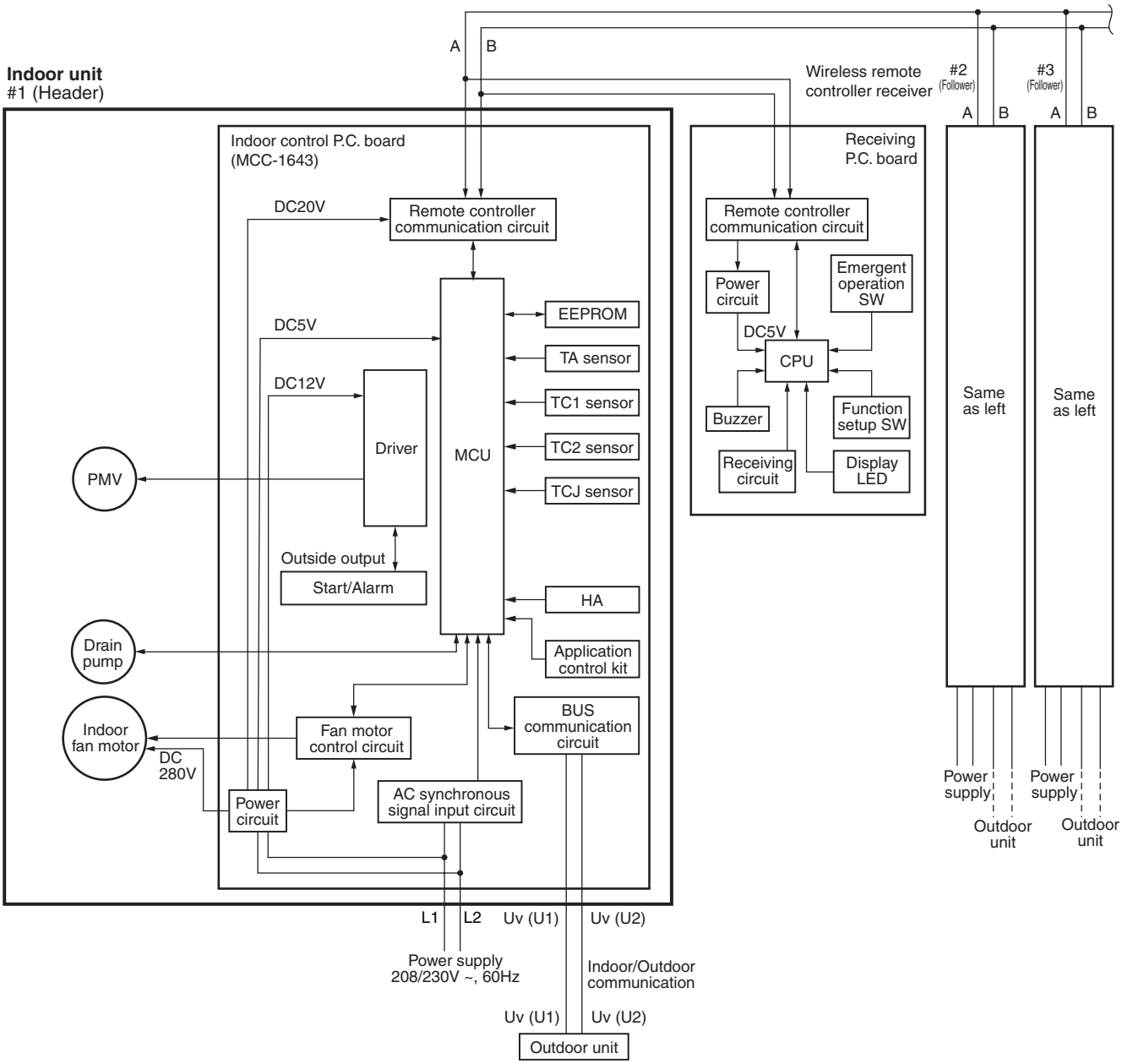
8-1-1. In case of connection of wired remote controller



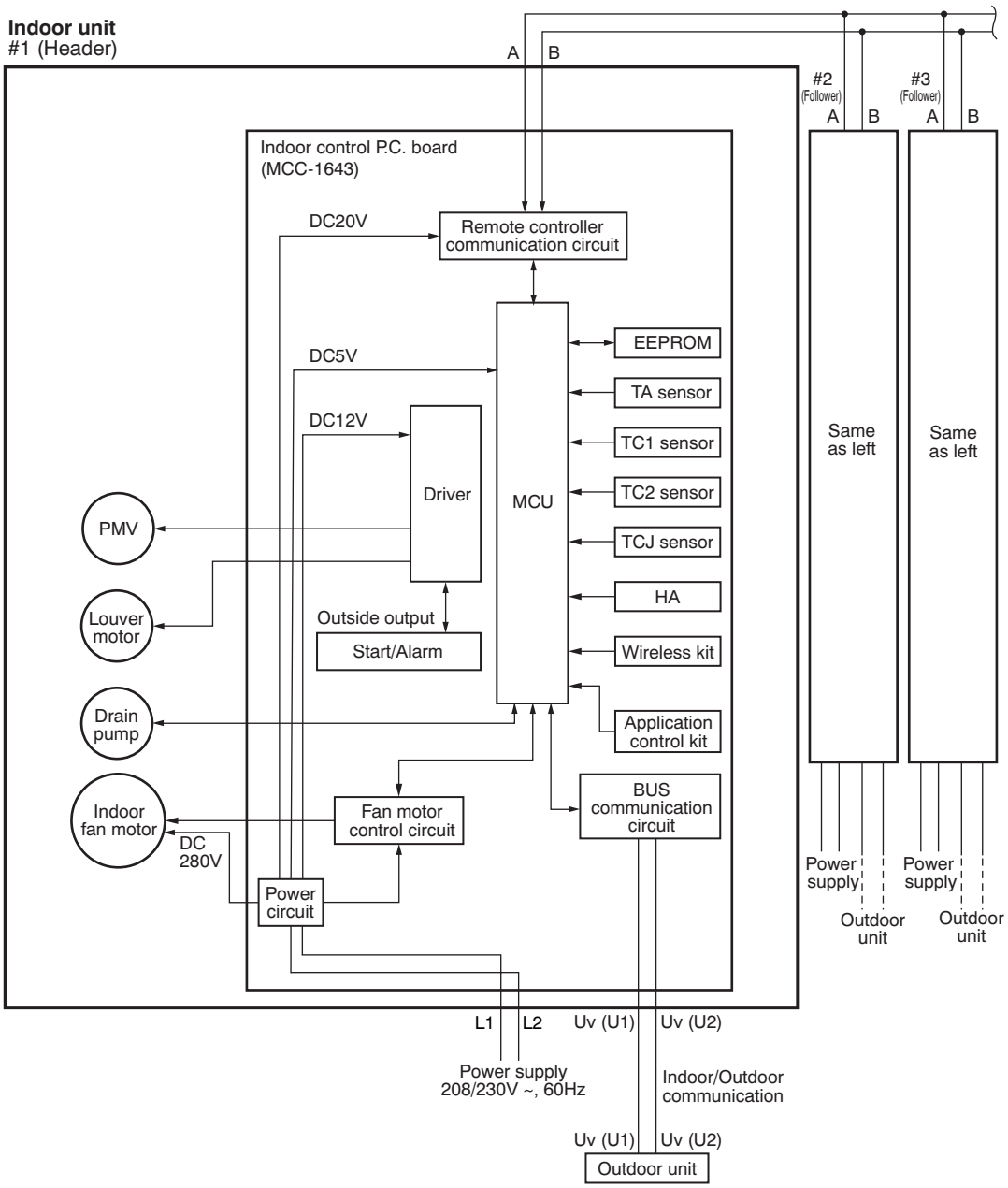
Max.8 or 16 units are connectable.
(depending on connection system)

1 The schedule timer can be connected to only RBC-AWSU5.

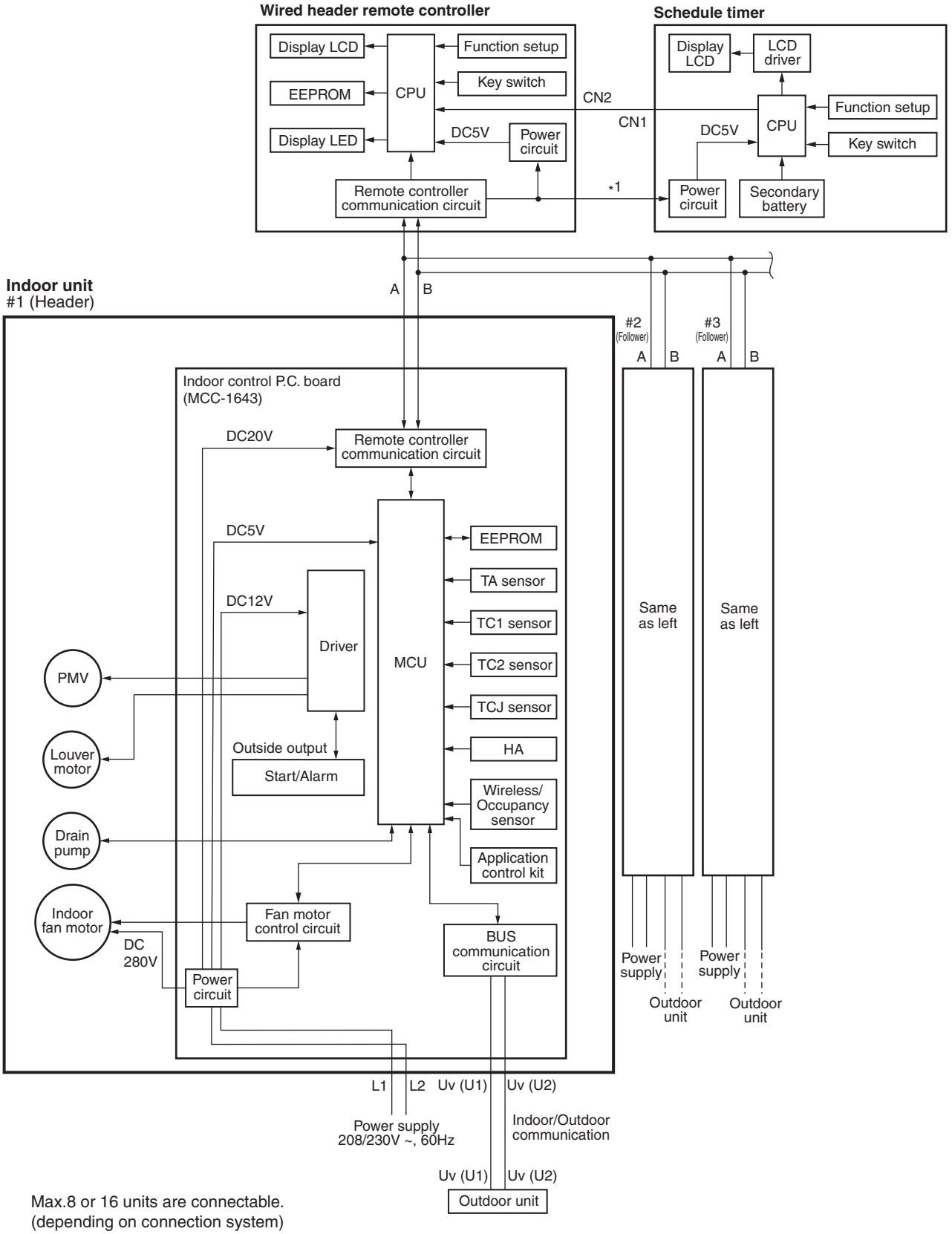
8-1-2. In case of connection of wireless remote controller (Slim Duct type)



8-1-2. In case of connection of wireless remote controller (Compact 4-way Cassette type)



8-1-3. Connection of both wired remote controller and wireless remote controller

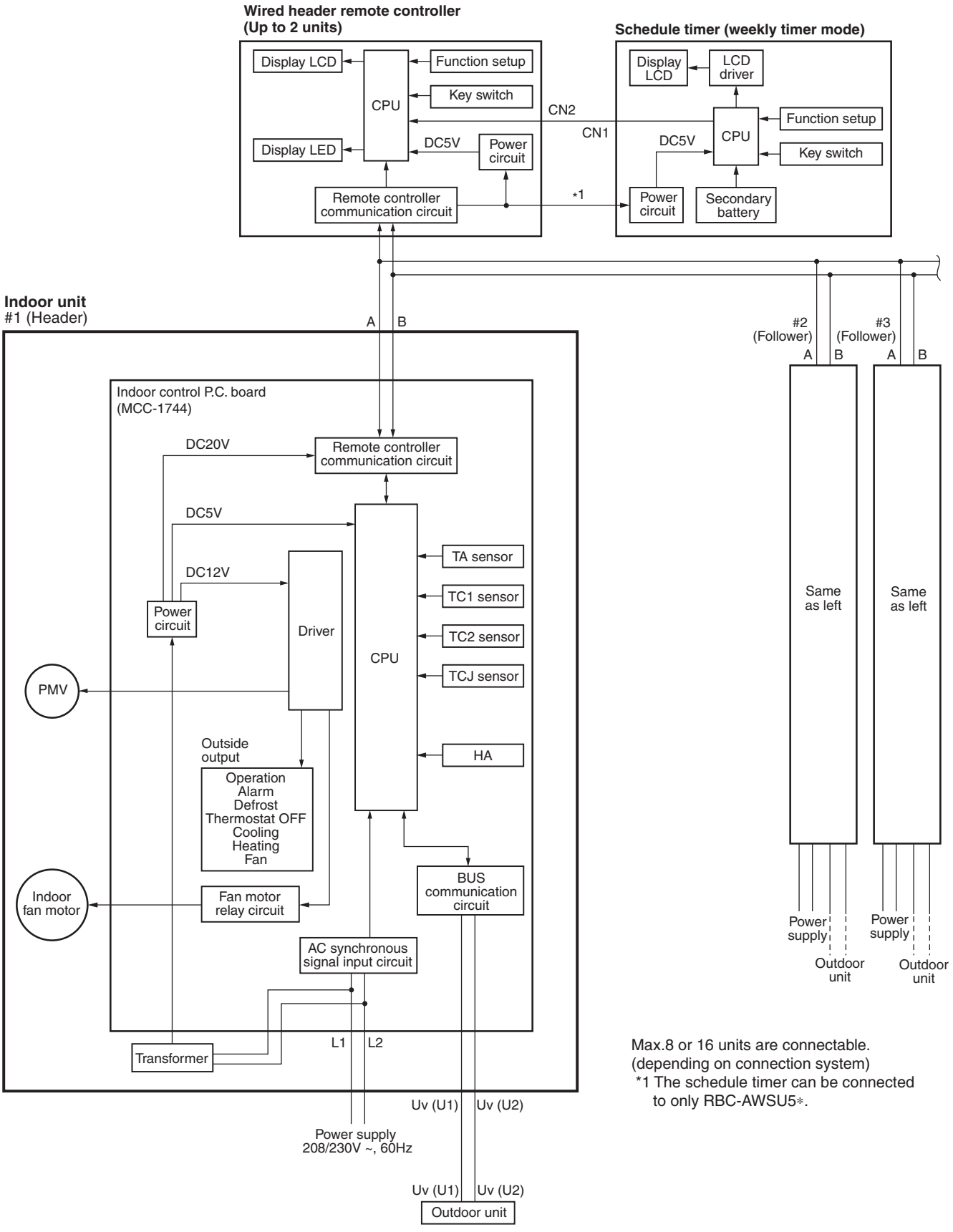


Max.8 or 16 units are connectable.
(depending on connection system)

1 The schedule timer can be connected to only RBC-AWSU5.

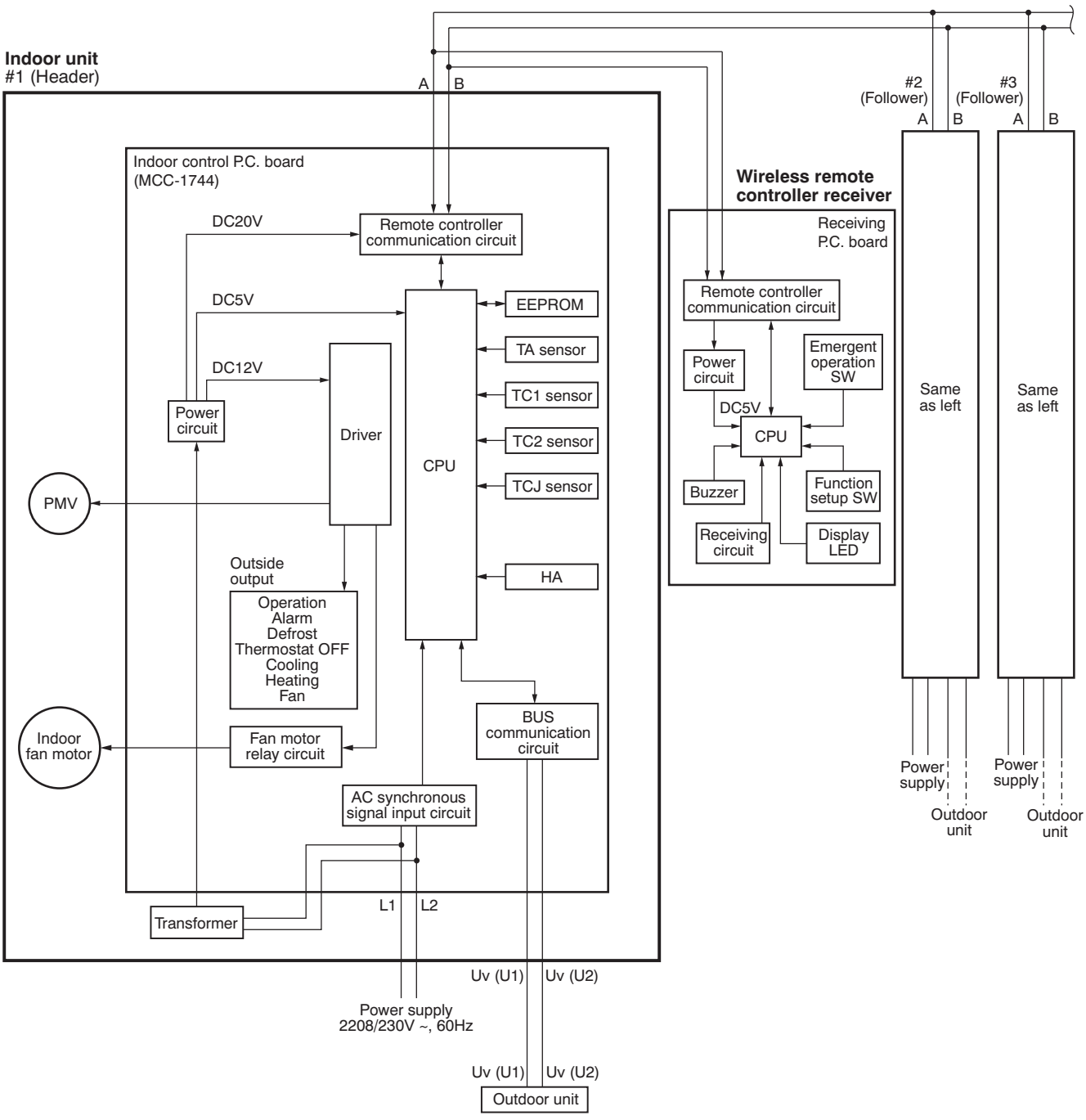
8-2. Indoor controller block diagram (MCC-1744)

8-2-1. In case of connection of wired remote controller

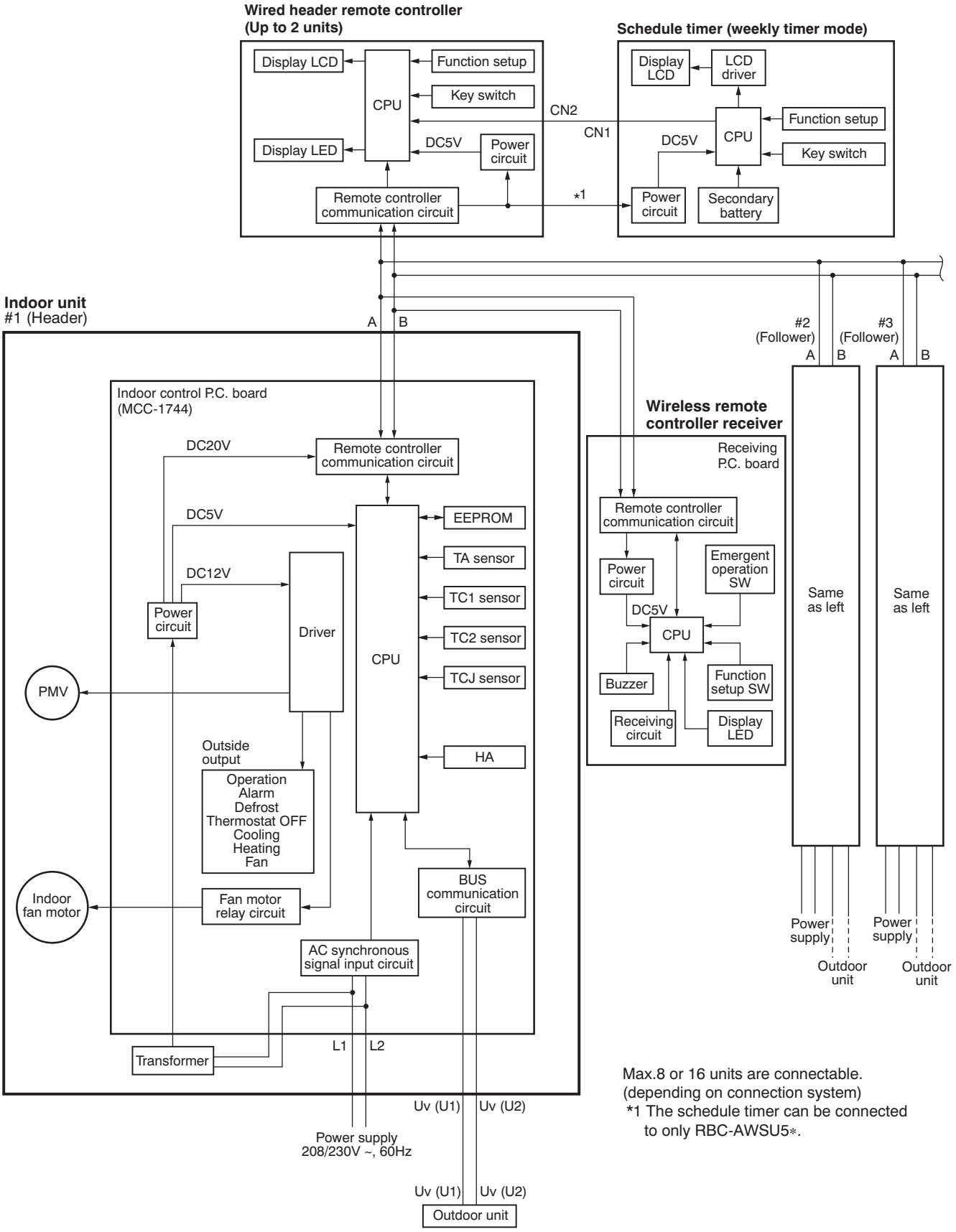


Max.8 or 16 units are connectable.
(depending on connection system)
1 The schedule timer can be connected to only RBC-AWSU5.

8-2-2. In case of connection of wireless remote controller



8-2-3. Connection of both wired remote controller and wireless remote controller

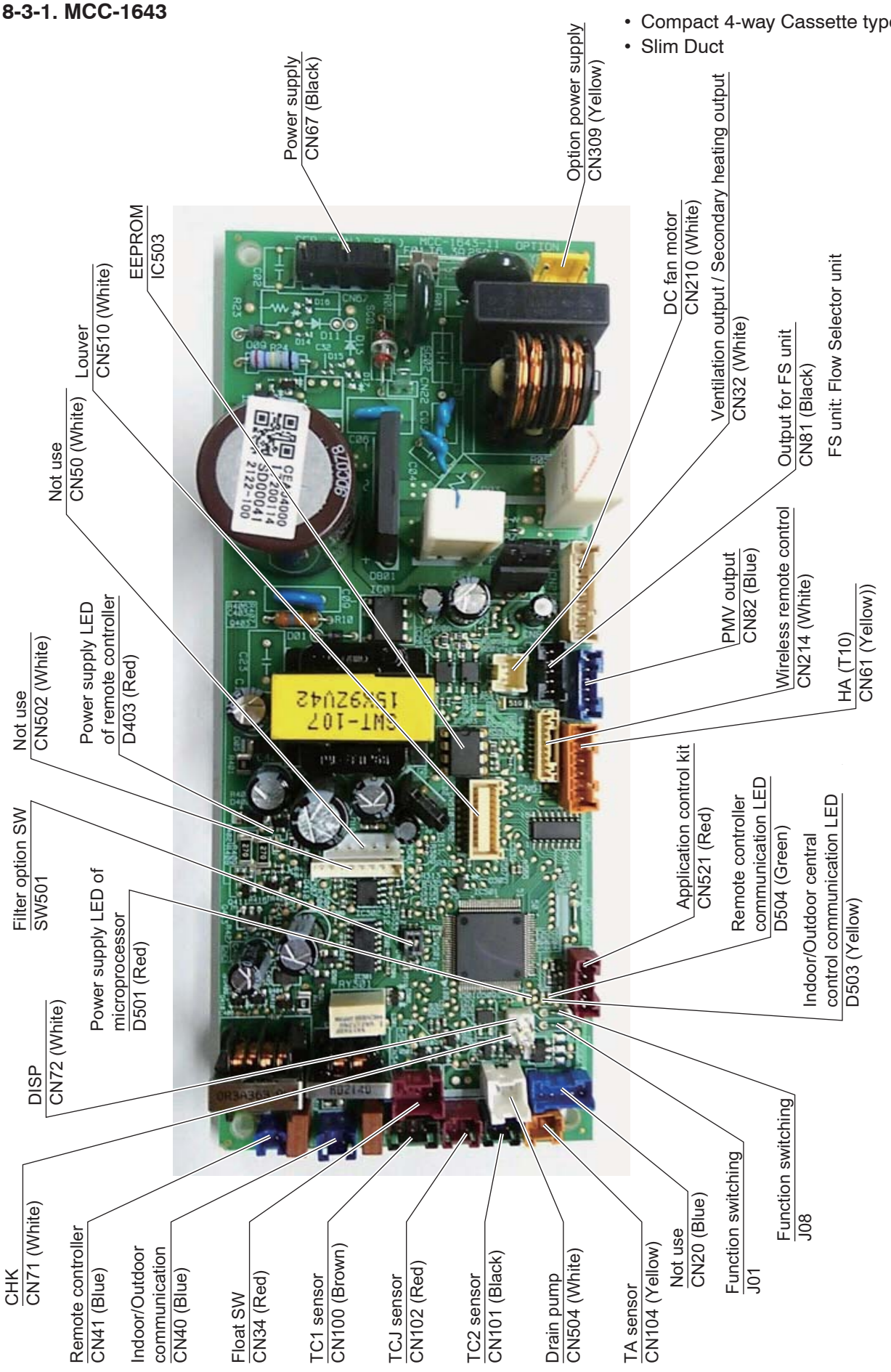


Max.8 or 16 units are connectable.
(depending on connection system)
1 The schedule timer can be connected to only RBC-AWSU5.

8-3. Indoor Print Circuit Board

8-3-1. MCC-1643

- Compact 4-way Cassette type
- Slim Duct



Optional connector specifications of indoor P.C. board (MCC-1643)

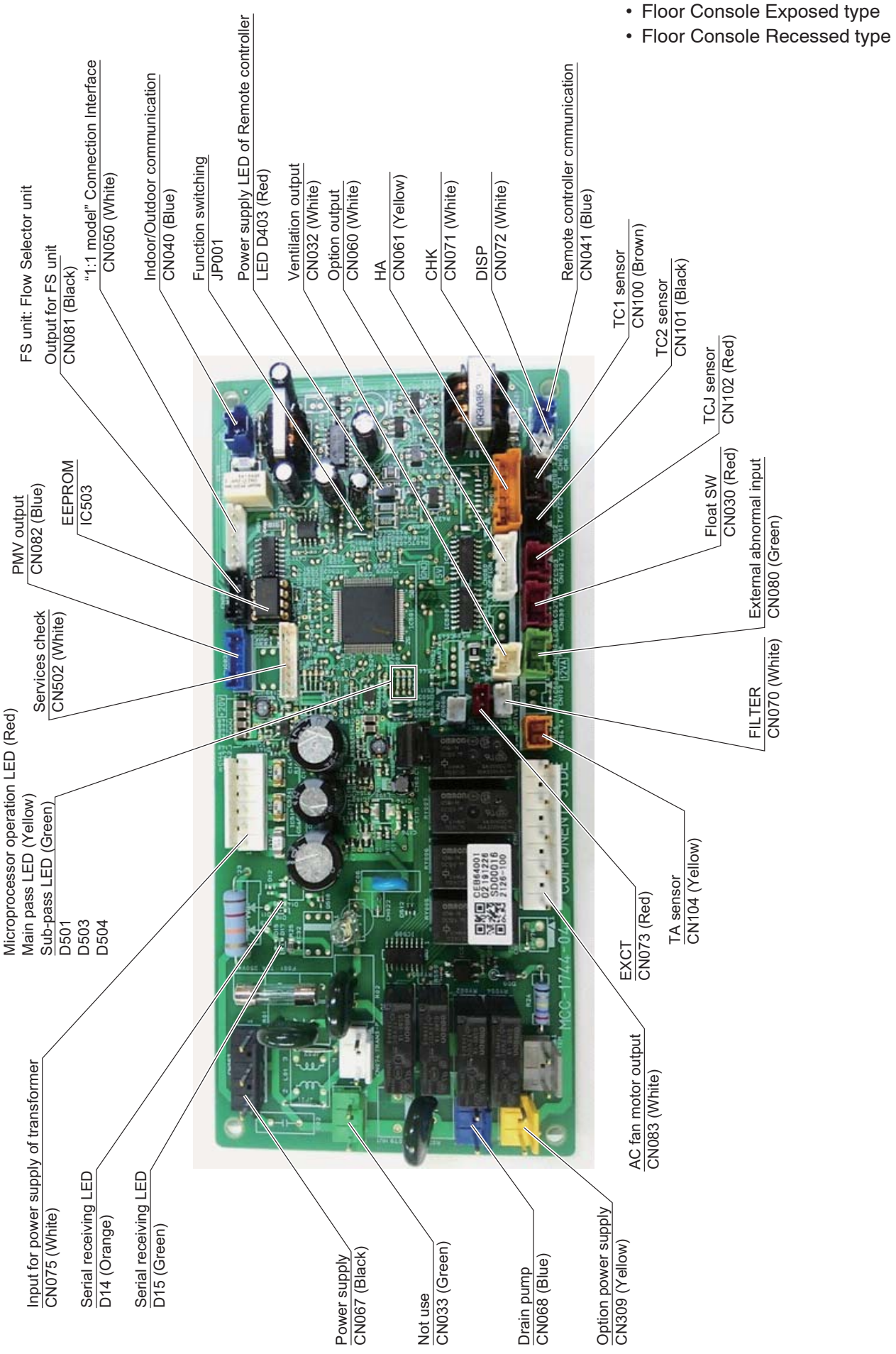
Connector No.	Color	Function	Slim Duct	Compact 4-way Cassette	Pin No.	Specifications	Remarks
CN32	White	• Ventilation output (DN191=0) • Secondary heating output (DN191=1)	○	○	① ②	DC12V Output (Open collector)	Setting at shipment (DN191=0): Interlock of ON by indoor unit operation, with OFF by stop operation. * The single operation setting by FAN button on the remote controller is performed on the remote controller (DN=31). * Change DN191 to 1 and switch to secondary heating output
CN34	Red	Input for float SW	●	●	① ② ③	DC12V NC Float SW input	Normal when between ①–③ short-circuits, but abnormal when open-circuits. (check code "P10" appears)
CN61	Yellow	HA	○	○	① ② ③ ④ ⑤ ⑥	ON/OFF input 0V（COM） Remote controller prohibited input Operation output (Open collector) DC12V（COM) Warning output (Open collector)	HA ON/OFF input (J01: YES/NO=Pulse (At shipment from factory) /Static input selection) Permission/Prohibition of remote controller operation stop is performed by input. Operation ON (Answer back of HA) Warning output ON
CN71	White	CHK Operation check	○	○	① ②	Check mode input 0V	This check is used to check indoor operation. (Performs operation of indoor fan “H” , Louver horizontal and Drain pump ON without communication with outdoor and remote controller)
CN72	White	DISP Exhibition mode	○	○	① ②	DISP mode input 0V	Communication is available by indoor unit and remote controller only (When the power is turned on). Shortening time of timer (Always)
CN81	Black	Output for Flow selector unit	△	△	① ② ③ ④ ⑤	DC12V EP valve output (Open collector) Balance valve output (Open collector) Suction valve output (Open collector) Discharge valve output (Open collector)	
CN309	Yellow	Output power supply for option	○	○	① ③	AC230V AC230V	This can be used as power supply for option devices.
CN521	Red	Connection for option P.C.board	△	△	① ② ③ ④ ⑤	DC12V DC5V Send Receive 0V	Connected Application control kit (TCB-PCUC2E)

● : Use in standard, ○ : Available, △: Use by connecting parts sold separately, × : Unavailable

* To use the functions operated by CN60, CN80, CN70 and CN73, which are provided for other P.C.board, use the Application control kit (TCB-PCUC2E) sold separately.

8-3-2. MCC-1744

- Floor Console Exposed type
- Floor Console Recessed type



Optional connector specifications of indoor P.C. board (MCC-1744)

Connector No.	Color	Function	Floor Console Exposed	Floor Console Recessed	Pin No.	Specifications	Remarks
CN032	White	Ventilation output	○	○	① ②	DC12V (COM) 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).
CN033	White	Louver output	×	×	① ③	AC230V AC230V	Output is AC200V when louver is ON.
CN034	Red	Input for float SW	× (With short-circuit connector)	× (With short-circuit connector)	① ② ③	DC12V NC Float SW input	Normal when between ①–③ short-circuits, but abnormal when open-circuits. (check code "P10" appears)
CN060	White	Option output	○	○	① ② ③ ④ ⑤ ⑥	DC12V (COM) Defrost output (Open collector) Thermostat-off output (Open collector) Cooling output (Open collector) Heating output (Open collector) 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.
CN061	Yellow	HA	○	○	① ② ③ ④ ⑤ ⑥	ON/OFF input 0V (COM) Remote controller prohibited input Operation output (Open collector) DC12V (COM) Warning output (Open collector)	HA ON/OFF input (J01: YES/NO=Pulse (At shipment from factory) /Static input selection) Permission/Prohibition of remote controller operation stop is performed by input. Operation ON (Answer back of HA) Warning output (Open collector)
CN068	Blue	Drain pump output	×	×	① ③	AC230V AC230V	Output is AC200V in cooling and float SW operation.
CN070	White	Filter	○	○	① ②	Input 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] = 0002 → 0001).
CN071	White	CHK Operation check	○	○	① ②	Check mode input 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)
CN072	White	DISP Exhibition mode	○	○	① ②	DISP mode input 0V	Communication is available by indoor unit and remote controller only (When the power is turned on). Shortening time of timer (Always)
CN073	Red	EXCT demand	○	○	① ②	Demand input 0V	Forced thermostat OFF operation for indoor unit
CN080	Green	External abnormal input	○	○	① ② ③	DC12V NC External abnormal input	Make the check code of "L30" occur (by continuing operation for one min) and perform the forced stop.
CN081	Black	Output for Flow selector unit	△	△	① ② ③ ④ ⑤	DC12V EP valve output (Open collector) Balance valve output (Open collector) Suction valve output (Open collector) Discharge valve output (Open collector)	
CN309	Yellow	Output power supply for option	○	○	① ③	AC230V AC230V	This can be used as power supply for option devices.

● : Use in standard, ○ : Available, △: Use by connecting parts sold separately, × : Unavailable

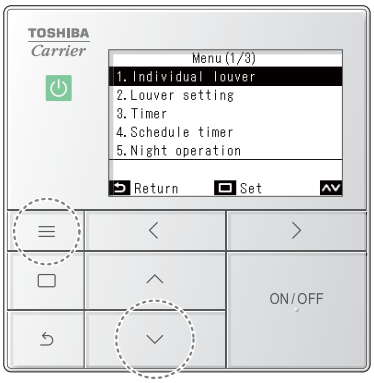
8-4. Test run of indoor unit

■ 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

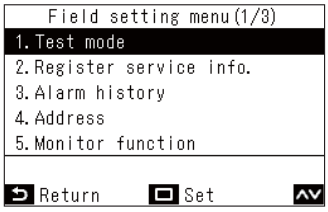
<RBC-AWSU5*>

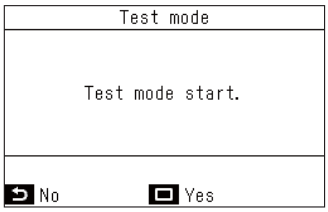


1 **Push [Menu] to open the “Menu”**

2 **Push and hold [Menu] and [ ] at the same time to open “Field setting menu”**

→Push and hold 4 seconds.

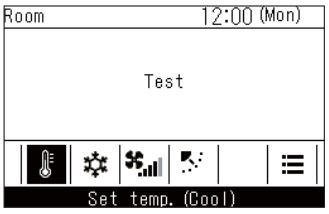




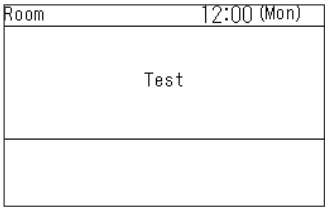
3 **In the “Field setting menu” screen, push [ ] and [ ] to select “Test mode”, and then push [Set/Fix]**

→Test mode is set, and returns to the “Field setting menu” screen. push the [Return] button 2 times, to open screen (2).

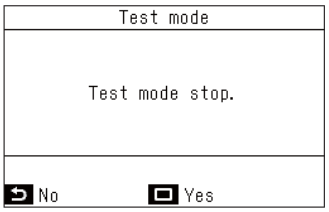
(1)



(2)



(3)



4 **push [ON/OFF ON/OFF]**

→Operation starts, and in test mode screen (1) opens. (While stopped, it is screen (2))

→Test mode is done while the operating mode is set to “Cool” or “Heat”.

→The temperature cannot be set in test mode.

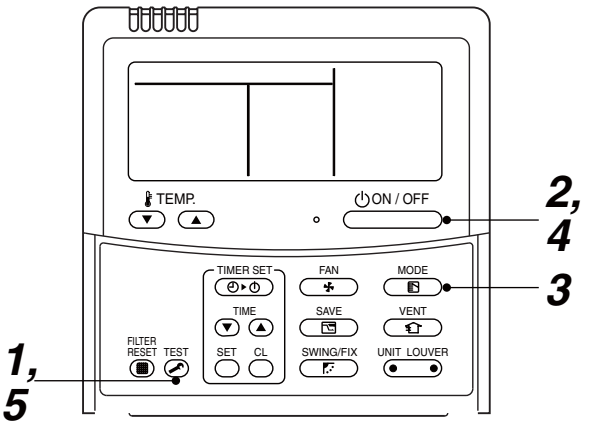
→Check codes are displayed in the normal way.

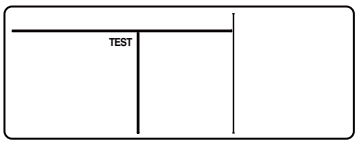
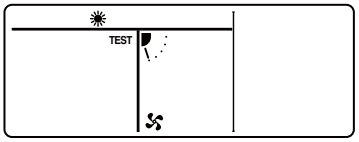
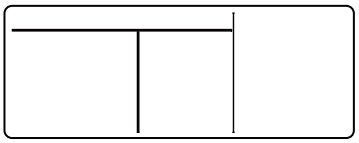
5 **After completing test mode, in the “Field setting menu” screen, push [ ] and [ ] to select “Test mode”, and then push [Set/Fix]**

→Screen (3) appears.

→Push [Set/Fix] to end test mode and do normal operation.

<RBC-AMTU3∗>



Procedure	Operation contents
1	Push [TEST] button for 4 seconds or more. [TEST] is displayed at the display part and the mode enters in TEST mode. 
2	Push [ON/OFF] button.
3	Change the mode from [COOL] to [HEAT] using [MODE] button. • 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	After test run, push [ON/OFF] button to stop the operation. (Display on the display part is same to that in Procedure ***1*** .)
5	Push [TEST] button to clear the TEST mode. ([TEST] display in the display part disappears and status becomes the normal stop status.) 

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

◆ 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 62°F with the temp. setup buttons.	Set the temperature to 86°F with the temp. setup buttons.

4

Cooling test run	Heating test run
After confirming a signal receiving sound “beep” immediately set the temperature to 63°F with the temp. setup buttons.	After confirming a signal receiving sound “beep” immediately set the temperature to 85°F with the temp. setup buttons.

5

Cooling test run	Heating test run
After confirming a signal receiving sound “beep” immediately set the temperature to 62°F with the temp. setup buttons.	After confirming a signal receiving sound “beep” immediately set the temperature to 86°F 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 → 62°F → 63°F → 62°F → 63°F → 62°F → 63°F → 62°F → (test run) → ON/OFF

▼ Heating test run:
ON/OFF → 86°F → 85°F → 86°F → 85°F → 86°F → 85°F → 86°F → (test run) → ON/OFF

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

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

This function is provided to check the operation of the indoor unit individually without connecting to the remote controller or the outdoor unit. This function can be used regardless of the ON/OFF operation.
However, it is recommend to avoid using this function for along time, otherwise the trouble of the equipment may occurred.

[How to operate]

1) Short-circuit CHK pin (CN71 on the indoor P.C. board).
   The operation mode may differ according to the indoor unit status at 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) During the normal time, the minimum opening degree (30pls) of the indoor PMV can be set only when both CHK pin (CN71) and DISP pin (CN72) on the indoor P.C board are short-circuited. If the short-circuit at DISP pin (CN72) is opened, the indoor PMV will be at the maximum opening degree (1500pls).
   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. If the system is on operation, it will temporarily stop then automatically restart after a while.

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

	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

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

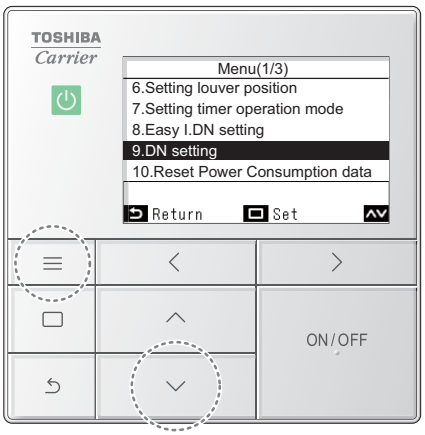
8-5. Method to set indoor unit function DN code

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

◆ Procedure

Be sure to stop the air conditioner before making settings

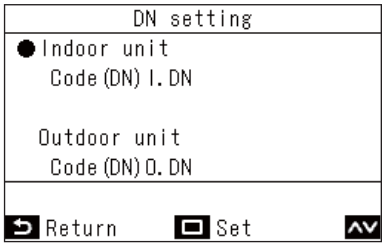
<RBC-AWSU5∗>



1 **Push [Menu] to open the “Menu”**

2 **Push and hold [Menu] and [ ] at the same time to open “Field setting menu”**

→Push and hold 4 seconds.



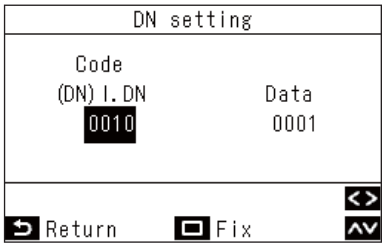
3 **In the “Field setting menu” screen, push [ ] and [ ] to select “DN setting”, and then push [Set/Fix]**

4 **Push [ ] and [ ] to select “Indoor unit”, and the push [Set/Fix]**

→“Indoor unit” was selected, the fans and louvres of the indoor units operate.

When doing group connections:

→The fans and louvres of the selected indoor units operate.

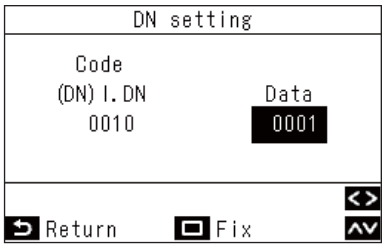


5 **Push [ ] to black highlight the code (DN), and then push [ ] and [ ] to set the code**

6 **Push [ ] to black highlight the data, and then push [ ] and [ ] to set the data**

7 **After finishing setting the data of the code (DN), push [Set/Fix]**

→“Continue?” is displayed.

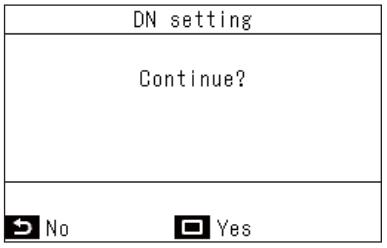


8 **To set the data of other codes (DN), push [Set/Fix]**

To not do other settings, push [Return]

→The changes are fixed, and the “Field setting menu” screen returns.

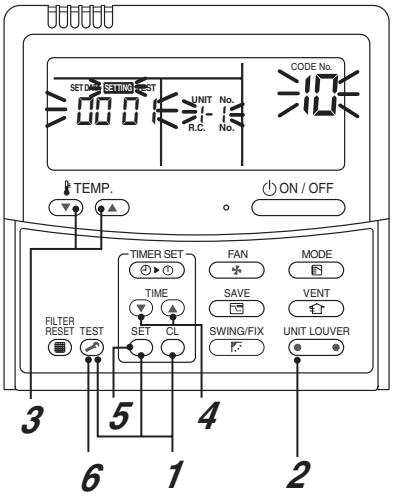
→“⧖” appears while data is changing.



When doing group connections:

→Push [Return] to open t he unit selection screen. In the unit selection screen, push [Return] to briefly display “⧖”, and then return to the “Field setting menu” screen.

<RBC-AMTU3∗>



1 **Push the TEST + SET + CL 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 UNIT LOUVER 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 TEMP. button to select the CODE No. (DN code) of the desired function.**

4 **Use the TIME button to select the desired SET DATA associated with the selected function.**

5 **Push the SET 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 SET button is pushed, the system returns to normal off state.**

Indoor unit function Code No. (DN Code) table

(includes functions needed to perform applied control on site)

DN	Item	Description	At shipment
01	Filter display delay timer	0000: None 0001: 150H 0002: 2500H 0003: 5000H 0004: 10000H	Depending on model type
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
06	Heating temp. shift	0000: No shift 0001: +1°C (+2°F) 0002: +2°C (+4°F) to 0010: +10°C (+18°F) (Up to +6°C (+11°F) recommended)	Depending on model type
0b	Demand control (CN73 / CN4)	0000: Demand input 0001: O2 sensor input 0002: Card input setup.3 0003: Fire alarm input 0004: Card input setup.4 (Normal open) 0005: Fire alarm input 0006: Notice code (202) (Normal close) 0007: Card input setup.5 0008: Card input setup.1 0009: Card input setup.2	0000: Demand input
0d	Existence of [AUTO] mode	0000: Provided 0001: Not provided (Automatic selection from connected outdoor unit)	0001: Not provided
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 0011 Refer to Indoor Unit Capacity DN code "11" list	According to capacity type
12	Line address	0001: No.1 unit to 0030: 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.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
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
19	Louver type (Air direction adjustment)	0000: No louver 0001: Swing only 0004: (4-way Air Discharge Cassette type, etc.)	Depending on model type
1E	Temp difference of AUTO] mode selection COOL → HEAT, HEAT → COOL	0000: No shift to 0010: 10°C (18°F) (Ts ± 5°C (9°F)) Ts:Remote controller setup temp.	0003: 3°C (5°F) (Ts ±1.5°C (3°F))
28	Automatic restart of power failure	0000: None 0001: Restart	0001: Restart
2A	Selection of option/Trouble input (TCB-PCUC2E: CN3)	0000: Filter input 0001: Alarm input 0002: None (Air washer, etc.)	0002: None
2E	HA terminal (CN61) select	0000: Usual 0001: Card input setup.1 (3) 0002: Fire alarm input 0003: Card input setup.2 (4) (Normal open) 0004: Notice code (201) 0005: Card input setup.5	0000: Usual (HA terminal)
31	Ventilating fan control	0000: Unavailable 0001: Available	0000: Unavailable
32	TA sensor selection	0000: Indoor unit TA sensor 0001: Remote controller sensor	0000: Indoor unit TA sensor

DN	Item	Description	At shipment
33	Temperature unit select	0000: °C 0001: °F	0001: °F
5d	External static pressure High-ceiling adjustment (Air flow selection)	Refer to next page.	Depending on model type
60	Timer setting (wired remote controller)	0000: Available (can be performed) 0001: Unavailable (cannot be performed)	0000: Available
77	Dual set point	0000: Unavailable 0002: Available	0000: Unavailable
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
b3	Soft cooling	0000: Unavailable 0001: Available	0001: Available
b5	Occupancy sensor/ Wireless Remote controller Provided / None	0000: None 0001: Occupancy sensor provided 0002: Wireless remote controller provided	0000: None
b6	Occupancy sensor Enable / Invalid (Absence time judgment time)	0000: Invalid 0001: 30min. 0002: 60min. 0004: 120min. 0005: 150min.	0002: Enable (60 min.)
b7	Occupancy sensor operation at absent time	0000: Stand by 0001: operation stop	0000: Stand by
CF	4-way cassette type model name	0000: Standard Model 0001: Smart cassette	Depending on model type
d0	Whether the power saving mode can be set by the remote controller	0000: Invalid 0001: Valid	0001: Valid
E0	Region	0000: Japan 0001: North America	0001: North America
E6	Wireless remote controller A-B selection	0000: A 0001: B	0000: A
F0	Swing mode	0000 : Out of sync swing 0001 : 4-way sync swing 0002 : Dual swing 0003 : Cycle swing	0000: Not including 4-way 0001: 4-way (Compact)
F1	Louver fixed position (Louver No.1)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F2	Louver fixed position (Louver No.2)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F3	Louver fixed position (Louver No.3)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
F4	Louver fixed position (Louver No.4)	0000 : Release 0001 : Horizontal discharge position 0005 : Downward discharge position	0000: Not fixed
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
Fd	Priority operation mode	0000: Heating 0001: Cooling	0000: Heating
FE	Flow Selector unit 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

DN	Item	Description	At shipment
180	Notice code number 01	0000: None 0001 ~ 0255 : Notice code 0129 : Notice code (201) 0130 : Notice code (202) (0001 ~ 0255 : TU2C-LINK only)	0000: None
181	Notice code number 02		0000: None
182	Notice code number 03		0000: None
183	Notice code number 04		0000: None
184	Notice code number 05		0000: None
185	Notice code number 06		0000: None
186	Notice code number 07		0000: None
187	Notice code number 08		0000: None
188	Notice code number 09		0000: None
189	Notice code number 10		0000: None
191	CN32 output	0000: Ventilation output 0001: Secondary heating output	0000 : Ventilation output
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 1∗6∗0001 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

*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]), Flow Selector 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 TCC-LINK	⋯ ⇔ 0002 ⇔ 00Un ⇔ 0000 ⇔ ⋯
Other than U series	TCC-LINK	⋯ ⇔ 0002 ⇔ 0099 ⇔ 0000 ⇔ ⋯

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

[5d] External static pressure & High-ceiling adjustment

<Slim Duct type>

Set data	External static pressure		
	UP007 to 012	UP015,018	
0000	0.05 in.WG	0.07 in.WG	Standard (Factory default)
0001	0.09 in.WG	0.11 in.WG	High static pressure 1
0003	0.13 in.WG	0.15 in.WG	High static pressure 2
0004	0.17 in.WG	0.19 in.WG	High static pressure 3
0006	0.21 in.WG	0.23 in.WG	High static pressure 4

<Compact 4-way Cassette>

Set data	High-ceiling adjustment
0000	Standard (Factory default)
0001	High ceiling 1 (UP015 and 018 only)
0003	High ceiling 3 (UP015 and 018 only)

Type
DN code "10"

Value	Type	Model
0010	Floor Console Exposed type	MML-UP∗∗∗H∗
0011	Floor Console Recessed type	MML-UP∗∗∗BH∗
0014	Compact 4-way cassette	MMU-UP∗∗∗MH∗
0015	Slim Duct	MMD-UP∗∗∗SPH∗

Indoor Unit Capacity
DN code "11"

■ Slim Duct type

Value	Capacity
0000*	Invalid
0001	007 type
0003	009 type
0005	012 type
0007	015 type
0009	018 type

■ Floor Console Recessed type

Value	Capacity
0000*	Invalid
0001	007 type
0003	009 type
0005	012 type
0007	015 type
0009	018 type
0011	024 type

■ Floor Console Exposed type

Value	Capacity
0000*	Invalid
0001	007 type
0003	009 type
0005	012 type
0007	015 type
0009	018 type
0011	024 type

■ Compact 4-way cassette type

Value	Capacity
0000*	Invalid
0001	007 type
0003	009 type
0005	012 type
0007	015 type
0009	018 type

* "0000" is default value stored in EEPROM mounted on service P.C. board

8-6. Applied control of indoor unit

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

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.

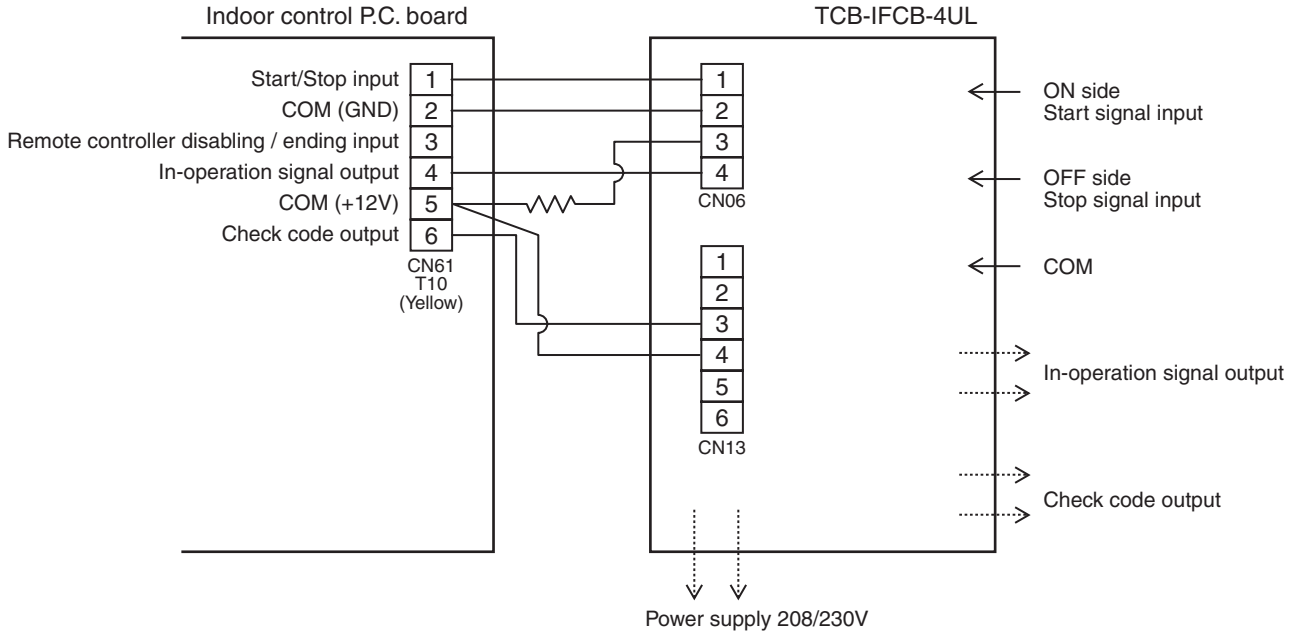
1. Control items

(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-4UL)

Input IFCB-4UL: 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 normally-open contact as an outside input signal.
- In a group control, the units are collectively operated and they cannot be individually operated.
- This feature is available when DN190 is 0.

1. Operation

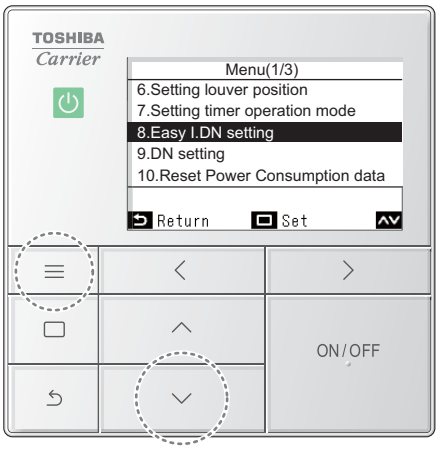
Handle a wired remote controller in the following procedure.

* 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-AWSU5*>



1 **Push [Menu] to open the "Menu"**

2 **Push and hold [Menu] and [ ] at the same time to open "Field setting menu"**

→Push and hold 4 seconds.

3 **In the "Field setting menu" screen, push [ ] and [ ] to select "Easy I.DN setting", and then push [Set/Fix]**

→The fans and louvres of the indoor units operate.

When doing group connections:

→The fans and louvres of the selected indoor units operate.

4 **Push [ ] and [ ] to select "9. Individual ventilation"**

→Push [ ] and [ ] to switch to the setting you want, or set a numerical value.

SET DATA	Handling of operation of air to airheat exchanger or ventilating fan
ON	Available
OFF	Unavailable (At shipment)

5 **After setting each item, push [Set/Fix]**

→The changes are fixed, and the "Field setting menu" screen returns.

→"⧖" appears while data is changing.

When doing group connections:

→After finishing "Easy I.DN setting" for each unit, push [Set/Fix] to fix the changes and return to the unit selection screen. In the unit selection screen, push [Return] to briefly display "⧖", and then return to the "Field setting menu" screen.

<RBC-AMTU3∗>

1 **Push concurrently SET + CL + TEST 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 UNIT LOUVER 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)**

SET DATA	Contents
0000	Unavailable (At shipment)
0001	Available

The setup data are as follows:

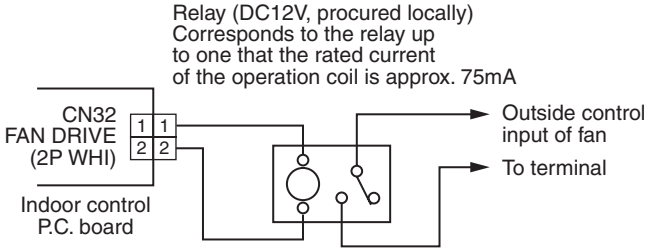
5 **Push SET button. (OK if display goes on.)**

- 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 TEST returns the status to the usual stop status.**

***** The ventilating fan control may be unavailable depending on the remote controllers.

2. Wiring



Note) Determine the cable length between the indoor control P.C. board and the relay within 6.6' (2m).

■ Auto-off feature control

[Function]

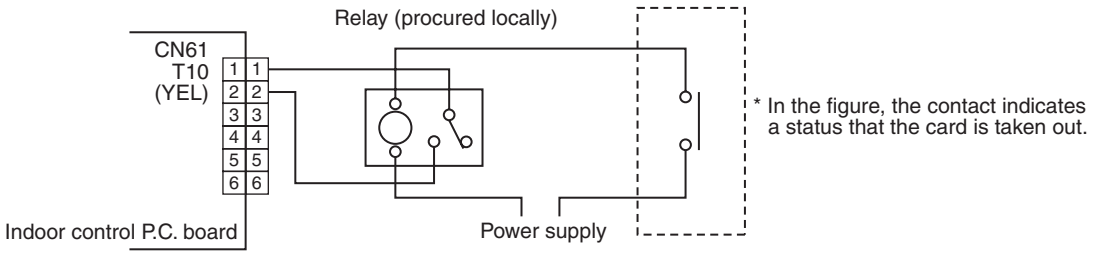
- This function controls the indoor units individually. It is used when the start operation from outside is unnecessary but the stop operation is necessary.
- A card switch box or card lock helps protect customers from forgetting to turn off the indoor unit. (not including the following Card Input 3)
- 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]

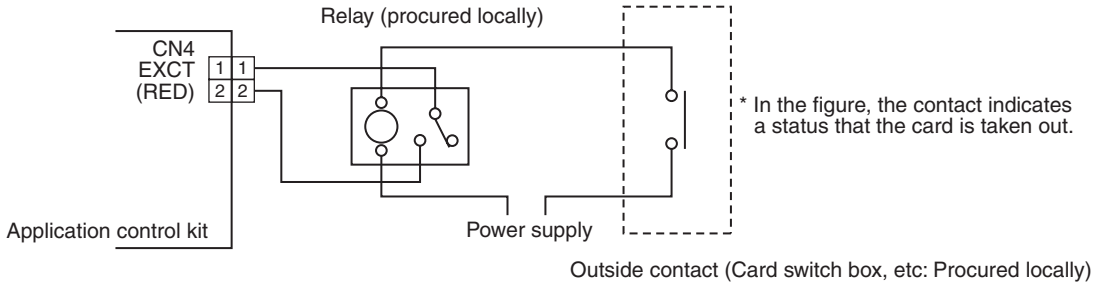
(1) Wiring

Connecting to the CN61 connector



NOTE) Determine the cable length between the indoor control P.C. board and the relay within 9.8' (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 9.8' (3m).

(2) Code (DN) setup

Set Code (DN) according to “8-5. 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
			0005	"Card Input 5" setup
	Open-circuit (cut)		0000 (Factory default)	"HA normal setup" (Static)
			0001	"Card Input 3" setup
			0003	"Card Input 4" setup
CN73 (CN4)	Short-circuit (Factory default) or Open-circuit (cut)	000b	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: 84°F(29°C), HEAT: 64°F(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	1) To change a setting temperature by changing data at DN code No. 172 to 174. 2) The operation mode can be set by changing data (0000, 0001, 0002) at DN code No. 16b. 0000: operation mode is the same at the current mode. (factory setting default) 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.) 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.) See contents below for DN settings and detailed operations.	1) To change a setting temperature, fan speed and wind direction by changing data at DN code No. 16C to 171. 2) The operation mode can be set by changing data (0000, 0001) at DN code No. 16A. 0000: operation mode is the same at the current mode. (factory setting default) 0001: operation automatically starts. See contents below for DN settings and detailed operations.

* 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 : 5°F(-15°C) to 0060 : 140°F(60°C)	0027 : 81°F(27°C)
16d	Open mode Set temp. (Heat)	-0015 : 5°F(-15°C) to 0060 : 140°F(60°C)	0020 : 68°F(20°C)
16E	Open mode Set temp. (Auto)	-0015 : 5°F(-15°C) to 0060 : 140°F(60°C)	0024 : 75°F(24°C)
16F	Open mode Fan speed (All operation mode)	0000 : No change 0001 : HH 0002 : H 0003 : L	0000 : No change
170	Open mode Wind direction (Cool, Dry, Fan)	0000 : No change 0001 : F1 0002 : F2 0003 : F3	0000 : No change
171	Open mode Wind direction (Heat)	0000 : No change 0001 : F1 0002 : F2 0003 : F3 0004 : F4 0005 : F5	0000 : No change
16A	Open mode Operation	0000 : No change 0001 : Run operation	0000 : No change
172	Close mode Set temp. (Cool, Dry)	-0015 : 5°F(-15°C) to 0060 : 140°F(60°C)	0024 : 7°F(24°C)
173	Close mode Set temp. (Heat)	-0015 : 5°F(-15°C) to 0060 : 140°F(60°C)	0024 : 7°F(24°C)
174	Close mode Set temp. (Auto)	-0015 : 5°F(-15°C) to 0060 : 140°F(60°C)	0024 : 7°F(24°C)
16b	Close mode Operation	0000 : No change 0001 : Card ON mode operation 0002 : Run operation (Card ON mode setting)	0000 : No change

[The example of Card Input 5 setting]

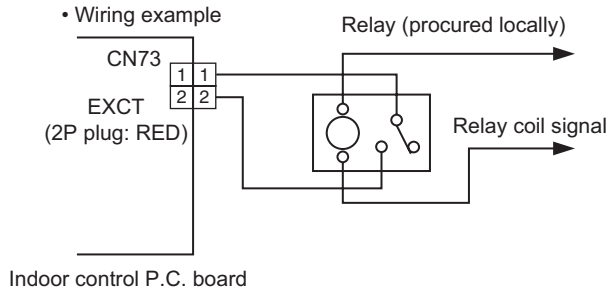
Case.	Code No. (DN) setting									External contact terminal	
	[16A] data	[16b] data	[16C] data	[16d] data	[16F] data	[170] data	[171] data	[172] data	[173] data	Close (Status that card is inserted)	Open (Status that card is taken n out)
(1)	0000	0000	0027	0020	0000	0000	0000	0024	0024	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 75°F (24°C) and 75°F(24°C) respectively due to change in code No. 172, 173.	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 81°F (27°C) and 68°F(20°C) respectively due to change in code No. 16C, 16d.
(2)*	0000	0001	0027	0020	0003	0001	0001	0024	0024	• 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 75°F (24°C) and 75°F(24°C) respectively due to change in code No. 172, 173.	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 81°F (27°C) and 68°F(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	• 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 75°F (24°C) and 75°F(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	• The operation mode continues running at the same as the current mode. • The setting temperature of cooling/dry and heating mode is changed to 75°F (24°C) and 75°F(24°C) respectively due to change in code No. 172, 173.	• 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 81°F (27°C) and 68°F(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 6.6' (2m).

■ 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.

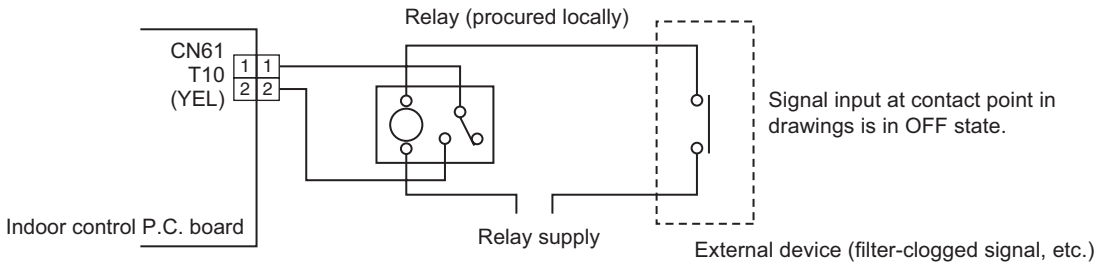
[Function]

- 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]

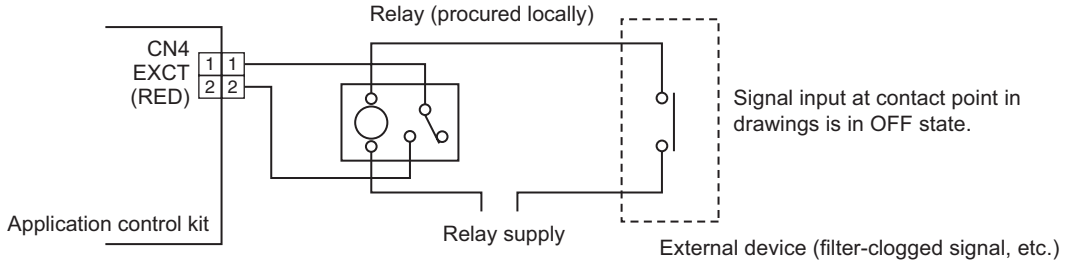
(1) Wiring

Connecting to the CN61 connector



Note) Determine the cable length between the indoor control P.C. board and the relay within 9.8' (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 9.8' (3m).

(2) Code (DN) setup and Notice code
Set Code (DN) according to “8-5. 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).

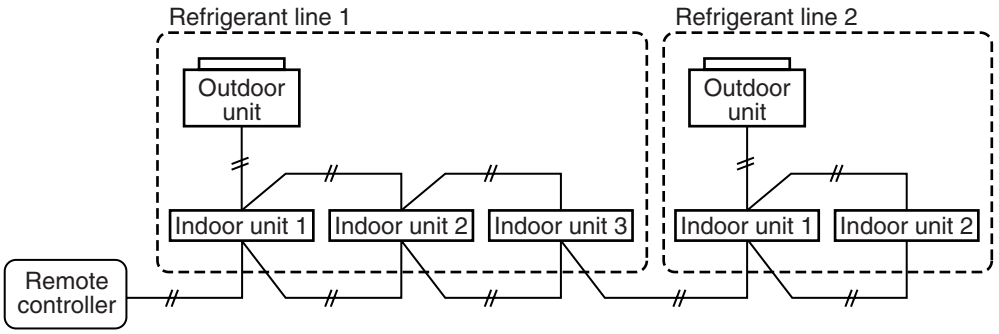
Code No. (DN)	Set data	Notice code
0180 to 0189	0000	OFF (Factory default)
	0129	201
	0130	202

* 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)

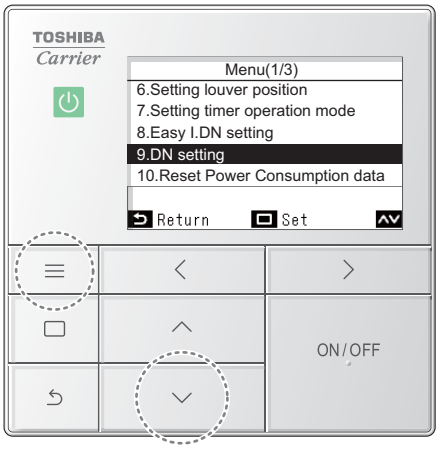
▼ Wiring example of 2 refrigerant lines



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-AWSU5∗>



1 **Push [Menu] to open the "Menu".**

2 **Push and hold [Menu] and [∨] at the same time to open "Field setting menu".**
→ Push and hold 4 seconds.

3 **In the "Field setting menu" screen, push [∧] and [∨] to select "DN setting", and then push [Set/Fix].**

4 **Push [∧] and [∨] to select "Indoor unit", and the push [Set/Fix].**
→ "Indoor unit" was selected, the fans and louvres of the indoor units operate.

<Line (system) address>

5 **Push [〈] to black highlight the code (DN), and then push [^] and [v] to set the code number to 12.**

6 **Push [〉] to black highlight the data, and then push [^] and [v] 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.)

7 **After finishing setting the data of the code (DN), push [▭ Set/Fix].**

→ "Continue?" is displayed.

<Indoor unit address>

8 **To set the data of Indoor unit address, push [▭ Set/Fix].**

9 **Push [〈] to black highlight the code (DN), and then push [^] and [v] to set the code number to 13.**

10 **Push [〉] to black highlight the data, and then push [^] and [v] to set a Indoor unit address.**

11 **After finishing setting the data of the code (DN), push [▭ Set/Fix].**

→ "Continue?" is displayed.

<Group address>

12 **To set the data of Indoor unit address, push [▭ Set/Fix].**

13 **Push [〈] to black highlight the code (DN), and then push [^] and [v] to set the code number to 14.**

14 **Push [〉] to black highlight the data, and then push [^] and [v] to set a group address.**
If the indoor unit is individual, set the address to 0000 ; header unit, 0001 ; follower unit, 0002.

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

15 **After finishing setting the data of the code.**
(DN), push [▭ Set/Fix].

→ "Continue?" is displayed.

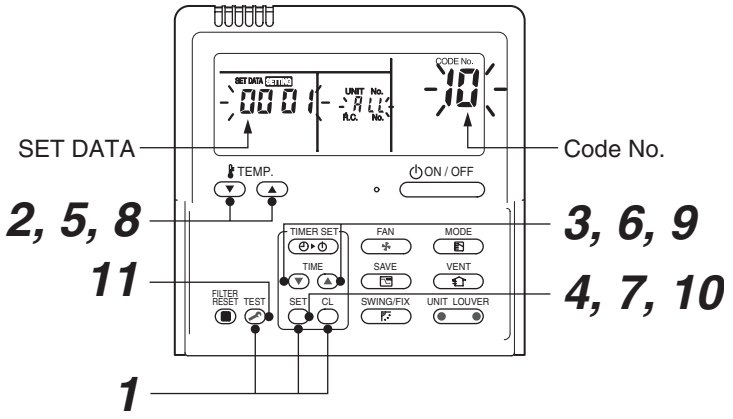
16 **To not do other settings, push [⮌ Return].**

→ If the "Indoor unit" or "Outdoor unit" selection screen is displayed before " ⧖ " is displayed, push [⮌ **Return**].

→ " ⧖ "appears while data is changing.

→ The changes are fixed, and the "Field setting menu" screen returns.

<RBC-AMTU3∗>



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. ▼ / ▲ buttons repeatedly to set the CODE No. to 12 .**

3 **Push the TIME ▼ / ▲ 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
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.
(SETING flashes. You can control the unit after SETING has disappeared.)

NOTE

<In the case of combining with outdoor units of U series (SMMS-u etc.)>

- 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 U series>

- 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.)

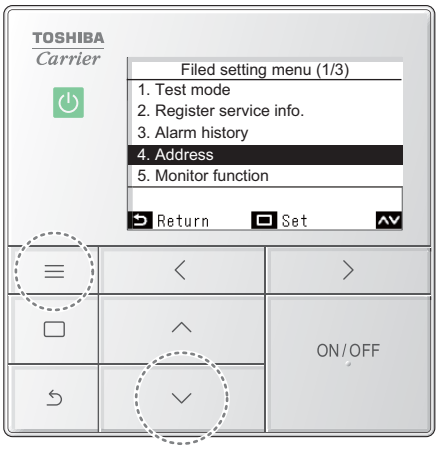
■ Confirming the indoor unit addresses and the position of an indoor unit using the remote controller

◆ 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.

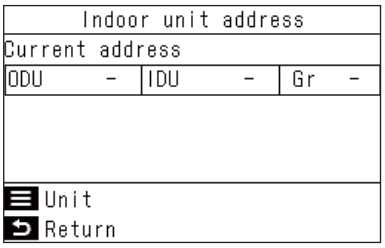
<RBC-AWSU5*>



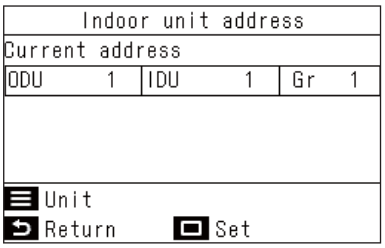
1 **Push [Menu] to open the “Menu”**

2 **Push and hold [Menu] and [ ] at the same time to open “Field setting menu”**
→Push and hold 4 seconds.

(1)



(2)



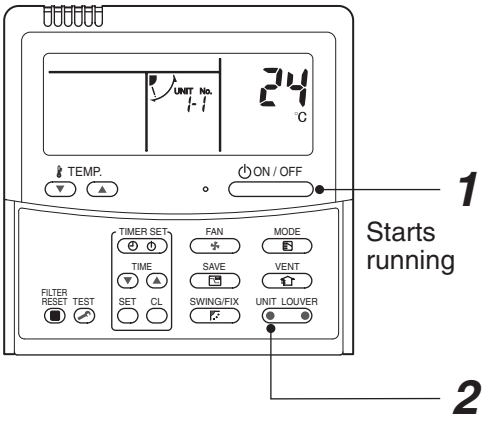
3 **Select “Indoor unit address” from “Address” in the “Field setting menu”, and push [Set/Fix]**
→Screen (1) is displayed, the fans and louvres of all indoor units in the group operate.
→The indoor unit that is operating is connected in a group.

4 **In screen (1), push [Menu]**
→Each push of [Menu] displays in order: Entire group → Header unit → Follower unit 1 ...

5 **Check the position of the indoor unit**
→Screen (2) is displayed, the fans and louvres of the selected indoor units operate, the other units stop.

6 **After checking, push [Return]**
→Return to the “Address” screen.

<RBC-AMTU3∗>



(Execute it while the units are running.)

1 **Push the ON / OFF button if the units stop.**

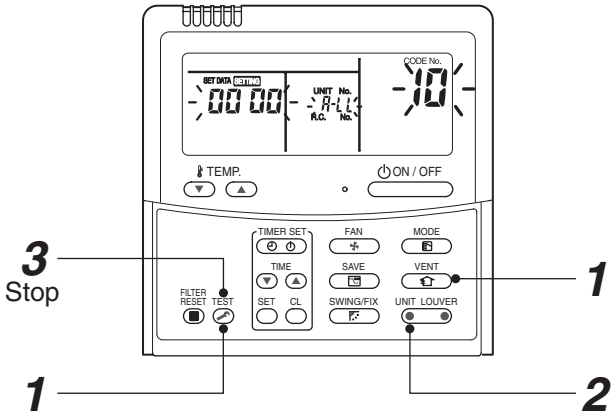
2 **Push the UNIT LOUVER button (left side of the button).**

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 UNIT LOUVER button (left side of the button).

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

▼When checking unit numbers controlled as a group

<RBC-AMTU3∗>



(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 VENT and TEST 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 UNIT LOUVER button (left side of the button). Each time you push the button, the indoor unit numbers are indicated one after another.**

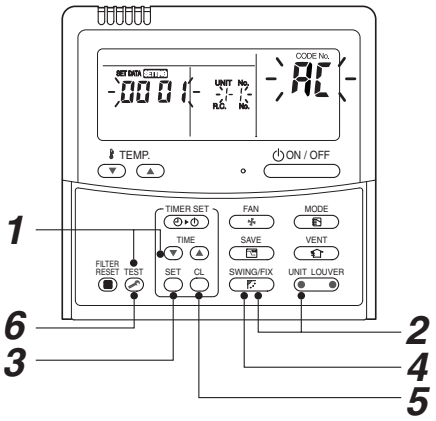
- The first-indicated unit number is the address of the header unit.
- Only the fan and louvers of the indicated indoor unit are activated.

3 **Push the TEST button to finish the procedure.**

All the indoor units in the group stop.

▼ 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-AMTU3∗>



(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.

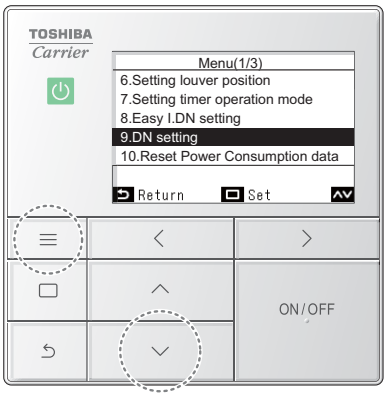
6 **Push the TEST button to finish the procedure.**

◆ Changing the indoor unit address using a remote controller

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

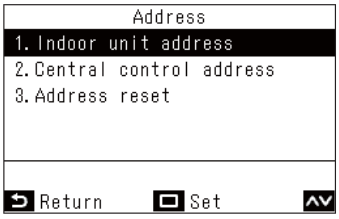
▼ The method to change the address of an individual indoor unit (the indoor unit is paired with a wired remote controller one-to-one), or an indoor unit in a group. (The method is available when the addresses have already been set automatically.)

<RBC-AWSU5*>

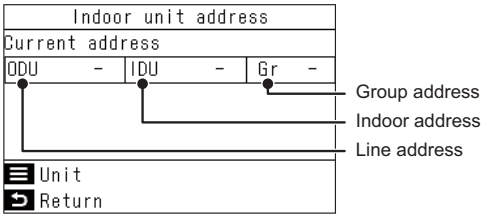


1 **Push [Menu] to open the "Menu"**

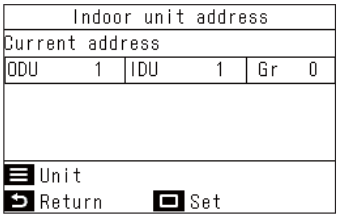
2 **Push and hold [Menu] and [ ] at the same time to open "Field setting menu"**
→Push and hold 4 seconds.



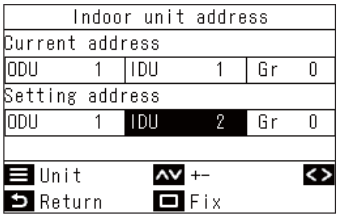
3 **Select "Indoor unit address" from "Address" in the "Field setting menu", and push [Set/Fix]**
→At first, the fans and louvres of all indoor units in the group operate.



The address is indicated as "-".

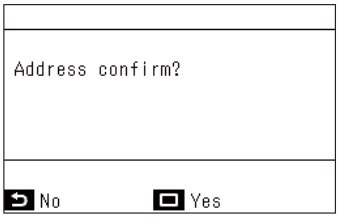


4 **Push [Menu]**
→Each push of [Menu] displays in order: Entire group → Header unit → Follower unit 1 ...
→The fans and louvres of the relevant indoor units operate.



5 **Manually select a unit to change, and push [Set/Fix]**
→The screen for settings appears.

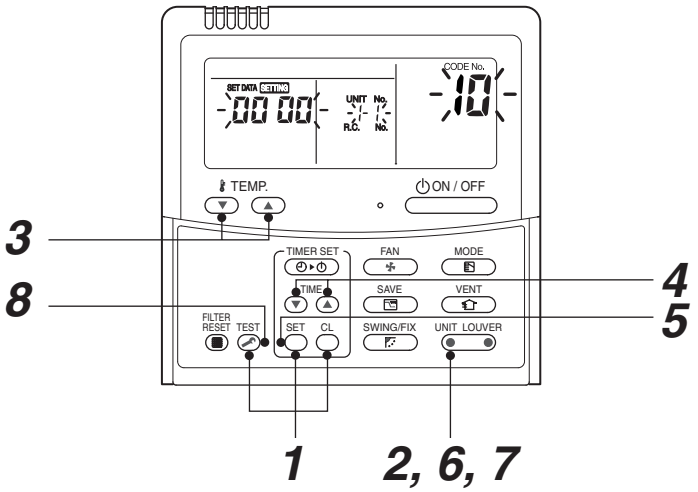
6 **Push [ ] and [ ] to move the black highlight, and then push [ ] and [ ] to set the address**



7 **After manually setting the addresses of all indoor units, push [Set/Fix]**
→The message "Address confirm?" appears on screen.

8 **Push [Set/Fix]**
→The changes are fixed.
→"⧖" appears while data is changing.

<RBC-AMTU3∗>



(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 03 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.**

▼ 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.)

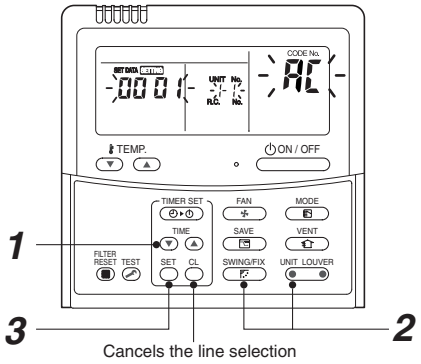
(When communication wirings of 2 or more refrigerant lines are interconnected for central control)

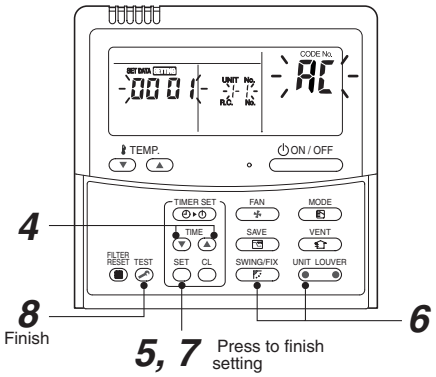
NOTE

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-AMTU3∗>





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. RC (Address Change) are indicated on the LCD display.**

2 **Push UNIT LOUVER button (left side of the button) and 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.**

◆ Check code clearing function

How to clear the check code using the wired remote controller

<RBC-AWSU5∗>

▼ 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 [☰ Menu] to open the "Menu"**

2 **Push and hold [☰ Menu] and [∨] at the same time to open "Field setting menu"**

• Push and hold 4 seconds.

3 **Push [∧] and [∨] to select "Monitor function", and then push [▭ Set/Fix]**

→ In a group connection, after a selection in the unit selection screen, move to the "Monitor function" screen.

4 **Push [<] to black highlight the code (DN),and then push [∧] and [∨] to set the code No. to FF**

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 "0000" appears.
However, the display counts down from "0005" again.

▼ 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-AMTU3∗>

▼ 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.

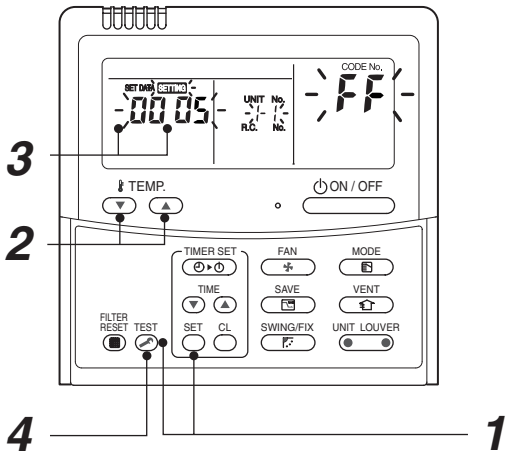
1 **Push and hold the CL , and TEST for 4 seconds or longer to enter the service monitoring mode.**

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.)

▼ Monitoring function of wired remote controller

<RBC-AWSU5∗>

1 Push [Menu] to open the "Menu".

2 Push and hold [Menu] and [ ] at the same time to open "Field setting menu".

• Push and hold 4 seconds.

3 Push [ ] and [ ] to select "Monitor function", and then push [Set/Fix].

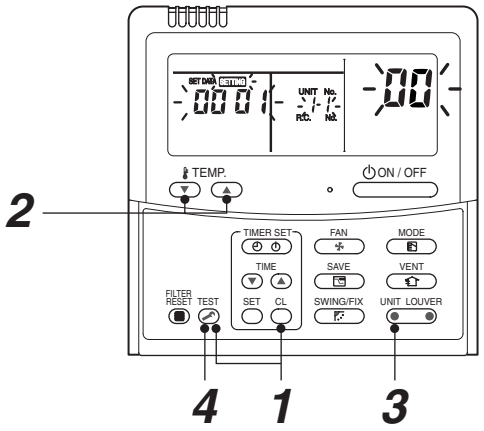
→ In a group connection, after a selection in the unit selection screen, move to the "Monitor function" screen.

4 Push [ ] to black highlight the code (DN), and then push [ ] and [ ] to change to CODE No. of the item to monitor. Refer to the next page for CODE No..

5 Push [Return]

→ Return to the "Field setting menu" screen.

<RBC-AMTU3∗>



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 TEST , and CL 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 TEMP. 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 UNIT LOUVER 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 TEST button to return the display to normal.

◆ 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
	E5	Secondary heating output	–	–	[0000] = OFF, [0001] = ON
	F3	Filter sign time	×1	h	[2500] = 2500h
	F9	Suction temperature of air to air heat exchanger (TSA) **	×1	℃	[0024] = 24°C
	FA	Outside air temperature (TOA) **	×1	℃	

* When the units are connected to a group, data of the header indoor unit only can be displayed.
  Temperature values in “°C” (Celsius), even if “°F” (Fahrenheit) is selected in “Set temp. unit”.
** There is also a model which cannot be displayed.

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

9. TROUBLESHOOTING

9-1. Overview

(1) Before engaging in troubleshooting

(a) Applicable models
All Super Modular Multi System (SMMS-∗, SHRM-∗) models.

(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.

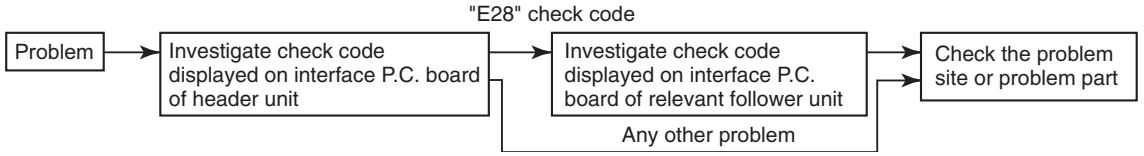
(c) Things to check prior to troubleshooting (behaviors listed below are normal)

NO.	Behavior	Possible cause
1	A compressor would not start	• 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	• 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	• 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	• 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	• 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.

9-2. 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
E17	–	–	◎	●	●		Communication trouble between indoor unit(s) and Flow Selector (FS) unit(s)	There is no communication from FS unit(s).
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	There is no signal from Occupancy sensor.
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.
L22	–	–	◎	◯	◎	SIM	DX-kit (heat source capacity command) non-compliant equipment in the group.	There is a DX-kit (heat source capacity command) non-compliant equipment in the group. (DDC control, TA control and TF control are mixed.)
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 check code
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 check code
Central control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation	Timer	Ready	Flash		
C05	–	–	No indication (when main remote control also in use)				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)	Central control device is unable to receive signal.
C12	–	–	–				Bracket alarm for general-purpose device control interface	Device connected to general-purpose device control interface is trouble.
P30 (L20)	–	–	(L20 is displayed.)				Communication Link	• 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
S01	–	–						Receiving trouble in central control device.

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 or outdoor unit)

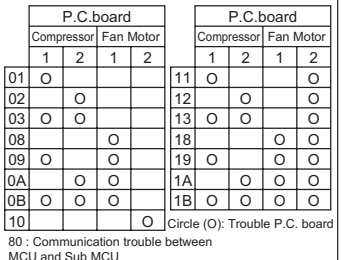
Check code			Display of receiving unit				Typical trouble site	Description of trouble
Main remote control	Outdoor 7-segment display		Indicator light block					
		Sub-code	Operation	Timer	Ready	Flash		
E17	–	–	◎	●	●		Communication trouble between indoor unit (s) and FS unit (s)	There is no communication from FS unit(s)
J01	–	–	●	◎	◎	SIM	Communication trouble between indoor unit (s) and FS unit (s)	There is no communication from indoor unit (s)
J02	–	–	●	◎	◎	SIM	Communication trouble between control boards in FS unit	Communication trouble between PC boards of multiport type FS unit.
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.

List of Check Codes (Outdoor Unit)

(Check code detected by outdoor interface - typical examples)

If "HELLO" is displayed on the oudoor 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			Display of receiving unit				Typical problem site	Description of check code
Outdoor 7-segment display		Central control or main remote controller 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). • In TU2C-LINK communication system, if the termination resistance is not set in any of the indoor units. • The number of indoor units connected is decreasing. (Detected when power is turned on)
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	• 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. The maximum combined of indoor units shown in the specification table.
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		E31	●	●	◎		P.C. board communication trouble Sub MCU communication trouble	There is no communication between P.C. boards in inverter box.
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.

Check code			Display of receiving unit				Typical problem site	Description of check code
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
	Sub-code		Operation	Timer	Ready	Flash		
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 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.
F12	01: TS1 sensor 02: TS2 sensor 03: TS3 sensor	F12	◎	◎	○	ALT	• Outdoor suction temperature sensor (TS1, TS2, TS3) trouble • When TS3 detects an unusual temperature during compressor operation and PMV4 operation in cooling mode	Outdoor suction temperature sensor (TS1,TS2, 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 failure (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.
L02	Detected indoor unit address	L02	◎	○	◎	SIM	Indoor unit incompatible with A2L refrigerant	Indoor unit incompatible with TU2C-LINK is connected. • Indoor unit incompatible with R32 refrigerant is connected."
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).

<table>
<tr><th colspan="2" rowspan="2">Check code
Outdoor 7-segment display
Sub-code</th><th rowspan="2">Central control or main remote controller display</th><th colspan="4">Display of receiving unit
Indicator light block</th><th rowspan="2">Typical problem site</th><th rowspan="2">Description of check code</th></tr>
<tr><th>Operation ⏻</th><th>Timer ◴</th><th>Ready ❁</th><th>Flash</th></tr>
<tr><td>L11</td><td>Detected indoor unit address</td><td>L11</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Flow Selector unit or Shutoff Valve unit installation trouble</td><td>• Flow Selector unit is not connected to indoor unit and it is not set to "Cooling only" (Heat Recovery only)
• Flow Selector unit P.C. board trouble
• Communication connection trouble between Flow Selector unit and indoor unit.</td></tr>
<tr><td>L12</td><td>01 : Flow Selector (FS) unit (s) installation trouble"</td><td>L12</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Flow Selector (FS) unit(s) system trouble</td><td>FS unit(s) outside the application setting</td></tr>
<tr><td>L13</td><td>Detected indoor unit address</td><td>L13</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Safety measures setting unmatched</td><td>• No indoor unit is connected to No.1 port of Flow Selector unit Multi-port type.
• A number that is one larger than the "port address" of the indoor unit for which "Combining branches of Flow Selector unit" is set.
(Example; If the "port address" of the indoor unit for which "Flow Selector unit branch combination" is set to 3, 4 must not be set.)
• Multiple remote control groups are set to one port of the Flow Selector unit, and different port address is set for one of the groups.
• Same address is set for different Flow Selector units.</td></tr>
<tr><td>L17</td><td>–</td><td>L17</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Outdoor model incompatibility trouble</td><td>Outdoor unit that cannot be connected is connected.</td></tr>
<tr><td>L18</td><td>Detected indoor unit address</td><td>L18</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Cooling/heating FS unit trouble</td><td>Cooling/heating cycle trouble resulting from piping trouble is detected</td></tr>
<tr><td>L23</td><td>02: Switch setting trouble of outdoor unit</td><td>L23</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>SW setting trouble</td><td>Switch setting trouble of outdoor units when HWM (Hot water module) is connected.</td></tr>
<tr><td>L24</td><td>01: Duplication of FS units address FS unit(s) setting trouble
02: Indoor units operation mode priority setting</td><td>L24</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>FS unit(s) setting trouble</td><td>• FS unit(s) detects address identical to its own.
• Duplicated priority indoor units operation mode.</td></tr>
<tr><td>L28</td><td>–</td><td>L28</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Too many outdoor units connected</td><td>More than six outdoor units have been connected.</td></tr>
<tr><td rowspan="2">L29</td><td>
<table>
<tr><th></th><th colspan="4">P.C.board
Compressor / Fan Motor</th></tr>
<tr><th></th><th>1</th><th>2</th><th>1</th><th>2</th></tr>
<tr><td>01</td><td>O</td><td></td><td></td><td></td></tr>
<tr><td>02</td><td></td><td>O</td><td></td><td></td></tr>
<tr><td>03</td><td>O</td><td>O</td><td></td><td></td></tr>
<tr><td>08</td><td></td><td></td><td>O</td><td></td></tr>
<tr><td>09</td><td>O</td><td></td><td>O</td><td></td></tr>
<tr><td>0A</td><td></td><td>O</td><td>O</td><td></td></tr>
<tr><td>0B</td><td>O</td><td>O</td><td>O</td><td></td></tr>
<tr><td>10</td><td></td><td></td><td></td><td>O</td></tr>
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<tr><td>12</td><td></td><td>O</td><td></td><td>O</td></tr>
<tr><td>13</td><td>O</td><td>O</td><td></td><td>O</td></tr>
<tr><td>18</td><td></td><td></td><td>O</td><td>O</td></tr>
<tr><td>19</td><td>O</td><td></td><td>O</td><td>O</td></tr>
<tr><td>1A</td><td></td><td>O</td><td>O</td><td>O</td></tr>
<tr><td>1B</td><td>O</td><td>O</td><td>O</td><td>O</td></tr>
</table>
Circle (O): Trouble P.C. board</td><td>L29</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Trouble in number of P.C. boards</td><td>There are insufficient number of P.C. board in inverter box.</td></tr>
<tr><td>00</td><td>L29</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>The number of P.C. board trouble</td><td>When there is much number of an inverter P.C. board to model setting of an interface P.C. board.</td></tr>
<tr><td>L30</td><td>Detected indoor unit No.</td><td>(L30)</td><td>◎</td><td>○</td><td>◎</td><td>SIM</td><td>Indoor external trouble input (interlock)</td><td>Indoor unit has been shut down for external trouble input in one refrigerant line (detected by indoor unit).</td></tr>
<tr><td>P03</td><td>–</td><td>P03</td><td>◎</td><td>●</td><td>◎</td><td>ALT</td><td>Outdoor discharge (TD1) temperature trouble</td><td>Outdoor discharge temperature sensor (TD1) has detected abnormally high temperature.</td></tr>
<tr><td>P04</td><td>01: Compressor 1
02: Compressor 2</td><td>P04</td><td>◎</td><td>●</td><td>◎</td><td>ALT</td><td>Activation of high-pressure SW</td><td>High-pressure SW is activated.</td></tr>
<tr><td>P05</td><td>00: Power detection trouble
01: Open phase
02: Power supply miswiring</td><td>P05</td><td>◎</td><td>●</td><td>◎</td><td>ALT</td><td>Power detection trouble /Open phase detection /Power supply miswiring detection</td><td>Open phase is detected when power is turned on. Inverter DC voltage is too high (overvoltage) or too low (undervoltage).</td></tr>
<tr><td rowspan="2">P07</td><td>00 : Compressor 1 or 2 heat sink trouble
01 : Compressor 1 heat sink trouble
02 : Compressor 2 heat sink trouble</td><td rowspan="2">P07</td><td rowspan="2">◎</td><td rowspan="2">●</td><td rowspan="2">◎</td><td rowspan="2">ALT</td><td>Heat sink overheating trouble</td><td>Temperature sensor built into IPM (TH) detects overheating.</td></tr>
<tr><td>04: Heat sink dewing</td><td>Heat sink dewing trouble</td><td>Outdoor liquid temperature sensor (TL2) has detected abnormally low temperature.</td></tr>
<tr><td>P10</td><td>Indoor unit No. detected</td><td>(P10)</td><td>●</td><td>◎</td><td>◎</td><td>ALT</td><td>Indoor unit overflow</td><td>Indoor unit has been shutdown in one refrigerant line due to detection of overflow (detected by indoor unit).</td></tr>
<tr><td>P11</td><td>–</td><td>P11</td><td>●</td><td>◎</td><td>◎</td><td>ALT</td><td>Outdoor heat exchanger freeze trouble</td><td>Remaining frost on outdoor heat exchanger has been detected repeatedly.</td></tr>
<tr><td>P13</td><td>–</td><td>P13</td><td>●</td><td>◎</td><td>◎</td><td>ALT</td><td>Outdoor liquid backflow detection trouble</td><td>State of refrigerant cycle circuit indicates liquid backflow operation.</td></tr>
<tr><td>P14</td><td>01: Outdoor unit valve is close</td><td>P14</td><td>●</td><td>◎</td><td>◎</td><td>ALT</td><td>Another refrigerant cycle protection</td><td>Outdoor unit valve is forget to open during test run.</td></tr>
<tr><td>P15</td><td>01: TS condition
02: TD condition</td><td>P15</td><td>◎</td><td>●</td><td>◎</td><td>ALT</td><td>Gas leak detection</td><td>Outdoor suction temperature sensor (TS1) detects sustained and repeated high temperatures that exceed standard value.</td></tr>
</table>

FS unit: Flow Selector unit

Check code			Display of receiving unit				Typical problem site	Description of check code
Outdoor 7-segment display		Central control or main remote controller display	Indicator light block					
Sub-code			Operation	Timer	Ready	Flash		
P17	–	P17	◎	●	◎	ALT	Outdoor discharge (TD2) temperature trouble	Outdoor discharge temperature sensor (TD2) detects abnormally high temperature.
P19	0#: 4-way valves * Put in outdoor unit No. in [#] mark.	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.

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

Check code			Display of receiving unit				Typical problem site	Description of check code
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.
H17	1∗: Compressor 1 2∗: Compressor 2	H17	●	◎	●		Compressor trouble (Step-out)	Compressor is in step-out condition.
H28	1∗: Compressor 1 2∗: Compressor 2	H28	●	◎	●		Compressor motor winding trouble	Compressor motor winding is layer shorted.
P05	1∗: Compressor 1 side 2∗: Compressor 2 side	P05	◎	●	◎	ALT	Compressor Vdc trouble	Inverter DC voltage is too high (overvoltage) or too low (undervoltage).
P07	1∗: Compressor 1 side 2∗: 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.
P25	1∗: Compressor 1 2∗: Compressor 2	P25	◎	●	◎	ALT	Compressor P.C. board trouble	IPM for compressor is broken. (Short-circuit etc.)
P26	1∗: Compressor 1 2∗: Compressor 2	P26	◎	●	◎	ALT	Compressor start up trouble	Open phase or IPM over current for compressor is detected.
P29	1∗: Compressor 1 2∗: Compressor 2	P29	◎	●	◎	ALT	Compressor position detection circuit trouble	Compressor motor position detection trouble is detected.

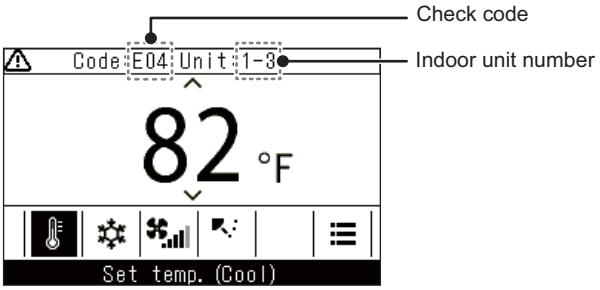
Note: The above check codes are examples only, and different check codes may be displayed depending on the outdoor unit configuration

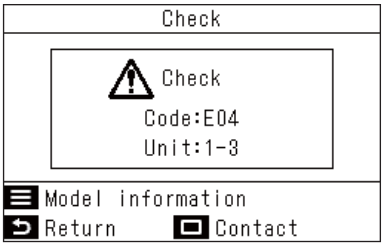
9-3. Troubleshooting based on information displayed on remote controller

<RBC-AWSU5*>

(1) Checking and testing

■ Confirm and check





When a trouble occurs in the air conditioner, the check code and the indoor unit number flash on the display of the remote controller.

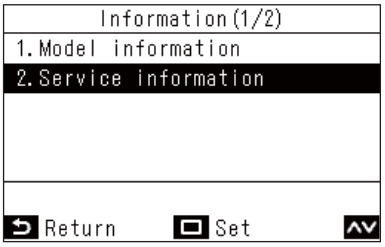
* The check code is only displayed during the operation.

When the check code and indoor unit number are displayed, pushing [Return] opens the “Check” screen.

In the “Check” screen, push [Set/Fix] to show the contacts.
Push [Menu] to display “Model information”.

■ Contact information for repairs

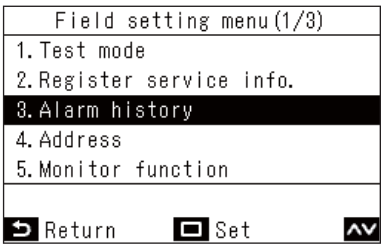
You can look for contact information for repairs.



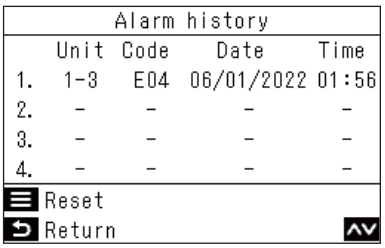
1 **In the “Information” screen, push [ ] and [ ] to select “Service information”, and then push [Set/Fix]**

(2) Trouble history

Displays the last 10 check codes, and at which unit and when they occurred.



1 **In the “Field setting menu” screen, push [ ] and [ ] to select “Alarm history”, and then push [Set/Fix]**



NOTE

- The check code history data shows a history of 10 occurrences. If the occurrences exceed 10, the oldest data is deleted.
- If the same check code occurs repeatedly, the date of the first occurrence is displayed.

Deleting check code history

1 **Push [Menu] while the “Alarm history” screen is displayed**
→“Reset all alarm data.” is displayed.

2 **Push [Set/Fix]**

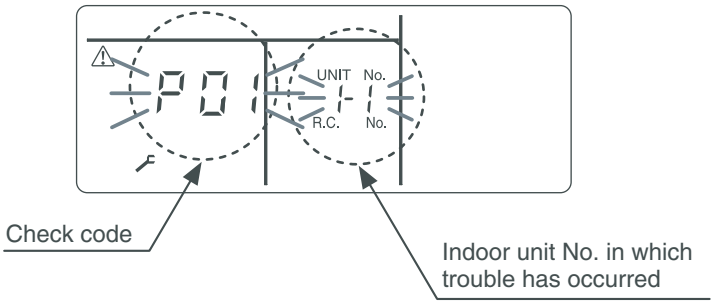
REQUIREMENT

If you are using 2 remote controllers, delete the history at each remote controller.

<RBC-AMTU3∗>

(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.



<Procedure> To be performed when system at rest

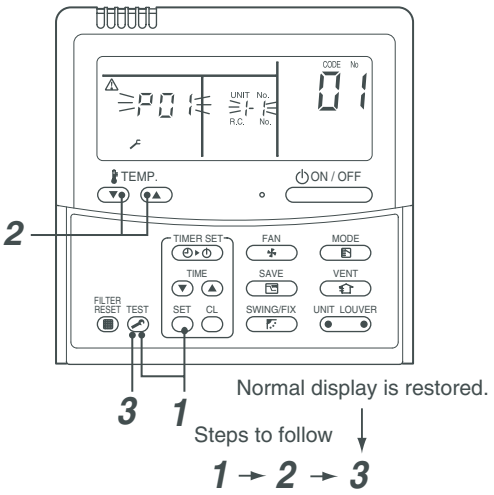
1 **Invoke the SERVICE CHECK mode by pressing the TEST + SET buttons simultaneously and holding for at least 4 seconds.**

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

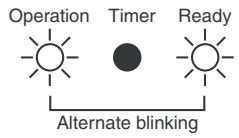
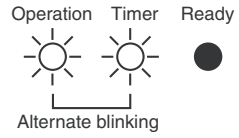
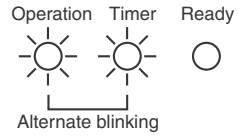
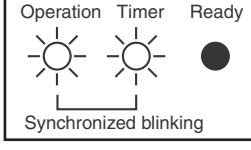
Do not push the CL button as it would erase the whole trouble history of the indoor unit.

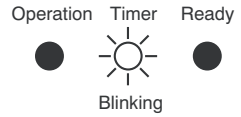
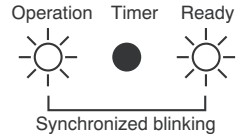
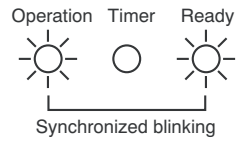
Using indoor unit indicators (receiving unit light block) (wireless type)

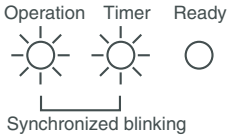
To identify the check code, check the 7-segment display on the outdoor unit. To check for check codes not displayed on the 7-segment display, consult the “List of Check Codes (Indoor Unit)” in “9-2. Troubleshooting method”.

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

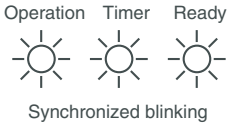
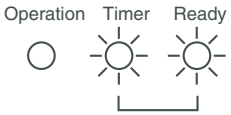
Light block	Check code	Cause of trouble		
Operation ● Timer ● Ready ● All lights out	–	Power turned off or trouble in wiring between receiving and indoor units		
Operation ● Timer ● Ready ☼ Blinking	E01	Trouble reception	Receiving unit	Trouble or poor contact in wiring between receiving unit and indoor 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		
	E17	Communication trouble between indoor unit(s) and Flow Selector unit(s).		
	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		
	P14	Outdoor unit valve is closed		

Light block	Check code	Cause of trouble	
	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	
	P25	Compressor P.C. board trouble.	
	P26	Compressor trouble / Wire connection trouble. Compressor leads trouble. Compressor P.C. board trouble.	
	P29	Compressor position detection circuit trouble	
	P31	Shutdown of other indoor unit in group due to trouble (group follower unit trouble)	
	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/TSA) trouble	
	F11	Discharge temperature sensor (TF) trouble	
	F04	Discharge temperature sensor (TD1) trouble	Outdoor unit temperature sensor trouble
	F05	Discharge temperature sensor (TD2) trouble	
	F06	Heat exchanger temperature sensor (TE1, TE2, TE3) trouble	
	F07	Liquid temperature sensor (TL1, TL2, TL3) trouble	
	F08	Outside air temperature sensor (TO) trouble	
	F09	Heat exchanger gas side temperature sensor (TG1, TG2, TG3) trouble	
	F12	Suction temperature sensor (TS1, TS2, TS3) 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	
	F16	Wiring trouble in outdoor high pressure sensor (Pd) and low pressure sensor (Ps) Outdoor pressure sensor wiring trouble	
	F23	Low pressure sensor (Ps) trouble	Outdoor unit pressure sensor trouble
	F24	High pressure sensor (Pd) trouble	
	F29	Trouble in indoor EEPROM	

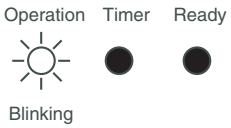
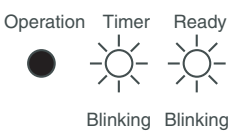
Light block	Check code	Cause of trouble	
	H01	Compressor breakdown	Outdoor unit compressor related trouble
	H02	Compressor lockup	
	H03	Current detection circuit trouble	
	H05	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD1)	
	H06	Abnormal drop in low-pressure 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)	
	H15	Wiring / installation trouble or detachment of outdoor discharge temperature sensor (TD2)	
	H16	Oil level detection circuit trouble - Trouble in outdoor unit TK1, TK2 circuit	
	H17	Compressor trouble (Step-out)	
	H28	Compressor motor winding trouble.	
	L02	Outdoor unit model mismatched trouble	
	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 stand-alone indoor unit	
	L08	Indoor group address not set	
	L09	Indoor capacity not set	
	L04	Duplicated outdoor refrigerant line address	
	L10	Outdoor capacity not set	
	L11	Flow Selector unit or Shut-off Valve unit installation trouble	
	L12	Flow selector unit(s) system trouble.	
	L13	Safety measures setting unmatched.	
	L17	Outdoor model incompatibility	
	L18	Cooling/heating Flow selector unit trouble.	
	L20	Duplicated central control address	
	L23	SW setting trouble	
	L24	Flow selector unit(s) setting trouble.	
	L28	Too many outdoor units connected	
	L29	Trouble in number of P.C. boards	
	L30	Indoor external interlock trouble	

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

Other (indications not involving check code)

Light block	Check code	Cause of trouble
	–	Test run in progress
	–	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
	E17	Communication trouble between indoor unit(s) and FS unit(s)
	L12	FS unit(s) system trouble
	L24	FS unit(s) setting trouble
	J03	Duplicated FS units
	J10	FS unit overflow trouble
	J11	FS unit temperature sensor(TCS) trouble

9-4. Check Codes

(Displayed on remote controller and 7-segment display of outdoor Unit)

The contents of these check code tables differ depending on the outdoor unit to be connected. Refer to the service manual of the connected outdoor unit. (The table below is for the SMMS-u series.)

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					
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.	• 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.	• 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.	• 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	**Condition 1** All indoor unit initially communicating normally fails to return signal for specified length of time. **Condition 2** Outdoor I / F board SW103, Bit4 : OFF (Factory default)	• 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	**Condition 1** Indoor unit initially communicating normally fails to return signal for specified length of time.	• 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).

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					
E04/E06	E06	No. of indoor units from which signal is received normally	Indoor unit	Indoor-outdoor communication circuit trouble (E04)	All stop	**Condition 1** One indoor unit or more initially communicating normally fails to return signal for specified length of time. **Condition 2** Outdoor I / F board SW103, Bit4 : ON (To switch the check code detection condition.) SW103  Display on main remote controller. Indoor units unavailable for indoor / outdoor communication. :E04 Indoor units available for indoor / outdoor communication. : E06 In TU2C-LINK communication system, if the termination resistance is not set in any of the indoor units.	• 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)			• 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).
—	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.	• 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.	• 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.)	• 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.	• 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	• 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.	• Check whether the outdoor unit of other systems or the indoor unit is connected to Uv (U1/U2) line or Uc (U5/U6) line. • 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.	• 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	• Combined capacity of indoor units is too large. **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. • More than 128 indoor units are connected.	• 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).
E18	—	—	Indoor unit	Trouble in communication between indoor header and follower units	Stop of corresponding unit	Periodic communication between indoor header and follower units cannot be maintained.	• 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	• There are more than one outdoor header units in one line. • There is no outdoor header unit in one line.	The outdoor unit which turned on SW101 and the bit 1 of the interface P.C. board is set to Header unit. • Check SW101 bit 1 of follower outdoor unit. • 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	Equipment from other line is found to have been connected when indoor automatic address setting is in progress.	Check whether the outdoor unit of other systems or the indoor unit is connected to Uv (U1/U2) line or Uc (U5/U6) line.
E23	E23	—	I/F	Outdooroutdoor communication transmission trouble	All stop	Signal cannot be transmitted to other outdoor units for at least 30 seconds continuously.	• 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	There is duplication in outdoor addresses set manually.	**Note:** **Do not set outdoor addresses manually.**
E26	E26	Address of outdoor unit from which signal is not received normally	I/F	Signal lack of outdoor unit	All stop	Outdoor unit initially communicating normally fails to return signal for specified length of time.	• 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).

<table>
<tr><th colspan="3">Check code</th><th rowspan="3">Location of detection</th><th rowspan="3">Description</th><th rowspan="3">System status</th><th rowspan="3">Check code detection condition(s)</th><th rowspan="3">Check items (locations)</th></tr>
<tr><th rowspan="2">Main remote controller</th><th colspan="2">Outdoor 7-segment display</th></tr>
<tr><th>Check code</th><th>Sub-code</th></tr>
<tr><td>The check code which occurred follower outdoor unit is displayed</td><td>E28</td><td>Detected outdoor unit No.</td><td>I/F</td><td>Outdoor follower unit trouble</td><td>All stop</td><td>Outdoor header unit receives trouble code from outdoor follower unit.</td><td>• 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 an 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.</td></tr>
<tr><td rowspan="2">E31</td><td rowspan="2">E31</td><td>P.C.board
Compressor / Fan Motor
1 2 1 2
01 O
02 O
03 O O
08 O
09 O O
0A O O
0B O O O
10 O
11 O O
12 O O
13 O O O
18 O O
19 O O O
1A O O O
1B O O O O
Circle (O): Trouble P.C. board</td><td>I/F</td><td>P.C. board communication trouble</td><td>All stop</td><td>Communication is disrupted between P.C. board in inverter box.</td><td>• 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.</td></tr>
<tr><td>80</td><td></td><td>Communication trouble between MCU and Sub MCU</td><td>All stop</td><td>Communication between MCU and Sub MCU stopped.</td><td>• Operation of power supply reset (OFF for 60 seconds or more)
• Outdoor I/F PC board trouble check</td></tr>
<tr><td>F01</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor TCJ sensor trouble</td><td>Stop of corresponding unit</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TCJ sensor connector and wiring.
• Check resistance characteristics of TCJ sensor.
• Check for failure in indoor P.C. board.</td></tr>
<tr><td>F02</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor TC2 sensor trouble</td><td>Stop of corresponding unit</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TC2 sensor connector and wiring.
• Check resistance characteristics of TC2 sensor.
• Check for failure in indoor P.C. board.</td></tr>
<tr><td>F03</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor TC1 sensor trouble</td><td>Stop of corresponding unit</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TC1 sensor connector and wiring.
• Check resistance characteristics of TC1 sensor.
• Check for failure in indoor P.C. board.</td></tr>
<tr><td>F04</td><td>F04</td><td>—</td><td>I/F</td><td>TD1 sensor trouble</td><td>All stop</td><td>Sensor resistance is infinity or zero (open/short circuit).</td><td>• Check connection of TD1 sensor connector.
• Check resistance characteristics of TD1 sensor.
• Check for failure in outdoor P.C. board (I/F).</td></tr>
</table>

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					
F05	F05	—	I/F	TD2 sensor trouble	All stop	Sensor resistance is infinity or zero (open/short circuit).	• 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).	• 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).	• 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).	• 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).	• 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).	• 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).	• 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 04: TS3 sensor disconnection	I/F	TS1/TS3 sensor trouble	All stop	• Sensor resistance is infinity or zero (open/short circuit). • When TS3 detects an unusual temperature during compressor operation and PMV4 operation in cooling mode.	• Check connection of TS1/TS3 sensor connector • Check resistance characteristics of TS1/TS3 sensor. • The attachment check of 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).	• 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.	• Check installation of TE1 and TL1 sensors. • Check resistance characteristics of TE1 and TL1 sensors. • Check for outdoor P.C. board (I/F) trouble

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					
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.	• 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 compressor poor compression.
F23	F23	—	I/F	Ps sensor trouble	All stop	Output voltage of Ps sensor is zero.	• 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 compressor poor compression. • 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.	• 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.	• Check for failure in indoor P.C. board (failure EEPROM)
F31	F31	—	I/F	Outdoor EEPROM trouble	All stop *1	Outdoor P.C. board (I/F) does not operate normally.	• 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.	• 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.	• 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.	• 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

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					
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.	• 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.	• 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.	<All outdoor units in corresponding line to be checked> • 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).	• 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).	• 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.	• 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).

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					
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.	• 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.	• 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 (Step-out)	All stop	Compressor is in step-out condition.	• 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	Detected indoor unit address	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)	• 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.	• 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.	• 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.	• 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.	• 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.	• 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.	• Check indoor addresses. **Note:** **This code is displayed when power is turned on for the first time after installation.**
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)

<table>
<tr><th colspan="3">Check code</th><th rowspan="2">Location of detection</th><th rowspan="2">Description</th><th rowspan="2">System status</th><th rowspan="2">Check code detection condition(s)</th><th rowspan="2">Check items (locations)</th></tr>
<tr><th rowspan="2">Main remote controller</th><th>Outdoor 7-segment display</th></tr>
<tr><th>Check code</th><th>Sub-code</th></tr>
<tr><td>L10</td><td>L10</td><td>—</td><td>I/F</td><td>Outdoor capacity not set</td><td>All stop</td><td>Initial setting of I/F P.C. board has not been implemented.</td><td>• Check model setting of P.C. board for servicing outdoor I/F P.C. board.</td></tr>
<tr><td>L17</td><td>L17</td><td>—</td><td>I/F</td><td>Outdoor model incompatibility trouble</td><td>All stop</td><td>Outdoor unit that cannot be connected is connected.</td><td>• Check the model name of the outdoor unit.</td></tr>
<tr><td>L20</td><td>—</td><td>—</td><td>Network adaptor Indoor unit</td><td>Duplicated central control address</td><td>All stop</td><td>There is duplication in central control address setting.</td><td>• Check central control addresses.</td></tr>
<tr><td>L23</td><td>—</td><td>—</td><td>I/F</td><td>SW setting trouble</td><td>All stop</td><td>Outdoor P.C. board (I/F) does not operate normally.</td><td>• Check switch setting of outdoor P.C. board (I/F).</td></tr>
<tr><td>L28</td><td>L28</td><td>—</td><td>I/F</td><td>Too many outdoor units connected</td><td>All stop</td><td>There are more than 5 outdoor units.</td><td>• 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).</td></tr>
<tr><td rowspan="2">L29</td><td rowspan="2">L29</td><td>
<table>
<tr><th colspan="3">P.C.board</th></tr>
<tr><th colspan="2">Compressor</th><th colspan="2">Fan Motor</th></tr>
<tr><th></th><th>1</th><th>2</th><th>1</th><th>2</th></tr>
<tr><td>01</td><td>O</td><td></td><td></td><td></td></tr>
<tr><td>02</td><td></td><td>O</td><td></td><td></td></tr>
<tr><td>03</td><td>O</td><td>O</td><td></td><td></td></tr>
<tr><td>08</td><td></td><td></td><td>O</td><td></td></tr>
<tr><td>09</td><td>O</td><td></td><td>O</td><td></td></tr>
<tr><td>0A</td><td></td><td>O</td><td>O</td><td></td></tr>
<tr><td>0B</td><td>O</td><td>O</td><td>O</td><td></td></tr>
<tr><td>10</td><td></td><td></td><td></td><td>O</td></tr>
<tr><td>11</td><td>O</td><td></td><td></td><td>O</td></tr>
<tr><td>12</td><td></td><td>O</td><td></td><td>O</td></tr>
<tr><td>13</td><td>O</td><td>O</td><td></td><td>O</td></tr>
<tr><td>18</td><td></td><td></td><td>O</td><td>O</td></tr>
<tr><td>19</td><td>O</td><td></td><td>O</td><td>O</td></tr>
<tr><td>1A</td><td></td><td>O</td><td>O</td><td>O</td></tr>
<tr><td>1B</td><td>O</td><td>O</td><td>O</td><td>O</td></tr>
</table>
Circle (O):
Trouble P.C. board</td><td>I/F</td><td>Trouble in No. of P.C. board</td><td>All stop</td><td>Insufficient number of P.C. board are detected when power is turned on.</td><td>• 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.</td></tr>
<tr><td>00</td><td>I/F</td><td>The number of inverter P.C. boards is abnormal.</td><td>All stop</td><td>When there is much number of an inverter P.C. board to model setting of an interface P.C. board.</td><td>• Check I/F P.C. board exchange has been correctly performed as a procedure.
• Check for failure in I/F P.C. board.
• Check for inverter P.C. board for compressors and inverter P.C. board for fan</td></tr>
<tr><td>L30</td><td>L30</td><td>Detected indoor address</td><td>Indoor unit</td><td>Indoor external interlock (External abnormal input)</td><td>Stop of corresponding unit</td><td>• Indoor unit has been shut down due to external abnormal input signal.</td><td>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.</td></tr>
<tr><td>—</td><td>L31</td><td>—</td><td>I/F</td><td>Extended IC trouble</td><td>Continued operation</td><td>There is part failure in P.C. board (I/F).</td><td>Check outdoor P.C. board (I/F).</td></tr>
<tr><td>P01</td><td>—</td><td>—</td><td>Indoor unit</td><td>Indoor fan motor trouble</td><td>Stop of corresponding unit</td><td></td><td>• Check the lock of fan motor (AC fan).
• Check wiring.</td></tr>
<tr><td>P03</td><td>P03</td><td>—</td><td>I/F</td><td>Discharge temperature TD1 trouble</td><td>All stop</td><td>Discharge temperature (TD1) exceeds 115 ˚C.</td><td>• 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).</td></tr>
</table>

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					
P04	P04	01: Compressor 1 side 02: Compressor 2 side	I/F	Activation of high-pressure SW	All stop	High-pressure SW is activated.	• 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 failure 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	• Open phase is detected when power is turned on. • Inverter DC voltage is too high (overvoltage) or too low (undervoltage).	• 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.	• Check outdoor fan system trouble. • Check IPM and heat sink for thermal performance for failure installation. (e.g. mounting screws and thermal conductivity) • Check for failure in Compressor P.C. board. (failure IPM built-in temperature sensor (TH))
		01: Compressor 1 heat sink trouble 02: Compressor 2 heat sink trouble 04: Heat sink dewing	I/F	Heat sink overheating trouble Heat sink dewing trouble	All stop	Condensation detection on heat sink has occurred four times or more in operation. Temperature sensor built into IPM (TH) is overheated.	• Check outdoor fan system trouble. • Check IPM and heat sink for thermal performance for troubled installation. (e. g. mounting screws and thermal conductivity) • Check for failure in compressor P.C. board. (failure IPM built-in temperature sensor (TH)) • Check shortage of refrigerant. • Check outdoor service valves. • Check connection of TL2 sensor. • Check resistance characteristics of TL2 sensor. • Check resistance characteristics of TO sensor. • Check malfunctions of Pd and Ps sensors. • Check outdoor I/F P.C. board malfunction. • Check PMV2 and PMV3

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					
P10	P10	Detected indoor address	Indoor unit	Indoor overflow trouble	All stop	• Float switch operates. • Float switch circuit is open-circuited or disconnected at connector.	• 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	• Outdoor heat exchanger remaining frost detection has occurred eight times or more due to abnormal frost formation in heating operation.	• 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	• Motor speed measurements continuously deviate from target value. • Overcurrent protection is activated.	• 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	<During cooling operation> When system is in cooling operation, high pressure is detected in the unit that has been turned off. <During heating operation> When system is in heating operation, low pressure is detected to be high in unit that has been turned off.	• 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	• 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.	• 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).

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					
P17	P17	—	I/F	Discharge temperature TD2 trouble	All stop	Discharge temperature (TD2) 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 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.	• 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	<During cooling operation> Pd sensor detects pressure equal to or greater than 3.85 MPa. <During heating operation> Pd sensor detects pressure equal to or greater than 3.6 MPa.	• 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 troble operation of check valve in discharge pipe convergent section. • Check gas balancing SV4 valve circuit. • Check for refrigerant overcharging.

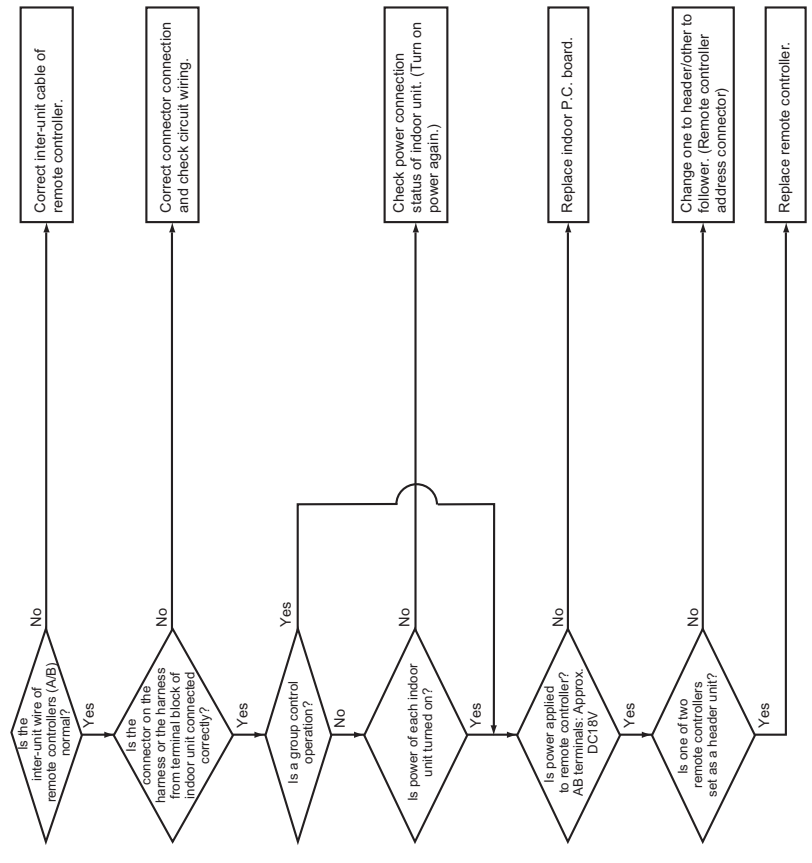
Check code			Location of detection	Description	System status	Check code detection condition(s)	Check items (locations)
Main remote controller	Outdoor 7-segment display						
	Check code	Sub-code					
P22	P22	1∗: Fan P.C. board 1 2∗: Fan P.C. board 2	Fan INV. P.C. board	Outdoor fan P.C. board trouble	All stop	Protected operation of Fan inverter P.C. board	• 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.	• 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.	• 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.	• Check indoor P.C. board.

Check codes Displayed on Central Control Device

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					
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.	• 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.	• 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.	• 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.	• 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.)	• Check check code of unit that has generated alarm.
	(L20 displayed.)			Duplicated central control address	Continued operation	There is duplication in central control addresses.	• Check address settings.
S01	—		—	—	—	Receiving trouble in central control device.	• Check central control device.

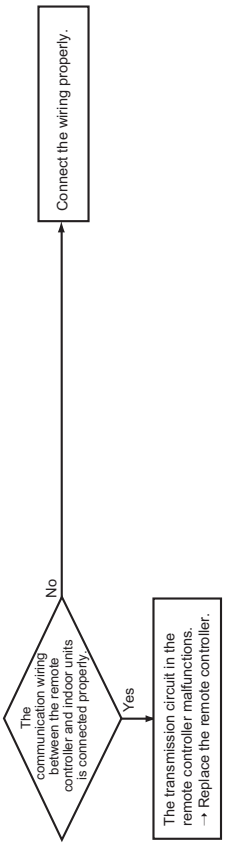
9-5. Diagnostic Procedure for Each Check Code (Indoor Unit)

Check code	Check code name	Cause
[E01]	Communication trouble between the indoor unit and remote controller (detected on the remote controller)	1. Remote controller inter-unit wire trouble 2. Indoor power trouble 3. Indoor P.C. board trouble 4. Remote controller address setup trouble 5. Remote controller P.C. board trouble



Check code	Check code name	Cause
[E02]	Signal transmission trouble on the remote controller	Unable to send signals to indoor units

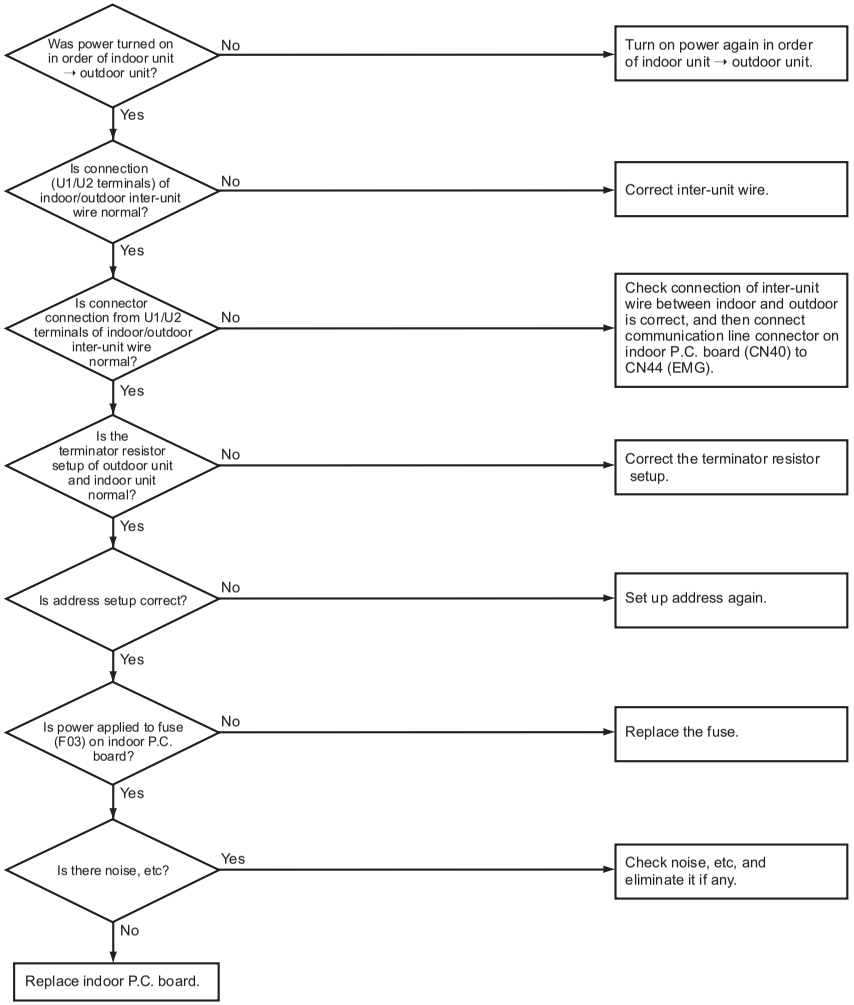
* The check code is not indicated on the central control device or the 7-segment indication on the outdoor unit.



Check code	Check code name	Cause
[E03]	Communication trouble between the indoor unit and remote controller. (detected on the indoor unit)	1. No signal from a wired remote control and a wireless receiving unit. 2. In case the Central remote controller is used without changing DN code [103].

- A check code [E03] is displayed when an indoor unit cannot receive the signal from a wired remote control and a wireless receiving unit. Check the communication wiring from the remote controller A and B.
- When using an air conditioner without a remote controller by indoor unit before May, 2021 manufacture, the setting change to 0001 from 0000 is required in the DN code [103]. A check code [E03] will be displayed, if it is used without making a setting change. (Excluding High wall type)
- Since communication is impossible, this check code [E03] is not displayed on a wired remote control. Check code [E03] will be displayed on the Central remote controller.

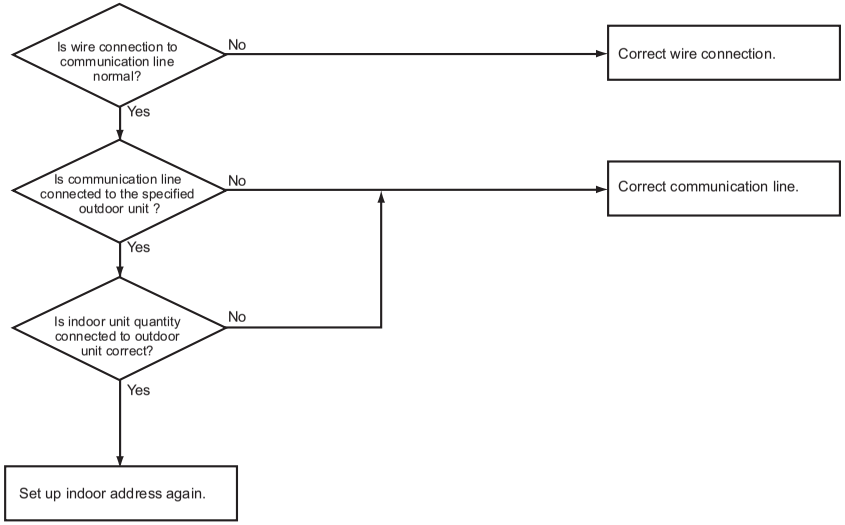
Check code	Check code name	Cause
[E04]	Indoor/Outdoor communication circuit trouble (Detected at indoor side)	1. Power of outdoor unit was firstly turned on. 2. Connection trouble of communication line between indoor and outdoor 3. Terminator resistor setup trouble on communication between indoor and outdoor 4. Address setup trouble



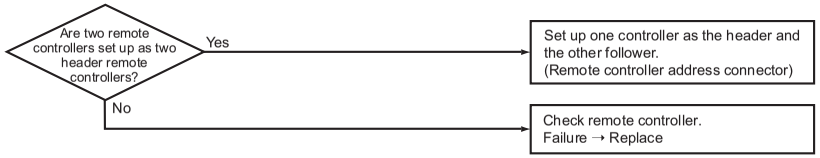
Check code	Check code name	Cause
[E08]	Duplicated indoor addresses	Indoor addresses are duplicated.

Sub-code: Duplicated indoor address

Using a wired remote controller, check the setup CODE No. (DN code) 12, 13, and 14.
When there is no address duplication, check to the following flowchart.

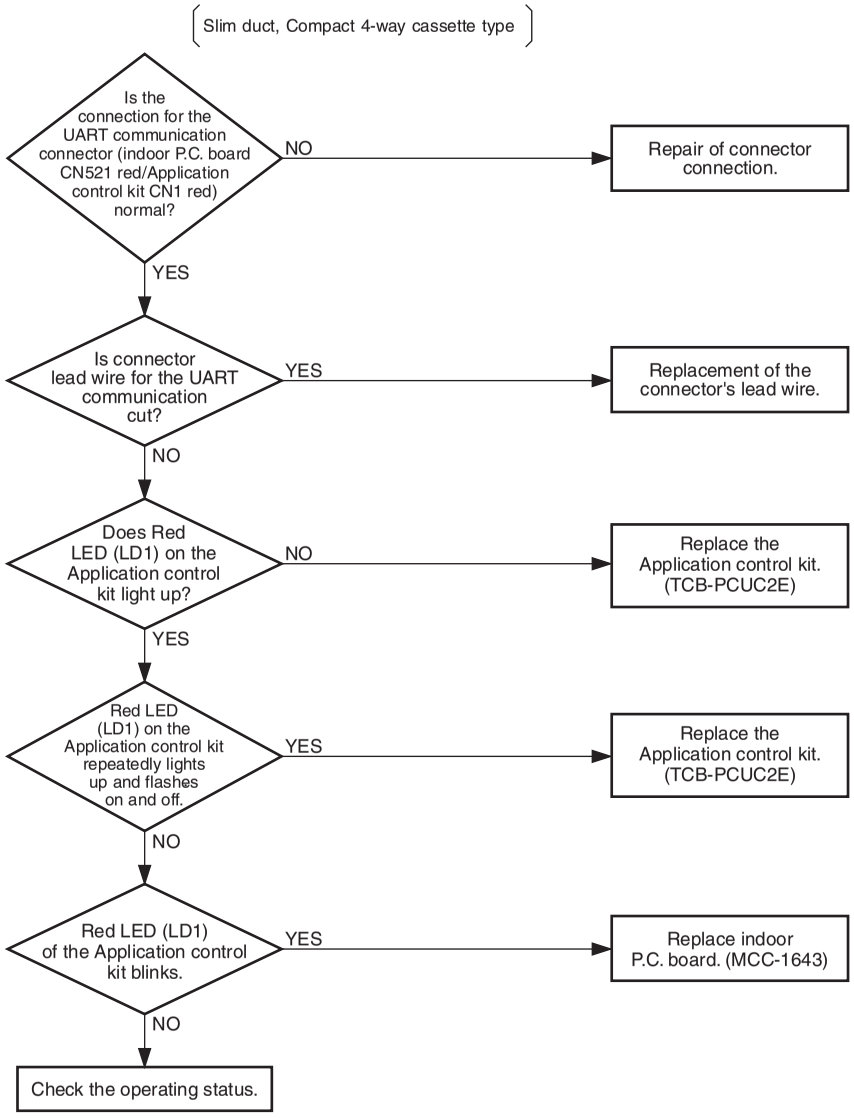


Check code	Check code name	Cause
[E09]	Duplicated header remote controller	Setup of header remote controller is duplicated.

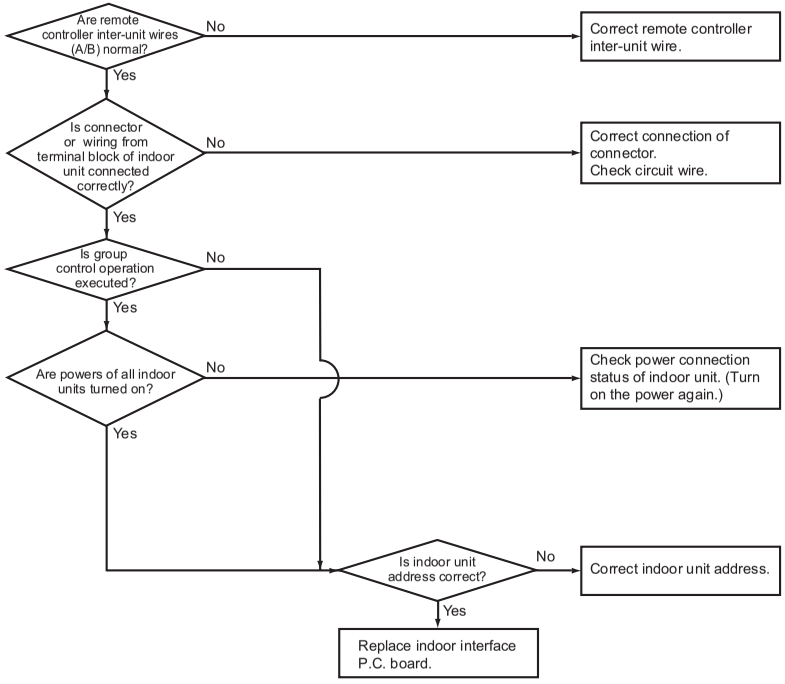


Check code	Check code name	Cause
[E10]	Communication trouble between indoor MCUs.	Indoor P.C. board trouble.

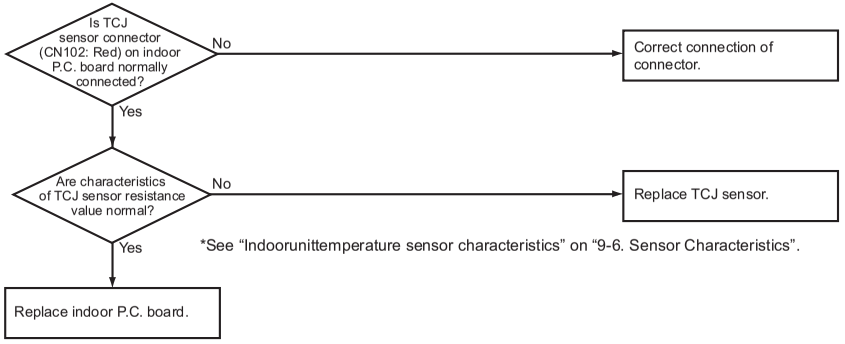
Check code	Check code name	Cause
[E11]	Communication trouble between Application control kit and Indoor unit	1.Application control kit trouble 2. Indoor P.C. board trouble



Check code	Check code name	Cause
[E18]	Communication trouble between indoor header and follower	Regular communication between indoor header and follower is unavailable.

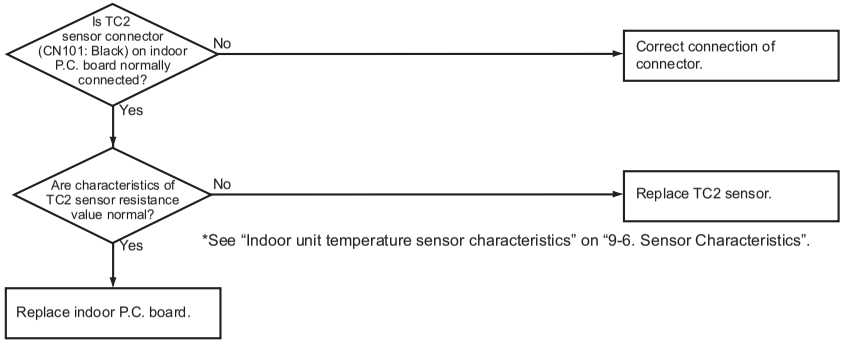


Check code	Check code name	Cause
[F01]	Indoor TCJ sensor trouble	TCJ sensor Open/Short-circuit



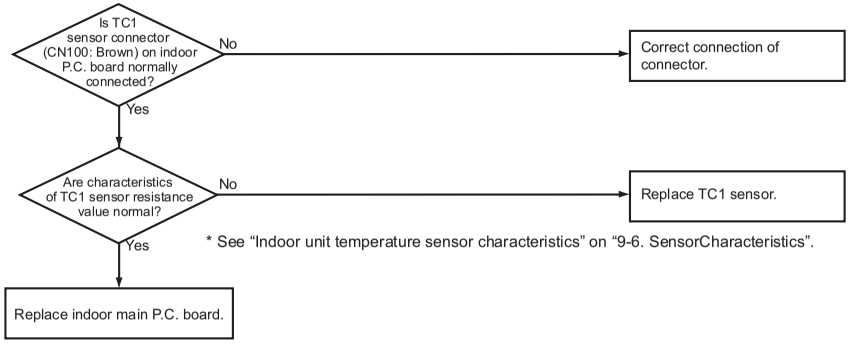
*See “Indoorunittemperature sensor characteristics” on “9-6. Sensor Characteristics”.

Check code	Check code name	Cause
[F02]	Indoor TC2 sensor trouble	TC2 sensor Open/Short-circuit



*See “Indoor unit temperature sensor characteristics” on “9-6. Sensor Characteristics”.

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



* See “Indoor unit temperature sensor characteristics” on “9-6. SensorCharacteristics”.

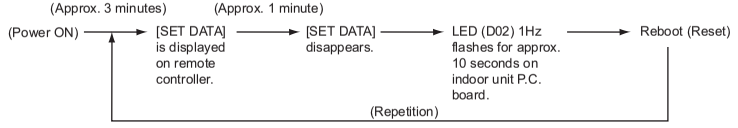
Check code	Check code name	Cause
[F10]	Indoor TA/TSA sensor trouble	TA sensor Open/Short-circuit

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 temperaturesensor characteristics” on “9-6. Sensor Characteristics”.)
If sensor is normal, replace indoor P.C. board.

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

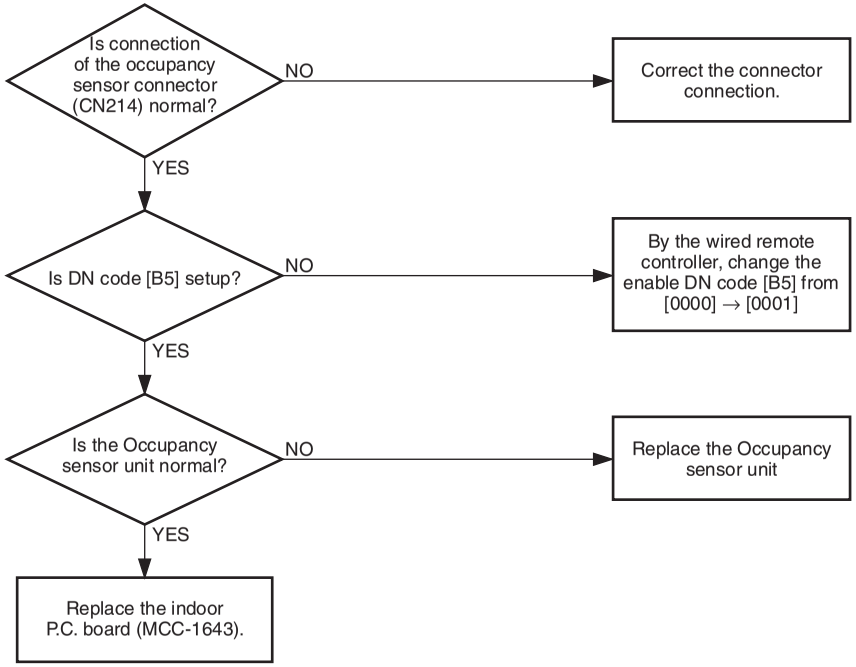
This trouble is detected during operation of air conditioner of IC10 non-volatile memory (EEPROM) on indoor unit P.C.board. Replace service P.C. board.

* 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

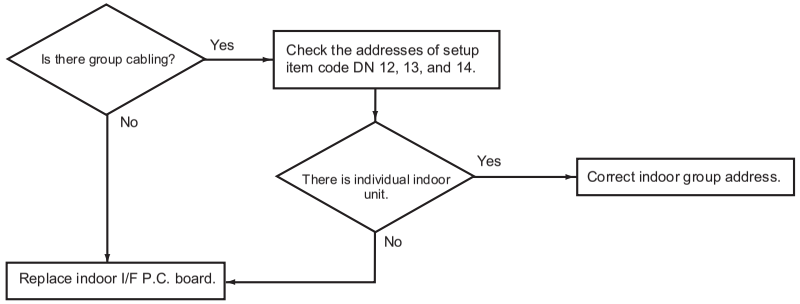
(Compact 4-way cassette type)



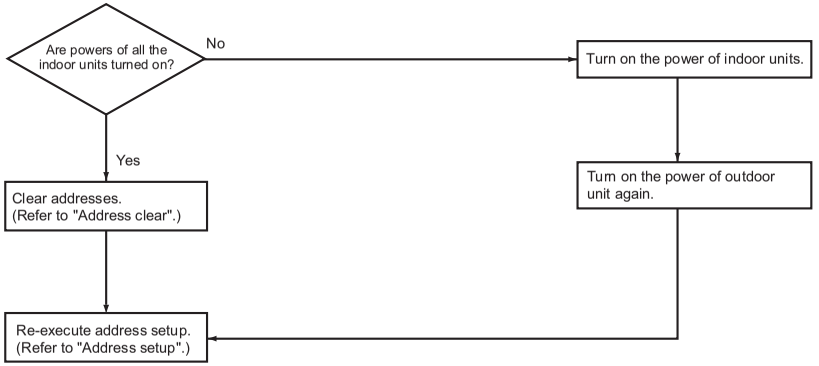
Check code	Check code name	Cause
[L03]	Duplicated indoor header units	There are two or more indoor header units in a group during group control.

1) Check whether the connection on remote controllers (group and/or individual) has been changed since the group configuration and address checking on the remote controllers finished.
2) If the group configuration and address are normal when power has been turned on, the mode automatically shifts to address setup mode. For setting up addresses again, refer to "Address setup".

Check code	Check code name	Cause
[L07]	A group line exists in an individual indoor unit	A group line is connected to an individual indoor unit.

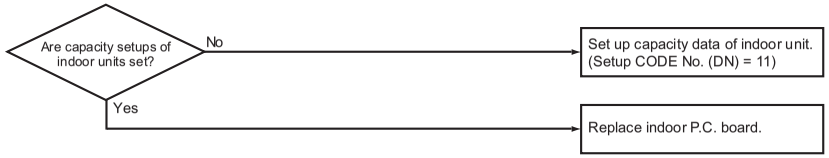


Check code	Check code name	Cause
[L08]	Indoor group / address unset	Indoor unit address is unset

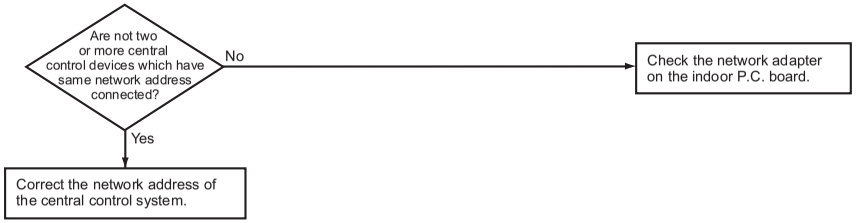


Note) This code is displayed when the power is turned on at the first time after installation. (Because the address is not yet set up)

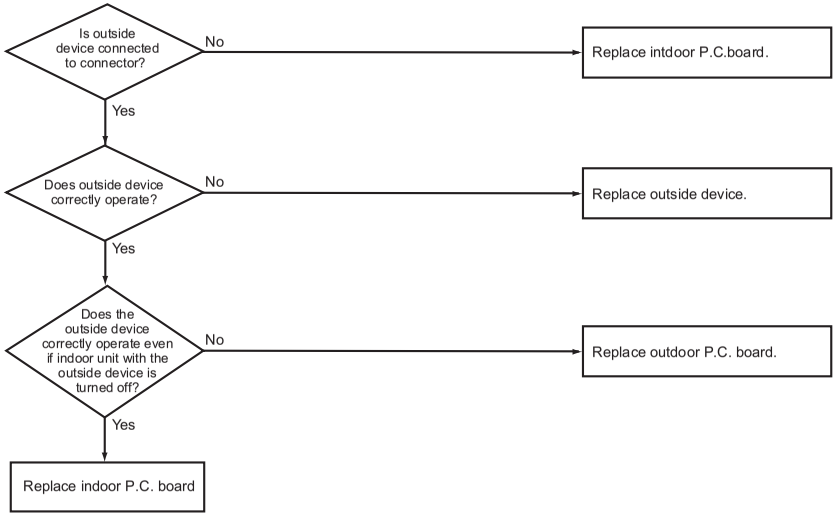
Check code	Check code name	Cause
[L09]	Indoor capacity unset	Indoor unit's capacity is unset



Check code	Check code name	Cause
[L20]	Duplicated central control addresses	Central control addresses are duplicated.

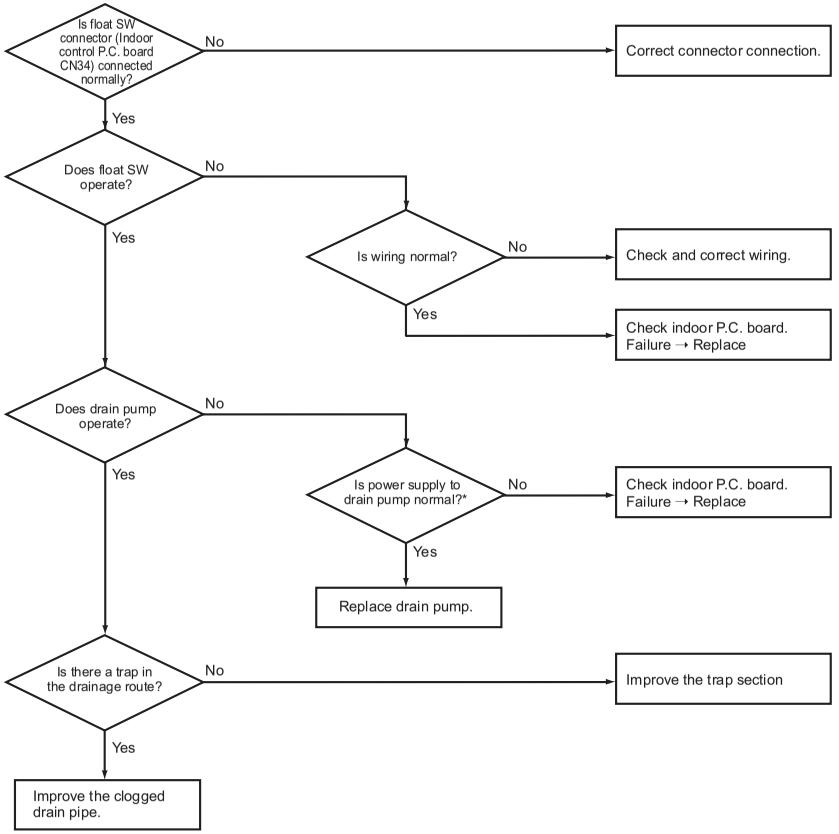


Check code	Check code name	Cause
[L30]	Interlock in indoor unit from outside	Abnormal input from the outside



Check code	Check code name	Cause
[P10]	Water overflow in an indoor unit	1. Float SW malfunction 2. Drain pump malfunction 3. Clogging of drain pipe 4. Indoor P.C. board trouble

Sub-code: Overflowing indoor unit's address



* Check there is 220V-240V voltage of 1-3 pin of CN504 on indoor P.C. board.

Check code	Check code name	Cause
[P12]	Indoor fan motor trouble	1. Wiring trouble of fan motor connector 2. Fan motor trouble 3. Indoor P.C. board trouble

Power off.

〔Compact 4-way cassette type, Slim duct〕

Is the connector CN210 of indoor unit P.C. board connected correctly?

NO → Repair the connector connection.

YES

Disconnect the connector CN210 to the indoor P.C. board

Does the fan turn smoothly when turned by hand?

NO → Replace the indoor fan motor.

YES

Is each resistance value on the motor side of the fan motor connector CN210 of the indoor P.C. board correct?

NO → Replace the indoor fan motor.

Model name for the indoor fan motor.
(Example; Compact 4-way cassette type : ICF-340D60-1)

<Checking procedure>
Measure the resistance of the following terminals with the tester.
Internal motor circuit is damaged if the measured value is out of the range in below table.

Pin No.	⑦	⑥	⑤	④	3	2	①
Color	Blue	Yellow	White	Black	—	—	Red

Measure by connecting the com side to ④ (Black) while measuring.
The measurement may vary.

	Measurement place	Resistance value
		a, b, c
I.	Between ④ (Black) - ① (Red)	∞ (MΩ)
II.	Between ④ (Black) - ⑤ (White)	35k – 65kΩ
III.	Between ④ (Black) - ⑥ (Yellow)	130k – 170kΩ
IV.	Between ④ (Black) - ⑦ (Blue)	∞ (MΩ)

[Action if the measurement is out of the range]
If any measurement in the above table is between 0 to several 100 Ω, replace the indoor P.C. board together with the motor since the indoor P.C. board is damaged.

YES

Is F01 of the indoor P.C. board normal?

NO → Replace the indoor P.C. board (MCC-1643).

YES

Is R04 or R05 of the indoor P.C. board normal?

NO → Replace the indoor P.C. board (MCC-1643).

YES → Check the indoor P.C. board (MCC-1643). If failure → Replace

Check code	Check code name	Cause
[P31]	Other indoor trouble (Group follower unit trouble)	Another indoor unit in the group is abnormal.

When the header unit of the group detected trouble [E03], [L03], [L07] or [L08], the follower unit of the group displays [P31] trouble and stops. There are no check code display and alarm record of the main remote controller.

Check code	Check code name	Cause
----	Wireless remote controller trouble (Compact 4-way cassette type only)	1. Wireless remote controller trouble 2. Indoor P.C. board trouble

Was wireless remote controller used at the first

YES → Use wireless remote controller at the first time after install RBC-AXU31UM-UL

NO

Is connection of lead wire between CN214 of indoor P.C.board and RBC-AXU31UM-UL

NO → Repair the connection.

YES

Replace the RBC-AXU31UM-UL

Does wireless remote controller operate?

NO → Replace the indoor P.C. board (MCC-1643)

YES

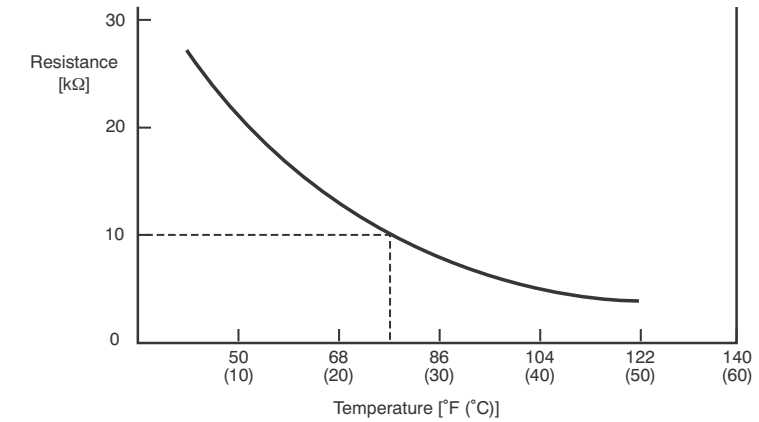
End

9-6. Sensor Characteristics

Indoor Unit

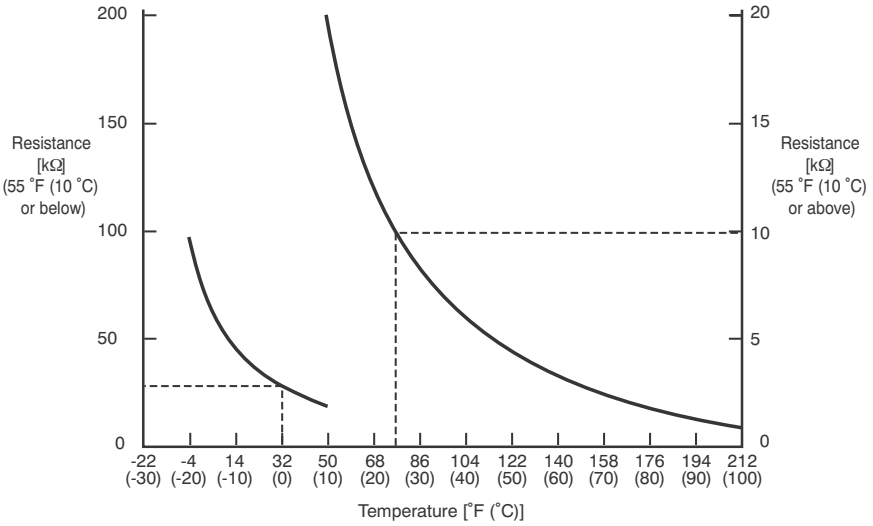
■ Temperature sensor characteristics

Indoor TA sensor



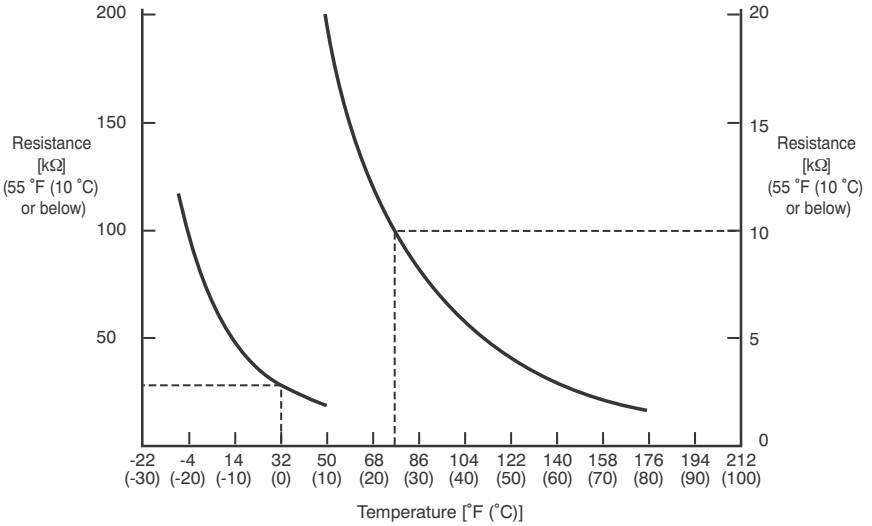
Temperature [˚F (˚C)]	Resistance [kΩ]
32 (0)	33.9
41 (5)	26.1
50 (10)	20.3
59 (15)	15.9
68 (20)	12.6
77 (25)	10.0
86 (30)	8.0
95 (35)	6.4
104 (40)	5.2
113 (45)	4.2
122 (50)	3.5
131 (55)	2.8
140 (60)	2.4

Indoor TC1 sensor



Temperature [˚F (˚C)]	Resistance [kΩ]
-4 (-20)	99.9
5 (-15)	74.1
14 (-10)	55.6
23 (-5)	42.2
32 (0)	32.8
41 (5)	25.4
50 (10)	19.8
59 (15)	15.6
68 (20)	12.4
77 (25)	10.0
86 (30)	8.1
95 (35)	6.5
104 (40)	5.3
113 (45)	4.4
122 (50)	3.6
131 (55)	3.0
140 (60)	2.5
149 (65)	2.1
158 (70)	1.8
167 (75)	1.5
176 (80)	1.3
185 (85)	1.1
194 (90)	1.0
203 (95)	0.8
212 (100)	0.7

Indoor TC2 and TCJ sensors



Temperature [˚F (˚C)]	Resistance [kΩ]
-4 (-20)	115.2
5 (-15)	84.2
14 (-10)	62.3
23 (-5)	46.6
32 (0)	35.2
41 (5)	26.9
50 (10)	20.7
59 (15)	16.1
68 (20)	12.6
77 (25)	10.0
86 (30)	8.0
95 (35)	6.4
104 (40)	5.2
113 (45)	4.2
122 (50)	3.5
131 (55)	2.8
140 (60)	2.4
149 (65)	2.0
158 (70)	1.6
167 (75)	1.4
176 (80)	1.2

▼ Winding resistance of PMV (Pulse Motor Vale) coil

Measure position	Resistance value
White - Red (COM)	180 to 220 Ω
Yellow - Red (COM)	
Orange - Red (COM)	
Blue - Red (COM)	

at 68°F (20°C)

9-7. Maintenance list

Aiming in environmental preservation, it is strictly recommended to clean and maintain the indoor/outdoor units of the operating air conditioning system regularly to secure effective operation of the air conditioner.

It is also recommended to maintain the units once a year regularly when operating the air conditioner for a long time.

Check periodically signs of rust or scratches, etc. on coating of the outdoor units.

Repair the defective position or apply the rust resisting paint if necessary.

If an indoor unit operates for approx. 8 hours or more per day, usually it is necessary to clean the indoor/outdoor units once three months at least.

These cleaning and maintenance should be carried out by a qualified dealer.

Although the customer has to pay the charge for the maintenance, the life of the unit can be prolonged.

Failure to clean the indoor/outdoor units regularly will cause shortage of capacity, freezing, water leakage or trouble on the compressor.

<Check list>

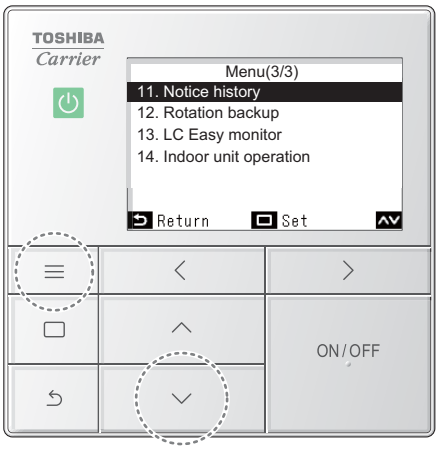
Part name	Object		Contents of check	Contents of maintenance
	Indoor	Outdoor		
Heat exchanger	✓	✓	• Blocking with dust, damage check	• Clean it when blocking is found.
Fan motor	✓	✓	• Audibility for sound	• When abnormal sound is heard
Filter	✓	—	• Visual check for dirt and breakage	• Clean with water if dirty • Replace if any breakage
Fan	✓	✓	• Visual check for swing and balance • Check adhesion of dust and external appearance.	• Replace fan when swinging or balance is remarkably poor. • If a large dust adheres, clean it with brush or water.
Suction/ Discharge grille	✓	—	• Visual check for dirt and scratch	• Repair or replace it if deformation or damage is found.
Drain pan	✓	—	• Check blocking by dust and dirt of drain water.	• Clean drain pan, Inclination check
Front panel, Louver	✓	—	• Check dirt and scratch.	• Cleaning/Coating with repair painting
External appearance	—	✓	• Check rust and pealing of insulator • Check pealing and floating of coating film	• Coating with repair painting

9-8. Notice code

- Notice code is a function only in TC2U-LINK communication.
- When the outdoor or indoor unit detects its conditions requiring caution or maintenance, this function notices you to check your units with the spanner mark (Notice code mark) on the wired remote controller or central controller display.
- Even while the notice code mark is displayed, the air conditioner can operate normally.
- A maximum of 5 notice codes can be issued simultaneously in one system (line).

■ How to check Notice code No.

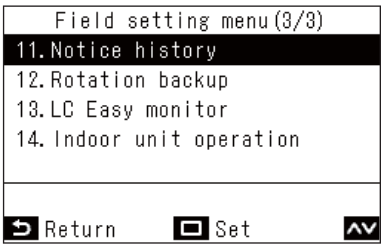
<RBC-AWSU5*>



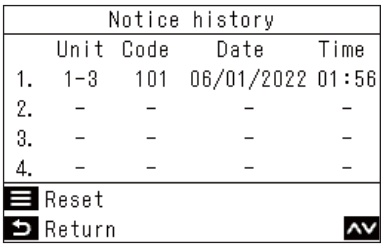
1 **Push [Menu] to open the “Menu”**

2 **Push and hold [Menu] and [ ] at the same time to open “Field setting menu”**
→Push and hold 4 seconds.

Displays the last 10 notice codes, and at which unit and when they occurred.



1 **In the “Field setting menu” screen, push [ ] and [ ] to select “Notice history”, and then push [Set/Fix]**



NOTE

The notice history data shows a history of 10 occurrences. If the occurrences exceed 10, the oldest data is deleted.

10. P.C. BOARD EXCHANGE PROCEDURES

■ Indoor unit

10-1. Replacement of indoor P.C. boards

⚠ CAUTION

For this model, please make all the following settings.

CODE No.(DN)	Setting data	Description
E0	0001	North America

<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-AWSU5∗>

Step 1 Push [☰ Menu] to open the “Menu”.

Step 2 Push and hold [☰ Menu] and [∨] at the same time to open “Field setting menu”.
• Push and hold 4 seconds.

Step 3 Push [∧] and [∨] to select “DN setting”, and then push [▢ Set/Fix].

Step 4 Select “Indoor unit” , and the push [▢ Set/Fix]

Step 5 For group operation, all connected rooms in the system are displayed.
Select the unit whose EEPROM contents you want to read and push [▢ Set/Fix].
→ The fan of the selected indoor unit operates and the flap swings.

1. Push [<] to black highlight the code (DN), and then push [∧] and [∨] to set the code No. to 1.
   (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 ∧ / ∨ buttons.
   Similarly, be sure to write down the setting data displayed.
3. Repeat the step 2 to set the other settings in the same way and write down the setting data in the manual that comes with the P.C. board.
   (See pages 60 to 62).

<RBC-AMTU3∗>

[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/OFF 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 e the CODE No. (DN) to 10 → 01 by pushing ▽ / △ 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 ▽ / △ 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 in the manual that comes with the P.C. board. (See pages 60 to 62).

CODE No. required at least

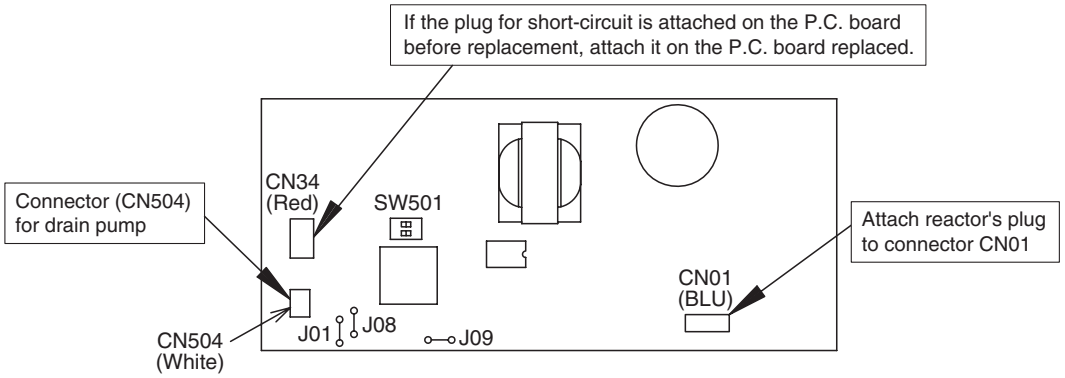
DN	Contents
10	Type
11	Indoor unit capacity
12	System address
13	Indoor unit address
14	Group address
E0	Region

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].

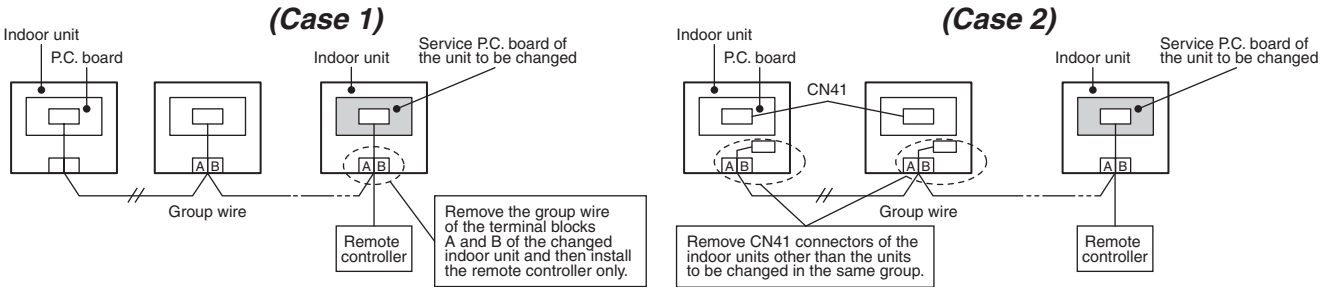
* When the above methods cannot be used, follow to the two cases below.

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-AWSU5*>

Step 1 Push [Menu] to open the “Menu”.

Step 2 Push and hold [Menu] and [ ] at the same time to open “Field setting menu”.
• Push and hold 4 seconds.

Step 3 Push [ ] and [ ] to select “DN setting”, and then push [Set/Fix].

Step 4 Select “Indoor unit” , and the push [Set/Fix]

Step 5 For group operation, all connected rooms in the system are displayed.
Select the unit whose EEPROM contents you want to read and push [Set/Fix].
→The fan of the selected indoor unit operates and the flap swings.

Step 6 Push [ ] to black highlight the code (DN), and then push [ ] and [ ] to set the code.
• 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. Push [ ] to black highlight the data, and then push [ ] and [ ] to set the type.
   (Refer to Type DN code “10” on page 63.)
3. After finishing setting the data of the code (DN), push [Set/Fix]
   → “Continue?” is displayed.
4. To set the data of other codes (DN), push [Set/Fix]
5. Push [ ] to black highlight the code (DN), and then push [ ] and [ ] to set the code No. to 11.
6. Push [ ] to black highlight the data, and then push [ ] and [ ] to set the capacity.
   (Refer to Indoor Unit Capacity DN code “11” on page 63.)
7. After finishing setting the data of the code (DN), push [Set/Fix]
   → “Continue?” is displayed.
8. Push [Return]
   When doing group connections:
   → Push [Return] to open the unit selection screen. In the unit selection screen, push [Return] to briefly display “ ”, and then return to the “Field setting menu” screen.

Step 7 Write the on-site setting data to the EEPROM, such as address setting, etc.
Perform the steps 1 and 4 above again.

Step 8 Push [ ] to black highlight the code (DN), and then push [ ] and [ ] to set the code No. to 1.
(This is the setting for the filter sign lighting time.)

Step 9 Check the setting data displayed at this time with the setting data put down in [1].

1. If the data is different, push [ ] to highlight the data in black and white, push [ ] and [ ] to change the data to what you wrote down, and push [Set/Fix’].
2. If the data is the same, proceed to next step.

Step 10 Push [ ] to black highlight the code (DN), and then push [ ] and [ ] to set the code.
As described above, check the setting data and modify to the data put down in [1].

Step 11 Repeat the steps 8 and 9.

Step 12 After the setting completes, push [Return]
When doing group connections:
→ Push [Return] to open the unit selection screen. In the unit selection screen, push [Return] to briefly display “ ”, and then return to the “Field setting menu” screen.

Even after modifying the data wrongly and pushing [Set/Fix] it is possible to return to the data before modification by pushing [Return] if the CODE No. (DN) is not changed.

<RBC-AMTU3∗>

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

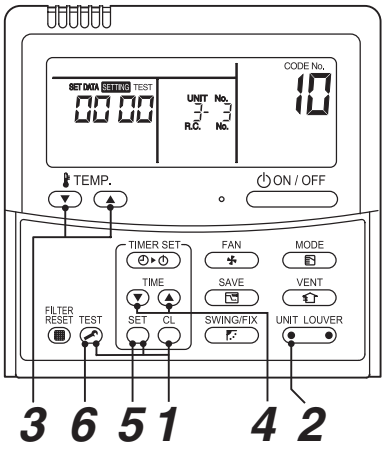
* In the group control operation, the unit No. displayed for the first time is the header unit No.. At this time, the CODE No. (DN) shows " 10 ". Also, the fan of the indoor unit selected starts its operation and the swing operation starts if it has the louvers. (The unit No. " ALL " is displayed if 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 ▼ / ▲ 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 ▼ / ▲ buttons for the timer setting. (For example, 4-way Cassette Type is set to "0001 ". Refer to Type DN code " 10 "on page 63.)
3. Push SET button. (The operation completes if the setting data is displayed.)
4. Change the CODE No. (DN) to " 11 " by pushing ▼ / ▲ buttons for the temperature setting.
5. Select the capacity by pushing ▼ / ▲ buttons for the timer setting. (For example, UP018 Type is set to "0009 ". Refer to Indoor Unit Capacity DN code " 11 " on page 63.)
6. Push SET button. (The setting completes if the setting data are displayed.)



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

11. DETACHMENTS

11-1. Compact 4-way Cassette

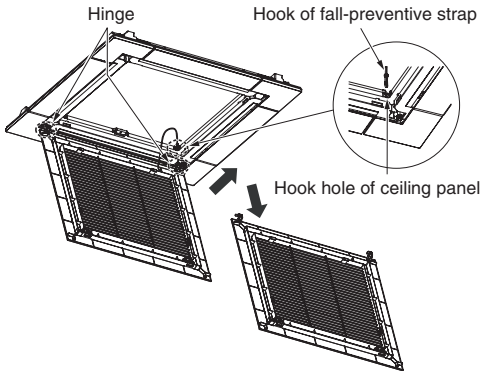
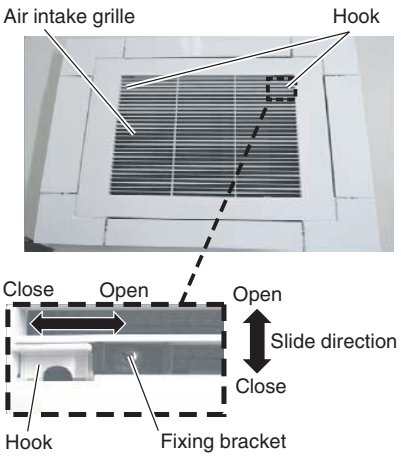
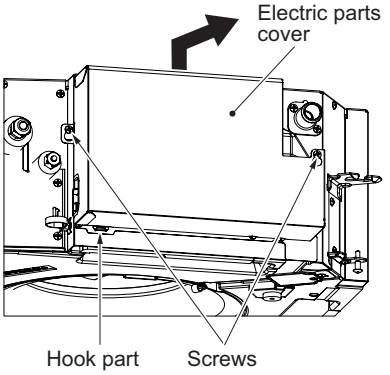
MMU-UP∗∗∗∗MH∗

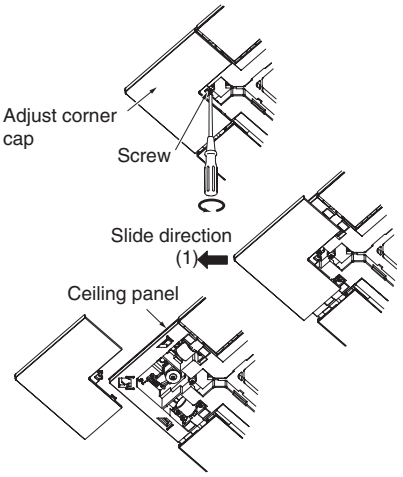
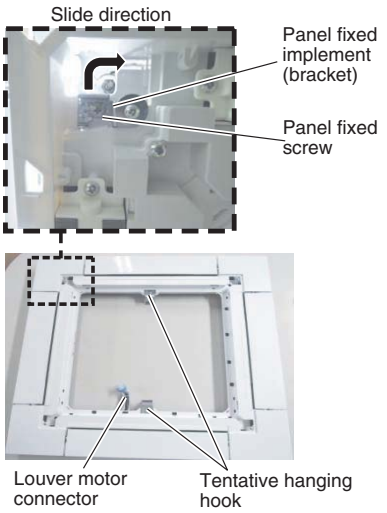
⚠ WARNING

Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

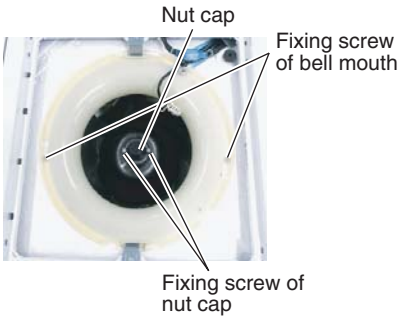
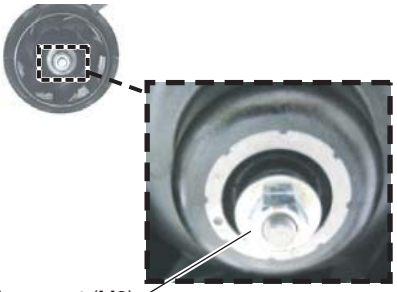
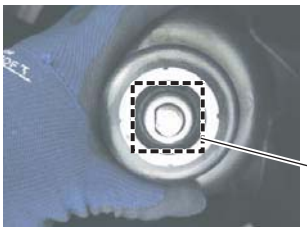
⚠ CAUTION

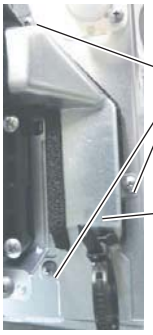
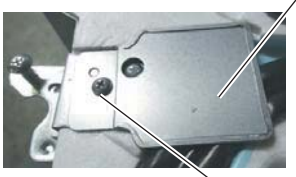
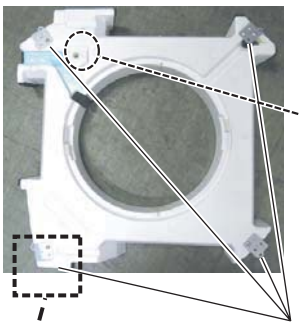
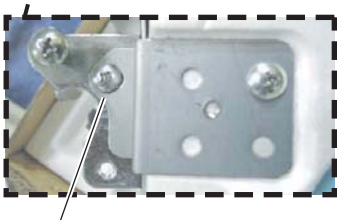
Be sure to put on gloves during working time; otherwise an injury will be caused by a part etc.

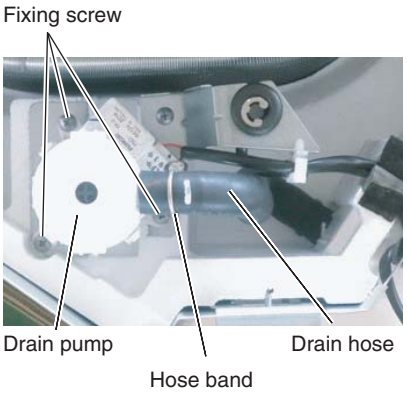
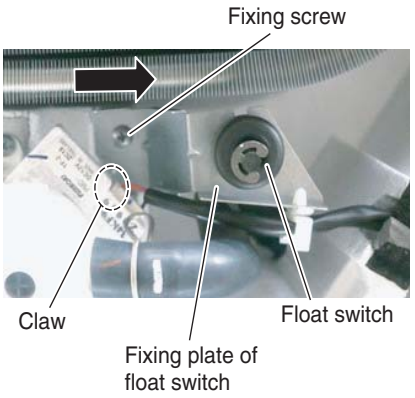
No.	Part name	Procedure	Remarks
①	Air intake grille	**1. Detachment** 1) Stop operation of the air conditioner and then turn off switch of the circuit breaker. 2) Loosen the fixing screw. And slide the fixing bracket toward the inside. (M 4 × 0.31" (8mm), 1 pcs.) 3) Holding the air intake grille, slide the hook in the direction of the arrow and slowly open the grille. 4) Remove the hook of the fall-preventive strap from the ceiling panel. Remove the hinge section of the air intake grille from the ceiling panel while the air intake grille is opened. **2. Attachment** 1) Hook the hinge of the air intake grille to the main panel, and then attach the fall-preventive strap. 2) Close the air intake grille, and then slide the hook. 3) Slide the grille fixing bracket to fix it with the screws. (M 4 × 0.31" (8mm), 1pc.) 	 
②	Electric parts cover	**1. Detachment** 1) Loosen the fixing screws (2 places) of the electric parts cover. (M 4 × 0.31" (8mm), 2 pcs.) 2) Slide the electric parts cover toward upper side to remove it. **2. Attachment** 1) Slide the electric parts cover to attach it. (Arrange the boss at the electric parts side just on the boss hole at the cover side.) 2) Tighten the screws of the electric parts cover (2 positions) to fix it. (M 4 × 0.31" (8mm), 2 pcs.)	

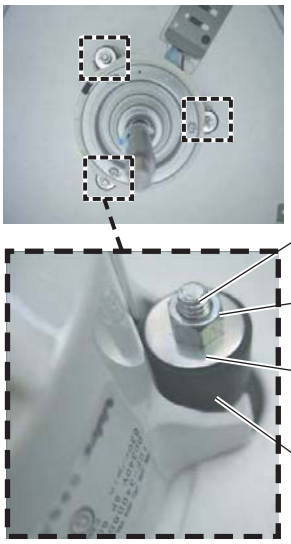
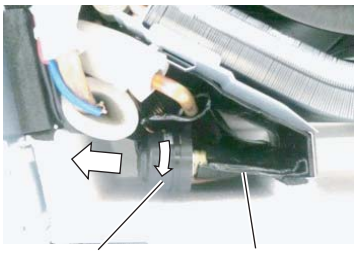
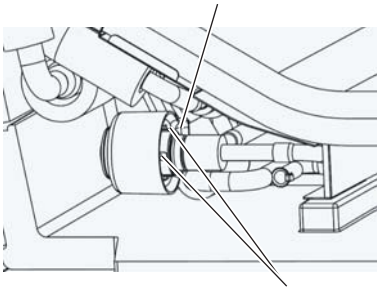
No.	Part name	Procedure	Remarks
③	Adjust corner cap	**1. Detachment** 1) Remove the air intake grille. (Refer to 1 of ①.) 2) Loosen the fixing screws on the adjust corner cap. (M 4 × 0.47" (12mm), 4 pcs.) 3) Slide the adjust corner cap to outside to remove it. **2. Attachment** 1) Matching claws (5 positions) of the adjust corner cap to holes of the panel main unit holes and attach them. 2) Tighten the fixing screws of the adjust corner cap (M 4 × 0.47" (12mm), 4 pcs.). **NOTE** Tighten the screw with a hand screwdriver and do not use a tool such as a electric screwdriver. Tightening torque : 0.74 ft•lbs (1 N•m) or less	
④	Ceiling panel	**1. Detachment** 1) Remove the air intake grille and the adjust corner cap. (Refer to 1 of ①and 1 of ③.) 2) Remove the louver motor connector. 3) By sliding the panel fixing bracket of the corner part, remove it from the fixing screws. (Total 4 positions) 4) Push the tentative hanging hook at the center part of the ceiling panel main body toward the outside of the ceiling panel, and then remove the ceiling panel from the indoor unit. **2. Attachment** 1) Match the louver motor connector of the ceiling panel so that it directs to the electric parts side, and then hook the tentative hanging hook at the center part of the ceiling panel main body to the bell mouth. 2) Connect the louver motor connectors at the ceiling panel side and the indoor unit side. 3) Lift up the panel corner part and put out the screw head of the panel fixed implement. Slide the panel fixed bracket, and then fix the indoor unit and the ceiling panel. (Total 4 positions). * In case of loosening screws of the panel fixed implement so that screw head is out under the panel fixed implement, retighten the screws after work. 4) Following to the works in items ③-2 and ①-2, attach the adjust corner cap and the air intake grille as original. **NOTE** • The ceiling panel aligns directionally with the indoor unit. Check that the lead wires of louver motor connector are on the electrical control box side. • When a clearance is found between the ceiling surface and the ceiling panel, readjust height of the indoor unit even if the screws have been tightened.	

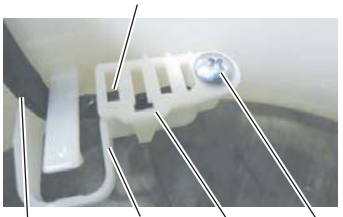
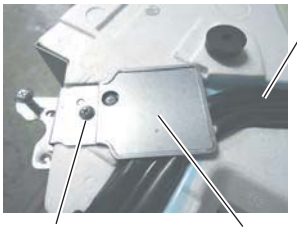
No.	Part name	Procedure	Remarks
⑤	Control P.C. board	**1. Detachment** 1) Remove the electric parts cover. (Refer to 1 of ②) 2) Remove connectors which are connected from the control P.C. board to the other parts and then remove wiring from the clamp. **NOTE** Unlock the lock of the housing part and then remove the connector. CN34 : Float switch (3P, Red) CN41 : Remote controller (2P, Blue) CN40 : Control wires (2P, Blue) CN67 : Power supply wires (5P, Black) CN100 : TC1 sensor (3P, Brown) CN101 : TC2 sensor (2P, Black) CN102 : TCJ sensor (2P, Red) CN104 : Room temp. (TA) sensor (2P, Yellow) CN82 : PMV (6P, Blue) CN510 : Louver motor (20P, White) CN504 : Drain pump (2P, White) CN210 : Fan motor (7P, White) CN22 : Earth wire (Tab terminal) 3) Unlock the locks of the card edge spacer (4 positions) and remove the control P. C. board. **2. Attachment** 1) Fix the control board to the card edge spacer (4 positions). 2) Connect the removed connectors as original, which were unconnected in item 1. Detachment, and fix the wires with clamps. 3) Following to the work in ②-2, attach the electric parts covers as original.	

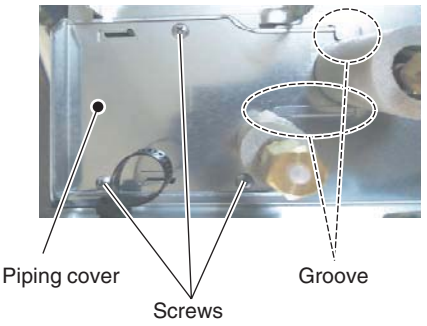
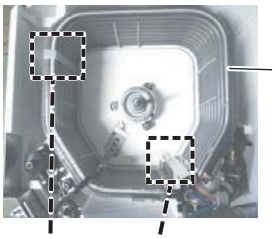
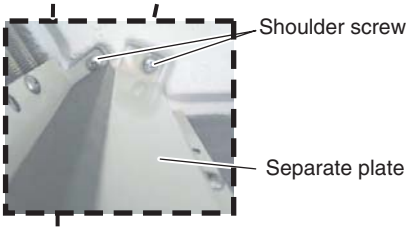
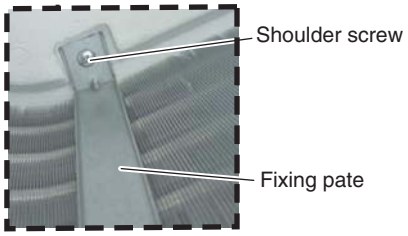
No.	Part name	Procedure	Remarks
⑤	Turbo fan	**1. Detachment** 1) Remove the air intake grille. (Refer to 1 of ①.) 2) Loosen the fix screws (2 positions) of the bell mouth, rotate the bell mouth, and then take off it. (M 4 × 0.39" (10mm), 2 pcs.) 3) Remove the screw which is fixing the nut cap and then remove the nut cap. (M4 × 0.39" (10mm), 2 pcs.) 4) Loosen the flange nut (M8) at the center part of the turbo fan, and then take off (Counter clockwise) * Supporting with hands, take off the turbo fan so that it will not fall down. **NOTE** Use a box wrench for attachment and detachment of the turbo fan. If using adjustable wrench etc., the other parts may be damaged in work. **2. Attachment** 1) Match the D-cut of the motor shaft with the boss part D-cut of the turbo fan, and then insert the turbo fan into the motor shaft. 2) Tighten M8 nut with flange. (Tightening torque of the turbo fan: 4.0+0.37, -0.15ft•lbs (5.4+0.5, -0.2N•m)) 3) Attach a nut cap as original. 4) Slide the Bell mouth removed in item 1-2) and attach it then fix it with screws. (M 4 × 0.39" (10mm), 2 pcs.). 5) Following to the work in item ①-2, attach the air intake grille as original. **NOTE** (Tightening torque of the turbo fan: 4.0+0.37, -0.15ft•lbs (5.4+0.5, -0.2N•m))	 Lock release direction  

No.	Part name	Procedure	Remarks
⑦	Drain pan	**1. Detachment** 1) Remove the ceiling panel and the electrical parts covers. (Refer to items ④-1 and ②-1.) 2) Remove the wiring cover. (Fixing screw M 4 × 0.31" (8mm), 3pcs.) 3) Remove the wiring fixing plate. (Fixing screw M 4 × 0.31" (8mm), 1pc.) 4) Remove the connectors of the fan motor lead wire, louver motor lead wire, and room temperature (TA) sensor from the control P.C. board, and then remove the wiring from the clamp. * Pull out the wires from the hole at the side face of the electric parts. CN210: Fan motor (7P, White) CN510: Louver motor lead wire (20P, White) CN104: TA (Room temperature) sensor (2P, Yellow) 5) Remove the drain plug of the drain pan, and extract the stayed drain water. * Be careful that water is extracted at a stretch when taking off the drain plug. * When taking off the drain plug, be sure to prepare a bucket, etc. for spilled water. 6) Remove the fixing screws of the drain pan fixing bracket. (M 4 × 0.31" (8mm), 4 pcs.) 7) Using the both hands, hold the water-spilling port part of the drain pan and then slowly pull out the foaming parts firstly. * As there is remained water in the drain pan, clear it carefully. **2. Attachment** 1) Arrange direction of the drain pan directly to the foaming parts and insert it. * Pass the fan motor lead wire through the inner side of the drain pan. 2) Attach the fixing screws of the drain pan fixing bracket which was taken off in item 1-6). (M 4 × 0.47" (12mm), 4 pcs.) 3) Insert the drain plug. (Put the tool with thin top in the hole of the drain plug, and then push the plug in.) 4) Perform wiring works to original arrangement, wiring of the fan motor, louver motor lead wires, and the room temperature (TA) sensor, and then attach the wiring fixing bracket and the wiring cover. 5) Following to works in items ④-2 and ②-2, attach the panel, electric parts cover as original.	    

No.	Part name	Procedure	Remarks
⑧	Drain pump	**1. Detachment** 1) Remove the drain pan. (Refer to ⑦-1.) 2) Remove the drain pump connector (CN504: 2P, White) connected to the control P.C. board and remove the lead wires from the clamp. 3) Remove the fixing screws to remove the drain pump. (M 4 × 0.39" (10mm), 3 pcs.) 4) Move the knob of the hose band which fixes the drain hose a little from pump connecting part to the hose side, and then remove the drain hose from the drain pump. * Be careful that water may be out. **2. Attachment** 1) Confirm the direction of the drain pump, and then fix it with screws. (M 4 × 0.39" (10mm), 3 pcs.) 2) Connect the drain hose to the drain pump. * For the drain hose, insert up to the root of the connecting part. * Attach a band to the marked position of the hose, and the knob of a hose band is attached to the deep side of a set. 3) Pass the drain pump wiring through side plate and clamp, and then connect the connector to the control P.C. board. 4) Following to work in ⑦-2, attach the drain pan, panel, and electrical parts covers as original.	
⑨	Float switch	**1. Detachment** 1) Remove the drain pan. (Refer to ⑦-1.) 2) Remove the float switch connector (CN34 3P, Red) connected to the control P.C. board, and then take off the lead wires from the clamp. 3) Remove the screws which fix the float switch. (M 4 × 0.31" (8mm), 1 pc.) 4) Slide the float switch fixed bracket as direction shown in the right figure, and then take off it from the claw. **2. Attachment** 1) Insert the float switch fixing plate into the claw, and tighten the fixing screw. 2) Pass the float switch lead wires through the side plate and the clamp, and then connect the connector to the control P.C. board. 3) Following to work in ⑦-2, attach the covers of the drain pan, panel, and electric parts box as original.	

No.	Part name	Procedure	Remarks
⑩	Fan motor	**1. Detachment** 1) Remove the turbo fan, electric parts cover, wiring cover and wiring fixing plate. (Refer to ⑥-1, ②-1, ⑦-1-2, ⑦-1-3.) 2) Remove the fan motor connector (CN210, White, 7P) connected to the control P.C. board, and then take off the lead wires from the clamp. 3) Remove the shoulder screws (Black, 2pcs.) of the motor lead wiring cover, and separate the lead wires and the lead wire cover. 4) Remove the hexagon nuts (M6) which fix the motor, and the washers. (3 pcs. Each). * When taking off them, hold them with a hand so that motor will not fall down. 5) Remove the motor with rubber cushion from the bolt. **2. Attachment** 1) Pass rubber cushion of the motor in the bolt, put the washer and the hexagon nut in this order, and then tighten to fix them. (Tightening toque: 4.4 ± 0.4ft•lbs (4.9 ± 0.5N•m)) 2) Pass the lead wire through the motor lead wire fixing plate removed in 1-3), and then fix it with shoulder screw. 3) Perform wiring of the motor lead wires as original, connect the connector to the control P.C. board, and then attach the wiring fixing plate and the wiring cover. 4) Following to works in ⑥-2 and ②-2, attach the turbo fan and the electric parts covers.	 Shoulder screws (Black) Motor lead wire cover  Bolt Hexagon nut Washer Rubber cushion
⑪	PMV coil	**1. Detachment** 1) Remove the drain pan. (Refer to ⑦-1) 2) Remove the PMV connectors (CN82, Blue, 6pcs.) connected to the control P.C. board, and take off the lead wires from the clamp. 3) A little PMV coil is rotated, pressing down so that a PMV body may not turn, and it removes in the direction of an arrow. **2. Attachment** 1) Attach the PMV coil as original. **NOTE** Be careful of direction of a PMV coil. Check that four projections of the fixed claw of PMV coil and PMV body have fitted in.	 PMV coil PMV body The lead wire of PMV coil is turned in the top plate direction.  PMV coil fixed claw

No.	Part name	Procedure	Remarks
⑫	TC1 TC2 TCJ Sensor	**1. Detachment** 1) Remove the drain pan. (Refer to ⑦-1.) 2) Pull out the sensor to be exchanged from the sensor holder. 3) Remove the connector connected to the control P.C. board, and take off wires from the clamp. (Refer to ⑤.) **2. Attachment** 1) Insert the sensor to be exchanged into the specified sensor. (Refer to the right figure.) 2) Perform wiring of the sensor as original.	 TCJ sensor (Red) TC1 sensor (Blue) TC2 sensor (Black)
⑬	TA sensor	**1. Detachment** 1) Remove the panel, electric parts box cover, wiring cover and wiring fixing plate. (Refer to ④-1, ②-1, ⑦-1-2, ⑦-1-3.) 2) Disconnect TA sensor connector (CN104 Yellow, 2P) which is connected to the control P.C. board, and take off the lead wire from the clamp. 3) Remove the screw of the TA sensor cover. (M 4 × 0.39" (10mm), 1pc.) 4) Remove TA sensor from the TA sensor fixing bracket. **2. Attachment** 1) Fix TA sensor to TA sensor fixing bracket, and fix the TA sensor cover with screw. (M 4 × 0.39" (10mm), 1 pc.) 2) Perform wiring of TA sensor as original.	Adjust position of the tube so that the tube of TA sensor will be included in the cover.  TA sensor TA sensor fixing bracket Fixing screw TA sensor cover Groove for wiring of the drain pan  Fixing screw Wiring fixing plate

No.	Part name	Procedure	Remarks
⑭	Heat exchanger	**1. Detachment** 1) Recover refrigerant gas. 2) Remove the refrigerant pipe at indoor unit side. 3) Remove the drain pan. (Refer ⑦-1.) 4) Disconnect the heat exchanger sensor (TC1, TC2, TCJ), PMV lead wires connectors from the control P.C. board, and then remove their lead wires from the clamp. (Refer to ⑤-1.) 5) Remove the fixing screws of the piping cover and take off the piping cover. (M 4 × 0.31" (8mm), 3 pcs.) 6) Remove the shoulder screws of the separate plate (2 positions) and fixing plate (1 position), and then remove the heat exchanger. (3 shoulder screws) **NOTE** * Supporting with a hand, remove the heat exchanger so that it will not be fallen down. * Take note that you will not get hurt by touching to Aluminum fin. Be sure to put on the protective gloves and the safety working clothing. **2. Attachment** 1) Attach the heat exchanger as original with the separate plate and the fixing plate. 2) Slide the piping cover to the groove, fix it to the side plate, and then use the screws. (M 4 × 0.31" (8mm), 3 pcs.) 3) Perform wiring of the sensor and PMV lead wires as original. 4) Connect the refrigerant pipe as before and then apply vacuuming. 5) Following to the work in ⑦-2, attach the parts as original.	   

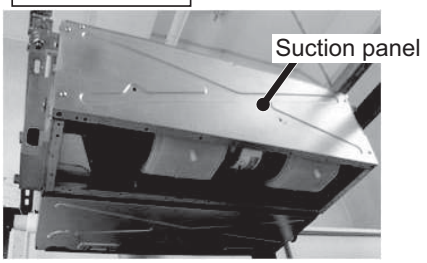
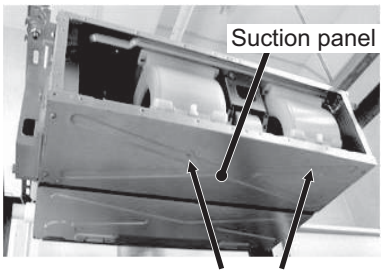
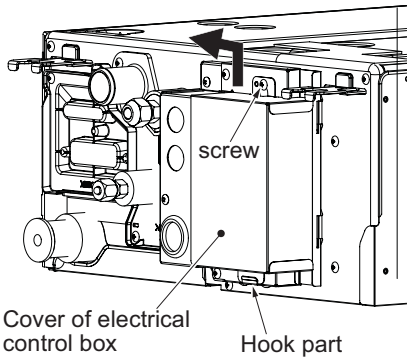
11-2. Slim Duct

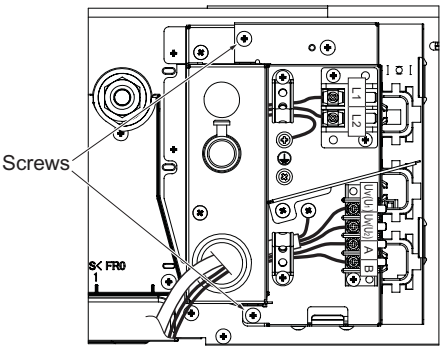
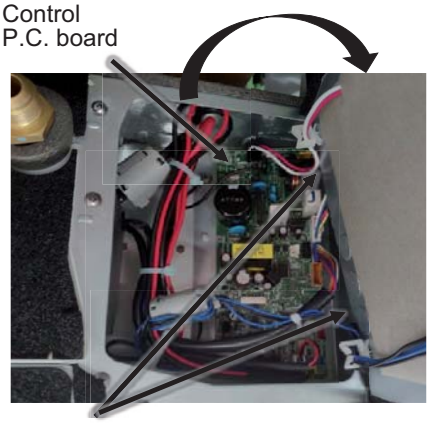
⚠ WARNING

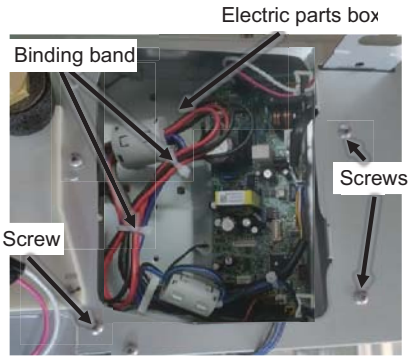
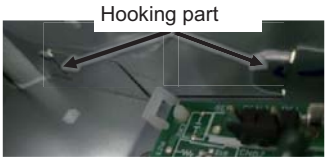
Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

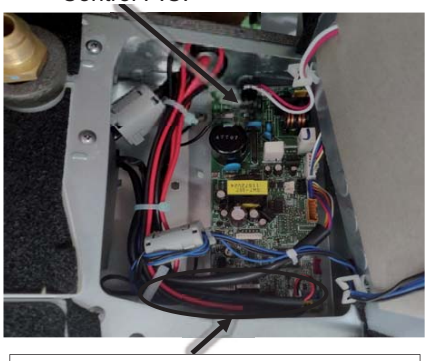
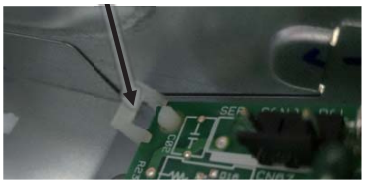
⚠ CAUTION

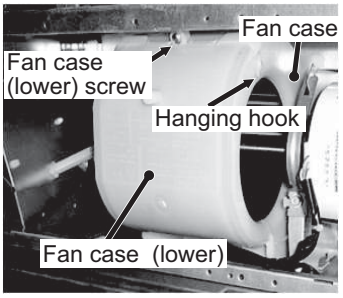
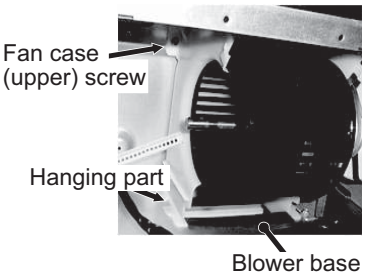
Be sure to put on gloves during working time; otherwise an injury will be caused by a part etc.

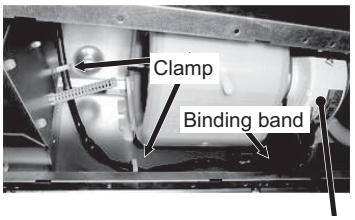
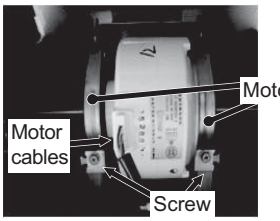
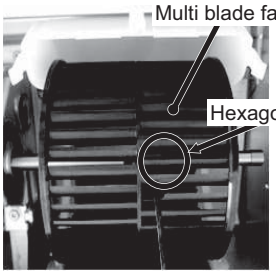
No.	Part name	Procedure	Remarks
①	Suction panel	**1. Detachment** 1) Holding the suction panel with your hand, remove the screws fixing the panel in place. (UP007~012: M4 × 0.39" (10mm) 7 pcs) (UP015~018: M4 × 0.39" (10mm) 9 pcs) **NOTE)** • Be careful that the suction panel doesn't fall while at work. • For the back air intake, remove the screws (2 locations) used to fix the fan case (lower) in place as well. **2. Attachment** 1) While holding the suction panel with your hand so that the panel does not fall off, tighten the screws that you removed in step 1-1) of "① Suction panel."	Under air intake  Back air intake 
②	Terminal cover	**1. Detachment** 1) Slightly loosen the screw holding the terminal cover in place. (M4 × 0.39" (10mm) 1 pcs) 2) Lifting the terminal cover upward, to detach the terminal cover. **2. Attachment** 1) Insert the claws on the down side of the terminal cover into the hook part. 2) Insert the cover in the gap between the terminal box and screw that you loosened in step 1-1) of "② Terminal cover" and tighten the screw to fix the cover in place.	

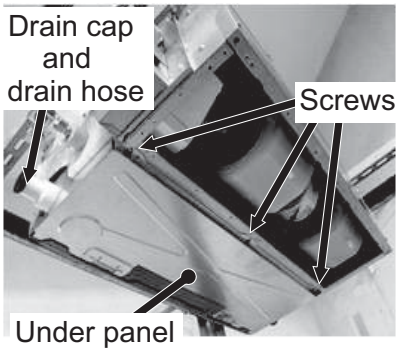
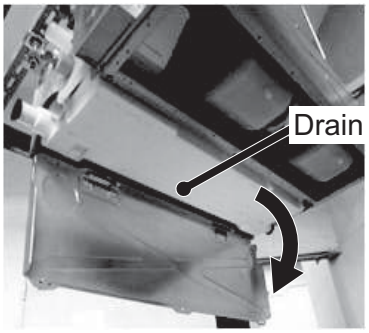
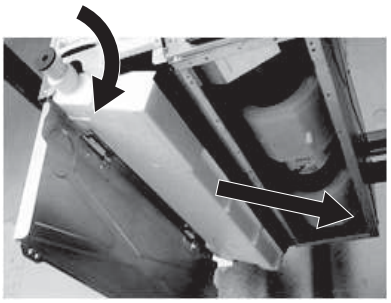
No.	Part name	Procedure	Remarks
③	Electric parts box cover	**1. Detachment** 1) Perform step 1 of "② Terminal cover" as required. (You may be able to perform this procedure without removing the electric parts box cover.) 2) Slightly loosen the screw holding the electric parts box cover in place. (M4 ×0.39" (10mm) 2 pcs) 3) Lifting the electric parts box cover upward, pull the left side of the cover toward you to open it. **NOTE** If it is difficult to open the electric parts box cover because of the power supply and communication cables connected to the cover, disconnect these cables and perform the procedure. 4) Disconnect the following connectors from the control P.C. board. **NOTE** Unlock the lock of the housing to disconnect the connectors. CN40 ... Indoor/Outdoor communication (2P: Blue) CN41 ... Remote control connector (2P: Blue) CN67 ... Power supply connector (5P/3P: Black) 5) Lift the electric parts box cover upward and pull the cover to the left toward you to detach it from the claws on the right side. **2. Attachment** 1) Insert the hooking plates of the main body into the hook holes on the right side of the electric parts box cover. 2) Reconnect the cables that you disconnected in step 1-4) of "③ Electric parts box cover." 3) Moving the electric parts box cover downward, close the electric parts box cover. Insert the cover in the gap between the box and screws that you loosened in step 1-2) of "③ Electric parts box cover" and use the screws to fix the cover into place.	 Control P.C. board  Hooking part

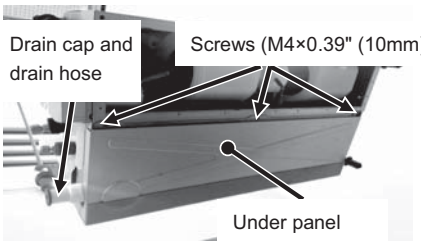
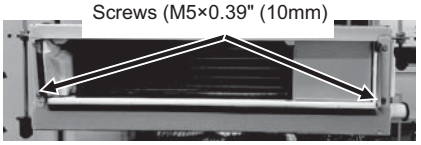
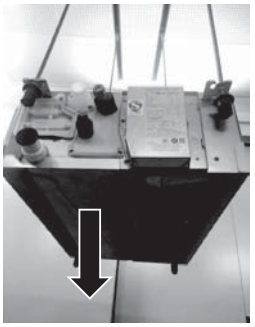
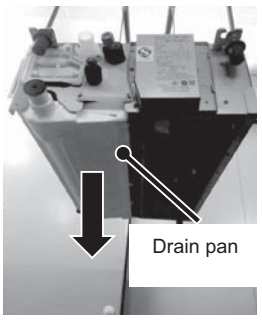
No.	Part name	Procedure	Remarks
④	Electric parts box	**1. Detachment** 1) For the back air intake, perform the procedure in 1 of "① Suction panel." 2) Perform the procedure in 1 of "③ Electric parts box cover." 3) Remove the binding bands and clamps inside the electric parts box. 4) Remove the screws that fix the electric parts box into place. (M4 × 0.39" (10mm) 3 pcs) The electric parts box will not fall off even when the screws are removed. 5) Move the electric parts box in the direction opposite to the air blow-off port side to disengage the hooking plates and then remove the electric parts box from the under air intake side. **2. Attachment** 1) Insert the hooking plates of the electric parts box into the hooking parts of the main body. 2) Carefully restore the electric parts box to its original state without getting the cables caught by the box. Fix the box using the screws that you removed in step 1-4) of "④ Electric parts box." **NOTE** • Make sure that the hooking plates are securely inserted into the hooking parts of the electric parts box. (Hooking plates: 2 locations) • Make sure to securely fix the clamps and binding bands of the cables that you disconnected.	 

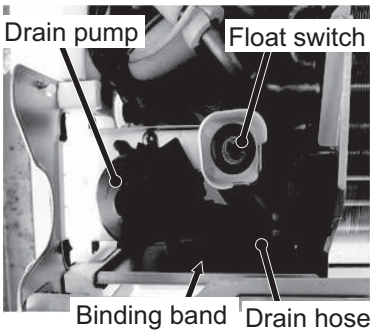
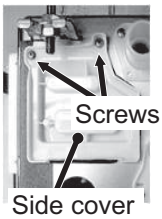
No.	Part name	Procedure	Remarks
⑤	Control P.C. board	**1. Detachment** 1) Perform the procedure in 1 of "③ Electric parts box cover." 2) Disconnect the connectors from other components from the control P.C. board. **NOTE** Unlock the lock of the housing to disconnect the connectors. CN40 ..... Indoor/Outdoor communication terminal block (2P: Blue) CN41 ..... Remote control connector (2P: Blue) CN67 ..... Power supply connector (5P/3P: Black) CN100 ... TC1 sensor (2P: Brown) CN101 ... TC2 sensor (2P: Black) CN102 ... TCJ sensor (2P: Red) CN104 ... TA sensor (2P: Yellow) CN210 ... Fan motor power supply (7P: White) CN82 ..... PMV lead (6P: Blue) **NOTE** The following two connectors are connected only to the control P.C. board of a model equipped with a drain pump. CN34 ..... Float switch (3P: Red) CN504 ... Drain pump lead (2P: White) 3) Unlock the card edge spacers (4 locations) to remove the control P.C. board. **2. Attachment** 1) Attach the control P.C. board to the clamps. 2) Reconnect the cables that you disconnected in step 1-2) of "⑤ Control P.C. board." **NOTE** Check there is no missing or contact failure on the connectors.	Control P.C.  If it is difficult to disconnect the bottom connector,first remove the card edge spacers (2 locations at bottom), and then proceed. Card edge spacer 

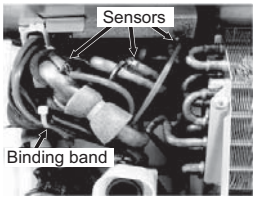
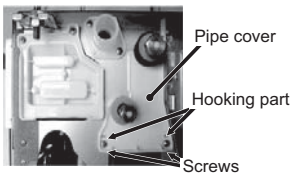
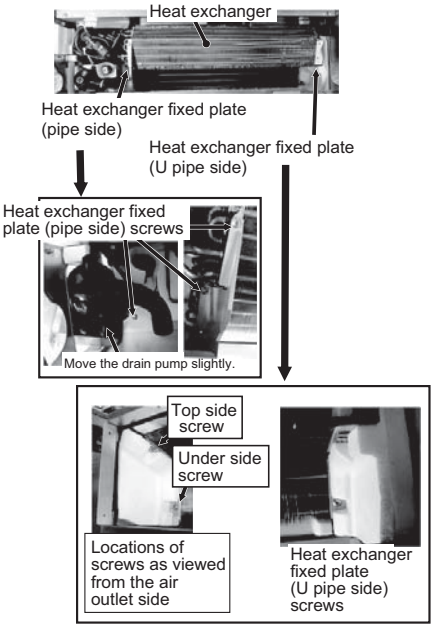
No.	Part name	Procedure	Remarks
⑥	Fan case (lower), Fan case (upper)	**1. Detachment** 1) For the back air intake, perform the procedure in 1 of "① Suction panel." 2) Remove the screw on the rear of the fan case (lower). (One M4 × 0.39" (10mm) screw for each fan case) 3) Disengage the hanging hooks on both sides of the fan case (lower) to remove the fan case (lower). 4) Remove the screws used to attach the fan case (upper). (Two M4 × 0.39" (10mm) left and right screws for each fan case) 5) Move the hooking plate of the fan case (upper), which is hooked to the blower base, downward to remove the fan case (upper). **2. Attachment** 1) Use the hooking plate to hook the fan case (upper) to the blower base to attach the fan case (upper). **NOTE** Make sure the fan case (upper) does not move even if you pull on it. 2) Use the screws that you removed in step 1-4) of "⑥ Fan case (lower/upper)" to attach the fan case (upper). 3) Insert the tip of the fan case (lower) into the blower base and use the hooking plate to attach the fan case. 4) Use the screws that you removed in step 1-2) of "⑥ Fan case	 

No.	Part name	Procedure	Remarks
⑦	Fan motor, Multi blade fan	**1. Detachment** 1) For the back air intake, perform the procedure in 1 of "① Suction panel." 2) Perform the procedure in steps 1-1), 1-2), 1-3) of "③ Electric parts box cover." 3) Disconnect the following connector of the control P.C. board. **NOTE** Unlock the lock of the housing to disconnect the connectors. CN210 ... Fan motor power supply (5P: White) 4) Detach the clamps and binding bands of the cable. 5) Perform the procedure in steps 1-2), 1-3) of "⑦ Fan case (lower/upper)." 6) Remove the screws of the motor bands. (M5 × 0.39" (10mm) 2 pcs) The motor band will not fall off even when the screws are removed. 7) Hold the motor bands with your hand so that they do not fall off, and remove the bands. 8) Loosen the hexagonal hole screw of the multi blade fan and remove the fan from the shaft. **2. Attachment** 1) Insert the fan motor shaft into the multi blade fan, and secure it loosely. With the shaft still loosely secured, assemble the fan motor, and secure it using the motor band. **NOTE** When assembling the fan motor, ensure that the motors cables are positioned on the left side facing the drain pan, and assemble the motor so that the motor cables are pointing straight down. 2) Align the position of the multi blade fan so that it is positioned at the center of the fan case (upper) and fix the fan using the hexagonal hole screw. **NOTE** • Arrange the multi blade fan so that screws position at the right side against the drain pan. • Fix multi blade fan with torque wrench 4.4 ft•lbs(4.9 N•m) or more. 3) Perform the procedure in steps 2-3) and 2-4) of "⑥ Fan case (lower/upper)" to attach the fan case (lower). 4) Reconnect the cables that you disconnected in steps 1-3) and 1-4) of "⑦ Fan motor, Multi blade fan". **NOTE** Check there is no missing or poor contact of the connectors. Finally check whether the multi blade fan turns surely and smoothly or not.	    (Drain pan side)

No.	Part name	Procedure	Remarks
⑧	Under panel, Drain pan (Form A)	**1. Detachment** 1) Take off the drain cap and drain the drain water accumulated in the drain pan. In case of natural drain model, drain the drain water by taking off hose band and drain hose. **NOTE** When taking off drain cap and drain hose, be sure receive drain water in a bucket, etc. 2) Slightly loosen the screw holding the under panel in place. (M4 x 0.39" (10mm) 3pcs) 3) Move the under panel toward the air intake side to hang the panel. 4) Pull out the drain pan. **NOTE** • When pulling out the drain pan, never pull out the drain socket by drawing it with hands. If doing so, water leak may be caused. • When pulling out the drain pan, some drain water may still be left in the pan so be absolutely sure to discard this water. 5) After pulling out the drain pan slightly, pull it out again toward the air intake side to detach the pan. **2. Attachment** 1) Hook the drain pan to the flange portion of the air intake side to attach the pan, and then push it in. 2) Hook the under panel on the screws that you untightened in step 1-2) of "⑧ Under panel, Drain pan" and tighten these screws. 3) Attach the drain cap and drain hose that you removed in step 1-1) of "⑧ Under panel, Drain pan." When you attach the drain cap and drain hose, be sure to insert them firmly into the base of the drain socket of the drain pan. **NOTE** Finally, be sure to check there is no water leakage from each attached part.	  

No.	Part name	Procedure	Remarks
⑧	Under panel, Drain pan (Form B)	**1. Detachment** 1) Tack off the drain cap and drain the drain water accumulated in the drain pan. In case off natural drain model, drain the drain water by taking off hose band and drain hose. **NOTE** When taking off drain cap and drain hose, be sure receive drian water in a bucket,ect. 2) Slightly loosen the screw holding the under panel in place and on both sides of outlet. (M4 × 0.39" (10mm) 3pcs; M5 × 0.39" (10mm) 2pcs) 3) Slowly remove the under panel 4) Pull out the drain pan. **NOTE** • When pulling out the drain pan.never pull out the drain socket by drawing it with hands. If doing so, water leak may be caused. • When pulling out the drain pan, some drain water may still be left in the pan so be absolutely sure to discard this water. 5) After pulling out the drain pan slightly, to detach the pan. **2. Attachment** 1) Align the drain panplate to the base of the drainage socket and push it into it. 2) Hook the under panel on the screws that you untightened in step 1-2) of "⑦ Under panel, Drian pan" and tighten these screws. 3) Attach the drain cap and darin hose that you removed in step1-1) of "⑦ Under panel, Drain pan." When you attach the drain cap and drain hose, be sure to insert them firmly into the base of the drain socket of the drain pan. **NOTE** Finally, be sure to check there is no water leakage from leakage from each attached part.	   

No.	Part name	Procedure	Remarks
⑨	Drain pump, Float switch, Drain hose * For only drain pump incorporated model	**1. Detachment** 1) Perform the procedure in steps 1-1), 1-2), 1-3) of "③ Electric parts box cover" and 1 of "⑧ Under panel, Drain pan." 2) Disconnect the following connectors and connected cables from the control P.C. board. **NOTE** Unlock the lock of the housing to disconnect the connectors. CN34 ..... Float switch (3P: Red) CN504 ... Drain pump lead (2P: White) 3) Detach the binding bands to disconnect the drain hose. 4) Detach the binding bands that bundle the drain pump and float switch cables and pull in the cables from the control P.C. board. 5) Remove the screws that fix the side cover. (M4 × 0.39" (10mm) 2 pcs) 6) Detach the side cover from the side plate and then rotate the cover. Next, pull out the drain pump and other drain pump kit components from the side. (The drain pump and other drain pump kit components are fixed to the side cover.) **NOTE** • If the pipes are damaged, refrigerant leak may be caused. Take out them with great care. • One of two methods can be used: Either pull out the drain pump from the side or remove the screws (3 locations) used to fix the drain pump in place from the bottom side, and take out the drain pump from the bottom side. • Please be careful to avoid damage to the foam part caused by the screws of drain pump kit. **2. Attachment** 1) Carefully insert the side cover (which fixes the drain pump and other drain pump kit components removed in step 1-5) of "⑨ Drain pump, Float switch, Drain hose") from the side, so that you do not damage the pipes. Then fix the side cover using the screws. 2) Insert the drain hose into the port of the drain pump and fix the hose using the binding bands. 3) Reconnect the cables and then perform the procedure in 2 of "⑧ Under panel, Drain pan." **NOTE** Finally check whether they correctly operate or not.	  

No.	Part name	Procedure	Remarks
⑩	Heat exchanger	**1. Detachment** 1) Recover refrigerant, and then remove refrigerant pipes at indoor unit side. 2) Perform the procedure in steps 1-1), 1-2), 1-3) of "③ Electric parts box cover" and 1 of "⑧ Under panel, Drain pan." 3) Disconnect the following connector of the control P.C. board. **NOTE** Unlock the lock of the housing to disconnect the connectors. CN82 ..... PMV (6P: White) 4) Remove the TC1, TC2, and TCJ sensors from the heat exchanger, and then detach the binding bands used for fixing cables, such as the sensor cables, PMV cable, and drain pump cable. 5) Remove the screws of the pipe cover. Next lift up the pipe cover and disengage the cover from the hooking parts to remove it. (M4 × 0.39" (10mm) 2 pcs) 6) Remove the screws of the side cover to which the drain pump is attached, and slightly pull out the side cover. (M4 × 0.39" (10mm) 2 pcs) 7) Remove the screws of the heat exchanger fixed plate (U pipe side), which are used for fixing the end plate of heat exchanger. (M4 × 0.39" (10mm) 2 pcs) 8) Remove the screws of the heat exchanger fixed plate (pipe side) and detach the plate (pipe side). (M4 × 0.39" (10mm) 3 pcs) **NOTE** • One screw (1 location) is concealed by the drain pump. Shift the drain pump slightly in order to remove the screw. • If it is difficult to remove the screws on the U pipe side, remove the under panel. • When removing the top side screw on the U pipe side, use a longish screwdriver as necessary. Also, when removing the upper side screw, use a shortish screwdriver. 9) Detach the heat exchanger. **2. Attachment** 1) Restore the components and cables to their original conditions and fix them in the following order: Sensors → Heat exchanger → Heat exchanger fixed plate (pipe side) → Heat exchanger fixed plate (Use the screws to fix the plate to the U pipe side.) → Pipe cover → Side cover → Drain pump → Under panel 2) Connect the refrigerant pipe as before, and then perform vacuuming.	  

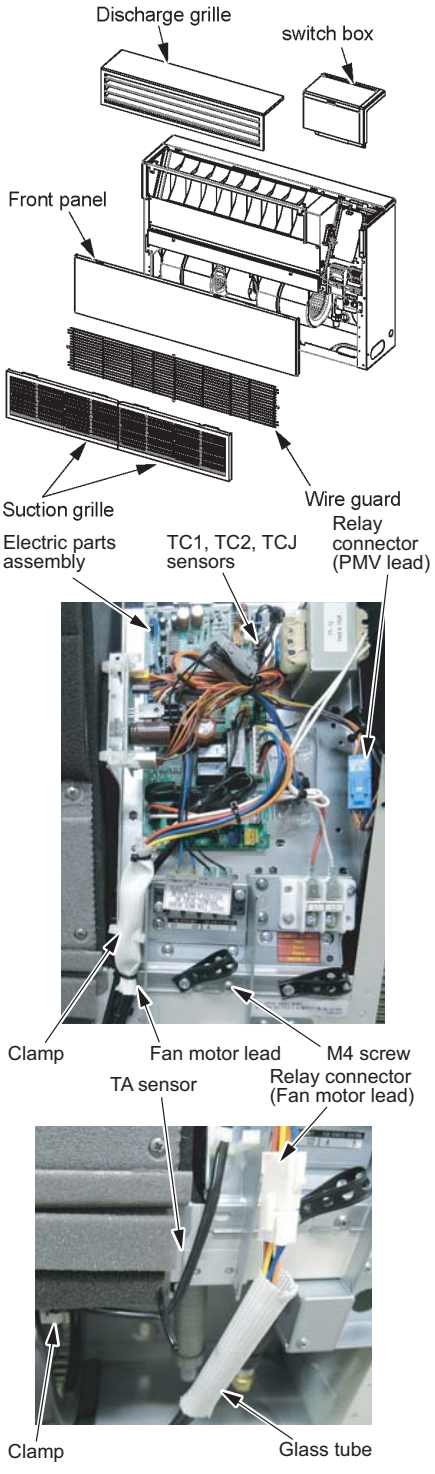
11-3. Floor Console Exposed

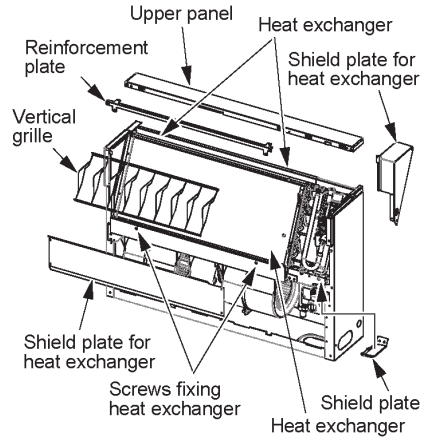
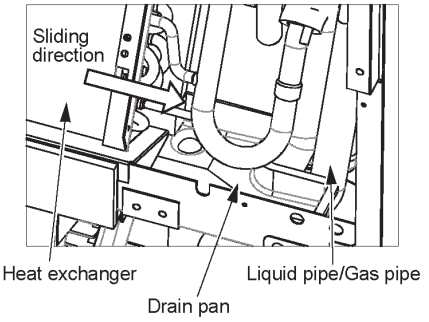
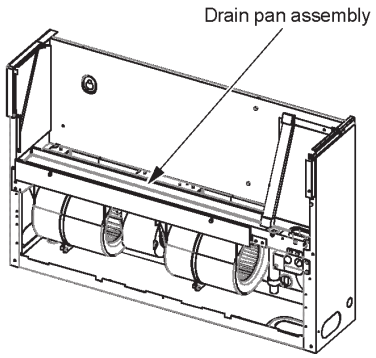
⚠ WARNING

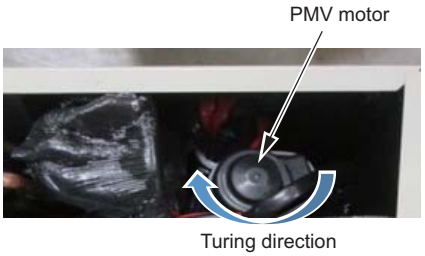
Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

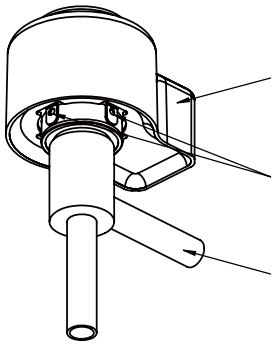
⚠ CAUTION

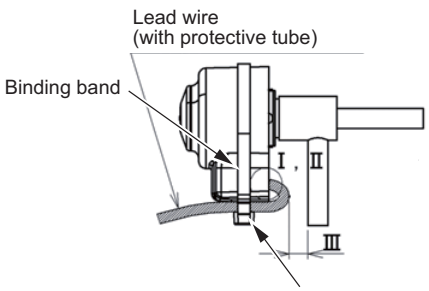
Be sure to put on gloves during working time; otherwise an injury will be caused by a part etc.

No.	Part name	Procedure	Remarks
①	Electric parts assembly	**1. Detachment** 1) Remove the suction grilles (2 pieces). (No screw fixing) 2) Remove the wire guard. (M4 screw: 4 pieces) 3) Remove the front panel. (M4 screw: 2 pieces) 4) Remove the discharge grille. (M4 x 0.8" (20mm): 2 pieces) 5) Remove the switch box. (M4 screw: 3 pieces) 6) Take off the fan motor lead from the clamp, slide the glass tube, and then remove the relay connector. 7) Take off the TA sensor from the clamp. 8) Take off the connectors of TC1, TC2, and TCJ sensors from P.C. board. CN100 ... TC1 (3P: Brown) CN101 ... TC2 (2P: Black) CN102 ... TCJ (2P: Red) * Unlock the lock of the housing part, and then remove the connectors. 9) Remove the relay connector of the PMV lead. 10) Remove body of the electric parts assembly. (M4 screw: 1 piece) **2. Attachment** Following step 1 of ① and 1) to 10), attach the parts as original in the reverse procedure.	

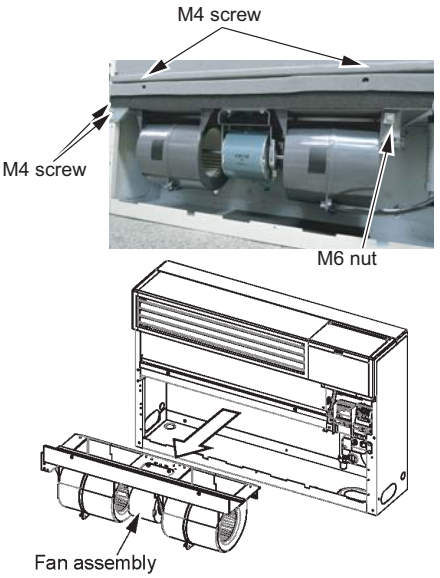
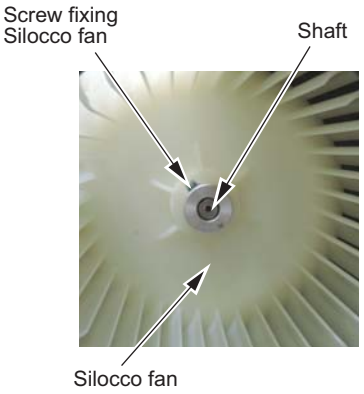
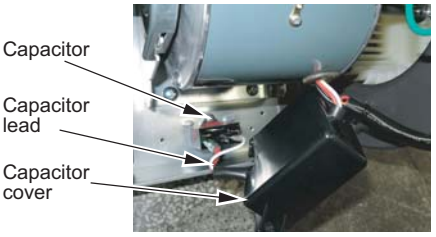
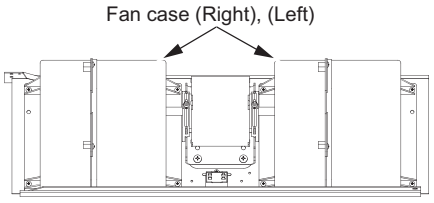
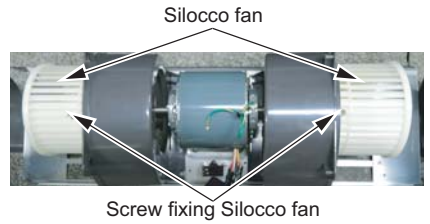
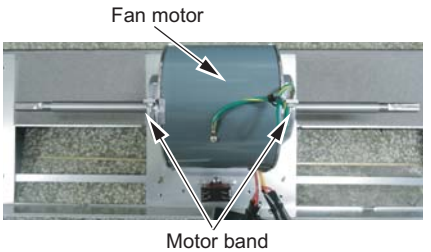
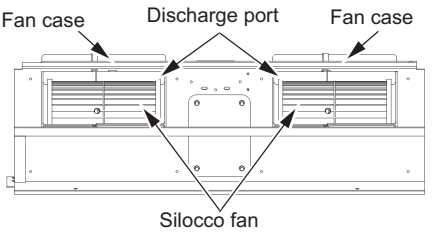
No.	Part name	Procedure	Remarks
②	Refrigerant cycle assembly	**1. Detachment** 1) Recover the refrigerant gas. 2) Take off the connecting pipe. (Liquid pipe and gas pipe) 3) Following to works 1 of , and 1) to 10), detach the parts. 4) Take off the reinforcement plate. (M4 screw: 2 pieces) 5) Remove the upper panel) (M4 screws: 4 pieces) 6) Remove the vertical grille. (M4 screws: 4 pieces) 7) Remove the shield plate for heat exchanger (Front). (M4 screws: 3 pieces) 8) Remove the shield plate for heat exchanger (Right). (M4 screws: 3 pieces) 9) Take off the screws which fix the heat exchanger. (M4 screws: 4 pieces) 10) Remove the shield plate. (M4 screws: 2 pieces) 11) Slide the heat exchanger horizontally, release liquid pipe, gas pipe from the drain pan, and then pull out it to the upper side. **2. Attachment** Following step 1 of ② and those in 1) to 11), attach the parts as original in the reverse procedure.	 
③	Drain pan assembly	**1. Detachment** 1) Following step 1 of ② and those in 1) to 11), detach the parts. 2) Remove the drain pan assembly. **2. Attachment** Following step 1 in ③ and those in 1) to 2), attach the parts as original in the reverse procedure.	

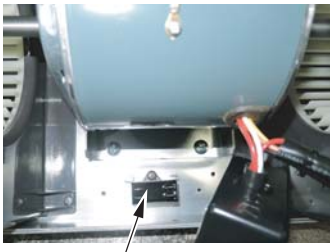
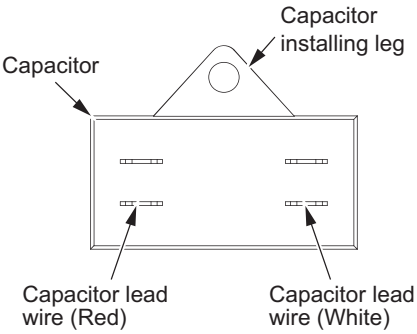
No.	Part name	Procedure	Remarks
④	PMV coil	**1. Detachment** 1) Following step 1 of ② and those in 3) to 5), detach the parts. 2) Remove the PMV connector : CN082 (6P Blue) from the P.C.board. 3) Turn the PMV coil slightly clockwise while holding the PMV body so that the body does not turn, and remove the PMV coil in the arrow direction. **2. Attachment** 1) Attach the PMV coil as before and check it does not move. **NOTE** Check the direction of the PMV coil. Check the claw holes in the PMV coil are securely placed into four claws on the PMV body. Check the position of the lock part on the binding band fixing the lead wires. 2) Attach the PMV connector : CN082 (6P Blue) 3) Following step 1 of ④ and 1), attach the parts as original in the reverse procedure.	 





Caution when fixing the lead wire with the binding band.
Ⅰ. Do not apply tension to the drawing part on the coil lead wire.
Ⅱ. Insert the protective tube up to the root of drawing part on the lead wire.
Ⅲ. Ensure that the PMV pipe does not come to contact with the protective tube.

No.	Part name	Procedure	Remarks
⑤	Fan assembly	**1. Detachment** 1) Following step 1 of ① , 1) to 3), 6)and 7), detach the parts. 2) Take off the nut which fixes the fan assembly. (M6 nut: 1 position) 3) Draw out the fan assembly toward you. (M4 screws: 4 pieces) **2. Attachment** Following step 1 of ⑤ , and 1) to 3), attach the parts as original in the reverse procedure.	
⑥	Fan motor	**1. Detachment** 1) Following step 1 of ④ and 1) to 3), detach the parts. 2) Take off the capacitor lead from the capacitor. (M4 screws: 2 pieces) 3) Take off the screws at (right) and (left) of the fan case. (M4 screws: 8 pieces, M4 x 0.47" (12mm): 4 pieces) 4) Remove the fan case at the outside. 5) Loosen screws of the Silocco fan to remove the Silocco fan. 6) Loosen the fixing screws of the fan motor, and then remove the fan motor. (M4 x 0.47" (12mm): 2 pieces) **2. Attachment** Following step 1 of ⑥ and 1) to 5), attach the parts as original in the reverse procedure. * When attaching the Silocco fan, meet the fixing screw for Silocco fan to the notch position on the shaft of the fan motor. * After fixing the fan case, adjust the position of Silocco fan at the center of the fan case from side of the discharge port so that the Silocco fan does not hit to the fan case. * For the tightening torque of the screw fixing the Silocco fan, control between 3.7 to 3.8 ft•lbs (5.0 to 5.2 N•m). 	    

No.	Part name	Procedure	Remarks
⑦	Capacitor	**1. Detachment** 1) Following step 1 of ⑤ and 1) to 2), detach the parts. 2) Remove the capacitor. (M4 screw: 1 position) **2. Attachment** Following step 1 of ⑥ , and 1) to 3), attach the parts as original in the reverse procedure. *Be sure to connect the capacitor lead to the specified position of the capacitor.	 Capacitor  Connecting position of capacitor lead

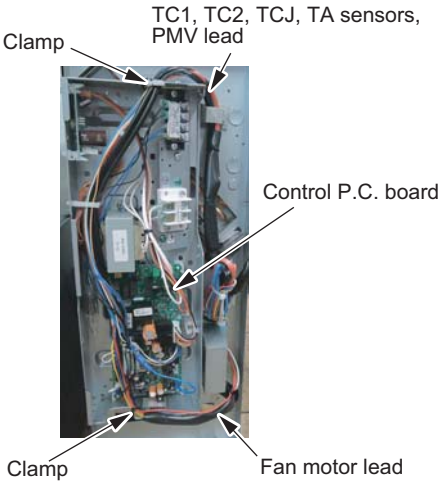
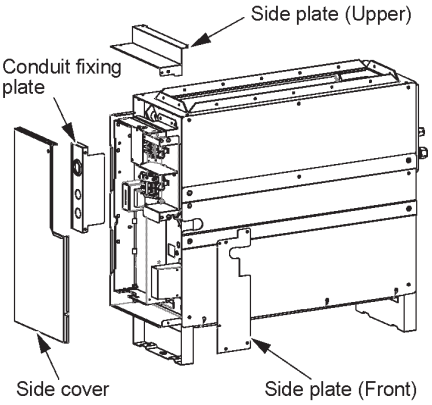
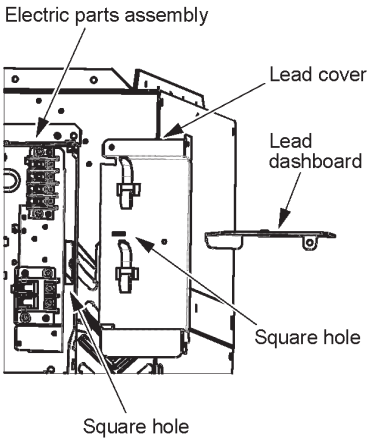
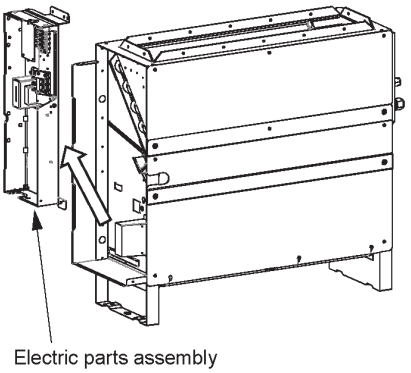
11-4. Floor Console Recessed

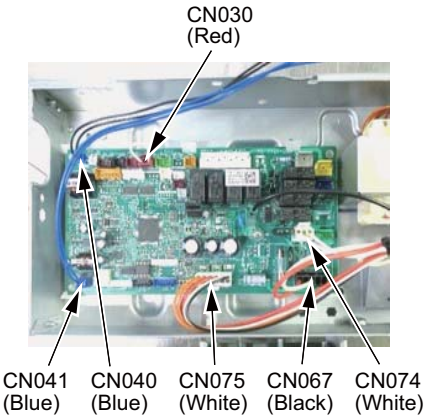
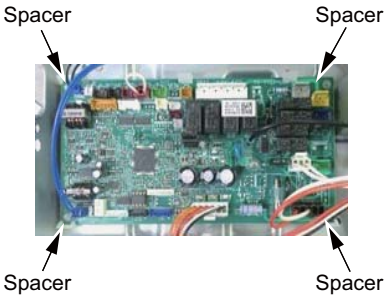
⚠ WARNING

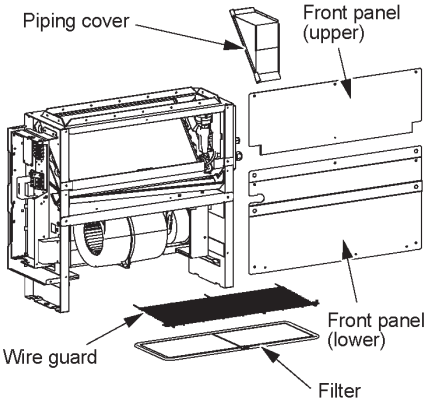
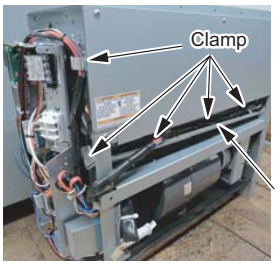
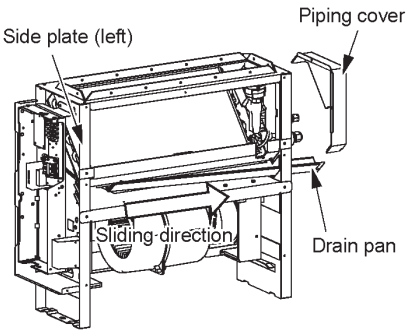
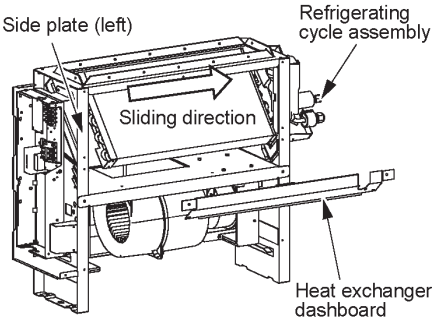
Be sure to stop operation of the air conditioner before work and then turn off switch of the breaker.

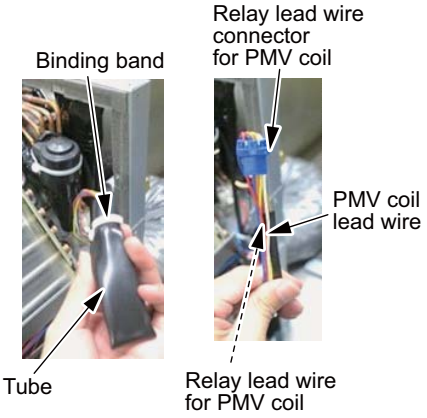
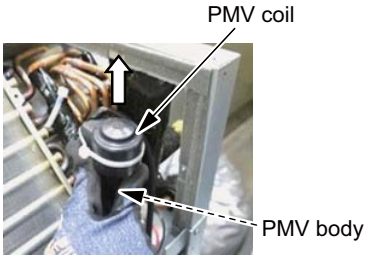
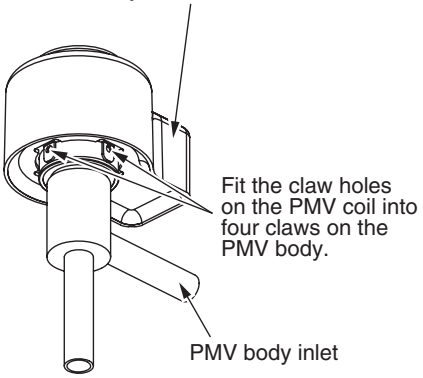
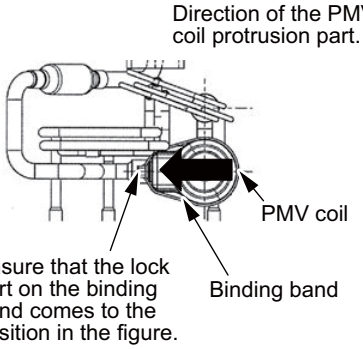
⚠ CAUTION

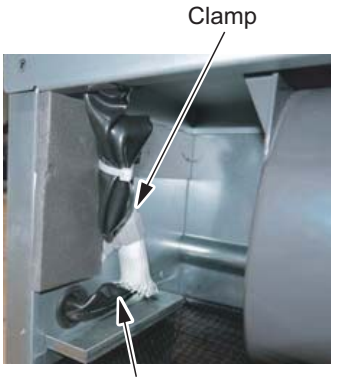
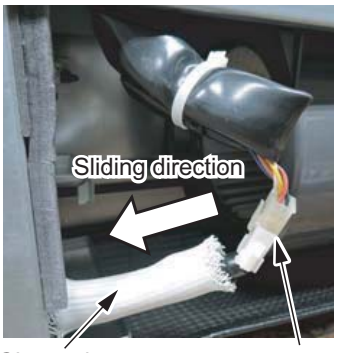
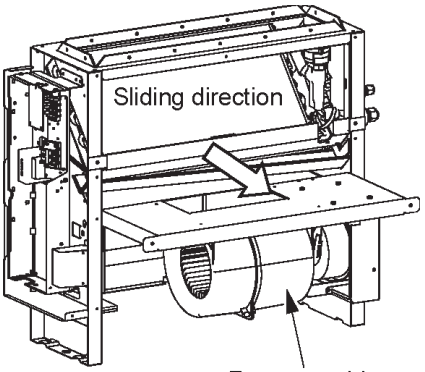
Be sure to put on gloves during working time; otherwise an injury will be caused by a part etc.

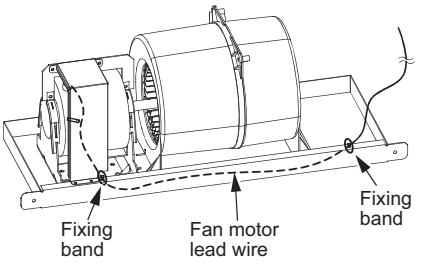
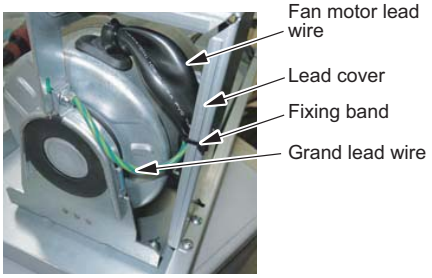
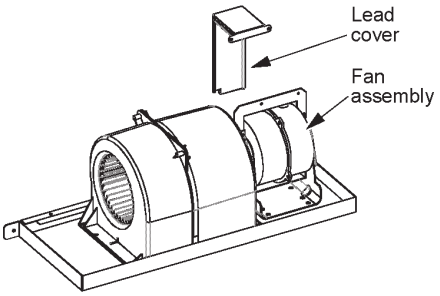
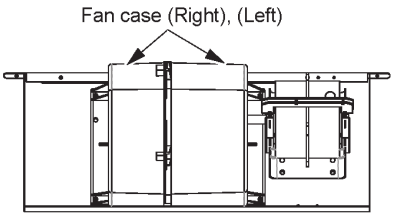
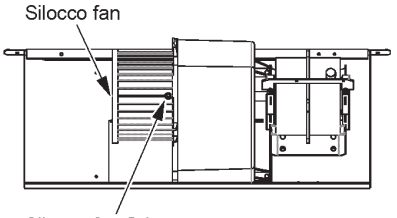
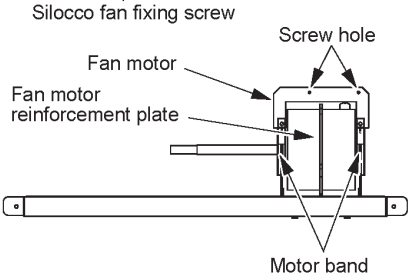
No.	Part name	Procedure	Remarks
①	Electric parts assembly	**1. Detachment** 1) Remove the side cover. (M4 screws: 2 pieces) 2) Remove conduit fixing plate. (M4 screws: 2 pieces) 3) Remove the side plate (Front). (M4 screws: 4 pieces) 4) Remove the side plate (Upper). (M4 screws: 4 pieces) 5) Remove the dashboard of lead. (M4 screw: 1 piece) 6) Remove the lead cover. (No screw fixing) 7) Remove connecting connectors (TC1, TC2, TCJ, TA sensor, PMV lead) of the control P.C. board. Take of the lead wire from the clamp of the electric parts box. CN100 ... TC1 (3P; Brown) CN101 ... TC2 (2P; Black) CN102 ... TCJ (2P; Red) CN104 ... TA (2P; Orange) CN210 ... Fan motor (7P; White) CN104 ... PMV (6P; Blue) * Remove the connectors by unlocking the locks of the housing part. 8) Take off the fixing screws of the electric parts assembly fixing screws, slide the electric parts assembly toward upper side, and then remove it. (M4 screws: 2 pieces) **2. Attachment** Following to the works in 1 of and 1) to 8), attach the parts as original in the reverse procedure. * Attach the lead cover by inserting the pawls of the piping covers into the square holes of the electric parts assembly. * Attach the lead dashboard also by inserting the pawls of the lead covers into the square holes of the lead cover.  	  

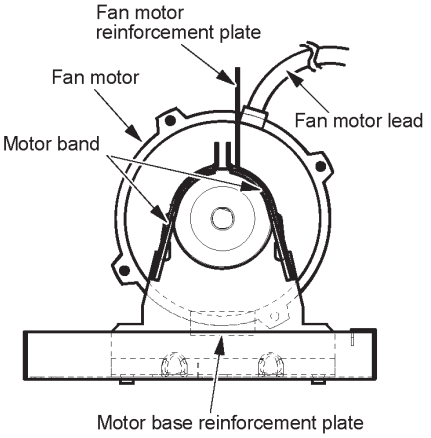
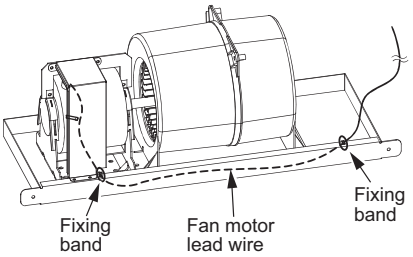
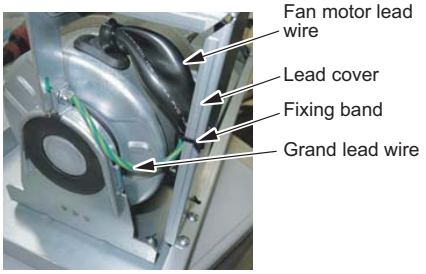
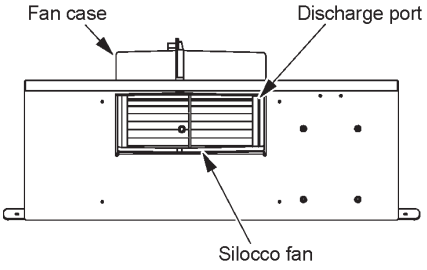
No.	Part name	Procedure	Remarks
②	Control P.C.board	**1. Detachment** 1) Remove the electric parts cover. 2) Remove following connectors from the control P.C. board. * Remove the connectors by unlocking the locks of the housing part. CN030 ... Short-circuit pin (3P: Red) CN041 ... Terminal block for controller (2P: Blue) CN040 ... Terminal block for communication wire between indoor and outdoor unit (2P:Blue) CN030 ... Terminal block for power supply (5P: Black) CN074 ... Power supply trance (3P: White) CN075 ... Power supply trance (6P: White) 3) Remove locks for spacers (4 pcs) fixing the control P.C. board to remove the control P.C. board. **2. Attachment** 1) Attach the control P.C.board into the control P.C board as original and connect each connector 2) Attach the electric parts cover.	 

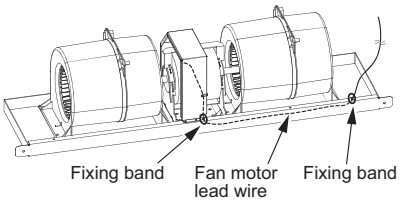
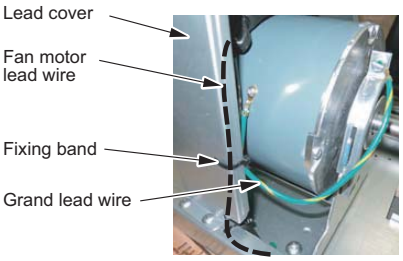
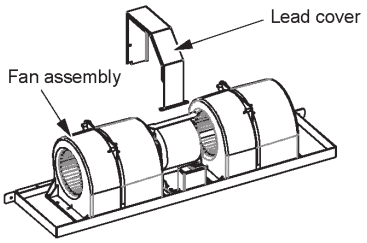
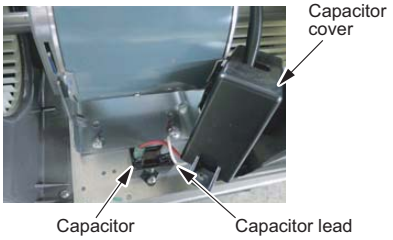
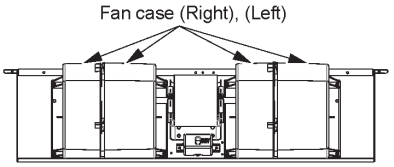
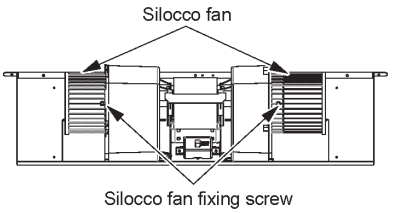
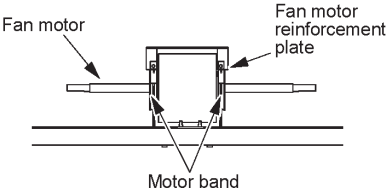
No.	Part name	Procedure	Remarks
③	Refrigerating cycle assembly	**1. Detachment** 1) Recover the refrigerating gas. 2) Remove the connecting pipes. (Liquid pipe and gas pipe) 3) Following to works in 1 of ① and 1) to 7), detach the parts. 4) Remove the filter. (No screw fixing) 5) Remove the wire guard. (M4 screw UP007 to 009 : 3 pieces, and UP012 to 024 : 4 pieces) 6) Remove the front panel (lower). (M4 screw UP007 to 009 : 3 pieces, and UP012 to 024 : 4 pieces) 7) Remove the front panel (upper). (M4 screw UP007 to 009 : 3 pieces, and UP012 to 024 : 4 pieces) 8) Remove the piping cover (Left). (M4 screw: 2 pieces) 9) Remove the sensor lead and the PMV lead from the clamp. 10) Remove the piping cover (Right). (M4 screw: 3 pieces) 11) Take off the screws which fix the drain pan, slide it toward right, remove the drain pan from the side plate (Left), and then draw it toward you. 12) Remove the dashboard of the heat exchanger. (M4 screw: 4 pieces) 13) Slide the heat exchanger toward right, remove the end plate of the heat exchanger from the side plate (left), and then draw away the refrigerating cycle assembly toward you. **2. Attachment** Following to the works in 1 of ③ , and 1) to 13), attach the parts as original in the reverse procedure.	   

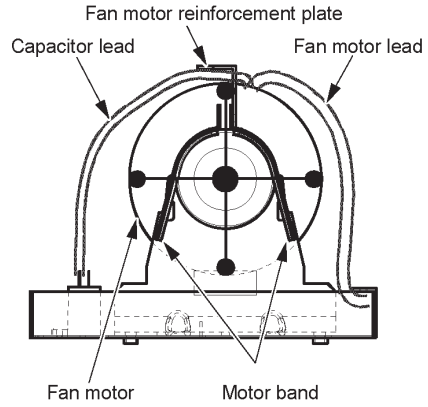
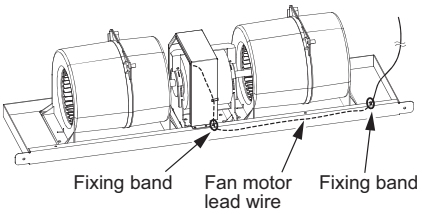
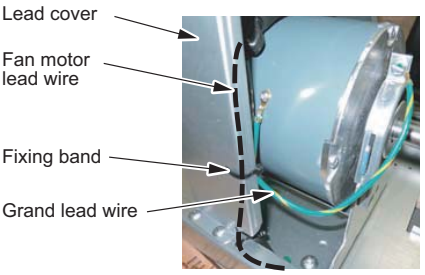
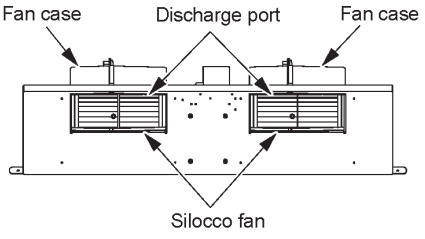
No.	Part name	Procedure	Remarks
④	PMV coil	**1. Detachment** 1) Following to works of 1 of ③ and 1) to 9), detach the parts 2) Cut the binding band to remove the tube on the relay connector for the PMV lead wire. 3) Remove the relay lead wire for PMV. 4) Turn the PMV coil slightly while holding the PMV body so that the body does not turn, and remove the PMV coil in the arrow direction. **2. Attachment** 1) Attach the PMV coil as before **NOTE** • Check the direction of the PMV coil. • Check the PMV coil protrusion part points to the PMV body inlet. • Check the claw holes in the PMV coil are securely placed into four claws on the PMV body. 2) Connect relay lead wire for PMV to lead wire for PMV coli. 3) Wrap the connector of relay lead wire for PMV with the protective tube and fix them with the binding band. **NOTE** Ensure that the connection part is placed at the bending part on the protective tube. 4) Following to works of 1 of ③ and 1) to 9), attach the parts as original in the reverse procedure.	  Remove the PMV coil while holding the PMV body so that the pipe does not deform. <Installing PMV coil> Attach the PMV coil to the PMV body so that the PMV coil protrusion part points to the PMV body inlet.  

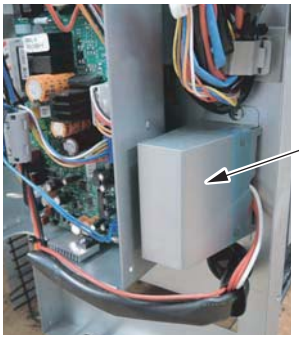
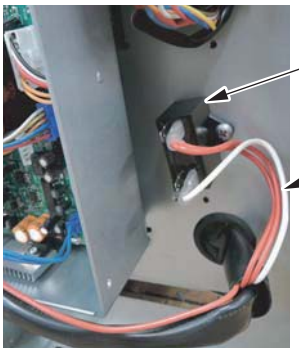
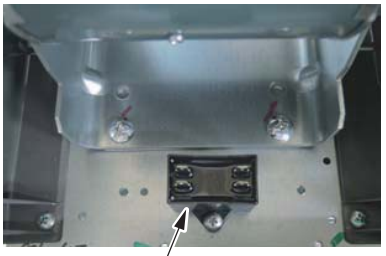
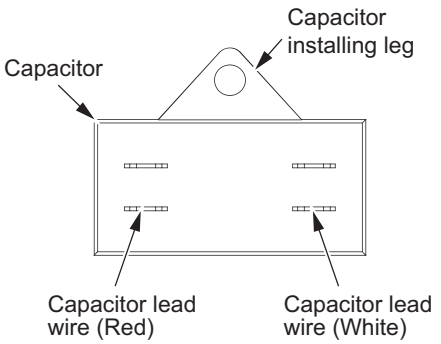
No.	Part name	Procedure	Remarks
⑤	Fan assembly	**1. Detachment** 1) Following to the works in 1 of ③ of 1) and 3) to 6), detach the parts. 2) Remove the fan motor lead from the clamp. 3) Slide the glass tube fixing the fan motor lead and remove the connector. 4) Take off the fixing screws of the fan assembly and draw the fan assembly toward you. (M4 screw: 2 pieces) **2. Attachment** Following to the works in 1 of ⑤ , and 1) to 3), attach the parts as original in the reverse procedure.	  

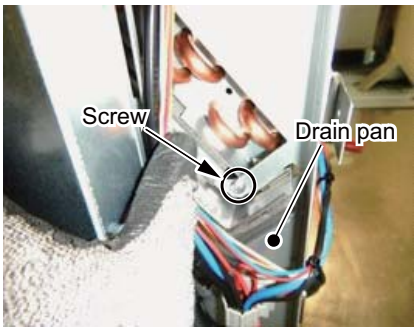
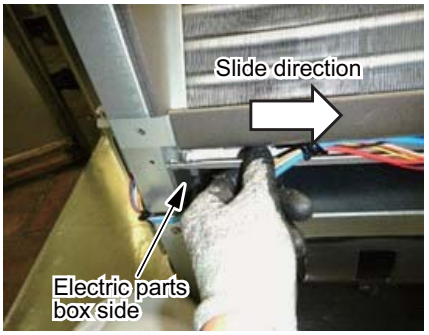
No.	Part name	Procedure	Remarks
⑥	Fan motor	**[UP007 to 012]** **1. Detachment** 1) Following to works of 1 of ⑤ and 1) to 3), detach the parts. 2) Cut off the fixing band which fixes the fan motor lead. (Two positions) 3) Cut off the fixing band fixes the lead cover and the fan motor lead, and then remove the lead cover from the fan assembly. (M4 screws: 4 pieces) 4) Take off the screws at (right) and (left) of the fan case. (M4 screws: 4 pieces, M4 x 0.47" (12mm): 2 pieces) 5) Remove the fan case at the outside. 6) Loosen screws of the Silocco fan to remove the Silocco fan. 7) Loosen the fixing screws of the fan motor, and then remove the fan motor. (M4 x 0.47" (12mm): 2 pieces)	     

No.	Part name	Procedure	Remarks
⑥	Fan motor (Continued)	**2. Attachment** Following to works of 1 of ⑥ and 1) to 5), attach the parts as original in the reverse procedure. * When attaching the fan motor, be sure that the fan motor does not hit the motor base reinforcement plate. * When attaching the fan motor reinforcement plate, be sure that the fan motor reinforcement plate is not caught in the motor band. * Do wiring the fan motor lead to inside of the dashboard as original, and then fix it to the dash-board with the fixing band. * After attaching the lead cover, gather the fan motor lead and the earth lead and then fix them to the lead cover with the fixing band. * When attaching the fan motor reinforcement plate, be careful to the screw hole position of the fan motor reinforcement plate. * When attaching the Silocco fan, meet the fixing screw for Silocco fan to the notch position on the shaft of the fan motor. * After fixing the fan case, adjust the position of Silocco fan at the center of the fan case from side of the discharge port so that the Silocco fan does not hit to the fan case. * For the tightening torque of the screw fixing the Silocco fan, control between 3.7 to 3.8 ft•lbs (5.0 to 5.2 N•m).	    

No.	Part name	Procedure	Remarks
⑥	Fan motor (Continued)	**[UP015 to 024]** **1. Detachment** 1) Following to works of 1 of ⑤ and 1) to 3), detach the parts. 2) Cut off the fixing band which fixes the fan motor lead. (Two positions) 3) Cut off the fixing band fixes the lead cover and the fan motor lead, and then remove the lead cover from the fan assembly. (M4 screws: 4 pieces) 4) Remove the capacitor cover from the fan assembly and remove the capacitor lead wire from the capacitor. 5) Take off the screws at (right) and (left) of the fan case. (M4 screws: 8 pieces, M4 x 0.47" (12mm): 4 pieces) 6) Remove the fan case at the outside. 7) Loosen screws of the Silocco fan to remove the Silocco fan. 8) Loosen the fixing screws of the fan motor, and then remove the fan motor. (M4 x 0.47" (12mm): 2 pieces)	      

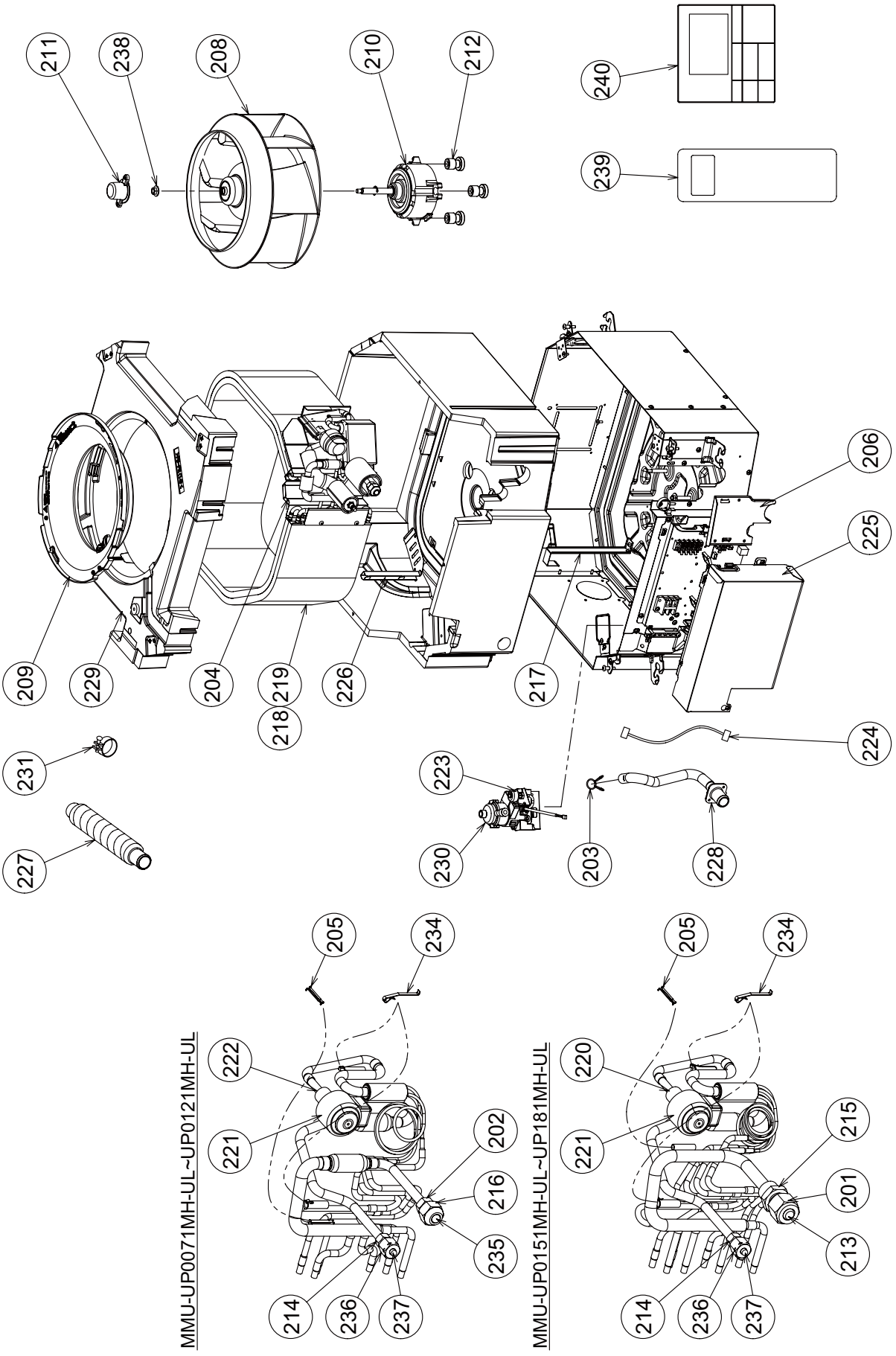
No.	Part name	Procedure	Remarks
⑥	Fan motor (Continued)	**2. Attachment** Following to works of 1 of ⑥ and 1) to 8), attach the parts as original in the reverse procedure. * When attaching the fan motor reinforcement plate, be sure that the fan motor reinforcement plate is not caught in the motor band. * When attaching the fan motor reinforcement plate, be careful to the direction of the fan motor reinforcement plate. * When attaching the Silocco fan, meet the fixing screw for Silocco fan to the notch position on the shaft of the fan motor. * After fixing the fan case, adjust the position of Silocco fan at the center of the fan case from side of the discharge port so that the Silocco fan does not hit to the fan case. * For the tightening torque of the screw fixing the Silocco fan, control between 3.7 to 3.8 ft•lbs (5.0 to 5.2 N•m).	    

No.	Part name	Procedure	Remarks
⑦	Capacitor	**[UP007 to 012]** **1. Detachment** 1) Following to ,1 of ①, and 1) to 3), detach the parts. 2) Remove the capacitor cover and remove the capacitor lead from the capacitor. (M4 screw: 2 pieces) 3) Remove the capacitor. (M4 screw: 1 position) **2. Attachment** Following to 1 of ⑦, and 1) to 3), attach the parts as original in the reverse procedure.	 
		[UP015 to 024] **1. Detachment** 1) Following to ,1 of ①, and 1) to 3), detach the parts. (M4 screw: 2 pieces) 2) Remove the capacitor. (M4 screw: 1 position) **2. Attachment** Following to 1 of ⑦, and 1) to 2), attach the parts as original in the reverse procedure. **[UP007 to 024]** * Be sure to connect the capacitor lead to the specified position of the capacitor.	  Connecting position of capacitor lead

No.	Part name	Procedure	Remarks
⑧	Drain pan	**1. Detachment** 1) Remove the front panel (lower) and electric parts assembly. Refer to the works of 1 of ③ and 6), and the work of 1 of ①. 2) Remove the screws fixing the drain pan. 3) Slide the drain pan in the direction of piping side to remove it. **2. Attachment** 1) Attach the drain pan as original and tighten it with screws. 2) Attach the front panel (lower) and electric parts assembly. Refer to the works of 2 of ③ and 6), and the work of 2 of ①.	 Electric parts box side 

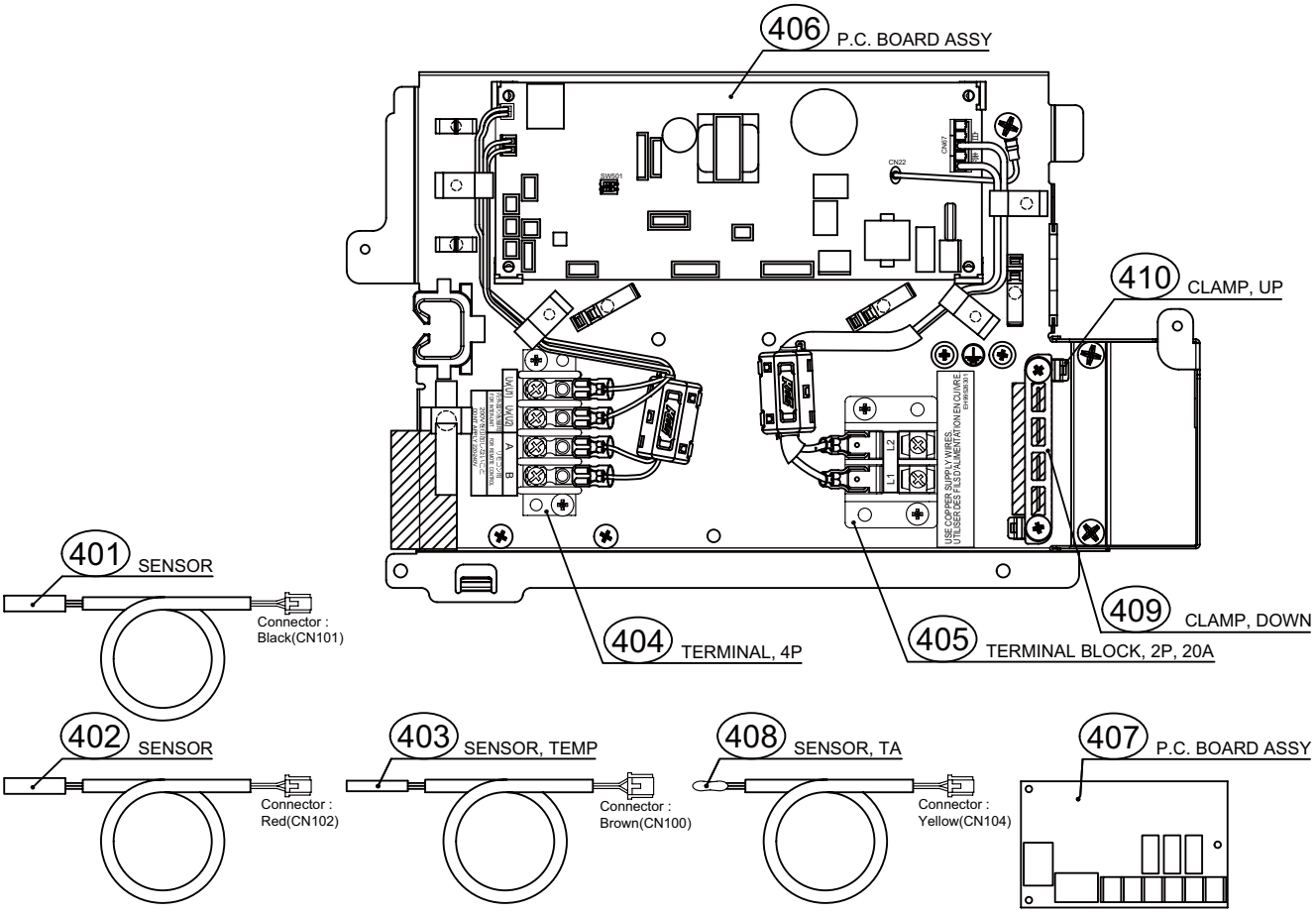
12. EXPLODED VIEWS AND PARTS LIST

12-1. Compact 4-way Cassette



Location No.	Part No.	Description	Q'ty/Set		MMU-UP***1MH-UL		
			007	009	012	015	018
201	43149501	NUT, FLARE, 1/2, IN				1	1
202	43149498	SOCKET, 3/8, IN	1	1	1		
203	43079249	BAND, HOSE	1	1	1	1	1
204	43104248	PLATE ASSY, PARTITION	1	1	1	1	1
205	43107215	HOLDER, SENSOR	1	1	1	1	1
206	43119542	COVER, PIPE	1	1	1	1	1
208	43120299	FAN, ASSY TURBO	1	1	1	1	1
209	43122165	BELL MOUTH	1	1	1	1	1
210	4312C217	MOTOR, FAN, ICF-340D60-1(N)(A)	1	1	1	1	1
211	43139166	CAP, NUT	1	1	1	1	1
212	43139187	RUBBER, CUSHION	3	3	3	3	3
213	43147195	BONNET, 1/2 IN				1	1
214	43149497	SOCKET, 1/4, IN	1	1	1	1	1
215	43149494	SOCKET, 1/2, IN				1	1
216	43149500	NUT, FLARE, 3/8, IN	1	1	1		
217	43149533	BAND, FIX, EVAPORATOR	1	1	1	1	1
218	4314J688	REFRIGERATION CYCLE ASSY				1	1
219	4314J687	REFRIGERATION CYCLE ASSY	1	1	1		
220	4314N202	BODY, PMV, PAM-B40YGTF-1				1	1
221	4314N205	COIL, PMV, PAM-MD12TF-301	1	1	1	1	1
222	4314N250	BODY, PMV, PAM-B25YGTF-2	1	1	1		
223	43151323	SWITCH, FLOAT	1	1	1	1	1
224	43160749	LEAD, RELAY	1	1	1	1	1
225	43162109	COVER, E-BOX	1	1	1	1	1
226	43163052	HOLDER, LEAD, FAN MOTOR	1	1	1	1	1
227	43170276	HOSE, DRAIN	1	1	1	1	1
228	43170277	HOSE, DRAIN	1	1	1	1	1
229	43172259	PAN ASSY, DRAIN	1	1	1	1	1
230	43177029	PUMP, DRAIN	1	1	1	1	1
231	43179170	BAND, HOSE	2	2	2	2	2
234	43F19904	HOLDER, SENSOR (TS)	2	2	2	2	2
235	43F47609	BONNET, 3/8, IN	1	1	1		
236	43149499	NUT, FLARE, 1/4, IN	1	1	1	1	1
237	43F49697	BONNET, 1/4, IN	1	1	1	1	1
238	43F97212	NUT	1	1	1	1	1
239	43166051	REMOTE CONTROLLER, WIRELESS	1	1	1	1	1
240	43166050	REMOTE CONTROLLER, WIRED, RBC-AWSU52-UL	1	1	1	1	1

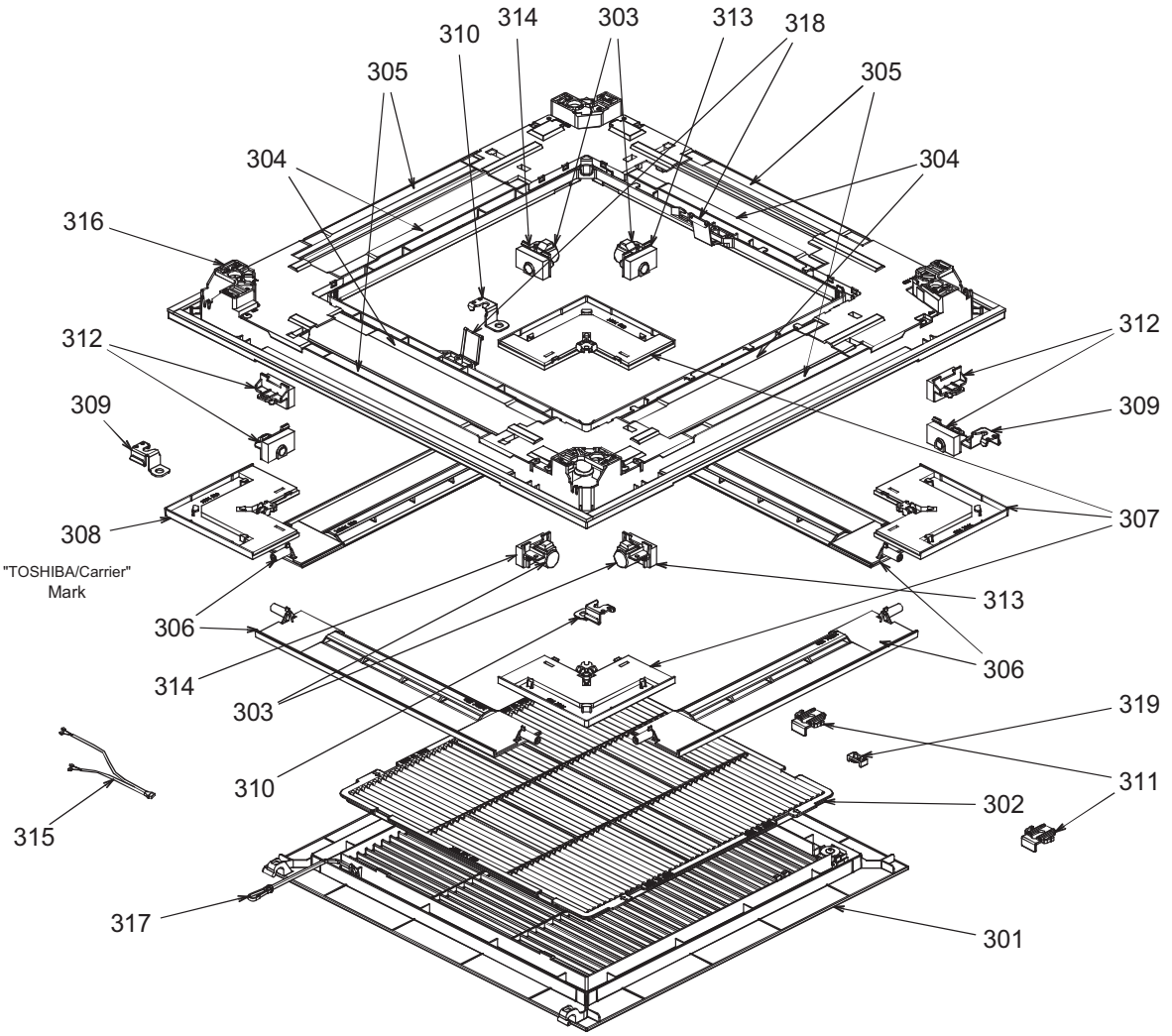
Electric Parts



Location No.	Part No.	Description	Q'ty/Set MMU-UP***1MH-UL
401	43150394	SENSOR, TC2	1
402	43150395	SENSOR, TCJ	1
403	43150417	SENSOR, TC1	1
404	43160694	TERMINAL, 4P	1
405	43160626	TERMINAL BLOCK, 2P, 20A	1
406	4316W056	P.C. BOARD ASSY, MCC-1643	1
407	43459017	P.C. BOARD ASSY, TCB-PCUC*E (OP)	1
408	43150423	SENSOR, TA	1
409	43163057	CLAMP, DOWN	1
410	43163058	CLAMP, UP	1

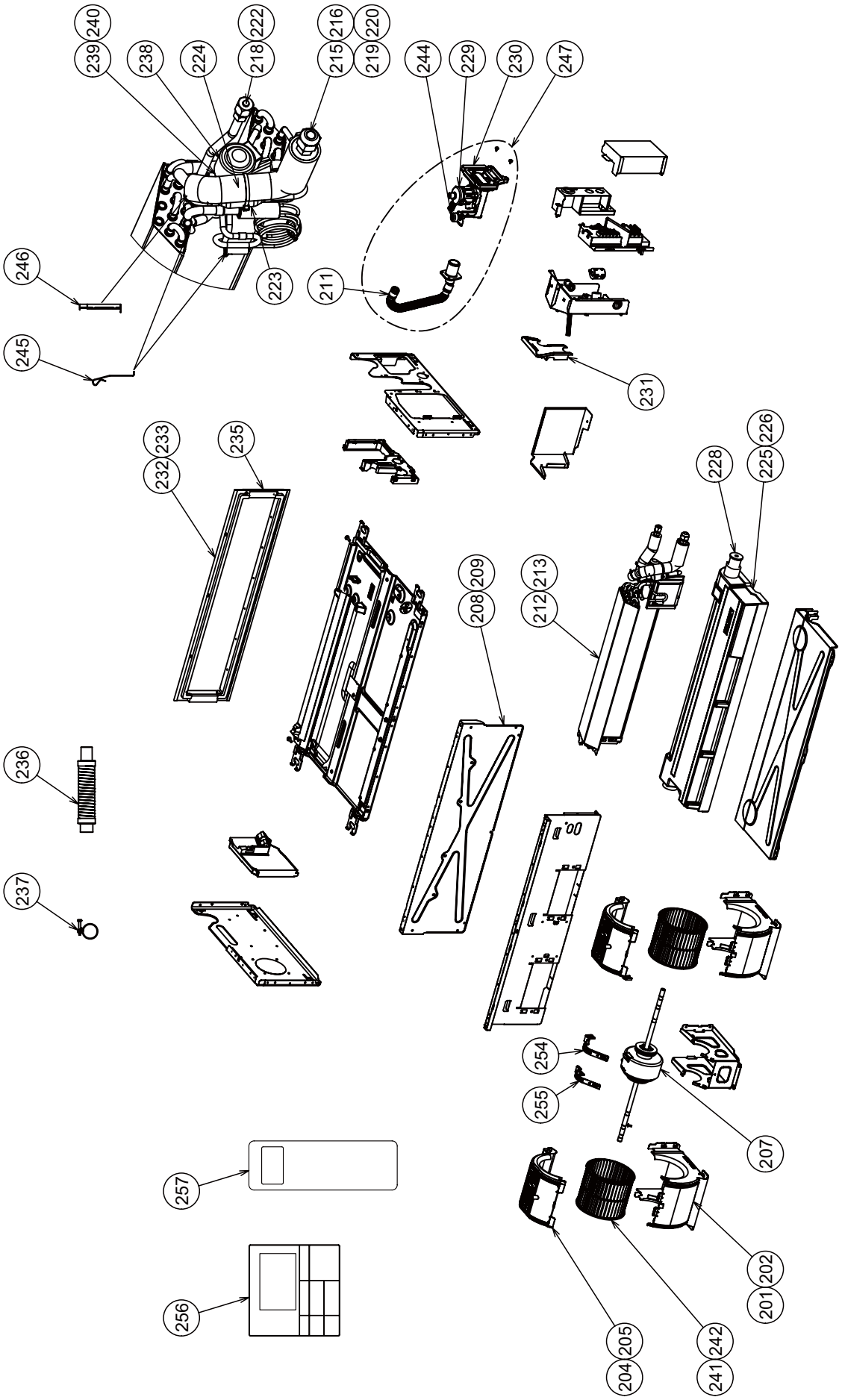
◆ Ceiling panel

RBC-UM21PG-UL



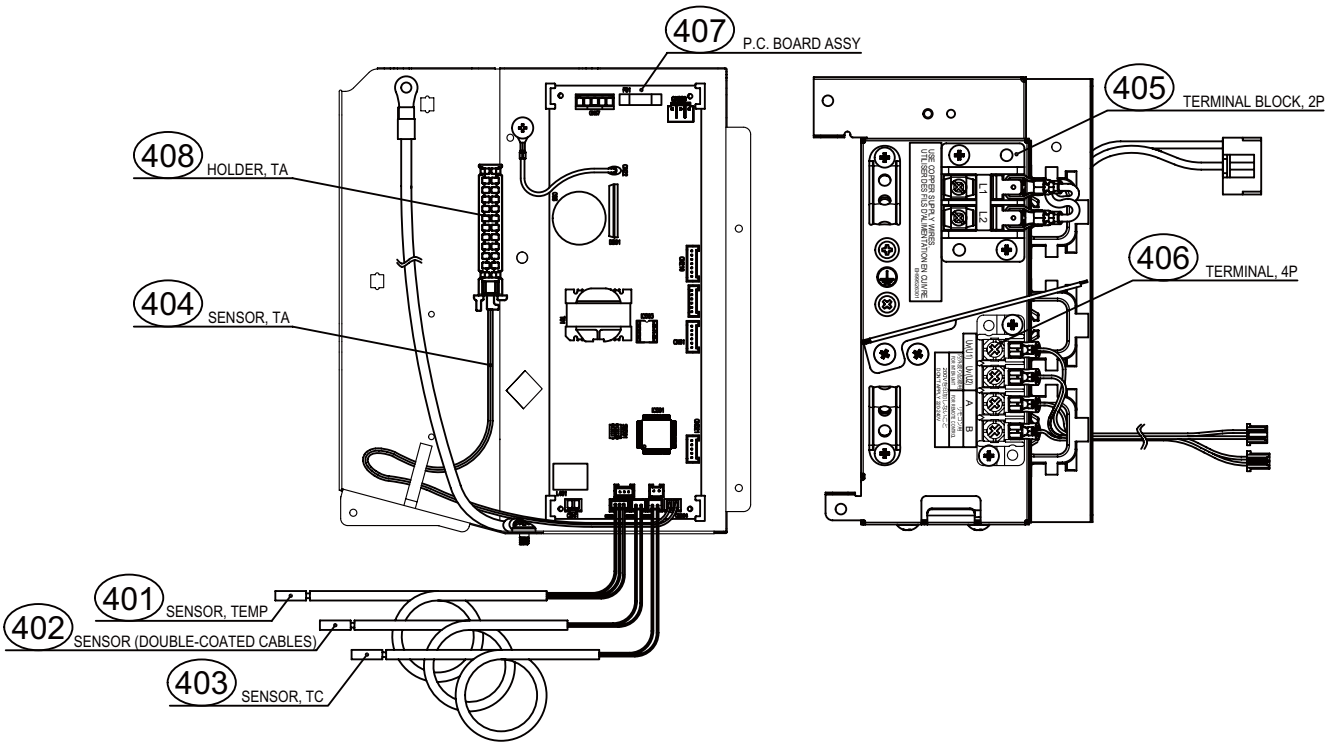
Location No.	Part No.	Description	Q'ty/Set
301	43109441	GRILLE, AIR INLET	1
302	43180361	AIR FILTER	1
303	4342D001	MOTOR, LOUVER, MSBPC20F04	4
304	43107296	OUTLET, AIR FORM	4
305	43107297	OUTLET, AIR FORM	4
306	43122166	LOUVER ASSY	4
307	4310A142	COVER, PANEL ASSY	3
308	4310A285	COVER, PANEL ASSY	1
309	43107298	PLATE, FIX PANEL (A)	2
310	43107299	PLATE, FIX PANEL (B)	2
311	43107300	HOOK	2
312	43107301	CAP, AXIS	4
313	43107302	FIX, MOTOR ASSY	2
314	43107303	FIX, MOTOR ASSY	2
315	4316A001	LEAD, MOTOR	1
316	4310A144	PANEL, HINS ASSY	1
317	43419022	STRING	1
318	43107304	HANGER	2
319	43107305	FIX, GRILLE	1

12-2. Slim Duct



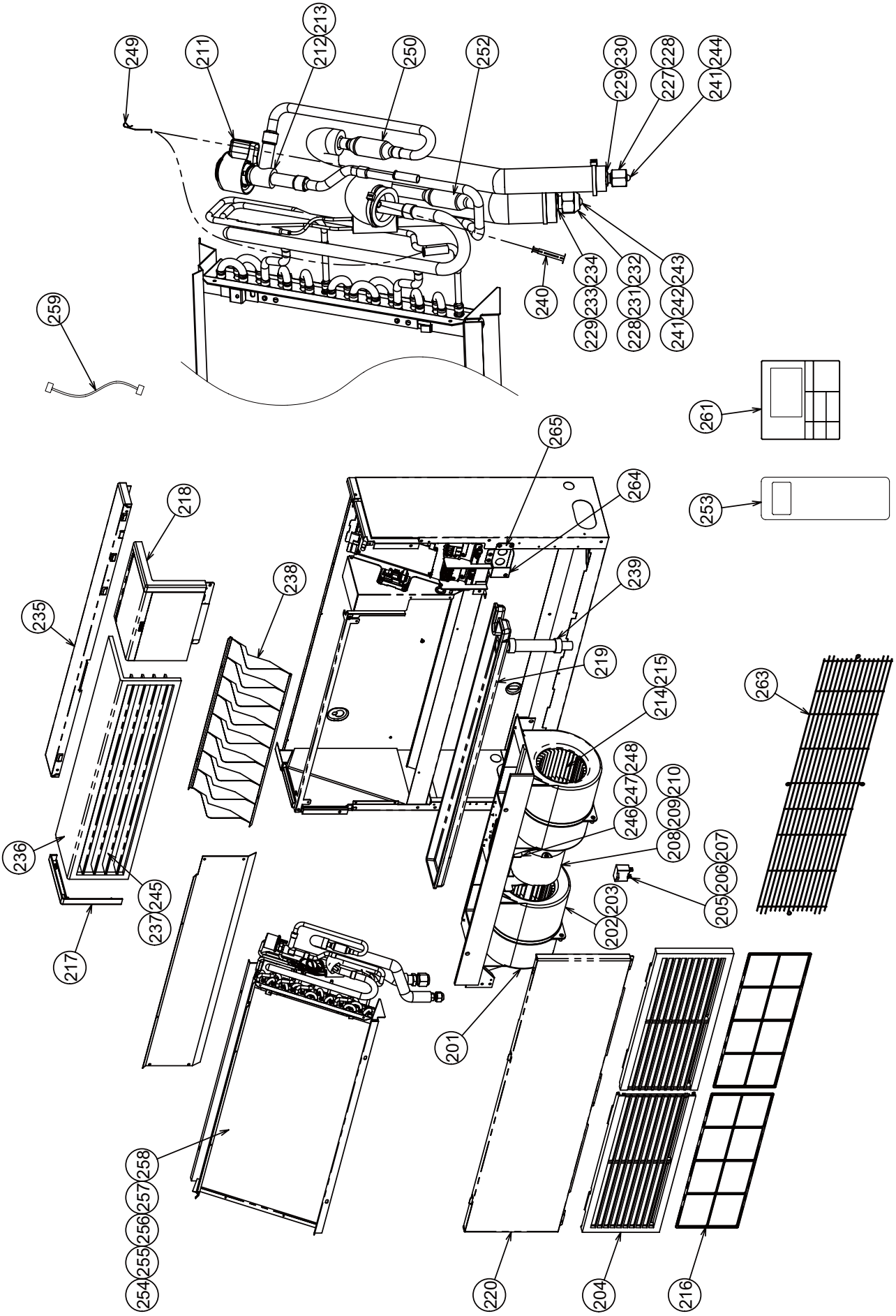
Location No.	Part No.	Description	Q'ty/Set		MMD-UP***1SPH-UL		
			007	009	012	015	018
201	43122234	CASE, FAN, UPPER	2	2	2		
202	43122235	CASE, FAN, UPPER				2	2
204	43122237	CASE, FAN, LOWER	2	2	2		
205	43122238	CASE, FAN, LOWER				2	2
207	4312C218	MOTOR, FAN, ICF-340WD94-7	1	1	1	1	1
208	4310A263	PLATE, INLET	1	1	1		
209	4310A264	PLATE, INLET				1	1
211	43170296	HOSE, DRAIN	1	1	1	1	1
212	4314J711	REFRIGERATION CYCLE ASSY	1	1	1		
213	4314J666	REFRIGERATION CYCLE ASSY				1	1
215	43049776	SOCKET, 3/8, IN	1	1	1		
216	43149353	SOCKET, 1/2, IN				1	1
218	43149351	SOCKET, 1/4, IN	1	1	1	1	1
219	43F47686	NUT, FLARE, 3/8, IN	1	1	1		
220	43047688	NUT, FLARE, 1/2, IN				1	1
222	43F47685	NUT, FLARE, 1/4 IN	1	1	1	1	1
223	4314Q134	STRAINER	1	1	1	1	1
224	43147724	STRAINER	1	1	1		
225	43172289	PAN ASSY, DRAIN	1	1	1		
226	43172290	PAN ASSY, DRAIN				1	1
228	43179161	CAP, DRAIN	2	2	2	2	2
229	43177032	PUMP, DRAIN, MDP-1401	1	1	1	1	1
230	43119563	COVER ASSY, SIDE	1	1	1	1	1
231	43119564	COVER, PIPE	1	1	1	1	1
232	4310A266	FLANGE, OUTLET	1	1	1		
233	4310A267	FLANGE, OUTLET				1	1
235	4310A269	FLANGE, OUTLET	1	1	1	1	1
236	43170244	HOSE, DRAIN	1	1	1	1	1
237	43179163	BAND, HOSE	1	1	1	1	1
238	4314N205	COIL, PMV, PAM-MD12TF-301	1	1	1	1	1
239	4314N250	BODY, PMV, PAM-B25YGTF-2	1	1	1		
240	4314N202	BODY, PMV, PAM-B40YGTF-1				1	1
241	43120281	FAN, MULTI BLADE	2	2	2		
242	43120282	FAN, MULTI BLADE				2	2
244	43151302	SWITCH, FLOAT	1	1	1	1	1
245	43F19904	HOLDER, SENSOR (TS)	2	2	2	2	2
246	43107215	HOLDER, SENSOR	1	1	1	1	1
247	43177033	PUMP, DRAIN, ASSY	1	1	1	1	1
254	43139220	BAND, MOTOR	1	1	1	1	1
255	43139221	BAND, MOTOR	1	1	1	1	1
256	43166050	REMOTE CONTROLLER, WIRED, RBC-AWSU52-UL	1	1	1	1	1
257	43166051	REMOTE CONTROLLER, WIRELESS	1	1	1	1	1

Electric Parts



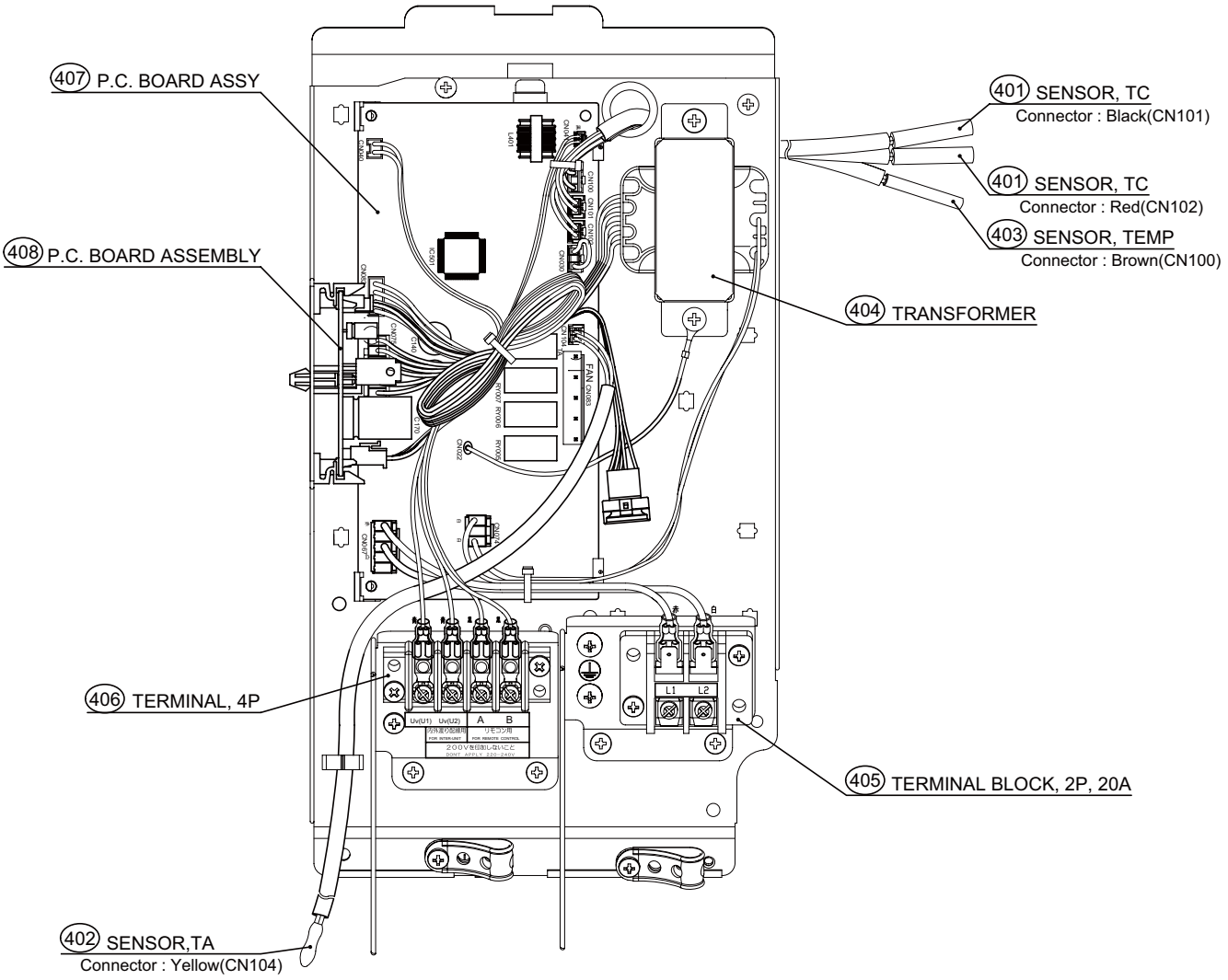
Location No.	Part No.	Description	Q'ty/Set MMD-UP***1SPH-UL
401	43150414	SENSOR, TC1	1
402	43150342	SENSOR, TC2	1
403	43150422	SENSOR, TCJ	1
404	43150420	SENSOR, TA	1
405	41177893	TERMINAL BLOCK, 2P	1
406	43160694	TERMINAL, 4P	1
407	4316W056	P.C. BOARD ASSY, MCC-1643	1
408	43163072	HOLDER, TA	1

12-3. Floor Console Exposed



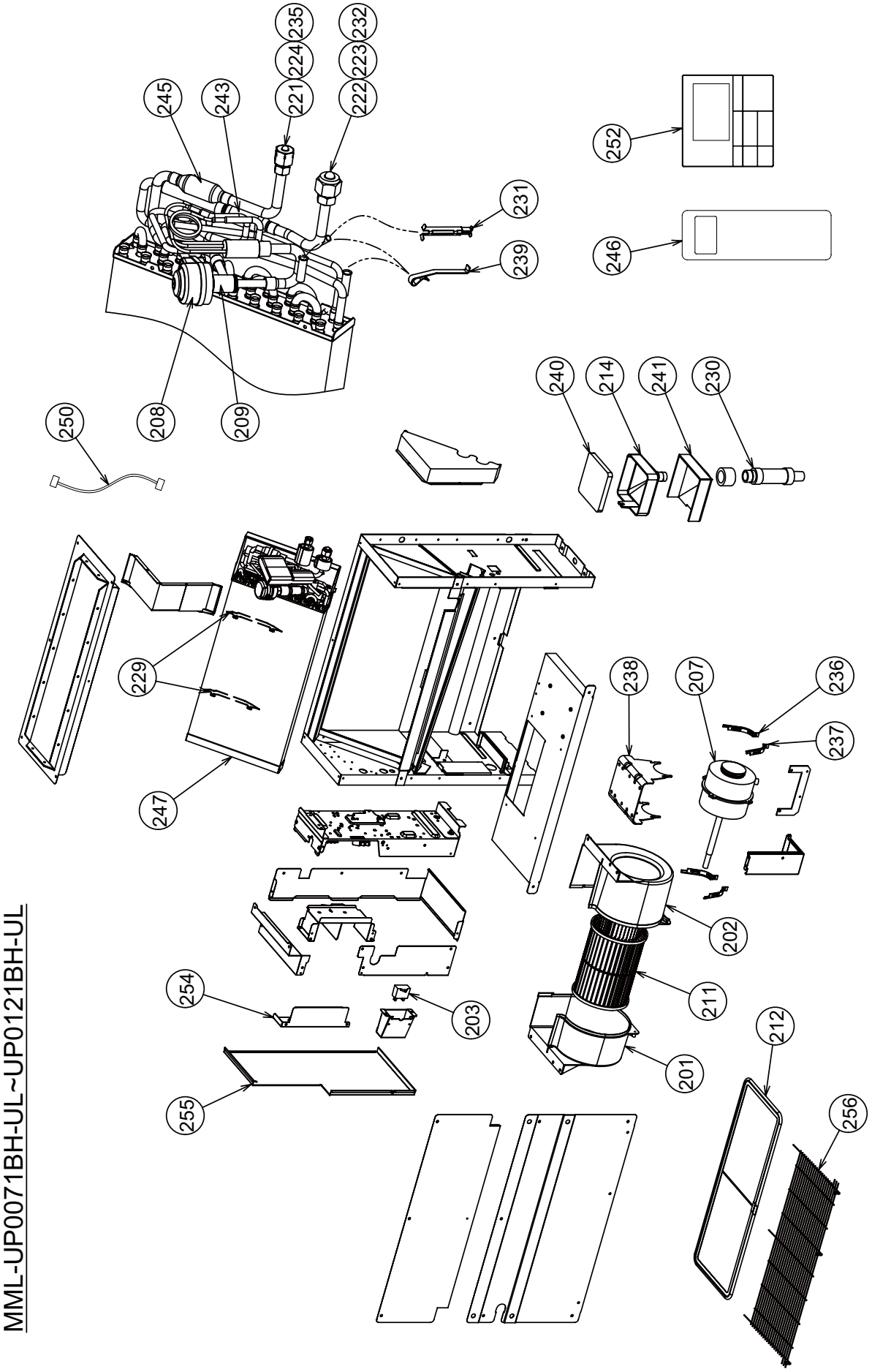
Location No.	Part No.	Description	Q'ty/Set		MML-UP***1H-UL			
			007	009	012	015	018	024
201	43723020	CASE, FAN, LEFT	2	2	2	2	2	2
202	43723019	CASE, FAN, RIGHT	2	2	2	2		
203	43126119	CASE, FAN, RIGHT					2	2
204	43109394	GRILL, INLET, WHITE	2	2	2	2	2	2
205	43155171	CAPACITOR, 450V, 2.0MF			1	1		
206	43155175	CAPACITOR, 400V, 2.5MFD					1	1
207	43155179	CAPACITOR, 450V, 1.5MFD	1	1				
208	4312C150	MOTOR, FAN, AF-200-45-4FU			1	1		
209	4312C151	MOTOR, FAN, AF-200-70-4KU					1	1
210	4312C152	MOTOR, FAN, SWA-200U19A4A	1	1				
211	4314N205	COIL, PMV, PAM-MD12TF-301	1	1	1	1	1	1
212	4314N250	BODY, PMV, PAM-B25YGTF-2	1	1				
213	4314N209	BODY, PMV, PAM-B40YGTF-2			1	1	1	1
214	43120228	FAN, MULTI BLADE	2	2	2	2		
215	43120232	FAN, MULTI BLADE					2	2
216	43180280	AIR FILTER	2	2	2	2	2	2
217	43101346	FRAME, WHITE	1	1	1	1	1	1
218	43101347	COVER, CONTROL PANEL, WHITE	1	1	1	1	1	1
219	43172101	PAN, DRAIN	1	1	1	1	1	1
220	4310A128	PANEL, FRONT	1	1	1	1	1	1
227	43F47685	NUT, FLARE, 1/4, IN	1	1	1	1	1	
228	43149355	NUT, FLARE, 3/8, IN	1	1	1			1
229	43049776	SOCKET, 3/8, IN	1	1	1			1
230	43149351	SOCKET, 1/4, IN	1	1	1	1	1	
231	43047688	NUT, FLARE, 1/2, IN				1	1	
232	43149352	NUT, FLARE, 15.88, IN						1
233	43149353	SOCKET, 1/2. IN				1	1	
234	43149354	SOCKET, 5/8,IN						1
235	43100374	CABINET, UPPER, WHITE	1	1	1	1	1	1
236	4310A130	OUTLET	1	1	1	1	1	1
237	43109459	GRILLE, WHITE	3	3	3	3	3	3
238	43109240	GRILLE	1	1	1	1	1	1
239	43170201	HOSE, DRAIN	1	1	1	1	1	1
240	43107215	HOLDER, SENSOR	1	1	1	1	1	1
241	43F47609	BONNET, 3/8, IN	1	1	1			1
242	43147195	BONNET, 1/2, IN				1	1	
243	43147194	BONNET, 5/8, IN						1
244	43F49697	BONNET, 1/4, IN	1	1	1	1	1	
245	43196087	BUSHING, GRILLE	6	6	6	6	6	6
246	43139154	BAND, MOTOR, LEFT	2	2	2	2	2	2
247	43139155	BAND, MOTOR, RIGHT	2	2	2	2	2	2
248	43122104	BASE, MOTOR	1	1	1	1	1	1
249	43F19904	HOLDER, SENSOR (TS)	2	2	2	2	2	2
250	43147664	STRAINER, ID, 3/8, IN	1	1	1	1	1	1
252	43147649	STRAINER	1	1	1			
253	43166051	REMOTE CONTROLLER, WIRELESS	1	1	1	1	1	1
254	4314J706	REFRIGERATION CYCLE ASSY	1	1				
255	4314J707	REFRIGERATION CYCLE ASSY			1			
256	4314J708	REFRIGERATION CYCLE ASSY				1		
257	4314J709	REFRIGERATION CYCLE ASSY					1	
258	4314J710	REFRIGERATION CYCLE ASSY						1
259	43135024	CONNECTOR ASSY, PMV	1	1	1	1	1	1
261	43166050	REMOTE CONTROLLER, WIRED, RBC-AWSU52-UL	1	1	1	1	1	1
263	43119531	GUARD, FAN	1	1	1	1	1	1
264	43104220	COVER WIRE	1	1	1	1	1	1
265	43104219	PLATE ASSY	1	1	1	1	1	1

Electric Parts

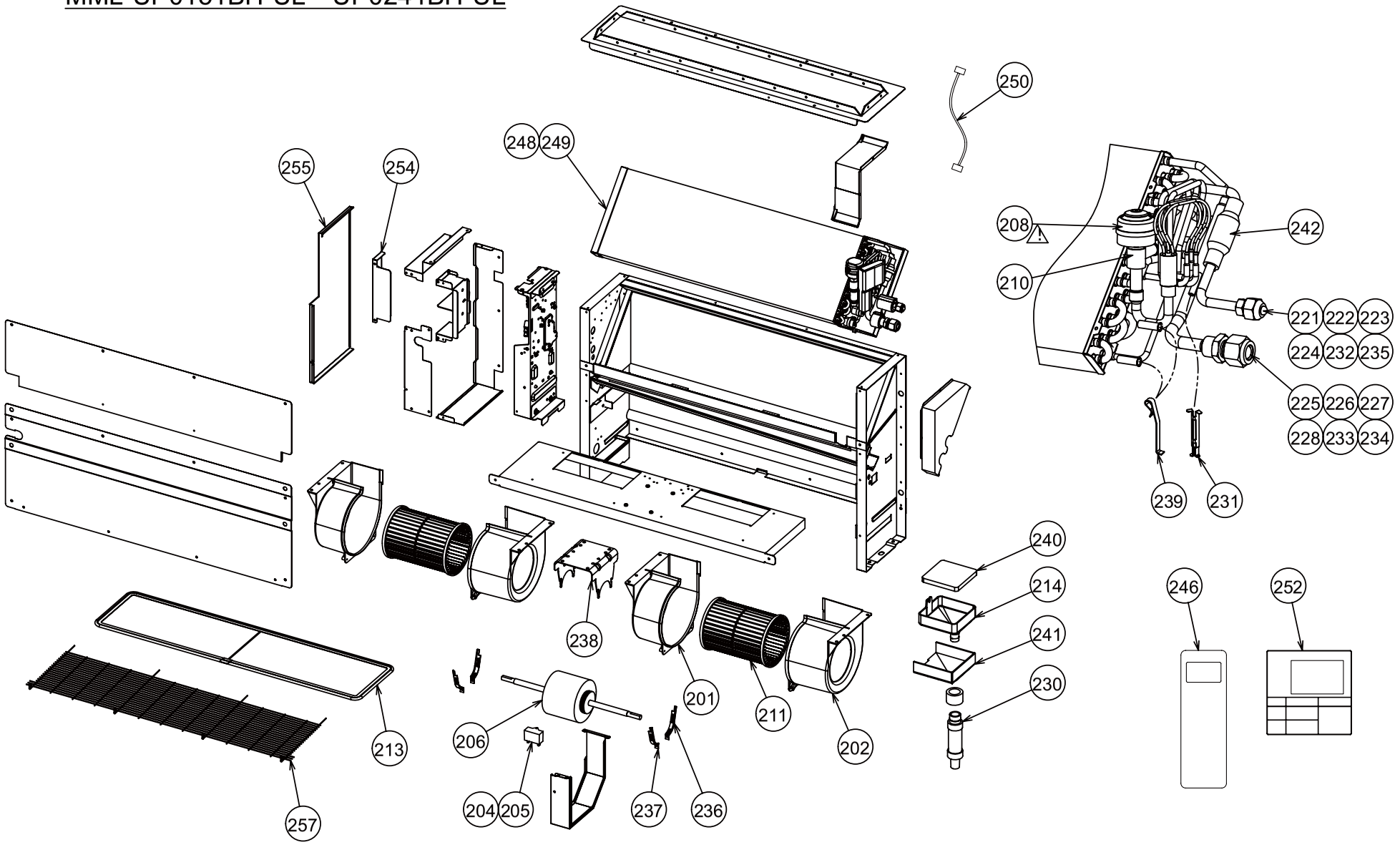


Location No.	Part No.	Description	Q'ty/Set MML-UP***1H-UL
401	43050425	SENSOR, TC2, TCJ	1
402	43F50426	SENSOR, TA	1
403	43150320	SENSOR, TC1	1
404	43158182	TRANSFORMER, TT-12	1
405	43160626	TERMINAL BLOCK, 2P, 20A	1
406	43160582	TERMINAL, 4P	1
407	4316V734	P.C. BOARD ASSY, MCC-1744	1
408	4316V345	P.C. BOARD ASSY, MCC-1520	1

12-4. Floor Console Recessed

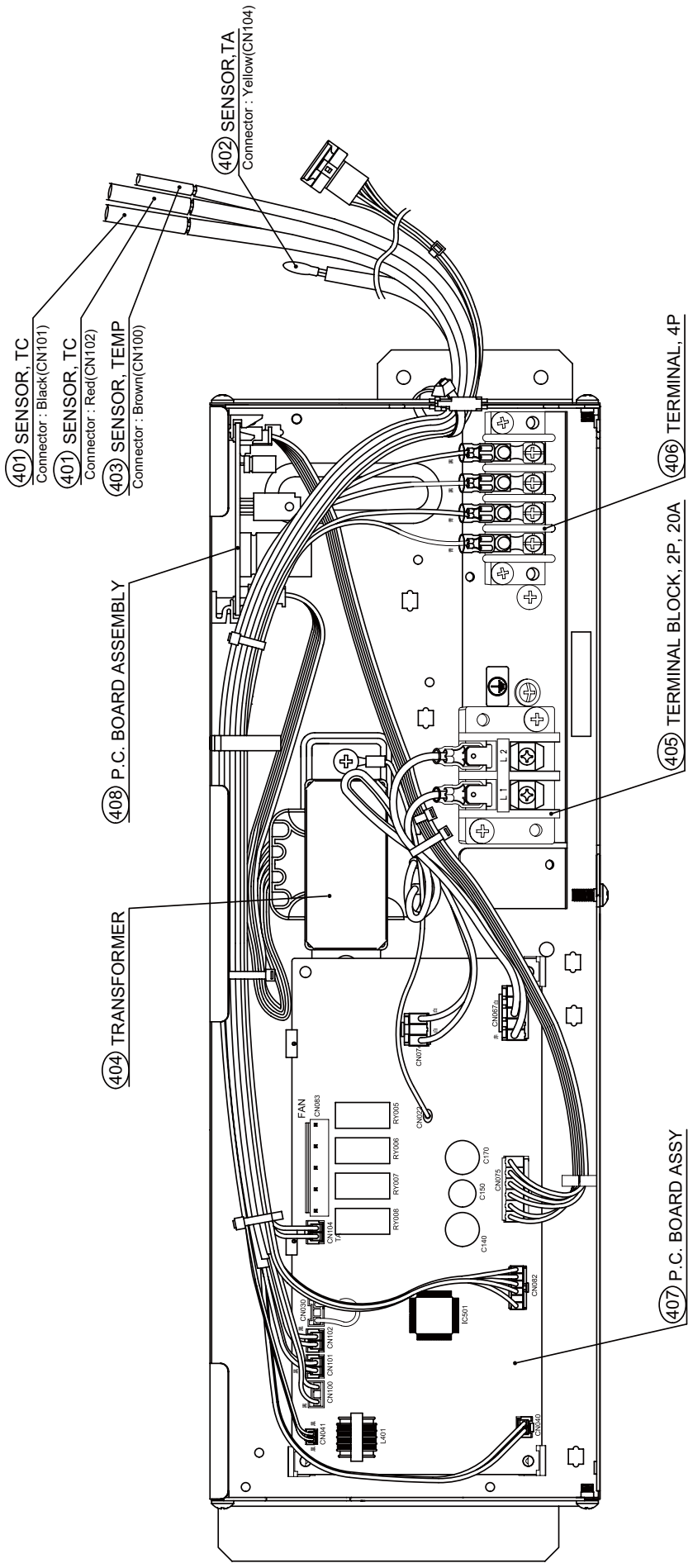


MML-UP0151BH-UL～UP0241BH-UL



Location No.	Part No.	Description	Q'ty/Set		MML-UP***1BH-UL			
			007	009	012	015	018	024
201	43723020	CASE, FAN, LEFT	1	1	1	2	2	2
202	43126119	CASE, FAN, RIGHT	1	1	1	2	2	2
203	43155179	CAPACITOR, 1.5MFD, 450V	1	1	1			
204	43155175	CAPACITOR, 2.5MFD, 400V						1
205	43155191	CAPACITOR, 1MF, 450V				1	1	
206	4312C151	MOTOR, FAN, AF-200-70-4KU				1	1	1
207	4312C153	MOTOR, FAN, SWA-200U19A4B	1	1	1			
208	4314N205	COIL, PMV, PAM-MD12TF-301	1	1	1	1	1	1
209	4314N250	BODY, PMV, PAM-B25YGTF-2	1	1	1			
210	4314N209	BODY, PMV, PAM-B40YGTF-2				1	1	1
211	43120232	FAN, MULTI BLADE	1	1	1	2	2	2
212	43180294	FILTER	1	1	1			
213	43180295	FILTER				1	1	1
214	43170206	CATCH, DRAIN	1	1	1	1	1	1
221	43F47685	NUT, FLARE, 1/4 IN	1	1	1	1	1	
222	43149355	NUT, FLARE, 3.8, IN	1	1	1			1
223	43049776	SOCKET, 3/8, IN	1	1	1			1
224	43149351	SOCKET, 1/4, IN	1	1	1	1	1	
225	43047688	NUT, FLARE, 1/2, IN				1	1	
226	43149352	NUT, FLARE, 5/8, IN						1
227	43149353	SOCKET, 1/2, IN				1	1	
228	43149354	SOCKET, 5/8,IN						1
229	43122046	PLATE-WIND	2	2	2			
230	43170197	HOSE ASSY	1	1	1	1	1	1
231	43107215	HOLDER, SENSOR	1	1	1	1	1	1
232	43F47609	BONNET, 3/8, IN	1	1	1			1
233	43147195	BONNET, 1/2, IN				1	1	
234	43147194	BONNET, 5/8, IN						1
235	43F49697	BONNET, 1/4, IN	1	1	1	1	1	
236	43139154	BAND, MOTOR, LEFT	2	2	2	2	2	2
237	43139155	BAND, MOTOR, RIGHT	2	2	2	2	2	2
238	43122104	BASE, MOTOR	1	1	1	1	1	1
239	43F19904	HOLDER, SENSOR (TS)	2	2	2	2	2	2
240	43170207	STRAINER	1	1	1	1	1	1
241	43111311	HINS	1	1	1	1	1	1
242	43147664	STRAINER, ID, 3/8, IN				1	1	1
243	43147724	STRAINER	1	1	1			
245	4314Q043	STRAINER	1	1	1			
246	43166051	REMOTE CONTROLLER, WIRELESS	1	1	1	1	1	1
247	4314J616	REFRIGERATION CYCLE ASSY	1	1	1			
248	4314J617	REFRIGERATION CYCLE ASSY				1	1	
249	4314J618	REFRIGERATION CYCLE ASSY						1
250	43160699	CONNECTOR ASSY, PMV	1	1	1	1	1	1
252	43166050	REMOTE CONTROLLER, WIRED, RBC-AWSU52-UL	1	1	1	1	1	1
254	43119534	PLATE ASSY, CONDUIT	1	1	1	1	1	1
255	43119535	COVER ASSY	1	1	1	1	1	1
256	43119532	GUARD, WIRE	1	1	1			
257	43119533	GUARD, WIRE				1	1	1

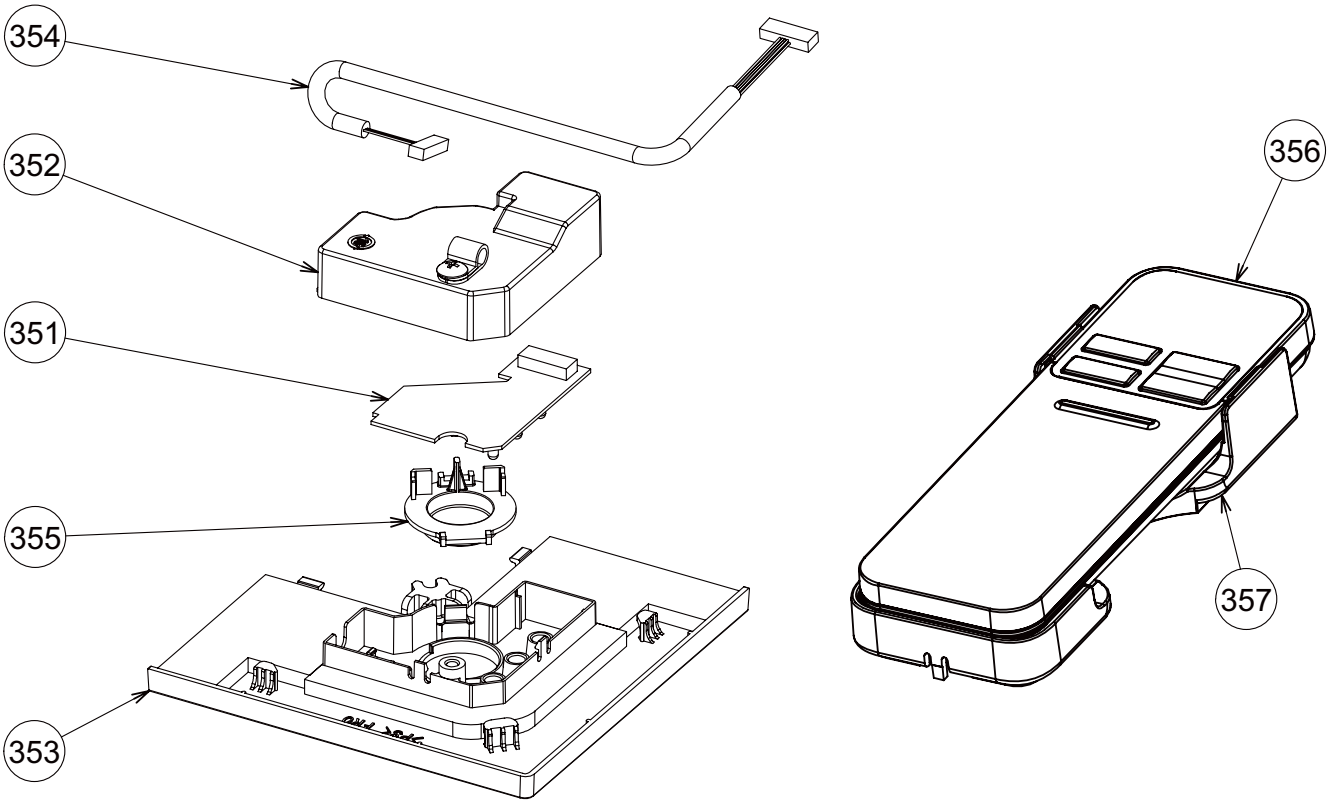
Electric Parts



Location No.	Part No.	Description	Q'ty/Set MML-UP***1BH-UL
401	43050425	SENSOR, TC2, TCJ	1
402	43F50426	SENSOR, TA	1
403	43150320	SENSOR, TC1	1
404	43158182	TRANSFORMER, TT-12	1
405	43160626	TERMINAL BLOCK, 2P, 20A	1
406	43160582	TERMINAL, 4P	1
407	4316V734	P.C. BOARD ASSY, MCC-1744	1
408	4316V345	P.C. BOARD ASSY, MCC-1520	1

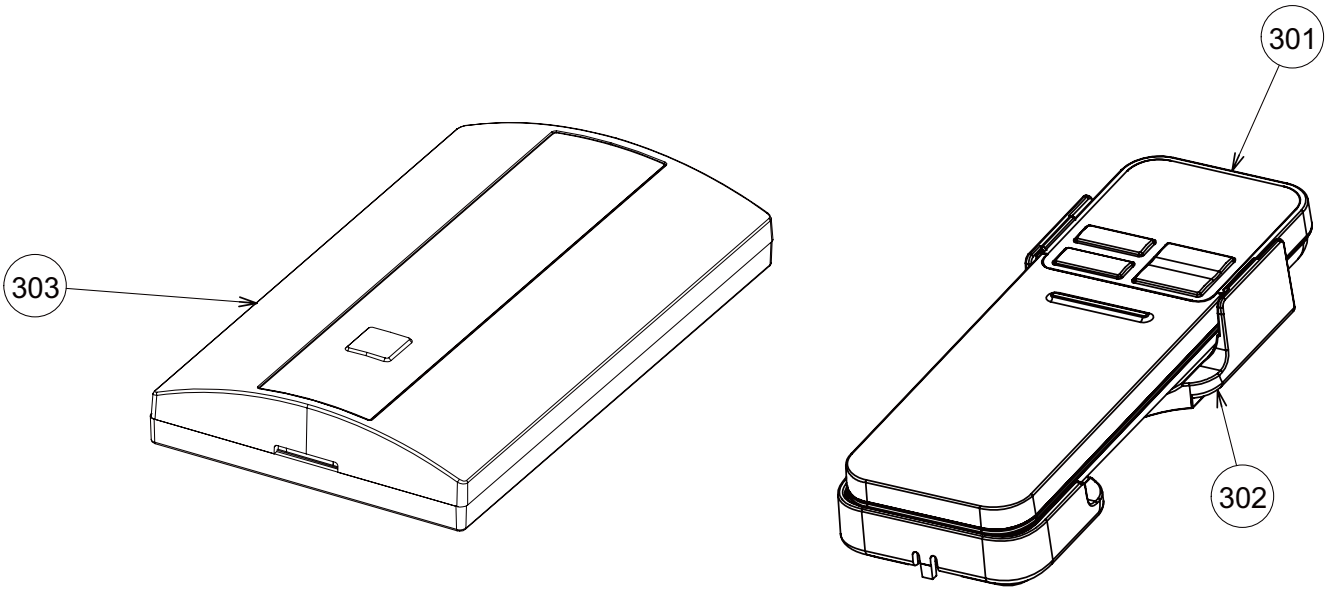
◆ Wireless remote controller kit

RBC-AXU31UM-UL



Location No.	Part No.	Description	Q'ty/Set
351	4316V616	P.C. BOARD ASSY, REMOTE RECIEVER	1
352	43162103	COVER, WRS	1
353	43108036	COVER, PANEL WRS	1
354	43160665	LEAD	1
355	43108041	COVER, WIRELESS	1
356	43166051	REMOTE CONTROLLER, WIRELESS	1
357	43183036	HOLDER, REMOTE, CONTROLLER	1

RBC-AXU31-UL



Location No.	Part No.	Description	Q'ty/Set
301	43166051	REMOTE CONTROLLER, WIRELESS	1
302	43183036	HOLDER, REMOTE, CONTROLLER	1
303	4316V563	RECIEVER, UNIT	1

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