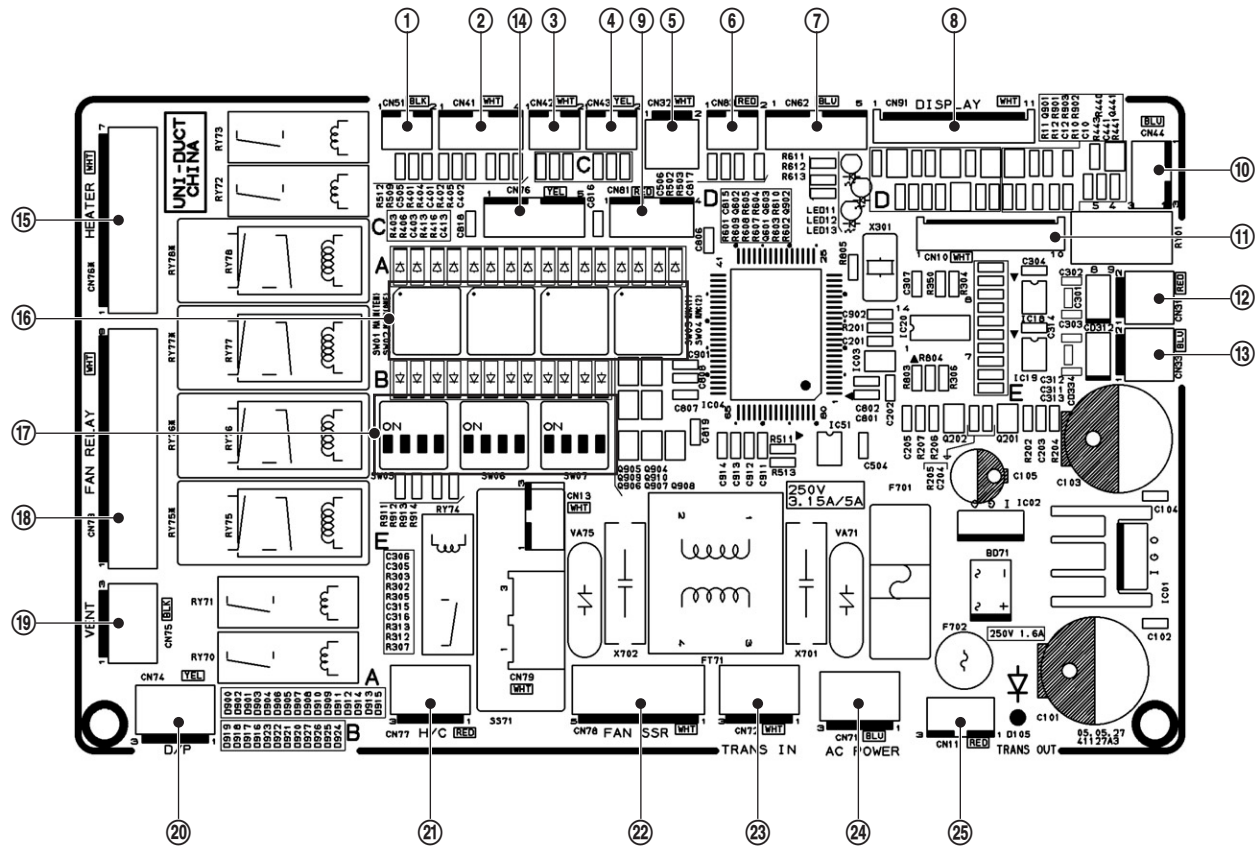
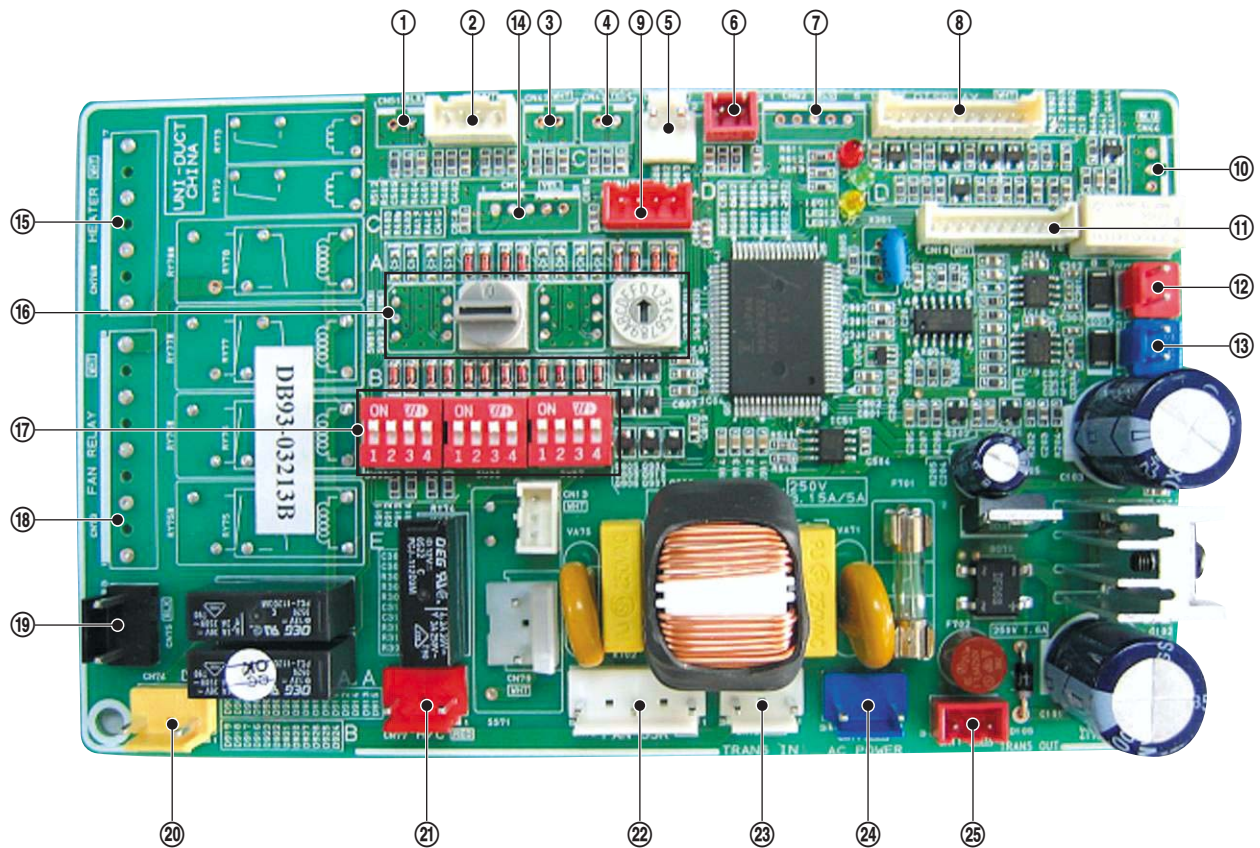


10. PCB Diagram

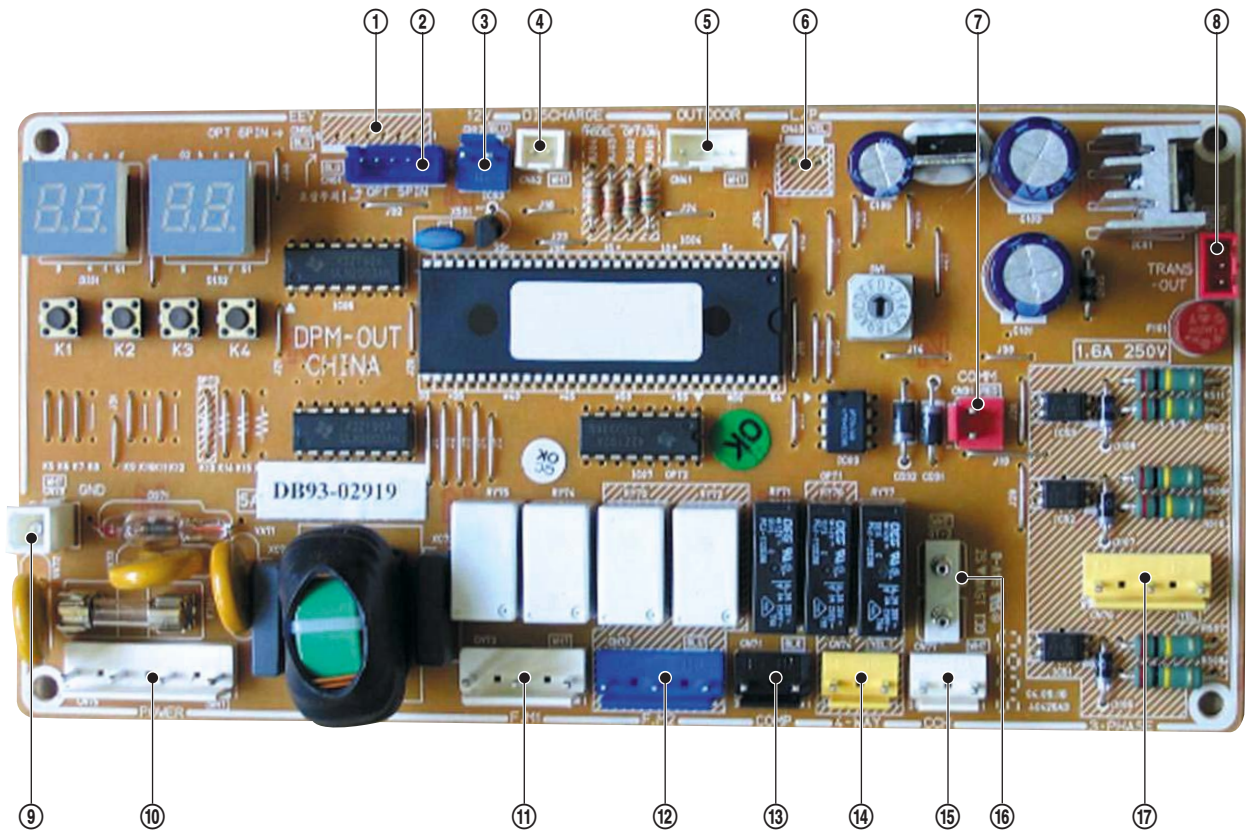
10-1 Indoor Unit



①	Floating S/W	⑬	Wired Remote Controller Communication
②	Indoor Pipe In Temperature Sensor	⑭	Option Load Connector
	Indoor Room Temperature Sensor	⑮	Heater
③	Indoor Pipe Out	⑯	Indoor Address S/W
	Temperature Sensor	⑰	Indoor Option S/W
④	Heater Discharge	⑱	Indoor Fan(TAP)
	Temperature Sensor	⑲	Ventilator
⑤	Wired Remote Controller Power	⑳	Drain Pump
⑥	External Control(S/W Part)	㉑	Hot Coil
⑦	EEV	㉒	Indoor Fan(SSR)
⑧	Display	㉓	Power
⑨	External Control(Display Part)		Transformer Out
⑩	HALL IC	㉔	Main Power In
⑪	MICOM Download	㉕	Power
⑫	Indoor/Outdoor Communication		Transformer In








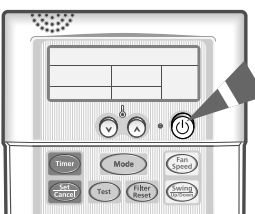
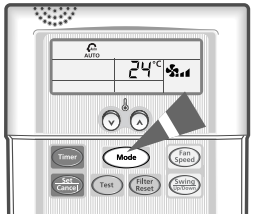
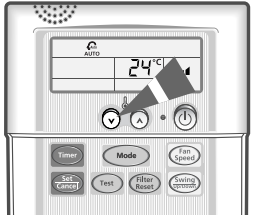





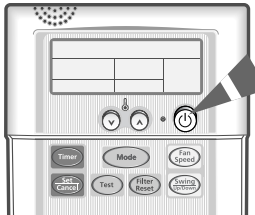
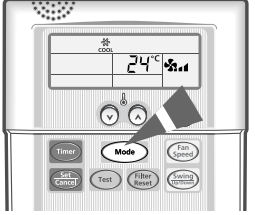
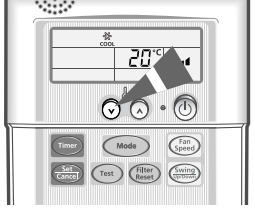
①	Floating S/W : SMW250-02(BLK)	⑬	Wired Remote Controller Communication : YW396-02(BLU)
②	Indoor Pipe In Temperature Sensor : SMW250-04(WHT)	⑭	Option Load Connector : SMW250-05(YEL)
	Indoor Room Temperature Sensor : SMW250-04(WHT)	⑮	Heater : YW39607AV(WHT)
③	Indoor Pipe Out : SMW250-02(WHT)	⑯	Indoor Address S/W
	Temperature Sensor : SMW250-02(WHT)	⑰	Indoor Option S/W
④	Heater Discharge : SMW250-02(YEL)	⑱	Indoor Fan(TAP) : YW396-09AV(WHT)
	Temperature Sensor : SMW250-02(YEL)	⑲	Ventilator : YW396-03AV(BLK)
⑤	Wired Remote Controller Power : YW396-02(WHT)	⑳	Drain Pump : YW396-03AV(YEL)
⑥	External Control(S/W Part) : SMW250-02(RED)	㉑	Hot Coil : YW396-03AV(RED)
⑦	EEV : SMW250-05(BLU) : SMW250-05(BLU)	㉒	Indoor Fan(SSR) : YW396-03AV(RED)
⑧	Display : SMW200-11(WHT) : SMW200-11(WHT)	㉓	Power : YW396-03AV(WHT)
⑨	External Control(Display Part) : SMW250-04(RED)	㉔	Transformer Out : YW396-03AV(WHT)
⑩	HALL IC : SMW250-03(BLU)	㉕	Main Power In : YW396-03AV(BLU)
⑪	MICOM Download : SMW200-10(WHT)		Power : YW396-03AV(BLU)
⑫	Indoor/Outdoor Communication : YW396-02(RED)		Transformer In : SMW250-03(RED)










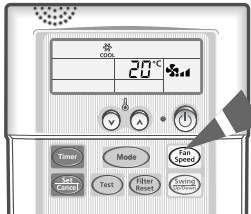











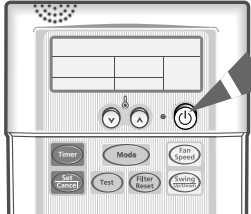
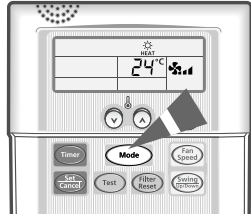
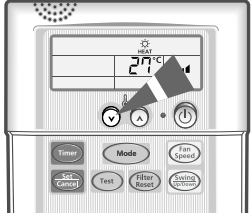
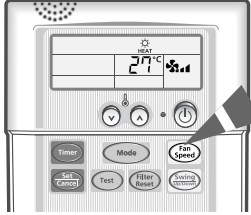
①	EEV(2,000 Step) : B6B-XH-A(BLU)	⑨	GROUND : YDW236-01(WHT)
②	EEV(480 Step) : B5B-XH-A(BLU)	⑩	Main Power In : YW396-07AV(WHT)
③	Transmitter Power(12V) : YW396-02V(WHT)	⑪	Outdoor Fan 1 : YW396-05AV(WHT)
④	Discharge Temperature Sensor : SMW250-02(WHT)	⑫	Outdoor Fan 2 : YW396-05AV(BLU)
⑤	Outdoor Temperature Sensor : SMW250-04(WHT)	⑬	Compressor Output : YW396-03AV(BLK)
	Outdoor Pipe Temperature Sensor : SMW250-04(WHT)	⑭	4-Way Valve Output : YW396-03AV(YEL)
⑥	Low Pressure S/W : YW396-02V(YEL)	⑮	Bypass : YW396-03AV(WHT)
⑦	Communication : YW396-02V(RED)	⑯	Transformer In : GT-2(WHT)
⑧	Transformer Out : SMW250-03(RED)	⑰	3 Phase Check : YW396-05AV(YEL)






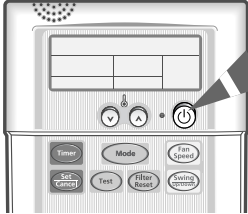
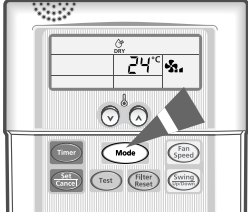
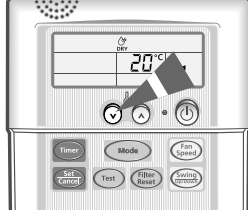







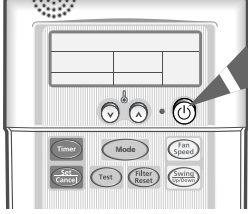
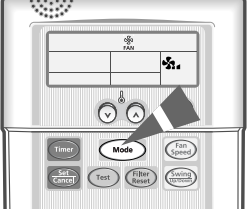
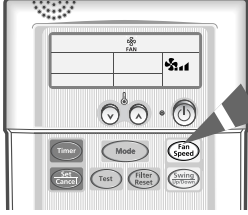
11. Operating Instruction and Installation

11-1 Main Function

Mode	Explanation	Remark
Selecting the Automatic Operating Mode	<p>1. If necessary, press  (ON/OFF) button.</p> <p>2. To select the AUTO mode, press the  button until  is displayed at the top of the wired remote controller.</p> <p>3. To adjust the temperature, press the   buttons one or more times until the required temperature is displayed. Possible temperatures are between 18°C and 30°C inclusive.</p>	  
Cooling Your Room	<p>1. If necessary, press  (ON/OFF) button.</p> <p>2. To select the COOL mode, press the  button until  is displayed at the top of the wired remote controller.</p> <p>3. To adjust the temperature, press the   buttons one or more times until the required temperature is displayed. Possible temperatures are between 18°C and 30°C inclusive.</p>	  

Main Function (cont.)

Mode	Explanation	Remark
Cooling Your Room	<p>4. Select the fan speed by pressing the Fan Speed button one or more times until the intended value is displayed :</p> <p>  Automatic(rotated :  →  → )  Low  Medium  High </p>	
Heating Your Room (Except cooling only models)	<p>1. If necessary, press  (ON/OFF) button.</p> <p>2. To select the HEAT mode, press the Mode button until  is displayed at the top of the wired remote controller.</p> <p>3. To adjust the temperature, press the   buttons one or more times until the required temperature is displayed. Possible temperatures are between 16°C and 30°C inclusive.</p> <p>4. Select the fan speed by pressing the Fan Speed button one or more times until the intended value is displayed :</p> <p>  Automatic(rotated :  →  → )  Low  Medium  High </p>	   

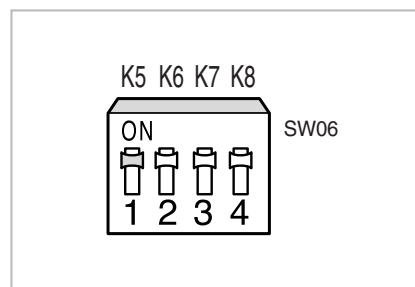
Mode	Explanation	Remark
Removing Excess Humidity	<p>1. If necessary, press  (ON/OFF) button.</p> <p>2. To select the DRY mode, press the  button until  is displayed at the top of the wired remote controller.</p> <p>3. To adjust the temperature, press the   buttons one or more times until the required temperature is displayed. Possible temperatures are between 18°C and 30°C inclusive.</p>	  
Airing Your Room	<p>1. If necessary, press  (ON/OFF) button.</p> <p>2. To select the FAN mode, press the  button until  is displayed at the top of the wired remote controller.</p> <p>3. Select the fan speed by pressing the  button one or more times until the intended value is displayed:</p> <div> Low  Medium  High</div>	  

11-2 Additional Function

■ Compensation for lost temperature in heating operation

- Reduces the difference between an actual room temperature and a sensed temperature by the air conditioner when heating.

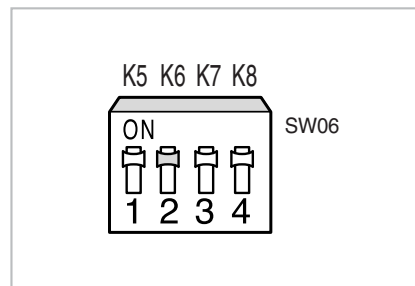
Switch No.	Switch ON	Switch OFF
K5	2°C compensation	5°C compensation



■ Adjusting filter cleaning cycle

- You can adjust the cycle for filter sign indicator.

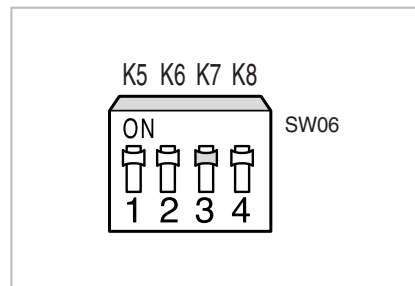
Switch No.	Switch ON	Switch OFF
K6	1,000 hours	2,000 hours



■ Hot water heater

- You must adjust the K7 when you install the hot water heater.

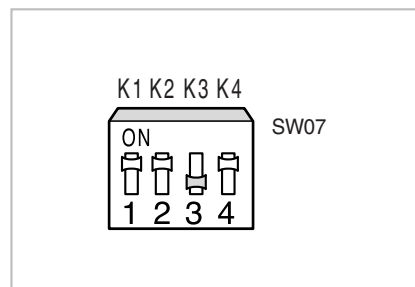
Switch No.	Switch ON	Switch OFF
K7	No use of hot water heater	Use of hot water heater



■ External Control

- You must adjust the K11 when you use external control.

Switch No.	Switch ON	Switch OFF
K11	No use of external control	Use of external control

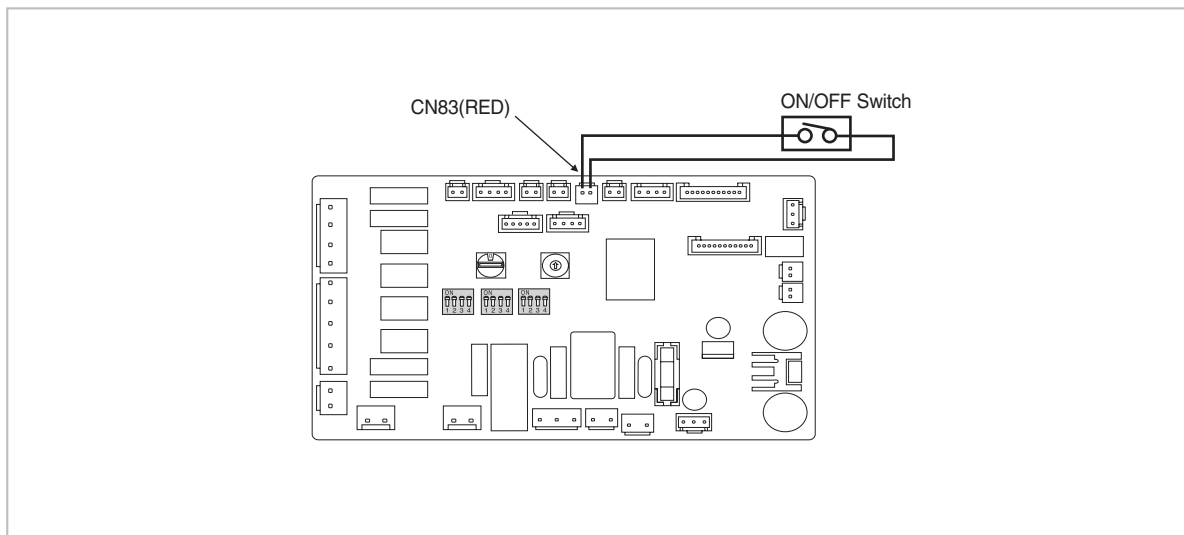


■ External Control (cont.)

- You can use external control when the K11 switch is turned off.

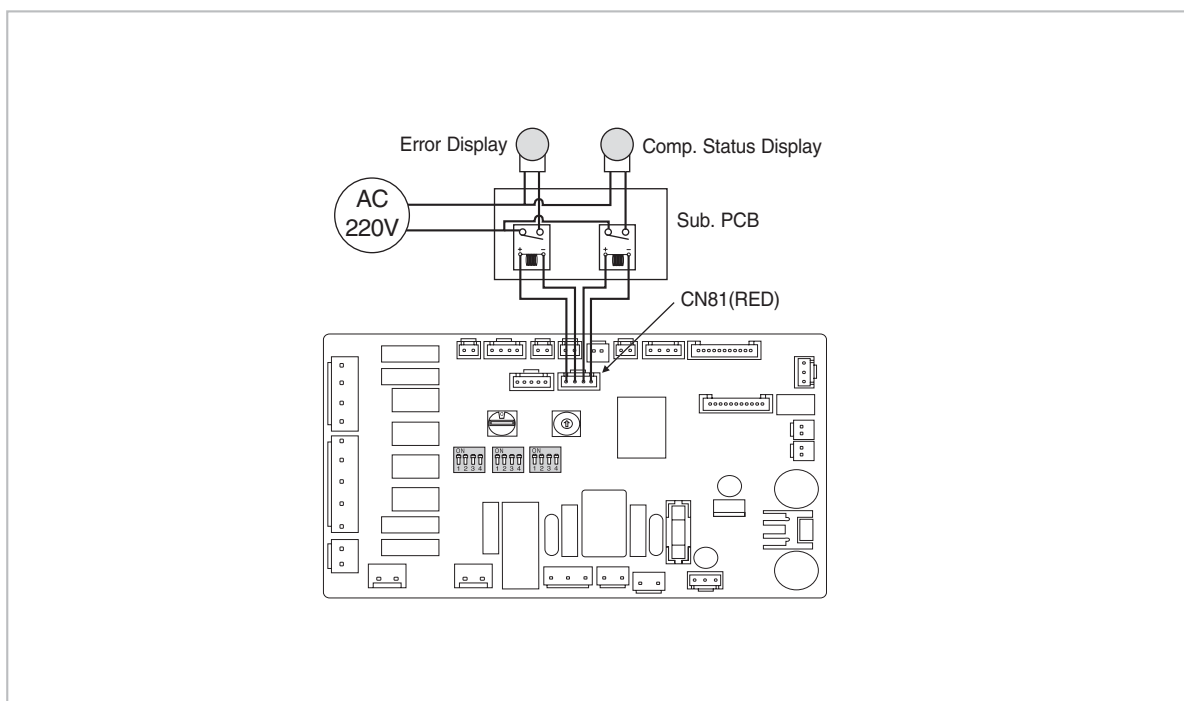
<Operation ON/OFF Function>

Connector No.	SHORT	OPEN
CN83(RED)	Operation ON	Operation OFF

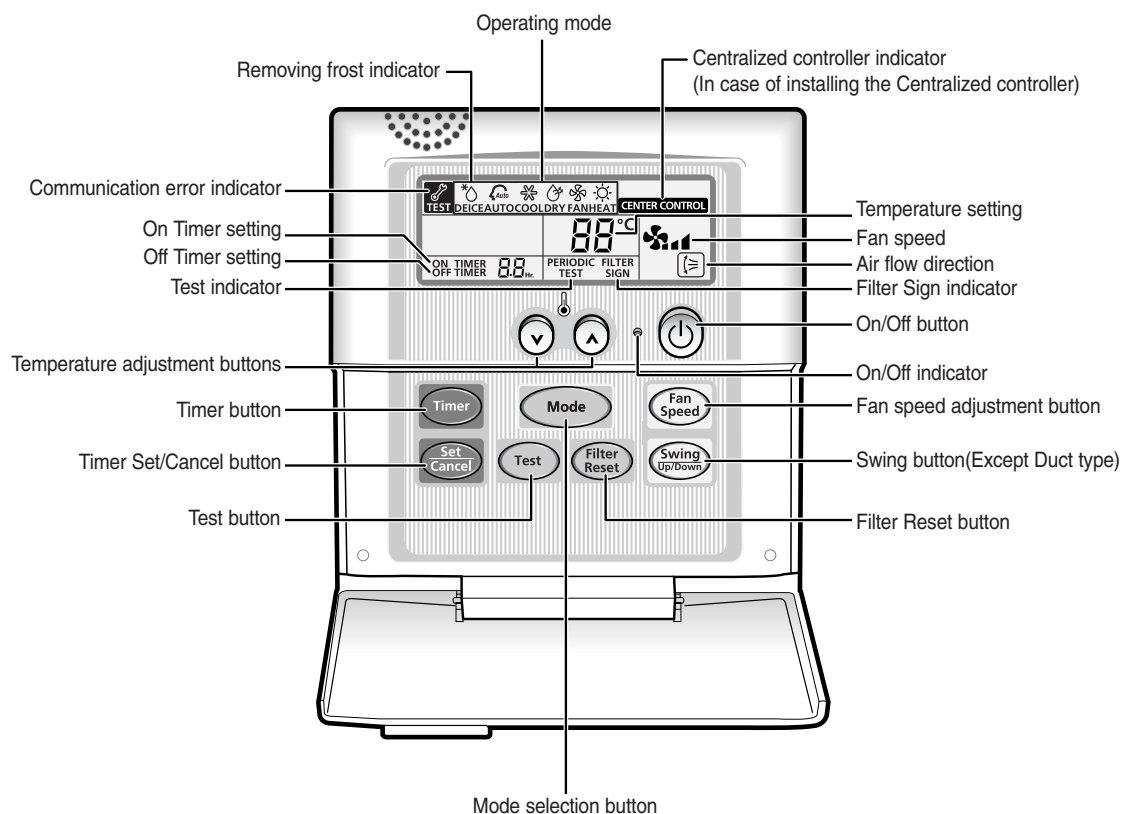


<Operation State Display>

Connector No.	Function
PIN #1 and #2 of CN81(RED)	+12V Out if any error occurs
PIN #3 and #4 of CN81(RED)	+12V Out when the compressor is operating



11-3 Wired Remote Controller-Buttons and Display



- Note :**
- The **Test** button is for your installation specialist. You must not press it.
 - After cleaning the air filter, press the **Filter Reset** button. Then the wired remote controller will display the Filter Sign indicator when the time to clean the air filter.
 - Duct type air conditioner does not have function of adjusting air flow direction. Therefore, the function is not operated even if you press the **Swing Up/Down** button.

12. Troubleshooting

12-1 Operation Specification

12-1-1 Tracking process marked on display part

- Left numeral is an address that outdoor unit transfers communication.

□ - 1 - 2 - 3 ... - F (Calling indoor unit)

- Right numeral marks address that is answered.

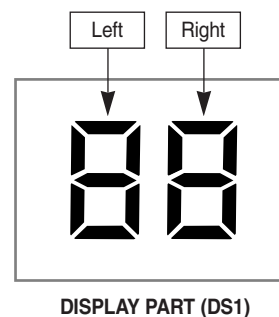
- During the tracking, left calls indoor unit through

□ - 1 - 2 - 3 ... - d - E - F and checks. At this time connected indoor unit set on "□" and the indoor unit set □ address marked on right.

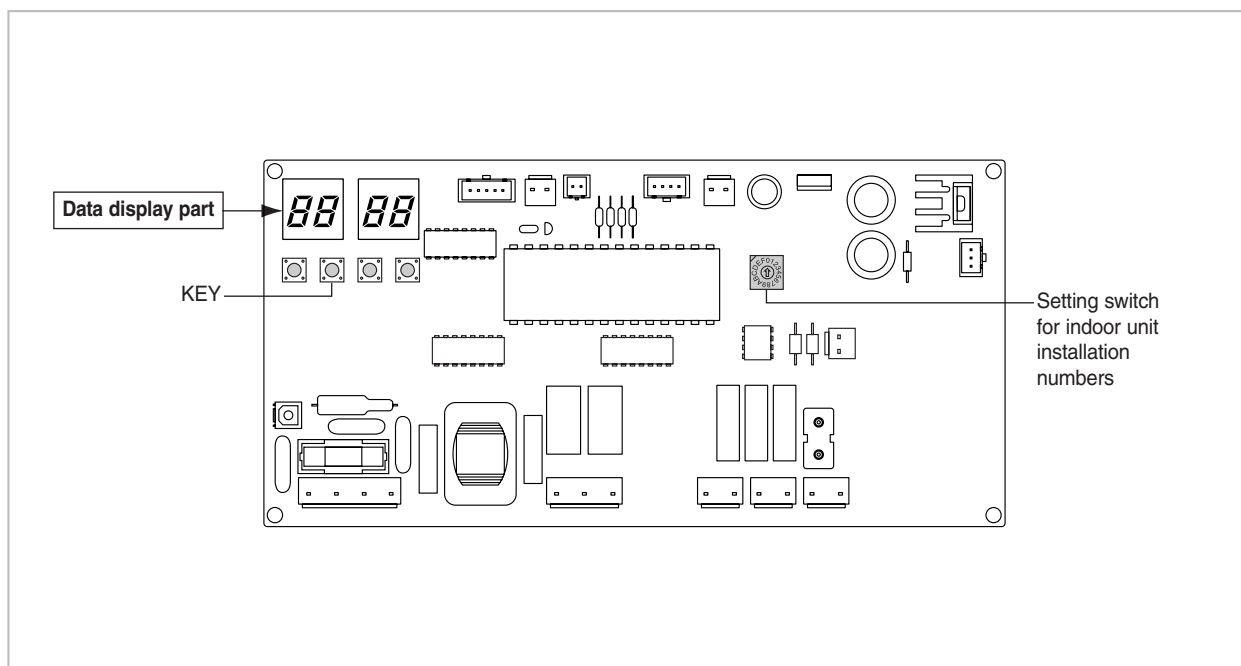
Right side mark is marked by when left side is □.

(If SW02(MAIN) that set indoor unit address is controlled to "□",

indoor unit number marked on outdoor unit is marked by "□".)



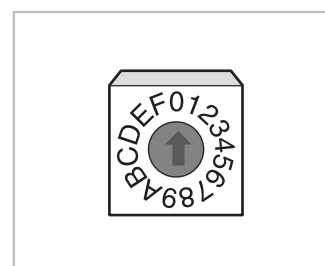
12-1-2 Option set part for Outdoor unit PCB



■ Setting switch for indoor unit installation numbers

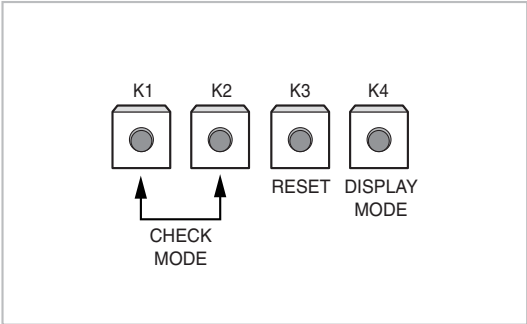
Counts of Indoor Unit Installation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Numbers of the switch	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F

- Example : When the installed indoor unit is one, control the arrow of switch forward to '0' or '1' as figure.

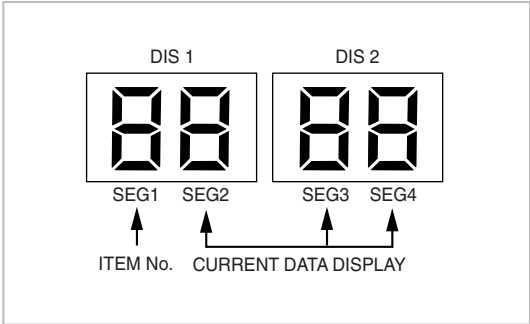


12-1-3 Setting Up Option Switches

KEY



Display



Summary of KEY functions

Function Number of press times	K1 (Displayed on SEG 3, 4)	K2 (Displayed on SEG 3, 4)	K3 (Displayed on SEG 3, 4)	K4 (Displayed on SEG 3, 4)
1	Adding refrigerant at heating mode	Adding refrigerant at cooling mode	Reset	Displays data
2	Test operation at heating mode	Test operation at cooling mode	-	-
3	End	Pump Down for recovery of refrigerant	-	-
4	-	End	-	-

* Use the K1 only for heat pump models.

12-2 Troubleshooting

12-2-1 Wired remote controller display error occurring

■ If an error occurs,  is displayed on the wired remote controller.

If you would like to see an error code, press the Test button.

Display	Description	Remarks
406	Compressor down due to protection control of the discharge temperature sensor	Error about protection control of the outdoor unit
450	Control due to the condenser temperature sensor when cooling mode	
458	Error of the low pressure switch (Protection control)	
425	Reverse phase error (Protection control)	
558	In removing frost	
228	Error of the outdoor temperature sensor (Open/Short)	Error about the outdoor unit sensor (Open/Short) Detection during the operation of the indoor unit (sensing and sending errors into the communication data)
230	Error of condenser temperature sensor (Open/Short)	
258	Error of discharge temperature sensor (Open/Short)	
208	- System down caused by communication error after completion of tracking - Mismatching of the indoor unit numbers set with those communication after completion of 5 times tracking	Communication and the indoor unit errors
828	Error of temperature sensor in the indoor unit (Open/Short)	Self-diagnosis of the indoor and outdoor unit
822	Error of the heat exchanger sensor in the indoor unit (Open/Short)	
489	Error of electronic expansion valve open in the outdoor unit (when it is detected more than once)	
422	Error of electronic expansion valve close in the outdoor unit (when it is detected more than once)	
608	Error of communication between the indoor unit and the wired remote controller	Wired remote controller errors
602	Master wired remote controller ↔ Slave wired remote controller	
606	COM1/COM2 Cross-installed error	
8E8	Error of setting option for wired remote controller COM2	

12-2-2 LED Display on the receiver & display unit

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.
- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.

■ LED Display

Error type	LED lamp display					Remarks
	Concealed Type					
	Blue	Red				
	Standard Type					
Power reset						
Error of temperature sensor in the indoor unit (Open/Short)						
Error of heat exchanger sensor in the indoor unit						
Error of the outdoor temperature sensor Error of the condenser temperature sensor Error of the discharge temperature sensor						
1. No communication for 2 minutes between indoor units (Communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minutes error 4. When sending the communication error from outdoor unit, the mismatching of the communication numbers and installed numbers after completion of tracking. (Communication error for more than 2 minutes)						1. Indoor unit error (Display is unrelated with operation) 2. Outdoor unit error (Display is unrelated with operation)
Communication error between indoor units						
1. Error of electronic expansion valve close 2. Error of electronic expansion valve open 3. 2'nd detection of high temperature cond 4. 2'nd detection of high temperature discharge 5. Error of reverse phase 6. Compressor down due to 6'th detection of freezing						
Detection of the float switch						
Error of setting option switches for optional accessories						
EEPROM error						
EEPROM option error						

● : On ● : Flickering × : Off

12-2-3 Outdoor Unit

If an error occurs during the operation, it is displayed on the outdoor unit PCB.

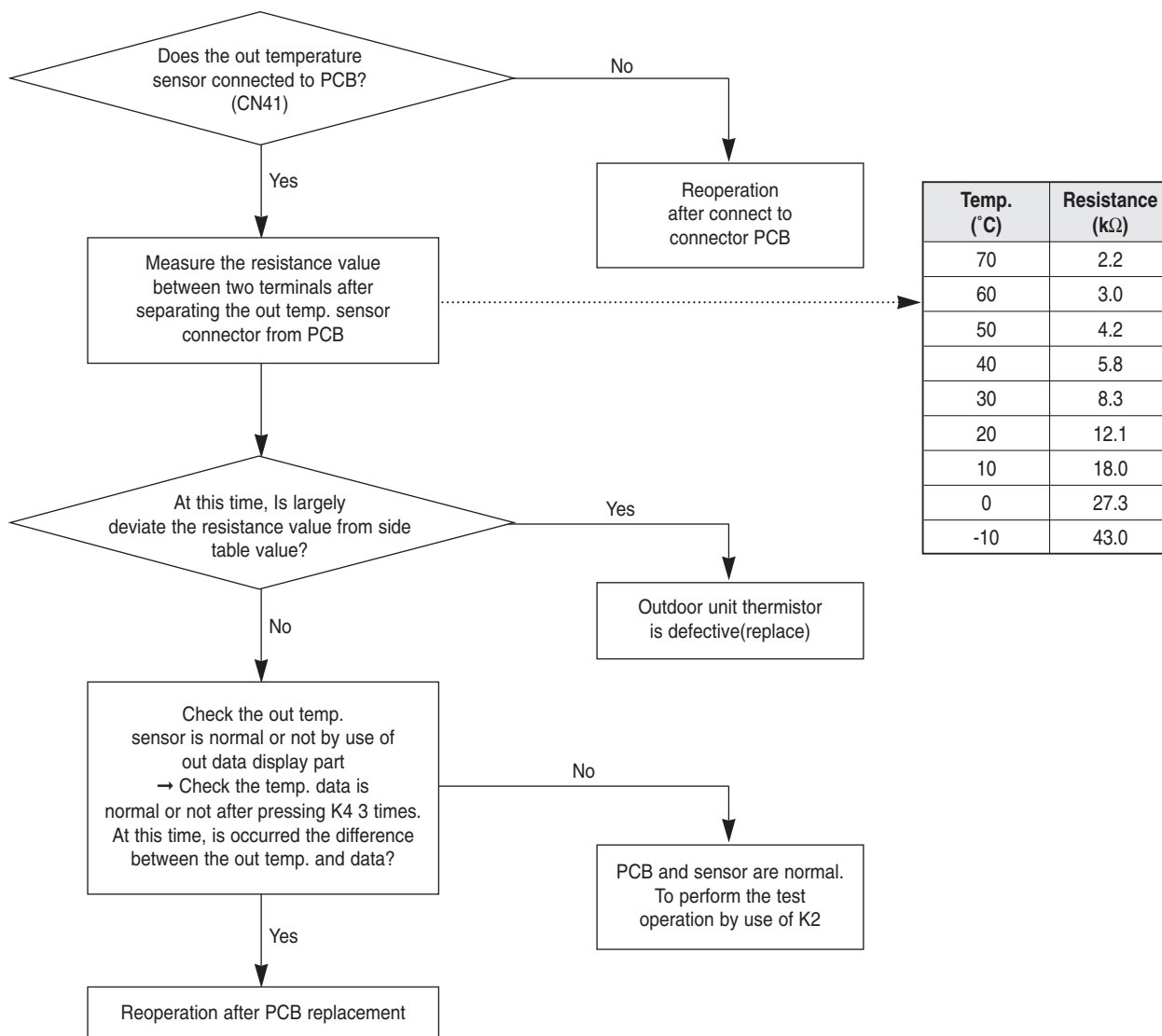
Display	Explanation	Remark
$E_r \leftrightarrow P0$	High temperature of Discharge (Protection control)	Error about protection control of outdoor unit
$E_r \leftrightarrow P1$	High temperature of outdoor heat exchanger (Protection control)	
$E_r \leftrightarrow P4$	Reverse phase error (Protection control)	
$E_r \leftrightarrow P5$	COMP DOWN to protect being frozen	
$E_r \leftrightarrow P9$	In removing frost	
$E_r \leftrightarrow t1$	Error of OUT TEMP sensor (OPEN/SHORT)	Errors about outdoor unit sensor (OPEN/SHORT) Detection during the operation of indoor unit (Sensing and sending errors into the communication data)
$E_r \leftrightarrow t2$	Error of temperature sensor in outdoor heat exchanger (OPEN/SHORT)	
$E_r \leftrightarrow t3$	Error of Discharge TEMP sensor (OPEN/SHORT)	
$E_r \leftrightarrow E1$	System Down caused by communication error after completion of tracking	Communication and indoor unit errors
$E_r \leftrightarrow E2$	Mismatching of the indoor unit numbers set with those communicated after completion of tracking	
$E_r \leftrightarrow E3$	Error of float switch in indoor unit	Self-diagnosis of indoor and outdoor unit (x:indoor unit address)
$E_r \leftrightarrow E5$	Error of setting option switches for optional accessories	
$E_r \leftrightarrow q_x$	OPEN/SHORT error of room sensor in indoor unit	
$E_r \leftrightarrow r_x$	OPEN/SHORT error of eva in sensor in indoor unit	
$E_r \leftrightarrow u_x$	EEPROM option error	Displays of operating status
$E_r \leftrightarrow u_x$	Error of fan starting	
$E_r \leftrightarrow G4$	Open error of electronic expansion valve in outdoor unit (Detected once or more times)	
$E_r \leftrightarrow G5$	Close error of electronic expansion valve in outdoor unit (Detected once or more times)	
tU Flicker	Below -5°C when cooling (Outdoor temperature)	
tO Flicker	Over 30°C when heating (Outdoor temperature)	
K1, K2, K3, K4, K5 Flicker		

The order of priority : E1 → E2 → E3 → E5 → P0 → P1 → P4 → P5 → P9 → t1 → t2 → t3 → tu → to → G4 → G5 → E3 → qx → rx → vx → K1, K2, K3, K4, K5
 - In case that the same error displays from multi-indoor units, the one having the faster address has the priority.

12-3 Sequence for trouble diagnosis

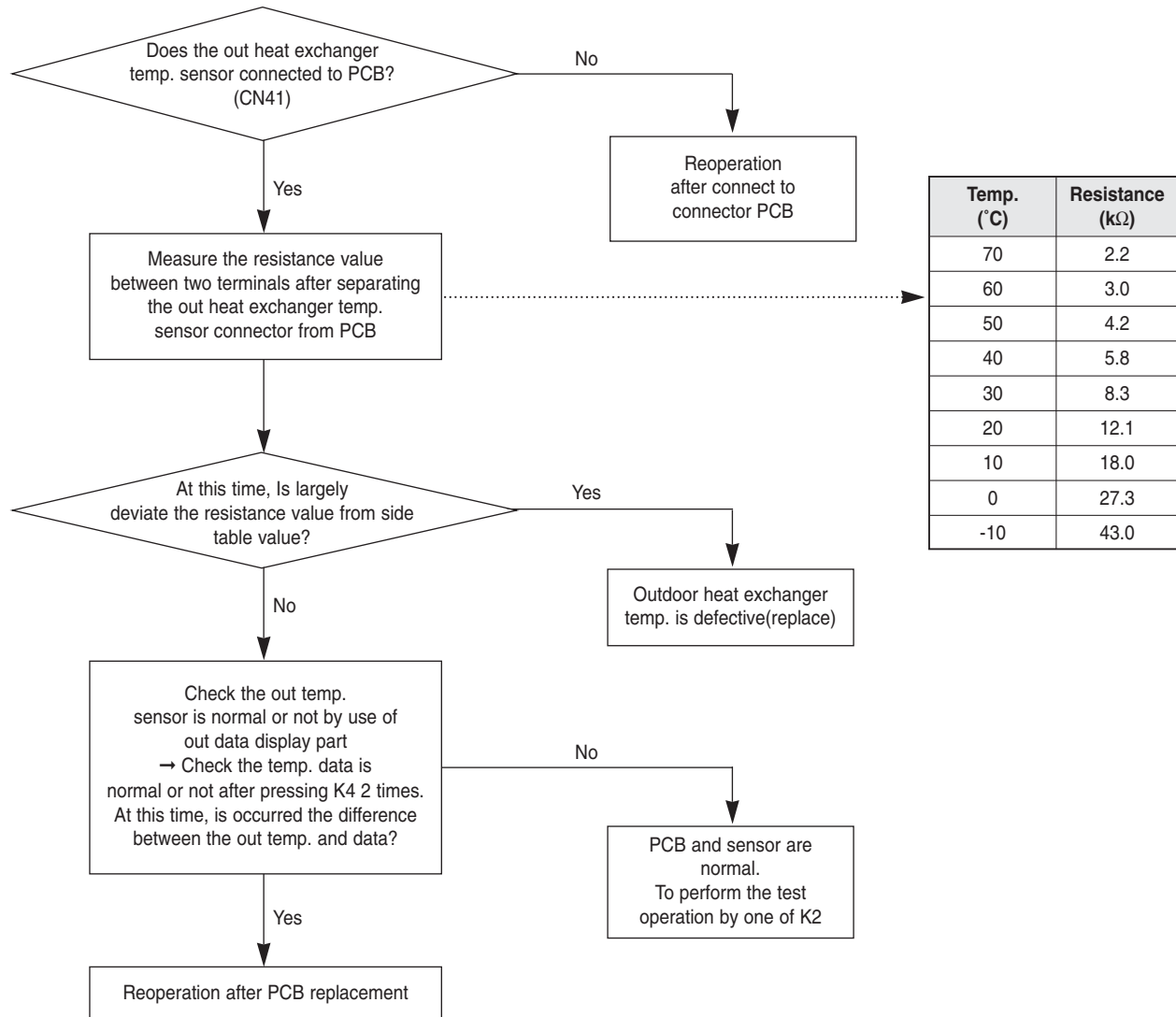
12-3-1 Outdoor temp. sensor(OPEN/SHORT)

Outdoor unit display	$E_r \rightarrow E_i$ (Outdoor temp. sensor OPEN/SHORT error)
Indoor unit display	● (Operation) × (Timer) ● (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor temp. sensor
Reason of error	Disconnection or leak of applied sensor



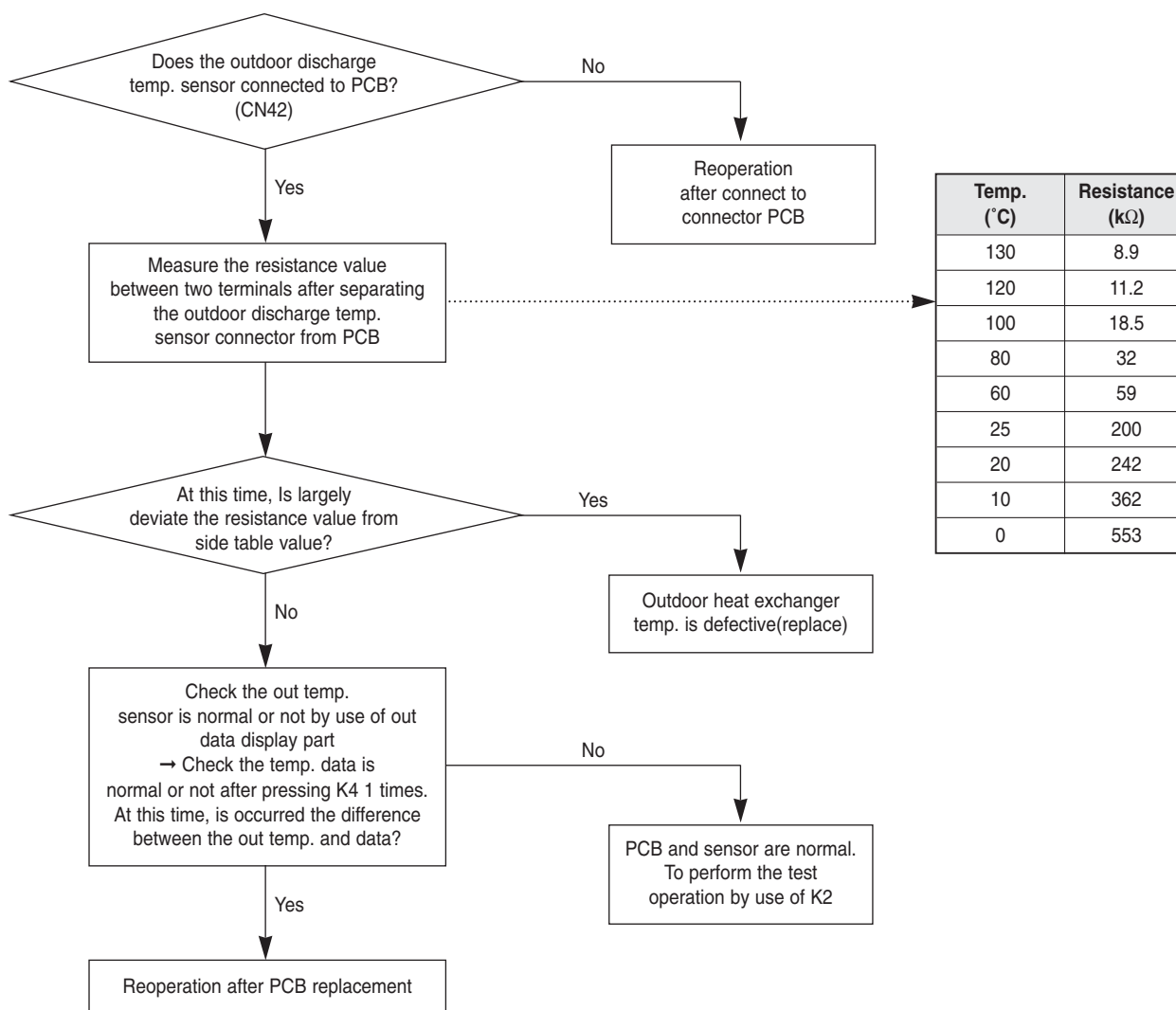
12-3-2 Outdoor heat exchanger temp. sensor error(OPEN/SHORT)

Outdoor unit display	$E_r \rightarrow E_2$ (Outdoor heat exchanger temp. sensor error(OPEN/SHORT))
Indoor unit display	● (Operation) × (Timer) ● (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor heat exchanger temp. sensor
Reason of error	Disconnection or leak of Applied sensor



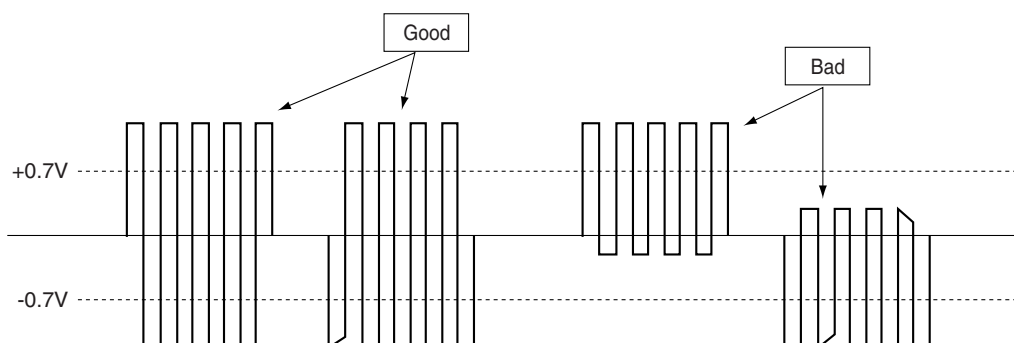
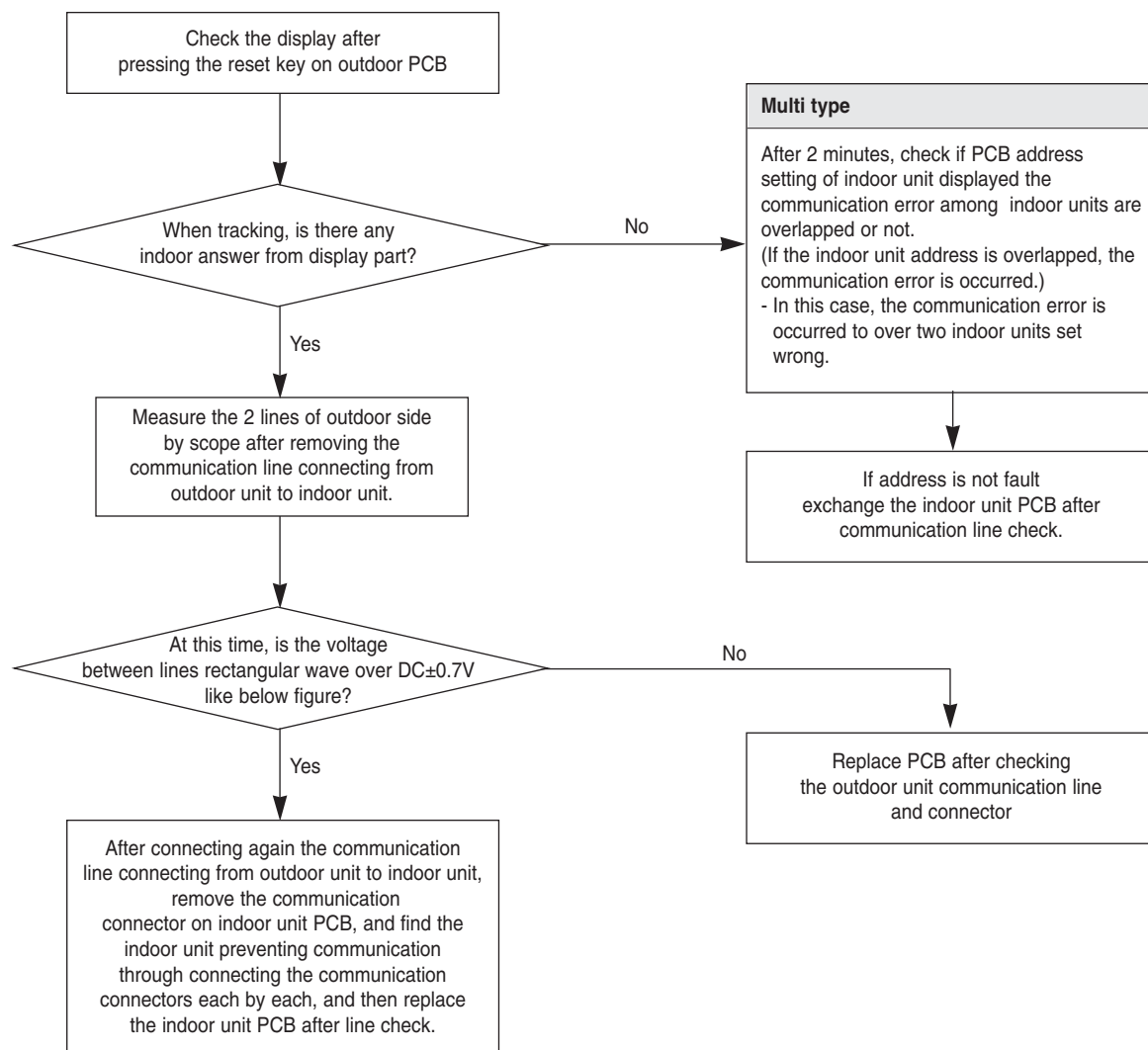
12-3-3 Outdoor discharge temp. sensor error(OPEN/SHORT)

Outdoor unit display	$E_r \rightarrow E_3$ (Outdoor discharge temp. sensor OPEN/SHORT error)
Indoor unit display	● (Operation) × (Timer) ● (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor discharger temp. sensor
Reason of error	Disconnection or leak of Applied sensor



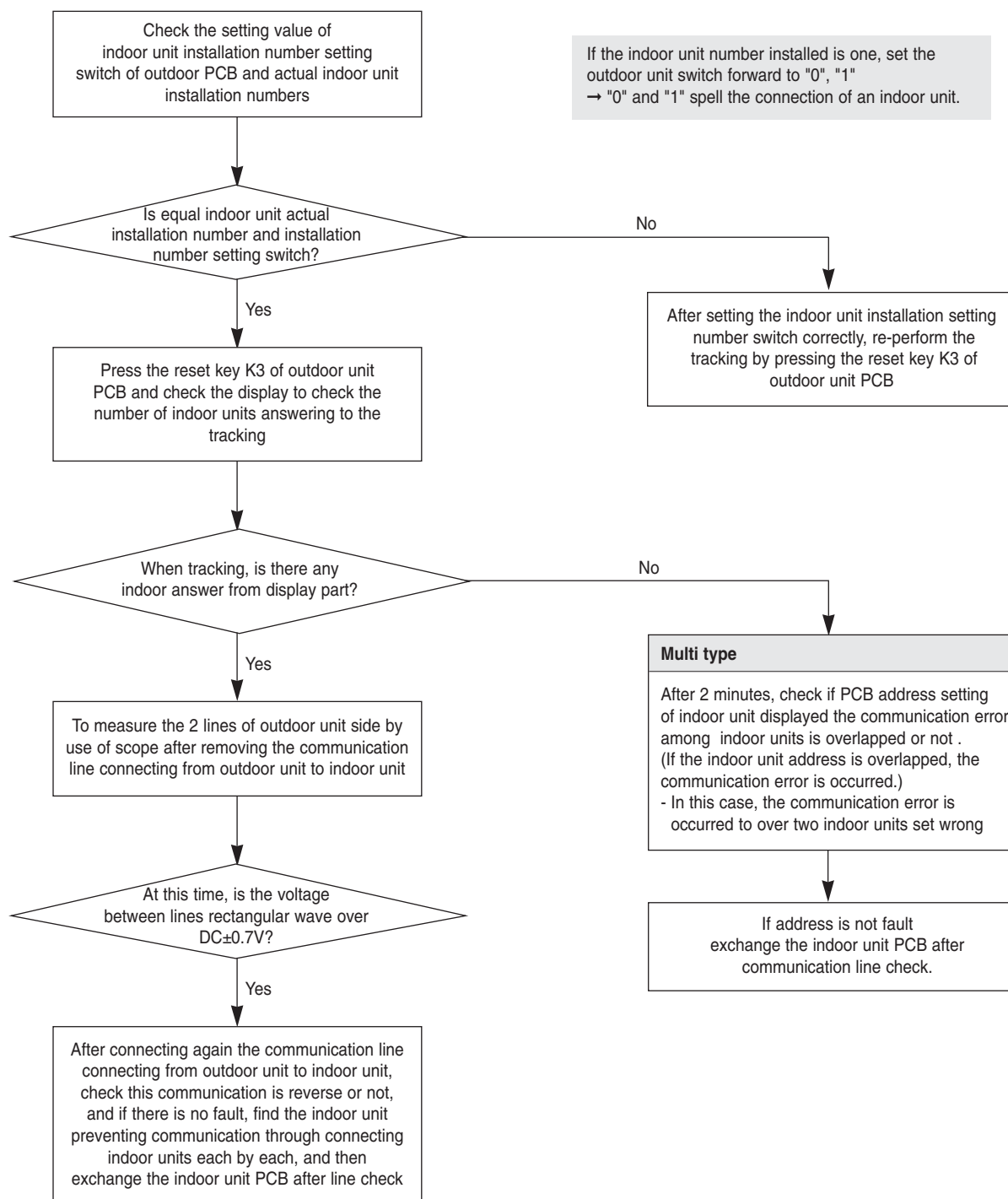
12-3-4 Communication error during the operation

Outdoor unit display	$E_r \rightarrow E_i$ (Communication error during the operation)
Indoor unit display	× (Operation) ● (Timer) ● (Airflow) × (Filter)
How to determine	Disconnection and short of communication lines
Reason of error	Communication error between the indoor unit and outdoor unit.



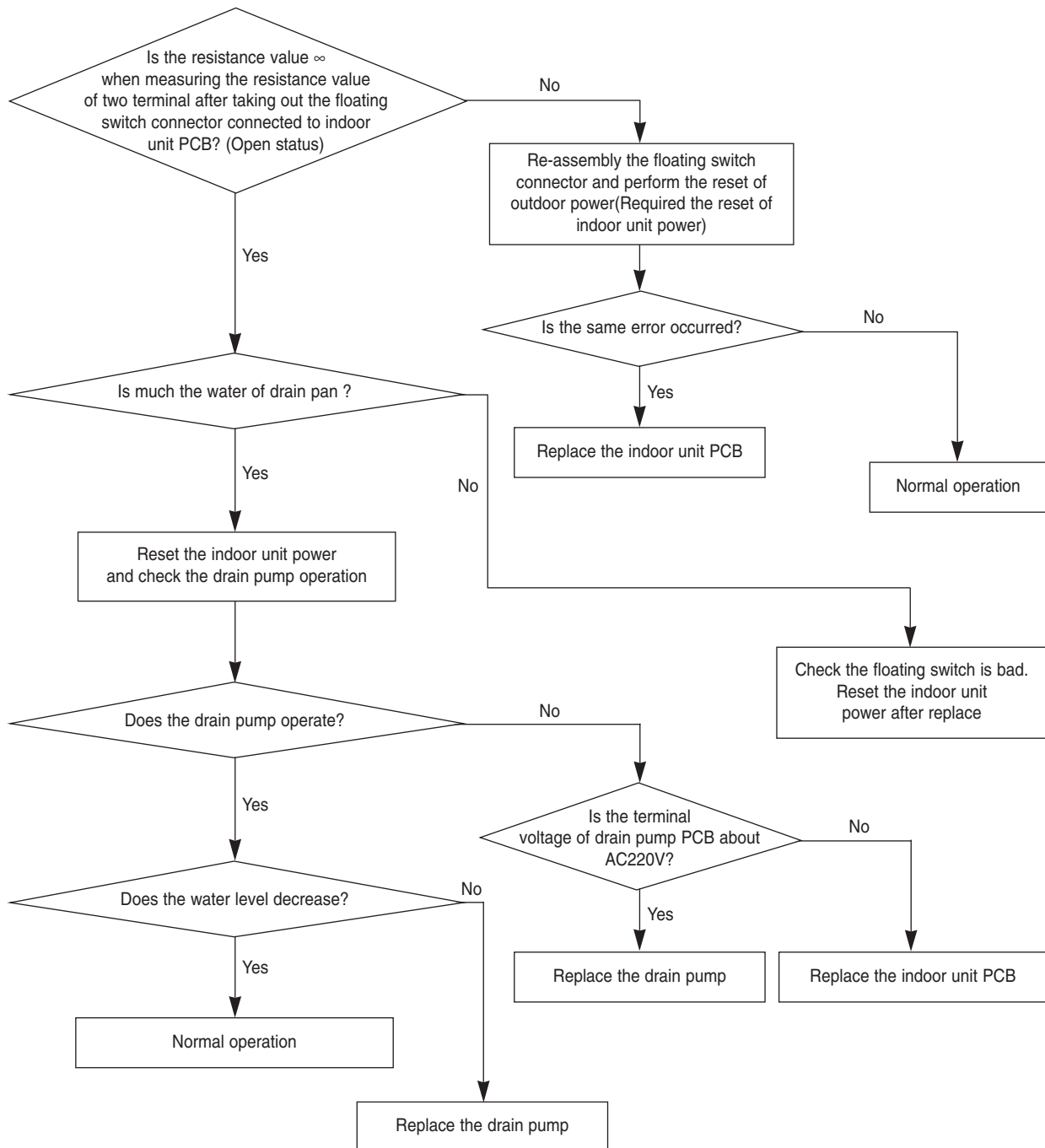
12-3-5 Communication error between indoor and outdoor after initial power input.

Outdoor unit display	$E_r \rightarrow E_2$ (Tracking error)
Indoor unit display	× (Operation) ● (Timer) ● (Airflow) × (Filter)
How to determine	Mismatching the communicating indoor unit and setting switch indoor numbers When outdoor tracking
Reason of error	Communication error between the indoor unit and outdoor unit, and installation number switch setting miss



12-3-6 Indoor float switching error

Outdoor unit display	$E_r \rightarrow E3$ (Indoor float switching error)
Indoor unit display	× (Operation) × (Timer) ● (Airflow) ● (Filter)
How to determine	The status continues over 1 minute that indoor unit float switch is opened.
Reason of error	The rising of water level of drain pan due to the disorder of indoor unit drain pump, the badness of detection sensor



Note : E3 error should be released when indoor unit power is reset.