

Service Manual

***VRV* System**
Inverter K Series
New Refrigerant R407C System

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PREFACE

The VRV System Inverter K Series is designed for easy installation and maintenance. Although it has all the features of the previous VRV System Inverter Series, the method of displaying the model name has been changed in order to conform to revision in Japanese Industrial Standards, the method of transmission between outdoor and indoor units has been changed, the equipment has been modified so the same wiring is used for transmission between indoor/outdoor units and centralized control, and can now be connected with a central remote controller.

The new Daikin VRV-System K series for buildings uses a new type of refrigerant. Along with the refrigerant change, Daikin has also changed the model code system for these products.

This booklet also describes the features and additional functions of HFC-refrigerant models in five sections: product outline, functions, test operation, troubleshooting and appendixes.

This service manual was published in order to help you get a solid understanding of these functions, and so you can provide fast and reliable after sales service.

If you find the manual to be insufficient in any of its explanations, please let us know so we can improve on later editions.

Sept 1998

After Sales Service Division

GENERAL INFORMATION

Inverter K Series

New Refrigerant R407C System

1. Introduction of the series

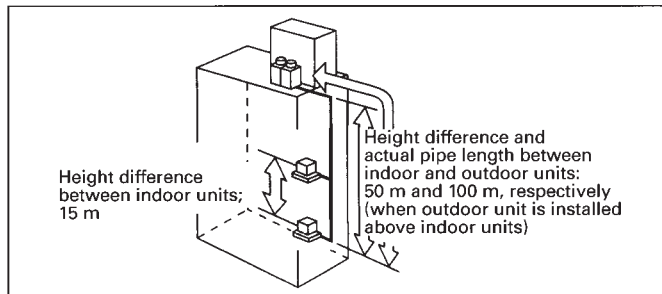
Both indoor and outdoor units use R407C refrigerant.
 (Indoor unit) FXY_P_K
 (Outdoor unit) RSXYP_K

Incorporating advanced inverter and multi-unit technologies, VRV-system air conditioning systems for buildings allow individual control of indoor units for added versatility.

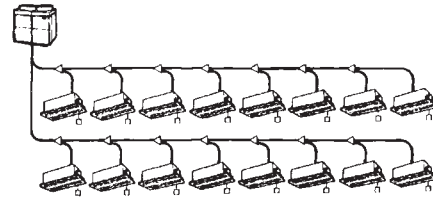
■ **Long refrigerant piping: equivalent length of 125 m, actual length of 100 m, and height difference of 50 m.**

■ **Connection of indoor units of varying capacities and types totaling 130% (max.) of outdoor unit by volume**

*When the total capacity of indoor units exceeds 100% (by volume), the operating capacities of the indoor units may slightly drop when all the units operate simultaneously.



■ **Individual control of up to 16 indoor units with one 10-HP outdoor unit**



Outdoor unit	Number of connectable indoor units
RSXYP5K	8
RSXYP8K	13
RSXYP10K	16

- High efficiency with power factor of 90% or higher
- Cooling operation with outside temperature as low as -5°C
- Heating operation with outside temperature as low as -15°C
- Simple REFNET piping system
- Super Wiring system

- Automatic address setting function
- Built-in wiring error check function
- Equipped with sequential instruction function
- Nighttime low-noise mode for reduced operating sound

Selection of indoor units from 56 models in 9 types

●: Introduced already ★: Introduce in future

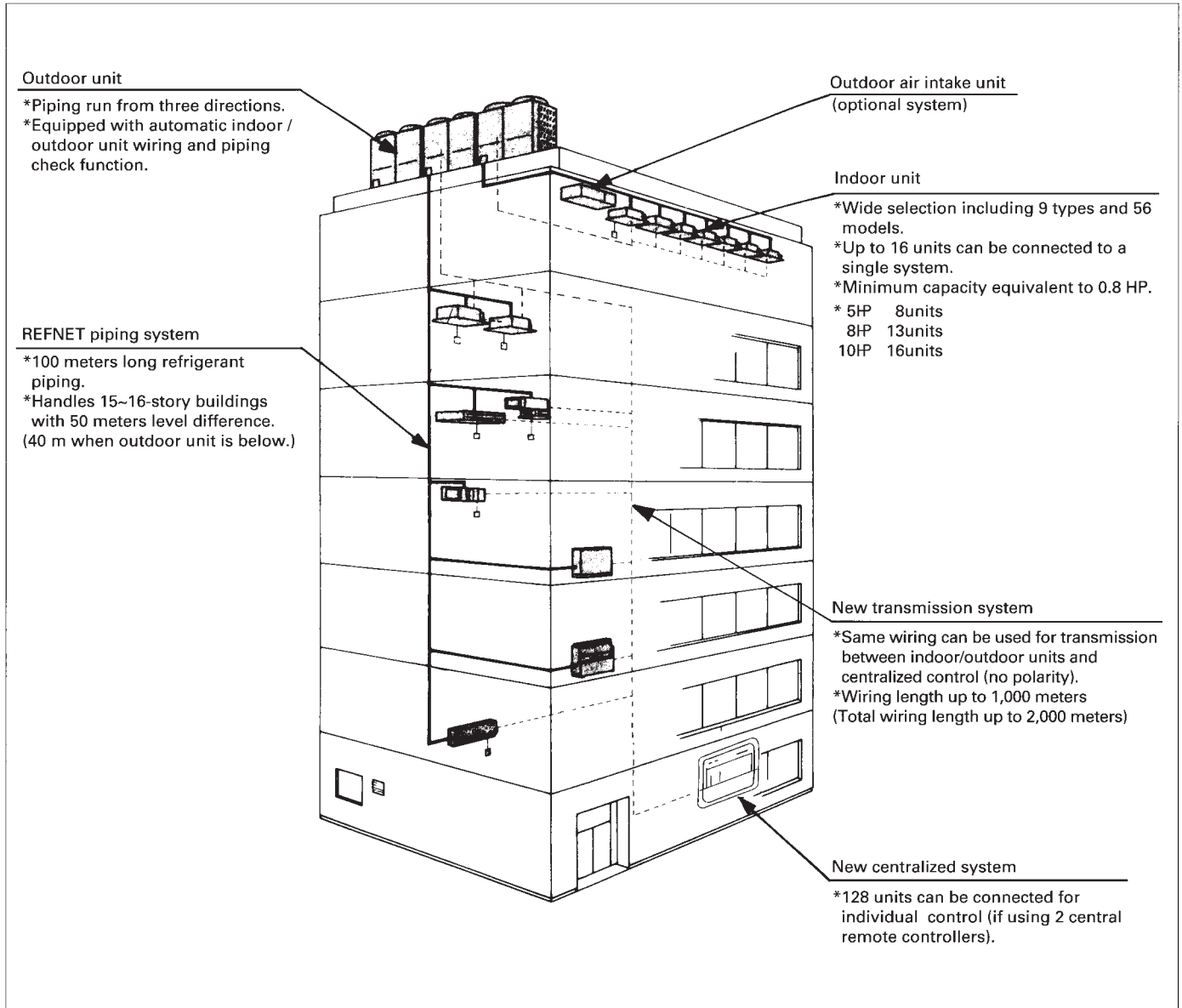
Outdoor unit		Maximum connectable capacity										
		Model line										
		Equivalent HP										
Type		20	25	32	40	50	63	80	100	125	200	250
Connectable indoor units	Ceiling mounted cassette type											
	Multi-flow type			●	●	●	●	●	●	●		
	Double-flow type	●	●	●	●	●	●	●	●	●		
	Corner type		★	★	★		★					
	Ceiling built-in type	●	●	●	●	●	●	●	●	●		
	Ceiling mounted duct type				★	★	★	★	★	★	★	★
	Ceiling suspended type			●			●		●			
	Wall mounted type		★	★	★	★	★					
	Floor standing	★	★	★	★	★	★					
Concealed floor standing	★	★	★	★	★	★						

● Indoor units are designed to operate with the new refrigerant. These models are not interchangeable with previous units.

2. Outline of System

1. Easily Recognizable Features of the "K" Series

VRV System Inverter K Series System Outline



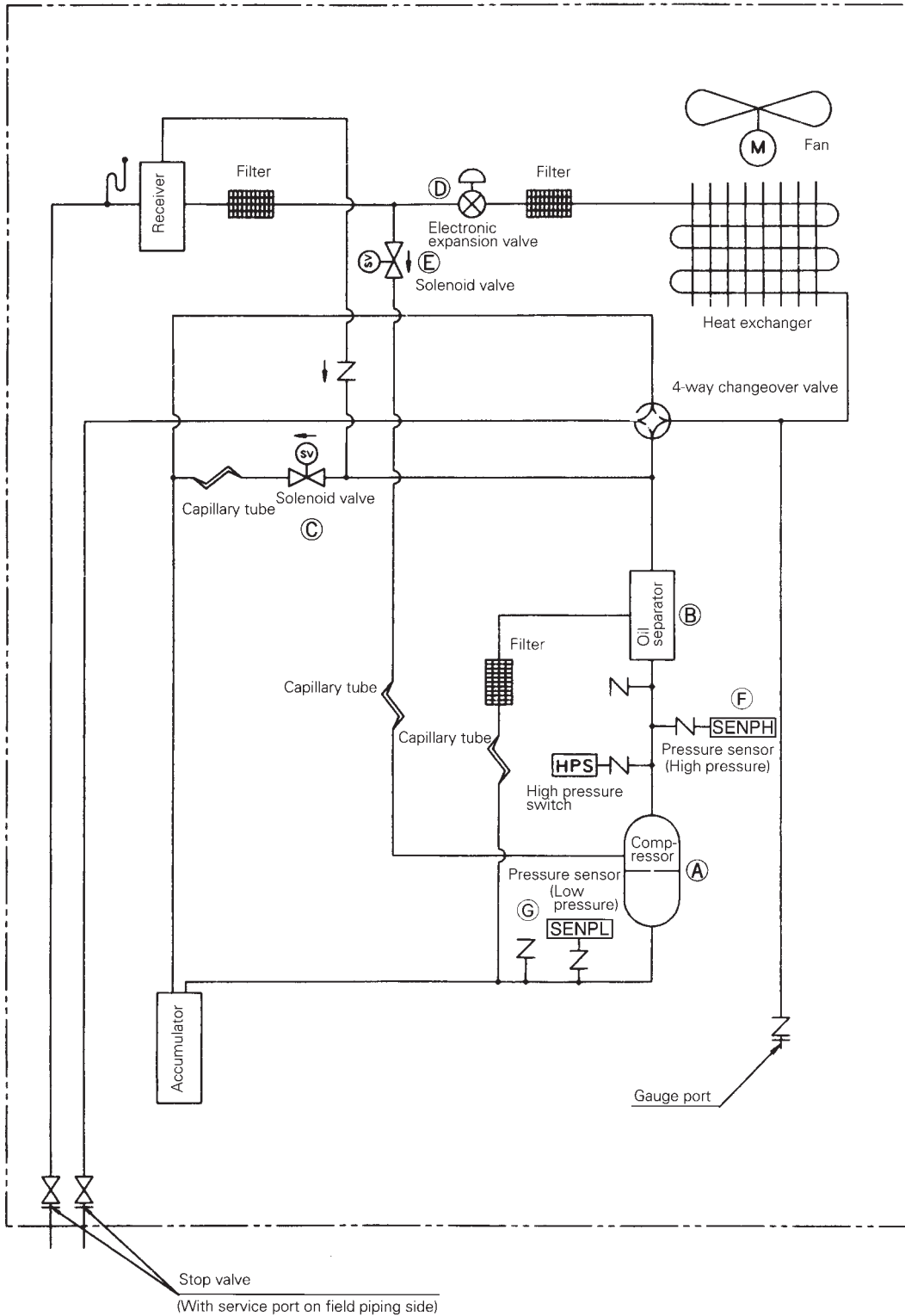
FUNCTIONS

Inverter K Series

New Refrigerant R407C System

1. Outdoor Unit Refrigerant System Diagram

RSXYP5KJY1



A. Compressor M1C

Scroll compressor that operates on 30 ~ 116Hz by inverter drive enables 13-step capacity control. Capacity control is carried out for individual and linear control of indoor units.

B. Oil separator

The oil separator is a device that collects the oil discharged from the compressor. The collected oil is constantly recycled to the compressor via capillary tube.

C. Solenoid valve (hot gas bypass) Y2S

Valve is opened by low pressure safety control when low pressure drops. Balances high/low pressure when off in order to reduce load when the compressor starts.

D. Outdoor unit electronic expansion valve Y1E

Expansion valve when heating. Senses compressor suction pipe and low pressure equivalent saturated temperature, and carries out superheat degree control. Balances high/low pressure when off in order to reduce load when the compressor starts.

E. Solenoid valve (injection) Y3S

Controls injection in order to prevent overheating.

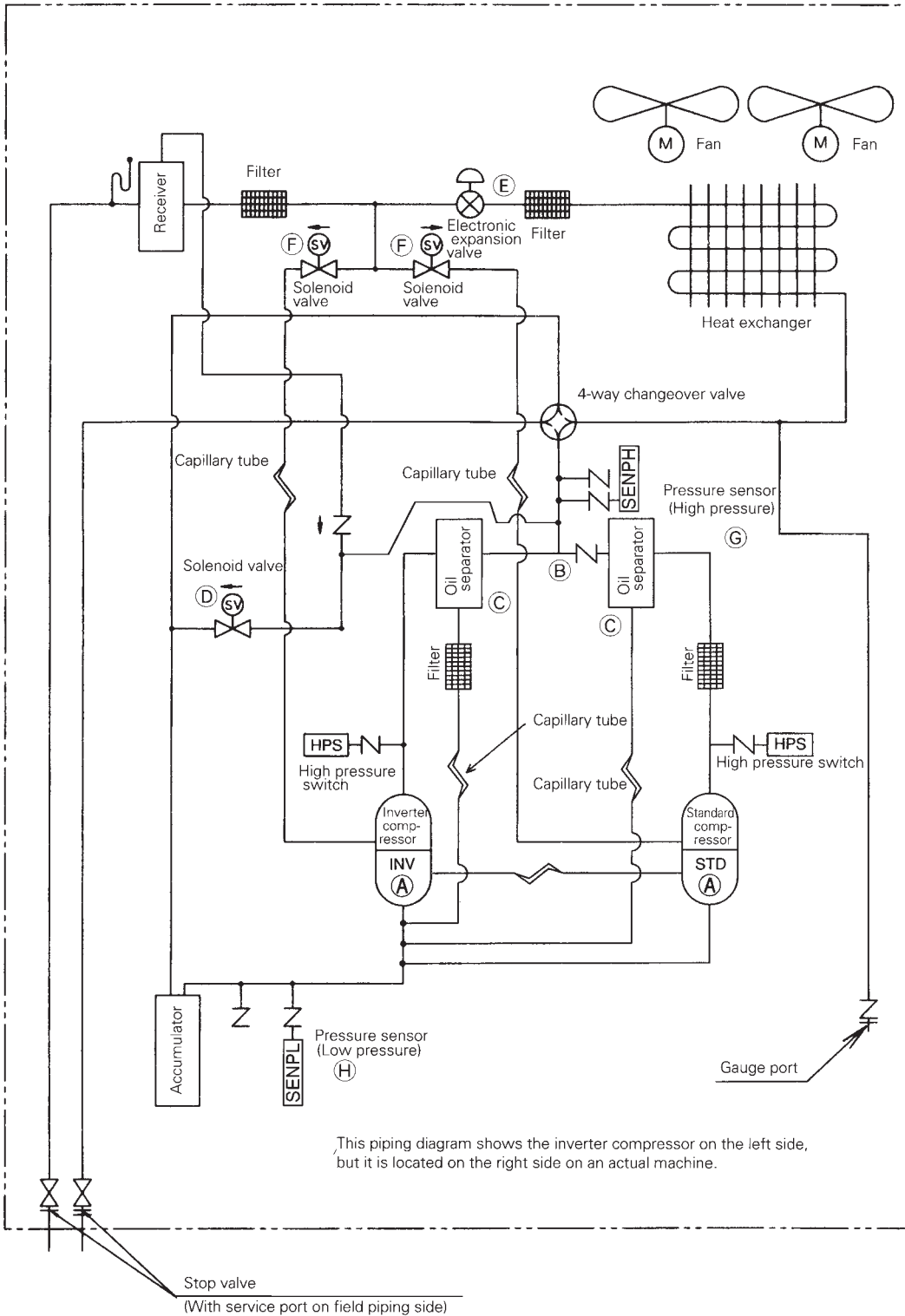
F. Pressure sensor (high pressure, red) SENPH

Semiconductor pressure sensor for sensing the operating status of the indoor by refrigerant pressure which senses discharge pressure.

G. Pressure sensor (low pressure, blue) SENPL

Semiconductor pressure sensor for sensing the operating status of the indoor by refrigerant pressure which senses suction pressure.

RSXYP8,10KJY1



A. Compressor M1C / M2C

Connecting a scroll compressor (inverter compressor) that operates on 30 ~ 116Hz by inverter drive and a scroll compressor (standard compressor) that runs on a commercial power supply to the same refrigerant system enables 21-step capacity control. Capacity control is carried out for individual and linear control of indoor units.
(M1C: Inverter compressor, M2C: Standard compressor)

B. Check valve

Keeps liquid refrigerant from collecting in the standard compressor when only the inverter compressor is running.

C. Oil separator

The oil separator is a device that collects the oil discharged from the compressor. The collected oil is constantly recycled to the compressor via capillary tube.

D. Solenoid valve (hot gas bypass) Y2S

Balances high/low pressure when off in order to reduce load when the compressor starts.
Also, valve is opened by low pressure safety control when low pressure drops.

E. Outdoor unit electronic expansion valve Y1E

Expansion valve when heating. Senses compressor suction pipe and low pressure equivalent saturated temperature, and carries out superheat degree control.

F. Solenoid valve (injection) Y3S / Y4S

Controls injection in order to prevent overheating.
Y3S: Inverter compressor, Y4S: Standard compressor)

G. Pressure sensor (high pressure, red) SENPH

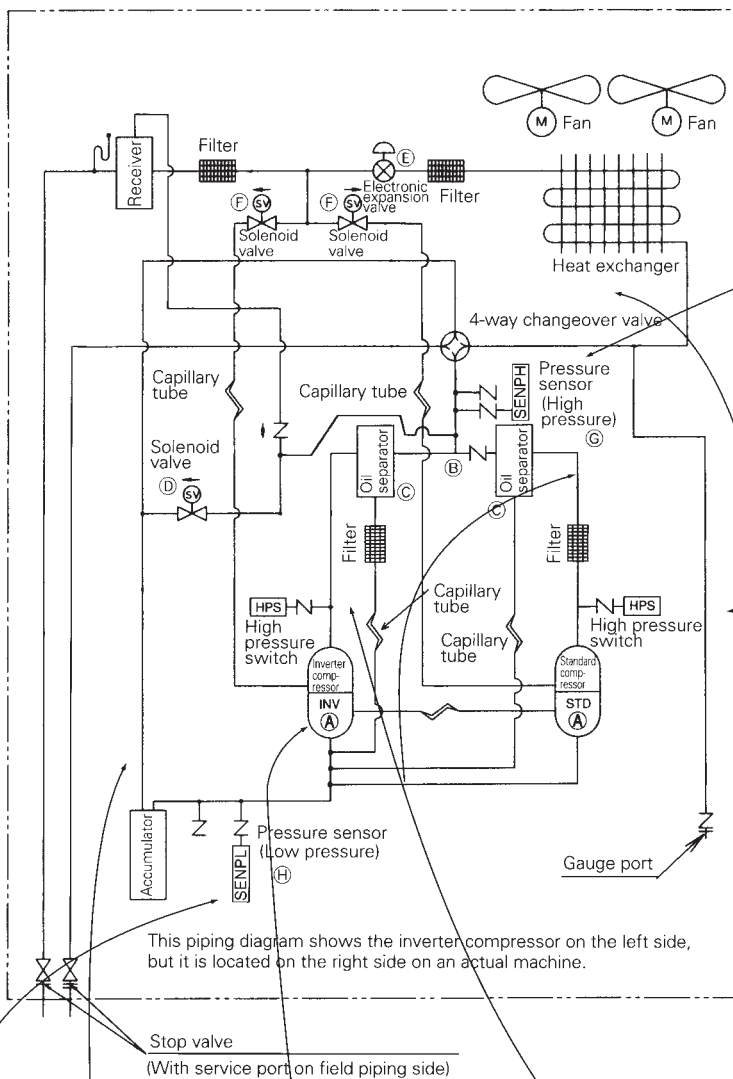
Semiconductor pressure sensor for sensing the operating status of the indoor by refrigerant pressure which senses discharge pressure.

H. Pressure sensor (low pressure, blue) SENPL

Semiconductor pressure sensor for sensing the operating status of the indoor by refrigerant pressure which senses suction pressure.

2. Function of Thermistors and Pressure Sensors

Outdoor unit RSXYP8, 10KJY1



High pressure sensor (SENPH)

When heating:
Used for compressor capacity control by sensing high pressure.

When cooling:
Carries out heat exchange control during low outdoor air cooling.

Outdoor temperature thermistor (R1T)

(When heating)

- Used as the function for defrost IN conditions.
- OFF by thermostat when temperature becomes 27°C or higher

Suction pipe temperature thermistor (R4T)

Used for superheat control of electronic expansion valve when heating.

Discharge pipe temperature thermistor

R3-1T (Inverter compressor)
R3-2T (Standard compressor)
Used for compressor discharge temperature safety.
(RSXYP5K R3T)

Coil temperature thermistor (R2T)

(When cooling)
Not used for anything.

(When heating)
Used together with outdoor temperature as the function for defrost IN conditions.

Low pressure sensor (SENPL)

When heating:
Used for compressor capacity control and low pressure safety control by sensing high pressure.

When cooling:
Used for overheating control and low pressure safety control.

Oil temperature thermistor (R5T)

(8, 10 HP only)
(When heating)

- Alters the desired superheat degree (SH) to prevent wet operation.

(When defrosting)

- Controls upper limit frequency to improve dilution of oil.

3. List of Safety Devices and Functional Parts Setting Values

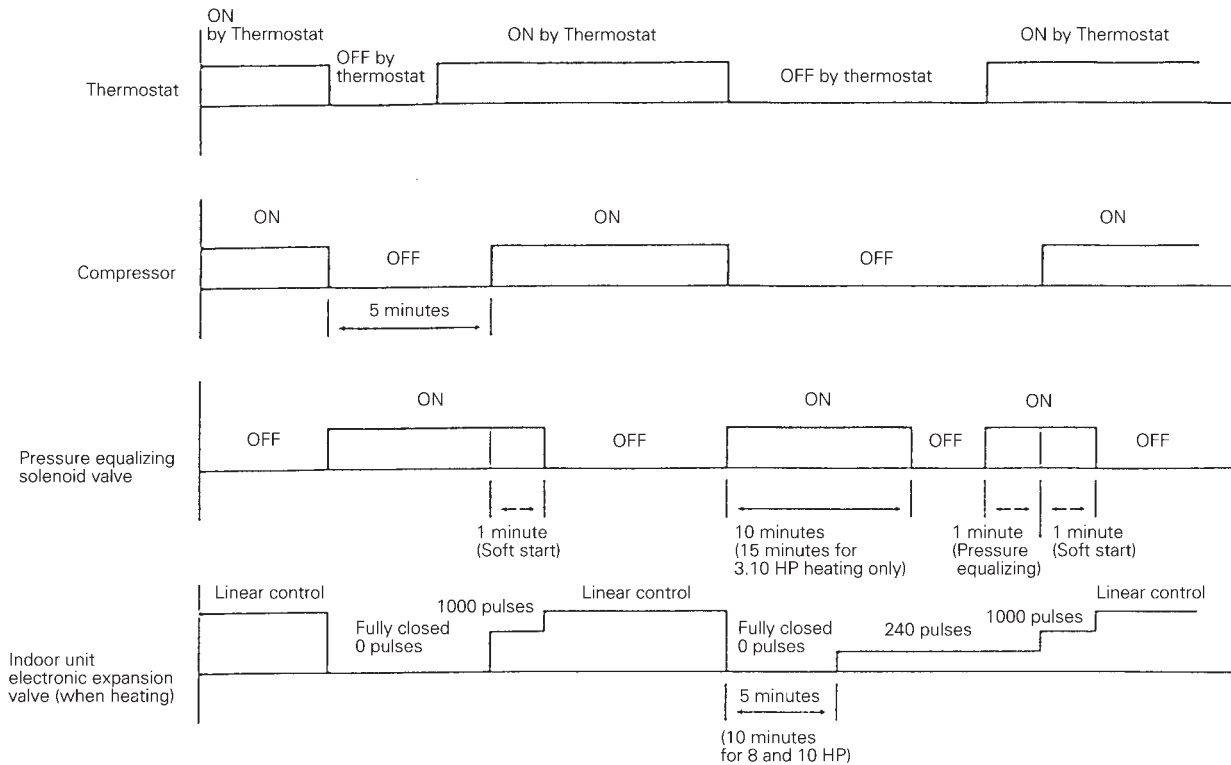
Outdoor unit RSXYP5~10KJY1

Item	Symbol	Name	Type		
			RSXYP5KJY1	RSXYP8KJY1	RSXYP10KJY1
Compressor		Inverter side Model Output	JT100BEVYE 3.5 kW	JT100BEVTYPE 3.5 kW	JT100BEVTYPE 3.5 kW
		Standard side	—	JT100BETYE 2.2 kW	JT160BETYE 3.75 kW
		Compressor safety thermostat	Discharge pipe thermistor 135°C OFF		
	J1HC/J2HC	Crank case heater	33W	33W+33W	
	F2C	Over-current relay	—	HOE-20F-TRA1 10A	HOE-20F-TRA1 13A
Safety device	Q1M	Fan motor	190W	140W+230W	190W+230W
	Q2M	Safety thermostat	Open 135°C±5°C	140 W: Open 120 ± 5°C, 190W: 135 ± 5°C, 230 W: 135 ± 5°C	
	S1P	Pressure switch (for high pressure safety)	20SP-688-6 OFF:31.5+0~-1.0kg/cm ² ON:22.0+1.0~-1.0kg/cm ²	—	
	S1HP	Pressure switch (for high pressure safety)	—	20SP - 688 - 6 OFF:31.5+0~-1.0kg/cm ² ON:22.0+1.0~-1.0kg/cm ²	
	S2HP	Pressure switch (for high pressure safety)	—	20SP - 688 - 6 OFF:31.5+0~-1.0kg/cm ² ON:22.0+1.0~-1.0kg/cm ²	
		Fusible plug	FPG-3D 70~75°C		
Sensor	SENP	Pressure sensor	PS8030A 0~34kg/cm ² (0~3.3MPa)		
	SENP	Pressure sensor	PS8030A 0~10kg/cm ² (0~0.98MPa)		
	R1T	Thermistor (for outdoor air)	3.5~360kΩ		
	R2T	Thermistor (for heat exchange)	3.5~360kΩ		
	R3T	Thermistor (for discharge pipe)	3.5~400kΩ	—	
	R3-1T	Thermistor (for inverter discharge pipe)	—	3.5~400kΩ	
	R3-2T	Thermistor (for standard discharge pipe)	—	3.5~400kΩ	
	R4T	Thermistor (for suction pipe)	3.5~360kΩ		
	R5T	Thermistor (for inverter oil temperature)	—	3.5~400kΩ	
Other functions /parts	Y1E	Electronic expansion valve	When cooling	ON: 2,000 pulses (completely open); OFF: 0 pulses (completely closed)	
			When heating	ON: PI control; OFF: 0 pulses (completely closed)	
	Y2S	Solenoid valve (for hot gas bypass)	NEV603		
	Y3S	Solenoid valve (for inverter injection)	NEV202		
Y4S	Solenoid valve (for standard injection)	—	NEV202		

4. Safety for Restart

(1) Restart Safety Timer

When operation is turned off by thermostat sensor, the compressor will not run for five minutes in order to prevent it from being turned on and off in rapid succession, and to equalize pressure in the refrigerant circuit. It however restarts automatically after five minutes passes and operation is restarted by thermostat. The pressure equalizing solenoid valve is actuated for 10 minutes (15 minutes for 8 and 10HP heating only) after the compressor stops in order to equalize pressure.



If 10 minutes or more has elapsed since the compressor was turned off (15 minutes for 8 and 10HP heating only), turn the solenoid valve for equalizing pressure on for about 1 minute and equalize the pressure.

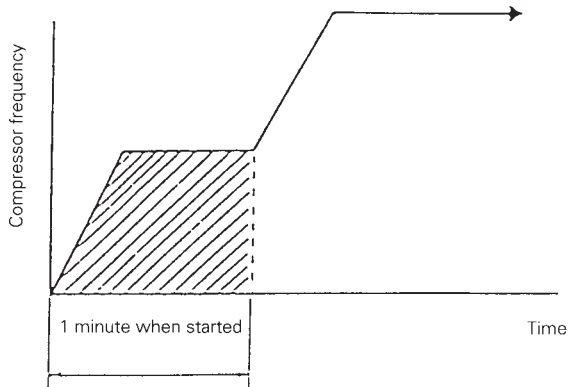
When heating, to prevent noise produced by the passing of indoor unit's refrigerant to equalize pressure after the compressor stops, fully close the indoor unit's electronic expansion valve for 5 minutes (10 minutes for 8 and 10HP).

(2) Soft Start

The following control is carried out to protect the compressor and inverter.

- (1) Operates at low frequency (fixed) for 1 minute after compressor starts. (Prevents backflow)
- (2) Pressure equalizing and hot gas bypass solenoid valves open and start low load.

Soft start of compressor



	Frequency during soft start
5K	42Hz
8,10K	42Hz+OFF

(3) Pump Down Start (8,10K only)

If the compressor stops running with refrigerant still in the accumulator, in order to prevent wet operation the next time you start the compressor, you should perform pump down start so you can start normal operation with a completely dry accumulator.

Pump down start should be performed if the unit is in any of the conditions given below when pressure equalizing control has been completed before start.

If R3T (R3-1T) is less than 95°C and the unit is in any of the following conditions.

- Within 10 minutes of the compressor starting
- Defrosting or during oil return
- Within 20 minutes of completion of defrost or oil return
- Outdoor air temperature < 0°C
- Oil temp. (To) < Te + 10°C

Operation during pump down start

	11 min. 30 sec.				
	1 min.	5 min.	30 sec.	30 sec.	4 min. 30 sec.
Compressor	42Hz+OFF	62Hz+OFF	32Hz+OFF		PI control ※32~106 Hz + OFF
Outdoor unit EV	0 pulses	0 pulses	0 pulses		SH control (Initial opening 150 pulses)
Outdoor unit fan	H tap (H+ON)	H tap (H+ON)	H tap (H+ON)		H tap (H+ON)
Y2S	ON	ON	ON	OFF	ON/OFF (LP protection control)
Y3S, Y4S	ON	ON/OFF (Td protection control)	ON/OFF (Td protection control)		ON/OFF (Td protection control)

※When heating, low pressure < 1.5 kg/cm² (0.147MPa) → running frequency 54Hz (54Hz + OFF)
 Low pressure > 1.7 kg/cm² (0.167MPa) [30 sec. continuous] → release

- Y2S: Hot gas bypass solenoid valve
- Y3S: Injection solenoid valve

(4) Heating Lay-Up Start

If the compressor hasn't run for a long time and the refrigerant isn't circulated, foaming could cause a lack of oil when the compressor is started the next time. You should therefore perform heating lay-up start to keep the low pressure from dropping too low in the following cases.

- First starting after power is ON.
- When the compressor has been stopped for more than 24 hours, or stopped for more than 24 hours by thermostat off.

Operation during heating lay-up start

Make the compressor's upper limit frequency 62Hz (62Hz + OFF) for 10 minutes after the compressor starts.

※If the low pressure becomes less than 1.5kg/cm² (0.147MPa) within 10 minutes after starting, Y2S is actuated and 10 minutes after start, the unit starts up as described below.

	4 min. 30 sec.
Compressor	PI control (upper limit 116Hz [106Hz +OFF])☆
Outdoor unit EV	SH control (initial opening 150 pulses)
Outdoor unit fan	H tap (H+ON)
Y2S	ON/OFF (LP safety control)
Y3S	ON/OFF (Td safety control)

- Y2S: Hot gas bypass solenoid valve
- Y3S: Injection solenoid valve

☆If low pressure becomes less than 1.5 kg/cm² (0.147MPa), operating frequency becomes 54Hz.

If low pressure becomes less than 1.7 kg/cm² (0.167MPa), the solenoid valves are released.

5. Equalized Oil Level Operation

(equalized oil level between twin compressors)

If using two compressors (8, 10Hp) connected in parallel, oil level equalizing is carried out for 5 minutes if the cumulative running time of the standard compressor exceeds 2 hours in order to prevent lack of oil cause by difference in pressure inside the dome due to drift, and then reverts to normal operation.

Inverter compressor	Standard compressor
106Hz	OFF

※If oil pressure equalization is stopped or is not achieved during 5 minutes of step down control, oil pressure is equalized when the compressor starts running.

With an inverter compressor, however, if the standard compressor remains off for 30 minutes, the cumulative running time of the standard compressor is reset.

6. Oil Return Operation

In order to collect refrigeration oil held up in connecting piping, the compressor's operating time is counted, and oil return operation is carried out for 4 minutes every 8 hours (2 hour after turning on the power supply, and every 8 hours after that).
(When heating, the indoor unit's electric heater is tuned off one minute prior to oil return in preparation for oil return.)

(1) Compressor Operation Frequency

Type	Cool	Heat
5K(5HP)	106Hz	96Hz
8K(8HP)	106Hz+ON	86Hz+ON
10K(10HP)	106Hz+ON	86Hz+ON

- When heating, frequency is lower than that given in the table for the first 30 seconds and 30 seconds after completion.
- Frequency may drop according to the various types of step-down control. If so, the next oil return must be carried out 4 hours later.

(2) Opening of the electronic expansion valve

	Outdoor unit	Operating indoor unit	Indoor unit turned off
When cooling	2000 pulses (completely open)	2000 pulses (completely open)	1440 pulses
When heating	2000 pulses (completely open)	2000 pulses (completely open)	2000 pulses (completely open)

(3) 4-way changeover valve (Y1R)

When cooling: No change

When heating: Switches to cooling mode

(4) Fan and solenoid valve

Step No. changes according to high pressure.

Step No.	Y2S	Y3S,Y4S	Fan
①	ON※	ON	H(H+ON)
②	OFF☆	ON	L(H+OFF)
③	OFF☆	ON	OFF

(Step No. becomes higher as high pressure decreases.)

① → ② 30 sec. after oil return start or high pressure is less than 16kg/cm² (1.57MPa)

② → ③ High pressure is less than 8 kg/cm² (0.78MPa)

③ → ② High pressure is greater than 16.4 kg/cm² (1.61MPa)

② → ① High pressure is greater than 22 kg/cm² (2.16MPa)

※When heating only

☆ On when low pressure is less than 0.3 kg/cm² (0.029MPa)

Off when low pressure is greater than 0.8 kg/cm² (0.078MPa)

Notes)

1. If the compressor frequency continues at 68Hz (38Hz + ON for 8, 10HP) or more for eight minutes or more while defrosting and the oil return timer is counting, the timer is reset and counts again for eight hours.
2. If on standby (forced OFF by thermostat) or the compressor stops due to malfunction during oil return operation, the next time the compressor starts, oil return operation is again carried out for four minutes after completion of soft start.
3. Oil return operation is not carried out for 28 minutes after defrost is completed.

7. Defrost

• Function

Defrost operation is carried out if the relation of the outdoor unit's coil temperature (T_{coil}) and outdoor temperature (T_{air}) satisfies the conditions given below for 5 minutes continuously.

$$T_{coil} \leq C \cdot T_{air} - \alpha$$

- T_{coil} : Temperature detected by R2T
- T_{air} : Temperature detected by R1T
- C : $T_{air} < 0^{\circ}\text{C} \rightarrow 0.8$
 $T_{air} \geq 0^{\circ}\text{C} \rightarrow 0.6$

The values of (a) according to defrost temperature changeover switch are given in the table below.

Switch position LED(23 24 25 26)	L (● ● ● ○)	M (● ● ○ ●)	H (● ○ ● ●)
(deg)	16	14	12

Therefore, if outdoor temperature is 0°C :

- (1) If position L, $T_{coil} \leq 16^{\circ}\text{C}$
- (2) If position M, $T_{coil} \leq 14^{\circ}\text{C}$
- (3) If position H, $T_{coil} \leq 12^{\circ}\text{C}$

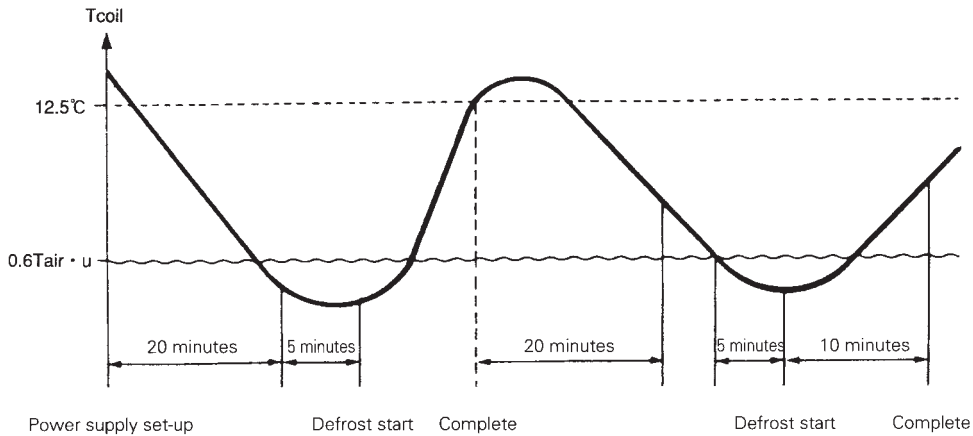
Because defrost operation is carried out, set to the "H" position if frost builds up easily, and set to "L" if not.

Factory set is position "M."

Defrost is carried out when the coil temperature rises to 9.5°C or higher or $P_c > 22 \text{ kg/cm}^2$, and is completed after defrosting for 10 minutes.

After defrosting, indoor units carry out hot start operation and the DEFROSTING display lights until hot start is complete.

Defrost conditions are not counted from completion of power supply set-up and defrost until the compressor runs (count) for 20 minutes.



8. Heating Pump Down Residual Operation

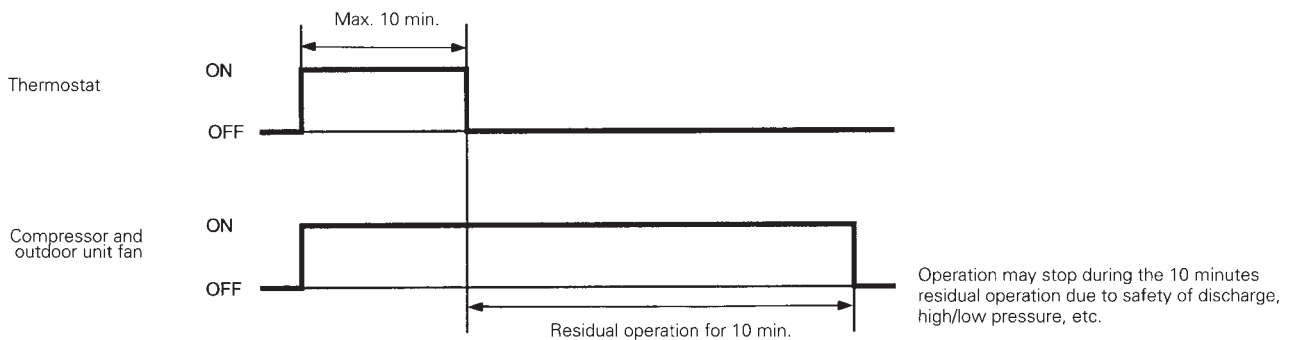
(For RSXYP8, 10 KJY1)

If there is refrigerant remaining in the accumulator when the compressor starts, liquid refrigerant is sucked into the compressor, mixing with the refrigerating machine oil and reducing the lubricating performance of the oil. To prevent it, a residual pump-down operation is conducted to discharge remaining refrigerant when the air conditioning system is not used.

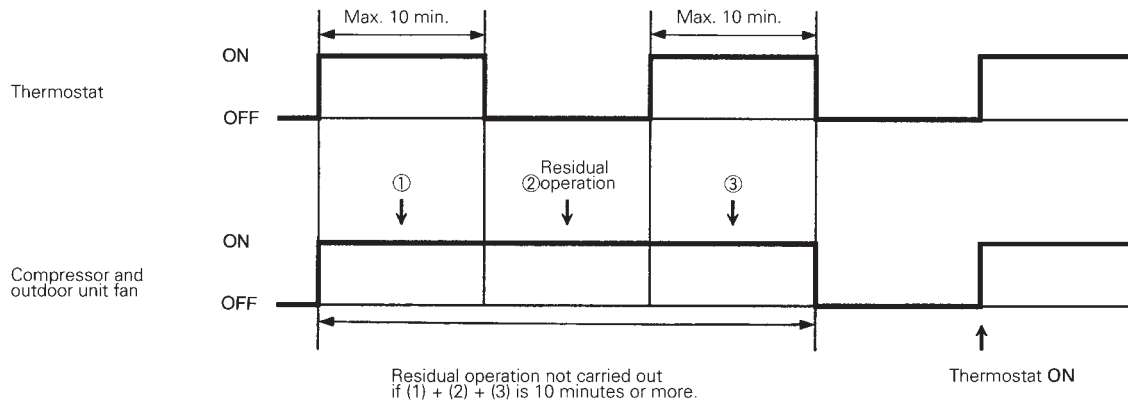
Residual operation may be carried out for 10 minutes under the following conditions when heating.

- (1) & OR
- Inverter-side discharge pipe thermistor (R3-1T): 95°C or lower
 - Outside temperature thermistor (R1T) < 0°C
 - When continuous compressor operating time is 10 minutes or less and when thermostat is OFF or operation stop command is received from remote controller
 - Within 20 minutes from defrost or oil return operation
 - T_0 (oil temperature) $\leq T_e + 10$

When the above conditions are met, a residual pump-down operation is conducted for a maximum of 10 minutes.



- (2) When the thermostat is ON during residual operation, residual operation is not carried out if the total of (1) + (2) + (3) is 10 minutes or more.



- (3) When outdoor temperature (R1T) is less than -5°C and a stop command is received from the thermostat sensor, etc., residual operation is carried out for 10 minutes without fail. (Operation may however stop for discharge pipe or high/low pressure safety.)

Outdoor unit function

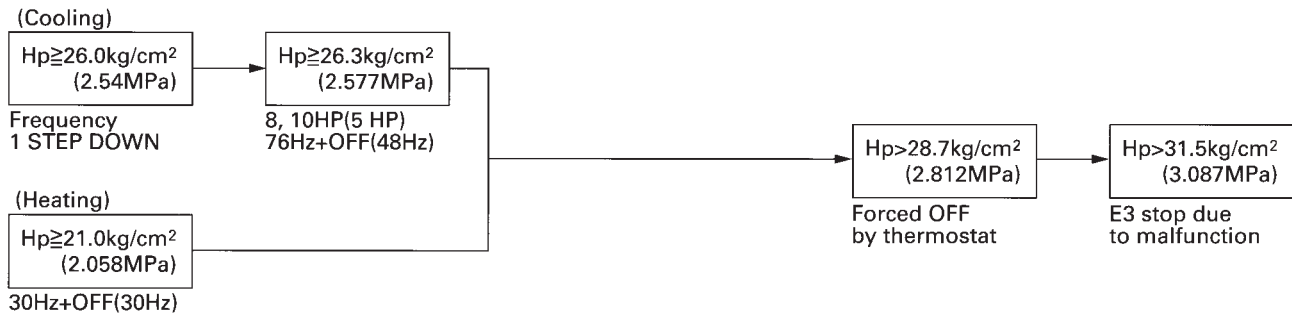
Outdoor air (R1T)	Compressor		Electronic expansion valve Y1E	Pressure equalizing solenoid valve Y2S	Time
	STD	INV			
R1T < -10°C	OFF	86	0 ~ 300 pulses	ON or OFF	10 min.
-10°C ≤ R1T ≤ 0°C	OFF	76	0 ~ 300 pulses	ON or OFF	10 min.
R1T ≥ 0°C	OFF	62	0 ~ 300 pulses	ON or OFF	10 min.

Notes)

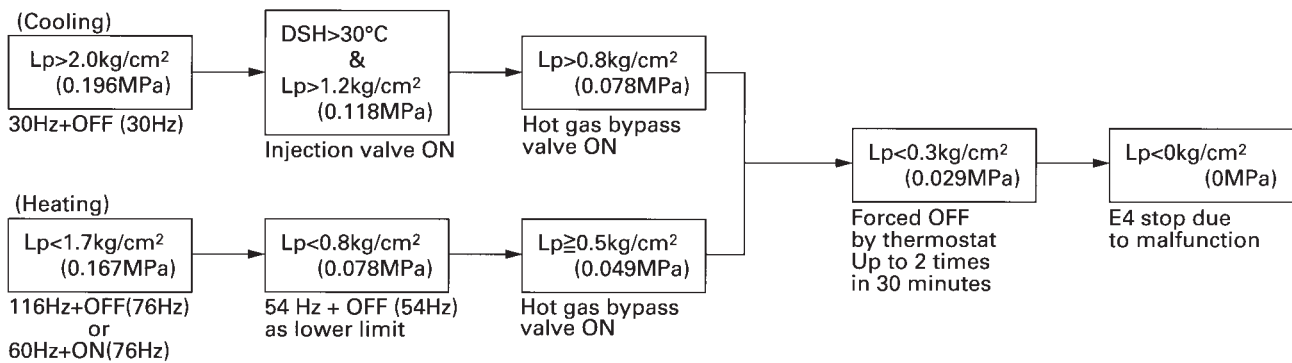
- During defrost or oil return, residual operation is not carried out even if a stop command comes.
- Forced OFF by thermostat occurs if defrost or oil return comes during residual operation.

9. Step Down / Safety Control → Standby (Forced Thermostat OFF) → Stop Due to Malfunction

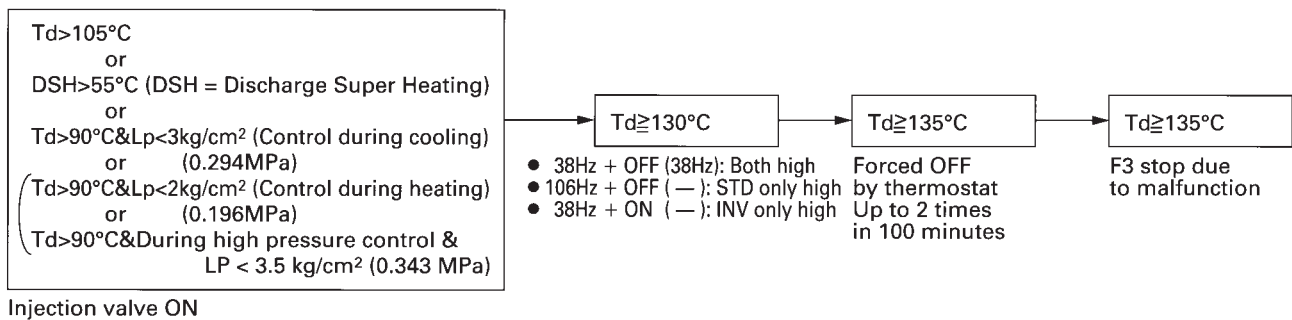
(1) High pressure (Hp) control



(2) Low pressure (Lp) control



(3) Discharge pipe temperature (Td) control



(4) Inverter current control



(5) Discharge super heating (DSH) control

(DSH = T_d - high pressure condensation saturation temperature)

When both the inverter and standard compressors are running, if the injection valve for either one goes OFF, and super heating (DSH) continues for 10 seconds at temperature difference of less than 10°C, and the inverter compressor is controlled at 76 Hz or less for 3 minutes.

(6) Control according to outdoor temperature

If the outdoor temperature exceeds 27°C when heating, forced OFF by thermostat is carried out in order to prevent a safety device from being tripped or a sensor malfunction.

10. Control During Low Outdoor Air Temperature Cooling

- When cooling when the outdoor air temperature is low in cooling, outdoor unit fans, electronic expansion valve and compressors are controlled as follows in order to primarily maintain high pressure and to check drop in refrigerant circulation caused by drop in high pressure.

RSXYP5KJY1

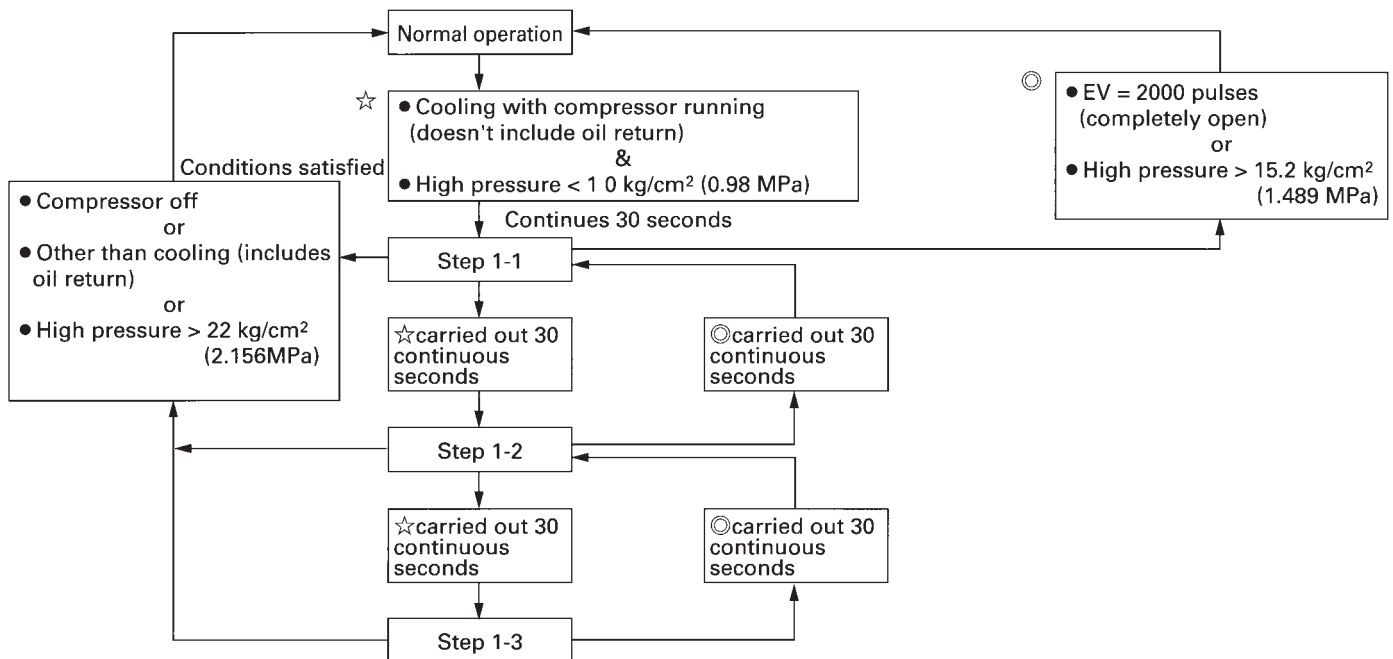
Operating status		Electronic expansion valve	Fan	Frequency (Hz)
Normal operation		Completely open	H	Changes according to operating status
Low outdoor temperature cooling operation	Step 1	Completely open	L	76
	Step 2	Completely open	OFF	48

RSXYP8,10KJY1

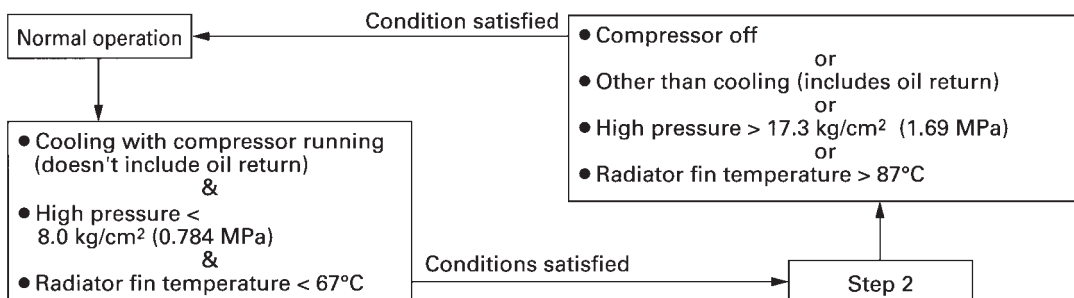
Operating status		Electronic expansion valve	Fan		Frequency (Hz)	
			M1F	M2F	8K	10K
Normal operation		Completely open	H	ON	Changes according to operating status	
Low outdoor temperature cooling operation	Step 1	Completely open	L	ON	96	116
	Step 2	Completely open	H	OFF	86	106
	Step 1-3	Completely open	L	OFF	76	96
	Step 2	Completely open	OFF	OFF	62	76

NOTE: Step No. changes according to high pressure, low pressure and frequency.
(Step No. increases with high pressure and reduction of low pressure.)

• Low outdoor air cooling IN conditions (Steps 1-1, 2, 3)



• Low outdoor air cooling IN conditions (Step 2)



11. Low Noise Control

If sound produced by outdoor units is a problem at night, etc., you can reduce the running noise by 2 to 3 dB by running the outdoor unit fans and compressors at low speed via contact input (low noise input) from outside.

Operation (contact short circuit) is as follows when low noise input is received while the compressor is running (except when defrosting or oil return is being carried out).

		RSXYP5KJY1 (5HP)	RSXYP8KJY1 (8HP)	RSXYP10KJY1 (10HP)
Outdoor unit fan	step ①	L tap	H tap + OFF	
	step ②	L tap	L tap + OFF	
Compressor		62Hz	86Hz+OFF	96Hz+OFF

- When cooling: Step (1) → (2) high pressure > 26.3 kg/cm² (2.577 MPa)
Step (2) → (1) high pressure < 20.8 kg/cm² (2.04 MPa)

- Low noise control reduces capacity by limiting the fan and compressor. The load when heating is particularly large at night when the outdoor temperature is low, and could result in insufficient capacity.
- During low noise control, retry is unlimited for standby (forced OFF by thermostat) produced by high pressure, low pressure or discharge pipe temperature.
- An optional adaptor for outside control of outdoor units is required for low noise control. For method of connection, see low noise operation in the test operation section.

12. Demand Control

There are three modes of demand operation which controls forced capacity save for outdoor units via contact input (demand input) from outside in order to control demand.

- (1) Demand 1: Holds demand down to approx. 70%
- (2) Demand 2: Holds demand down to approx. 40%
- (3) Demand 3: Forced OFF by thermostat

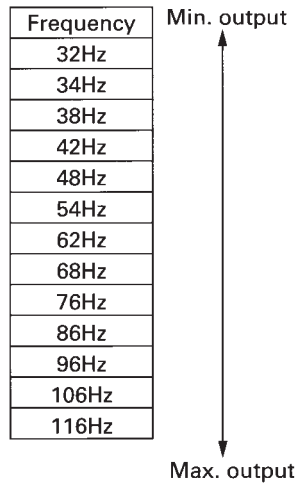
- An optional adaptor for outside control of outdoor units is required for low noise control. For method of connection, see low noise operation in the test operation section.
- Control is carried out by limiting the upper limit for frequency of demand 1 and demand 2 as given in the table below.

	5HP	8HP	10HP
Demand 1	62Hz	48Hz+ON	62Hz+ON
Demand 2	34Hz	62Hz+OFF	76Hz+OFF
Demand 3	Forced OFF by thermostat		

13. Compressor Capacity Control

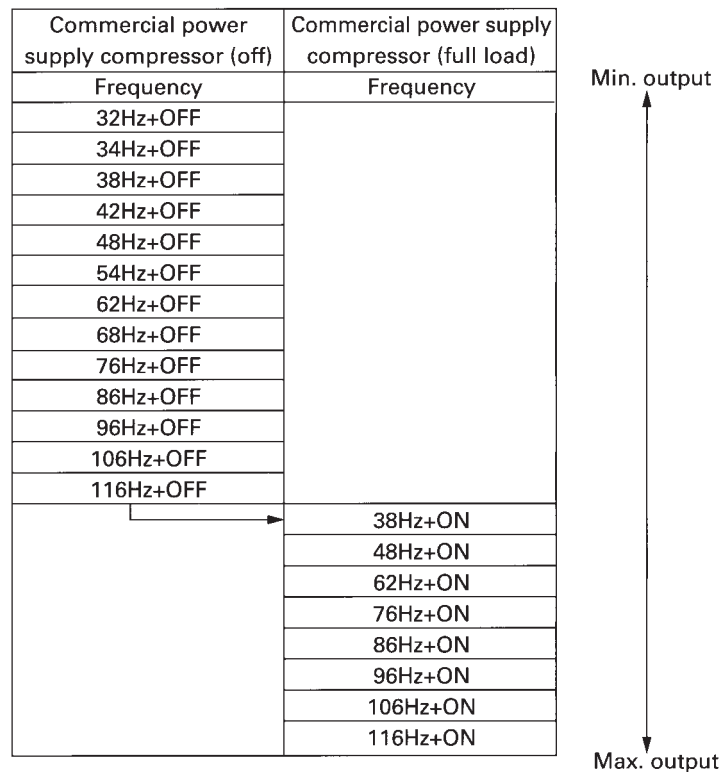
1. RSXYP5KJY1

Pressure is sampled every 20 seconds by pressure sensor, and the inverter compressor is controlled in 13 stages by microcomputer. Frequency range: 34 - 116 Hz (13 stages)



2. RSXYP8, 10KJY1

Pressure is sampled every 20 seconds by pressure sensor, and the two compressors (Commercial power supply compressor and inverter compressor) are controlled in 20 stages by microcomputer.



14. Te / Tc Setting

You can alter the value of setting mode 2 targets Te (evaporating pressure equivalent temperature) and Tc (condensing pressure equivalent temperature). PI control is used to control compressor capacity so that Te when cooling and Tc when heating are constant.

Te setting	Set temperature
High	10.5 °C
Standard	7.5 °C
Low	4.5 °C

- Target Te changes according to compressor operating frequency, length of piping and indoor load. The range is $-10^{\circ}\text{C} \leq \text{target Te} \leq 5.5^{\circ}\text{C}$. (Piping length is determined automatically during oil return operation.)

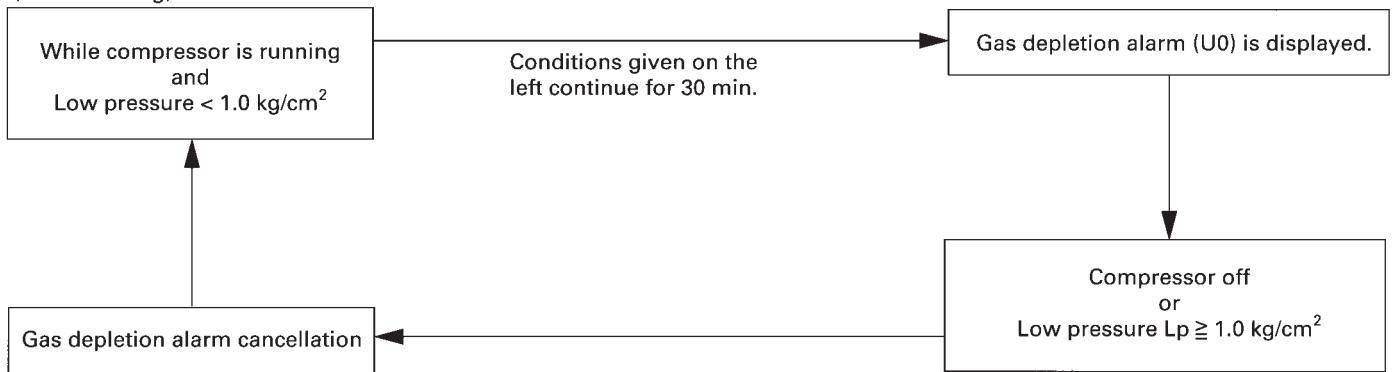
Tc setting	Set temperature
High	51 °C
Standard	48 °C
Low	45 °C

- Target Tc becomes 3°C higher when indoor load is large. Target Tc is controlled in accordance with the following conditions:
- Outdoor temp. $> 10^{\circ}\text{C} \rightarrow \text{target Tc} \leq 48^{\circ}\text{C}$
- Outdoor temp. $\leq 10^{\circ}\text{C} \rightarrow \text{target Tc} \leq 51^{\circ}\text{C}$
- Target Tc is 43°C when high pressure $> 18.6 \text{ kg/cm}^2$ (1.822 MPa) and low pressure $< 1.8 \text{ kg/cm}^2$ (0.176 MPa).

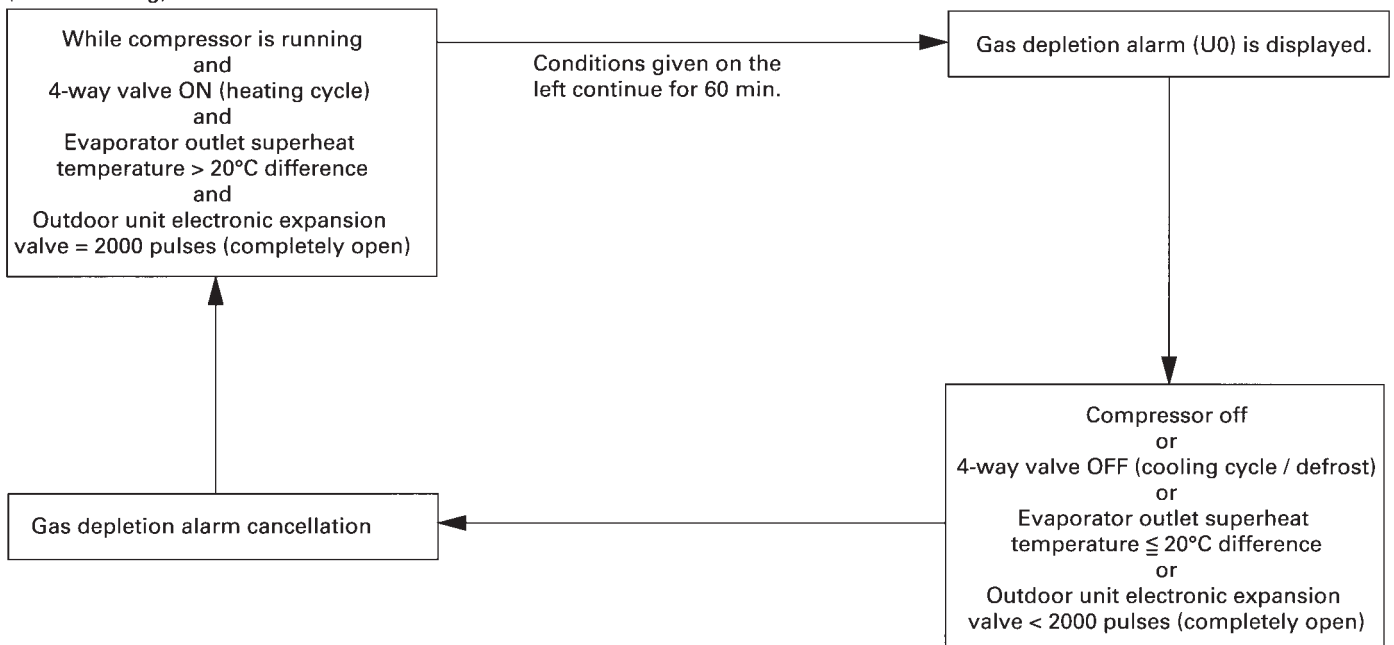
15. Gas Depletion Alarm

An alarm (U0) is given for severe gas depletion. Alarm is indicated but operation continues.

(When cooling)



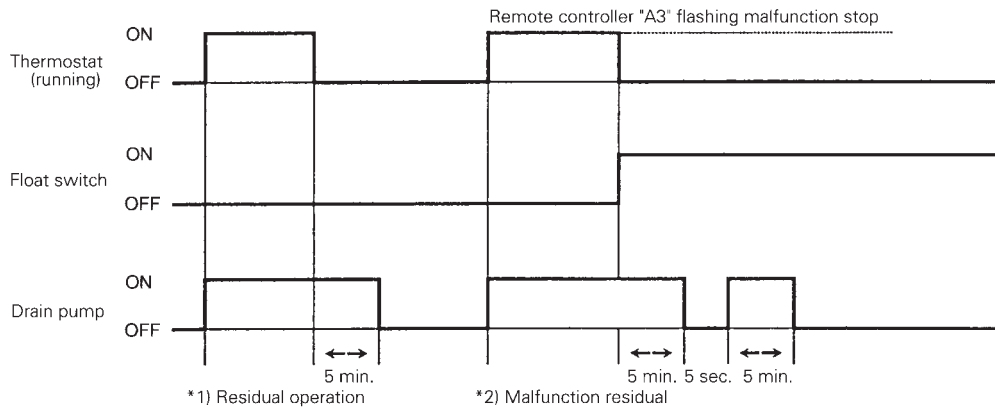
(When heating)



16. Drain Pump Control

1. The drain pump is controlled by the ON/OFF buttons (4 button (1) - (4) given in the figure below).

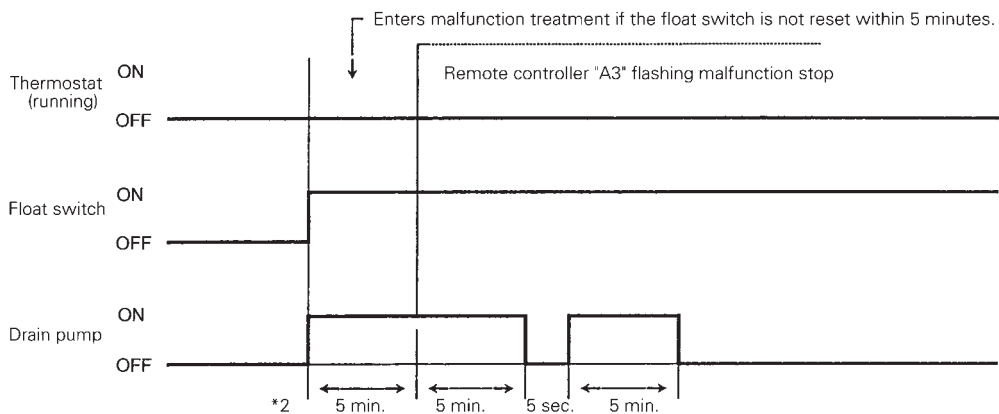
(1) When the float switch is tripped while the cooling thermostat is ON:



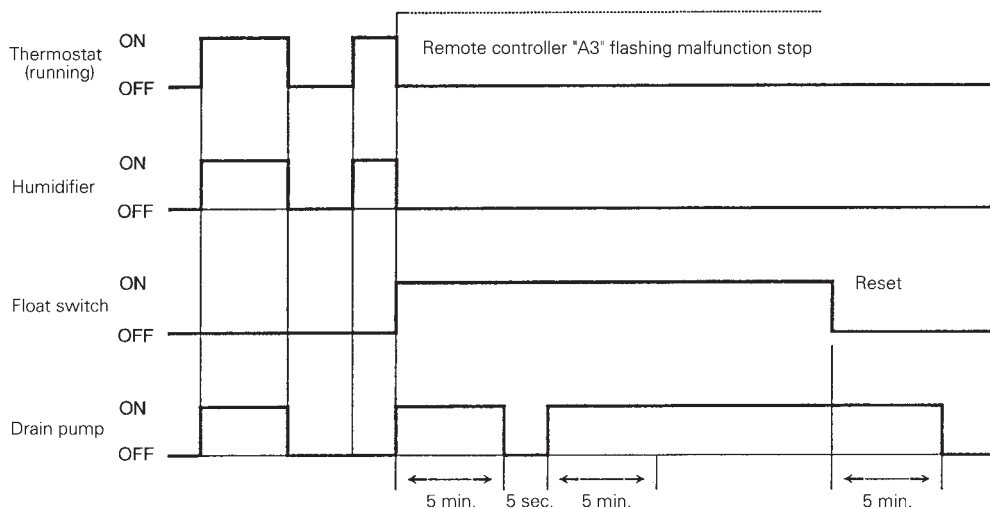
※1. The objective of residual operation is to completely drain any moisture adhering to the fin of the indoor unit heat exchanger when the thermostat goes off during cooling operation.

※2. One cycle consists of 5 minutes of operation, 5 seconds stop, and another 5 minutes of operation.

(2) When the float switch is tripped during cooling OFF by thermostat:

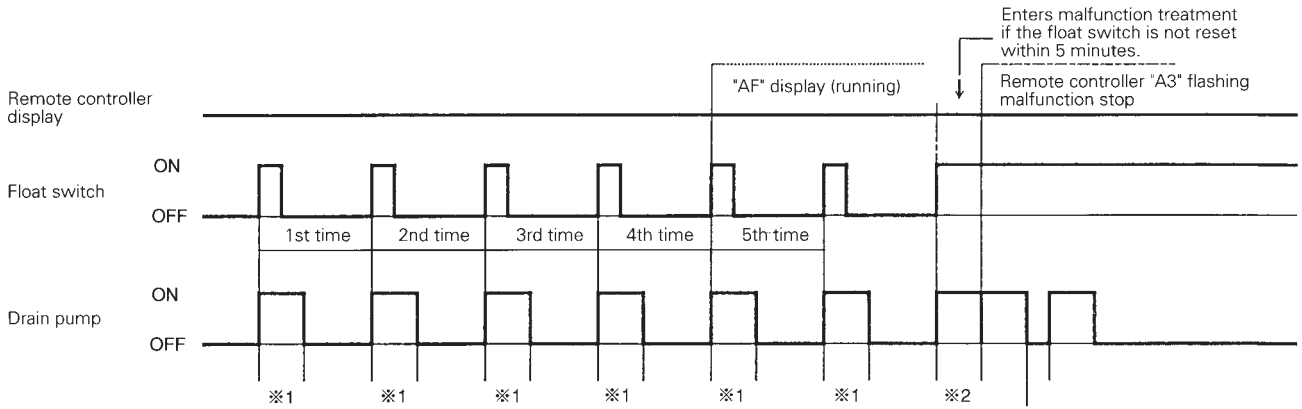


(3) When the float switch is tripped during heating operation:



During heating operation, if the float switch is not reset even after the 5 minutes operation, 5 seconds stop, 5 minutes operation cycle ends, operation continues until the switch is reset.

(4) When the float switch is tripped and "AF" is displayed on the remote controller:

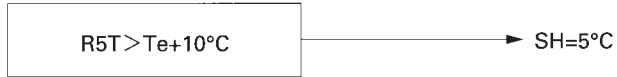
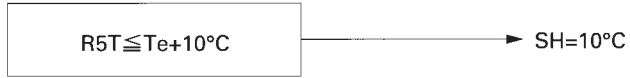


Note: If the float switch is tripped five times in succession, a drain malfunction is determined to have occurred. "AF" is then displayed as operation continues.

17. Oil Temperature Sensor (8 and 10 Hp only)

(1) Prevention of wetness during heating

- Wet operation is prevented by modification of super heating (SH) by oil temperature sensor (R5T). (Low equivalent pressure = T_e)

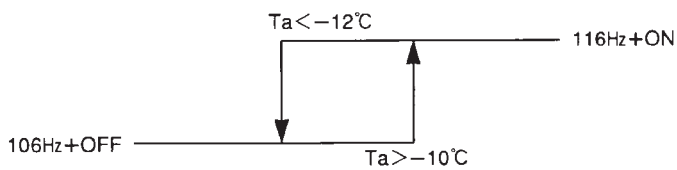


(2) Prevention of oil dilution during defrost

- The unit controls upper limit frequency of the compressor and is designed to prevent oil from being diluted while defrosting by means of an oil temperature sensor.

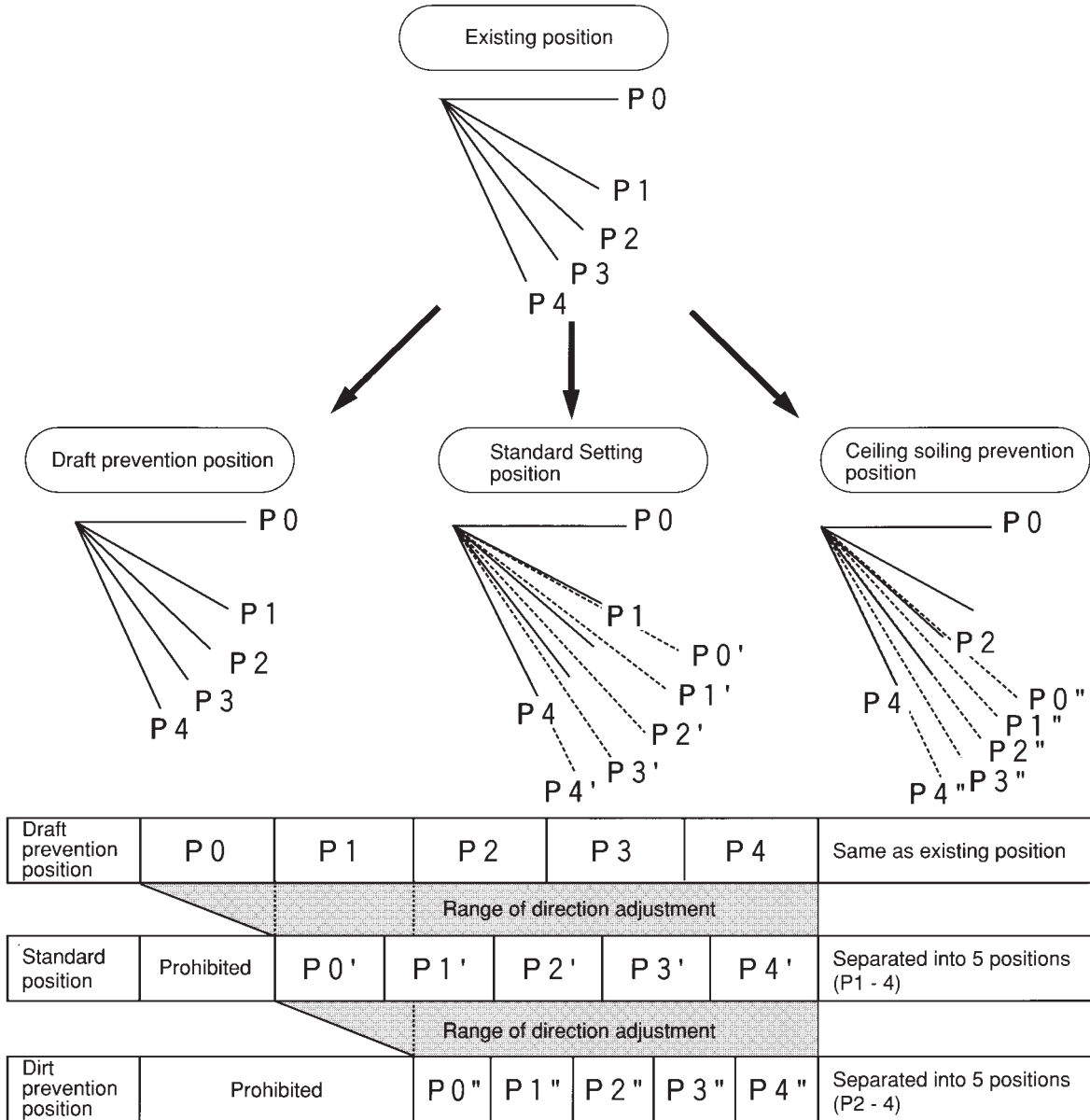


- Startup subsequent to defrosting is improved by the oil temperature sensor.



18. Louver Control for Preventing Ceiling Dirt

We have added a control feature that allows you to select the range of in which air direction can be adjusted in order to prevent the ceiling surrounding the air discharge outlet of ceiling mounted cassette type units from being soiled. (This feature is available on double flow, multiflow and corner types.)



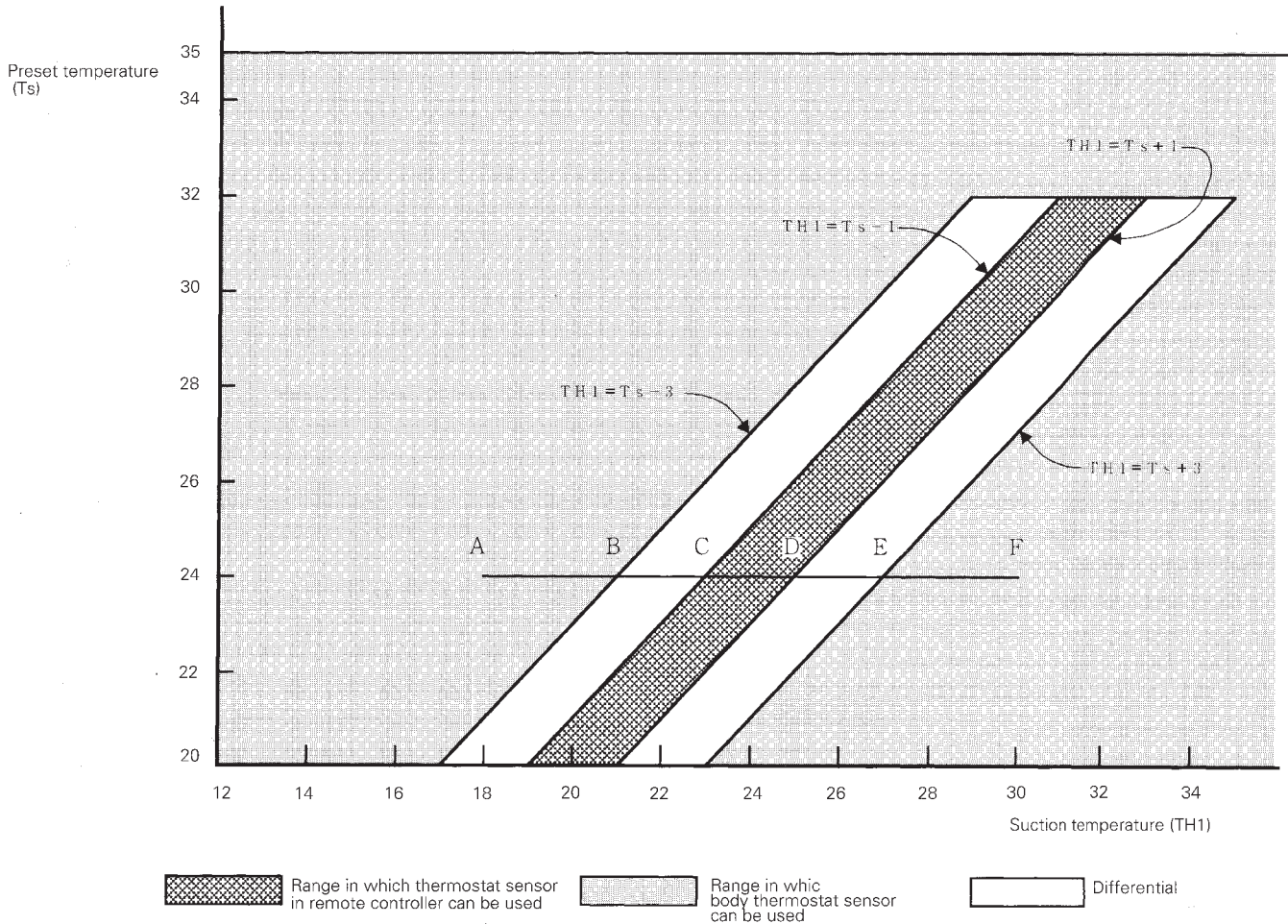
The factory set position is standard position.

19. Thermostat Sensor in Remote Controller

Temperature is controlled by both the thermostat sensor in remote controller and air suction thermostat in the indoor unit. (This is however limited to when the field setting for the thermostat sensor in remote controller is set to "Use.")

(Cooling)

If there is a significant difference in the preset temperature and the suction temperature, fine adjustment control is carried out using a body thermostat sensor, or using the sensor in the remote controller near the position of the user when the suction temperature is near the preset temperature.



(Ex: When cooling)

Assuming the preset temperature in the figure above is 24°C, and the suction temperature has changed from 18°C to 30°C (A → F): (This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18°C to 23°C (A → C).

Remote controller thermostat sensor is used for temperatures from 23°C to 27°C (C → E).

Body thermostat sensor is used for temperatures from 27°C to 30°C (E → F).

And, assuming suction temperature has changed from 30°C to 18°C (F → A):

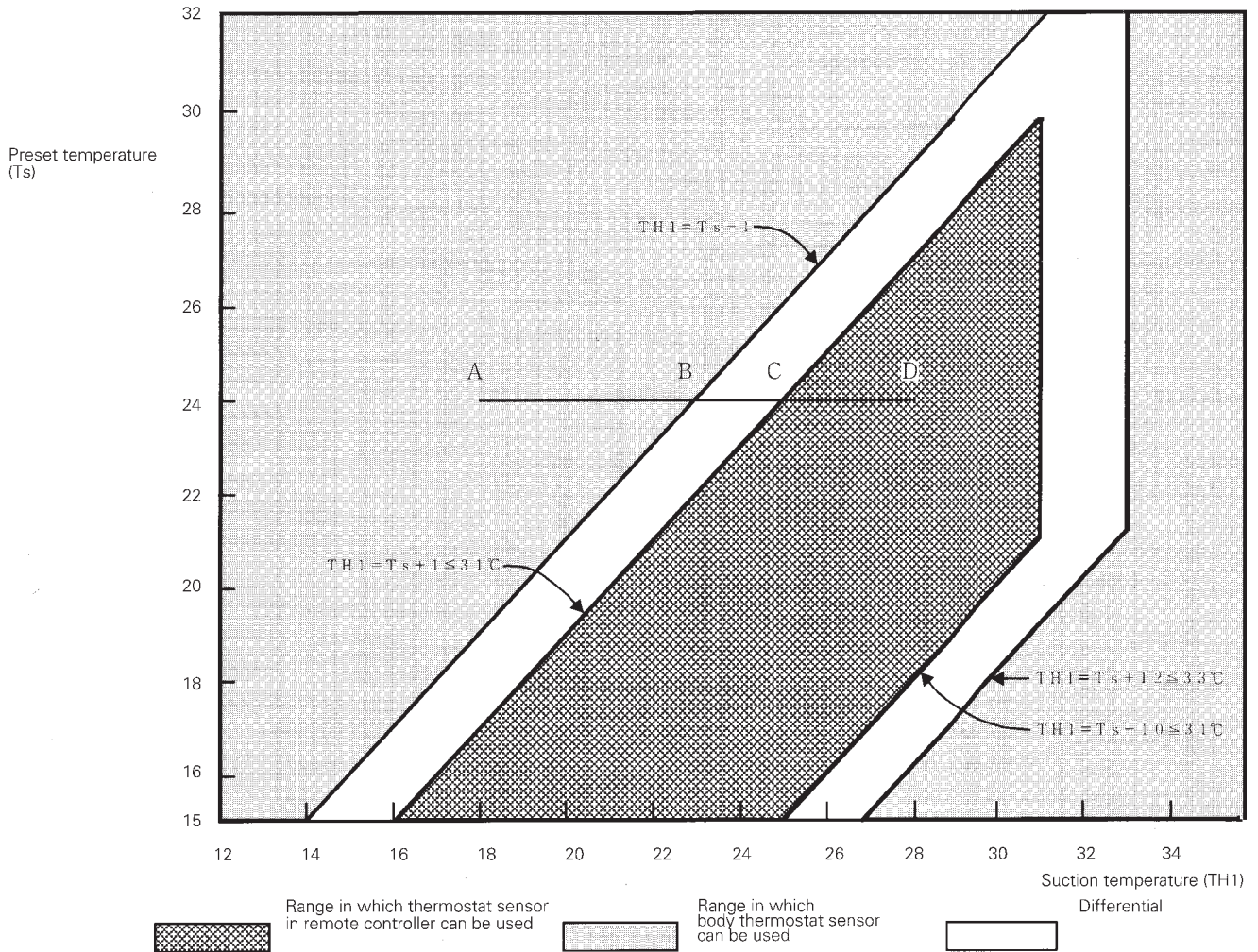
Body thermostat sensor is used for temperatures from 30°C to 25°C (F → D).

Remote controller thermostat sensor is used for temperatures from 25°C to 21°C (D → B).

Body thermostat sensor is used for temperatures from 21°C to 18°C (B → A).

(Heating)

When heating, the hot air rises to the top of the room, resulting in the temperature being lower near the floor where the occupants are. When controlling by body thermostat sensor only, the unit may therefore be turned off by the thermostat before the lower part of the room reaches the preset temperature. The temperature can be controlled so the lower part of the room where the occupants are doesn't become cold by widening the range in which thermostat sensor in remote controller can be used so that suction temperature is higher than the preset temperature.



(Ex: When heating)

Assuming the preset temperature in the figure above is 24°C, and the suction temperature has changed from 18°C to 28°C (A → F): (This example also assumes there are several other air conditioners, the VRV system is off, and that temperature changes even when the thermostat sensor is off.)

Body thermostat sensor is used for temperatures from 18°C to 25°C (A → C).

Remote controller thermostat sensor is used for temperatures from 25°C to 28°C (C → E).

And, assuming suction temperature has changed from 28°C to 18°C (D → A):

Remote controller thermostat sensor is used for temperatures from 28°C to 23°C (D → B).

Body thermostat sensor is used for temperatures from 23°C to 18°C (B → A).

20. Freeze Prevention

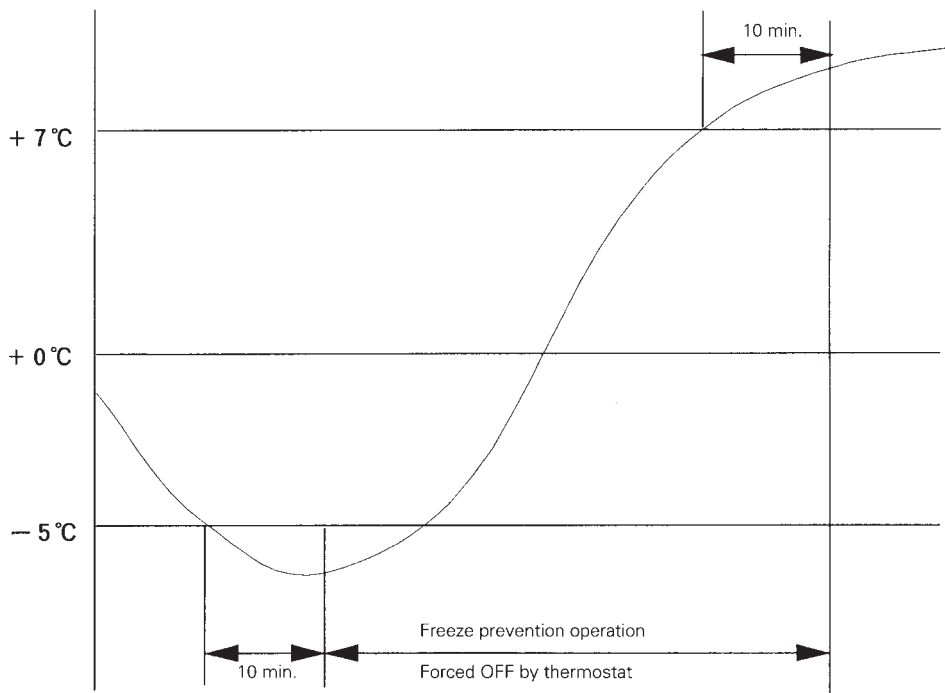
Freeze prevention by off cycle (indoor unit)

When the temperature detected by liquid pipe temperature thermistor (R2T) of the indoor unit heat exchanger drops too low, the unit enters freeze prevention operation in accordance with the following conditions, and is also set in accordance with the conditions given below.

Conditions for starting freeze prevention: Temperature is -1°C or less for total of 40 min., or temperature is -5°C or less for total of 10 min.

Conditions for stopping freeze prevention: Temperature is $+7^{\circ}\text{C}$ or more for 10 min. continuously

Ex: Case where temperature is -5°C or less for total of 10 min.



TEST OPERATION

Inverter K Series

New Refrigerant R407C System

1. When Power is Turned On

■ When turning power on the first time

The unit will not run for up to 12 minutes in order for master power supply and address (indoor unit address, etc.) to be set automatically.

Outdoor unit Warning lamp (HWL)..... On
 Test lamp (H2P) Flicker
 Can be set while in operation.

Indoor unit "UH" malfunction code flickers when the ON/OFF button is pushed during the aforementioned operation.
(Returns to normal when automatic setting is complete.)

■ When turning power on after the first time

※ Tap the RESET button on the outdoor unit PC Board. The unit can be operated after setting up for about two minutes.

If the RESET button is not pushed, the unit will not run for up to 10 minutes in order for master power supply to be set automatically.

Outdoor unit HWL lamp..... On
 Test lamp (H2P) Flicker
 Can be set while in operation.

Indoor unit If the ON/OFF button is pushed during the aforementioned operation, the operation lamp lights but the unit will not run.
(Returns to normal when automatic setting is complete.)

■ If outdoor, indoor or BS unit is extended, or if indoor/outdoor unit PC board is replaced:

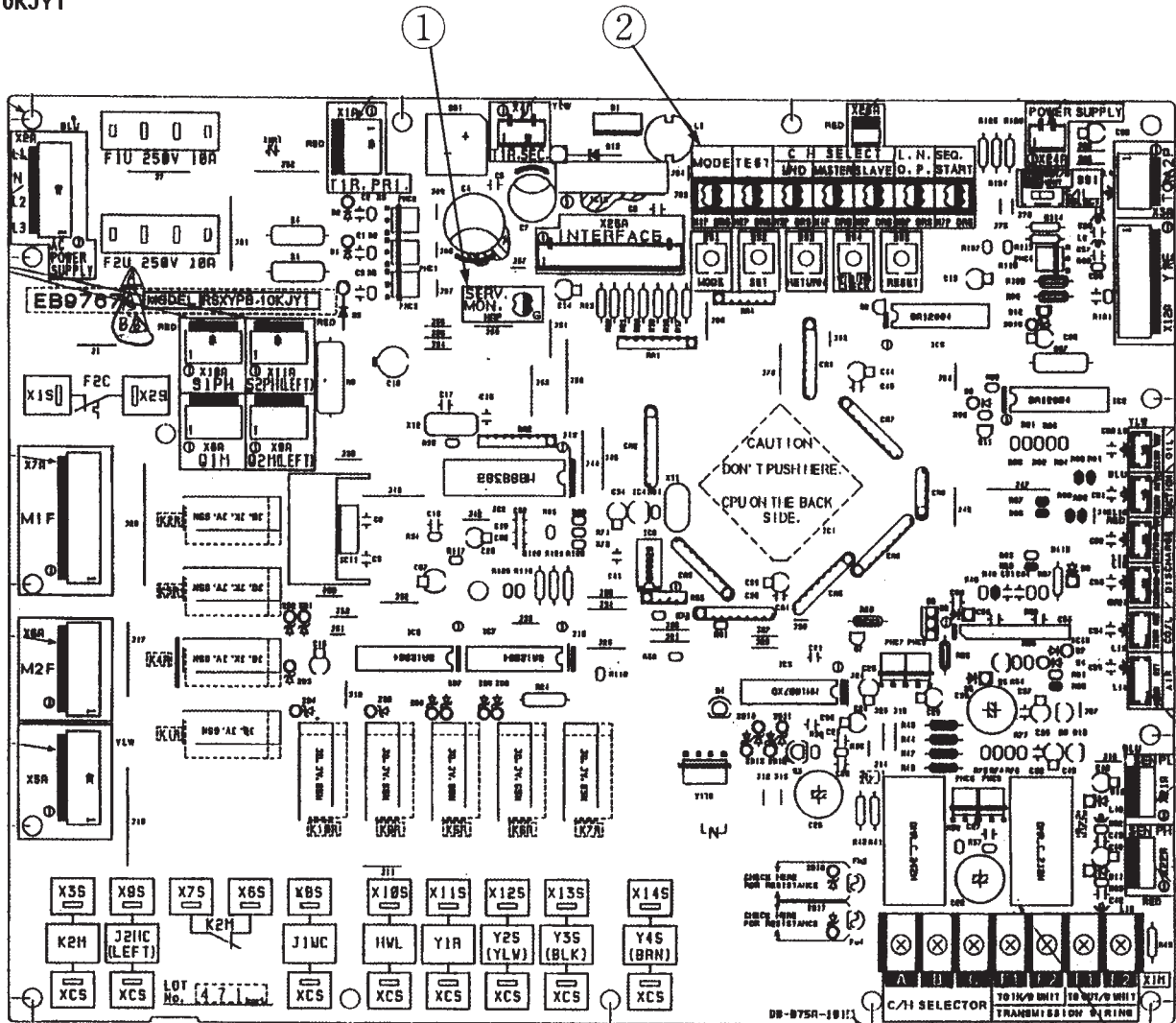
In these cases, be sure to push and hold the RESET button for 5 seconds or more. The system will not recognize the extension if this operation is not performed. The unit will not run for up to 10 minutes in order for the addresses (indoor unit address, etc.) to be set automatically.

Outdoor unit Warning lamp (HWL)..... On
 Test lamp (H2P) OFF
 Can be set while in operation.

Indoor unit "UH" or "U4" malfunction code flickers when the ON/OFF button is pushed during the aforementioned operation.
(Returns to normal when automatic setting is complete.)

2. Outdoor Unit PC Board Ass'y

RSXYP8KJY1
10KJY1



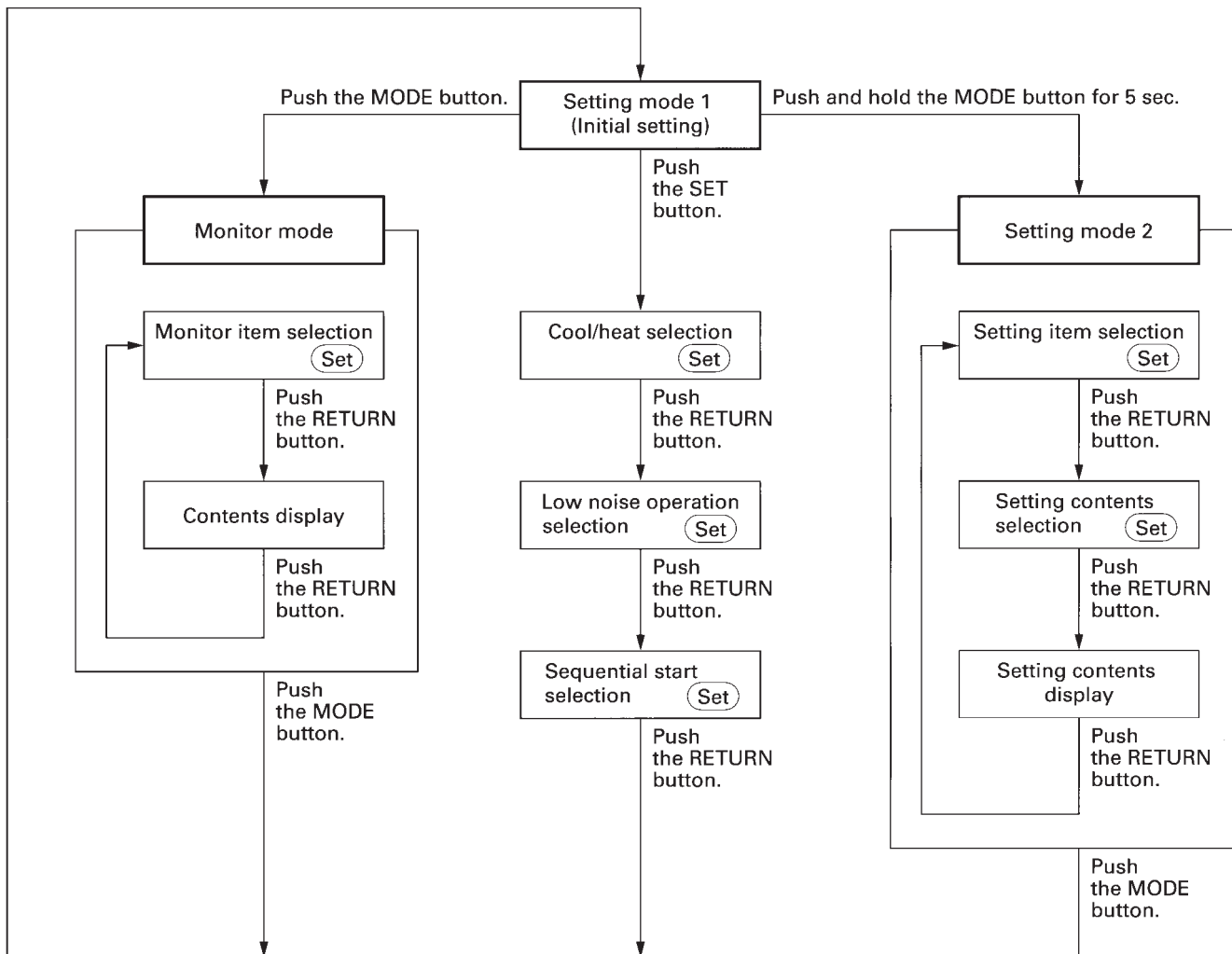
<p>① Service monitor <HAP> (Green)</p>	<p>NormalFlicker MalfunctionOn or off</p>
<p>Function setting switch or LED</p> <p>LED display ○ : On ● : Flicker ● : Off</p>	
<p>②</p>	<p>Mode buttonMode change</p> <p>Setting mode 1 (H1P off) → Push 1 time. → Monitor mode (H1P flickers) → Push 1 time. Setting mode 2 (H1P on) → Push and hold for 5 sec. → Setting mode 2 (H1P on) → Push 1 time.</p> <ul style="list-style-type: none"> ● Set return buttonChanges or enters address or data. ● Wiring check button ...Push and hold for 5 sec. to start wiring check. ● Reset buttonPush and hold for 5 sec. if the indoor unit's PC board has been replaced, or there has been a change in the combination of indoor and outdoor units, such as indoor unit extension, etc.

3. Setting Modes

The three setting modes are as follows:

- **Setting mode 1**Mode for selecting cool/heat setting method, and whether or not to use low noise operation and sequential start.
(H1P off)
- **Setting mode 2**Mode for changing operating status and setting addresses; used primarily for service.
(H1P on)
- **Monitor mode**Mode for checking setting made in the setting modes, number of connected units, etc.
(H1P flickers)

The flow of the setting modes is as follows. (See the following pages for details.)



- You can make your selections with the SET button. (Set)

If you become unsure of how to proceed, push the MODE button and return to setting mode 1.

☆ You don't have to perform power supply reset after changing settings in setting mode 1 (including [SS1] cool/heat selection switch on the outdoor unit PC board) and setting mode 2.

(1) Setting Mode 1

Cool/heat selection setting (SS1) If carried out from the indoor unit remote controller: If carried out from the cool/heat selector:



(Factory set)

MODE	TEST	C/H SELECT			LN.O.P.	SEQ. START
		IND	MASTER	SLAVE		
H1P	H2P	H3P	H4P	H5P	H6P	H7P



The factory settings are:

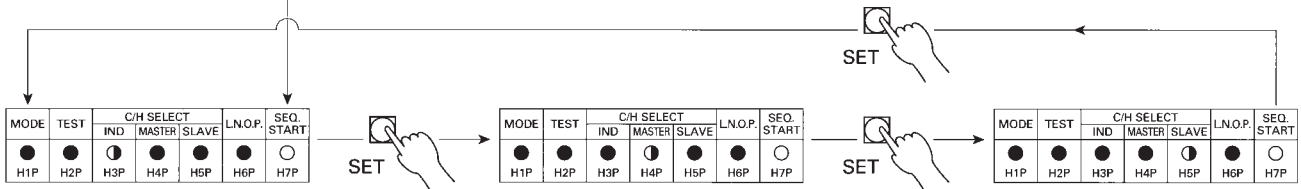
Individual (C/H SELECT), OFF (L.N.O.P.), ON (SEQ. START)

You can change the cool/heat selection permission, low noise and sequential start settings by pushing the SET switch.

To skip settings you don't want to change, push the RETURN switch and go to the next setting.

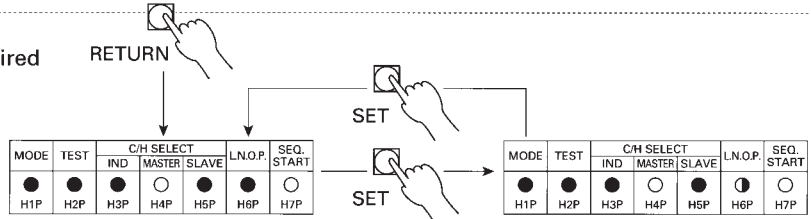
Change cool/heat selection to MASTER.

An optional adaptor for outside control of outdoor units is required if you have set cool/heat selection to MASTER or SLAVE.

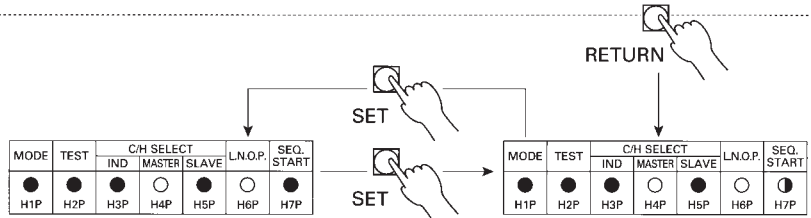


Change low noise operation to "ON".

External control adaptor for outdoor unit is required if low noise operation is set to "ON".

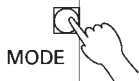
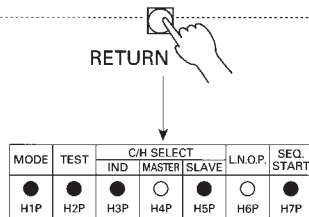


Change sequential start to "OFF".



Setting complete

GROUP MASTER (cool/heat selection), ON (low noise), OFF (sequential start)



Monitor mode



Push and hold for 5 sec.

Setting mode 2

NOTE: 1. RSXP5K is completed by low noise setting.

2. External control adaptor for outdoor unit is required if cool/heat selection set to MASTER or SLAVE, or if low noise operation is set to ON. For further information, see page 43.

(2) Setting Mode 2

To enter setting mode 2 from setting mode 1 (normal), you must push and hold the MODE button (BS1) for 5 seconds. (Setting mode 2 cannot be entered while still making settings in setting mode 1.)

Setting procedure

- ① Push the SET button and match with the setting item (LED display). (All 10 settings)
↓
- ② Push the RETURN button (BS3) and the present settings flicker (LED display).
↓
- ③ Push the SET button (BS2) and match with each setting (LED flicker display).
↓
- ④ Push the RETURN button (BS3) and enter the settings.
↓
- ⑤ Push the RETURN button (BS3) and return to the initial status.

Note: ● If you become unsure of how to proceed, push the MODE button (BS1) and return to setting mode 1.

● The initial status of setting mode 2 is the status of setting item No. 1 in mode 2.

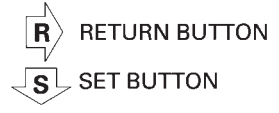
☆1 ...Cannot be set with RSXY5K.

Settings

	Setting item	Description	LED display							LED display																	
			H1P	H2P	H3P	H4P	H5P	H6P	H7P	H1P	H2P	H3P	H4P	H5P	H6P	H7P											
1	EMG ☆1	Emergency operation when malfunction occurs	○	●	●	●	●	●	●	Emergency operation (Runs only by standard compressor)	○	●	●	●	○	●	Normal operation	○	●	●	●	○	●				
2	Cool/heat group address	Address for cool/heat group operation	○	●	●	●	●	○	Address 0	○	●	●	●	●	○	Binary number 1	○	●	●	●	○	Binary number 2	○	●	●	○	●
									{					{						{							
									31	○	●	○	○	○	○						31	○	●	○	○	○	
3	Low noise / demand address	Address for low noise / demand group operation	○	●	●	●	○	●	Address 0	○	●	●	●	○	Binary number 1	○	●	●	○	○	Binary number 2	○	●	●	○	○	
									{					{						{							
									31	○	●	○	○	○	○						31	○	●	○	○	○	
4	Forced fan switch	Fan of stopped indoor unit turns	○	●	●	○	○	○	Forced fan operation (H tap)	○	●	●	○	○	Normal operation	○	●	●	○	○							
5	Indoor unit forced operation	Allows operation of indoor unit from outdoor unit	○	●	●	○	○	○	Indoor unit forced operation	○	●	●	○	○	Normal operation	○	●	●	○	○							
6	Frequency fix	Fixes the frequency of the inverter compressor 5HP--68Hz 8.10HP--86Hz+ON	○	●	●	○	○	○	Frequency fix	○	●	●	○	○	Normal operation	○	●	●	○	○							
7	Te setting	Low pressure setting for cooling	○	●	○	○	○	○	High	○	●	●	○	○	Normal (factory set)	○	●	●	○	○	Low	○	●	●	○	○	
8	Tc setting	High pressure setting for heating	○	●	○	○	○	○																			
9	Defrost setting	Temperature setting for defrost	○	●	○	○	○	○	Quick defrost	○	●	●	○	○	Normal (factory set)	○	●	●	○	○	Slow defrost	○	●	●	○	○	
10	Airnet address	For airnet address	○	●	○	○	○	○	Address 0	○	●	●	●	○	Binary number 1	○	●	●	○	○	Binary number 2	○	●	○	○	○	
									{					{						{							
									63	○	○	○	○	○	○						63	○	○	○	○	○	
11	Additional refrigerant charge	Enters additional refrigerant charge operation	○	○	○	○	○	○	For details, refer to "Additional Refrigerant Charge Operation Procedure" on page 40.																		
12	Refrigerant recovery	Enters refrigerant recovery mode	○	○	○	○	○	○	For details, refer to "Refrigerant Recovery Mode" on page 41.																		

No	Setting item	Description	LED display H1P H2P H3P H4P H5P H6P H7P	LED display H1P H2P H3P H4P H5P H6P H7P	LED display H1P H2P H3P H4P H5P H6P H7P
1	EMG ☆1	Emergency operation when malfunction occurs		Emergency operation Normal operation	
			↓ S		
2	Cool/heat group address	Address for cool/heat group operation		Address 0 Binary number 1 (6 digits) 2 31	
			↓ S		
3	Low noise / demand address	Address for low noise / demand group operation		Address 0 Binary number 1 (6 digits) 2 31	
			↓ S Push 3 times		
4	Forced fan switch	Fan of stopped indoor unit turns		Forced fan operation (H tap) Normal operation	
			↓ S		
5	Indoor unit forced operation	Allows operation of indoor unit from outdoor unit		Forced fan operation (H tap) Normal operation	
			↓ S		
6	Frequency fix	Fixes the frequency of the inverter compressor 5HP...68Hz 8.10HP...86Hz+ON		Frequency fix Normal operation	
			↓ S		
7	Tc setting	Low pressure setting for cooling		High Normal (factory set) Low	
			↓ S		
8	Tc setting	High pressure setting for heating		Quick defrost Normal (factory set) Slow defrost	
			↓ S Push 3 times		
10	Not used	Airnet address		Address 0 Binary number 1 (6 digits) 2 63	
			↓ S Push 8 times		
11	Additional refrigerant charge	Enters additional refrigerant charge operation		For details, refer to "Additional Refrigerant Charge Operation Procedure" on page 40.	
			↓ S Set Button		
12	Refrigerant recovery	Enters refrigerant recovery mode		For details, refer to "Refrigerant Recovery Mode" on page 41.	
			↓ S Set Button		
Initial setting (EMG)					

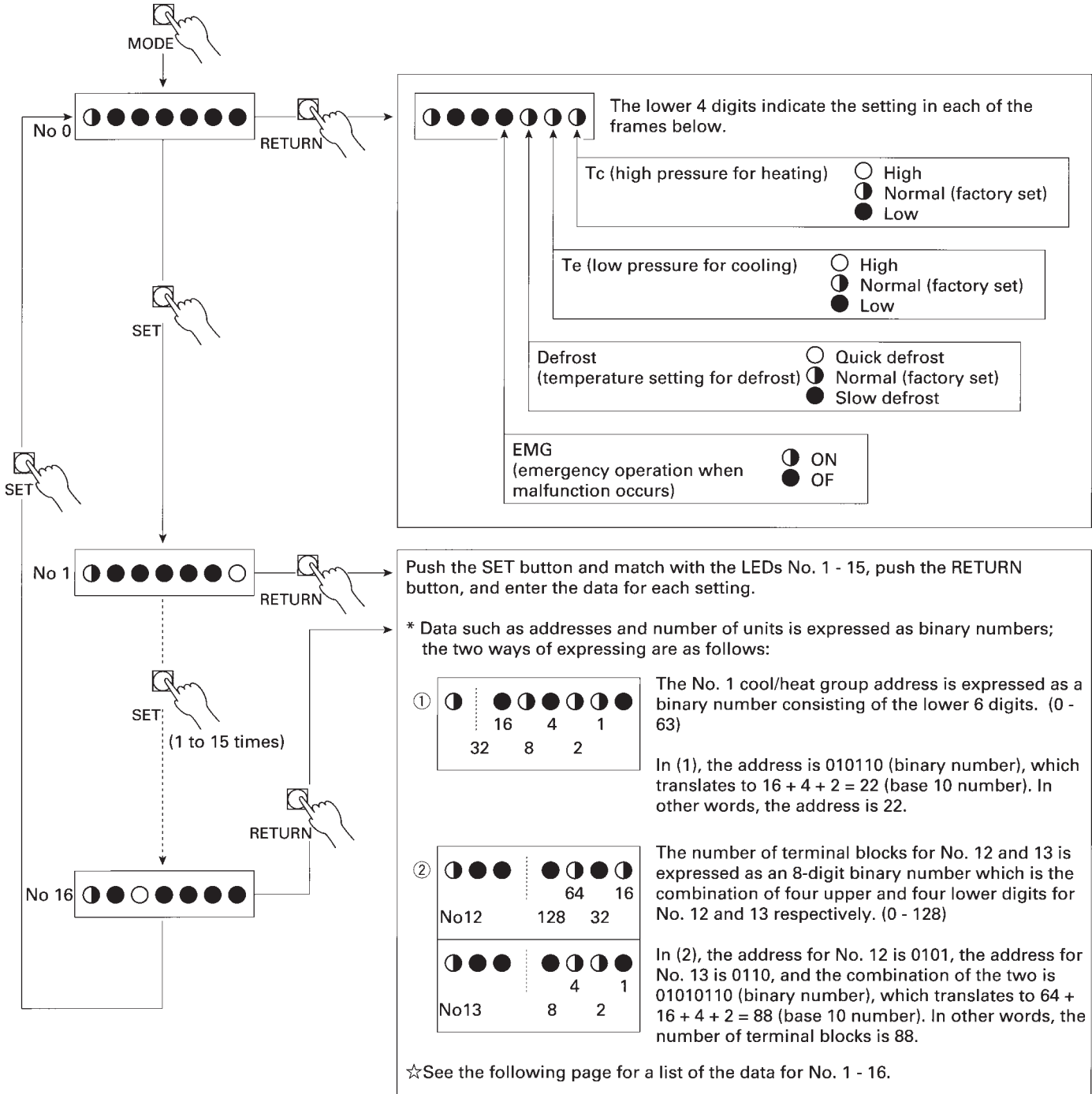
Initial setting (EMG)



(3) Monitor Mode

MODE	TEST	C/H SELECT			L.N.O.P.	SEQ. START
		IND	MASTER	SLAVE		
<input checked="" type="radio"/> H1P	<input checked="" type="radio"/> H2P	<input type="radio"/> H3P	<input checked="" type="radio"/> H4P	<input checked="" type="radio"/> H5P	<input checked="" type="radio"/> H6P	<input type="radio"/> H7P

To enter the monitor mode, push the MODE button when in setting mode 1.



☆After making sure the data is correct, push the RETURN button and return to No. 0, or push the MODE button and return to setting mode 1.

• Monitor Mode Data

Mode No.	LED	Data	Display method	Size (binary number)
No 1	● ● ● ● ● ● ○	Cool/heat group address	0 ~ 31	Lower 6 digits
No 2	● ● ● ● ● ○ ●	Low noise / demand address	0 ~ 31	Lower 6 digits
No 3	● ● ● ● ● ○ ○	Not used		
No 4	● ● ● ● ○ ● ●	Not used	0 ~ 63	Lower 6 digits
No 5	● ● ● ● ○ ○ ○	Number of connected units	0 ~ 63 units	Lower 6 digits
No 6	● ● ● ● ○ ○ ●	Number of connected BS units	0 ~ 63 units	Lower 6 digits
No 7	● ● ● ● ○ ○ ○	Number of connected zone units (excluding outdoor and BS units)	0 ~ 63 units	Lower 6 digits
No 8	● ● ● ○ ● ● ●	Number of outdoor units	0 ~ 63 units	Lower 6 digits
No 9	● ● ● ○ ● ● ○	Number of BS units	0 ~ 128 units	Lower 4 digits, upper
No 10	● ● ● ○ ● ○ ●	Number of BS units	0 ~ 128 units	Lower 4 digits, lower
No 11	● ● ● ○ ● ○ ○	Number of zone units (excluding outdoor and BS units)	0 ~ 63 units	Lower 6 digits
No 12	● ● ● ○ ○ ● ●	Number of terminal blocks	0 ~ 128 units	Lower 4 digits, upper
No 13	● ● ● ○ ○ ● ○	Number of terminal blocks	0 ~ 128 units	Lower 4 digits, lower
No 14	● ● ● ○ ○ ○ ●	Not used		
No 15	● ● ● ○ ○ ○ ○	Not used		
No 16	● ● ○ ● ● ● ●	Not used		

(4) Additional Refrigerant Charge Operation Procedure

[Work procedure]

- Conduct a normal refrigerant charge operation.
With the outdoor unit stopped, charge refrigerant from the service port of the liquid-side stop valve.
(Keep the liquid-side and gas-side stop valves open.)

* Conduct the following operation only when the required amount of refrigerant could not be supplied by a charge operation performed with the outdoor unit in non-operating condition.

- Turn on the main switches of the indoor and outdoor units, and fully open the gas-side stop valve.
(Be sure to keep the liquid-side stop valve closed.)
- Set the service mode.

In setting mode 1, depress NEXT PAGE button for 5 seconds to set to setting mode 2.	○ ● ● ● ● ● ●	
Press OPERATION button to set LEDs for additional refrigerant charge operation indication.	○ ● ○ ● ○ ● ●	
Press CONFIRM button.	○ ● ● ● ● ● ◐	
Press OPERATION button to set LED indication as shown at the right.	○ ● ● ● ● ◐ ●	
Press CONFIRM button to enter setting	○ ● ● ● ● ○ ●	
Press CONFIRM button again to start operation.	○ ◐ ● ● ● ● ●	
Low pressure level is indicated during operation.	3.5 k or higher	○ ○ ● ○ ○ ○ ○
	3.5 k or lower	○ ○ ● ● ○ ○ ○
	2.5 k or lower	○ ○ ● ● ● ○ ○
	1.5 k or lower	○ ○ ● ● ● ● ○
Indication after operation stops (operation stops after 30 minutes). (Flashing LEDs indicate pressure level immediately before operation stops.)	○ ○ ● ● ● ◐ ◐ This indication shows that pressure level was "2.5 k or lower" immediately before operation stopped.	

- The additional refrigerant charge operation is complete when the required amount of refrigerant is charged. If the charging operation does not complete in 30 minutes, make the settings again and operate the equipment.
(If the CONFIRM button is pressed during an additional refrigerant charge operation, the equipment stops operating.)
- Remove the refrigerant charge hose, then fully open the liquid-side stop valve.

(5) Refrigerant Recovery Mode

* This mode holds the electronic expansion valves of indoor and outdoor units fully open for the recovery of refrigerant.

[Work procedure]

1. Stop air conditioner operations.

2. Set the service mode.

In setting mode 1, depress NEXT PAGE button for 5 seconds to set to setting mode 2.	○ ● ● ● ● ● ● ●
Press OPERATION button to set LEDs for refrigerant recovery mode indication.	○ ● ○ ● ○ ● ○
Press CONFIRM button.	○ ● ● ● ● ● ● ◐
Press OPERATION button to set LED indication as shown at the right.	○ ● ● ● ● ● ◐ ●
Press CONFIRM button to enter setting.	○ ● ● ● ● ● ○ ●
Press CONFIRM button again to set to initial condition.	○ ● ● ● ● ● ● ●

3. Turn off the main switches of the indoor and outdoor units.

(Be sure to turn off the main switches of all units within 10 minutes after the first unit is turned off.)

4. Conduct a refrigerant recovery operation.

* Cancel the setting in the setting mode, or cancel the mode by resetting the outdoor unit using the power switch.

4. Sequential Start

Separates the start timing for standard compressors by three seconds each in order to prevent over-current when several compressors are to be started simultaneously.

Sequential start is possible for up to three units wired as a group to a single power supply. You should however connect an outdoor unit of small capacity as the third unit in the sequence.

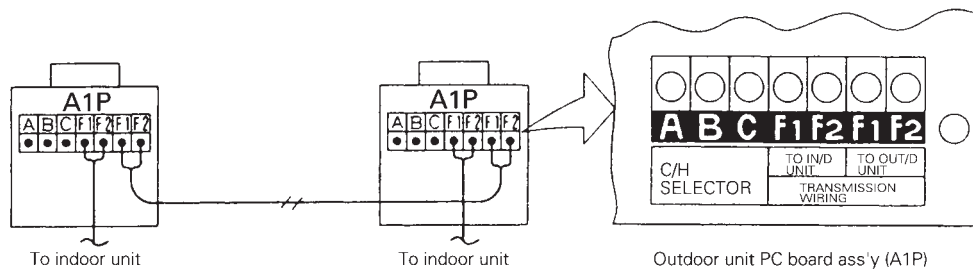
Method of sequential start

① Power supply wiring

Must be wired as a group to the power supply.

② Wiring

Connect transmission wiring to terminals F1 and F2 (outdoor - outdoor) on the outdoor unit PC board (A1P). Switch to the monitoring mode and see if sequential start has been selected. If not, switch to setting mode 1 and select sequential start. (Sequential start is factory set to "ON.") For transmission wiring, use 0.75 - 1.25 mm² sheathed vinyl cord or double-core cable.



5. External Control Adaptor for Outdoor Unit

Purpose / application

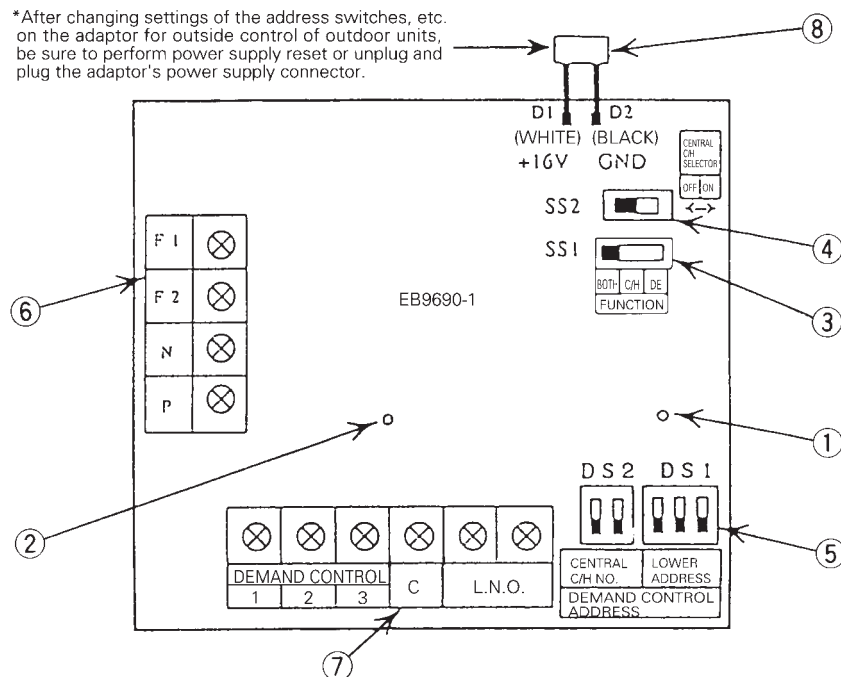
External control adaptor for outdoor unit is required in order for the VRV System Inverter K Series to carry out the types of control given below.

1. Group switching of cool/heat mode for more than one outdoor unit system. The adaptor is required for cool/heat selection by indoor unit remote controller, by cool/heat selector, or by cool/heat central remote controller.
2. Low noise control
3. Demand control

Installation position

The adaptor can be installed inside any indoor unit or BS unit connected to a D III-NET.

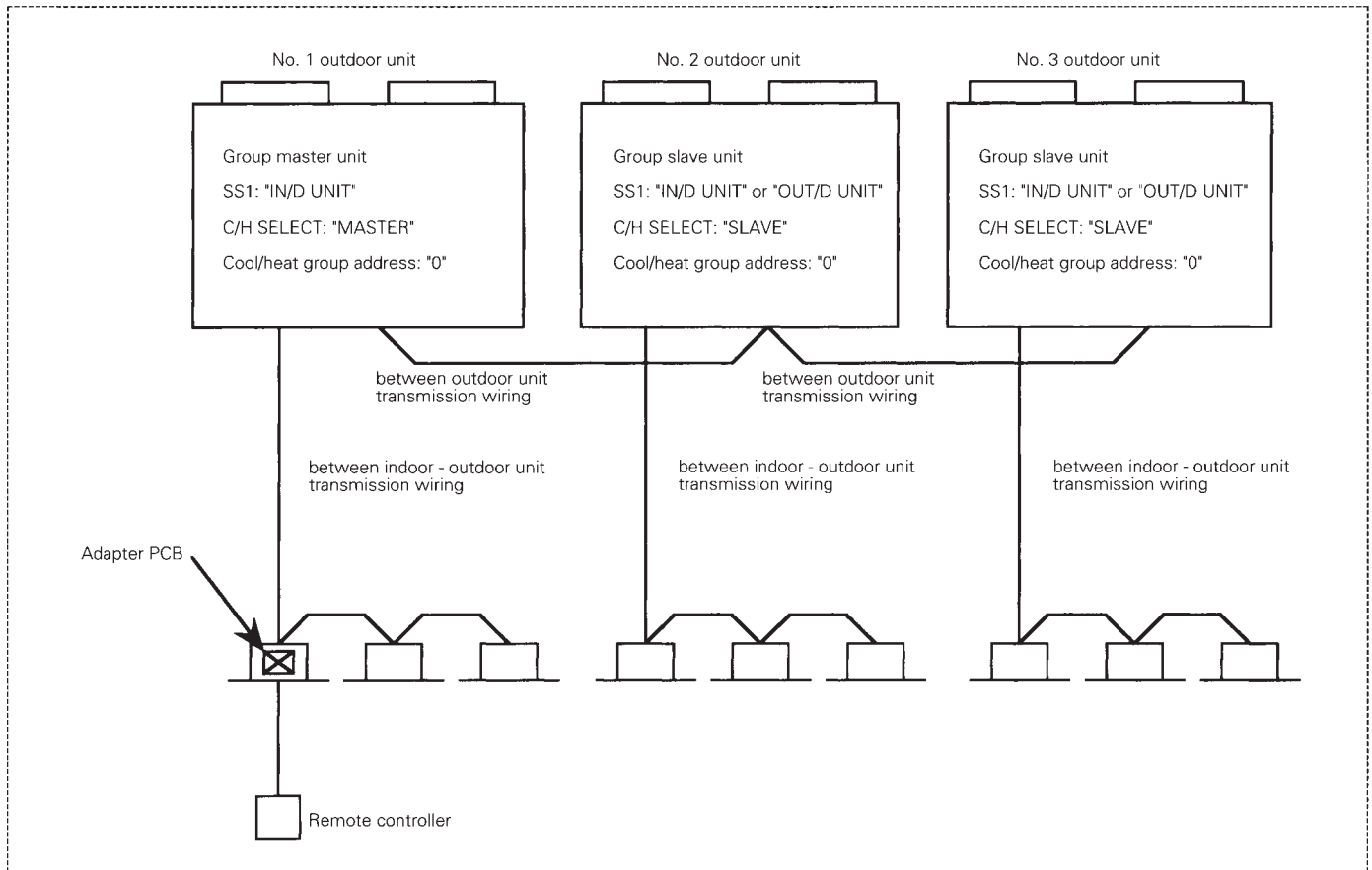
Part names and functions



①	SERVICE MONITOR [HAP] (Green)	Normal: Flicker Malfunction: On or off	LED display ○ : On ◐ : Flicker ● : Off
②	SERVICE MONITOR [H01P] (Green)	When using cool/heat central remote controller: Normal: On Malfunction: Off (If not using cool/heat central remote controller, LED remains off.)	
③	Function switch [SS1] (Factory set: BOTH)	Sets whether the address setting switch will set cool/heat address, demand / low noise address, or both. <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> Left (BOTH) </div> <div style="text-align: center;"> <input type="checkbox"/> Middle (C / H) </div> <div style="text-align: center;"> <input type="checkbox"/> Right (DE-LOW NOISE) </div> </div>	
④	Cool/heat central remote controller selection switch [SS2] (Factory set: No)	Sets whether cool/heat central remote controller is connected or not. <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> Left (Not connected) </div> <div style="text-align: center;"> <input type="checkbox"/> Right (Connected) </div> </div>	
⑤	Address setting switch [DS2 / DS1] (Factory set: 0)	Sets cool/heat address or demand address. <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <input type="checkbox"/> Upper 2 bits (ON) (1) </div> <div style="text-align: center;"> <input type="checkbox"/> Lower 3 bits (OFF) (0) </div> </div> (The black part represents the switch.)	
⑥	Terminal block for transmission (F1 / F2) (N / P)	F1 / F2 : Wiring connection with terminals F1 and F2 of outdoor unit, etc. N / P : Wiring connection with terminals N and P of cool/heat central remote controller.	
⑦	Demand / low noise input terminal block (X1M)	Connects control input from remote source (host computer monitor panel, demand controller, timer, etc.).	
⑧	Power supply connector (D1 / D2)	Connects "power supply connector for adaptor for outside control of outdoor units" of indoor unit or BS unit, etc.	

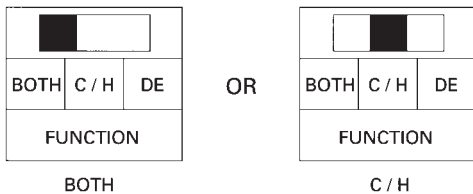
<System examples>

Group selection of cool/heat mode by indoor unit remote controller



Switch settings on the adaptor PCB

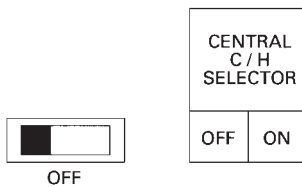
● SS1



BOTH

C / H

● SS2



OFF

● DS1 / DS2



Address "0"

Outdoor unit PCB settings

● Group master unit

SS1: "IN/D UNIT"

Setting mode 1

C / H SELECT : "MASTER"

Setting mode 2

Cool/heat group address: "0"

Combines DS1 and DS2 of PC board adaptor.

● Group slave unit

SS1: "IN/D UNIT" or "OUT/D UNIT"

Setting mode 1

C / H SELECT : "SLAVE"

Setting mode 2

Cool/heat group address: "0"

Combines DS1 and DS2 of adaptor PCB.

6. Cool/Heat Mode Selection

The VRV System Inverter K New Refrigerant Series offers the following five cool/heat mode selections.

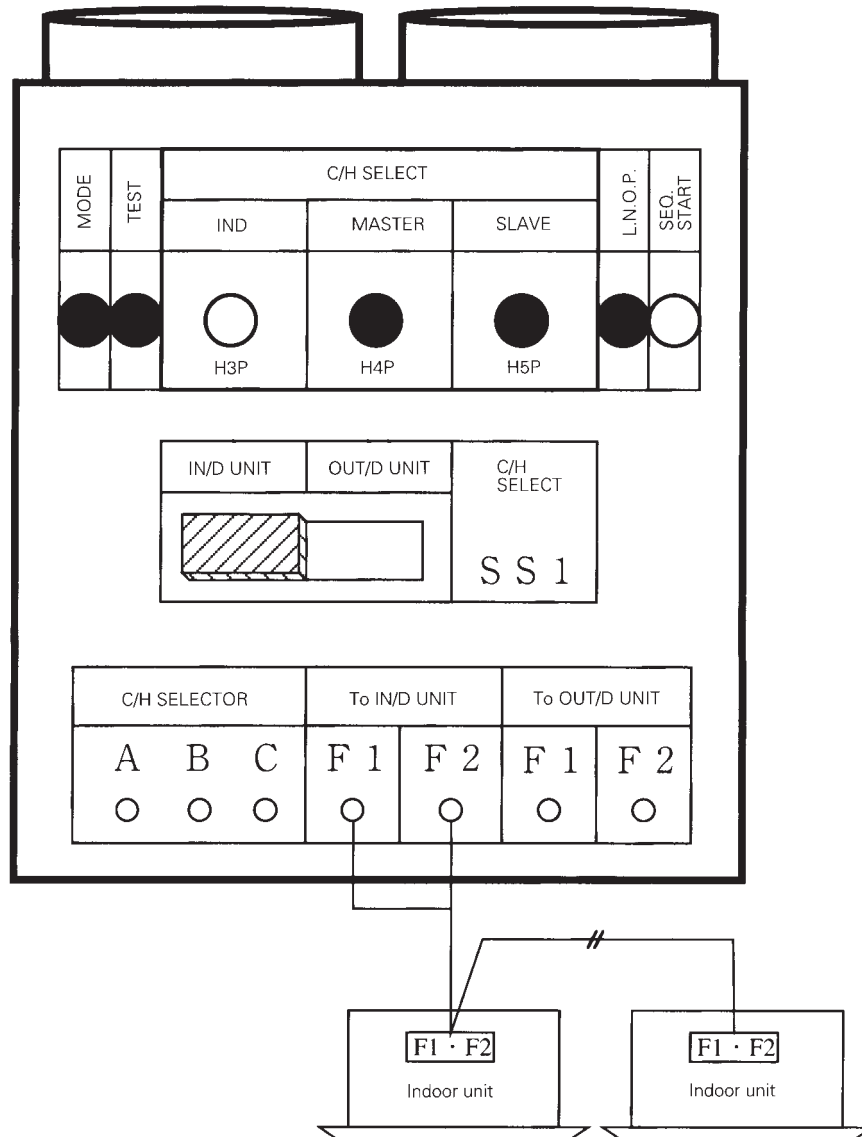
- (1) Setting of cool/heat by individual outdoor unit system by indoor unit remote controller
- (2) Setting of cool/heat by individual outdoor unit system by cool/heat selector
- (3) Setting of cool/heat by outdoor unit system group in accordance with group master outdoor unit by indoor unit remote controller
- (4) Setting of cool/heat by outdoor unit system group in accordance with group master outdoor unit by cool/heat selector
- (5) Set cool/heat for outdoor units of all outdoor unit external control adaptors using the cool/heat central remote controller.

Each of these setting methods is explained in detail below.

(For (3), (4) and (5) be sure to perform power supply reset after changing settings.)

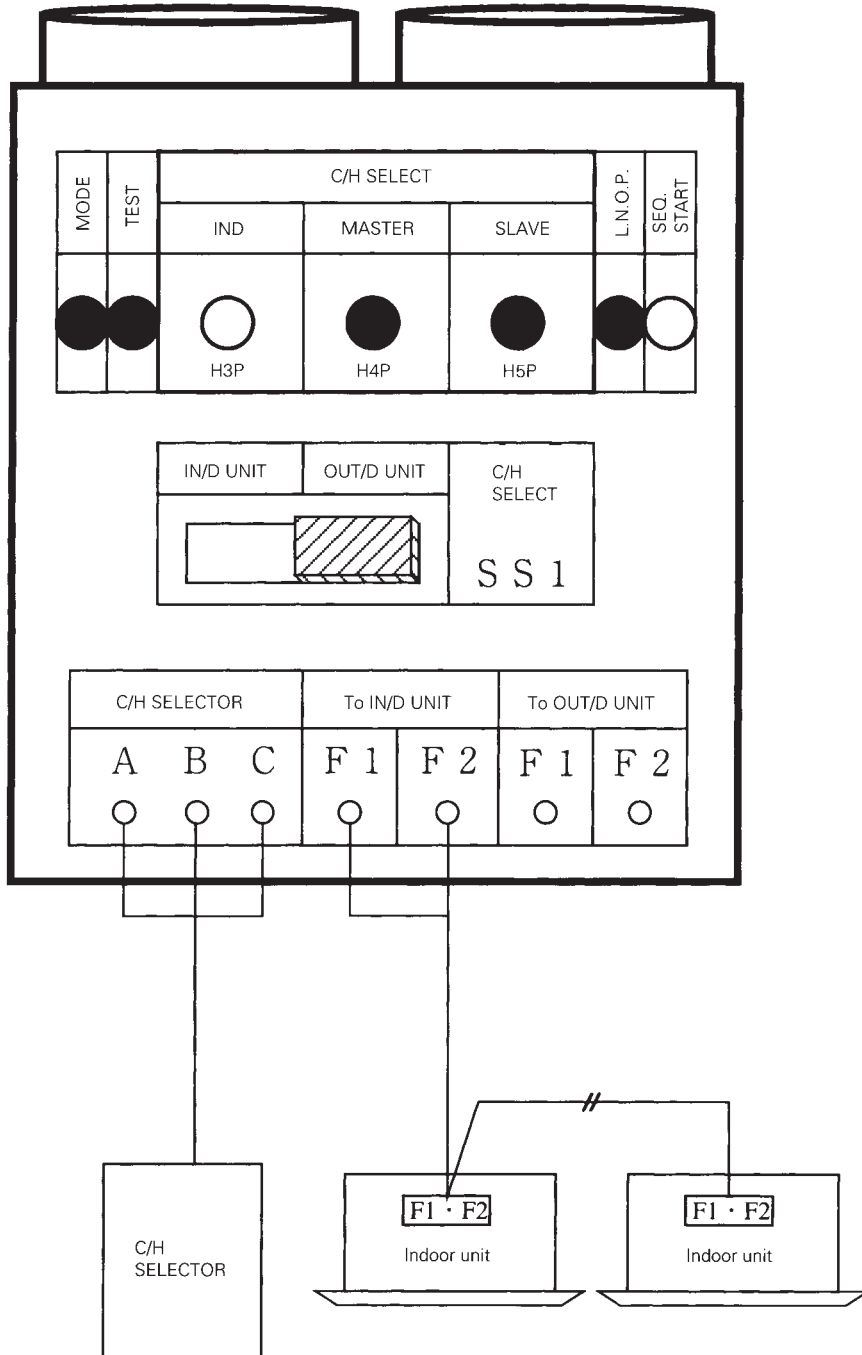
(1) Setting of cool/heat by individual outdoor unit system by indoor unit remote controller

- Doesn't matter whether or not there is outdoor - outdoor unit wiring.
- Set SS1 of the outdoor unit PCB to "IN / D UNIT" (factory set).
- In setting mode 1, set cool/heat selection to "IND" (factory set).



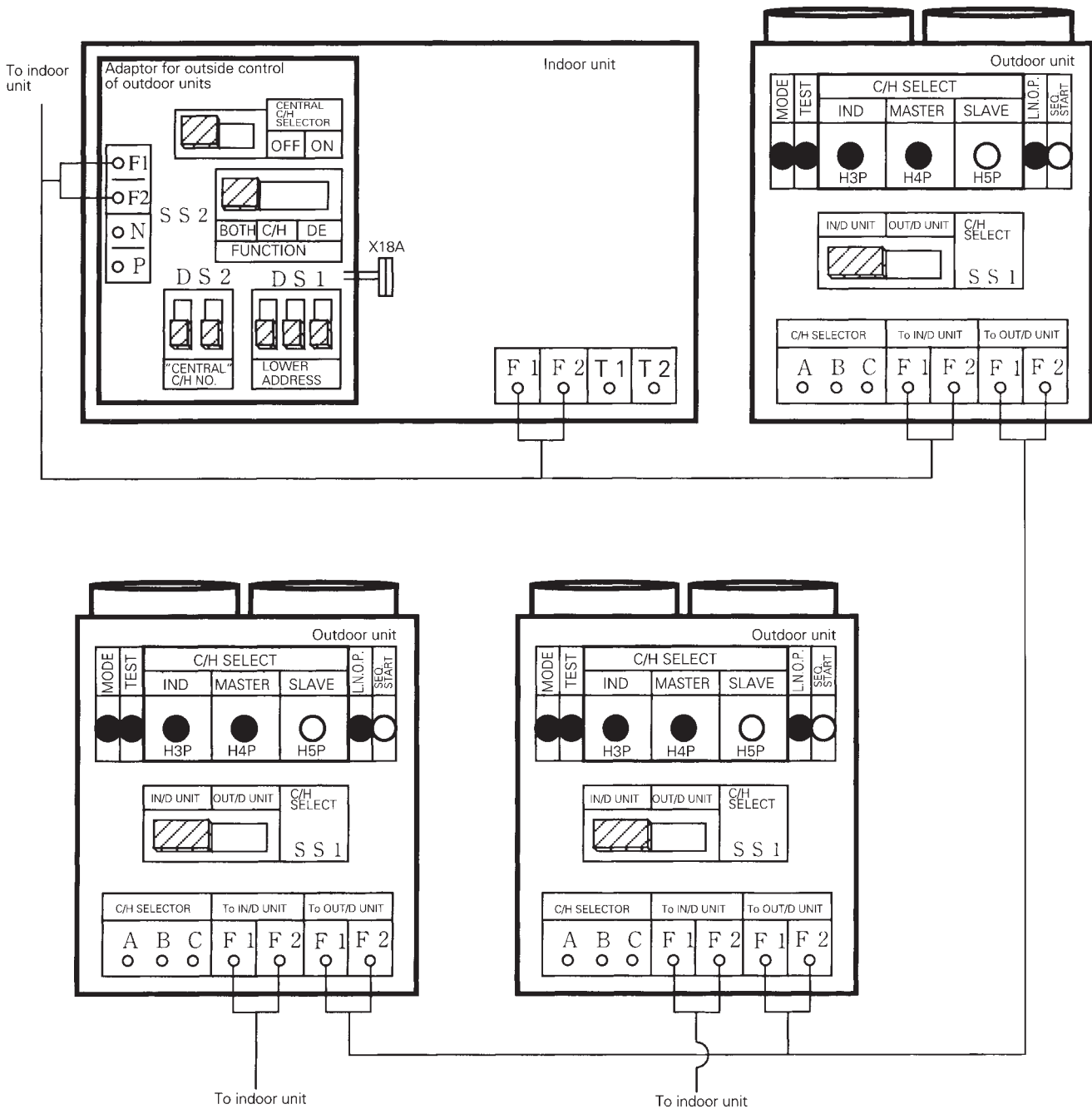
(2) Setting of cool/heat by individual outdoor unit system by cool/heat selector

- Doesn't matter whether or not there is outdoor - outdoor unit wiring.
- Set SS1 of the outdoor unit PC board to "OUT / D UNIT."
- In setting mode 1, set cool/heat selection to "IND" (factory set).



(3) Setting of cool/heat by outdoor unit system group in accordance with group master outdoor unit by indoor unit remote controller

- Install the External control adaptor for outdoor unit on either the outdoor - outdoor, indoor - outdoor, or indoor - indoor transmission line.
- Set SS1 of the outdoor unit PCB to "IN / D UNIT" (factory set).
- In setting mode 1, set the outdoor unit you want to give cool/heat selection permission to as the group master, and set the other outdoor units as group slave units.
- Set SS1 of the External control adaptor for outdoor unit to "BOTH" (factory set) or "C / H." Set SS2 to "OFF" (factory set).

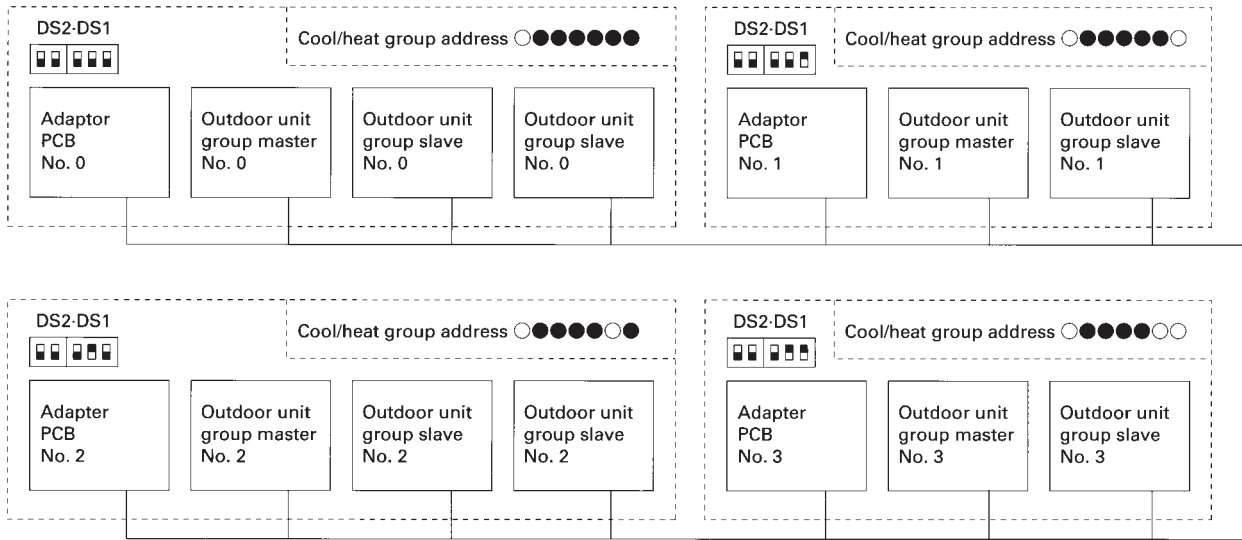


(4) Setting of cool/heat by outdoor unit system group in accordance with group master outdoor unit by cool/heat selector

- In addition to (3), change the following:
 - ☆ Install a cool/heat selector to the group master outdoor unit.
 - ☆ Set SS1 of the group master outdoor unit's PCB to "OUT / D UNIT."

Supplement to (3) and (4)

- If using several adaptor PCB and you want to select cool/heat mode for each adaptor PCB, set DS1 / DS2 of the adaptor PCB and the cool/heat group address on the outside unit's PCB to the same setting in setting mode 2.



(3) and (4) address setting method (combine lower 5 digits as binary number) [No.0~No.31]

Address No.	Outdoor unit PC board LED Set in setting mode 2		PC board adaptor					
			DS2		DS1			
No 0	○●	●●●●● 0	Up	Up	Down	Down	Down	0
No 1	○●	●●●●○ 1	Up	Up	Down	Down	Up	1
No 2	○●	●●●○● 2	Up	Up	Down	Up	Down	2
No 3	○●	●●●○○ 3	Up	Up	Down	Up	Up	3
No 4	○●	●●○●● 4	Up	Up	Up	Down	Down	4
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	
No30	○●	○○○○● 30	Down	Down	Down	Down	Up	30
No31	○●	○○○○○ 31	Down	Down	Down	Down	Down	31

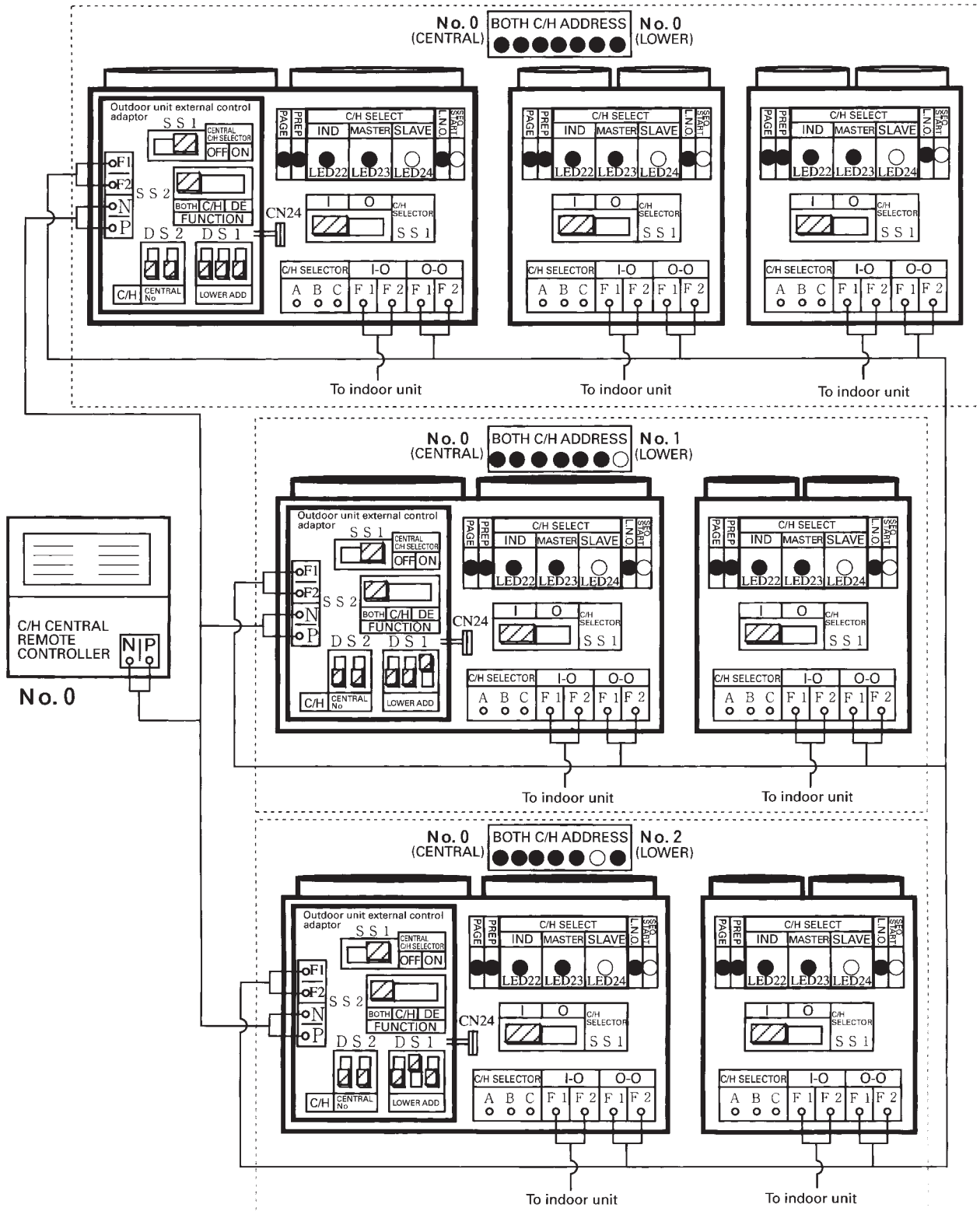
○ On ● Off

Up (ON) Down (OFF)

(The black part represents the switch.)

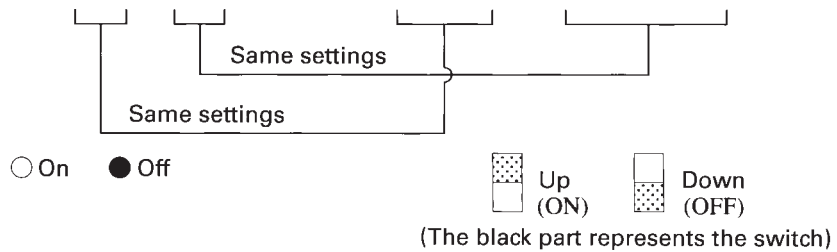
(5) Setting cool/heat for outdoor units of all outdoor unit external control adaptors using the cool/heat central remote controller

- Install the outdoor unit external control adaptor in the outdoor-to-outdoor, indoor-to-outdoor or indoor-to-indoor signal transmission line.
- In setting mode 1, set all outdoor units as slaves.
- Set the SS1 on the outdoor unit external control adaptor to Both (factory setting) or Cool, and the SS2 to ON.
- In setting mode 2, set the DS1 and DS2 on the outdoor unit external control adaptor and so that they match the cool/heat unified addresses on the outdoor unit's printed circuit board. (Addresses are set to "0" at the factory.)



Address settings to be made in step (5) (set two middle digits and three lower digits based on binary system) [No. 0 · 0 ~ 3 · 7]

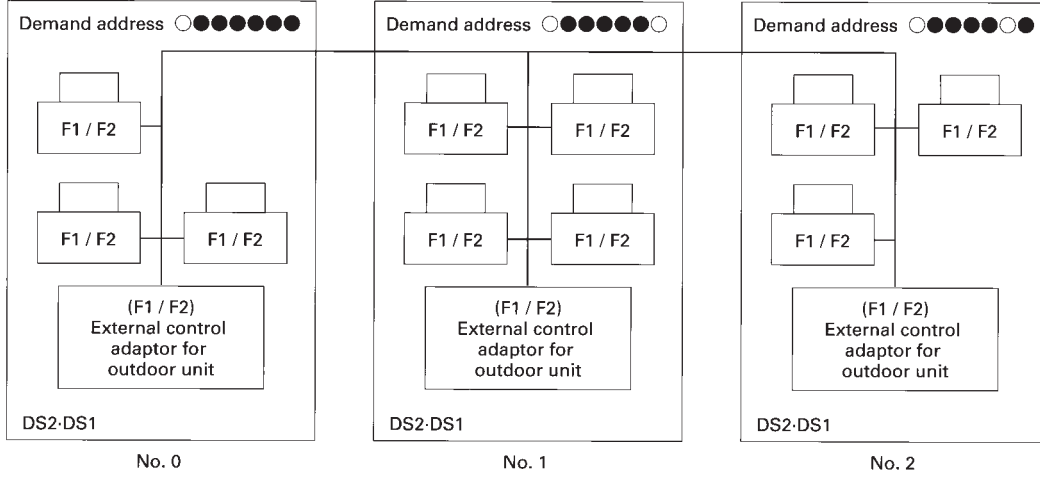
Central No.	Lower No.	Outdoor unit PC board LED Set in setting mode 2	Adaptor PC board DS2 DS1
No 0	No 0		
No 0	No 1		
No 0	No 2		
No 0	No 3		
⌋	⌋	⌋	⌋
No 1	No 4		
⌋	⌋	⌋	⌋
No 2	No 5		
⌋	⌋	⌋	⌋
No 3	No 6		
No 3	No 7		



7. Low Noise / Demand Operation

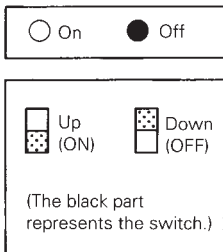
External control adaptor for outdoor unit (option) is required for each low noise and demand control zone.

- By using a separate External control adaptor for outdoor unit and setting the outdoor unit address (setting mode 2) for each low noise and demand control zone, demand and low noise operation is carried out in accordance with contact input received from the adaptor in each zone.



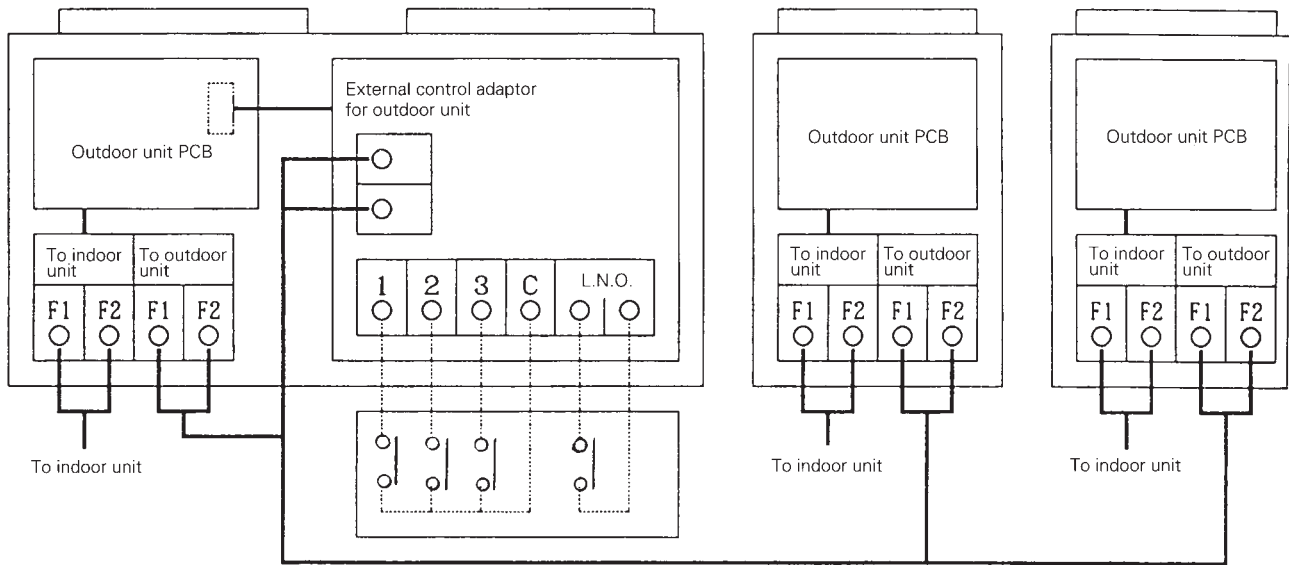
- Outdoor unit address setting (Setting mode 2; see page 36.)
- External control adaptor for outdoor unit address setting
 - Decide and set demand address 0 - 31 for each demand and low noise control zone. (See fig. below.)
 - Set SS1 to "BOTH" (factory set) or "C / H."

Demand No.	Outdoor unit PCB LED Set in setting mode 2	External control adaptor for outdoor unit		No 11	No 12	No 30	No 31
		DS2	DS1				
No 0	$\bigcirc \bullet \bullet \bullet \bullet \bullet \bullet \bullet$			$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bigcirc$			
No 1	$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bigcirc$			$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bigcirc$			
No 2	$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bullet$			$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bigcirc$			
No 3	$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bigcirc$			$\bigcirc \bullet \bullet \bullet \bullet \bullet \bigcirc \bigcirc$			



<Wiring method>

Wire to the control box for the indoor unit or BS unit. (Note: Differs according to the type of outside control adaptor.)



Demand / low noise input

Short circuit between Demand 1 and C: Holds demand down to approx. 70%

Short circuit between Demand 2 and C: Holds demand down to approx. 40%

Short circuit between Demand 3 and C: Forced OFF by thermostat

L.N.O (jumper): Carries out low noise operation.

Input signal

Input current by constant contact a is about 10 mA per contact. Use a micro-current contact for the relay contact.

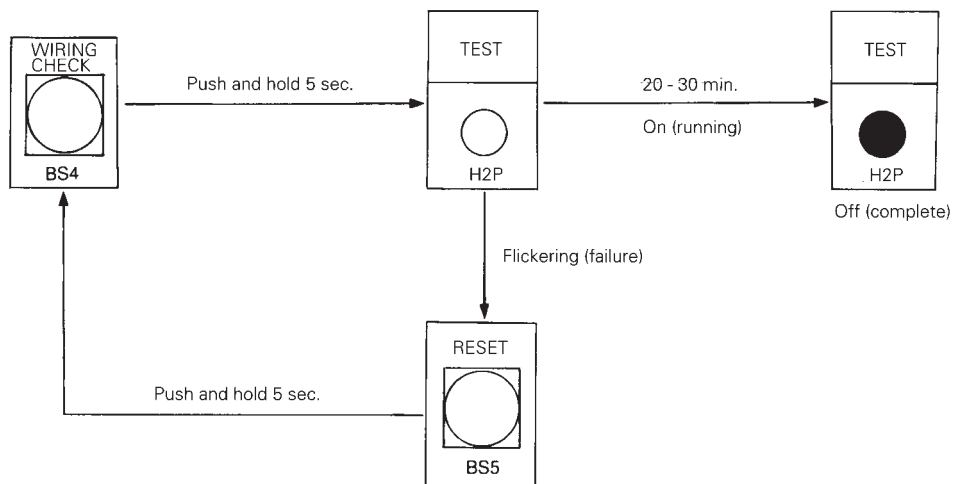
Exterior wiring specifications for demand and low noise operation
Recommended wiring: Sheathed vinyl cord or cable
Wiring length : 150 m
Keep away from power line in order to prevent malfunction.

8. Wiring Check Operation

If within 12 hours of stopping cooling or heating, be sure to run all indoor units in the system you want to check in the fan mode for about 60 minutes in order to prevent mis-detection.

Operation method

1. In the monitor mode, check the number of connected indoor units. (See monitor mode.)
2. Push and hold the WIRING CHECK button (BS4) for 5 seconds to perform wiring check operation. While running, TEST (H2P) lights and goes off when finished. If TEST (H2P) flickers (wiring check operation failure), push and hold the RESET button (BS5) for 5 seconds, and then repeat the procedure from the beginning.
3. About 1 minute after you finish running the system, once again check the number of connected indoor units in the monitor mode and make sure the number agrees with the first time you checked. If not, it indicates that there is a wiring mistake. Fix the wiring of the indoor unit whose remote controller displays "UF" when its ON/OFF switch is turned ON.



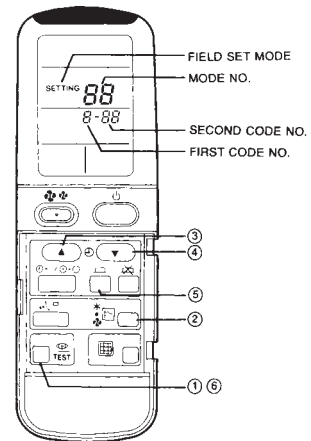
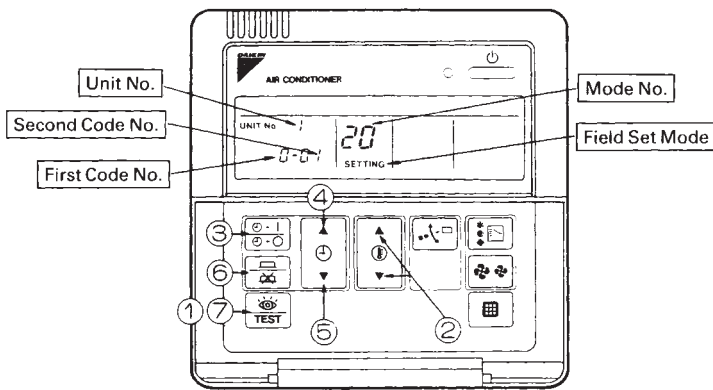
NOTE: Other settings are not accepted during wiring check operation.








9. Indoor Field Setting







☆Making a field setting

Field settings must be made by remote controller if optional accessories have been installed on the indoor unit, or if the indoor unit or HRV unit's individual functions have been modified.

■ Wired remote controller



- ① When in the normal mode, push the  button for 4 seconds or more, and operation then enters the "field set mode."
- ② Select the desired "mode No." with the  button.
- ③ During group control and you want to set by each individual indoor unit (when mode No. 20, 21, 22, 23, 25 has been selected), push the time mode  button and select the "indoor unit No." to be set.
Note: This operation is not required when setting as a group.
- ④ Push the  button and select the first code No.
- ⑤ Push the  button and select the second code No.
- ⑥ Push the timer  button one time and "define" the currently set contents.
- ⑦ Push the  button to return to the normal mode.

- ① When in the normal mode, push the  button for 4 seconds or more, and operation then enters the "field set mode."
- ② Select the desired "mode No." with the  button.
- ③ Pushing the  button, select the first code No.
- ④ Pushing the  button, select the second code No.
- ⑤ Push the timer  button and check the settings.
- ⑥ Push the  button to return to the normal mode.

- NOTES:
1. Settings are made simultaneously for the entire group, however, if you select the mode No. inside parentheses, you can also set by each individual unit. Setting changes however cannot be checked except in the individual mode for those in parentheses.
 2. The mode numbers inside parentheses cannot be used by wireless remote controllers, so they cannot be set individually. Setting changes also cannot be checked.
 3. Mode numbers 17 (27) and 19 (29) are HRV functions that can be set from a VRV system remote controller.
 4. The second code No. is factory set to "01." The field set air flow direction position and thermostat sensor in remote controller is however set to "02," and ventilation fan speed is set to "05."
 5. Do not make settings other than those described above. Nothing is displayed for functions the indoor unit is not equipped with.
 6. "88" may be displayed to indicate the remote controller is resetting when returning to the normal mode.

● Setting contents and code No.

Mode No. Note 2	First Code No.	Setting Contents	Second Code No.(Note 3)								
			01		02		03		04		
10(20)	0	Filter contamination heavy/light (Setting for display time to clean air filter) (Sets display time to clean air filter to half when there is heavy filter contamination.)	Super long life filter	Light	Approx. 10,000 hrs.	Heavy	Approx. 5,000 hrs.	_____	_____	_____	_____
					Approx. 2,500 hrs.		Approx. 1,250 hrs.				
					Approx. 200 hrs.		Approx. 100 hrs.				
1	Long life filter type (FXYC only, 01 indicates long life)	Long life filter	Super long life filter	_____	_____	_____	_____	_____	_____	Soot filter	
2	Thermostat sensor in remote controller	Use	No use	_____	_____	_____	_____	_____	_____	_____	
3	Display time to clean air filter calculation (Set when filter sign is not to be displayed.)	Display	No display	_____	_____	_____	_____	_____	_____	_____	
12(22)	0	Optional accessories output selection (field selection of output for adaptor for wiring)	Indoor unit turned ON by thermostat	_____	Operation output	Malfunction output	_____	_____	_____	_____	
	1	ON/OFF input from outside (Set when ON/OFF is to be controlled from outside.)	Forced OFF	ON/OFF control	External protection device	_____	_____	_____	_____	_____	
	2	Thermostat differential changeover (Set when remote sensor is to be used.) FXYC, FXYE, FXYF, FXYK, FXYH only	1°C	0.5°C	_____	_____	_____	_____	_____	_____	
	3	OFF by thermostat fan speed	LL	Set fan speed	_____	_____	_____	_____	_____	_____	
	4	Automatic mode differential (automatic temperature differential setting for VRV system heat recovery series cool/heat)	01:0	02:1	03:2	04:3	05:4	06:5	07:6	08:7	
	5	Power failure automatic reset	Not equipped	Equipped	_____	_____	_____	_____	_____	_____	
13(23)	0	High air outlet velocity (Set when installed in place with ceiling higher than 2.7 m.) FXYF only	N	H	_____	_____	_____	_____	_____	_____	
	1	Selection of air flow direction (Set when a blocking pad kit has been installed.) FXYF only	F (4 directions)	T (3 directions)	W (2 directions)	_____	_____	_____	_____	_____	
	2	Horizontal air discharge	Equipped	Not equipped	_____	_____	_____	_____	_____	_____	
	3	Air flow direction adjustment (Set at installation of decoration panel.) FXYK only	Equipped	Not equipped	_____	_____	_____	_____	_____	_____	
	4	Field set air flow position setting	Draft prevention	Standard	Ceiling Soiling prevention	_____	_____	_____	_____	_____	
	5	Field set fan speed selection (fan speed control by air discharge outlet for phase control)	Standard	Optional accessory 1	Optional accessory 2	_____	_____	_____	_____	_____	
	6	Static pressure selection (for setting static pressure for ducts and others)	Standard	High static pressure	Low static pressure	_____	_____	_____	_____	_____	
15(25)	1	Thermostat OFF excess humidity	Not equipped	Equipped	_____	_____	_____	_____	_____	_____	
	3	Drain pump humidifier interlock selection	Not equipped	Equipped	_____	_____	_____	_____	_____	_____	
	4	Sets whether filter sign is to be output by time or by input.	Time addition	Input	_____	_____	_____	_____	_____	_____	
	5	Field set selection for individual ventilation setting by remote controller	Not equipped	Equipped	_____	_____	_____	_____	_____	_____	
	6	Field set selection for individual ventilation setting by remote controller	Not equipped	Equipped	_____	_____	_____	_____	_____	_____	

For HRV settings, see the proper documents for HRV.

10. Centralized Control Group No. Setting

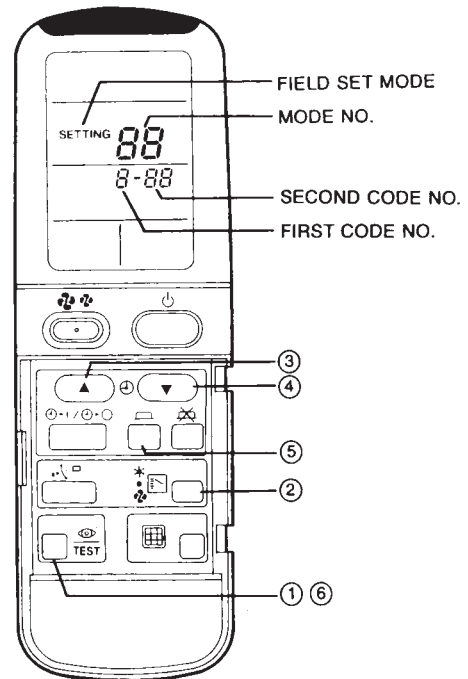
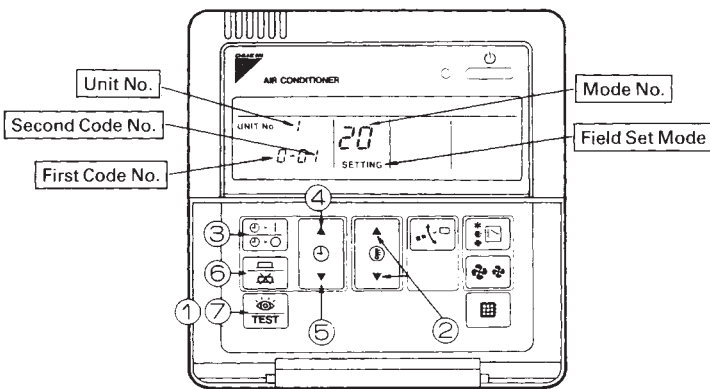
Centralized control group No. setting

- If carrying out centralized control by central remote controller or unified ON/OFF controller, group No. must be set for each group individually by remote controller.
- Group No. setting by remote controller for centralized control

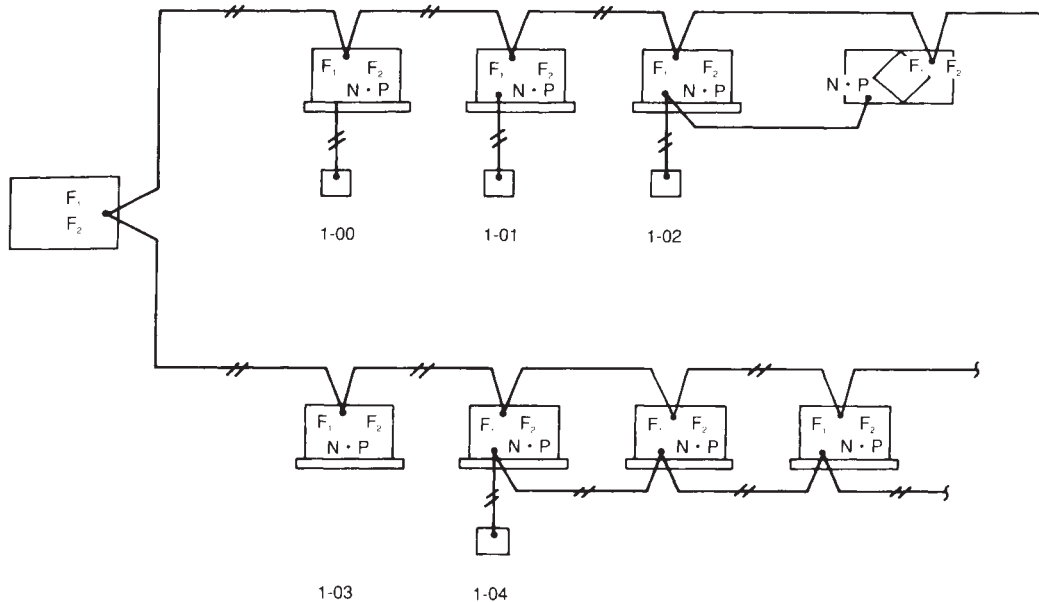
1. When in the normal mode, push the button for 4 seconds or more, and operation then enters the "field setting mode."
2. Set mode No. "00" with the button. ※
3. Push the button to inspect the group No. display.
4. Set the group No. for each group with the button (The group No. increases in the manner of 1-00, 1-01, ..., 1-15, 2-00, ..., 4-15. However, the unified ON/OFF controller displays only the group No. within the range selected by the switch for setting each address.)
5. Push the timer button to define the selected group No.
6. Push the button to return to the normal mode.

- Set the group No. after turning on the power supply for the central remote controller, unified ON/OFF controller, and indoor unit.
- Group No. setting by wireless remote controller for centralized control

- ① When in the normal mode, push button for 4 seconds or more, and operation then enters the "field set mode."
- ② Set mode No. "00" with button.
- ③ Set the group No. for each group with button (advance/backward).
- ④ Enter the selected group numbers by pushing button.
- ⑤ Push button and return to the normal mode.



- Even if not using a remote controller, connect the remote controller when setting the group No., set the group No. for centralized control, and disconnect after making the setting.
- Group No. setting example

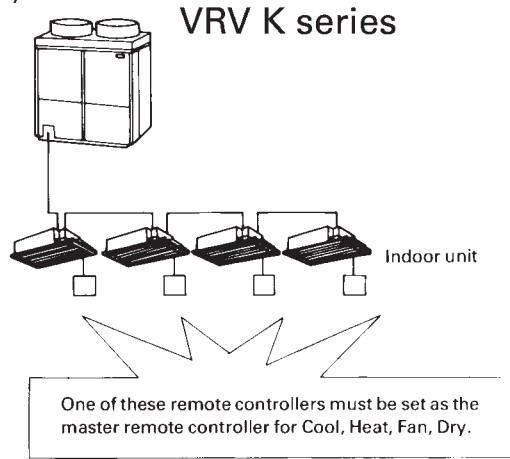


※If you have to set the address for each unit for calculating cost, etc., set the mode No. to "30."

11. Setting of Master Remote Controller

■ Setting of master remote controller by indoor unit remote controller

- Operation mode (Fan, Dry, Cool, Heat) can be freely selected by indoor unit remote controller for the VRV K series outdoor units, however, as shown in the example below, the remote controller of one of the indoor units connected to 1 outdoor unit must be set as the master remote controller for Fan, Dry, Cool, Heat.
(Operation mode can be switched by only the remote controller set as the master remote controller.)



● Setting method

Preparations

- When turning the power supply on for the first time, the display of **CHANGEOVER UNDER CONTROL** lights when the power supply is turned on.

When you want to set:

1	Set the outdoor unit's cool/heat selector (Field setting mode1) to inside.
----------	--

Setting of master remote controller

2	Continue pushing OPERATION MODE SELECTOR for about 4 seconds. The display of CHANGEOVER UNDER CONTROL on all remote controllers connected to the same outdoor unit blinks.
----------	---

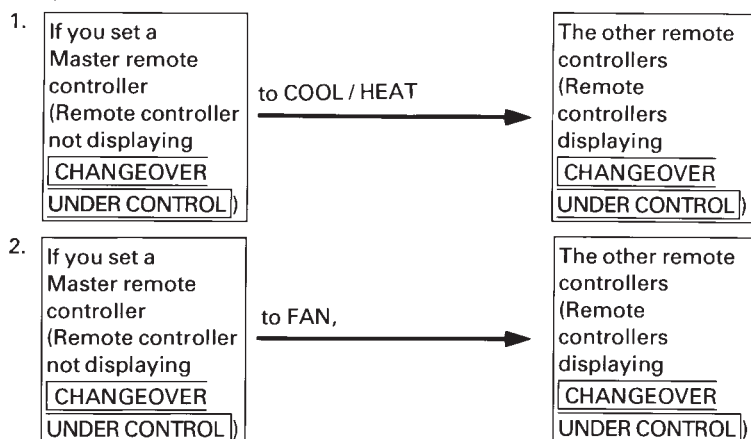
Setting of master remote controller

3	Push the OPERATION MODE SELECTOR of the remote controller you want to set as the master remote controller. This completes the setting. The remote controller is now set as the master remote controller and the display of CHANGEOVER UNDER CONTROL goes off. CHANGEOVER UNDER CONTROL is displayed on the other remote controllers.
----------	---

Operation mode selection

4	Push the OPERATION MODE SELECTOR of the master remote controller (remote controller not displaying CHANGEOVER UNDER CONTROL) the amount of times required to select the desired operation mode. Each push switches the display from FAN to DRY, COOL, and HEAT. The operation mode changes automatically for all remote controllers that are not set as a master remote controller.
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● Operation contents and function

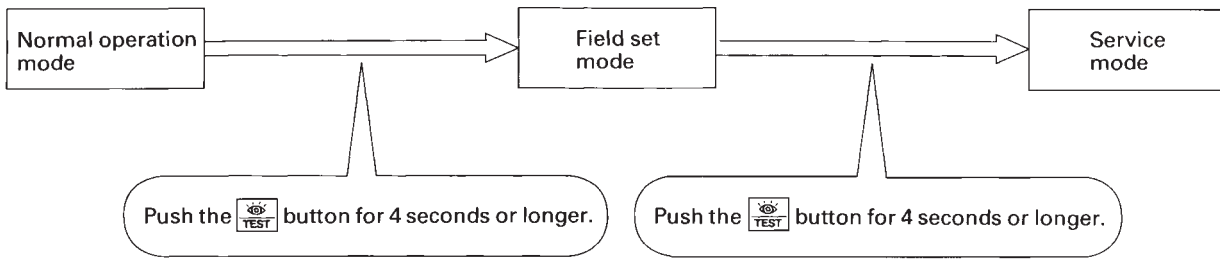


- switch to the operation mode set by the master remote controller.
- However, they can switch to FAN operation and from COOL to DRY.








- cannot set any mode other than FAN.









12. Remote Controller Service Mode

[How to enter the service mode]



[Service mode operation method]

1. Select the mode No.
 - Set the desired mode No. with the  button.
(Wireless remote controllers allow only "43 Forced Fan ON" setting.)
2. Select the unit No. (For group control only)
 - Select the indoor unit No. to be set with the timer mode  button.
(In case of wireless remote controller, select by    button.)
3. Make the settings required for each mode. When using modes 44 and 45, press the PROGRAM/CANCEL button before starting the work. This enables setting changes. (The code indication on the LCD flashes.)
 - For details, refer to the table next page.
4. Define the settings contents. (Modes 44, 45)
 - Define by pushing the timer  button.
(The code indication on the LCD stops flashing and remains lit when the setting is entered.)
5. Return to the normal operation mode.
 - Push the  button one time.

Mode No	Function	Contents and operation method	Remote controller display
40	Malfunction hysteresis display	<p>Display malfunction hysteresis.</p> <p>The hysteresis No. can be changed with the  button.</p>	<p>Unit 1 Malfunction code 40</p> <p>2-U4</p> <p>Malfunction code</p> <p>Hysteresis No: 1 - 9 1: Latest</p>
41	Display of sensor and address data	<p>Display various types of data.</p> <p>Select the data to be displayed with the  button.</p> <p>Sensor data 0: Thermostat sensor in remote controller. 1: Suction 2: Liquid pipe 3: Gas pipe</p> <p>Address data 4: Indoor unit address 5: Outdoor unit address 6: BS unit address 7: Zone control address 8: Cool/heat group address 9: Demand / low noise address</p>	<p>Sensor data display</p> <p>Unit No. Sensor type</p> <p>1 1 41</p> <p>2 7</p> <p>Temperature °C</p> <p>Address display</p> <p>Unit No. Address</p> <p>1 8 41</p> <p>1</p> <p>Address</p>
43	Forced fan ON	<p>Manually turn the fan ON by each unit. (When you want to search for the unit No.)</p> <p>By selecting the unit No. with the  button, you can turn the fan of each indoor unit on (forced ON) individually.</p>	<p>Unit 1 43</p>
44	Individual setting	<p>Set the fan speed and air flow direction by each unit</p> <p>Select the unit No. with the time mode  button.</p> <p>Set the fan speed with the  button</p> <p>Set the air flow direction with the  button.</p>	<p>Unit 1 Code 44</p> <p>1 3</p> <p>Fan speed 1: Low 3: High</p> <p>Air flow direction P0 - P4</p>
45	Unit No. transfer	<p>Transfer unit No.</p> <p>Select the unit No. with the  button.</p> <p>Set the unit No. after transfer with the  button.</p>	<p>Present unit No.</p> <p>Unit 1 Code 45</p> <p>0 2</p> <p>Unit No. after transfer</p>
46	This function is not used by VRV System Inverter K Series.		
47			

MEMO

TROUBLESHOOTING

Inverter K Series

New Refrigerant R407C System

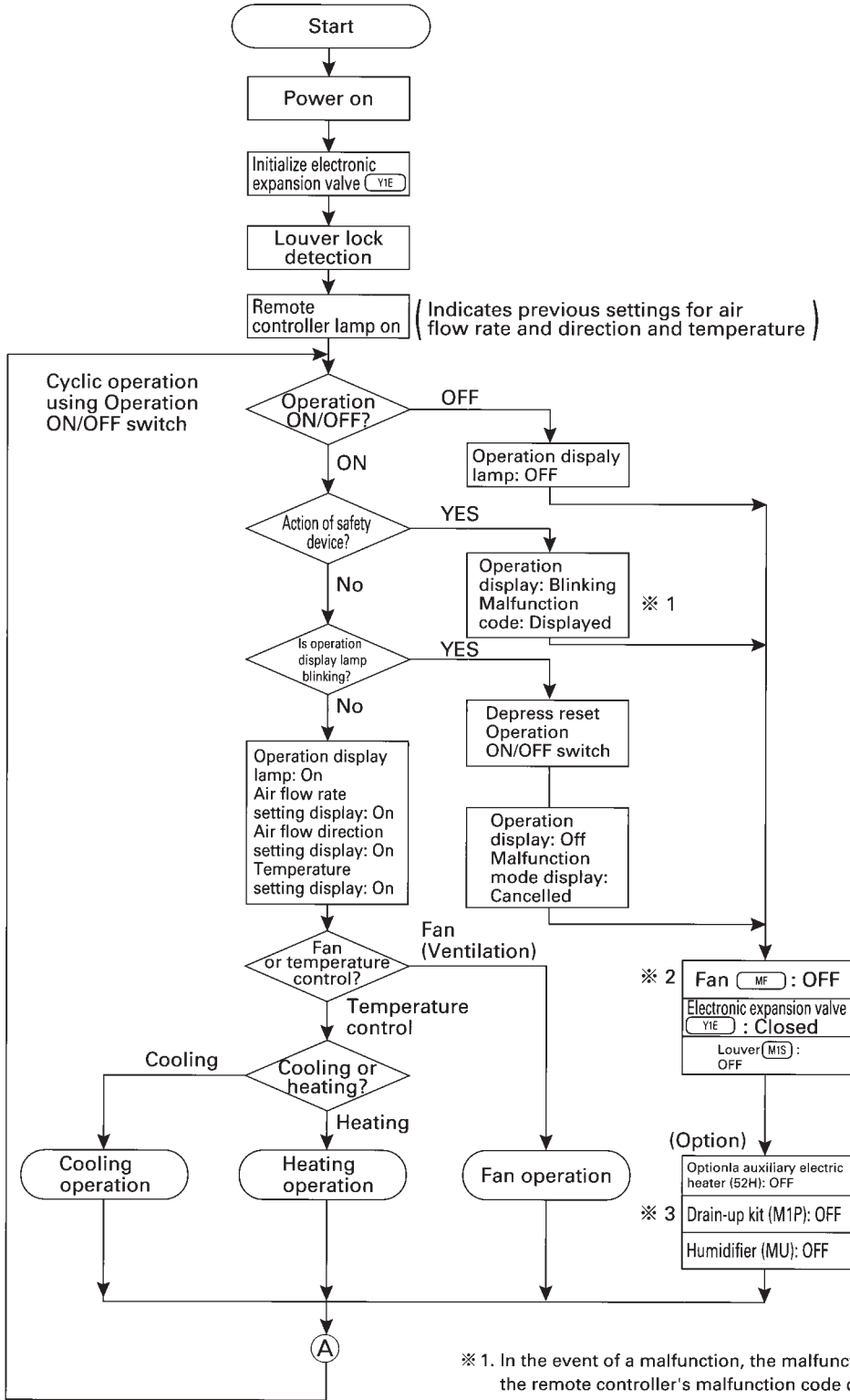
1. Operation Flowcharts

The following flowcharts illustrate:

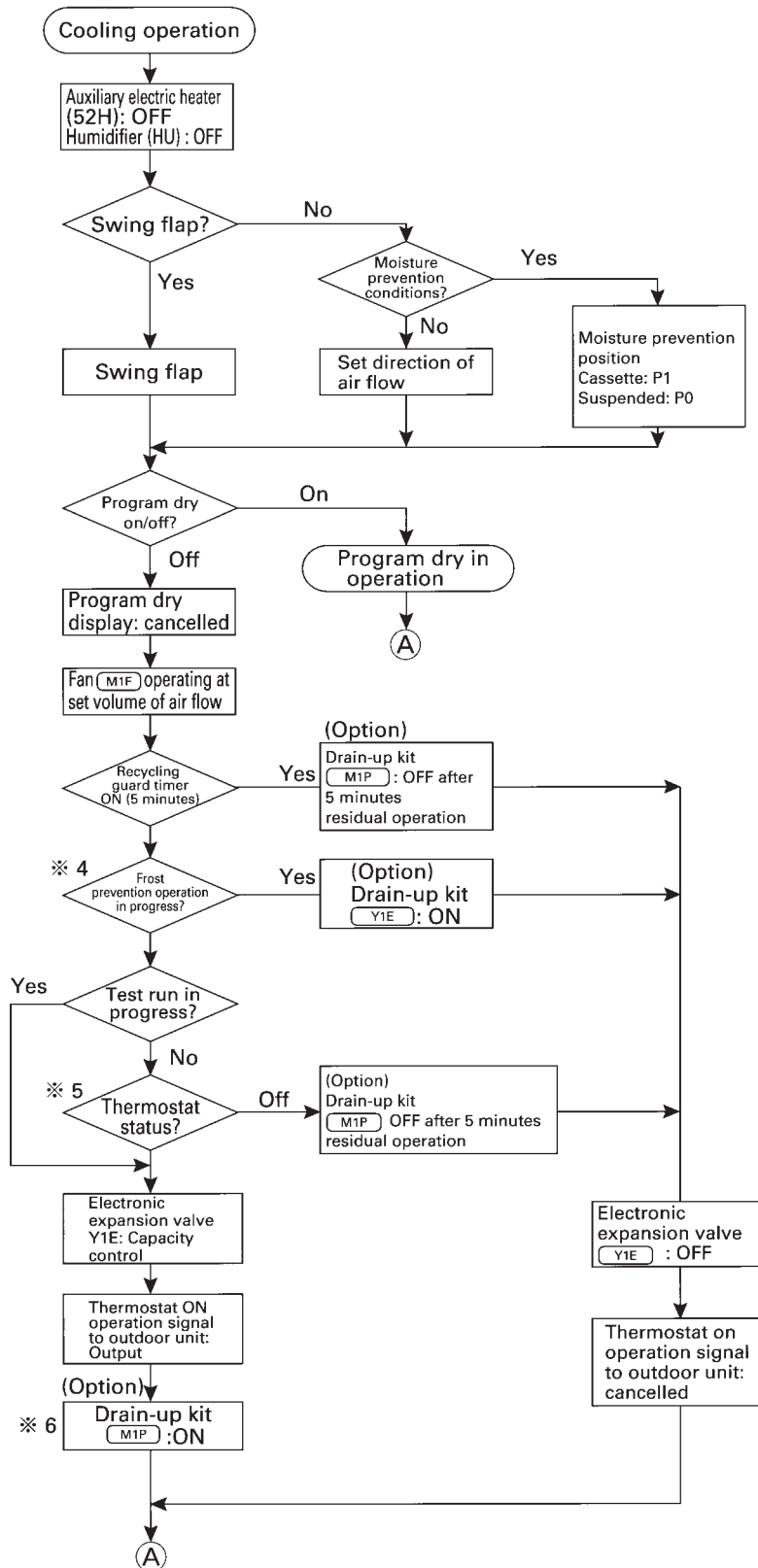
1. Indoor unit : Operation flow of a single indoor unit
2. Outdoor unit : Operation flow of a single outdoor unit connected to more than one indoor units in a single system

Indoor unit operation flowchart

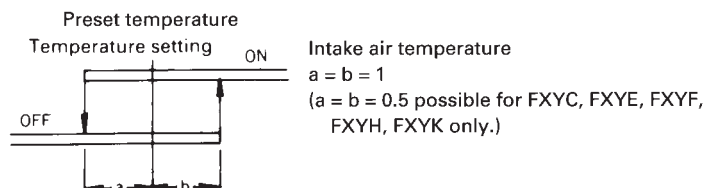
■ Operation flowchart

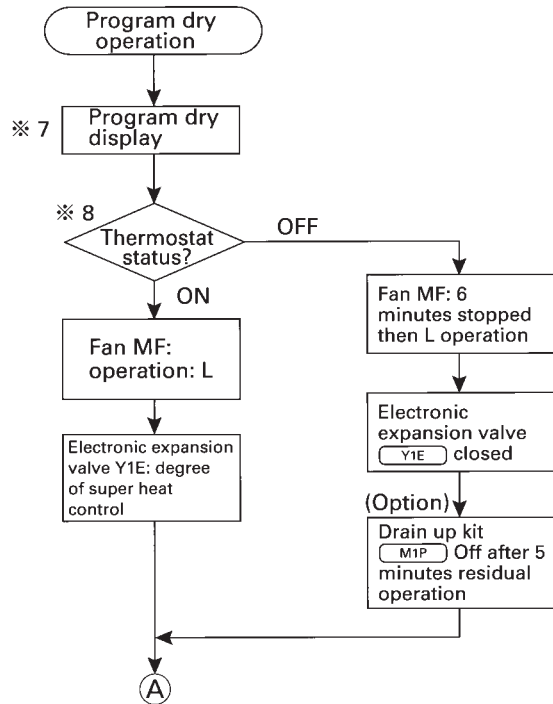


- ※ 1. In the event of a malfunction, the malfunction code is displayed in the remote controller's malfunction code display.
- ※ 2. When the auxiliary electric heater is on, the fan stops after one minute residual operation.
- ※ 3. When the drain-up kit is ON, it stops after five minutes residual operation.



- ※ 4. If the evaporator inlet temperature is -5°C for 10 minutes or lower, or is -1 or lower for a total of 40 minutes, frost prevention operation is initiated. Normal operation resumes when the temperature is +7°C or higher for 10 consecutive minutes.
- ※ 5. Thermostat status
- ※ 6. The drain-up kit is standard equipment for models FXYC, FXYF, FXYK and FXYS.



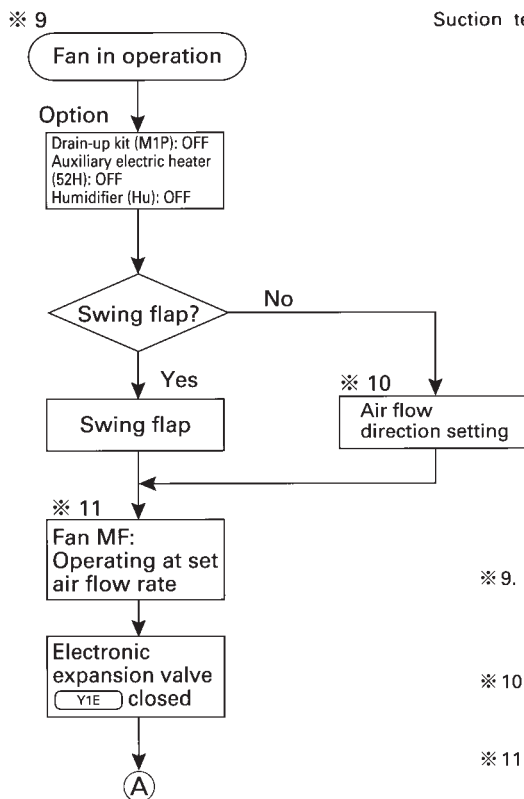
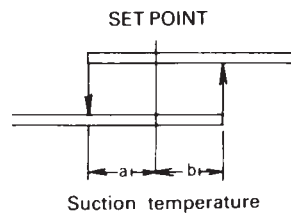


※ 7. Programmed dry display

Does not display preset temperature and air flow settings of the controller.

※ 8. Thermostat status

Preset temperature during programmed dry operation



※ 9. Fan operation

When fan operation has been selected using the remote controller, operation is turned OFF by thermostat when temperature control operation has been selected.

※ 10. Air flow direction setting

If fan operation is selected with the remote controller, air discharge is 100% horizontal during heating.

※ 11. Fan

If fan operation is selected with the remote controller, LL speed operation is carried out during heating.

Heating operation

Drain-up kit (M1P): Off

Swing flap?

No

Swing flap

Air flow direction setting

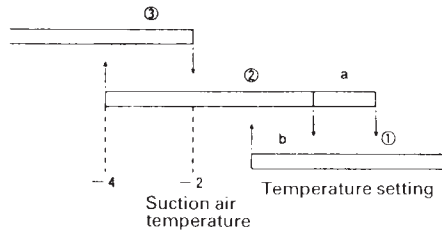
Defrost operation in progress?

Yes

Hot start in progress?

Yes

Defrost / Hot start display: Off



Recycling guard timer ON (5 minutes)?

Test run in progress?

Thermostat status?

Auxiliary electric heater (52H): OFF
Humidifier (Hu): ON

Auxiliary electric heater (52H): OFF
Humidifier (Hu): ON

Auxiliary electric heater (52H): OFF
Humidifier (Hu): OFF

Fan (M1F): LL operation

Under the protection for low discharge air temperature?

Fan (M1F): Operating at set air flow volume

Fan (M1F): L operation

Fan (M1F): Off

Electronic expansion valve (Y1E) closed

Electronic expansion valve (Y1E) capacity control

Electronic expansion valve (Y1E): open

(A)

※ 12. Air flow direction

Air discharge is 100% horizontal when heating operation is turned off by thermostat.

※ 13. Hot start

Hot start is carried out when operation starts or defrosting is complete, and condenser inlet temperature exceeds 34°C, or 3 minutes elapses, or when Tc > 52°C.

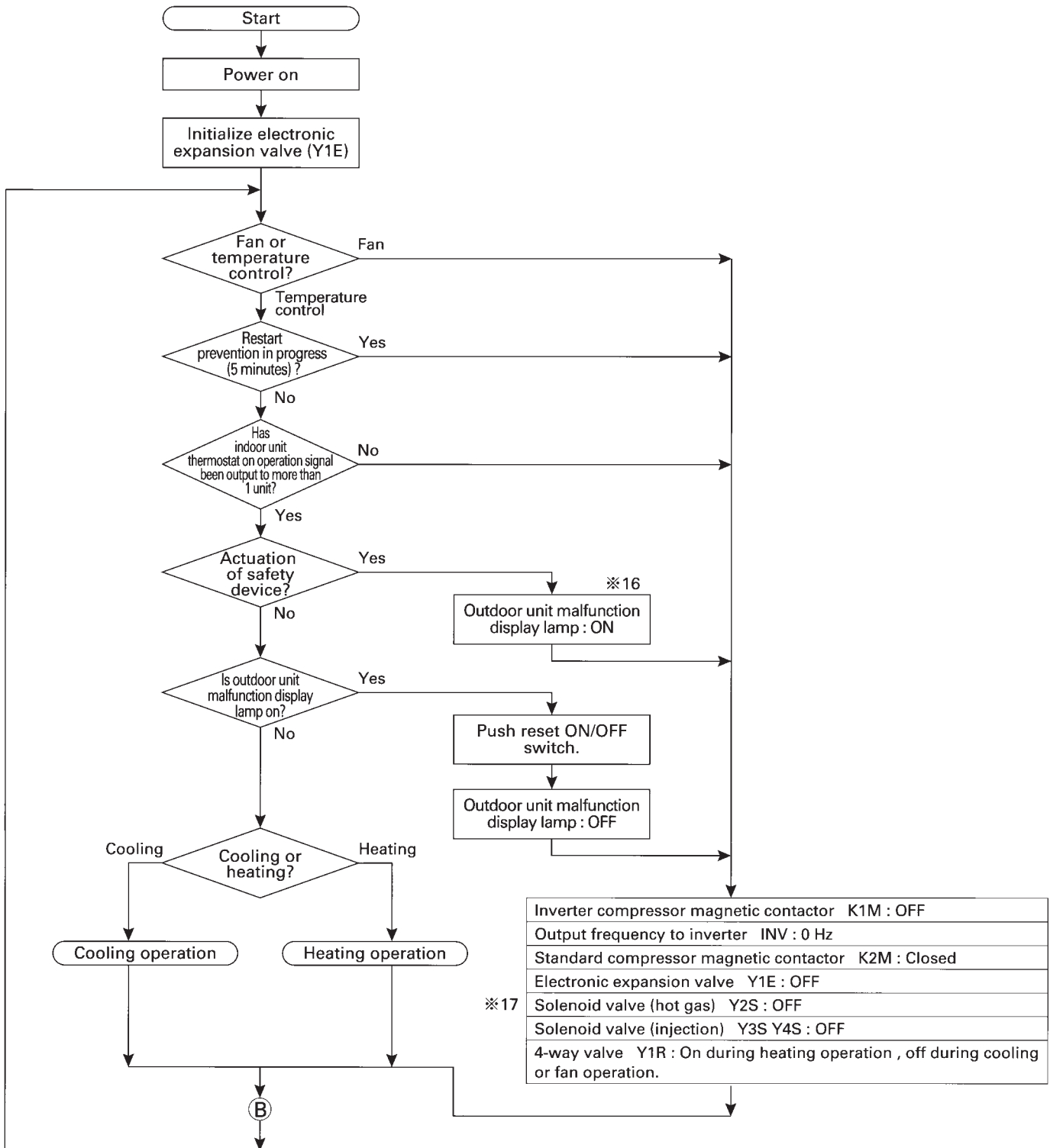
※ 14. Thermostat status

※ 15. Low discharge air temperature protection

Protection is effected when the preset temperature is 24°C or lower and the opening of the electronic expansion valve is slight.

Outdoor unit operation flowchart

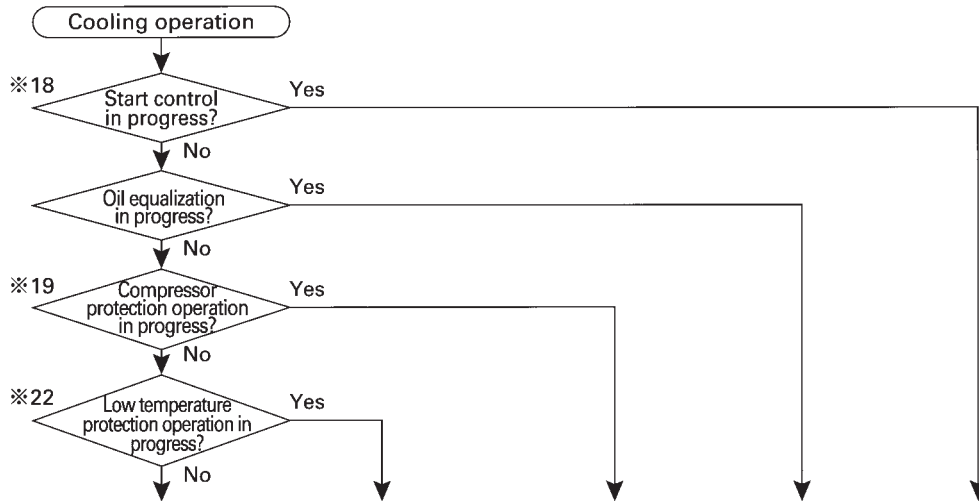
■ Operation flowchart



※ 16 If the outdoor unit malfunction display lamp is on then this either indicates that the outdoor unit operation has been terminated abnormally or warns that there is refrigerant shortage or else that there is a piping or wiring fault (operations will continue). (Refer to Indoor Unit Control ※1)

※ 17 Keep on operations for 15 minutes after the inverter compressor has stopped.

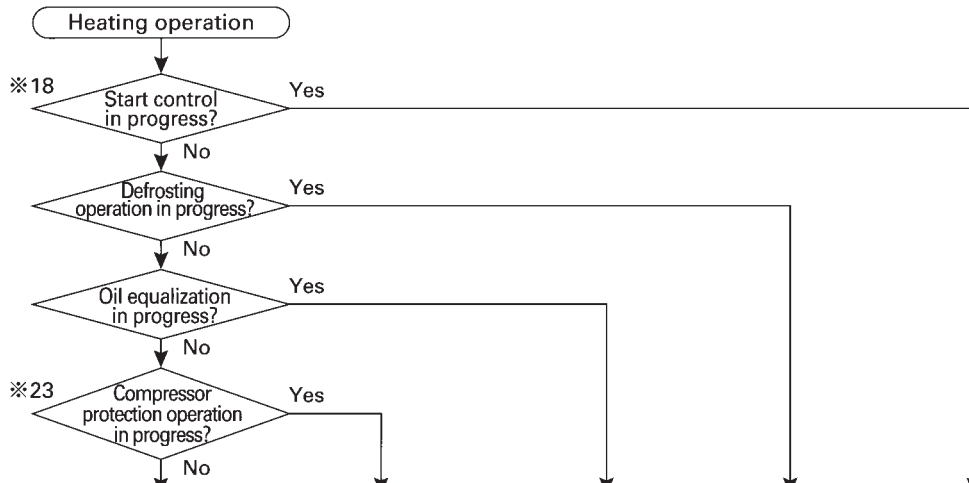
Note: The crank case heaters (CH) are on when the magnetic relays of their respective compressors are off.



Inverter compressor magnetic contactor	K1M	ON				
Inverter output frequency	INV	30~116 Hz by P1 control ※20	30~116 Hz	30~116 Hz by P1 and protective control	38 Hz	42 Hz
Standard compressor magnetic contactor	K2M	ON/OFF by P1 control	OFF	ON/OFF by P1 and protective control	ON	OFF
Electronic expansion valve	Y1E	Open				
Solenoid valve (hot gas)	Y2S	OFF	ON/OFF by saturation temperature corresponding to suction pressure	OFF	ON	
※21 Solenoid valve (injection)	Y3S Y4S	ON/OFF by discharge temperature protection control				ON
4-way valve	Y1R	OFF				
Fan	M1F	H	※22	H		
Fan	M2F	ON		ON		

↓ ↓ ↓ ↓ ↓

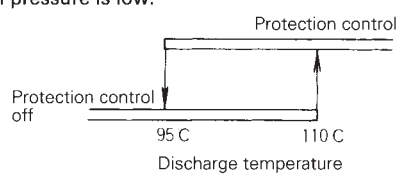
ⓑ



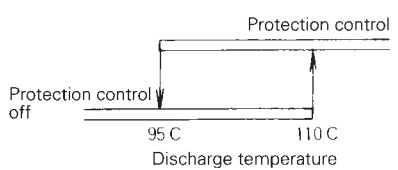
Inverter compressor magnetic contactor	K1M	ON				
Inverter output frequency	INV	30~116 Hz by P1 control ※24	30~116 Hz by P1 and protective control	38 Hz	86 Hz	42 Hz
Standard compressor magnetic contactor	K2M	ON/OFF by P1 control	ON/OFF by P1 and protective control	ON	ON	OFF
Electronic expansion valve	Y1E	Flow rate control			Open	Flow rate control
Solenoid valve (hot gas)	Y2S	OFF	ON/OFF by saturation temperature corresponding to suction pressure	OFF	ON	
※21 Solenoid valve (injection)	Y3S Y4S	ON/OFF by discharge temperature protection control				
4-way valve	Y1R	ON			OFF	ON
Fan	M1F	H			OFF	H
Fan	M2F	ON			OFF	ON

ⓑ

- ※ 18. Start control
60 second start control in order to prevent liquid back to the compressor.
- ※ 19. Compressor protection
 1. Protection control is triggered when the cooling load is large and the saturation temperature corresponding to suction pressure is high.
 2. Protection control is triggered when secondary inverter current exceeds set current.
 3. Protection control is triggered by discharge temperature.
 4. Protection control is triggered when saturation temperature corresponding to suction pressure is low.

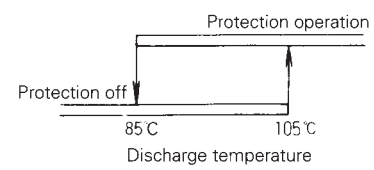


- ※ 20. P1 control
Controls ON/OFF of the standard compressor and inverter output frequency so that suction pressure is the optimal value.
- ※ 21. Discharge temperature protection



- ※ 22. Fan control during low temperature protection
If Tc is less than 26.1°C for 30 continuous seconds, fan speed changes as follows: H + ON → H + OFF → L + OFF. When Tc becomes greater than 52.4°C, fan speed returns to H + ON.

- ※ 23. Compressor protection
 1. Protection control is triggered when secondary inverter current exceeds set current.
 2. Protection control is triggered by discharge temperature.



- 3. Protection control is triggered when the heating load is small and the saturation temperature corresponding to suction pressure is high.
- 4. Protection control is triggered when saturation temperature corresponding to suction pressure is low.
- ※ 24. P1 control
Controls ON/OFF of the standard compressor and inverter output frequency so that discharge pressure is the optimal value.

2 Diagnosis by Malfunction Code

Malfunction code	Malfunction contents	Fan operation	Page
A0	Indoor unit: Error of external protection device		71
A1	Indoor unit: PC board defect		71
A3	Indoor unit: Malfunction of drain level control system (33H)	○	72
A6	Indoor unit: Fan motor (M1F) lock, overload		73
A7	Indoor unit: Malfunction of swing flap motor (M1S)	○	74
A9	Indoor unit: Malfunction of moving part of electronic expansion valve (Y1E)	○	75
AF	Indoor unit: Drain level above limit		76
AJ	Indoor unit: Malfunction of capacity determination device		77
C4	Indoor unit: Malfunction of thermistor (R2T) for liquid pipe	○	78
C5	Indoor unit: Malfunction of thermistor (R3T) for gas pipes	○	78
C9	Indoor unit: Malfunction of thermistor (R1T) for air inlet	○	79
CJ	Indoor unit: Malfunction of thermostat sensor in remote controller	○	79
E0	Outdoor unit: Actuation of safety device		80
E1	Outdoor unit: PC board defect		81
E3	Outdoor unit: Actuation of high pressure switch		81
E4	Outdoor unit: Actuation of low pressure switch	○	82
E9	Outdoor unit: Malfunction of moving part of electronic expansion valve (Y1E)	○	83
F3	Outdoor unit: Abnormal discharge pipe temperature	○	84
H9	Outdoor unit: Malfunction of thermistor for outdoor air (R1T)	○	85
J3	Outdoor unit: Malfunction of discharge pipe thermistor (R3T)	○	85
J5	Outdoor unit: Malfunction of thermistor (R4T) for suction pipe	○	86
J6	Outdoor unit: Malfunction of thermistor (R2T) for heat exchanger	○	86
JA	Outdoor unit: Malfunction of discharge pipe pressure sensor	○	87
JC	Outdoor unit: Malfunction of suction pipe pressure sensor	○	88
JH	Outdoor unit: Malfunction of oil temperature thermistor (R5T)	○	89
U0	Low pressure drop due to refrigerant shortage or electronic expansion valve failure	○	90
U1	Negative phase, open phase	○	91
U2	Power supply insufficient or instantaneous failure	○	107
U4	Malfunction of transmission between indoor units	○	92
U5	Malfunction of transmission between remote controller and indoor unit		93
U7	Malfunction of transmission between outdoor units	○	94
U8	Malfunction of transmission between master and slave remote controllers	○	95
U9	Malfunction of transmission between indoor and outdoor units in the same system	○	96
UA	Excessive number of indoor units	○	97
UC	Address duplication of central remote controller	○	97
UF	Refrigerant system not set, incompatible wiring/piping	○	98
UH	Malfunction of system, refrigerant system address undefined	○	99

Inverter failure diagnosis

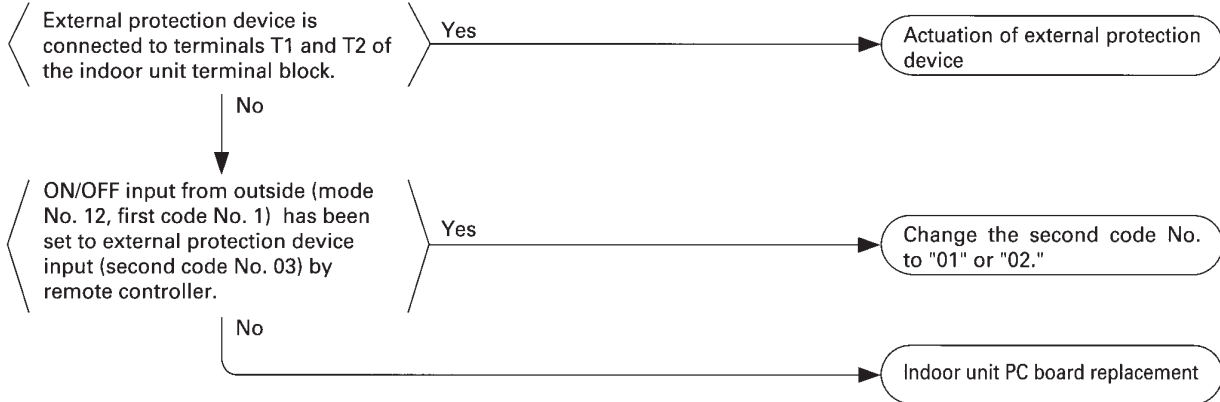
Malfunction code	Malfunction contents	Fan operation	Page
L4	Outdoor unit: Malfunction of inverter radiating fin temperature rise	○	102
L5	Outdoor unit: Inverter instantaneous over-current	○	103
L8	Outdoor unit: Inverter thermostat sensor, compressor overload	○	104
L9	Outdoor unit: Inverter stall prevention, compressor lock	○	105
LC	Outdoor unit: Malfunction of transmission between inverter and control PC board	○	106
P1	Outdoor unit: Inverter over-ripple protection	○	108
P4	Outdoor unit: Malfunction of inverter radiating fin temperature rise sensor	○	109

3. Failure Diagnosis

**Remote controller display
Malfunction code "A0" blinks.**

Cause of malfunction

- (1) Actuation of external protection device
- (2) Improper field set
- (3) Defect of indoor unit PC board



**Remote controller display
Malfunction code "A1" blinks.**

Cause of malfunction

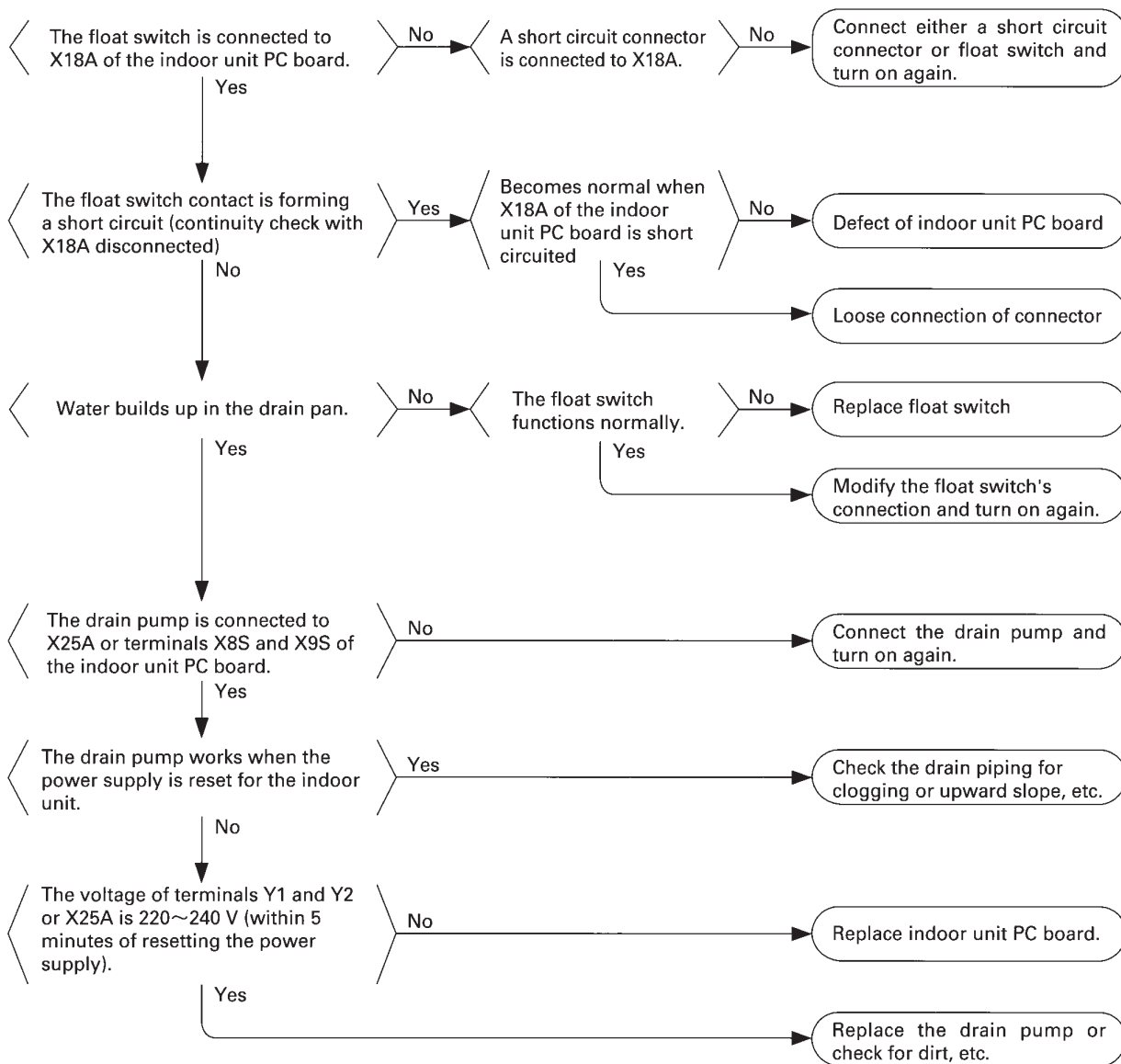
- (1) Defect of indoor unit PC board

Replace the indoor unit PC board.

**Remote controller display
Malfunction code "A3" blinks.**

Cause of malfunction

- (1) Defect of float switch or short circuit connector
- (2) Defect of drain pump
- (3) Drain clogging, upward slope, etc.
- (4) Defect of indoor unit PC board
- (5) Loose connection of connector

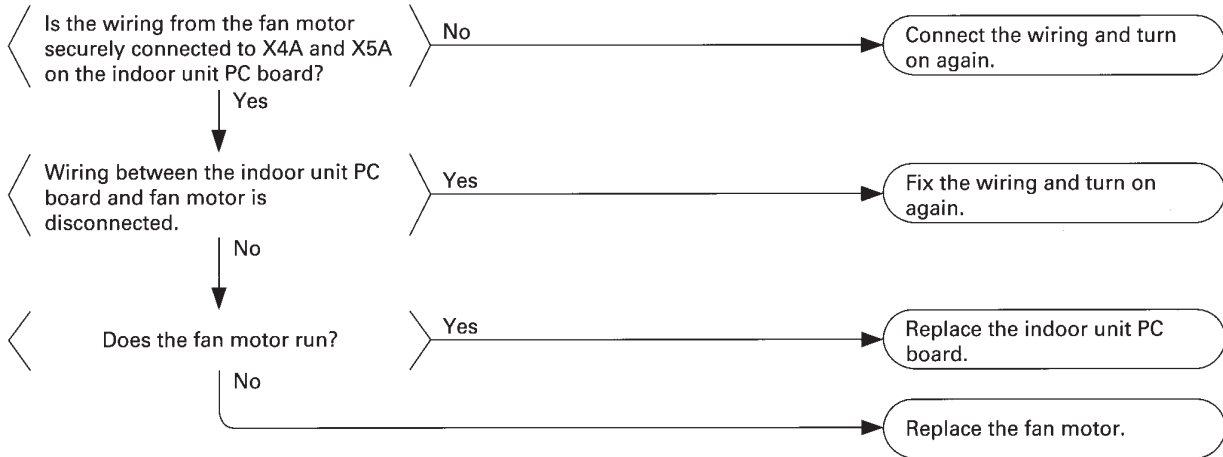


**Remote controller display
Malfunction code "A6" blinks.**

Cause of malfunction

(1) Fan motor lock

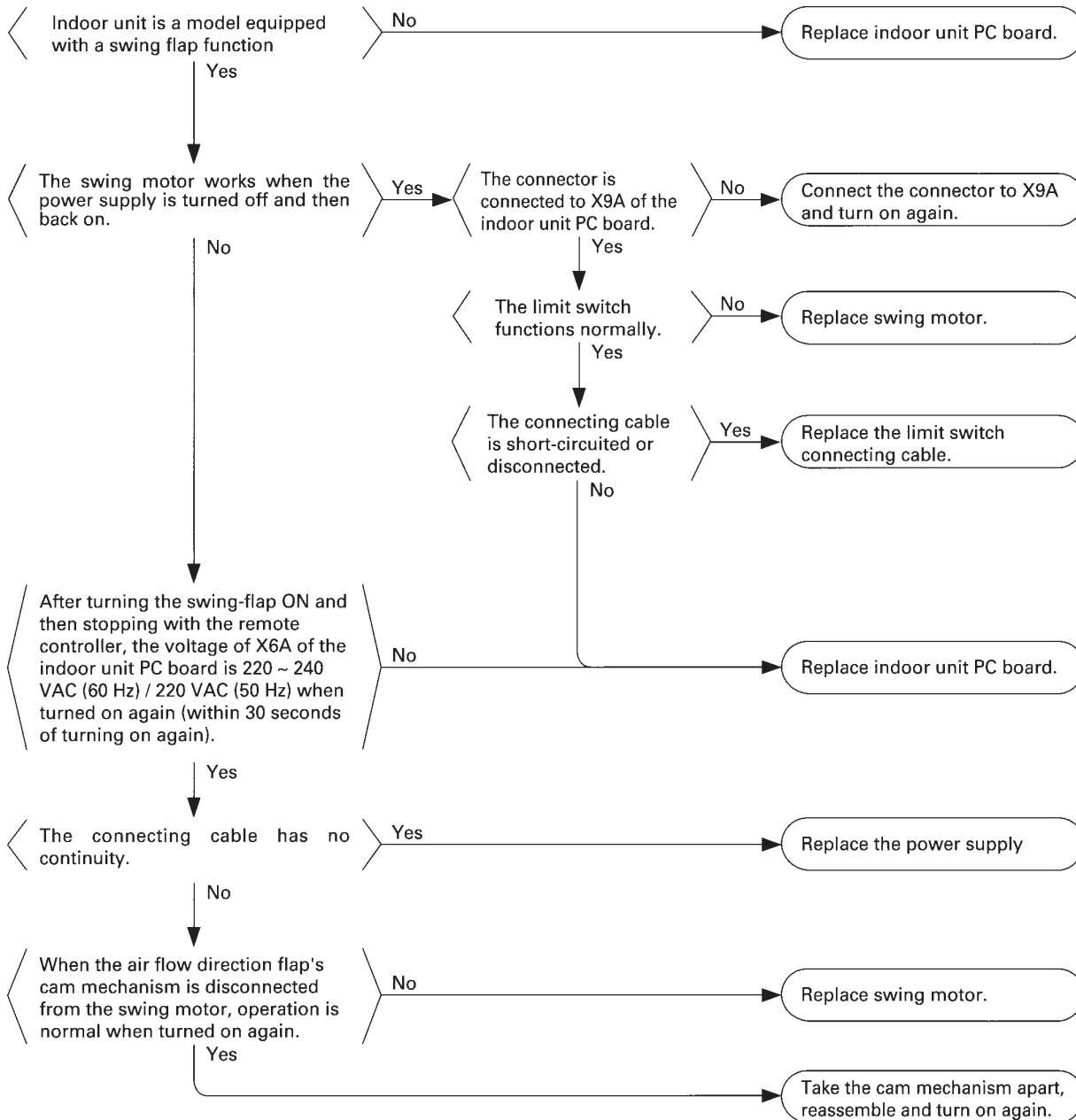
(2) Disconnected or faulty wiring between fan motor and PC board



**Remote controller display
Malfunction code "A7" blinks.**

Cause of malfunction

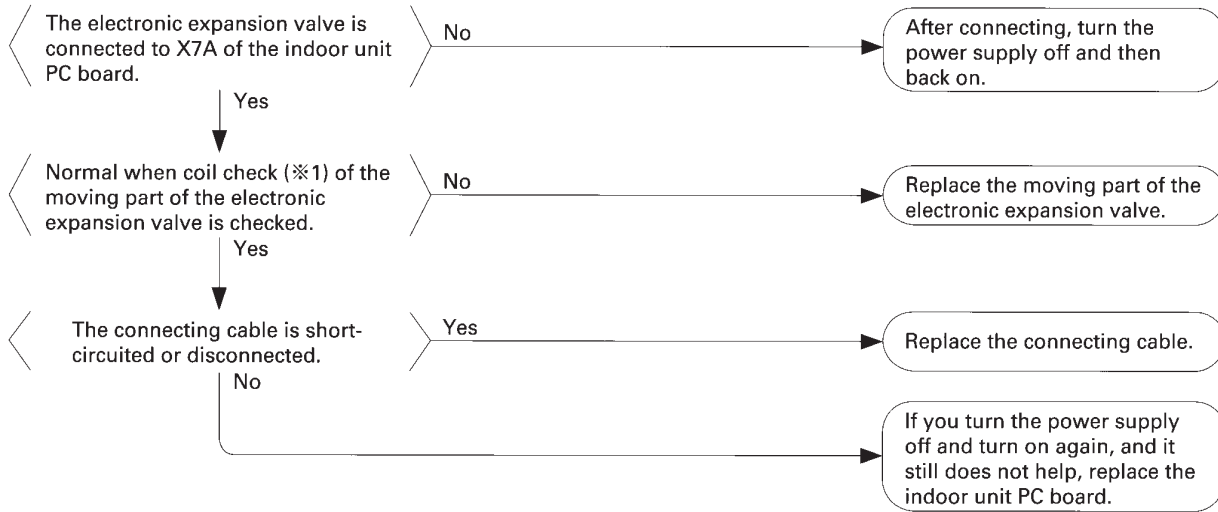
- (1) Defect of swing motor
- (2) Defect of connection cable (power supply and limit switch)
- (3) Defect of air flow direction adjusting flap-cam
- (4) Defect of indoor unit PC board



**Remote controller display
Malfunction code "A9" blinks.**

Cause of malfunction

- (1) Malfunction of moving part of electronic expansion valve
- (2) Defect of indoor unit PC board
- (3) Defect of connecting cable



※1: Coil check method for the moving part of the electronic expansion valve (Normal)

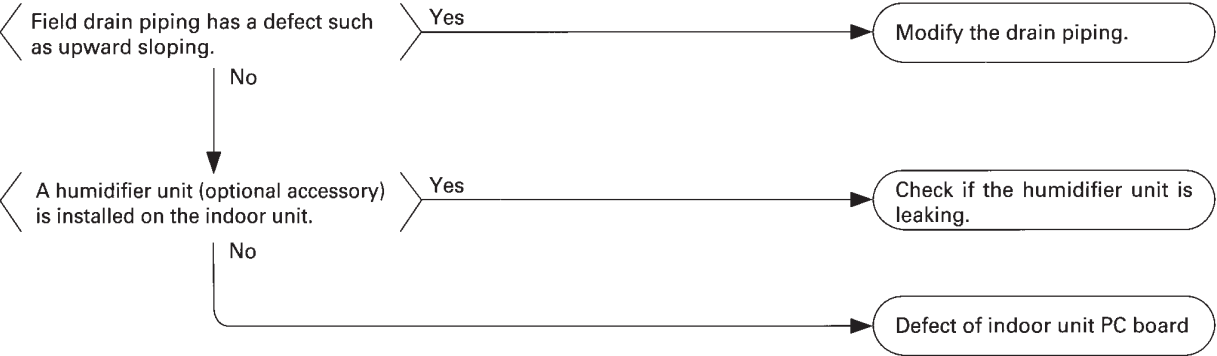
Pin No.	①White	②Yellow	③Orange	④Blue	⑤Red	⑥Brown
①White		×	○ Approx. 300Ω	×	○ Approx. 150Ω	×
②Yellow			×	○ Approx. 300Ω	×	○ Approx. 150Ω
③Orange				×	○ Approx. 150Ω	×
④Blue					×	○ Approx. 150Ω
⑤Red						×
⑥Brown						

○: Continuity
×: No continuity

**Remote controller display
Malfunction code "AF" blinks.**

Cause of malfunction

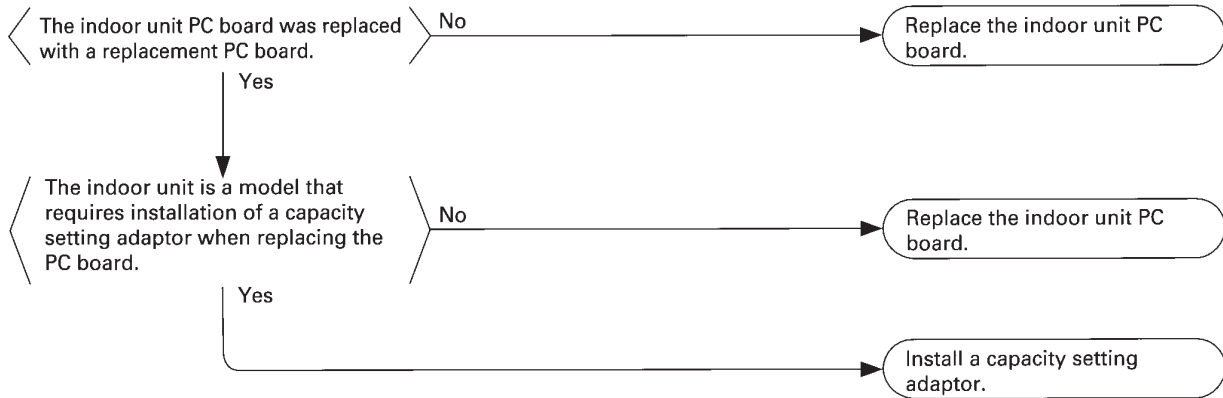
- (1) Humidifier unit (optional accessory) leaking
- (2) Defect of drain pipe (upward slope, etc.)
- (3) Defect of indoor unit PC board



**Remote controller display
Malfunction code "AJ" blinks.**

Cause of malfunction

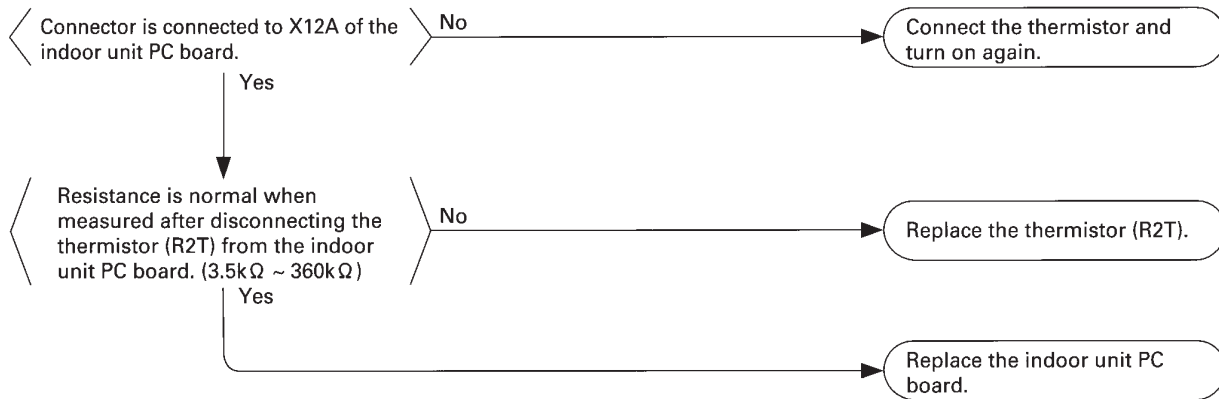
- (1) You have forgotten to install the capacity setting adaptor.
- (2) Defect of indoor unit PC board



**Remote controller display
Malfunction code "C4" blinks.**

Cause of malfunction

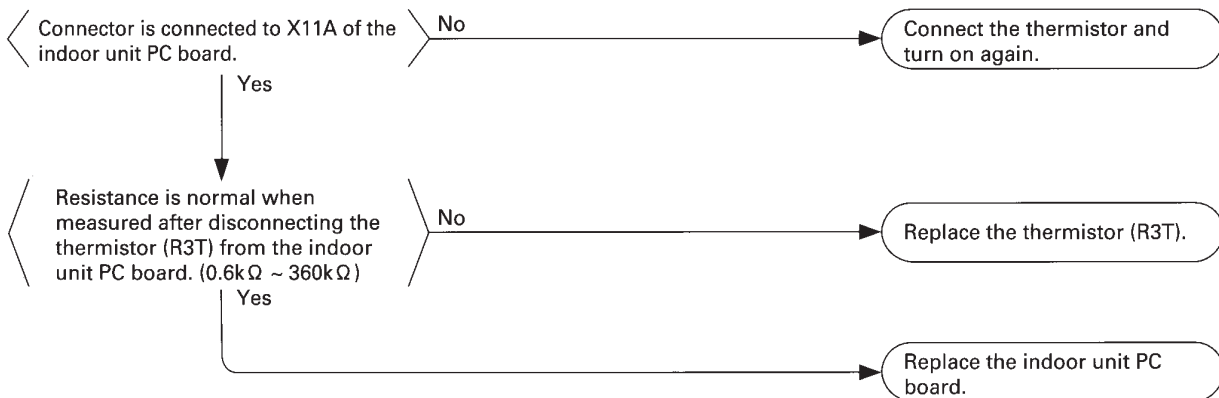
- (1) Defect of thermistor (R2T) for liquid pipe
- (2) Defect of indoor unit PC board



**Remote controller display
Malfunction code "C5" blinks.**

Cause of malfunction

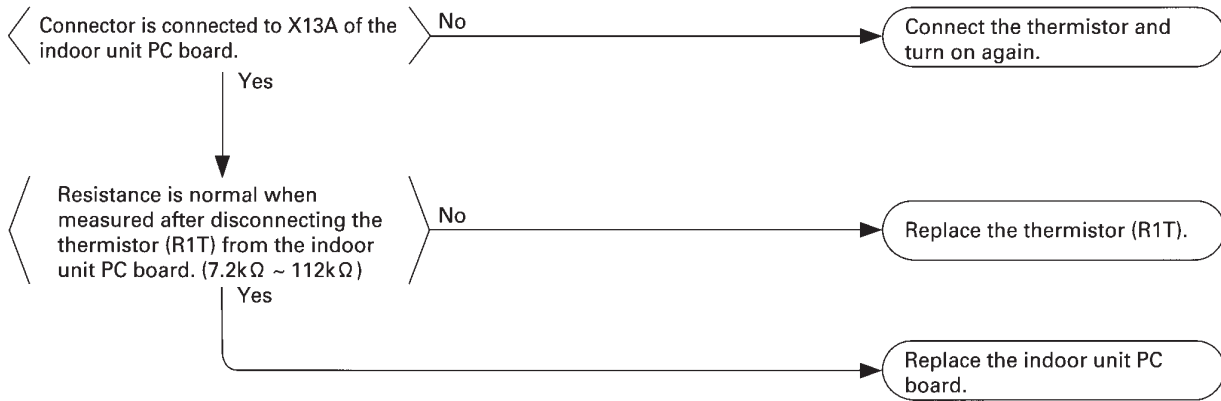
- (1) Defect of indoor unit thermistor (R3T) for gas pipe
- (2) Defect of indoor unit PC board



**Remote controller display
Malfunction code "C9" blinks.**

Cause of malfunction

- (1) Defect of indoor unit thermistor (R1T) for air inlet
- (2) Defect of indoor unit PC board



**Remote controller display
Malfunction code "CJ" blinks.**

Cause of malfunction

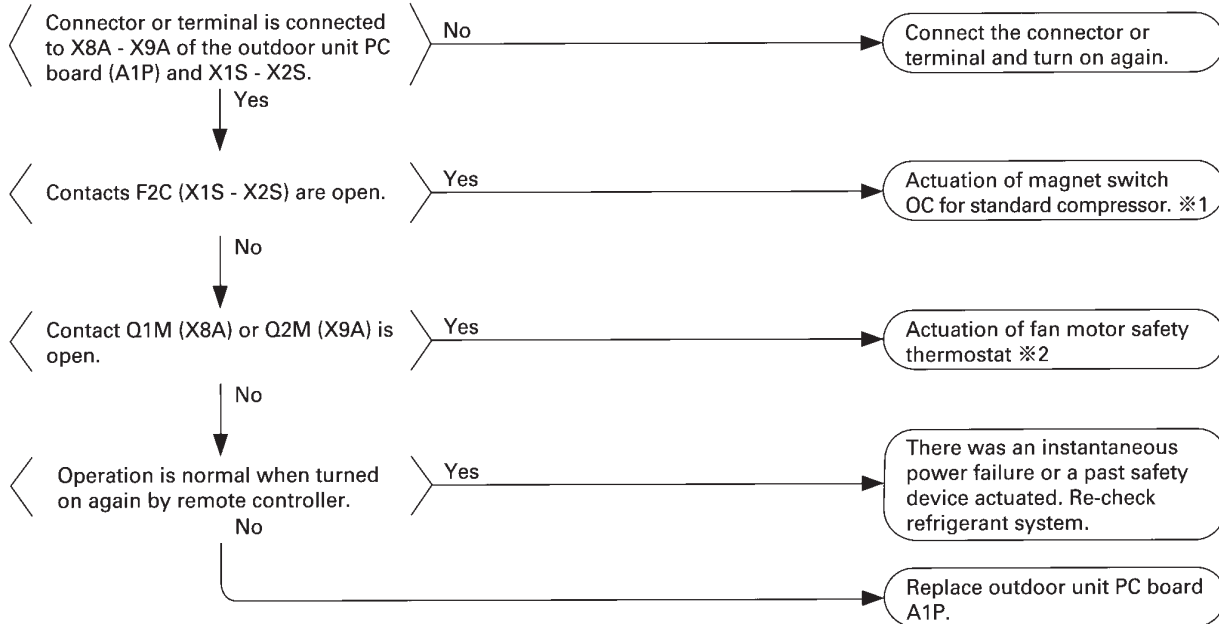
- (1) Defect of remote controller thermistor
- (2) Defect of remote controller PC board



**Remote controller display
Malfunction code "E0" blinks.**

Cause of malfunction

- (1) Actuation of outdoor unit safety device
- (2) Defect of outdoor unit PC board
- (3) Instantaneous power failure



※1: Actuation of magnet switch OC
Defect of compressor
Power supply insufficient
Defect of magnet switch, etc.

※2: Actuation of fan motor safety thermostat
Defect of fan motor
Defect of capacitor, etc.

**Remote controller display
Malfunction code "E1" blinks.**

Cause of malfunction

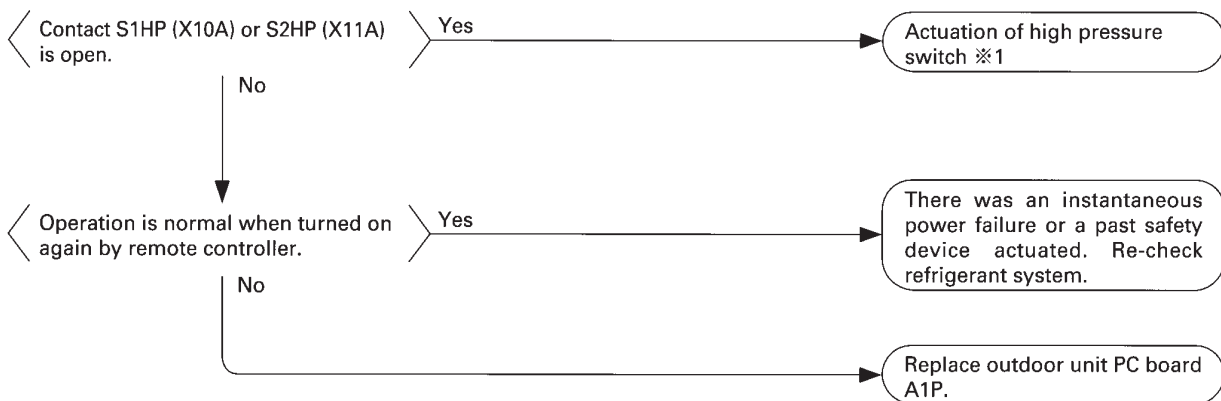
- (1) Defect of outdoor unit PC board (A1P)

Replace outdoor unit PC board A1P.

**Remote controller display
Malfunction code "E3" blinks.**

Cause of malfunction

- (1) Actuation of outdoor unit high pressure switch
- (2) Defect of outdoor unit PC board (A1P)
- (3) Instantaneous power failure



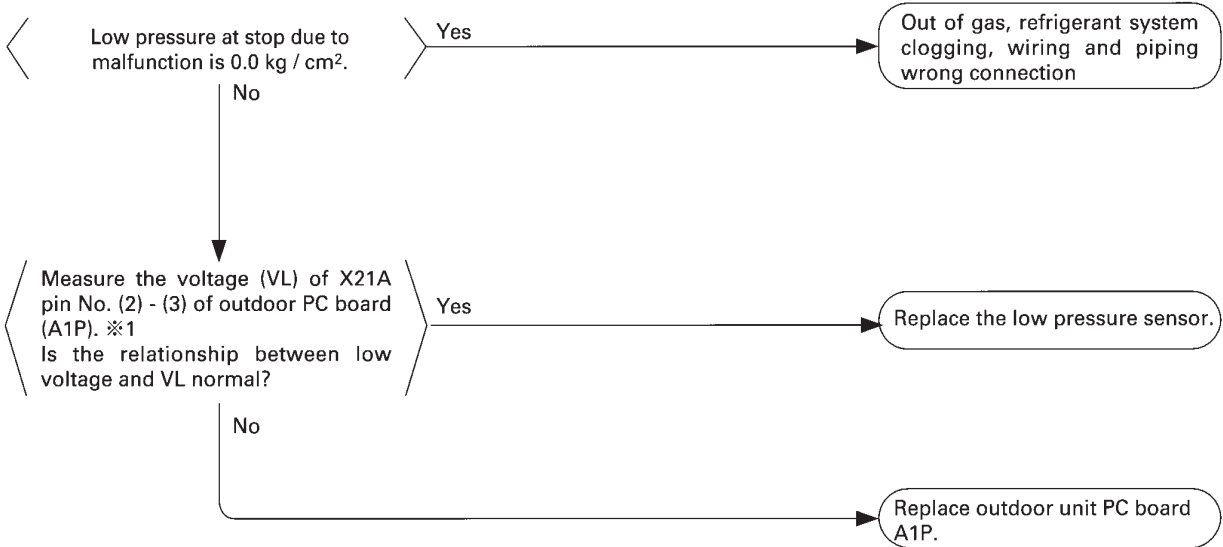
※1: Actuation of high pressure switch (HPS)

- The outdoor unit PC board's connector is disconnected.
- Is the outdoor unit heat exchanger dirty?
- Defect of outdoor fan
- Is the refrigerant over-charged?

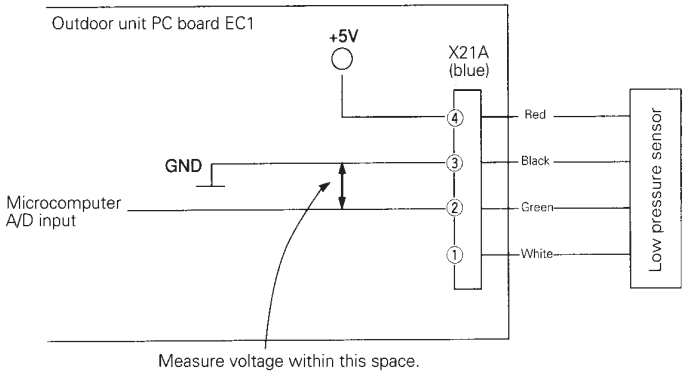
**Remote controller display
Malfunction code "E4" blinks.**

Cause of malfunction

- (1) Abnormal drop of low pressure (0 kg/cm² [0 MPa])
- (2) Defect of low pressure sensor
- (3) Defect of outdoor unit PC board



※1: Voltage measurement point

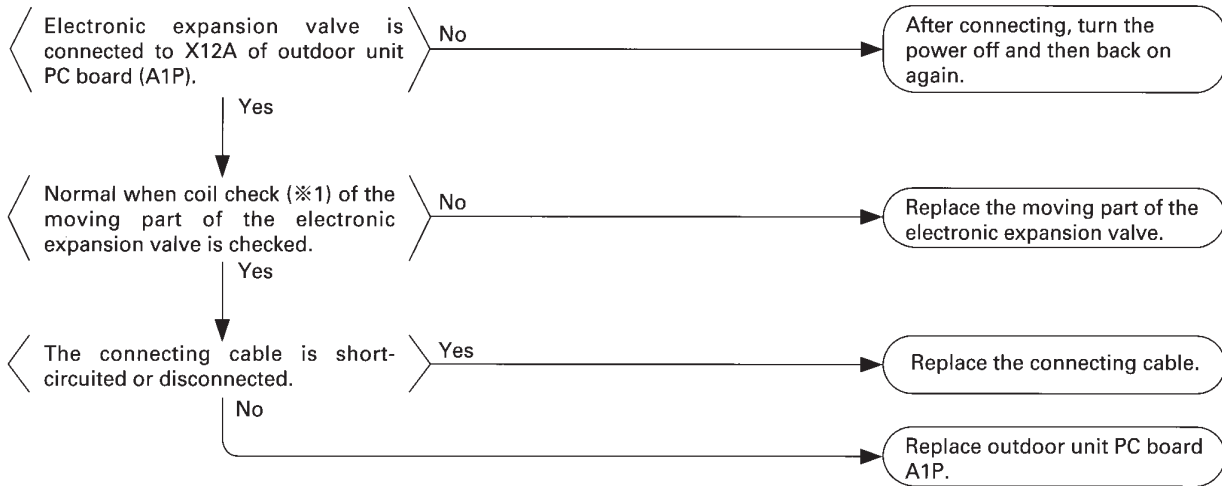


※Refer to the pressure sensor, pressure - voltage characteristics table on P112.

**Remote controller display
Malfunction code "E9" blinks.**

Cause of malfunction

- (1) Defect of moving part of electronic expansion valve
- (2) Defect of outdoor unit PC board (A1P)
- (3) Defect of connecting cable



※1 Coil check method for the moving part of the electronic expansion valve

Disconnect the electronic expansion valve from the PC board and check the continuity between the connector pins.

(Normal)

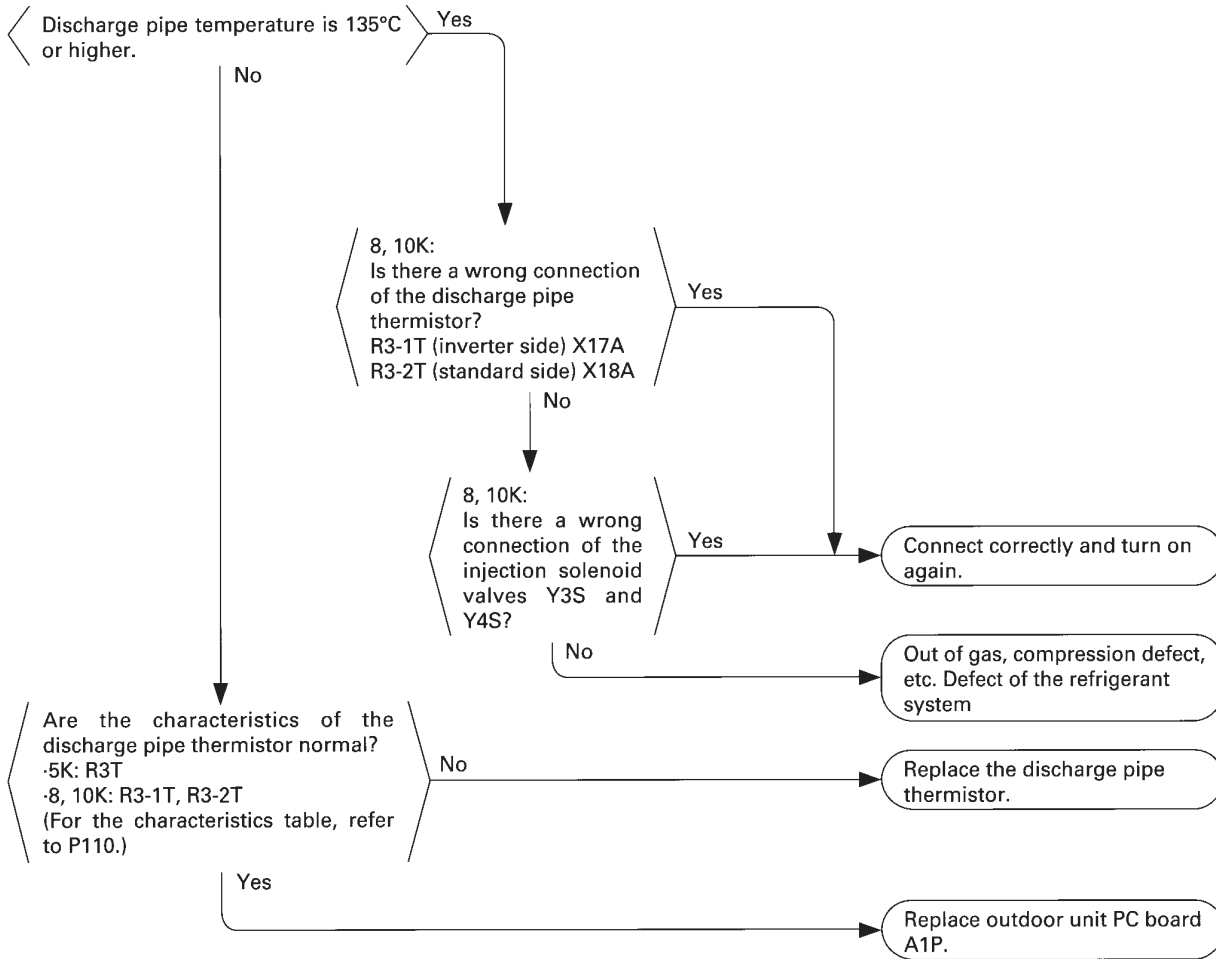
Pin No.	①White	②Yellow	③Orange	④Blue	⑤Red	⑥Brown
①White		×	◎	×	○	×
②Yellow			×	◎	×	○
③Orange				×	○	×
④Blue					×	○
⑤Red						×
⑥Brown						

- ◎: Continuity
Approx. 300Ω
- : Continuity
Approx. 150Ω
- ×: No continuity

**Remote controller display
Malfunction code "F3" blinks.**

Cause of malfunction

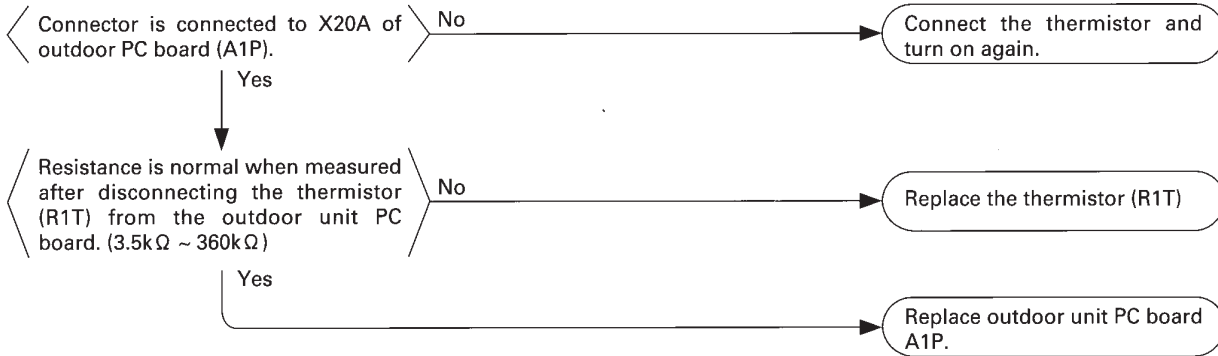
- (1) Abnormal discharge pipe temperature
- (2) Defect of discharge pipe thermistor (5K: R3T 8K, 10K: R3-1T, R3-2T)
- (3) Defect of outdoor unit PC board
- (4) Discharge pipe thermistor wrong connection
- (5) Liquid injection solenoid valve wrong connection



**Remote controller display
Malfunction code "H9" blinks.**

Cause of malfunction

- (1) Defect of thermistor (R1T) for outdoor unit outdoor air intake
- (2) Defect of outdoor unit PC board (A1P)

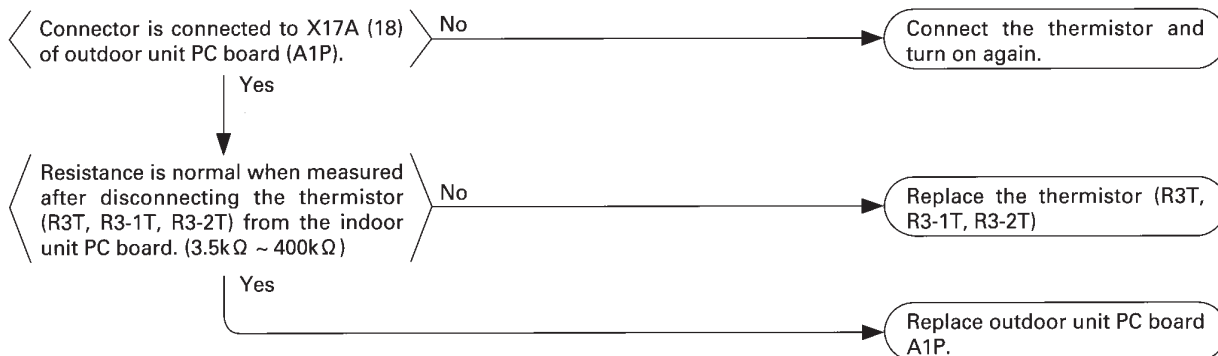


The alarm indicator is displayed when the fan is being used also.

**Remote controller display
Malfunction code "J3" blinks.**

Cause of malfunction

- (1) Defect of thermistor (R3T, R3-1T, R3-2T) for outdoor unit discharge pipe
- (2) Defect of outdoor unit PC board (A1P)

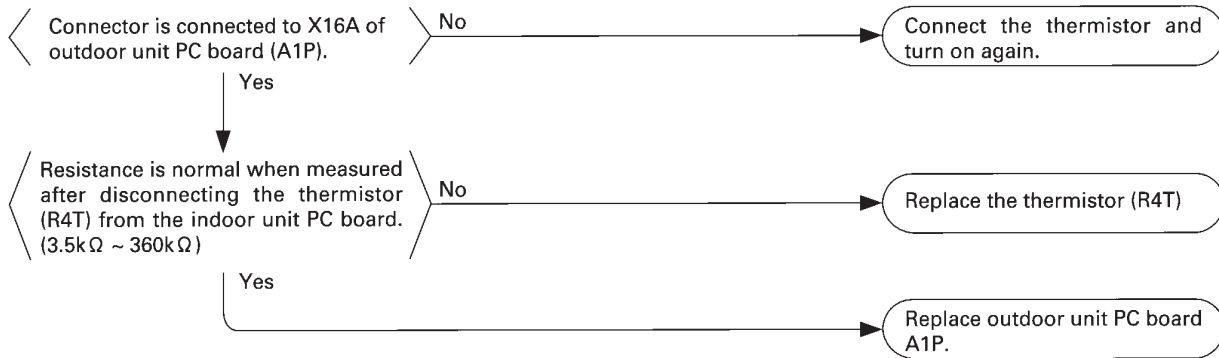


The alarm indicator is displayed when the fan is being used also.

**Remote controller display
Malfunction code "J5" blinks.**

Cause of malfunction

- (1) Defect of thermistor (R4T) for outdoor unit suction pipe
- (2) Defect of outdoor unit PC board (A1P)

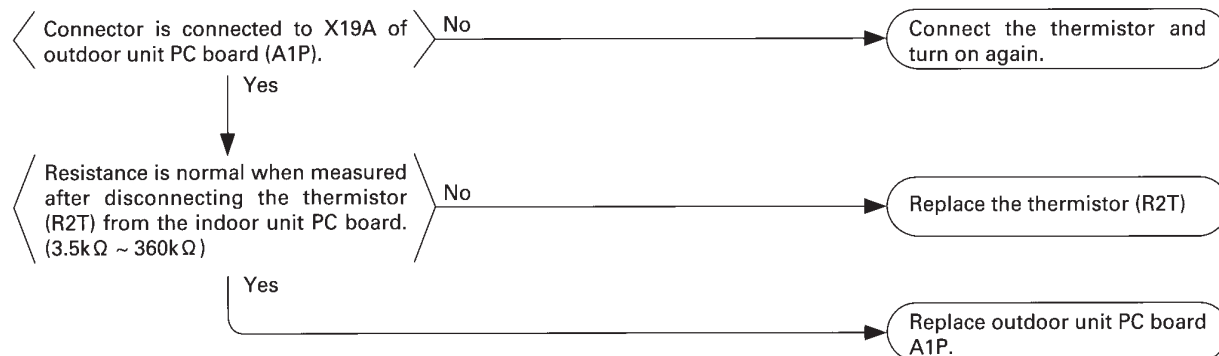


The alarm indicator is displayed when the fan is being used also.

**Remote controller display
Malfunction code "J6" blinks.**

Cause of malfunction

- (1) Defect of thermistor (R2T) for outdoor unit coil
- (2) Defect of outdoor unit PC board (A1P)

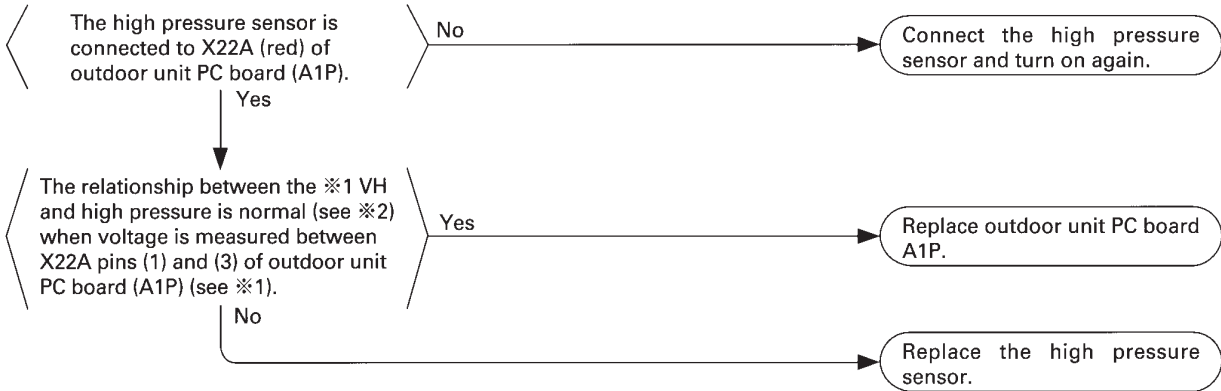


The alarm indicator is displayed when the fan is being used also.

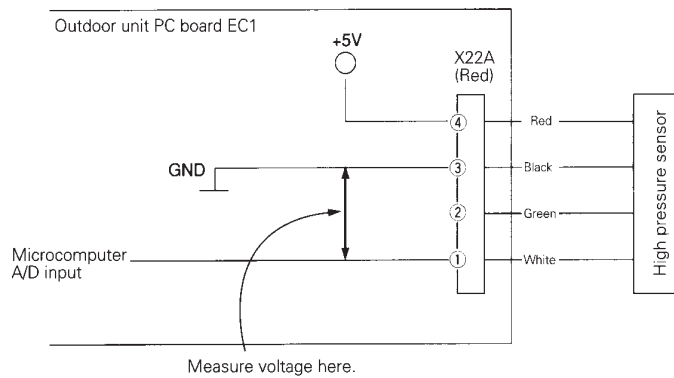
**Remote controller display
Malfunction code "JA" blinks.**

Cause of malfunction

- (1) Defect of high pressure sensor system
- (2) Connection of low pressure sensor with wrong connection.
- (3) Defect of outdoor unit PC board.



※1: Voltage measurement point

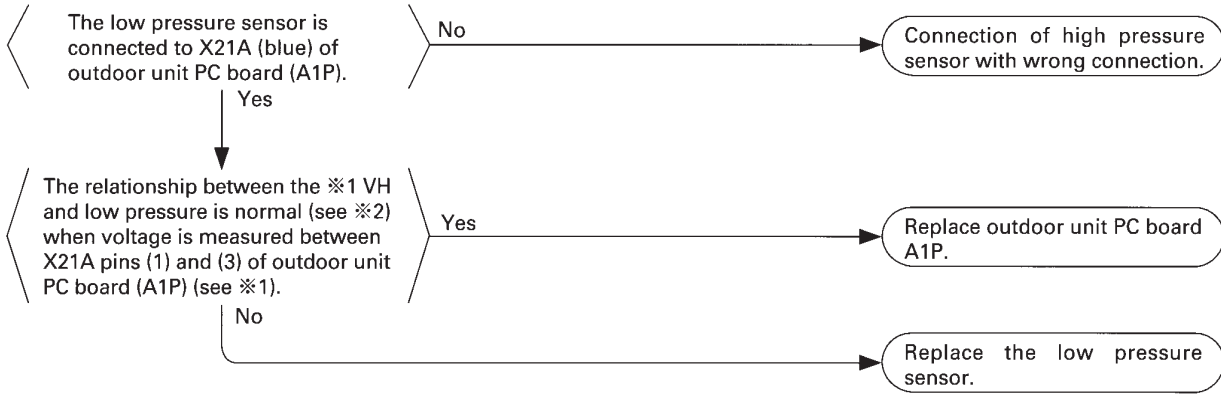


※2: Refer to pressure sensor, pressure / voltage characteristics table, P112.

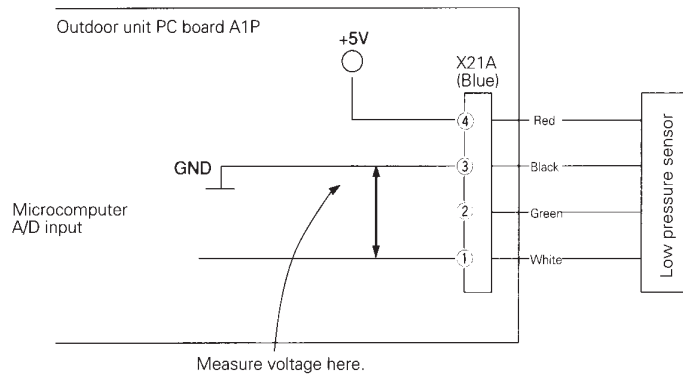
**Remote controller display
Malfunction code "JC" blinks.**

Cause of malfunction

- (1) Defect of low pressure sensor system
- (2) Connection of high pressure sensor with wrong connection.
- (3) Defect of outdoor unit PC board.



※1: Voltage measurement point

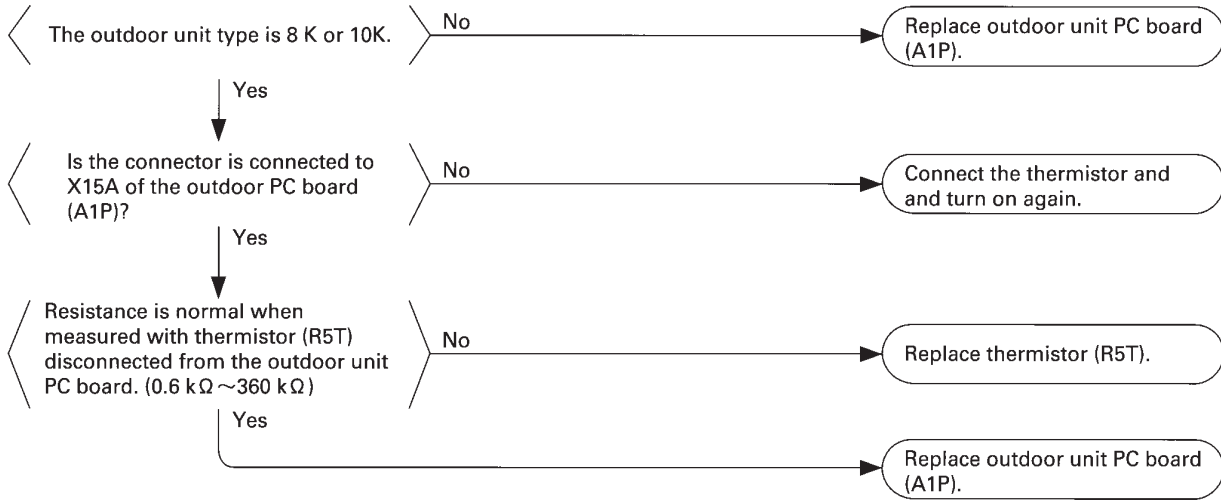


※2: Refer to pressure sensor, pressure/voltage characteristics table, P112.

**Remote controller display
Malfunction code "JH" blinks.**

Cause of malfunction

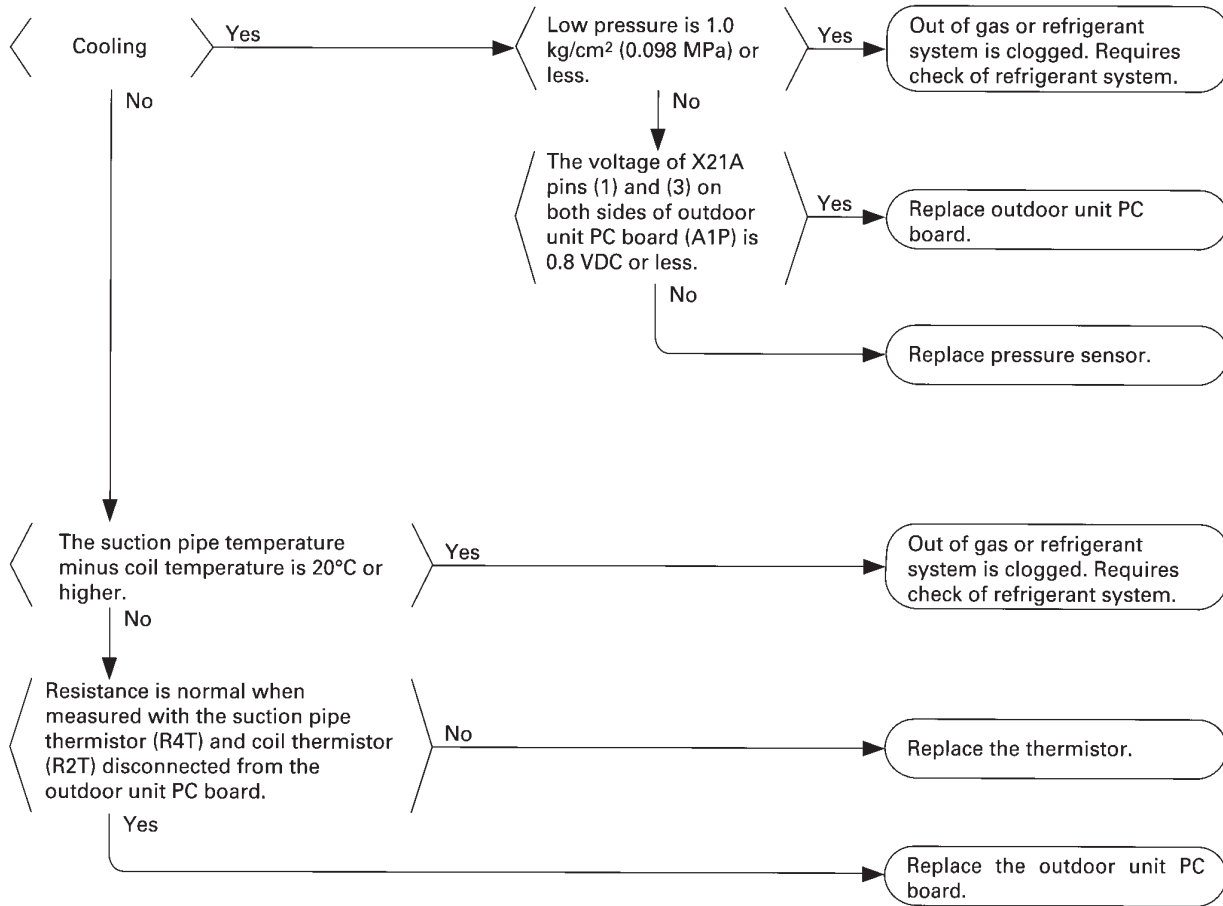
- (1) Defect of oil temperature thermistor (R5T)
- (2) Defect of outdoor unit PC board (A1P)



**Remote controller display
Malfunction code "U0" blinks.**

Cause of malfunction

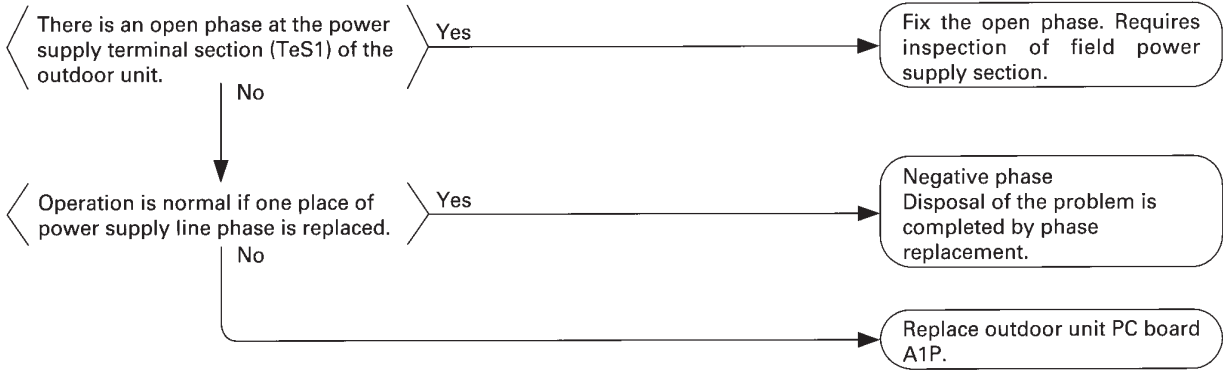
- (1) Out of gas or refrigerant system clogging (incorrect piping)
- (2) Defect of pressure sensor
- (3) Defect of outdoor unit PC board



**Remote controller display
Malfunction code "U1" blinks.**

Cause of malfunction

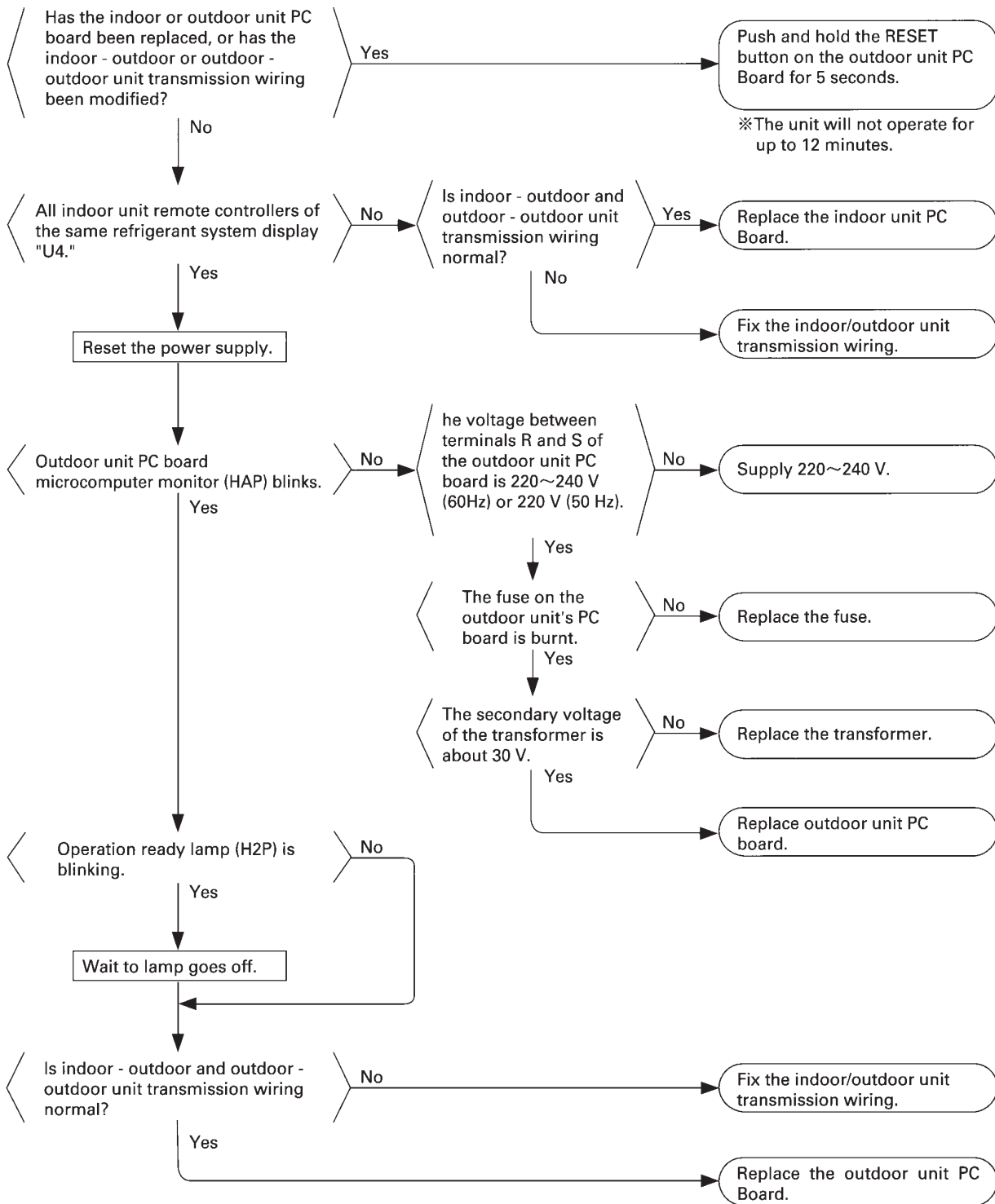
- (1) Power supply negative phase
- (2) Power supply open phase
- (3) Defect of outdoor PC board A1P



**Remote controller display
Malfunction code "U4" blinks.**

Cause of malfunction

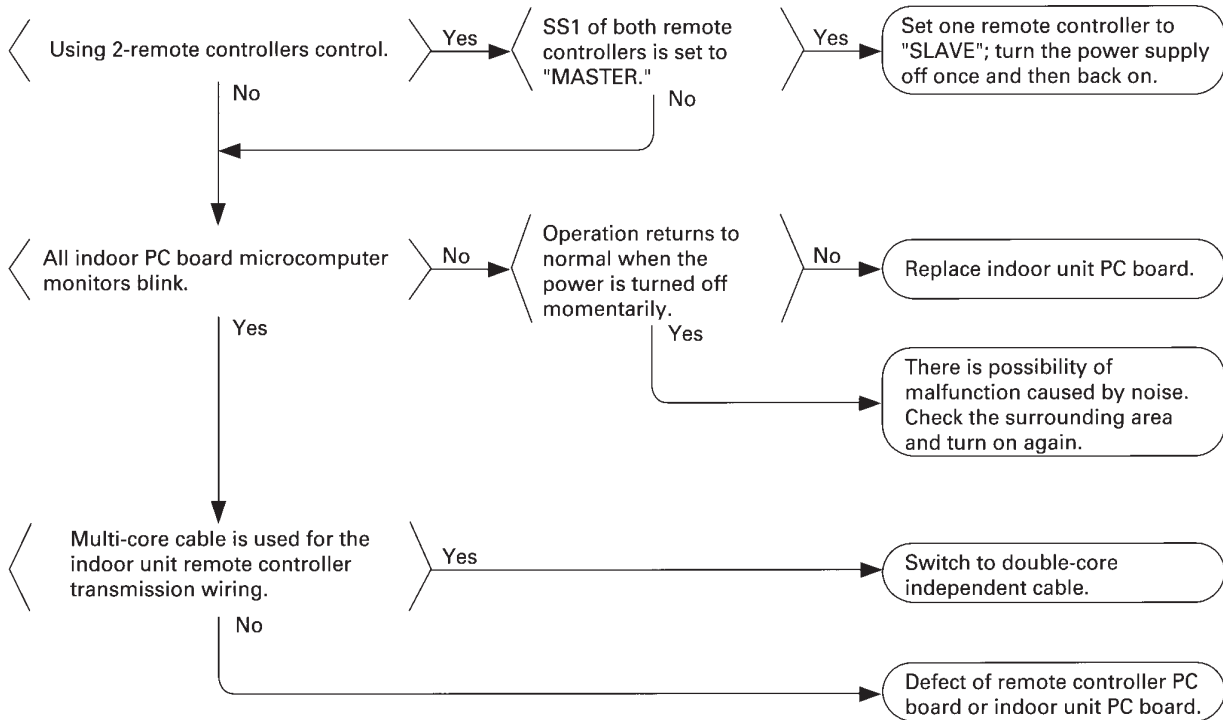
- (1) Indoor to outdoor, outdoor to outdoor crossover wiring disconnection, short circuit or wrong check
- (2) Outdoor unit power supply is OFF
- (3) System address doesn't match
- (4) Defect of indoor unit PC board
- (5) Defect of outdoor unit PC board



**Remote controller display
Malfunction code "U5" blinks.**

Cause of malfunction

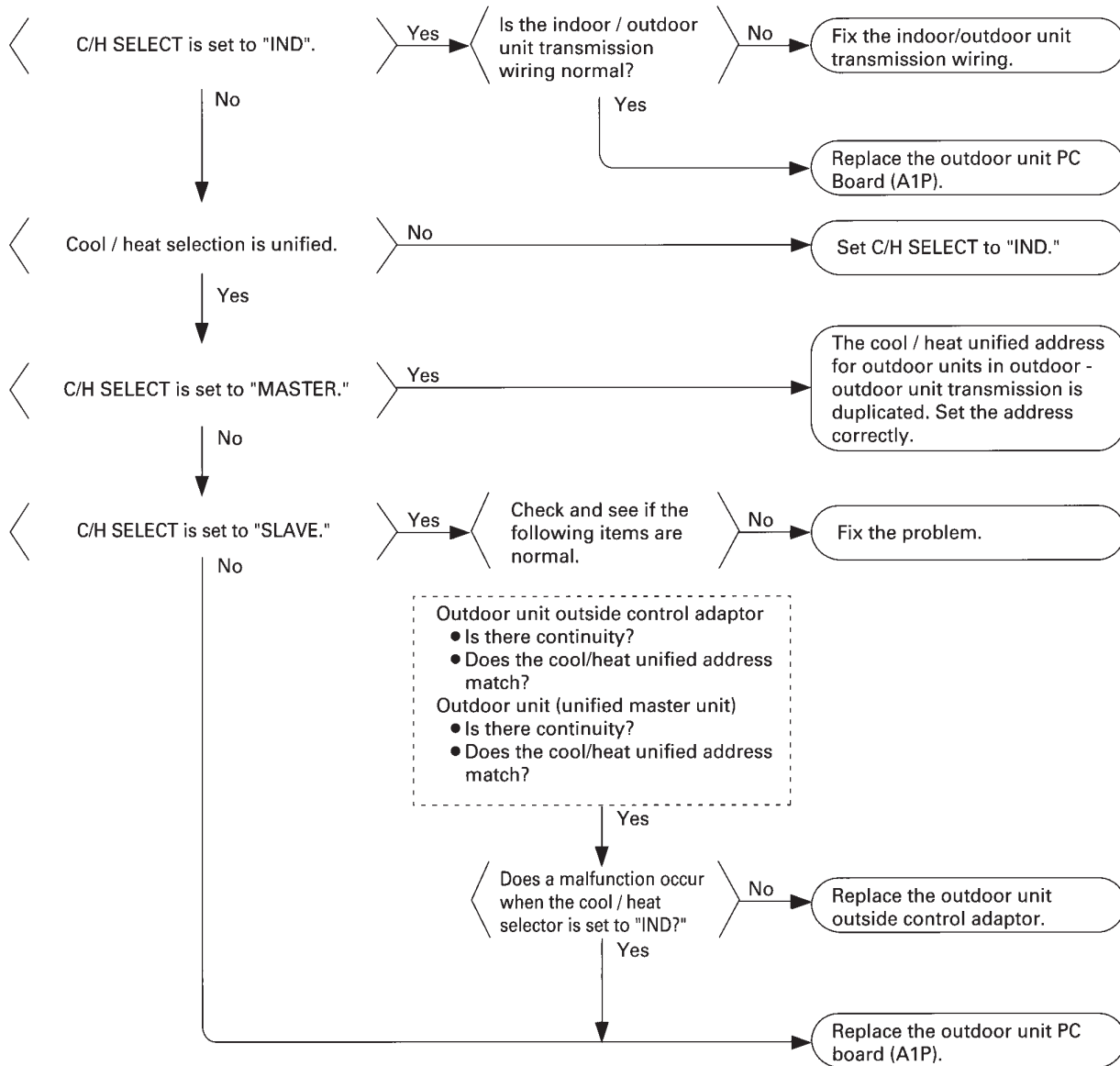
- (1) Malfunction of indoor unit remote controller transmission
- (2) Connection of two main remote controllers (when using 2 remote controllers)
- (3) Defect of indoor unit PC board
- (4) Defect of remote controller PC board
- (5) Malfunction of transmission caused by noise



**Remote controller display
Malfunction code "U7" blinks.**

Cause of malfunction

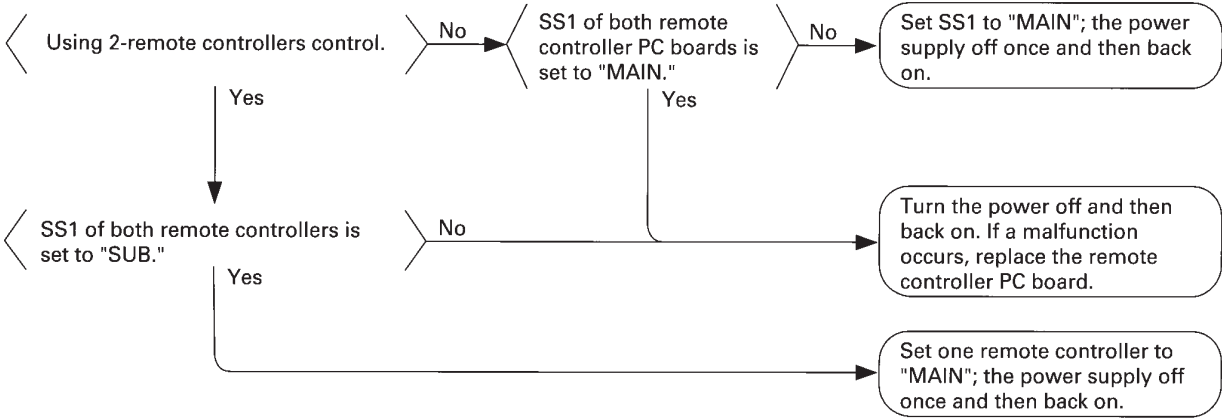
- (1) Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor
- (2) Improper cool/heat selection
- (3) Improper cool/heat unified address (outdoor unit, external control adaptor for outdoor unit)
- (4) Defect of outdoor unit PC board (A1P)
- (5) Defect of outdoor unit outside control adaptor



**Remote controller display
Malfunction code "U8" blinks.**

Cause of malfunction

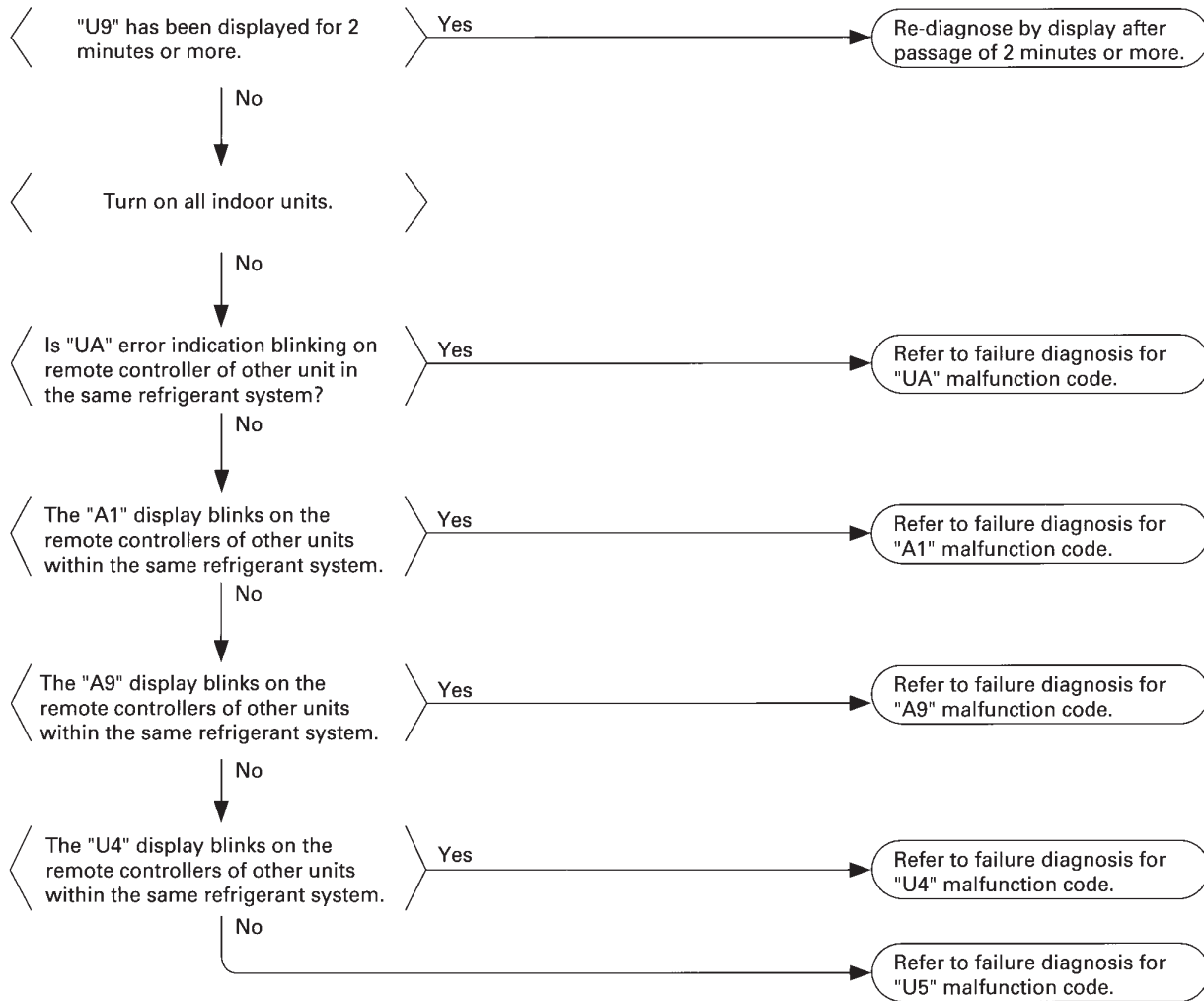
- (1) Malfunction of transmission between main and sub remote controller
- (2) Connection between sub remote controllers
- (3) Defect of remote controller PC board



**Remote controller display
Malfunction code "U9" blinks.**

Cause of malfunction

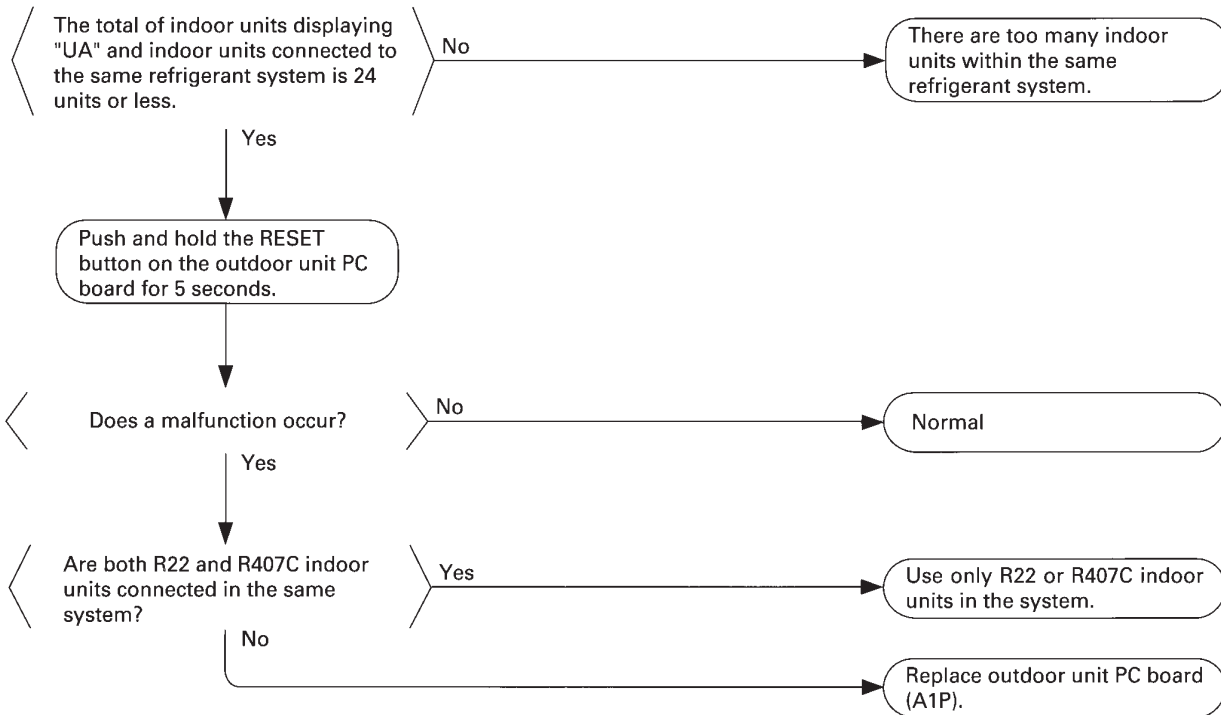
- (1) Malfunction of transmission within or outside of other system
- (2) Malfunction of electronic expansion valve in indoor unit of other system
- (3) Defect of PC board of indoor unit in other system
- (4) Improper connection of transmission wiring between indoor and outdoor unit



**Remote controller display
Malfunction code "UA" blinks.**

Cause of malfunction

- (1) Excess of connected indoor units
- (2) Defect of outdoor unit PC board (A1P)



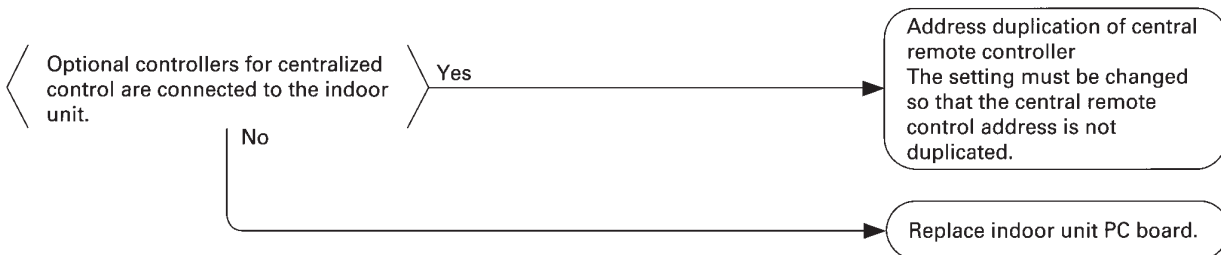
The number of indoor units that can be connected to a single outdoor unit system depends on the type of outdoor unit.

- RSXYP 5K : Max. 8 units
- RSXYP 8K : Max. 13 units
- RSXYP10K : Max. 16 units

**Remote controller display
Malfunction code "UC" blinks.**

Cause of malfunction

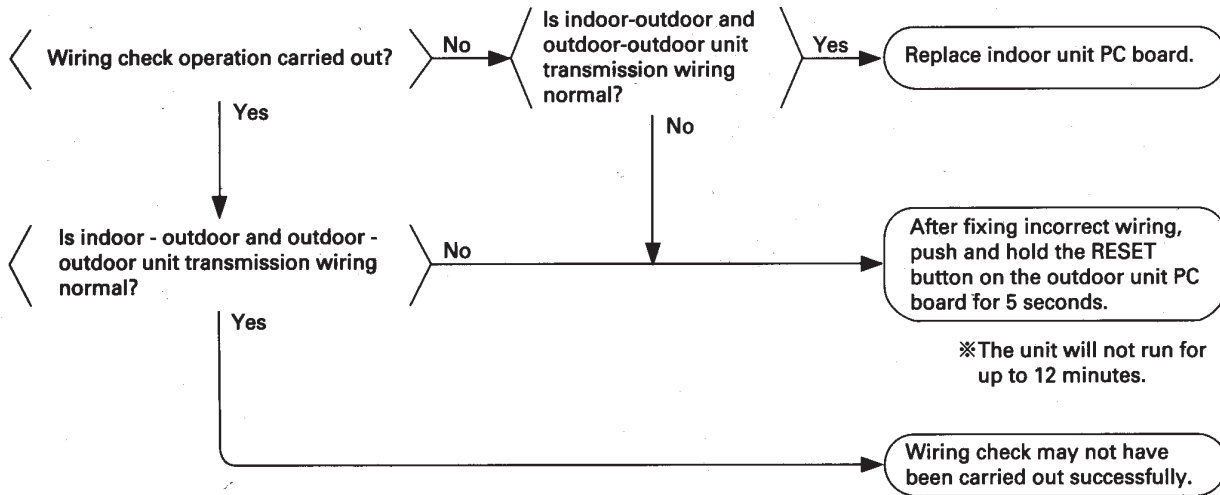
- (1) Address duplication of central remote controller
- (2) Defect of indoor unit PC board



**Remote controller display
Malfunction code "UF" blinks.**

Cause of malfunction

- (1) Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor
- (2) Failure to execute wiring check operation
- (3) Defect of indoor unit PC board

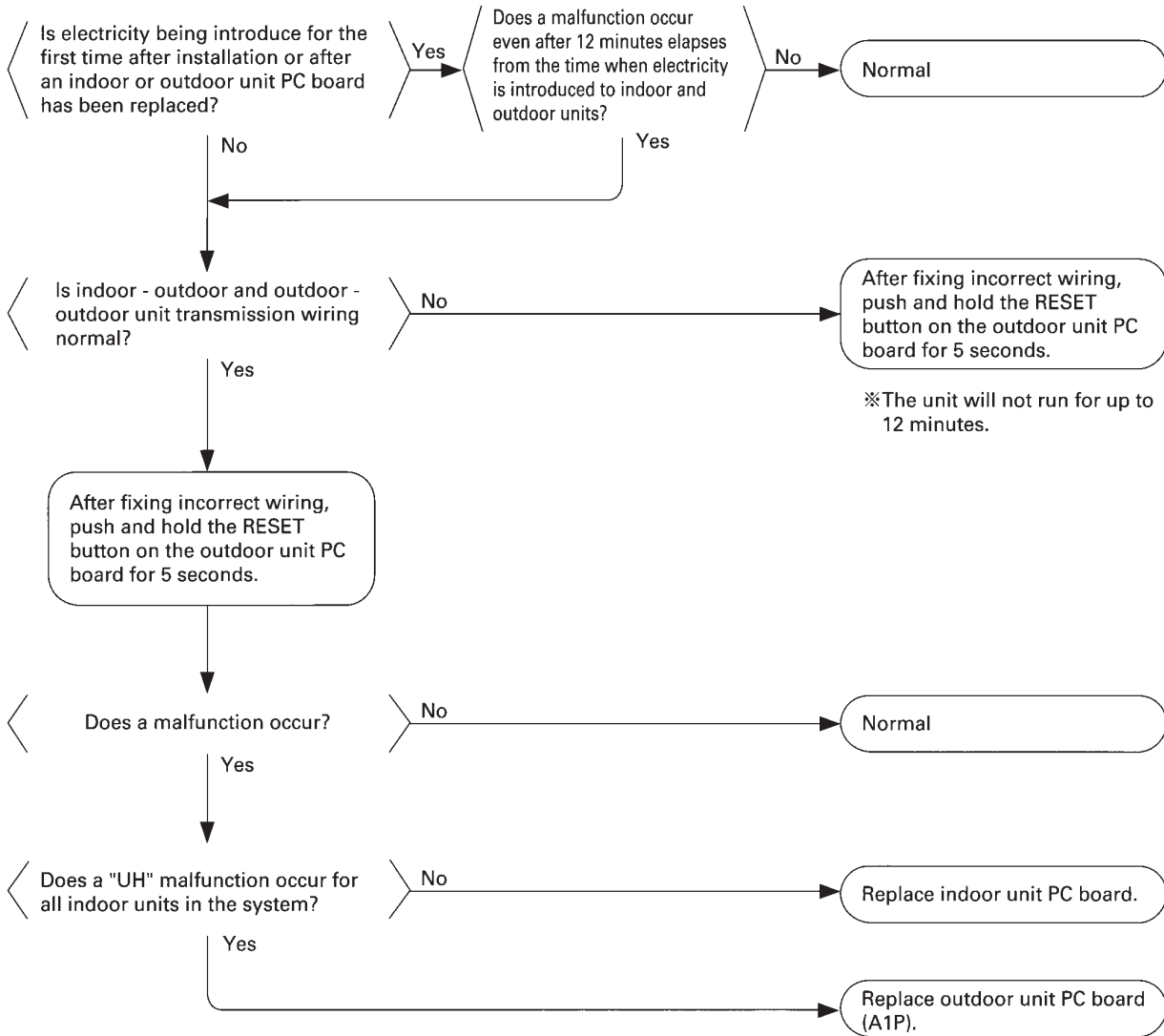


Wiring check may not be successful if carried out after the outdoor unit has been off for more than 12 hours, or if it is not carried out after running all connected indoor units in the fan mode for at least an hour.

**Remote controller display
Malfunction code "UH" blinks.**

Cause of malfunction

- (1) Improper connection of transmission wiring between outdoor unit and outdoor unit outside control adaptor
- (2) Defect of indoor unit PC board
- (3) Defect of outdoor unit PC board (A1P)



4. Failure Diagnosis for Inverter System

Points of diagnosis

The main causes for each malfunction code are given in the table below. (For details refer to the next page and those following.)

- ◎ : Failure is probable
- : Failure is possible
- △ : Failure is improbable
- : Failure is impossible

Malfunction code	Contents of malfunction	Location of failure							Point of diagnosis
		Inverter		Compressor	Refrigerant system	Outdoor unit PC board	Other	Field cause	
		PC board power unit	Other						
L4	Radiator fin temperature rise	△	◎	—	—	—	—	△	Is the intake port of the radiator fin clogged?
L5	Instantaneous over-current	○	—	◎	△	—	—	—	Inspect the compressor.
L8	Electronic thermostat	△	—	◎	○	—	—	—	Inspection the compressor and refrigerant system.
L9	Stall prevention	△	—	○	◎	—	—	—	Inspection the compressor and refrigerant system.
LC	Malfunction of transmission between inverter PC board and outdoor unit PC board	○	◎	—	—	△	—	—	Inspect the connection between the inverter PC board and outdoor unit PC board. Next, inspect the inverter PC board.
U2	Insufficient current/voltage	○	○	—	—	—	△	◎	<ul style="list-style-type: none"> ● Inspect the fuse on the inverter PC board. ● Check the DC voltage.
P1	Over-ripple protection	○	○	—	—	—	—	○	<ul style="list-style-type: none"> ● Open phase ● Current/voltage imbalance ● Defect of main circuit wiring
P4	Defect of radiator fin temperature sensor	○	△	—	—	—	—	—	Inspect the radiator fin thermistor.

5. How to use the Monitor switch on the Inverter PC Board

The monitor lets you know the contents of the latest stop due to malfunction by LED display on the inverter PC Board. The inverter is equipped with a retry function that retries operation each time stop due to malfunction occurs, and malfunction is therefore not ascertained by merely entering the five minutes standby while retry is attempted the prescribed number of times. If the number of retry times is exceeded within 60 minutes, malfunction is ascertained, and the corresponding malfunction code is displayed on the indoor unit remote controller.

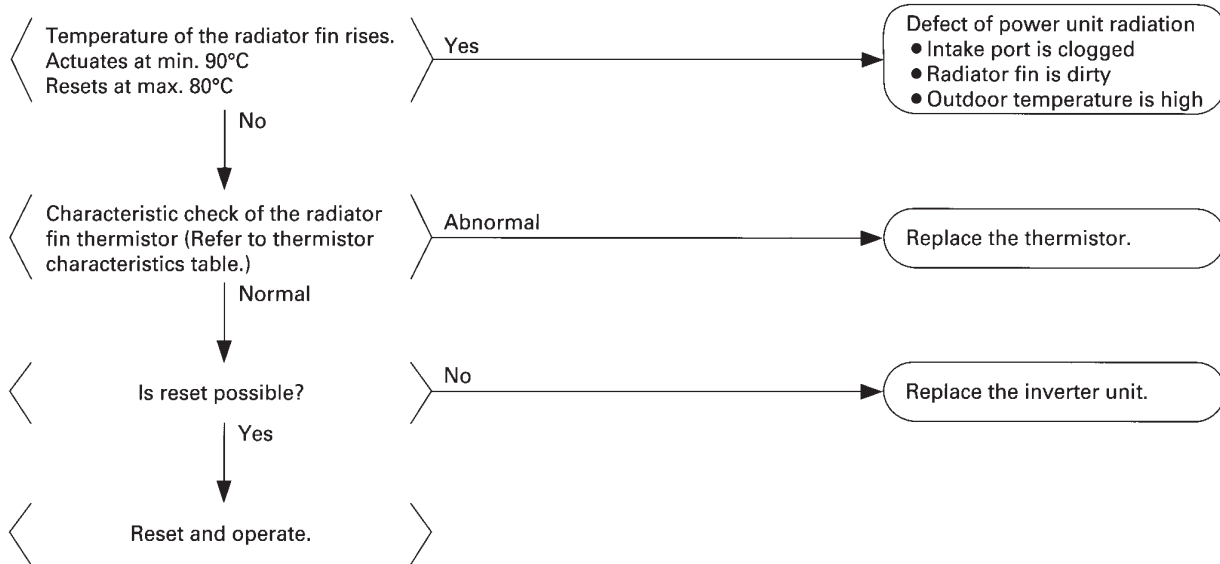
LED	A	1	2	3	4	Malfunction contents	Retry times
	◐	●	●	●	●	Normal	
	◐	●	●	●	○	Malfunction of fin thermistor	3
	◐	○	○	●	●	Sensor malfunction	0
	◐	○	●	●	○	Insufficient voltage	3
	◐	●	●	○	●	Instantaneous over-current	3
	◐	●	○	○	○	Electronic thermistor	3
	◐	○	○	○	○	Stall prevention	3
	◐	●	○	●	●	Open phase detection	3
	●	●	●	●	●	Malfunction of microcomputer	Unlimited

- ◐ : Blink
- : On
- : Off

**Remote controller display
Malfunction code "L4" blinks.**

Cause of malfunction

- (1) Actuation of fin thermal (Actuates at min. 90°C and resets at max. 80°C)
- (2) Defect of inverter PC board
- (3) Defect of fin thermistor

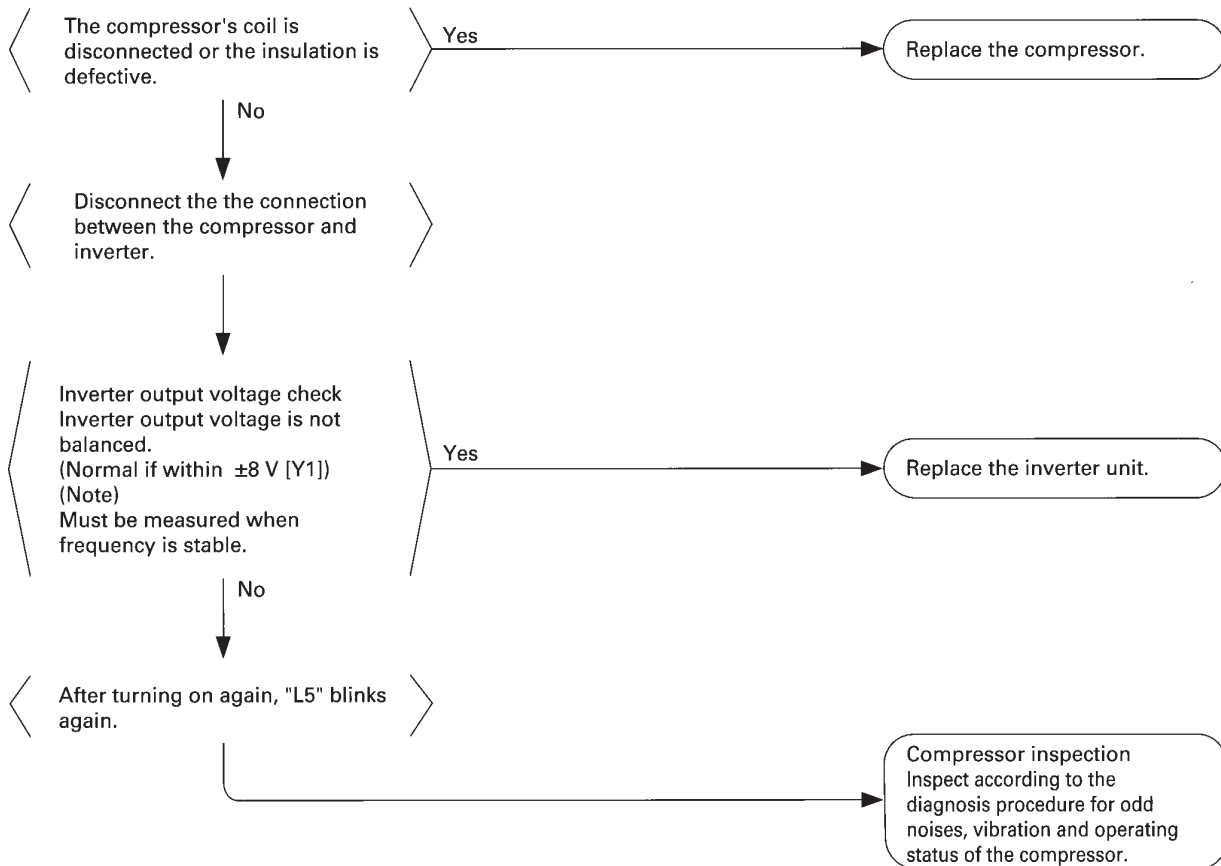


**Remote controller display
Malfunction code "L5" blinks.**

Cause of malfunction

- (1) Defect of compressor coil (disconnected, defective insulation)
- (2) Compressor start-up malfunction (mechanical lock)
- (3) Defect of inverter unit

Compressor inspection



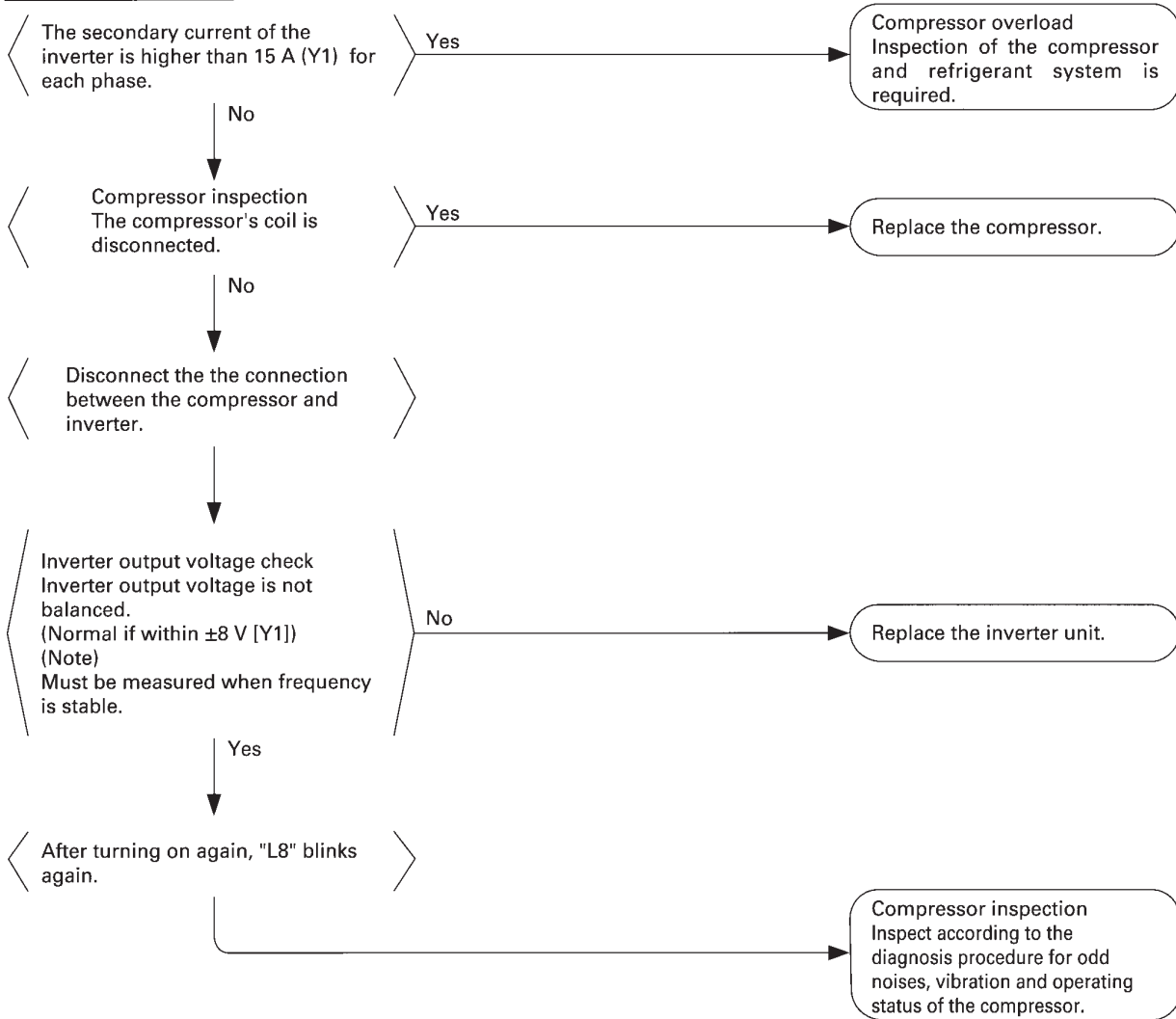
When a tester is used to measure output voltage of the inverter, the tester indication shows a value slighter higher than actual.

**Remote controller display
Malfunction code "L8" blinks.**

Cause of malfunction

- (1) Compressor overload
- (2) Compressor coil disconnected
- (3) Defect of inverter unit

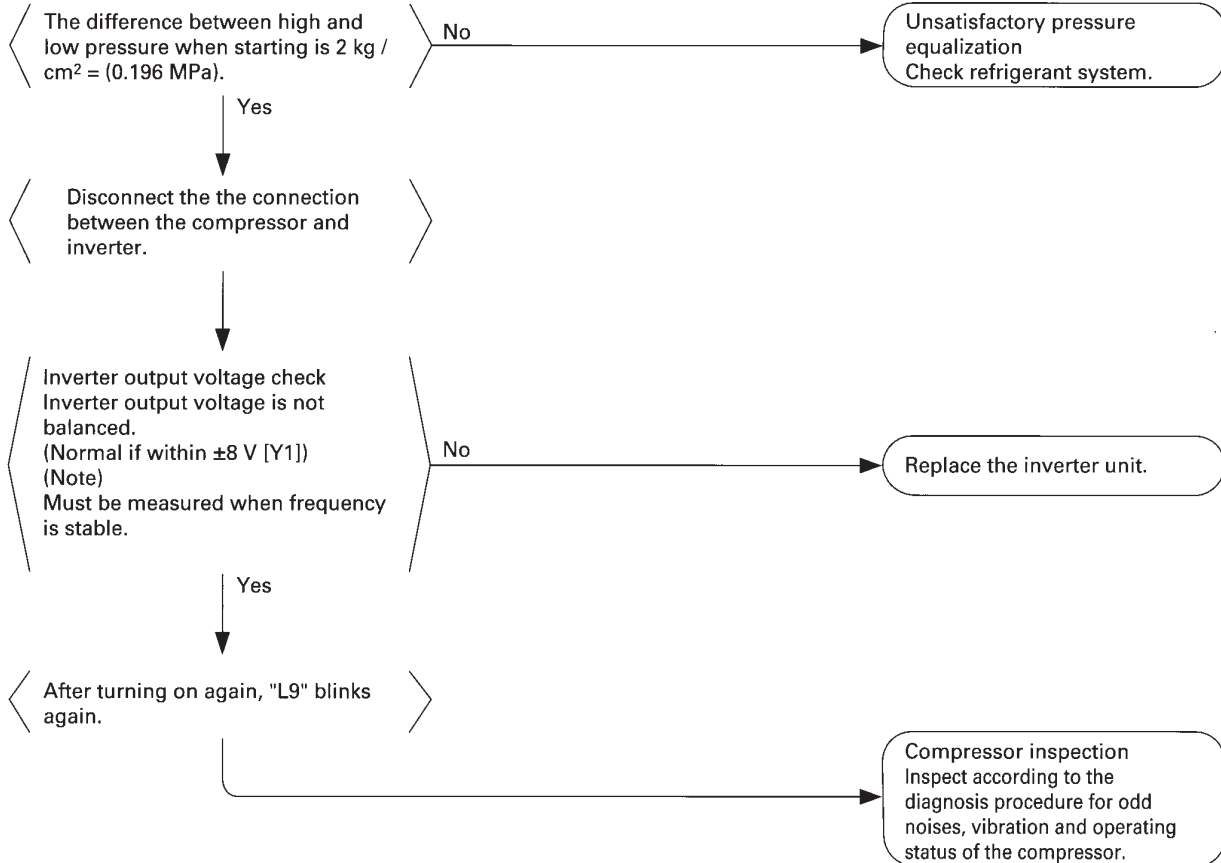
Output current check



**Remote controller display
Malfunction code "L9" blinks.**

Cause of malfunction

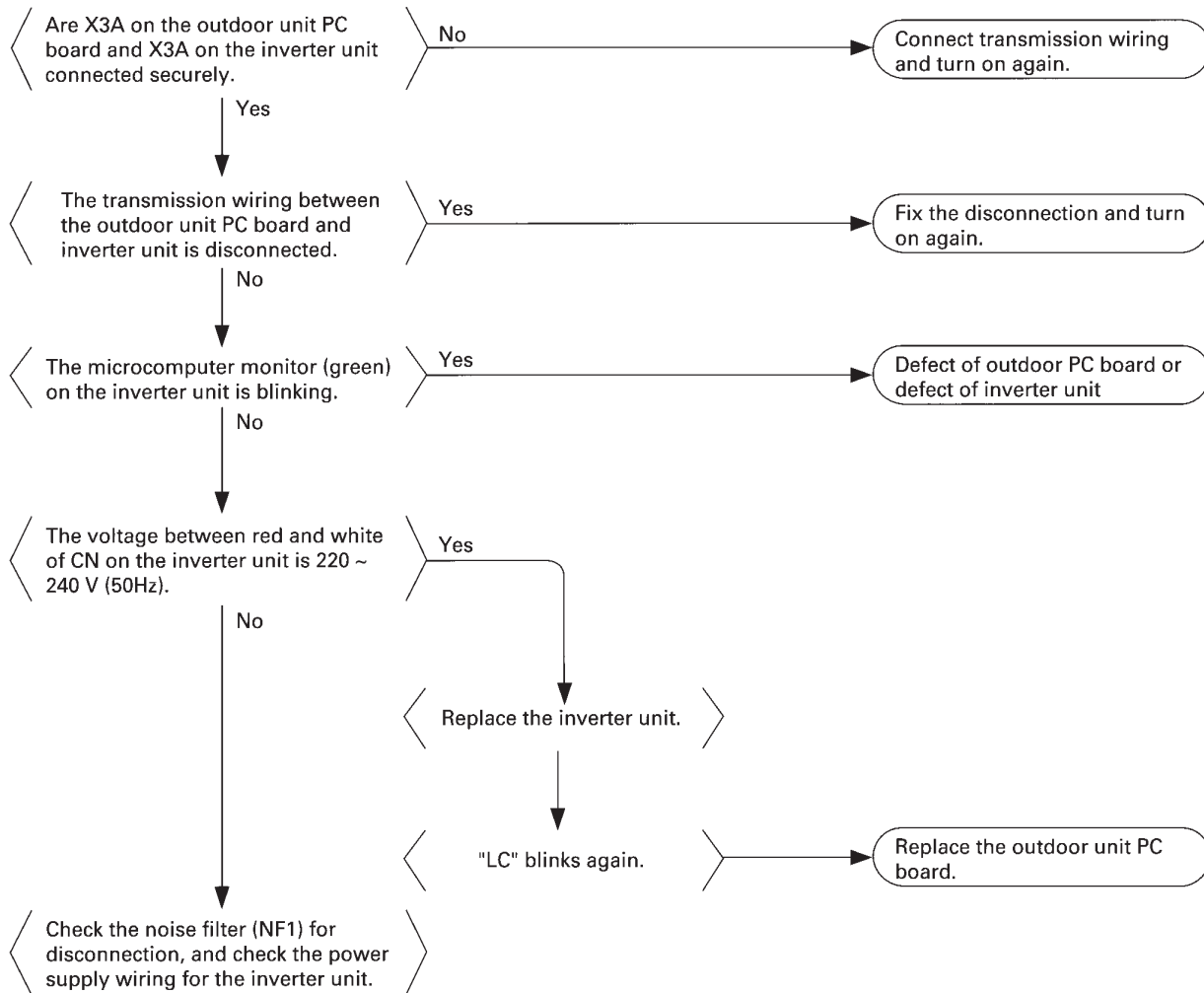
- (1) Defect of compressor
- (2) Pressure differential start
- (3) Defect of inverter unit



**Remote controller display
Malfunction code "LC" blinks.**

Cause of malfunction

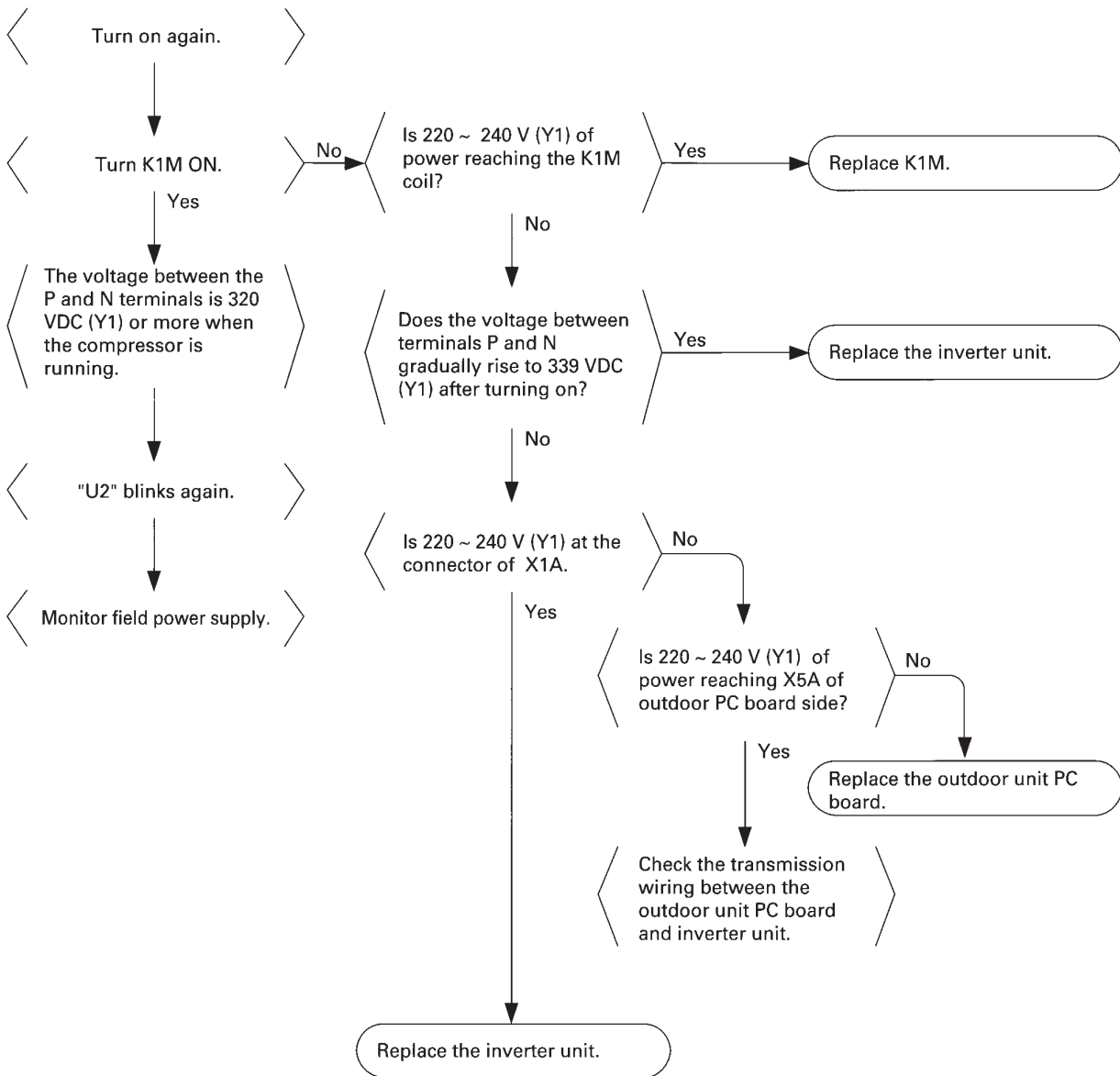
- (1) Malfunction of connection between the inverter unit and outdoor unit PC board
- (2) Defect of outdoor unit PC board (transmission section)
- (3) Defect of inverter unit
- (4) Defect of noise filter (NF1)



**Remote controller display
Malfunction code "U2" blinks.**

Cause of malfunction

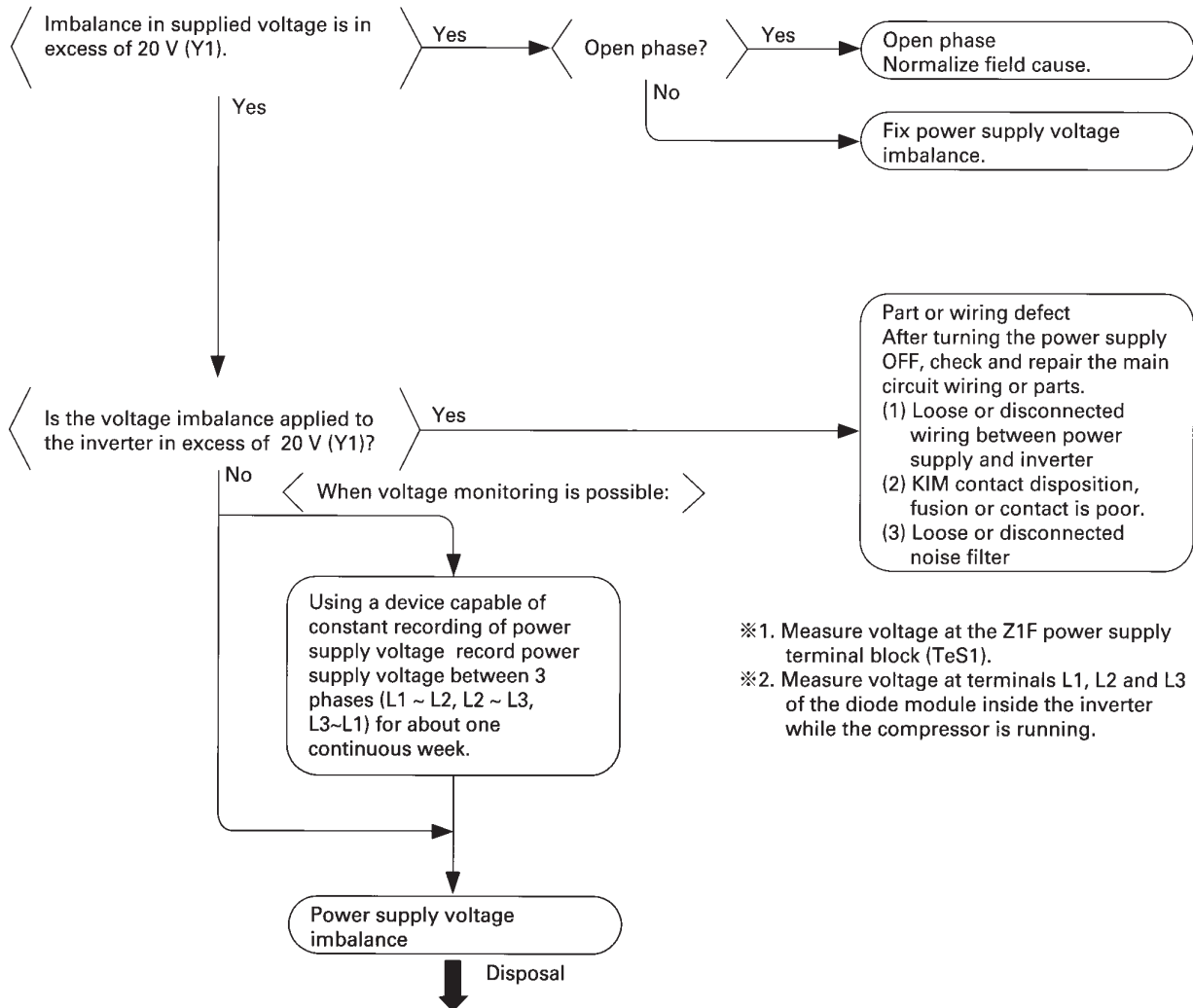
- (1) Power supply insufficient
- (2) Instantaneous failure
- (3) Open phase
- (4) Defect of inverter unit
- (5) Defect of outdoor PC board
- (6) Defect of K1M.
- (7) Main circuit wiring defect



**Remote controller display
Malfunction code "P1" blinks.**

Cause of malfunction

- (1) Open phase
- (2) Voltage imbalance between phases
- (3) Defect of main circuit capacitor
- (4) Defect of inverter unit
- (5) Defect of K1M
- (6) Improper main circuit wiring



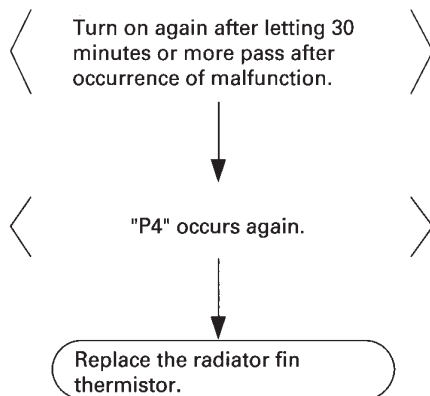
- ※1. Measure voltage at the Z1F power supply terminal block (TeS1).
- ※2. Measure voltage at terminals L1, L2 and L3 of the diode module inside the inverter while the compressor is running.

Explanation for users	※In accordance with "notification of inspection results" accompanying spare parts.
Give the user a copy of "notification of inspection results" and leave it up to him to improve the imbalance.	Be sure to explain to the user that there is a "power supply imbalance" for which DAIKIN is not responsible.
Contact QC div.	
Be sure to send a product report of the imbalance.	

**Remote controller display
Malfunction code "P4" blinks.**

Cause of malfunction

- (1) Defect of radiator fin temperature sensor
- (2) Defect of inverter unit



6. Appendix

(1) Thermistor resistance / Temperature Characteristics

Indoor unit.....	For air suction	R1T)
	For liquid pipe	R2T	
	For gas pipe	R3T	
Outdoor unit ...	For outdoor air	R1T)
	For coil	R2T	
	For suction pipe	R4T	
	For oil	R5T	
		For header	R6T

(kΩ)

T°C	0.0	0.5	T°C	0.0	0.5
-20	197.81	192.08	30	16.10	15.76
-19	186.53	181.16	31	15.43	15.10
-18	175.97	170.94	32	14.79	14.48
-17	166.07	161.36	33	14.18	13.88
-16	156.80	152.38	34	13.59	13.31
-15	148.10	143.96	35	13.04	12.77
-14	139.94	136.05	36	12.51	12.25
-13	132.28	128.63	37	12.01	11.76
-12	125.09	121.66	38	11.52	11.29
-11	118.34	115.12	39	11.06	10.84
-10	111.99	108.96	40	10.63	10.41
-9	106.03	103.18	41	10.21	10.00
-8	100.41	97.73	42	9.81	9.61
-7	95.14	92.61	43	9.42	9.24
-6	90.17	87.79	44	9.06	8.88
-5	85.49	83.25	45	8.71	8.54
-4	81.08	78.97	46	8.37	8.21
-3	76.93	74.94	47	8.05	7.90
-2	73.01	71.14	48	7.75	7.60
-1	69.32	67.56	49	7.46	7.31
0	65.84	64.17	50	7.18	7.04
1	62.54	60.96	51	6.91	6.78
2	59.43	57.94	52	6.65	6.53
3	56.49	55.08	53	6.41	6.53
4	53.71	52.38	54	6.65	6.53
5	51.09	49.83	55	6.41	6.29
6	48.61	47.42	56	6.18	6.06
7	46.26	45.14	57	5.95	5.84
8	44.05	42.98	58	5.74	5.43
9	41.95	40.94	59	5.14	5.05
10	39.96	39.01	60	4.96	4.87
11	38.08	37.18	61	4.79	4.70
12	36.30	35.45	62	4.62	4.54
13	34.62	33.81	63	4.46	4.38
14	33.02	32.25	64	4.30	4.23
15	31.50	30.77	65	4.16	4.08
16	30.06	29.37	66	4.01	3.94
17	28.70	28.05	67	3.88	3.81
18	27.41	26.78	68	3.75	3.68
19	26.18	25.59	69	3.62	3.56
20	25.01	24.45	70	3.50	3.44
21	23.91	23.37	71	3.38	3.32
22	22.85	22.35	72	3.27	3.21
23	21.85	21.37	73	3.16	3.11
24	20.90	20.45	74	3.06	3.01
25	20.00	19.56	75	2.96	2.91
26	19.14	18.73	76	2.86	2.82
27	18.32	17.93	77	2.77	2.72
28	17.54	17.17	78	2.68	2.64
29	16.80	16.45	79	2.60	2.55
30	16.10	15.76	80	2.51	2.47

Outdoor thermistors for discharge pipe (R3T, R3-1T, R3-2T)

(kΩ)

T°C	0.0	0.5	T°C	0.0	0.5	T°C	0.0	0.5
0	640.44	624.65	50	72.32	70.96	100	13.35	13.15
1	609.31	594.43	51	69.64	68.34	101	12.95	12.76
2	579.96	565.78	52	67.06	65.82	102	12.57	12.38
3	552.00	538.63	53	64.60	63.41	103	12.20	12.01
4	525.63	512.97	54	62.24	61.09	104	11.84	11.66
5	500.66	488.67	55	59.97	58.87	105	11.49	11.32
6	477.01	465.65	56	57.80	56.75	106	11.15	10.99
7	454.60	443.84	57	55.72	54.70	107	10.83	10.67
8	433.37	423.17	58	53.72	52.84	108	10.52	10.36
9	413.24	403.57	59	51.98	50.96	109	10.21	10.06
10	394.16	384.98	60	49.96	49.06	110	9.92	9.78
11	376.05	367.35	61	48.19	47.33	111	9.64	9.50
12	358.88	350.62	62	46.49	45.67	112	9.36	9.23
13	342.58	334.74	63	44.86	44.07	113	9.10	8.97
14	327.10	319.66	64	43.30	42.54	114	8.84	8.71
15	312.41	305.33	65	41.79	41.06	115	8.59	8.47
16	298.45	291.73	66	40.35	39.65	116	8.35	8.23
17	285.18	278.80	67	38.96	38.29	117	8.12	8.01
18	272.58	266.51	68	37.63	36.98	118	7.89	7.78
19	260.60	254.72	69	36.34	35.72	119	7.68	7.57
20	249.00	243.61	70	35.11	34.51	120	7.47	7.36
21	238.36	233.14	71	33.92	33.35	121	7.26	7.16
22	228.05	223.08	72	32.78	32.23	122	7.06	6.97
23	218.24	213.51	73	31.69	31.15	123	6.87	6.78
24	208.90	204.39	74	30.63	30.12	124	6.69	6.59
25	200.00	195.71	75	29.61	29.12	125	6.51	6.42
26	191.53	187.44	76	28.64	28.16	126	6.33	6.25
27	183.46	179.57	77	27.69	27.24	127	6.16	6.08
28	175.77	172.06	78	26.79	26.35	128	6.00	5.92
29	168.44	164.90	79	25.91	25.49	129	5.84	5.76
30	161.45	158.08	80	25.07	24.66	130	5.69	5.61
31	154.79	151.57	81	24.26	23.87	131	5.54	5.46
32	148.43	145.37	82	23.48	23.10	132	5.39	5.32
33	142.37	139.44	83	22.73	22.36	133	5.25	5.18
34	136.59	133.79	84	22.01	21.65	134	5.12	5.05
35	131.06	128.39	85	21.31	20.97	135	4.98	4.92
36	125.79	123.24	86	20.63	20.31	136	4.86	4.79
37	120.76	118.32	87	19.98	19.67	137	4.73	4.67
38	115.95	113.62	88	19.36	19.05	138	4.61	4.55
39	111.35	109.13	89	18.75	18.46	139	4.49	4.44
40	106.96	104.84	90	18.17	17.89	140	4.38	4.32
41	102.76	100.73	91	17.61	17.34	141	4.27	4.22
42	98.75	96.81	92	17.07	16.80	142	4.16	4.11
43	94.92	93.06	93	16.54	16.29	143	4.06	4.01
44	91.25	89.47	94	16.04	15.79	144	3.96	3.91
45	87.74	86.04	95	15.55	15.31	145	3.86	3.81
46	84.38	82.75	96	15.08	14.85	146	3.76	3.72
47	81.16	79.61	97	14.62	14.40	147	3.67	3.62
48	78.09	76.60	98	14.18	13.97	148	3.58	3.54
49	75.14	73.71	99	13.76	13.55	149	3.49	3.45
50	72.32	70.96	100	13.35	13.15	150	3.41	3.37

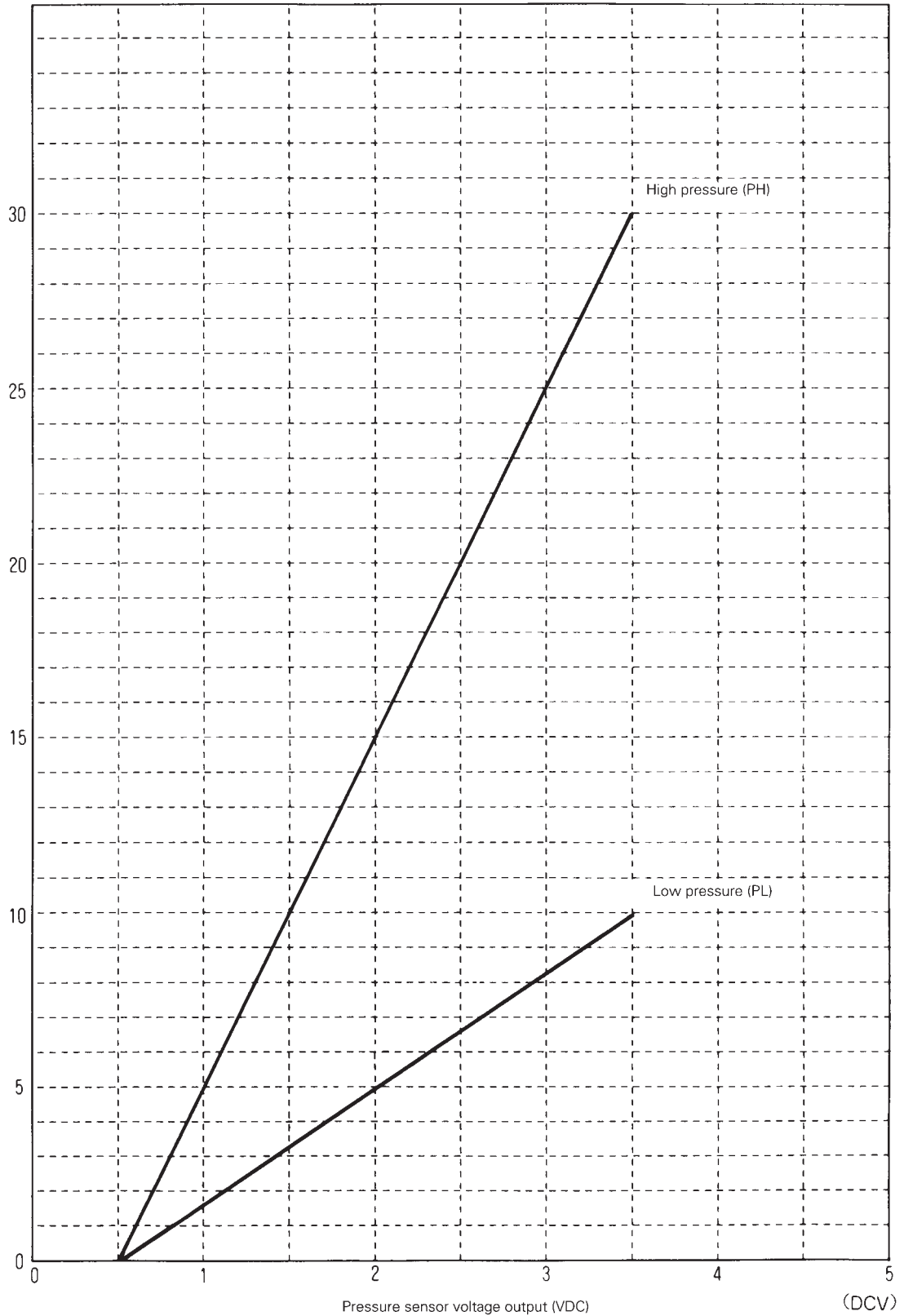
(2) Pressure sensor voltage output / Detected Pressure Characteristics

Low pressure $P_L = (V_L - 0.5) \times \frac{10}{3}$

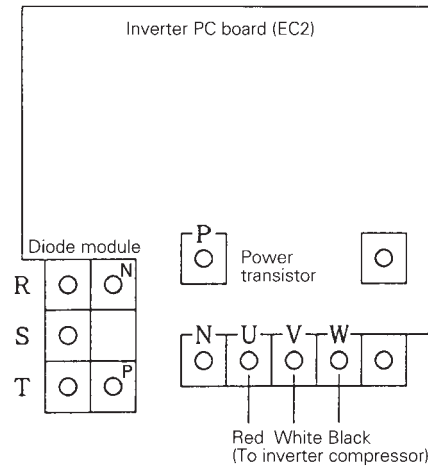
High pressure $P_H = (V_H - 0.5) \times 10$

Detected pressure (kg/cm²)

PL, PH: Detected pressure (kg/cm²)



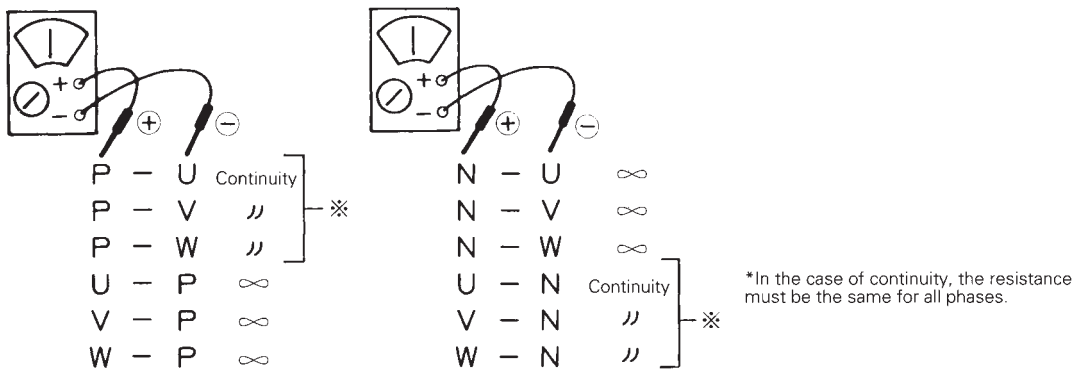
(3) Method of Replacing the Inverter's Power Transistors and Diode Modules



[Decision according to continuity check by analog tester]

- Before checking, disconnect the electric wiring connected to the power transistor and diode module.

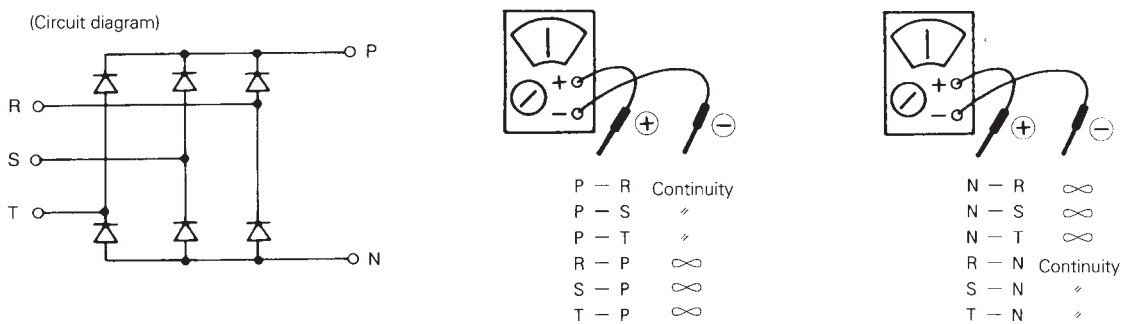
1. Power transistor (on inverter PC board)



(Decision) If other than given above, the power unit is defective and must be replaced.

Note: If using a digital tester, ∞ and continuity may be reversed.

2. Diode module



(Decision) If other than given above, the diode module is defective and must be replaced.

Note: If using a digital tester, ∞ and continuity may be reversed.

(4) Precautions When Replacing K Series PC Boards

If you replace the indoor or outside unit PC board, push and hold the RESET button on the outdoor unit PC Board for 5 seconds.

■ In this case, the unit will not run for up to 12 minutes.

Precautions when replacing indoor unit PC board

When replacing the indoor unit PC board, the following contents are factory set. Change the settings if necessary.

1. Field set contents (dirty filter, stop input from outside, etc.)

- Change settings with the remote controller.
- When using group control or setting by individual indoor units, the "indoor unit No." before and after changing the PC board may differ.

Set after checking the indoor unit No.

2. Central address

Change setting with the remote controller.

3. Capacity display

A capacity setting adaptor must be installed for all models.

※Fan phase control is for FXYPF, FXYHP, FXYAP only.

■ Precautions when replacing outdoor unit PC board

When replacing the outdoor unit PC board, set the following settings again.

1. Field set contents (setting mode 1)

Set cool/heat selection, low noise and sequential start again.

2. Setting mode 2

Change the TC setting, TE setting and defrost setting as required.

(5) Precautions Concerning the Remote Controller's Mode No.

Mode numbers that are not in the list but can be set may be displayed by the remote controller. Do not change settings not included in the list. If so, we may not be able to guarantee operation.

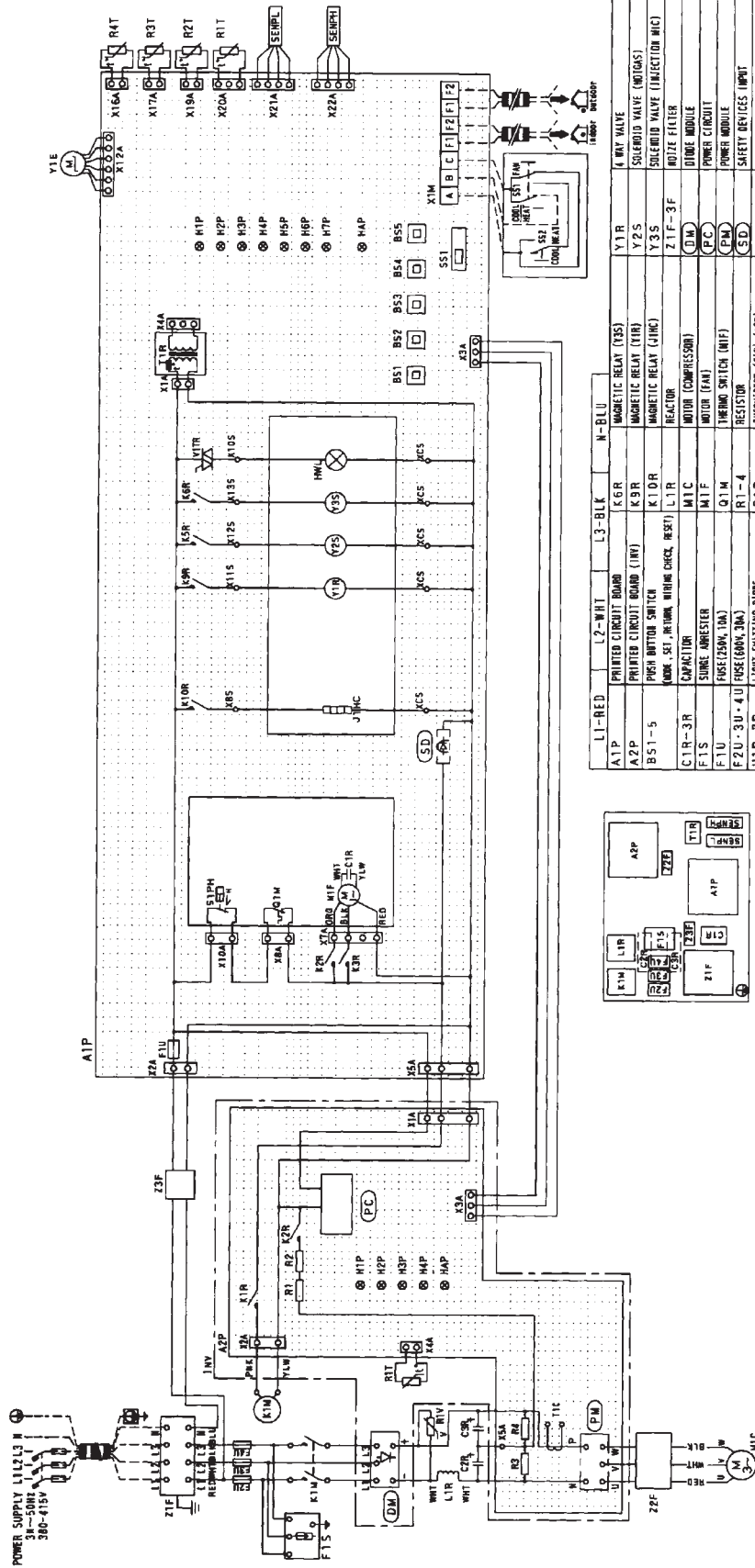
APPENDIX

Inverter K Series

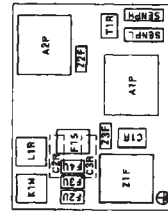
New Refrigerant R407C System

(1) Inverter K Series -R407C Refrigerant type outdoor unit [50Hz 380~415V]

● RSXYP5KJY1



LI-RED	L2-WHT	L3-BLK	N-BLU	Y1R	Y2S	Y3S	Z1F-3F	Y1R	Y2S	Y3S	Z1F-3F
A1P	PRINTED CIRCUIT BOARD	KGR	MAGNETIC RELAY (Y3S)	Y1R	SOLENOID VALVE (MOTORS)						
A2P	PRINTED CIRCUIT BOARD (INV)	K9R	MAGNETIC RELAY (Y1R)	Y2S	SOLENOID VALVE (INJECTION MIC)						
B51-5	POWER BUTTON SWITCH	K10R	REACTOR	Y3S	SOLENOID VALVE (INJECTION MIC)						
C1R-3R	CAPACITOR	L1R	MOTOR (FAN)								
F1S	SURGE ARRESTER	M1C	MOTOR (COMPRESSOR)								
F1U	FUSE (250V, 10A)	M1F	MOTOR (FAN)								
F2U	FUSE (30V, 4U)	Q1M	DIODE FILTER								
H1P-7P	DIODE FILTER	Q1M	DIODE FILTER								
H1P-4P	DIODE FILTER	Q1M	DIODE FILTER								
HAP	DIODE FILTER	Q1M	DIODE FILTER								
HAP	DIODE FILTER	Q1M	DIODE FILTER								
HWL	DIODE FILTER	Q1M	DIODE FILTER								
INV	DIODE FILTER	Q1M	DIODE FILTER								
J1HC	DIODE FILTER	Q1M	DIODE FILTER								
K1M	DIODE FILTER	Q1M	DIODE FILTER								
K2R-2R	DIODE FILTER	Q1M	DIODE FILTER								
K2R-3R	DIODE FILTER	Q1M	DIODE FILTER								
K5R	DIODE FILTER	Q1M	DIODE FILTER								



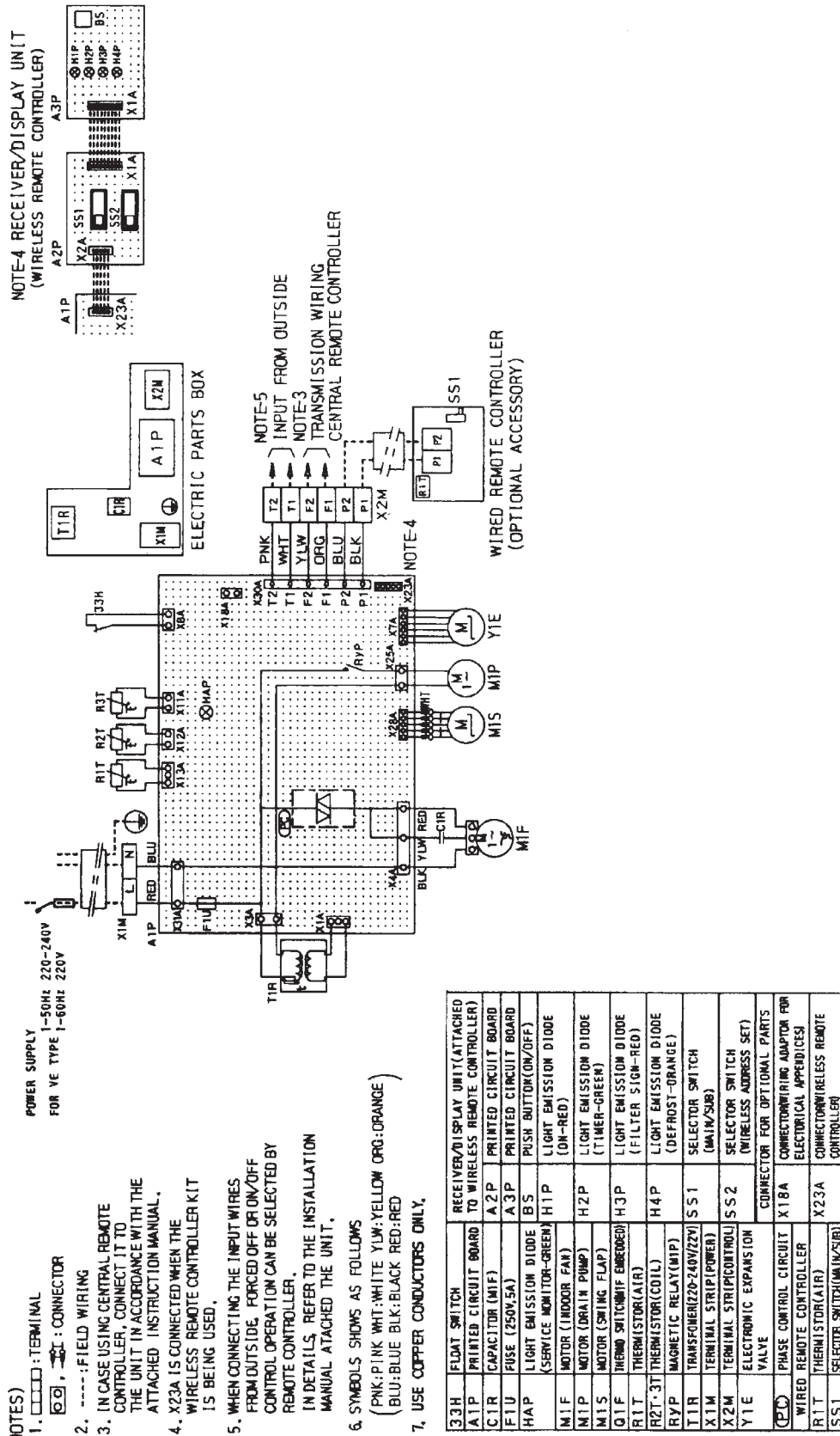
- NOTES)
1. [Symbol] : TERMINAL [Symbol] : CONNECTOR [Symbol] : PROTECTIVE EARTH (SCREW)
 2. [Symbol] : WIRE CLAMP [Symbol] : FIELD WIRING
 3. BLK:BLACK RED:RED BUL:BLUE WHT:WHITE YLM:YELLOW DRG:ORANGE BRN:GREEN PK:PK-PINK GRN:GREEN GRY:GREY
REFER TO THE INSTALLATION MANUAL FOR CONNECTION WIRING TO INDOOR-OUTDOOR TRANSMISSION FI • F2,
OUTDOOR-OUTDOOR TRANSMISSION FI • F2, REFER TO INSTALLATION MANUAL ATTACHED TO THE CENTRAL REMOTE
CONTROLLER, WHEN CONNECTING THE CENTRAL REMOTE CONTROLLER.
 4. THIS WIRING DIAGRAM IS APPLIED ONLY TO THE OUTDOOR UNIT.

(2) Inverter K Series –R407C Refrigerant type indoor unit

■ Ceiling mounted cassette type (Multi-flow)

● FXYFP32, 40, 50, 63, 80, 100,125KV1

FXYFP32, 40, 50, 63, 80, 100,125KV1 Wiring diagram



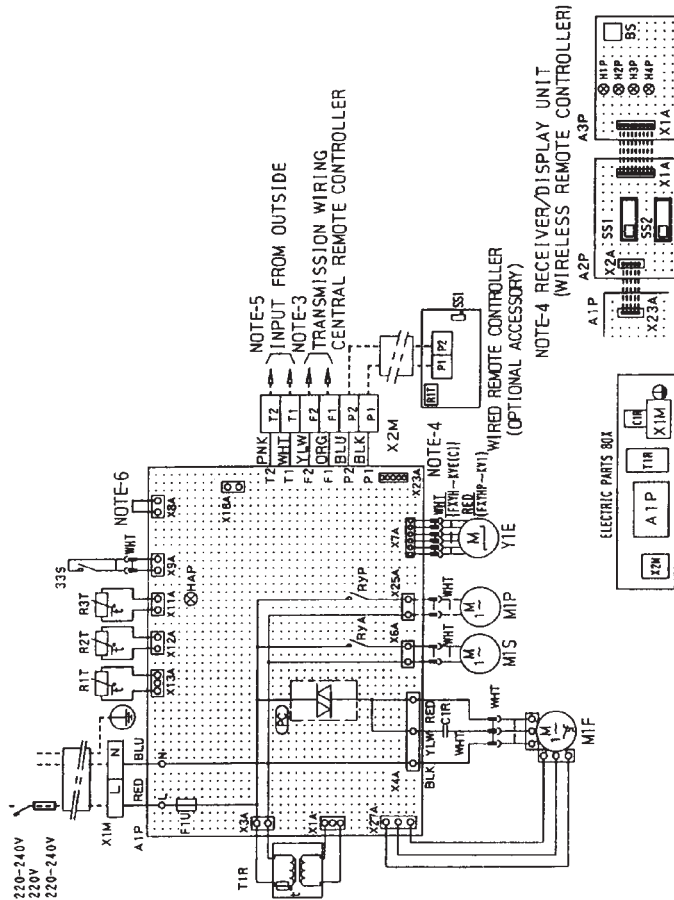
■ Ceiling suspended type

● FXYP32KV1

FXYP32KV1 Wiring diagram

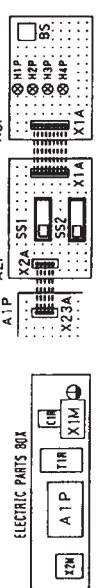
CONNECTOR FOR OPTIONAL PARTS	
33S	LIMIT SWITCH (SWING FLAP)
A1P	PRINTED CIRCUIT BOARD
C1R	CAPACITOR (MIF)
F1U	FUSE (250V, 5A)
H4P	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)
M1F	MOTOR (INDOOR FAN)
M1S	MOTOR (SWING FLAP)
Q1F	THERMO SWITCH (MIF BARBED)
R1T	THERMISTOR (AIR)
R2T-3T	THERMISTOR (OIL)
RVA	MAGNETIC RELAY (MIS)
RVP	MAGNETIC RELAY (MIP)
T1R	TRANSFORMER (220-240V/22V)
X1M	TERMINAL STRIP (POWER)
X2M	TERMINAL STRIP (CONTROL)
Y1E	ELECTRONIC EXPANSION VALVE
ZPC	PHASE CONTROL CIRCUIT
OPTIONAL PARTS	
M1P	MOTOR (DRAIN PUMP)
R1T	WIRELESS REMOTE CONTROLLER
R1T	THERMISTOR (AIR)
S51	SELECTOR SWITCH (MAIN/SUB)
RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)	
A2P	PRINTED CIRCUIT BOARD
A3P	WIRELESS REMOTE CONTROLLER
B5S	PUSH BUTTON (ON/OFF)
H1P	LIGHT EMISSION DIODE (ON-RED)
H2P	LIGHT EMISSION DIODE (TIMER-GREEN)
H3P	LIGHT EMISSION DIODE (FILTER SIGN-RED)
H4P	LIGHT EMISSION DIODE (DE-FROST-ORANGE)
S51	SELECTOR SWITCH (MAIN/SUB)
S52	SELECTOR SWITCH (WIRELESS ADDRESS SET)

POWER SUPPLY
FOR VE TYPE 1-50Hz 220-240V
FOR V1 TYPE 1-50Hz 220V
FOR V1 TYPE 1-50Hz 220-240V

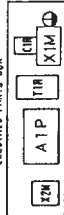


NOTES

1. [Symbol] : TERMINAL [Symbol] : CONNECTOR
2. [Symbol] : CONNECTOR [Symbol] : WIRE CLAMP
3. [Symbol] : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
6. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER CONNECTOR OF X8A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
7. SYMBOLS SHOW AS FOLLOWS.
(PNK: PINK WHT: WHITE YLW: YELLOW ORG: ORANGE)
(BLU: BLUE BLK: BLACK RED: RED)
8. USE COPPER CONDUCTORS ONLY.



ELECTRIC PARTS BOX

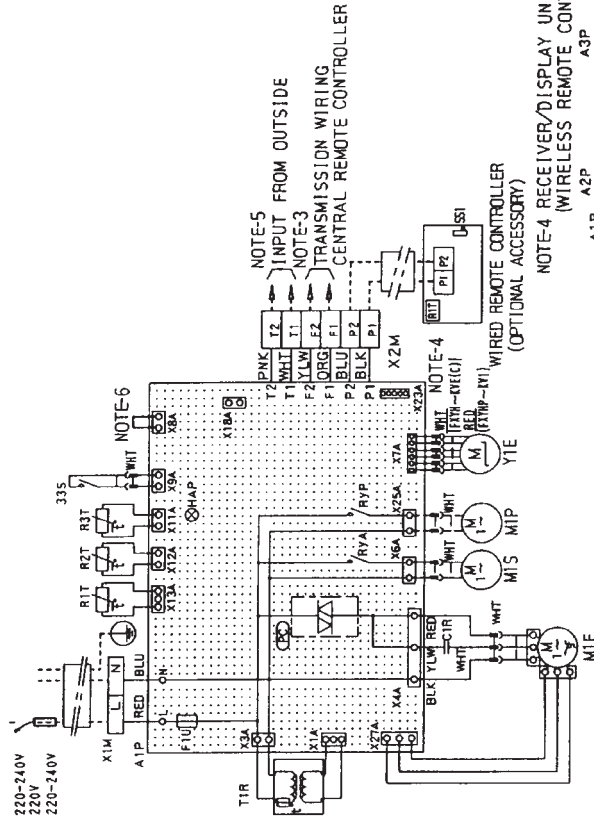


FXYHP63KV1 Wiring diagram

● FXYHP63KV1

CONNECTOR FOR OPTIONAL PARTS	
A1P	CONNECTOR(FLOAT SWITCH)
C1R	CONNECTOR(WIRING ADAPTOR FOR ELECTRICAL APPENDICES)
F1U	FUSE (250V/5A)
H4P	LIGHT EMISSION DIODE (SERV/ICE MONITOR-GREEN)
M1F	MOTOR (MOTOR PUMP)
M1S	MOTOR (SWING FLAP)
O1F	THERMO SWITCH(MIF BREEDER)
R1T	THERMISTOR(AIR)
R2T-3T	THERMISTOR(COIL)
RYA	MAGNETIC RELAY(MIS)
RYP	MAGNETIC RELAY(MIP)
T1R	TRANSFORMER(220-240V/220V)
X1M	TERMINAL STRIP(POWER)
X2M	TERMINAL STRIP(CONTROL)
Y1E	ELECTRONIC EXPANSION VALVE
Z2A	PHASE CONTROL CIRCUIT
OPTIONAL PARTS	
M1P	MOTOR (DRAIN PUMP)
R1T	THERMISTOR(AIR)
S51	SELECTOR SWITCH(M/M/SUB)
A2P	RECEIVER/DISPLAY UNIT ATTACHED TO WIRELESS REMOTE CONTROLLER
A3P	PRINTED CIRCUIT BOARD
B5	PUSH BUTTON(OFF)
H1P	LIGHT EMISSION DIODE (OH-RED)
H2P	LIGHT EMISSION DIODE (TIMER-GREEN)
H3P	LIGHT EMISSION DIODE (FILTER STOP-RED)
H4P	LIGHT EMISSION DIODE (DEFROST-ORANGE)
S51	SELECTOR SWITCH (M/M/SUB)
S52	SELECTOR SWITCH (WIRELESS ADDRESS SET)

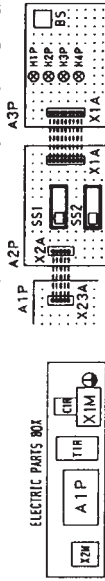
POWER SUPPLY
 FOR VE TYPE 1-50Hz 220-240V
 1-60Hz 220V
 FOR V1 TYPE 1-50Hz 220-240V



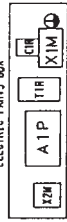
NOTES)

1. : TERMINAL : CONNECTOR
2. : WIRE CLAMP
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
6. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER CONNECTOR OF X8A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
7. SYMBOLS SHOW AS FOLLOWS.
 (PNK: PINK WHIT: WHITE YLW: YELLOW ORG: ORANGE)
 (BLU: BLUE BLK: BLACK RED: RED)
8. USE COPPER CONDUCTORS ONLY.

NOTE-4 RECEIVER/DISPLAY UNIT (WIRELESS REMOTE CONTROLLER) (OPTIONAL ACCESSORY)



ELECTRIC PARTS BOX



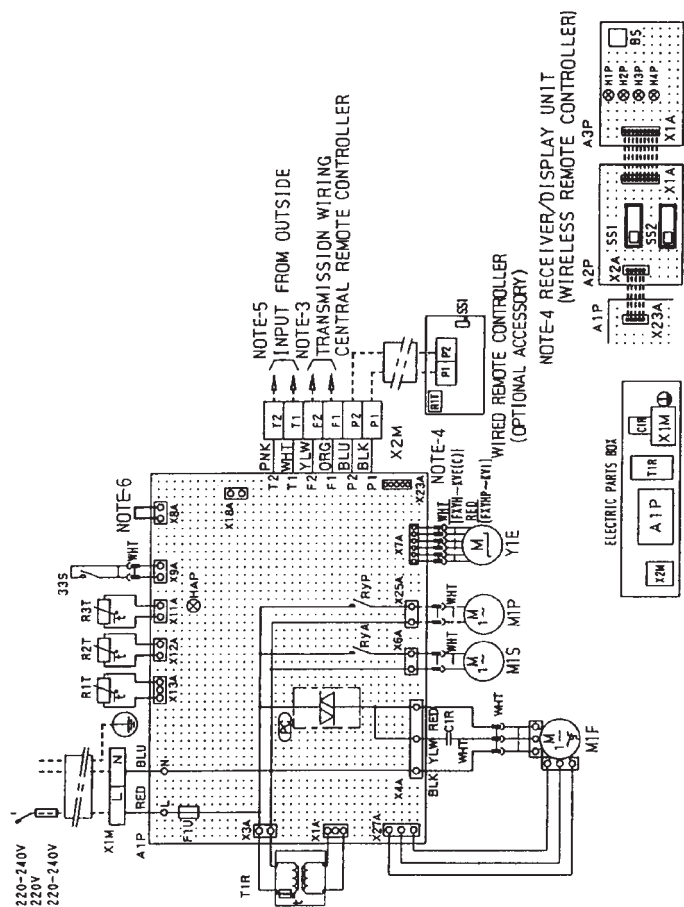
FXYP100KV1 Wiring diagram

● FXYP100KV1

LIMIT SWITCH (SWING FLAP)		CONNECTOR FOR OPTIONAL PARTS	
3.3.S	CONNECTOR/FLAT SWITCH	X.8.A	CONNECTOR/FLAT SWITCH
A.1.P	PRINTED CIRCUIT BOARD	X.18.A	CONNECTOR/WIRE JUMPER FOR ELECTRICAL APPENDICES
C.1.R	CAPACITOR (MIF)	X.23.A	CONNECTOR/WIRELESS REMOTE CONTROLLER
F.1.U	FUSE (250V.5A)		
H.4.P	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)		
M.1.F	MOTOR (INDOR. FAN)		
M.1.S	MOTOR (SWING FLAP)		
O.1.F	THERMO SWITCH (MIF BARBED)		
R.1.T	THERMISTOR (AIR)		
R.2.T-3.T	THERMISTOR (COIL)		
R.Y.A	MAGNETIC RELAY (MIS)		
R.Y.P	MAGNETIC RELAY (MIP)		
T.1.R	TRANSFORMER (220-240V/22V)		
X.1.M	TERMINAL STRIP (POWER)		
X.2.M	TERMINAL STRIP (CONTROL)		
Y.1.E	ELECTRONIC EXPANSION VALVE		
Z.2.A	PHASE CONTROL CIRCUIT		
OPTIONAL PARTS			
M.1.P	MOTOR (DRAIN PUMP)		
R.1.T	THERMISTOR (AIR)		
S.5.1	SELECTOR SWITCH (M1/M/SUB)		
RECEIVER/DISPLAY UNIT (ATTACHED TO WIRELESS REMOTE CONTROLLER)			
A.2.P	PRINTED CIRCUIT BOARD		
A.3.P	PRINTED CIRCUIT BOARD		
B.5	PUSH BUTTON (ON/OFF)		
H.1.P	LIGHT EMISSION DIODE (OH-RED)		
H.2.P	LIGHT EMISSION DIODE (TIMP-GREEN)		
H.3.P	LIGHT EMISSION DIODE (FILTER SIGN-RED)		
H.4.P	LIGHT EMISSION DIODE (DEFROST-ORANGE)		
S.5.1	SELECTOR SWITCH (M1/M/SUB)		
S.5.2	SELECTOR SWITCH (WIRELESS ADDRESS SET)		

POWER SUPPLY
 FOR YE TYPE 1-50Hz 220-240V
 FOR V1 TYPE 1-60Hz 220V
 FOR V1 TYPE 1-50Hz 220-240V

NOTES)
 1. [Symbol] : TERMINAL [Symbol] : CONNECTOR
 2. [Symbol] : CONNECTOR [Symbol] : WIRE CLAMP
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. X.23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
 5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
 6. IN CASE INSTALLING THE DRAIN PUMP, REMOVE THE JUMPER CONNECTOR OF X.8.A AND EXECUTE THE ADDITIONAL WIRING FOR FLOAT SWITCH AND DRAIN PUMP.
 7. SYMBOLS SHOW AS FOLLOWS.
 (PINK: PINK WHT: WHITE YLW: YELLOW ORG: ORANGE)
 (BLU: BLUE BLK: BLACK RED: RED)
 8. USE COPPER CONDUCTORS ONLY.



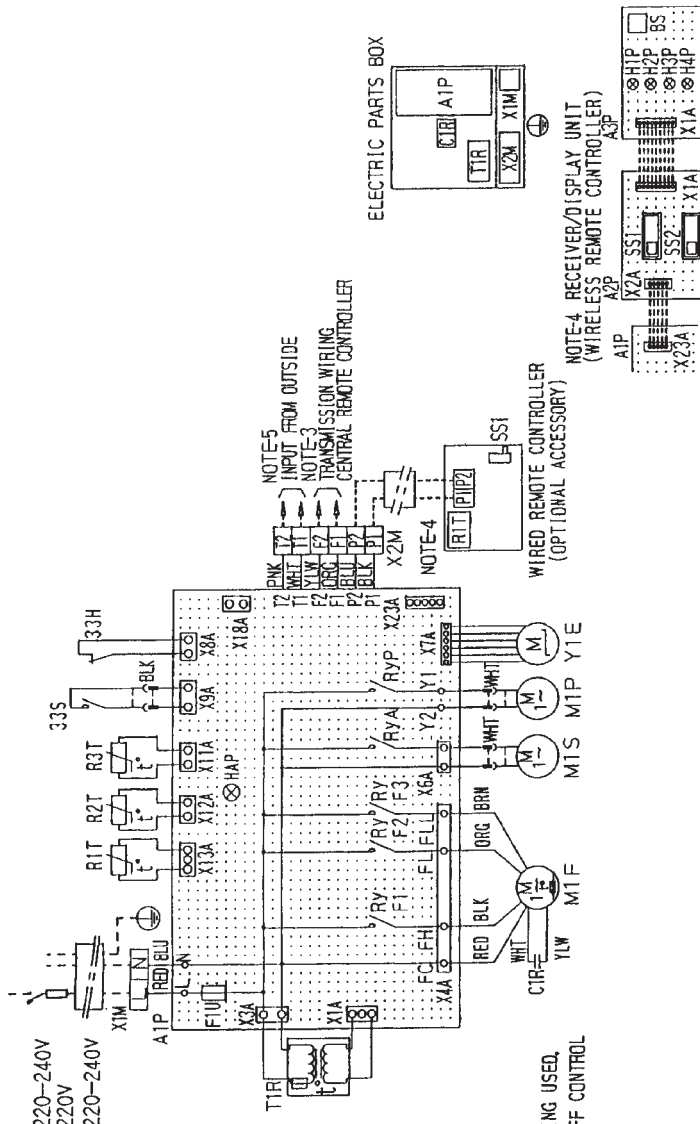
Ceiling mounted cassette type (Double flow)

● FXYCP20, 25, 32, 63KVE

FXYCP20, 25, 32, 63KVE Wiring diagram

33H	FLOAT SWITCH	WIRED REMOTE CONTROLLER
33S	LIMIT SWITCH (SWING FLAP)	R1T THERMISTOR(AIR)
A1P	PRINTED CIRCUIT BOARD	SS1 SELECTOR SWITCH (MAN/SEB)
C1R	CAPACITOR (MTP)	RECEIVER/DISPLAY UNIT(ATTACHED TO WIRELESS REMOTE CONTROLLER)
F1T	THERMAL FUSE(152°C)	A3P PRINTED CIRCUIT BOARD
F1U	IMF EMBEDDED	BS PUSH BUTTON(OFF)
F1V	FUSE (250V 5A)	H1P LIGHT EMISSION DIODE (OFF-RED)
H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-ORANGE)	H2P LIGHT EMISSION DIODE (TIMER-GREEN)
M1S	MOTOR (SWING FLAP)	H3P LIGHT EMISSION DIODE (FILTER SIGN-RED)
M1P	MOTOR (DRAIN PUMP)	H4P LIGHT EMISSION DIODE (OVERHEAT-ORANGE)
R1T	THERMISTOR(AIR)	SS1 SELECTOR SWITCH (MAN/SEB)
R2C	THERMISTOR(COIL)	SS2 SELECTOR SWITCH (WIRELESS ADDRESS SET)
R2F	MAGNETIC RELAY(MS)	CONNECTOR FOR OPTIONAL PARTS
R2P	MAGNETIC RELAY(MP)	X18A CONNECTING ADAPTER FOR TRANSFORMER(200V/2V)
T1R	TRANSFORMER(200V/2V)	X1M TERMINAL STRIP(POWER)
X1M	TERMINAL STRIP(POWER)	ELECTRICAL APPLIANCE
X2M	TERMINAL STRIP(CONTROL)	X23A CONNECTOR/WIRELESS REMOTE CONTROLLER
Y1E	ELECTRONIC EXPANSION VALVE	
L-RED	N-BLUE	

POWER SUPPLY
FOR VE TYPE 1~50Hz 220~240V
FOR V1 TYPE 1~60Hz 220V
FOR V1 TYPE 1~50Hz 220~240V

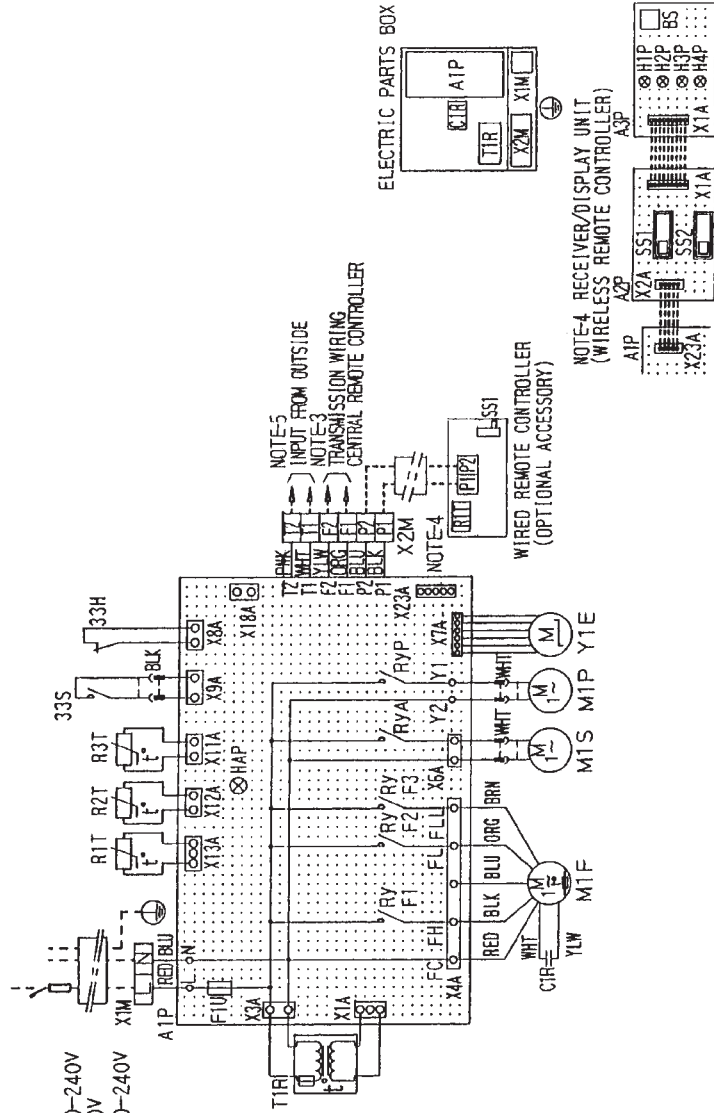


- NOTES) 1. □ □ □ □ : TERMINAL □ □ □ □ : CONNECTOR □ □ □ □ : WIRE CLAMP
2. --- : FIELD WIRING
3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
6. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED TO THE UNIT.
7. USE COPPER CONDUCTORS ONLY.
- (PINK: PINK WHT: WHITE YLW: YELLOW ORG: ORANGE)
(BLU: BLUE BLK: BLACK RED: RED BRN: BROWN)

FXYCP40, 50KVE Wiring diagram

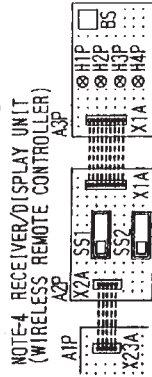
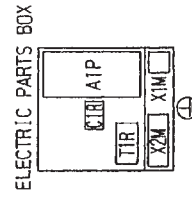
	Wired Remote Controller
33H	FLOAT SWITCH
33S	LIMIT SWITCH (SWING FLAP)
A1P	PRINTED CIRCUIT BOARD (RECEIVER/DISPLAY UNIT ATTACHED)
C1R	CAPACITOR (M1F) TO WIRELESS REMOTE CONTROLLER
F1T	THERMAL FUSE (152%) A2P PRINTED CIRCUIT BOARD (M1F EMBEDDED)
F1U	FUSE (250V, 5A)
HAP	LIGHT EMISSION DIODE (H1P LIGHT BUSSION DIODE (OR-RED) (TIMER-GREEN))
M1F	MOTOR (SWING FLAP)
M1S	MOTOR (INDOOR FAN)
M1P	MOTOR (DRAIN PUMP)
R2T	THERMISTOR (GOLD)
RVA	MAGNETIC RELAY (M1S)
RYP	MAGNETIC RELAY (M1P)
T1R	TRANSFORMER (200/240V/2M)
X1M	TERMINAL STRIP (POWER)
X2M	TERMINAL STRIP (CONTROL)
Y1E	ELECTRONIC EXPANSION VALVE
X23A	CONNECTOR WIRELESS REMOTE CONTROLLER
L-RED	N-BLUE

POWER SUPPLY
 1~50Hz 220~240V
 FOR VE TYPE
 1~60Hz 220V
 FOR V1 TYPE
 1~50Hz 220~240V



- NOTES**
1. : TERMINAL : FIELD WIRING
 2. : WIRE CLAMP
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
 5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 6. SYMBOLS SHOWS AS FOLLOWS.
 (Pnk: PINK WHt: WHITE YLW: YELLOW ORG: ORANGE)
 (BLU: BLUE BLK: BLACK RED: RED BRN: BROWN)
 7. USE COPPER CONDUCTORS ONLY.

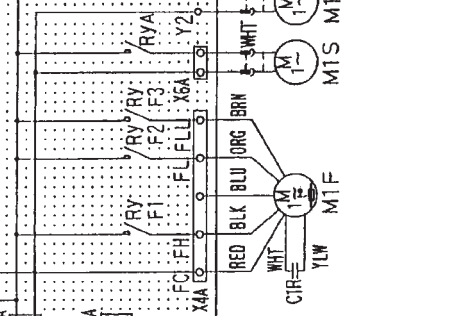
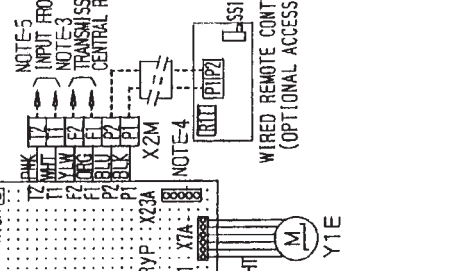
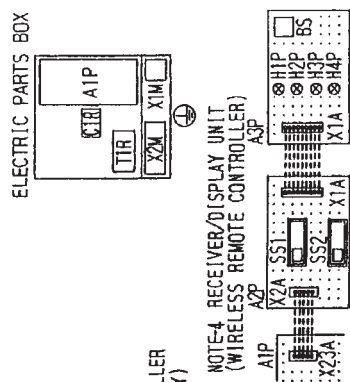
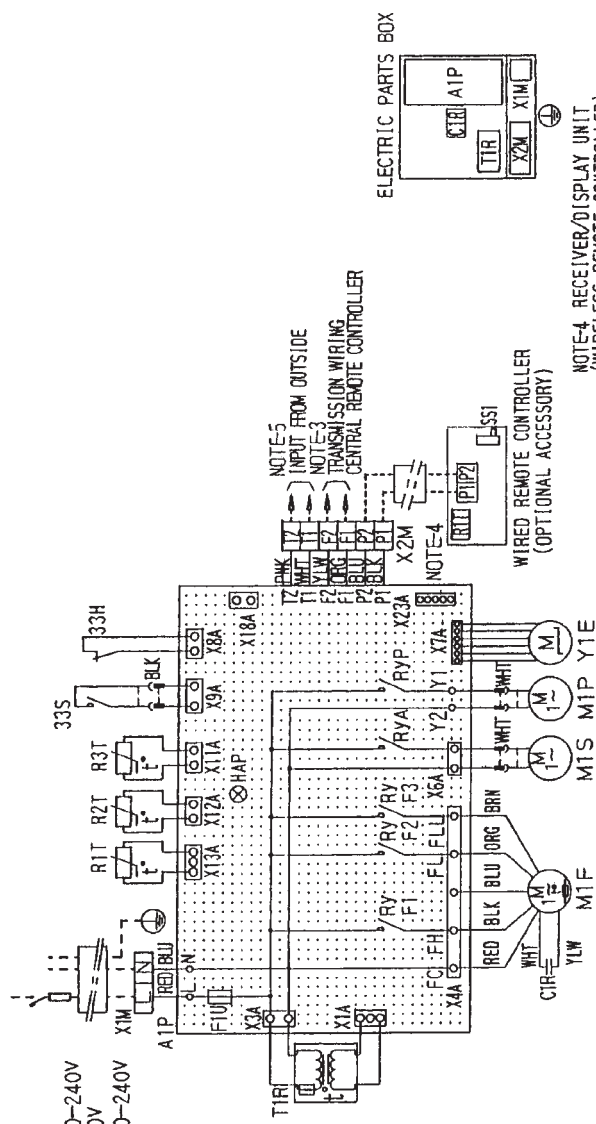
NOTE-5 INPUT FROM OUTSIDE
NOTE-3 TRANSMISSION WIRING
NOTE-4 WIRELESS REMOTE CONTROLLER (OPTIONAL ACCESSORY)



FXYCP80, 125KVE Wiring diagram

33H	FLOAT SWITCH	WIRED REMOTE CONTROLLER
33S	LIMIT SWITCH (SWING FLAP)	R1T THERMISTOR(AIR)
A1P	PRINTED CIRCUIT BOARD	SS1 SELECTOR SWITCH(MAIN/SIB)
C1R	CAPACITOR (MTP)	RECEIVER/DISPLAY UNIT (ATTACHED)
F1T	THERMAL FUSE(152V) (MIF EMBEDDED)	TO WIRELESS REMOTE CONTROLLER
F1U	FUSE(250V 5A)	A3PT PRINTED CIRCUIT BOARD (MIF EMBEDDED)
H1P	LIGHT EMISSION DIODE (SERVICE MONITOR-GREEN)	BS RIGHT BUTTON(OFF)
H2P	LIGHT EMISSION DIODE (TIMER-GREEN)	H1P LIGHT EMISSION DIODE(OFF-RED)
M1S	MOTOR (INDOOR FAN)	H2P LIGHT EMISSION DIODE
M1F	MOTOR (SWING FLAP)	H3P LIGHT EMISSION DIODE (FILLER SIGN-RED)
R1T	THERMISTOR(AIR)	H4P LIGHT EMISSION DIODE (DEPART-ORANGE)
R2-T	THERMISTOR(COIL)	H4P SELECTOR SWITCH(MAIN/SIB)
R1V	MAGNETIC RELAY(MIS)	SS1 SELECTOR SWITCH (WIRELESS ADDRESS SET)
R1Y	MAGNETIC RELAY(MIF)	SS2 WIRELESS ADDRESS SET
T1R	TRANSFORMER(240V/220V)	CONNECTOR FOR OPTIONAL PARTS
X1M	TERMINAL STRIP(POWER)	X18A CONNECTING ADaptor FOR ELECTRICAL APPENDICES
X2M	TERMINAL STRIP(CONTROL VALVE)	X23A CONNECTOR/WIRELESS REMOTE CONTROLLER
L-RED	N-BLUE	

POWER SUPPLY 1-50Hz 220-240V
 FOR VE TYPE 1-60Hz 220V
 FOR V1 TYPE 1-50Hz 220-240V

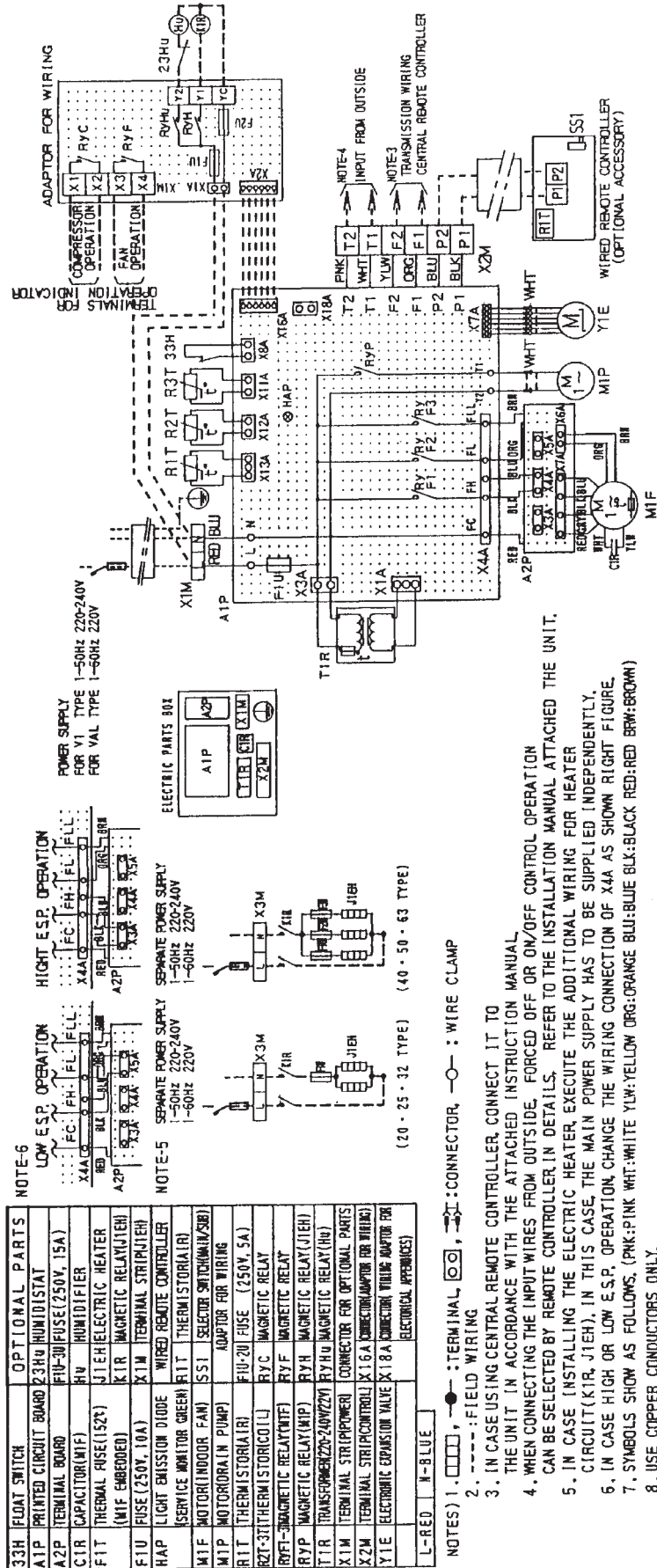


- NOTES) 1. —: TERMINAL : FIELD WIRING
 2. ---: CONNECTOR : WIRE CLAMP
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. X23A IS CONNECTED WHEN THE WIRELESS REMOTE CONTROLLER KIT IS BEING USED.
 5. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER. IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED THE UNIT.
 6. SYMBOLS SHOWS AS FOLLOWS.
 (PINK: PINK WHI: WHITE YLW: YELLOW ORG: ORANGE)
 (BLU: BLUE BLK: BLACK RED: RED BRN: BROWN)
 7. USE COPPER CONDUCTORS ONLY.

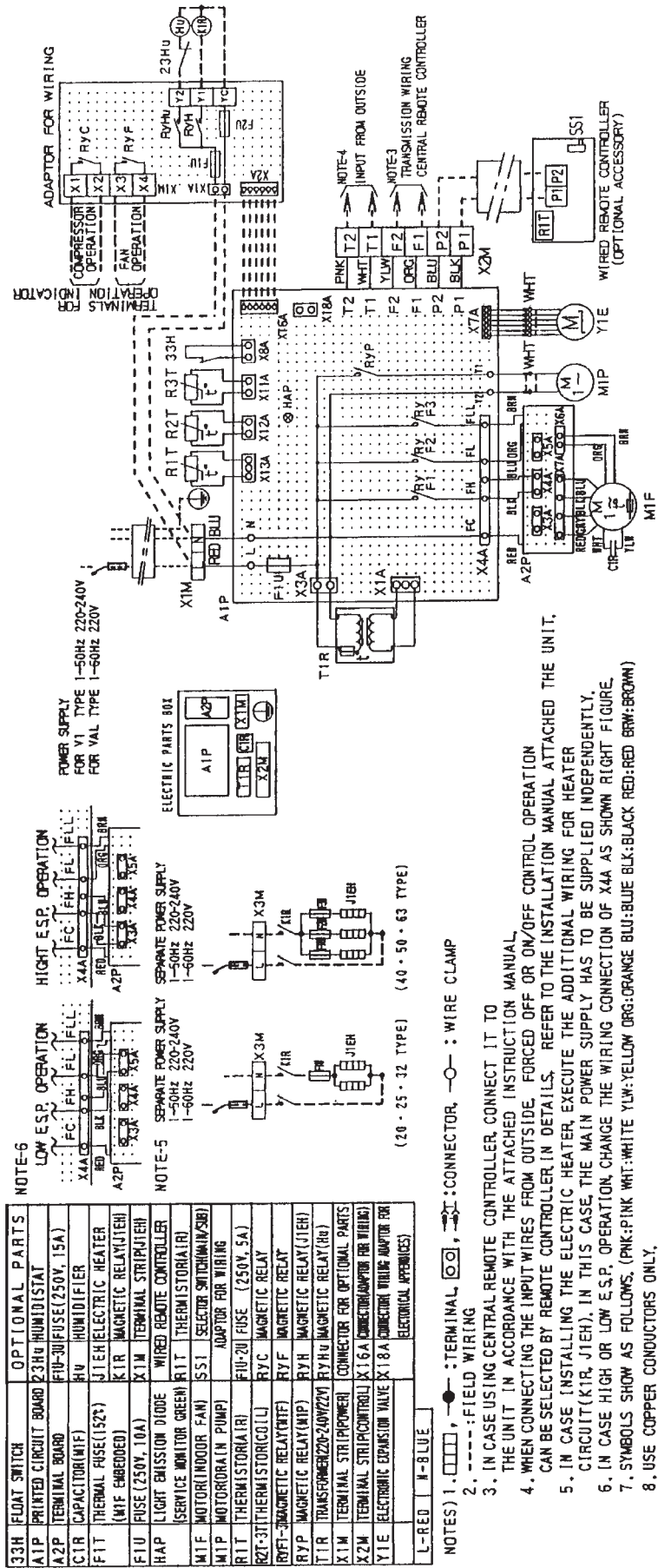
Ceiling mounted cassette built-in type

● FXYS20, 25, 32KV1

FXYS20, 25, 32KV1 Wiring diagram



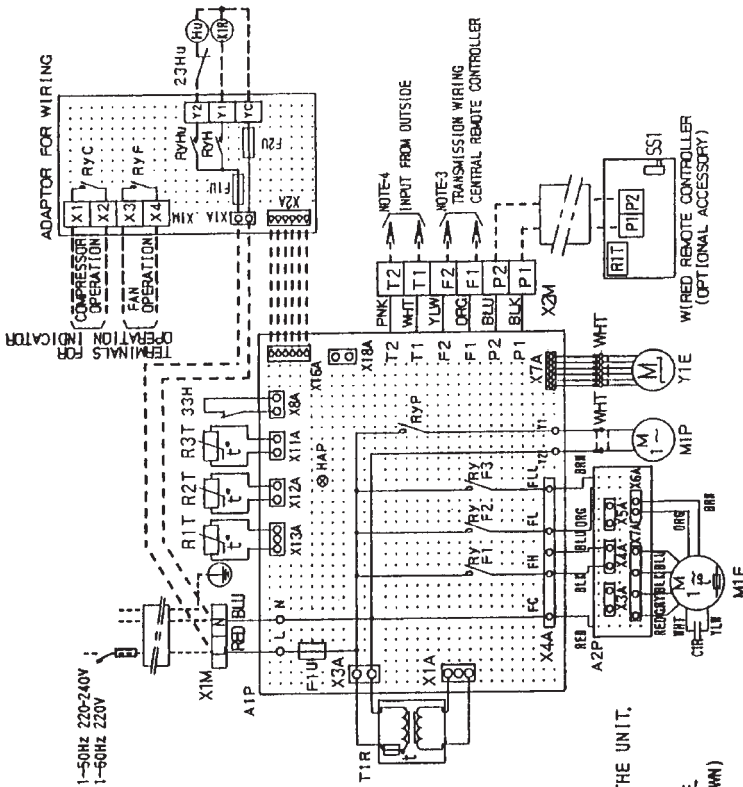
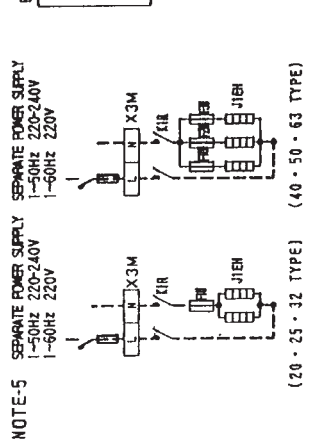
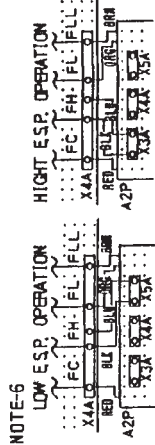
FXYSP40, 50KV1 Wiring diagram



FXYSP63KV1 Wiring diagram

● FXYSP63KV1

33H	OPTIONAL PARTS
A1P	PRINTED CIRCUIT BOARD 23HU HUMIDISTAT
A2P	TERMINAL BOARD F1U-30 FUSE (250V, 15A)
C1R	CAPACITOR (MIF) 4U HUMIDIFIER
F1T	THERMAL FUSE (152°) J1EH ELECTRIC HEATER
F1U	FUSE (250V, 10A) K1R MAGNETIC RELAY (J1EH) (MIF EMBEDDED) X1M TERMINAL STRIP (J1EH)
HAP	LIGHT EMISSION DIODE W1ED REMOTE CONTROLLER
M1F	(SERVICE MONITOR FAN) R1T THERMISTOR (AIR)
M1P	(MOTOR (INDOOR FAN)) S51 SELECTOR SWITCH (M/M/SUB)
M1P	(MOTOR (OR IN PUMP)) ADAPTOR FOR WIRING
R2T-31T	(THERMISTOR (AIR)) F1U-20 FUSE (250V, 5A)
RYP	(MAGNETIC RELAY (MIF)) RYC MAGNETIC RELAY
RYP	(MAGNETIC RELAY (MIF)) RYF MAGNETIC RELAY
T1R	(MAGNETIC RELAY (MIF)) RYH MAGNETIC RELAY (J1EH)
X1M	TERMINAL STRIP (POWER) CONNECTOR FOR OPTIONAL PARTS
X2M	TERMINAL STRIP (CONTROL) X1.6A CONNECTION ADAPTOR FOR WIRING
Y1E	ELECTRONIC COMPRESSION VALVE X1.8A CONNECTION WIRING ADAPTOR FOR (ELECTRONICAL APPENDICES)
L-RED	N-BLUE

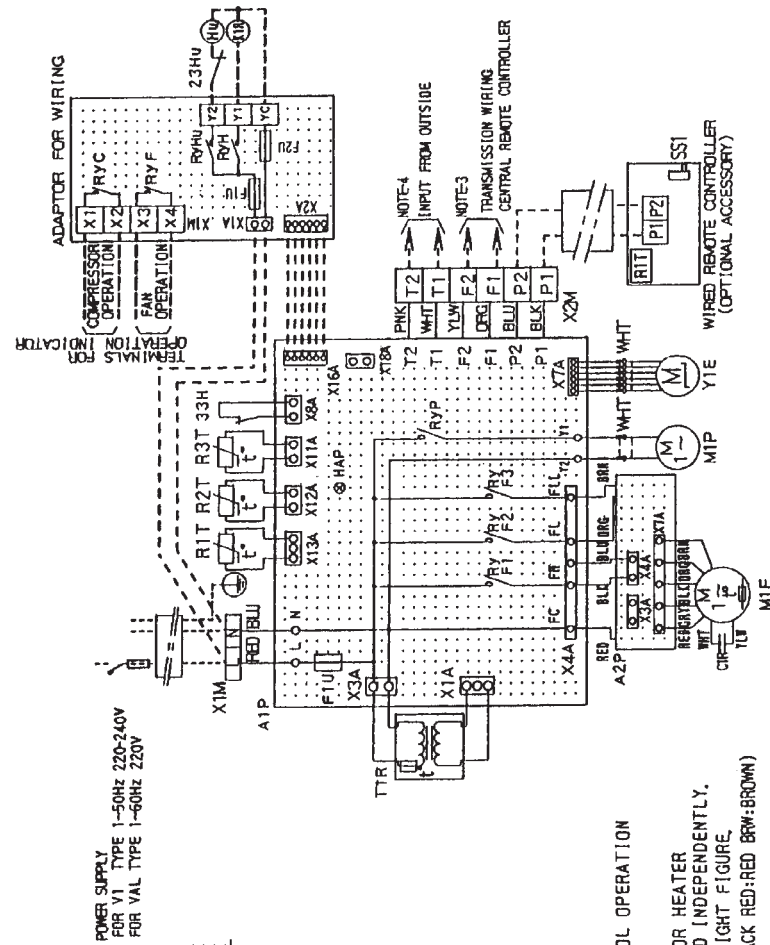


- NOTES) 1. □: TERMINAL, ○: CONNECTOR, —○: WIRE CLAMP
 2. ---: FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER IN DETAILS. REFER TO THE INSTALLATION MANUAL ATTACHED TO THE UNIT.
 5. IN CASE INSTALLING THE ELECTRIC HEATER, EXECUTE THE ADDITIONAL WIRING FOR HEATER CIRCUIT (K1R, J1EH). IN THIS CASE, THE MAIN POWER SUPPLY HAS TO BE SUPPLIED INDEPENDENTLY.
 6. IN CASE HIGH OR LOW ESP. OPERATION, CHANGE THE WIRING CONNECTION OF X4A AS SHOWN RIGHT FIGURE.
 7. SYMBOLS SHOW AS FOLLOWS. (PNK:PINK WHT:WHITE YLW:YELLOW DRG:ORANGE BLU:BLUE BLK:BLACK RED:RED BRW:BRWN)
 8. USE COPPER CONDUCTORS ONLY.

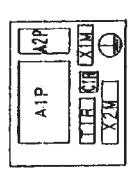
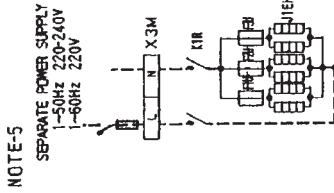
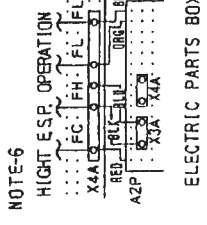
FXYSP80, 100, 125KV1 Wiring diagram

● FXYSP80, 100, 125KV1

33H	FLOAT SWITCH	OPTIONAL PARTS
A1P	PRINTED CIRCUIT BOARD	23HU HUMIDISTAT
A2P	TERMINAL BOARD	F1U-30 FUSE (250V, 15A)
C1R	CAPACITOR(MF)	HU HUMIDIFIER
F1T	THERMAL FUSE(152°)	J1EH ELECTRIC HEATER
	(MIF EMBEDDED)	J1EH MAGNETIC RELAY(J1EH)
F1U	FUSE (250V, 10A)	X1M TERMINAL STRIP(LEH)
HAP	LIGHT EMISSION DIODE	X1M TERMINAL STRIP(LEH)
	(SERVICE MONITOR GREEN)	R1T THERMISTOR(A1R)
M1F	MOTOR(INDOOR FAN)	SST1 SELECTOR SWITCH(M1F/SB)
M1P	MOTOR(DRAIN PUMP)	ADAPTOR FOR WIRING
R1T	THERMISTOR(A1R)	F1U-20 FUSE (250V, 5A)
R2T-3T	THERMISTOR(C01L)	R1C MAGNETIC RELAY
R1YF1-3	MAGNETIC RELAY(M1F)	R1YF MAGNETIC RELAY
R1YF	MAGNETIC RELAY(M1F)	R1YF MAGNETIC RELAY
T1R	TRANSFORMER(220-240V/220V)	R1YH MAGNETIC RELAY(H)
X1M	TERMINAL STRIP(POWER)	CONNECTOR FOR OPTIONAL PARTS
X2M	TERMINAL STRIP(CONTROL)	X15A CONNECTOR(ADAPTOR FOR WIRING)
Y1E	ELECTRONIC EXPANSION VALVE	X15A CONNECTOR(ADAPTOR FOR ELECTRICAL APPENDICES)
L-RED	N-BLUE	



POWER SUPPLY FOR V1 TYPE 1-50Hz 220-240V FOR V4L TYPE 1-60Hz 220V



- NOTES) 1. [Symbol]: TERMINAL, [Symbol]: FIELD WIRING
 2. [Symbol]: FIELD WIRING
 3. IN CASE USING CENTRAL REMOTE CONTROLLER, CONNECT IT TO THE UNIT IN ACCORDANCE WITH THE ATTACHED INSTRUCTION MANUAL.
 4. WHEN CONNECTING THE INPUT WIRES FROM OUTSIDE, FORCED OFF OR ON/OFF CONTROL OPERATION CAN BE SELECTED BY REMOTE CONTROLLER.
 IN DETAILS, REFER TO THE INSTALLATION MANUAL ATTACHED TO THE UNIT.
 5. IN CASE INSTALLING THE ELECTRIC HEATER, EXECUTE THE ADDITIONAL WIRING FOR HEATER CIRCUIT (K1R, J1EH). IN THIS CASE, THE MAIN POWER SUPPLY HAS TO BE SUPPLIED INDEPENDENTLY.
 6. IN CASE HIGH ESP OPERATION, CHANGE THE WIRING CONNECTION OF X4A AS SHOWN RIGHT FIGURE.
 7. SYMBOLS SHOW AS FOLLOWS. (PNK:PINK WHT:WHITE YLW:YELLOW ORG:ORANGE BLU:BLUE BK:BLACK RED:RED BRW:BROWN)
 8. USE COPPER CONDUCTORS ONLY.