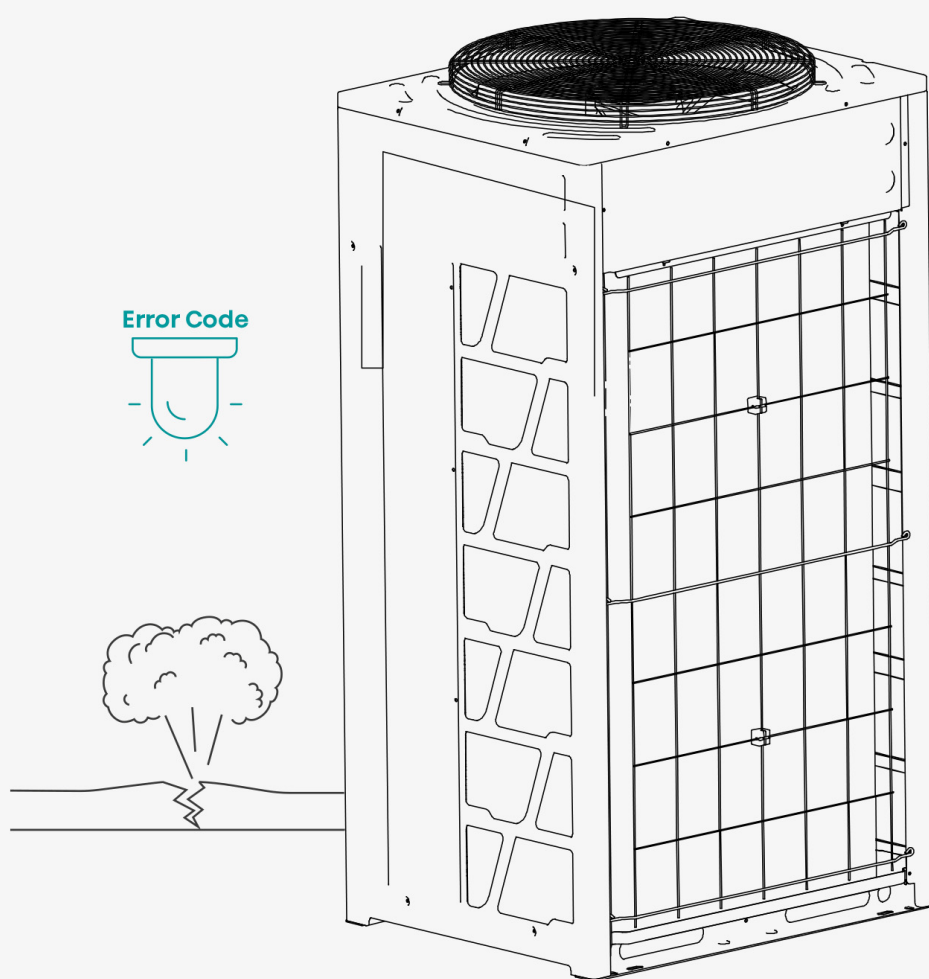


STORINGSLIJST VRF S-SERIE



De Hisense Hi-Flexi S-serie staat bekend om zijn flexibiliteit en veelzijdigheid in diverse toepassingen. Dit VRF systeem is ontworpen om koeling, verwarming of een combinatie van beide te bieden, afhankelijk van de behoeften van de gebruiker. Met de mogelijkheid om te schakelen tussen 2- of 3-pijps uitvoeringen, biedt dit systeem maatwerk en efficiëntie. Hieronder volgt een overzicht van de storingslijst voor de Hisense Hi-Flexi S-serie, inclusief verwijzingen naar de relevante pagina's in de gebruikershandleiding voor gedetailleerde instructies.

Bij het optreden van een storingscode is het raadzaam de Hisense Hi-Flexi S-serie handleiding te raadplegen voor specifieke instructies met betrekking tot de betreffende code. Voor complexe problemen wordt geadviseerd om de serviceafdeling te contacteren.

1. Alarmcode identificeren:

Wanneer zich een storing voordoet, observeert u de alarmcode die op het display verschijnt. Deze code is essentieel voor een snelle diagnose.

2. Stapsgewijze oplossingen in de Storingslijst:

Op onze storingslijst hebben we elke mogelijke storing georganiseerd op basis van de bijbehorende alarmcodes. Op de eerste pagina van de storingslijst vindt u een overzicht van alarmcodes.

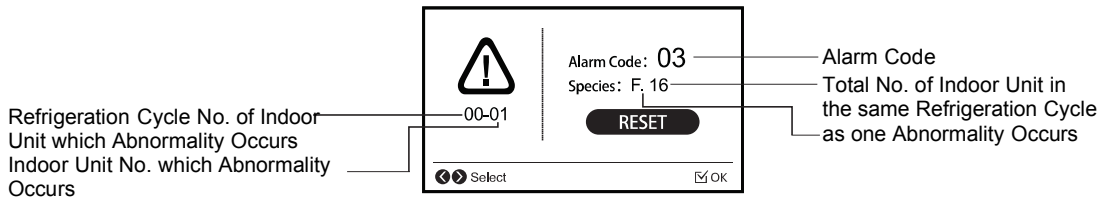
3. Directe toegang tot oplossingen:

Klik eenvoudigweg op de alarmcode die overeenkomt met de storing op de unit. Deze klik leidt u onmiddellijk naar de juiste pagina in het document met gedetailleerde instructies en oplossingen voor de specifieke storing.



1.2 Troubleshooting Procedure

- Alarm Code Indication of Remote Control Switch



Abnormality of Drain Pipe, Float Switch or Drain Pan

1.2.1 Alarm Code Table

Code	Category	Content of Abnormality	Leading Cause
01	Indoor Unit	Activation of Protection Device (Float Switch)	Activation of Float Switch (High Water Level in Drain Pan, Abnormality of Drain Pipe, Float Switch or Drain Pan)
02	Outdoor Unit	Activation of Protection Device (High Pressure Cut)	Activation of PSH (Pipe Clogging, Excessive Refrigerant, Inert Gas Mixing)
03	Transmission	Abnormality between Indoor and Outdoor	Incorrect Wiring, Loose Terminals, Disconnect Wire, Blowout of Fuse, Outdoor Unit Power OFF
04		Abnormality between Inverter PCB and Outdoor Unit PCB	Inverter PCB - Outdoor Unit PCB Transmission Failure (Loose Connector, Wire Breaking, Blowout of Fuse)
04.		Abnormality between Fan Controller and Outdoor Unit PCB	Fan Controller - Outdoor Unit PCB Transmission Failure (Loose Connector, Wire Breaking, Blowout of Fuse)
05	Supply Phase	Abnormality Power Source Phases	Incorrect Power Source, Connection to Reversed Phase, Open-Phase
06	Voltage	Abnormal Inverter Voltage	Outdoor Voltage Drop, Insufficient Power Capacit
06.		Abnormal Fan Controller Voltage	Outdoor Voltage Drop, Insufficient Power Capacit
07	Cycle	Decrease in Discharge Gas Superheat	Excessive Refrigerant Charge, Failure of Thermistor, Incorrect Wiring, Incorrect Piping Connection, Expansion Valve Locking at Opened Position (Disconnect Connector)
08		Increase in Discharge Gas Temperature	Insufficient Refrigerant Charge, Pipe Clogging Failure of Thermistor, Incorrect Wiring, Incorrect Piping Connection, Expansion Valve Locking at Closed Position (Disconnect Connector)
0A	Transmission	Abnormality between Outdoor and Outdoor	Incorrect Wiring, Breaking Wire, Loose Terminals
0b	Outdoor Unit	Incorrect Outdoor Unit Address Setting	Duplication of Address Setting for Outdoor Units (Sub Units) in Same Refrigerant Cycle System
0C		Incorrect Outdoor Unit Main Unit Setting	Two (or more) Outdoor Units Set as "Main Unit" Exist in Same Refrigerant Cycle System
11	Sensor on Indoor Unit/ Water Module	Inlet Air Thermistor/Inlet Water Thermistor	Incorrect Wiring, Disconnecting Wiring Breaking Wire, Short Circuit
12		Outlet Air Thermistor/ Outlet Water Thermistor	
13		Freeze Protection Thermistor	
14		Gas Piping Thermistor	
19	Fan Motor	Activation of Protection Device for Indoor Fan	Fan Motor Overheat, Locking
21	Sensor on Outdoor Unit	High Pressure Sensor	Incorrect Wiring, Disconnecting Wiring Breaking Wire, Short Circuit
22		Outdoor Air Thermistor	
23		Discharge Gas Thermistor on Top of Compressor	
24		Heat Exchanger Liquid Pipe Thermistor	
25		Heat Exchanger Gas Pipe Thermistor	
29	Low Pressure Sensor		
31	System	Incorrect Capacity Setting of Outdoor Unit and Indoor Unit/water module	Incorrect Capacity Code Setting of Combination Excessive or Insufficient Indoor Unit /Water Module Total Capacity Code
		Abnormal Transmitting between Outdoor Units	
35		Incorrect Setting of Indoor Unit No.	Duplication of Indoor Unit No. in same Ref. Gr.
36		Incorrect of Indoor Unit Combination	Indoor Unit is Designed for R22
37		Incorrect Number Setting of Connected Water Module	Function Setting Value of n3 Unequal the Number of Connected Water Module Or Abnormal Power Supply For Water Module
38	System	Abnormality of Picking up Circuit for Protection in Outdoor Unit	Failure of Protection Detecting Device (Incorrect Wiring of Outdoor Unit PCB)
7A	Water module	Abnormal Water module	Abnormal situation such as water flow or freezing protection in Water module

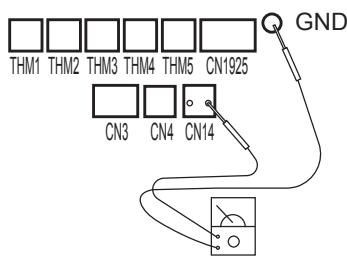
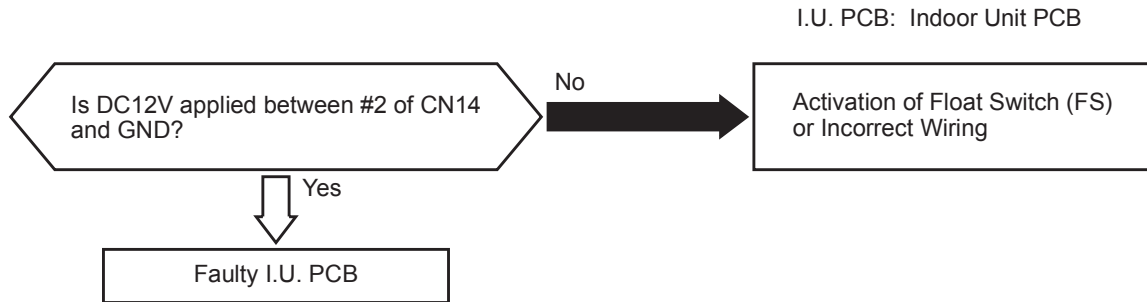
Code	Category	Content of Abnormality	Leading Cause
3A	Outdoor Unit	Abnormality of Outdoor Unit Capacity	Outdoor Unit Capacity > 54HP
3b		Incorrect Setting of Outdoor Unit Models Combination or Voltage	Incorrect Setting of Main and Sub Unit(s) Combination or Voltage
3d		Abnormality Transmission between Main Unit and Sub Unit(s)	Incorrect Wiring, Disconnect Wire, Breaking Wire, PCB Failure
43	Protection Device	Activation of Low Compression Ratio Protection Device	Defective Compression (Failure of Compressor of Inverter, Loose Power Supply Connection)
44		Activation of Low Pressure Increase Protection Device	Overload at Cooling, High Temperature at Heating, Expansion Valve Locking (Loose Connector)
45		Activation of High Pressure Increase Protection Device	Overload Operation (Clogging, Short-Pass), Pipe Clogging, Excessive Refrigerant, Inert Gas Mixing
47		Activation of Low Pressure Decrease Protection Device (Vacuum Operation Protection)	Insufficient Refrigerant, Refrigerant Piping, Clogging, Expansion Valve Locking at Open Position (Loose Connector)
48		Activation of Inverter Overcurrent Protection Device	Overload Operation, Compressor Failure
51	Sensor	Abnormal Inverter Current Sensor	Current Sensor Failure
53	Inverter	Inverter Error Signal Detection	Driver IC Error Signal Detection (Protection for Overcurrent, Low Voltage, Short Circuit)
54		Abnormality of Inverter Fin Temperature	Abnormal Inverter Fin Thermistor, Heat Exchanger Clogging, Fan Motor Failure
55		Inverter Failure	Inverter PCB Failure
57	Fan Controller	Activation of Fan Controller Protection	Driver IC Error Signal Detection (Protection for Overcurrent, Low Voltage, Short Circuit), Instantaneous Overcurrent
5A		Abnormality of Fan Controller Fin Temperature	Fin Thermistor Failure, Heat Exchanger Clogging, Fan Motor Failure
5b		Activation of Overcurrent Protection	Fan Motor Failure
5C		Abnormality of Fan Controller Sensor	Failure of Current Sensor (Instantaneous Overcurrent, Increase of Fin Temperature, Low Voltage, Earth Fault, Step-Out)
EE	Compressor	Compressor Protection Alarm (It is can not be reset from remote controller)	This alarm code appears when the following alarms* occurs three times within 6 hours. *02, 07, 08, 43 to 45, 47
b1	Outdoor Unit No. Setting	Incorrect Setting of Unit and Refrigerant Cycle No.	Over 64 Number is Set for Address or Refrigerant Cycle.
b5	Indoor Unit No. Setting	Incorrect Indoor Unit Connection Number Setting	More than 17 Non-Corresponding to Hi-NET II Units are Connected to One System.
C1	Switch Box	Incorrect Indoor Unit Connection	2 or more Switch Boxes are connected between outdoor unit and indoor unit.
C2		Incorrect Indoor Unit Connection No. Setting	The number of Indoor Units Connected to Switch Box above limit.
C3		Incorrect Indoor Unit Connection	The indoor units of different refrigerant cycle is connected to Switch Box.

Code	Category	Content of Abnormality	Leading Cause
16	Water module	Temperature sensor of water tank is abnormal.	Temperature sensor is in short-circuit or open-circuit.
17		Temperature sensor at outlet of plate heat exchanger is abnormal.	Temperature sensor is in short-circuit or open-circuit.
70		Water flow or pressure is abnormal.	Water system has insufficient pressure or water flow is very low.
71		Water tank electric heating is abnormal.	Electric heating temperature protective switch in water tank cuts off.
72		Water module electric heating is abnormal.	Electric heating temperature protective switch in water module cuts off.
73		Water flow switch abnormal	Water flow switch is active when water pump is OFF.
76		Freezing protection.	Temperature of Plate heat exchanger is too low to freeze.
80		Communication is abnormal.	Communication between wired controller and water module is abnormal.
7C		Communication is abnormal.	Communication between air-conditioner indoor unit and outdoor unit is abnormal.

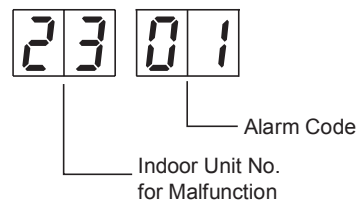
1.2.2 Troubleshooting by Alarm Code

Alarm Code	01	Activation of Protection Device (Float Switch) in Indoor Unit
------------	----	---

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the contact between #1 and #2 of CN14 is opened for over 120 seconds during the cooling, dry, fan or heating operation.



Indication of Outdoor Unit PCB



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Activation of Float Switch	High Drain Level	Clogging of Drainage Up-Slope Drain Piping	Check drain pan. Check drainage by pouring water.
	Faulty Float Switch	Fault	Check conduction when drain level is low.
		Faulty Contacting	Measure resistance by tester.
		Faulty Connection	Check connections.
Faulty Indoor Unit PCB		Check PCB by self-checking .	Replace it if faulty.

Alarm
Code

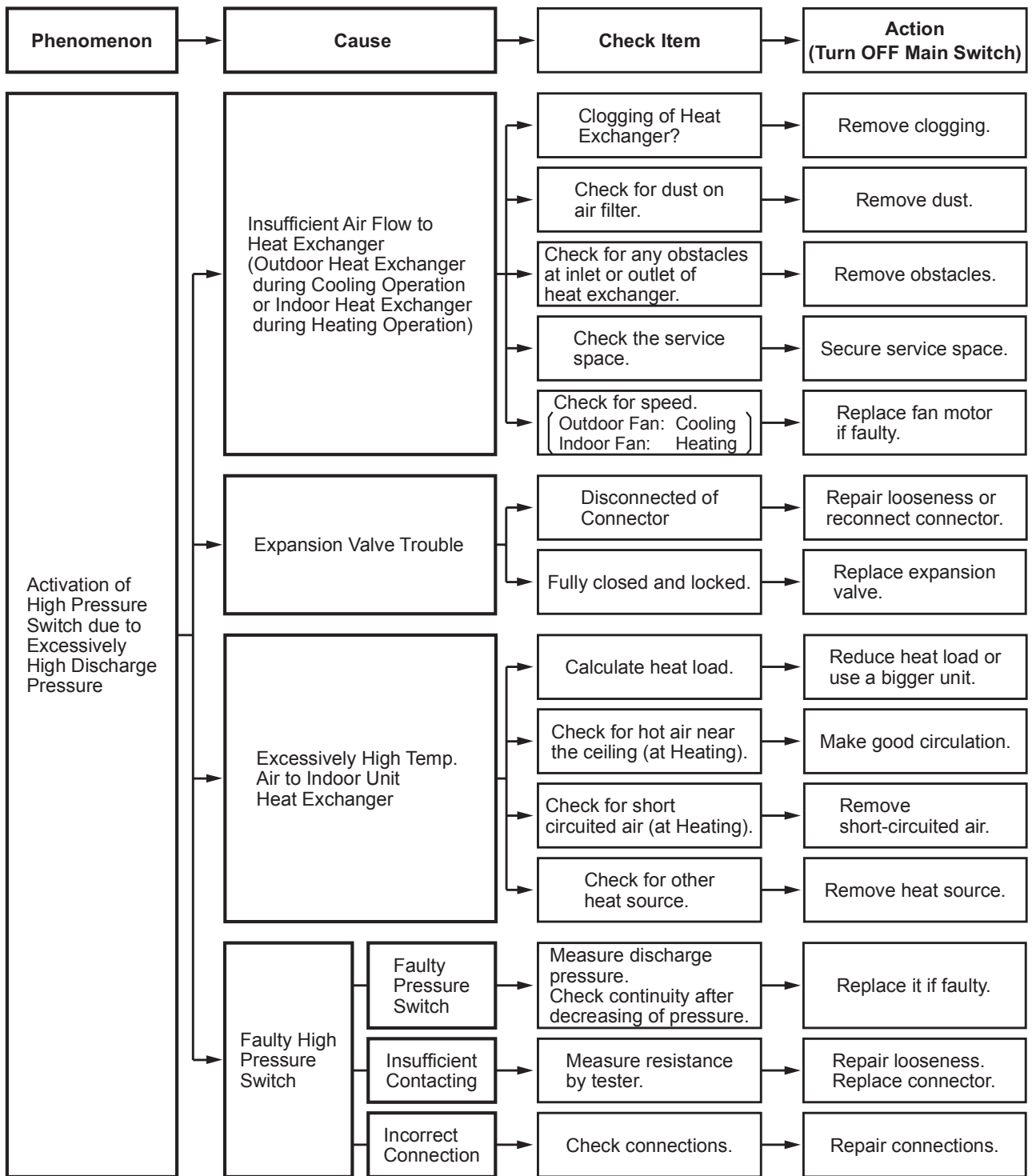
02

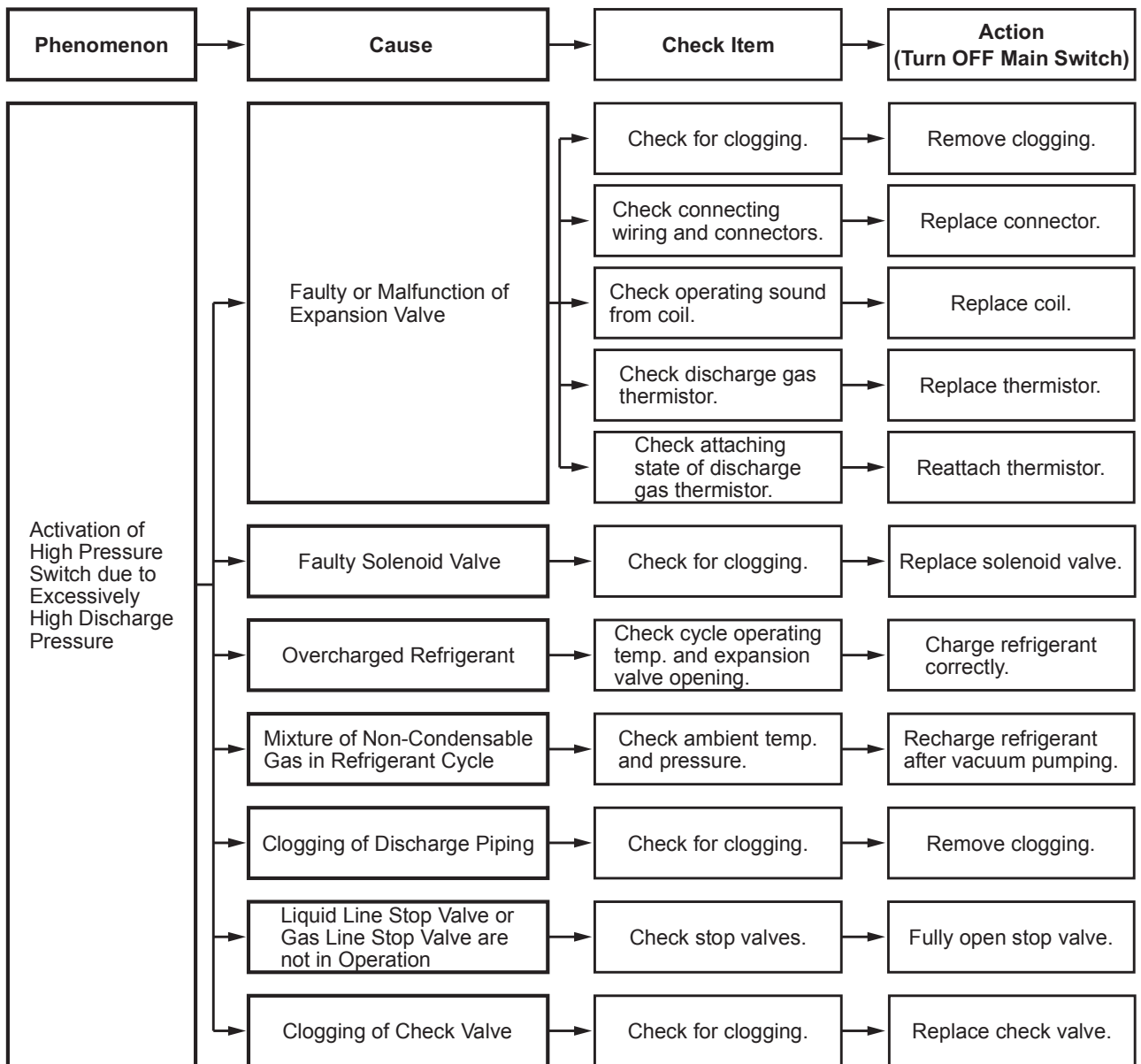
Activation of Protection Device in Outdoor Unit

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the high pressure switch (PSH) is activated during the compressor operation .

Check activation of the following safety devices. Remove the cause after checking.
High Pressure Switch (PSH): 4.15MPa

Model	High Pressure Switch (Connector No.)	
	PSH1 (PCN2)	PSH2 (PCN16)
Single compressor	○	-
Dual compressor	○	○





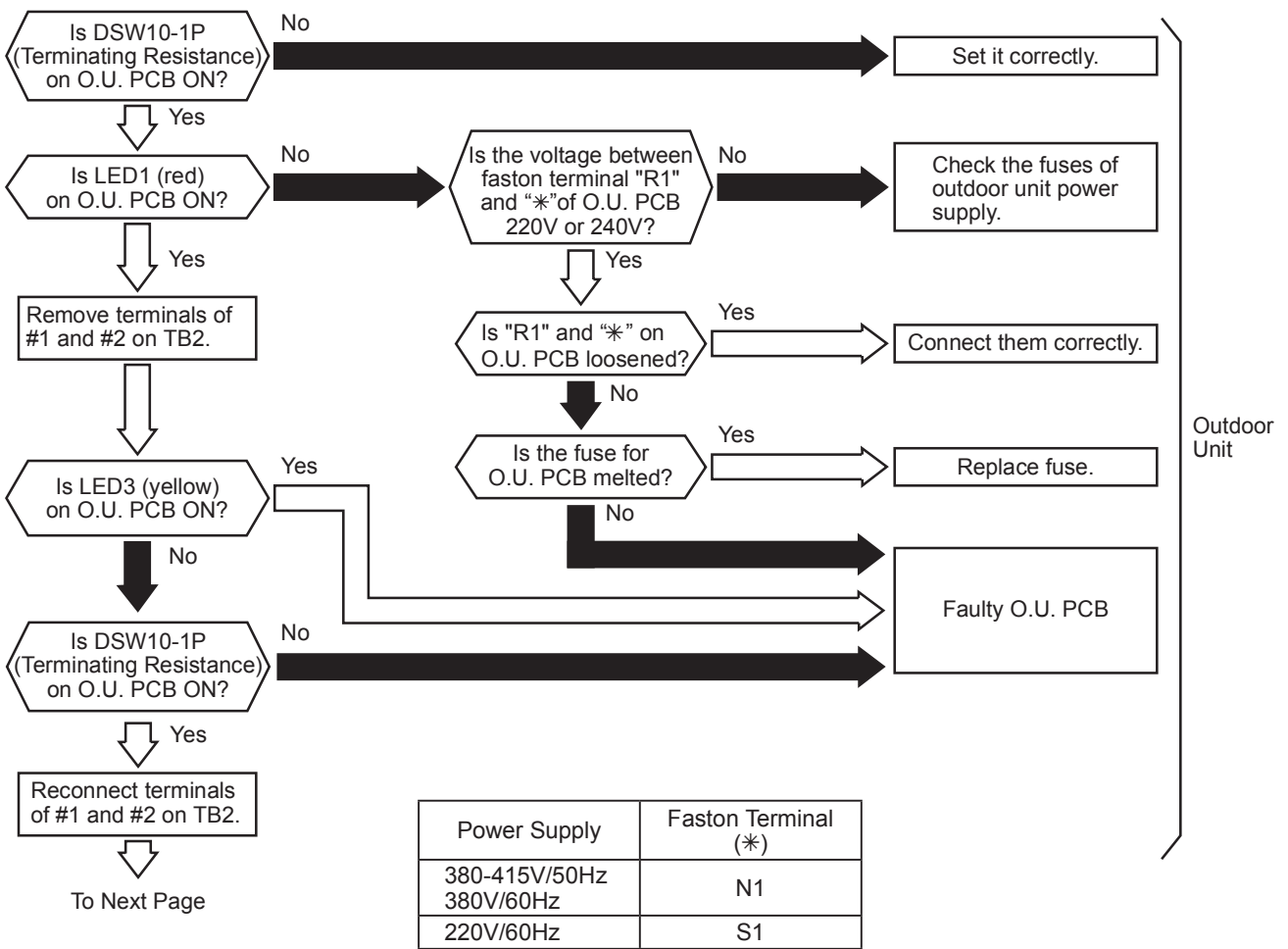
Alarm Code

03

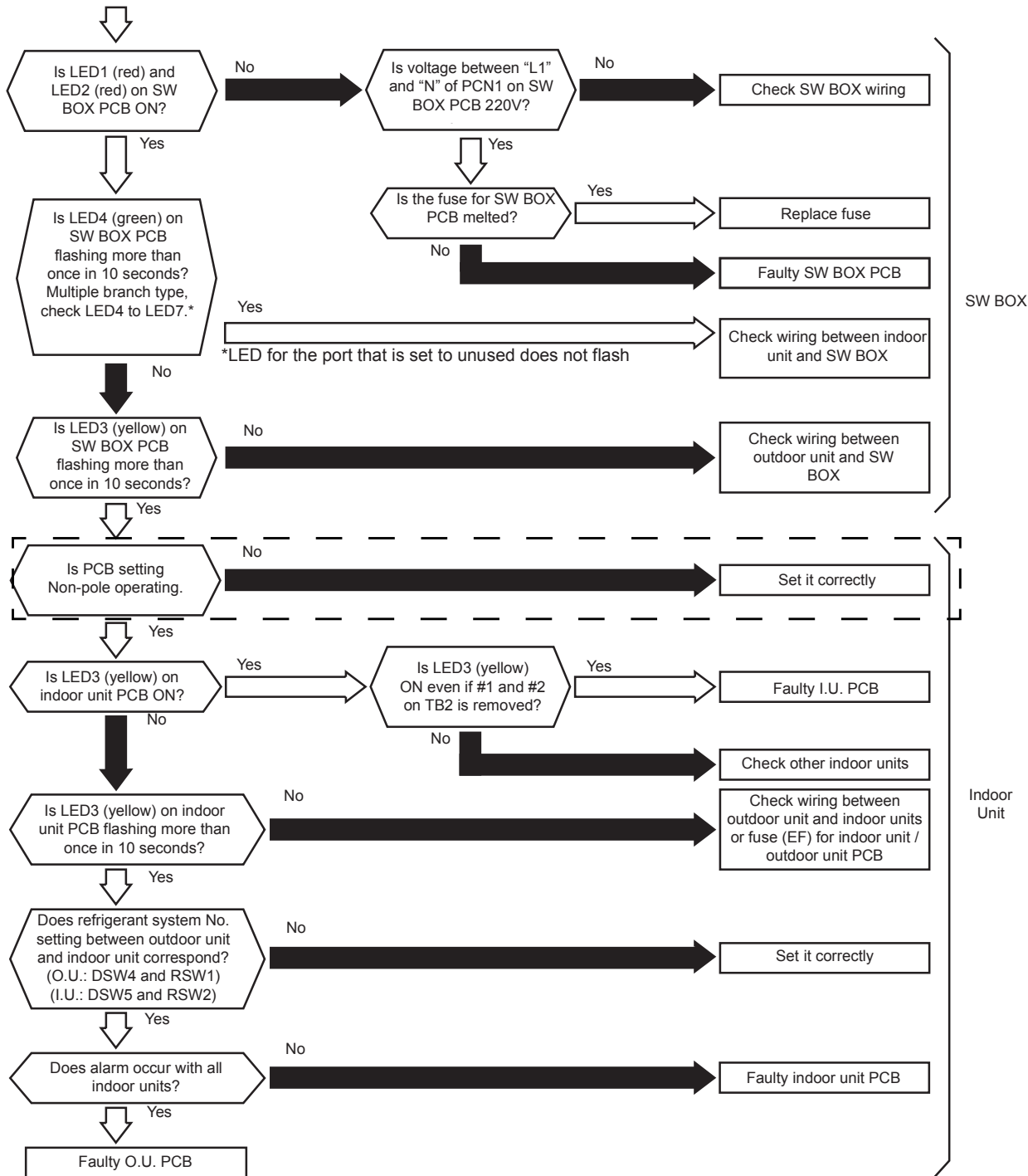
Abnormal Transmitting between Indoor Units/Water Module and Outdoor Units

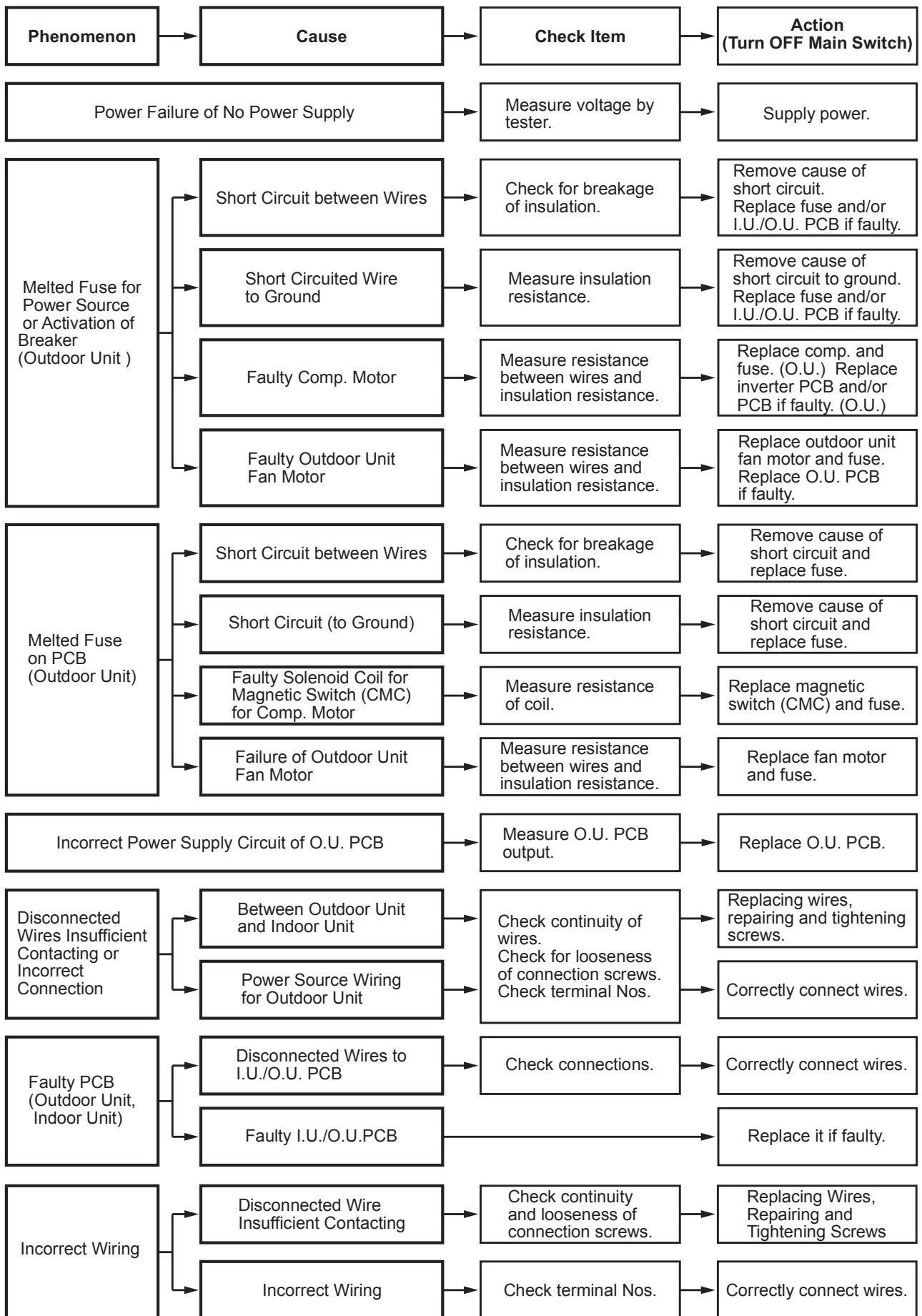
- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD, or the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ When fuses are melted, or the circuit breakers are activated, check the cause of overcurrent and take action.
- ★ This alarm code is indicated when abnormality continues for 3 minutes after normal transmitting between indoor units and outdoor units, and also abnormal transmitting continues for 30 seconds after the micro-computer is automatically reset. If the abnormal transmitting occurs from the first, the alarm code is indicated after 30 seconds from starting the outdoor unit.

O.U. PCB: Outdoor Unit PCB
I.U. PCB: Indoor Unit PCB



Power Supply	Faston Terminal (*)
380-415V/50Hz	N1
380V/60Hz	
220V/60Hz	S1





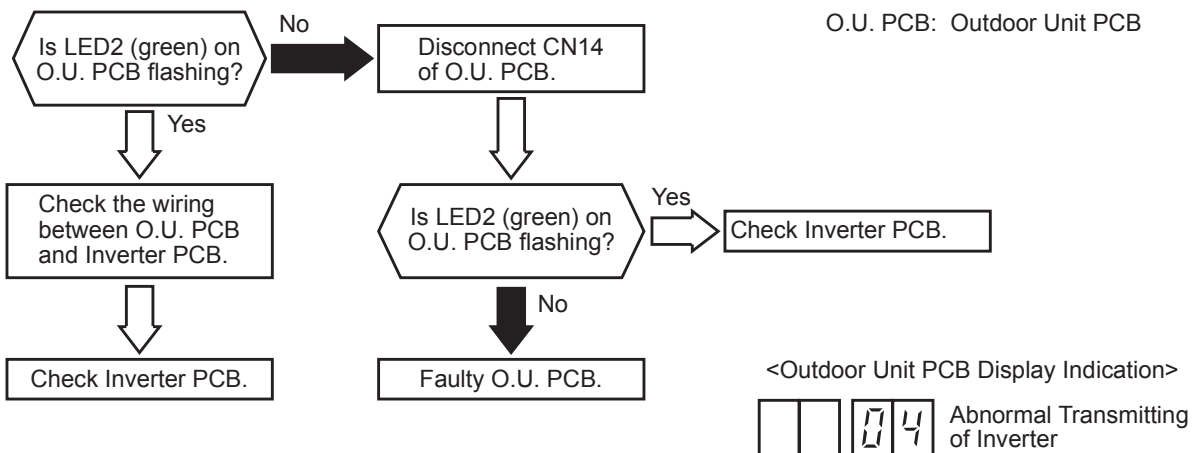
O.U. PCB: Outdoor Unit PCB
I.U. PCB: Indoor Unit PCB

Alarm Code

04

Abnormal Transmitting between Inverter PCB and Outdoor Unit PCB

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when abnormality continues for 30 seconds after normal transmitting between the outdoor unit PCB and inverter PCB, and also abnormality continues for 30 seconds after the micro-computer is automatically reset. The alarm is indicated when the abnormal transmitting continues for 30 seconds from starting of the outdoor unit.

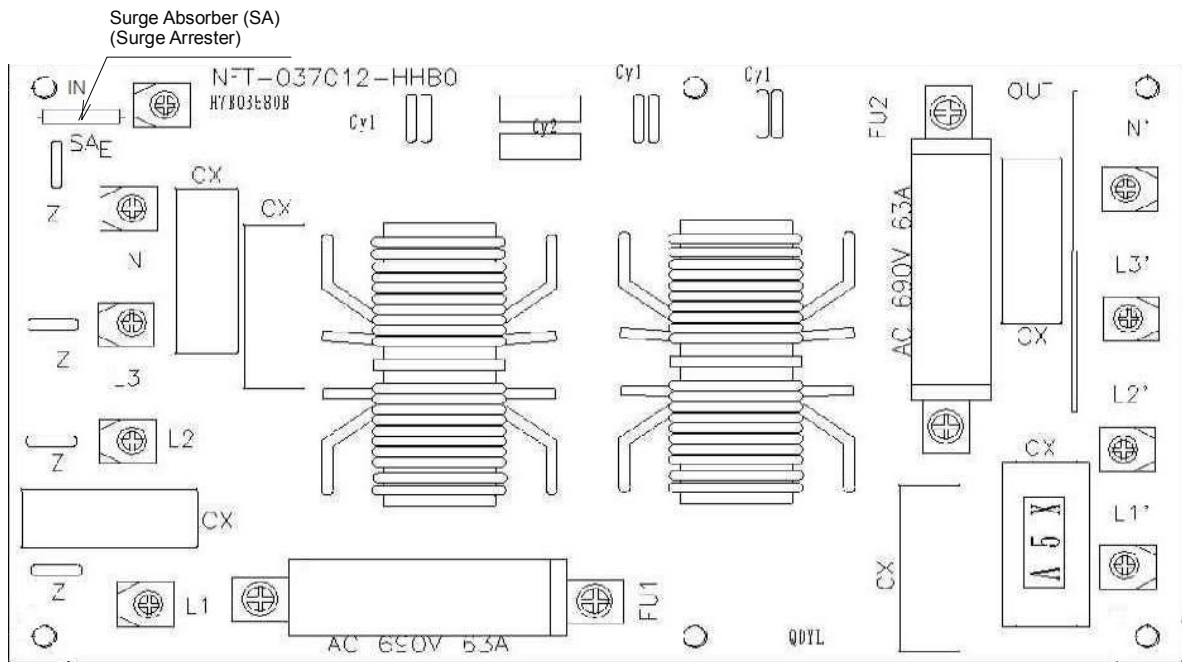


Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Disconnected Wires, Insufficient Contacting or Incorrect Connection	Between O.U. PCB and inverter PCB	Check continuity of wires. Check for looseness of connection screws. Check connection No.	Replacing wires, repairing, tightening screws and incorrect wiring.
	Power Source Wiring for Outdoor Unit		
Faulty O.U. PCB and inverter PCB	Disconnected Wires to PCB	Check connections.	Repair wiring connections.
	Faulty PCB		Replace PCB if faulty.
Faulty Electrical Components (Power Fuse, Resistance)	Melted Power Fuse	Check conductivity of power fuse, power transistor, diode module.	Replace power fuse, power transistor, and diode module.
	Disconnected Incoming Current Limit Resistance	Check resistance of incoming current limit resistance.	Replace incoming current limit resistance.
Incorrect Wiring	Disconnected Wires Insufficient Contacting	Check continuity. Check for looseness of connection screws.	Replacing Wires, Repairing and Tightening Screws
	Incorrect Wiring	Check connection Nos.	Correctly Connect Wires

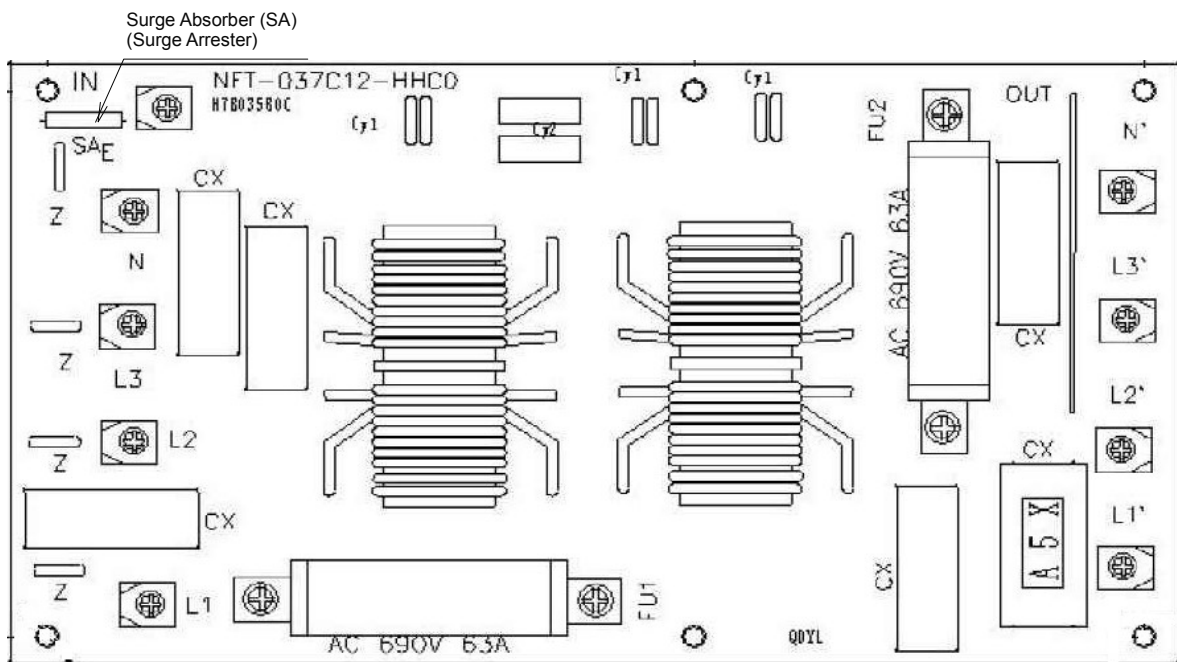
*1): When the unit is applied with excessive surge current due to lighting or other causes, this alarm code "04" will be indicated and the unit can not be operated. In this case, check to ensure the surge absorber/surge arrester (SA) on the noise filter (NF1, NF2). The surge absorber may be damaged if the inner surface of the surge absorber is black. In that case, replace the surge absorber. If the inside of the surge absorber is normal, turn OFF the power once and wait until LED4 on inverter PCB is OFF (approx. 5 min.) and turn ON again.

< Position of Surge Absorber >

NF1



NF2



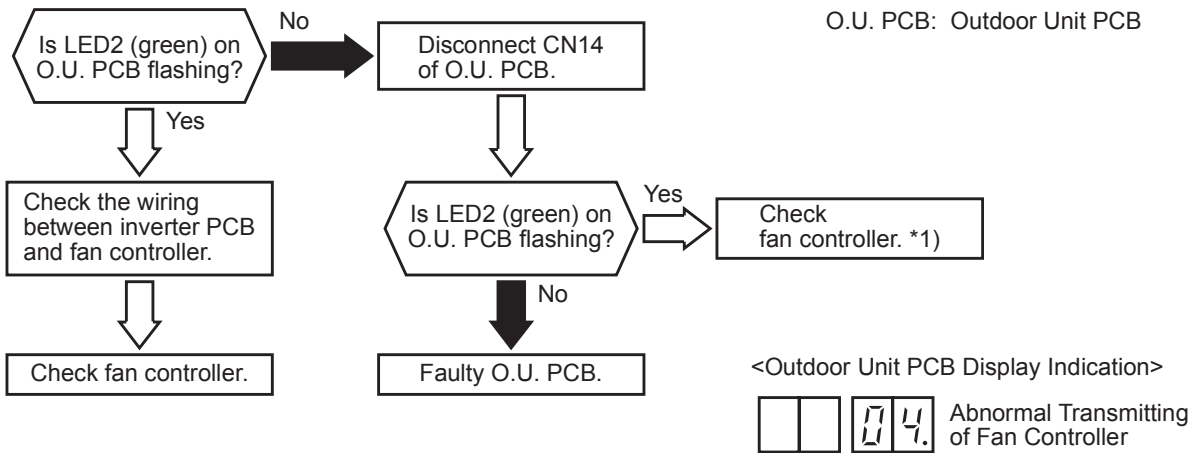
Alarm Code

04.

Abnormal Transmitting between Inverter PCB and Fan Controller

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when abnormality continues for 30 seconds after normal transmitting between the outdoor unit PCB and fan controller, and also abnormality continues for 30 seconds after the micro-computer is automatically reset. The alarm is indicated when the abnormal transmitting continues for 30 seconds from starting of the outdoor unit.



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Disconnected Wires, Insufficient Contacting or Incorrect Connection	Between O.U. PCB, Inverter PCB and Fan Controller	Check continuity of wires. Check for looseness of connection screws. Check connection No.	Replacing wires, repairing, tightening screws and incorrect wiring.
	Power Source Wiring for Outdoor Unit		
Faulty O.U. PCB, Inverter PCB and Fan Controller	Disconnected Wires to PCB	Check connections.	Repair wiring connections.
	Faulty PCB		Replace PCB if faulty.
	Melted Fuse (Fan Controller)	Check conductivity of fuse.	Replace fan controller. *1)
Faulty Electrical Components (Power Fuse, Resistance)	Melted Power Fuse	Check conductivity of power fuse, power transistor, diode module.	Replace power fuse, power transistor, and diode module.
	Disconnected Incoming Current Limit Resistance	Check resistance of incoming current limit resistance.	Replace incoming current limit resistance.
Incorrect Wiring	Disconnected Wires Insufficient Contacting	Check continuity. Check for looseness of connection screws.	Replacing Wires, Repairing and Tightening Screws
	Incorrect Wiring	Check connection Nos.	Correctly Connect Wires

*1): The fan controller may be damaged if the fuse of fan controller is melted. In that case, replace the fan controller.

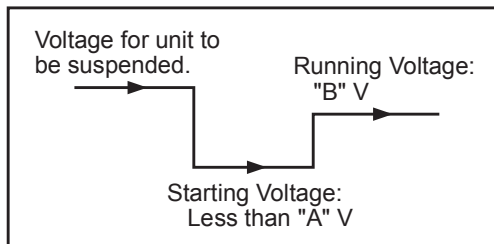
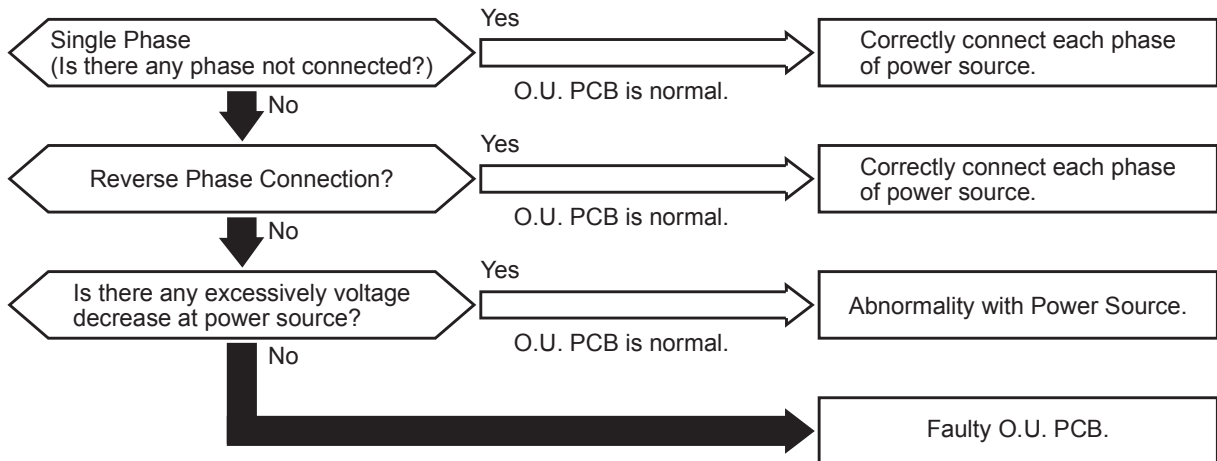
Alarm Code

05

Abnormality Power Source Phase

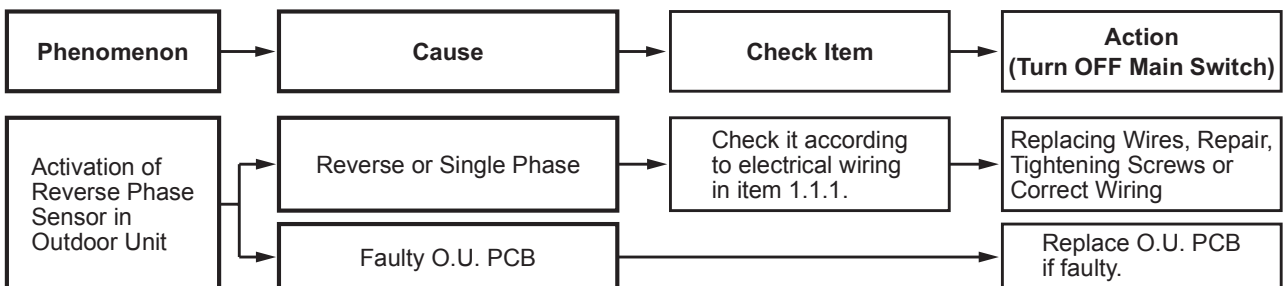
- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the main power source phase is reversely connected or one phase is not connected.

O.U. PCB: Outdoor Unit PCB



Check Item

Power Supply	"A"	"B"
380-415V/50Hz	323	342 to 456
380V/60Hz	323	342 to 418
220V/60Hz	187	198 to 242



Alarm Code

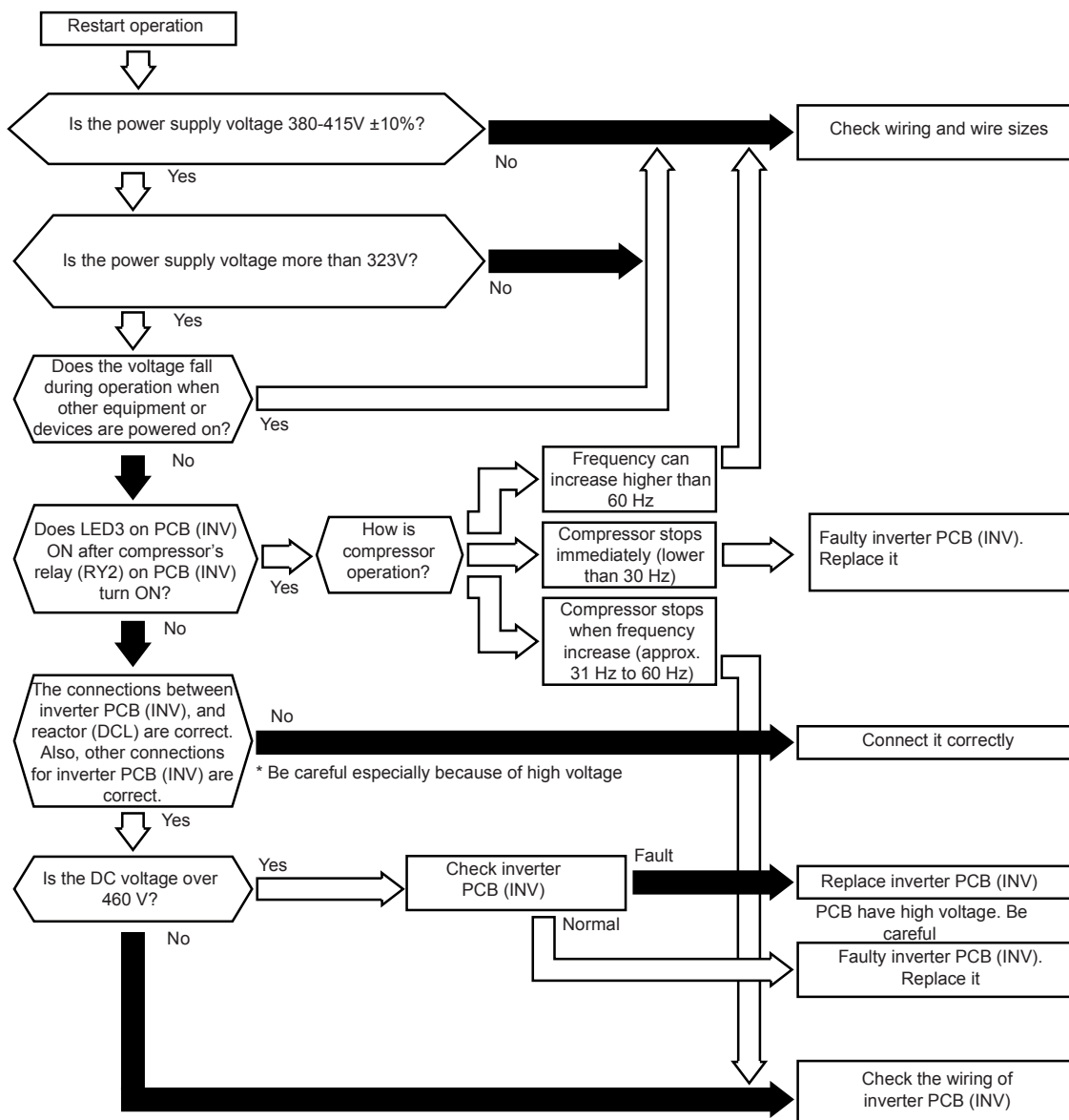
06

Abnormal Inverter Voltage (Insufficient Inverter Voltage or Overvoltage)

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when voltage between terminal “P” and “N” of transistor module (IPM) is insufficient and this occurs three times in 30 minutes. In the case that it occurs less than twice, retry is performed.

<Outdoor Unit PCB Display Indication>

 06 Abnormal of Inverter



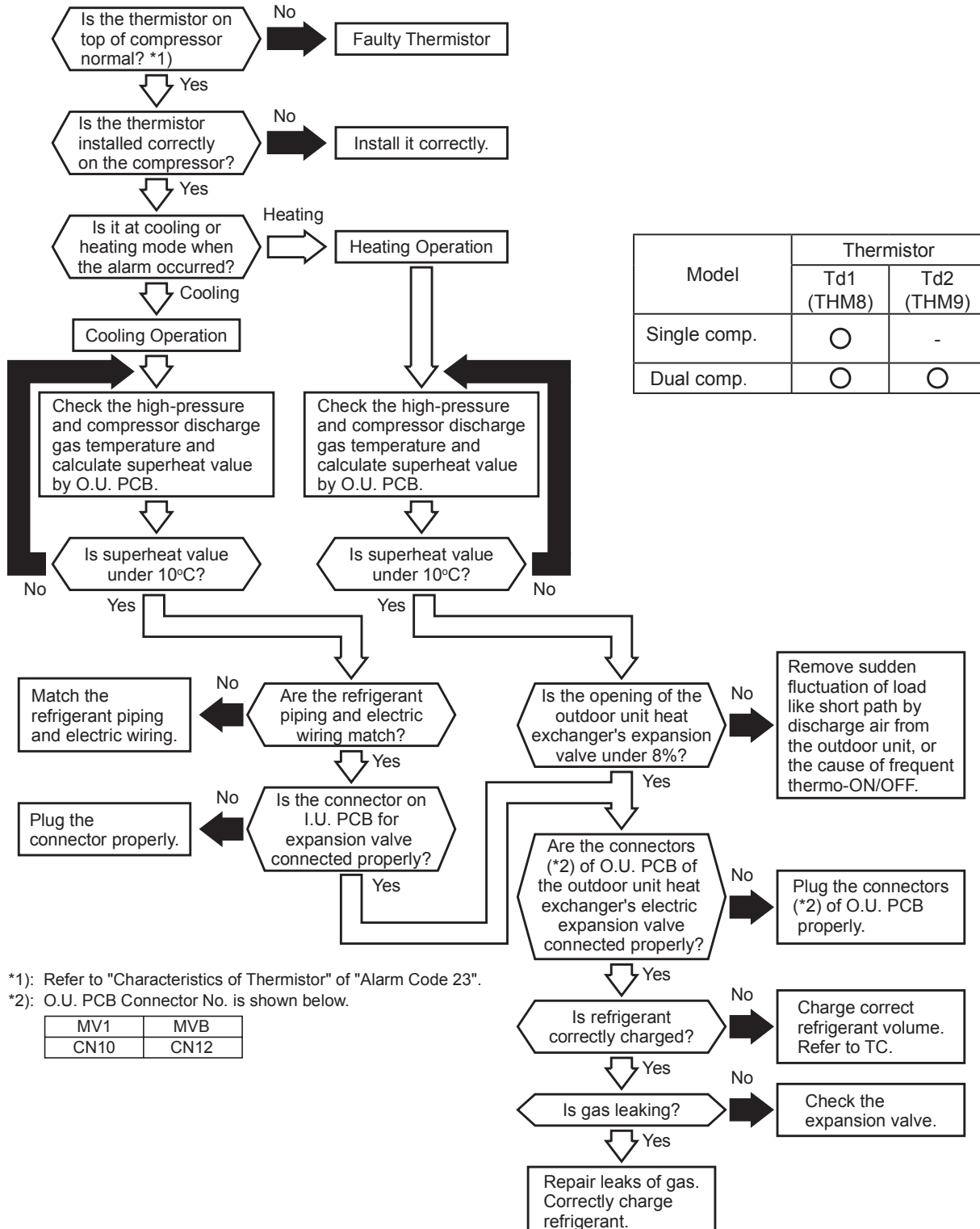
Alarm Code

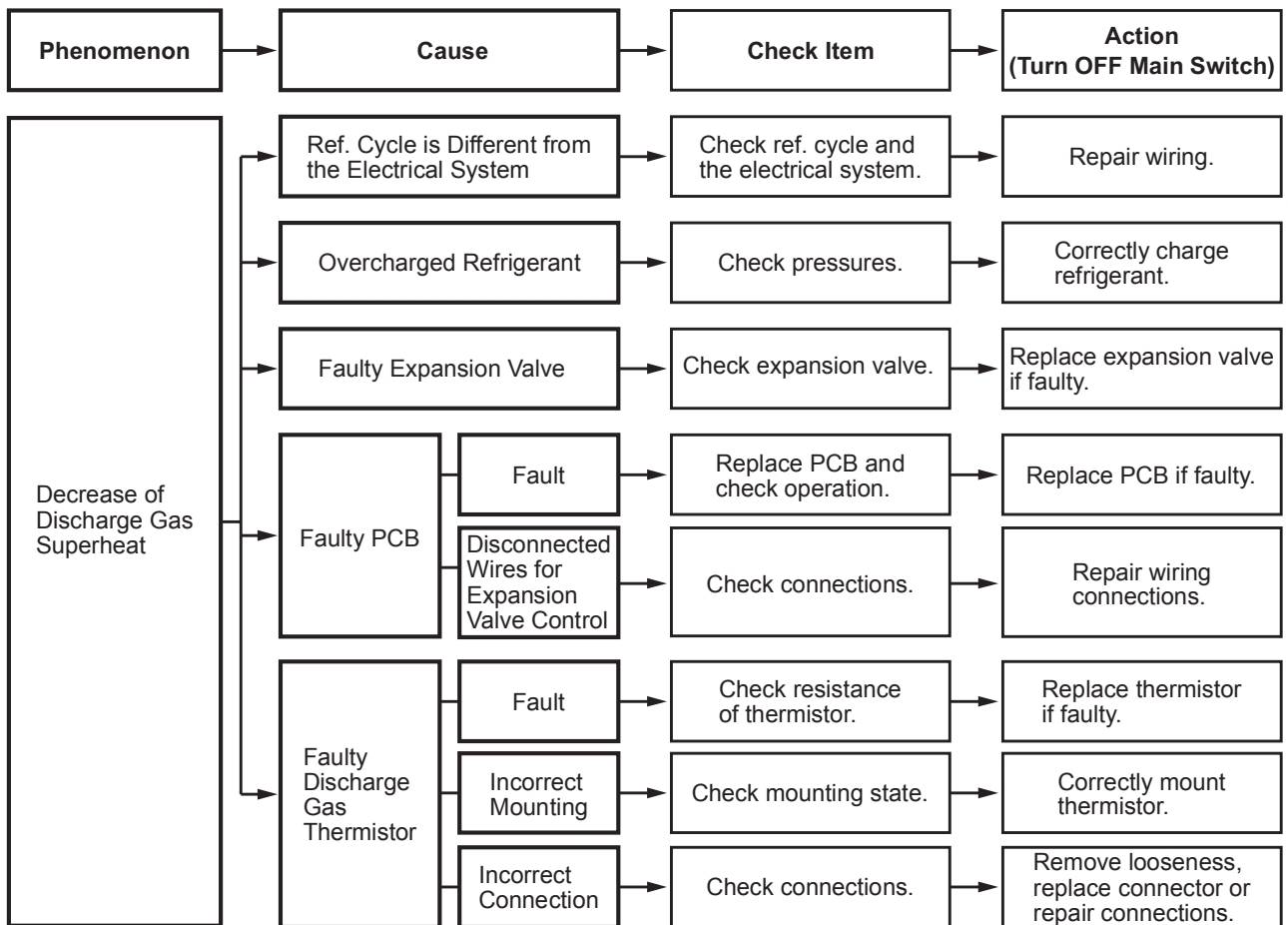
07

Decrease in Discharge Gas Superheat

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ In the case that the discharge gas superheat less than 10 deg. at the top of the compressor continues for 30 minutes, retry operation is performed. However, when the alarm occurs twice within two hours, this alarm code is indicated.

O.U. PCB: Outdoor Unit PCB
I.U. PCB: Indoor Unit PCB





Alarm Code

08

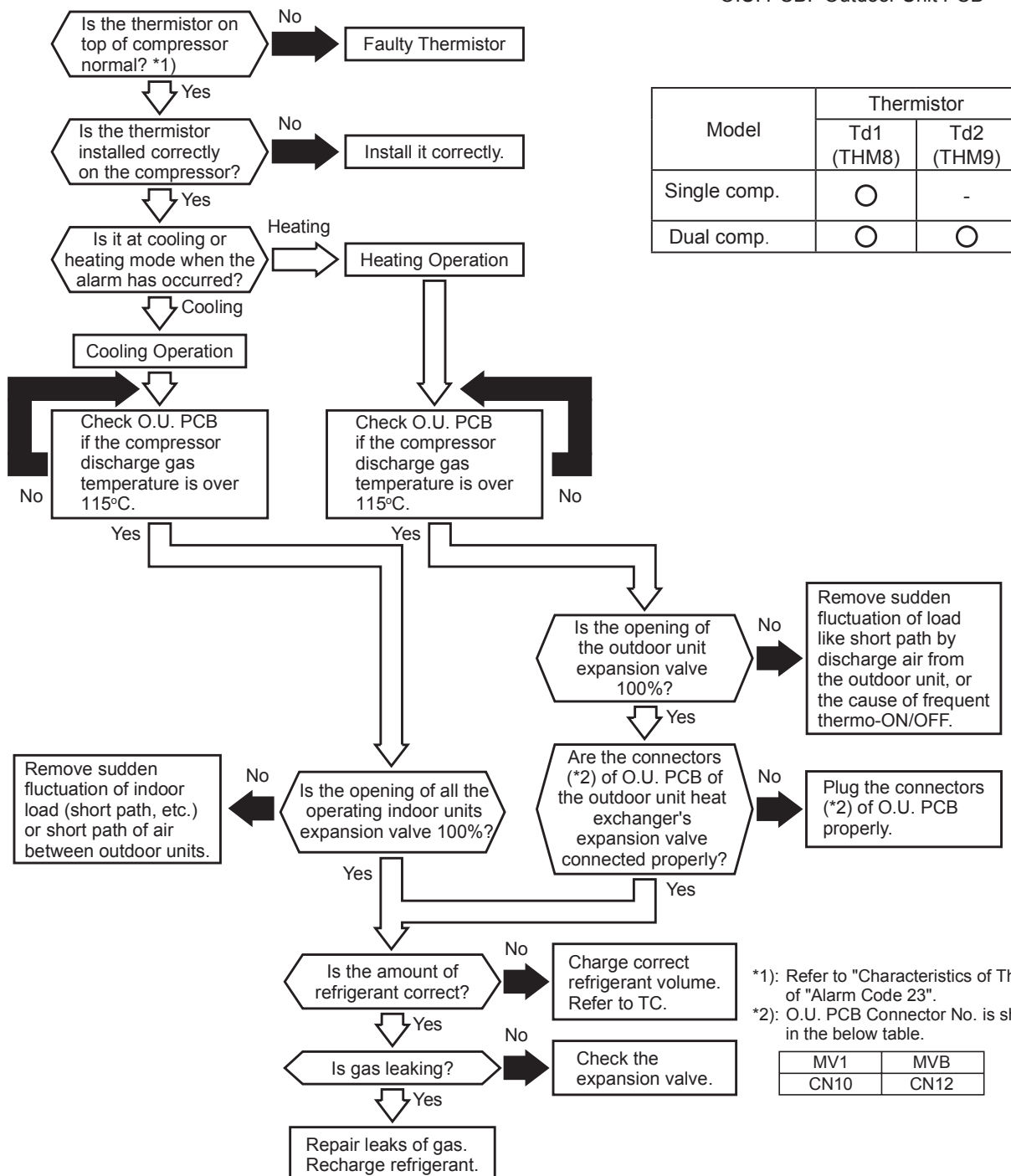
Increase in Discharge Gas Temperature at the Top of Compressor

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ When either of the following conditions occurs, retry operation is performed. However, if it occurs three times within one hour, this alarm code is indicated;

- (1) The temperature of the thermistor on the top of the compressor is kept higher than 115°C for 10 minutes.
- (2) The temperature of the thermistor on the top of the compressor is kept higher than 120°C for 5 seconds.

O.U. PCB: Outdoor Unit PCB

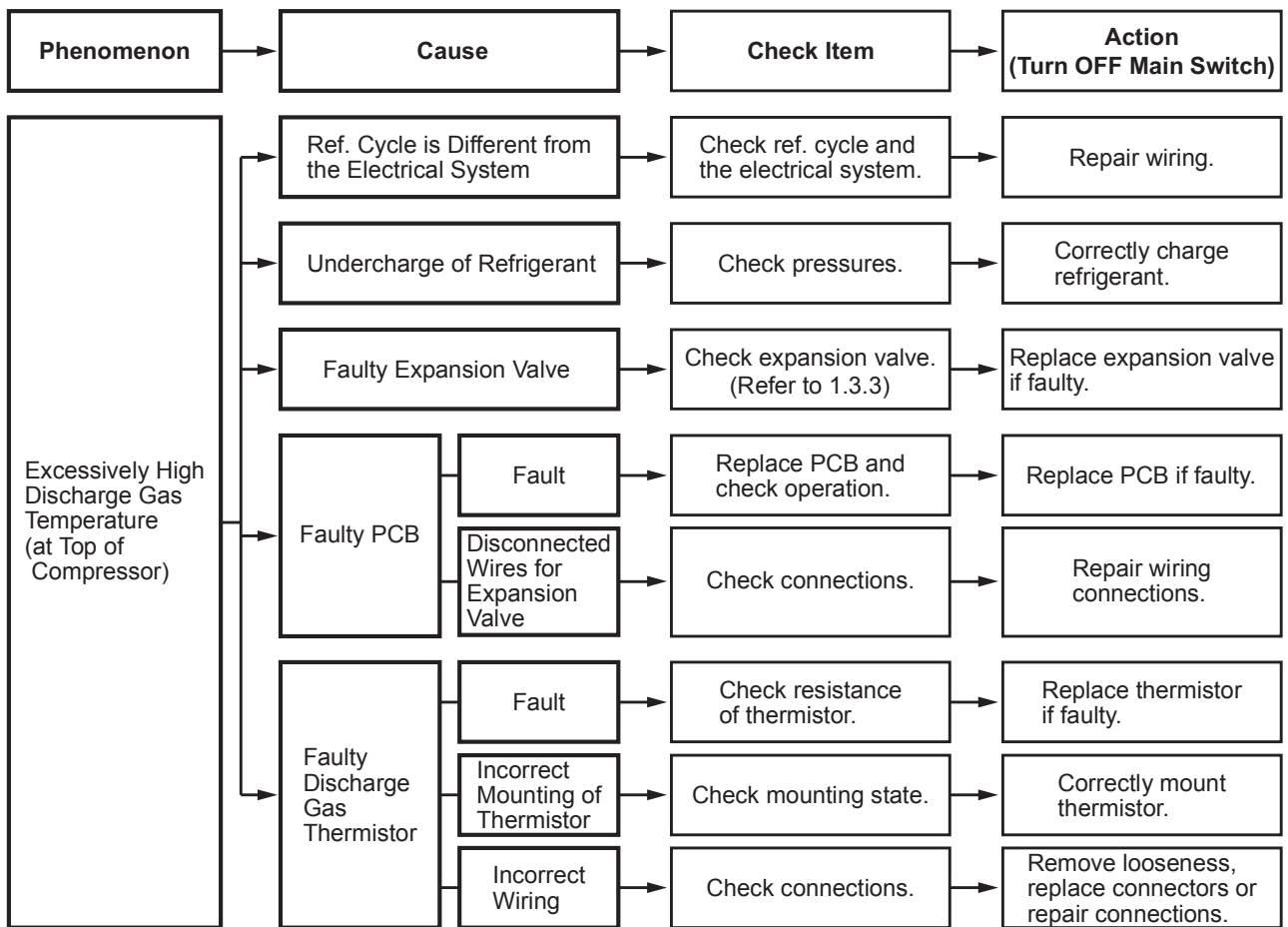


Model	Thermistor	
	Td1 (THM8)	Td2 (THM9)
Single comp.	○	-
Dual comp.	○	○

*1): Refer to "Characteristics of Thermistor" of "Alarm Code 23".

*2): O.U. PCB Connector No. is shown in the below table.

MV1	MVB
CN10	CN12

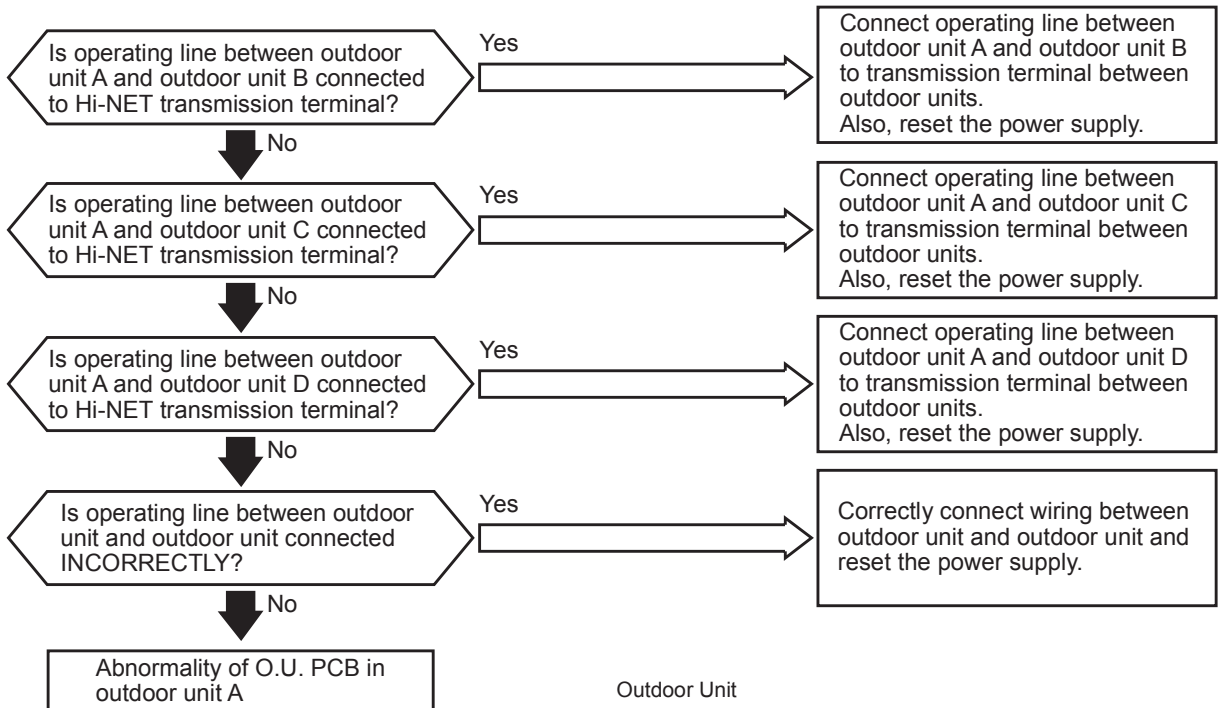


Alarm Code

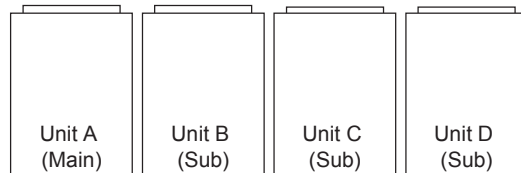
09

Abnormal Transmitting between Outdoor Units

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.



Outdoor Unit

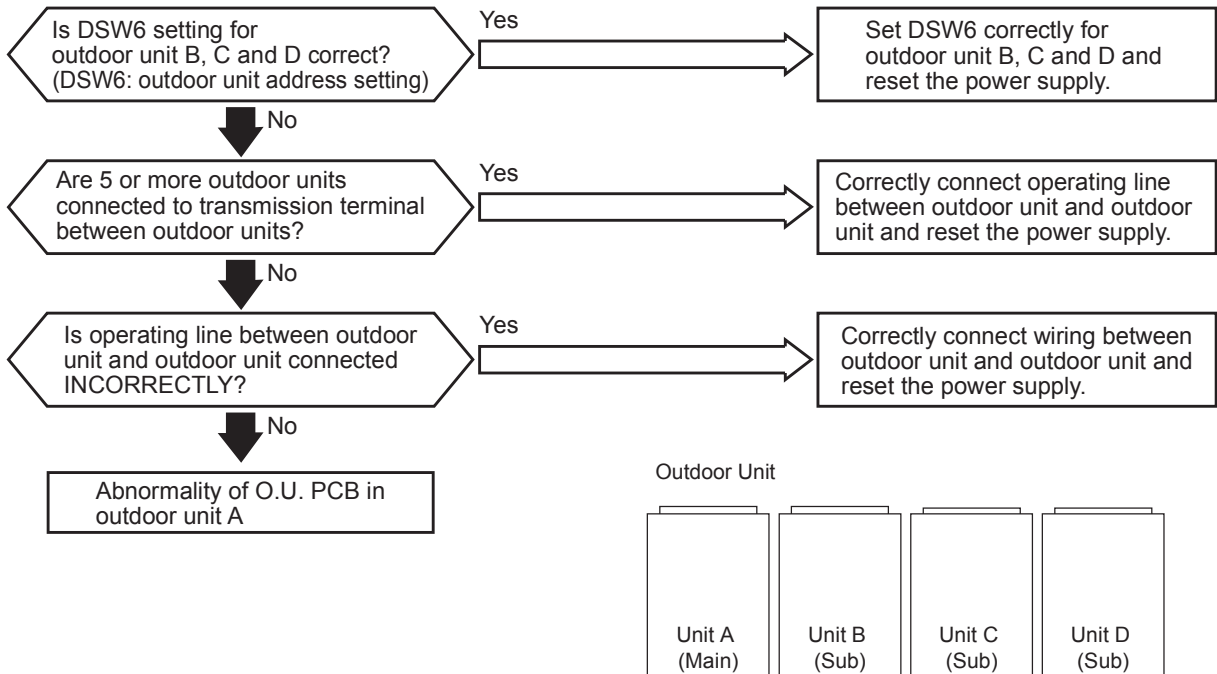


Alarm Code

06

Incorrect Outdoor Unit Address Setting

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

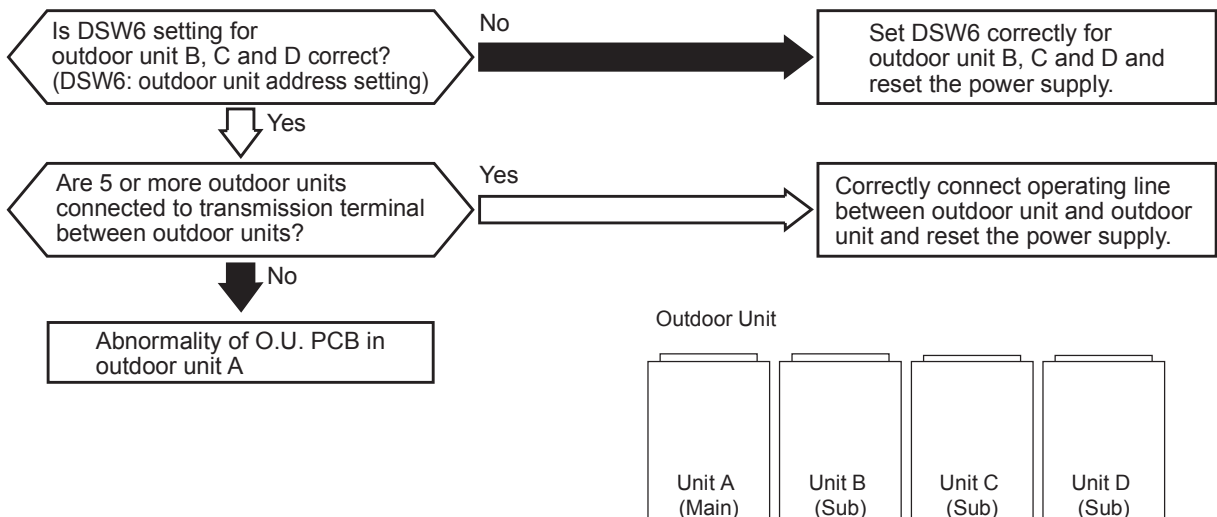


Alarm Code

05

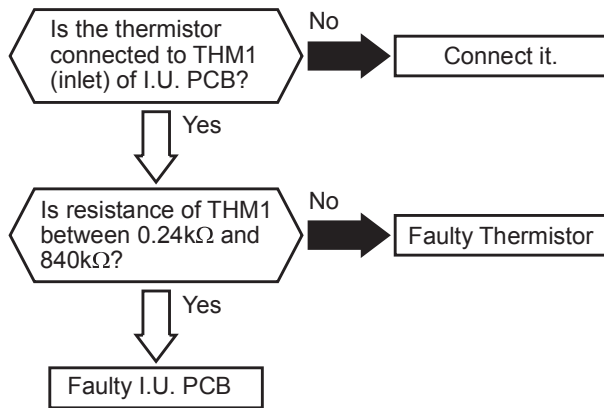
Incorrect Setting of Main Outdoor Unit

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

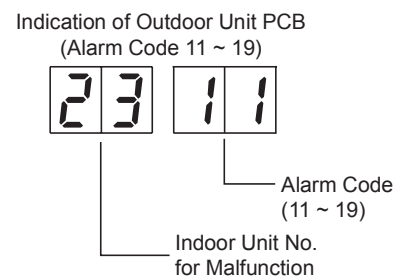
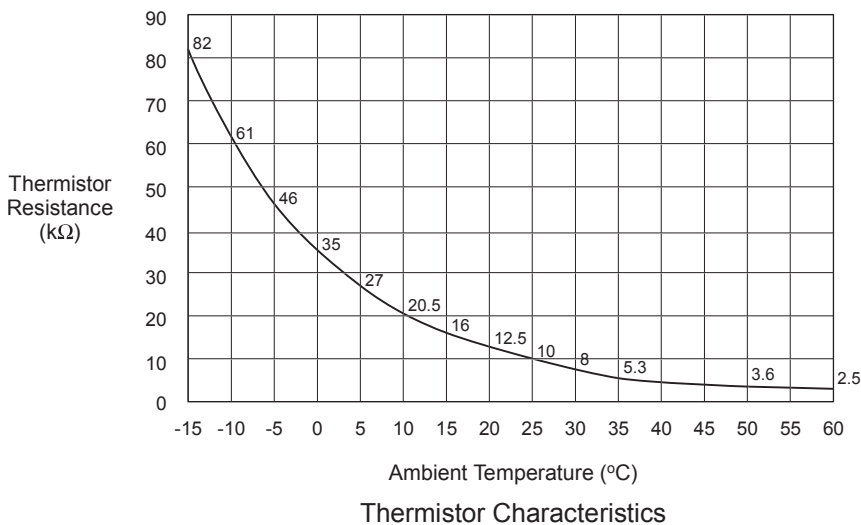


Alarm Code	11	Abnormality of Thermistor for Indoor Unit Inlet Air Temperature (Inlet Air Thermistor)
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- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when a short circuit (less than 0.24kΩ) or disconnection (more than 840kΩ) of the thermistor is detected during the heating or cooling operation. The operation is automatically restarted when the malfunction is removed.



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Inlet Air Thermistor	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check connection.	Connect wiring correctly.
Faulty I.U. PCB		Replace I.U. PCB and check operation.	Replace I.U. PCB if faulty.



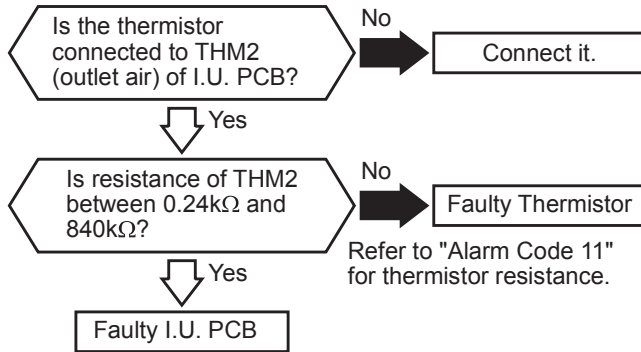
NOTE:

This figure is applicable to the following thermistors.

1. Inlet Air Thermistor (THM1), 2. Liquid Pipe Thermistor (Freeze Protection) (THM3),
3. Gas Pipe Thermistor (THM5), 4. Outlet Air Thermistor (THM2)

Alarm Code	12	Abnormality of Thermistor for Indoor Unit Outlet Air Temperature (Outlet Air Thermistor)
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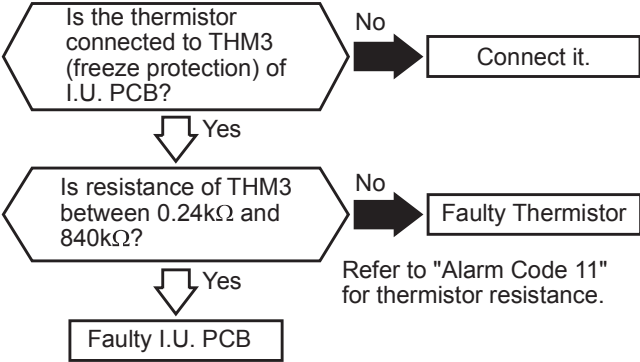
- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when a short circuit (less than 0.24kΩ) or disconnection (more than 840kΩ) of the thermistor is detected during the heating or cooling operation. The operation is automatically restarted when the malfunction is removed.



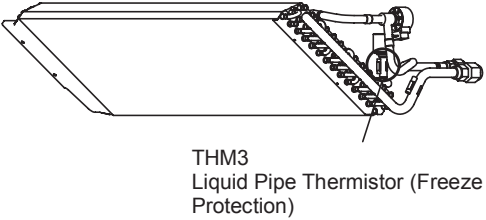
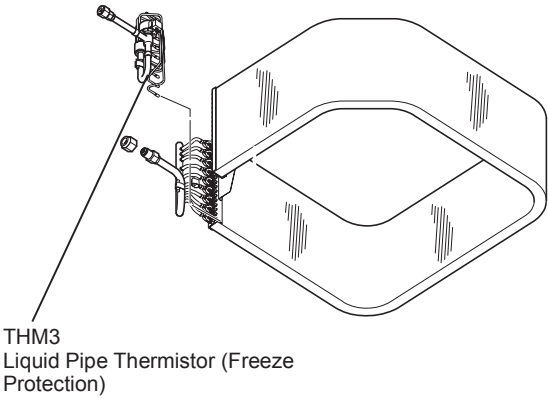
Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Outlet Air Thermistor	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check wiring to I.U. PCB.	Connect wiring correctly.
Faulty I.U. PCB		Replace I.U. PCB and check operation.	Replace I.U. PCB if faulty.

Alarm Code	13	Abnormality of Thermistor for Liquid Refrigerant Pipe Temperature at Indoor Unit Heat Exchanger (Freeze Protection Thermistor)
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- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when a short circuit (less than 0.24kΩ) or disconnection (more than 840kΩ) of the thermistor is detected during the heating or cooling operation. The operation is automatically restarted when the malfunction is removed.

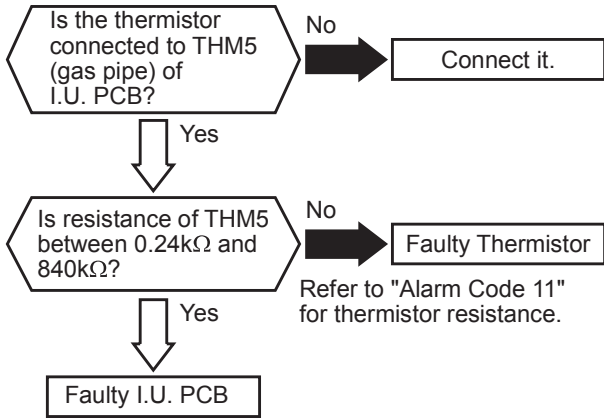


Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Freeze Protection Thermistor	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check wiring to I.U. PCB.	Connect wiring correctly.
Faulty I.U. PCB		Replace I.U. PCB and check operation.	Replace I.U. PCB if faulty.



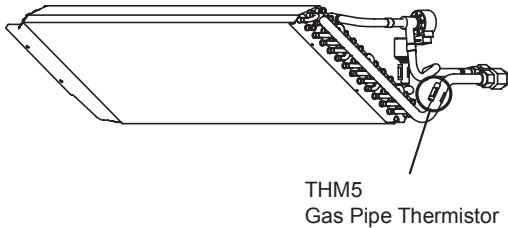
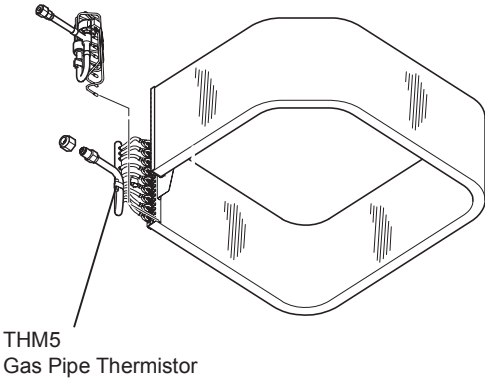
Alarm Code	14	Abnormality of Thermistor for Gas Refrigerant Pipe Temperature at Indoor Unit Heat Exchanger (Gas Pipe Thermistor)
------------	----	---

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when a short circuit (less than 0.24kΩ) or disconnection (more than 840kΩ) of the thermistor is detected during the heating^{*1)} or cooling operation. The operation is automatically restarted when the malfunction is removed.



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Thermistor for Indoor Unit Heat Exchanger Gas Pipe Temp.	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check wiring to I.U. PCB.	Connect wiring correctly.
Faulty I.U. PCB		Replace I.U. PCB and check operation.	Replace I.U. PCB if faulty.

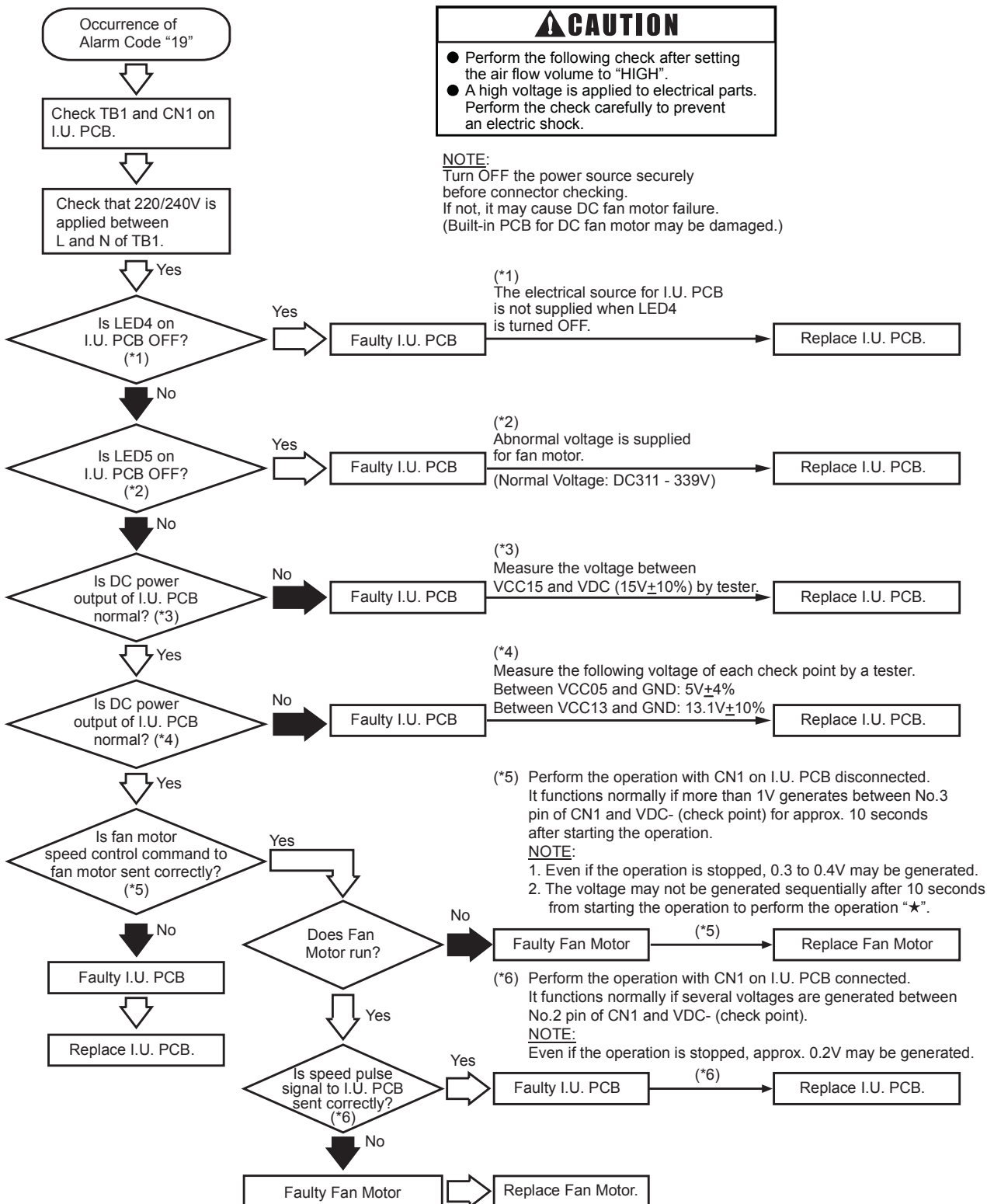
*1): The heating operation is available only during the test run.

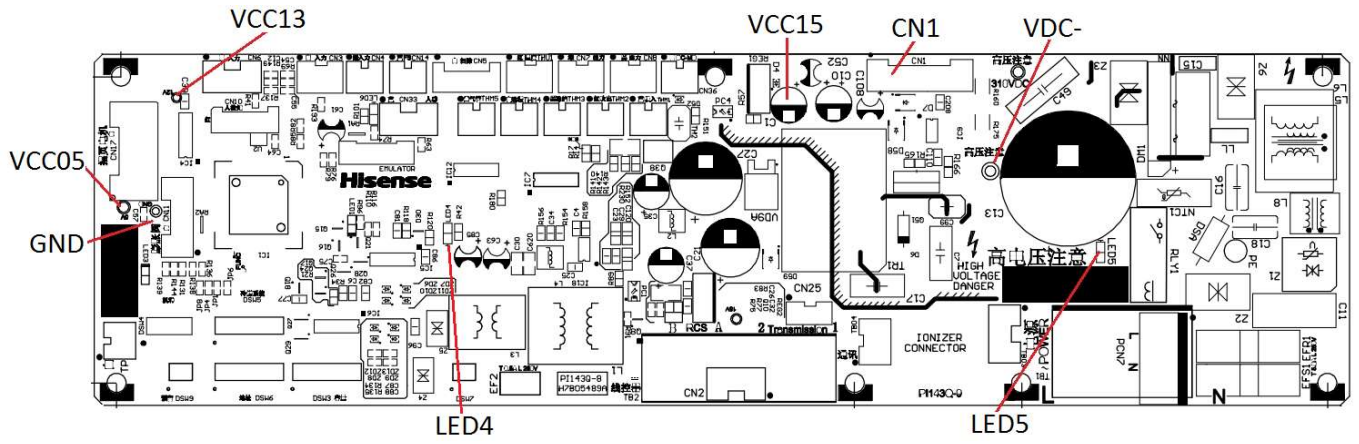


Alarm Code	19	Activation of Protection Device for Indoor Fan Motor (Indoor Unit with DC Motor)
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- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when the indoor fan motor rotates at less than 70rpm for 5 seconds three times in 30 minutes during the operation.





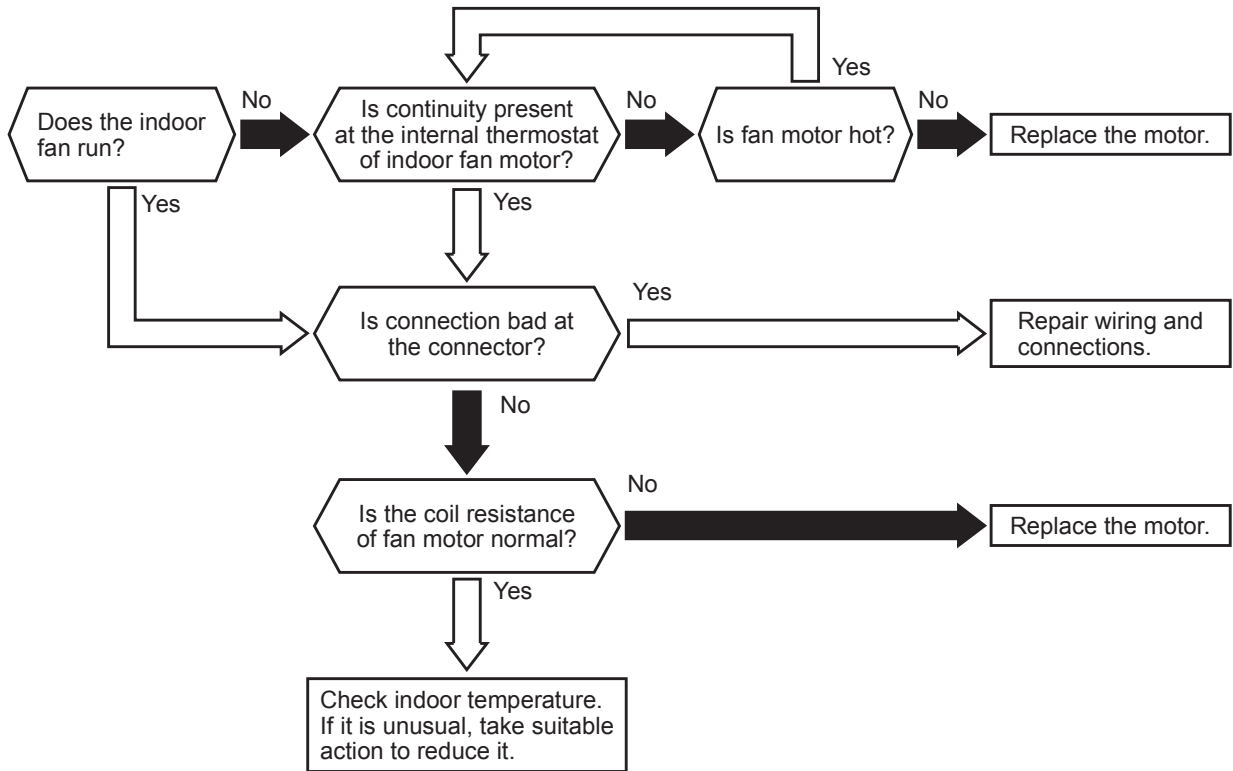
Alarm Code

19

Activation of Protection Device for Indoor Fan Motor
(Indoor Unit with AC Motor)

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when over approximately 1A is applied to the indoor unit fan motor.



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)	
Activation of Internal Thermostat for Indoor Unit Fan Motor	Faulty Indoor Unit Fan Motor	Measure coil resistance and insulation resistance.	Replace motor if faulty.	
	Faulty Internal Thermostat	Fault	Check continuity after fan motor temperature decreases to room temp.	Replace fan motor if no continuity.
		Insufficient Contacting	Measure resistance by tester.	Correct looseness. Replace connectors.
		Incorrect Connection	Check connections.	Repair connections.

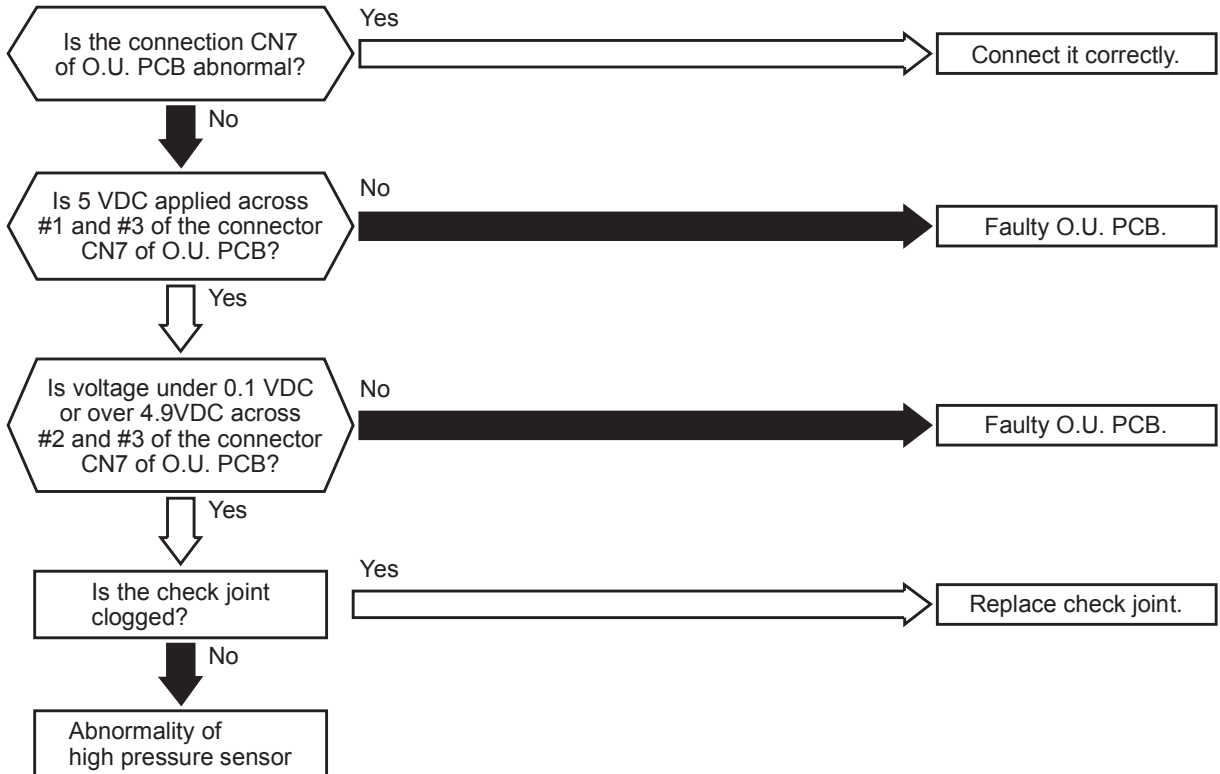
Alarm Code

21

Abnormality of High Pressure Sensor for Outdoor Unit

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the pressure sensor voltage decreases to 0.1V or less or increases to 4.9V or more during running.

O.U. PCB: Outdoor Unit PCB



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Top of Compressor Thermistor	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check wiring to O.U. PCB.	Repair wiring and connections.
Faulty O.U. PCB		Replace O.U. PCB and check operation.	Replace O.U. PCB if faulty.
Indicated Value of Pressure Value is Excessively High or Low	Malfunction of Pressure Sensor due to Faulty Check Joint	Check for clogging of check joint.	Replace check joint.

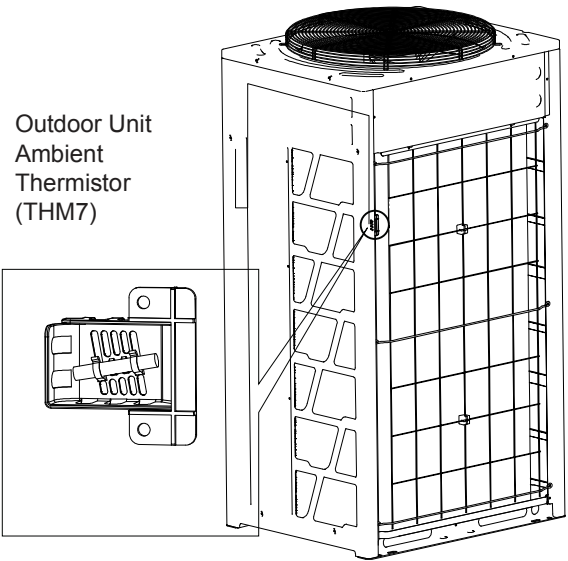
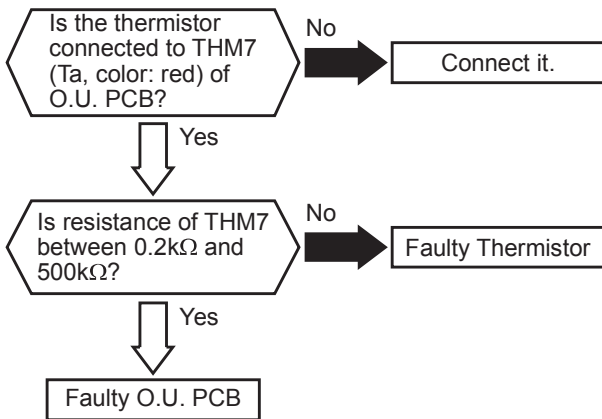
Alarm Code

22

Abnormality of Thermistor for Outdoor Air Temperature (Outdoor Unit Ambient Thermistor)

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when a short circuit (less than 0.2kΩ) or disconnection (more than 500kΩ) of the thermistor is detected during the operation.

O.U. PCB: Outdoor Unit PCB



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Thermistor for Outdoor Unit Ambient	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check wiring to O.U. PCB.	Repair wiring and connections.
Faulty O.U. PCB		Replace O.U. PCB and check operation.	Replace O.U. PCB if faulty.

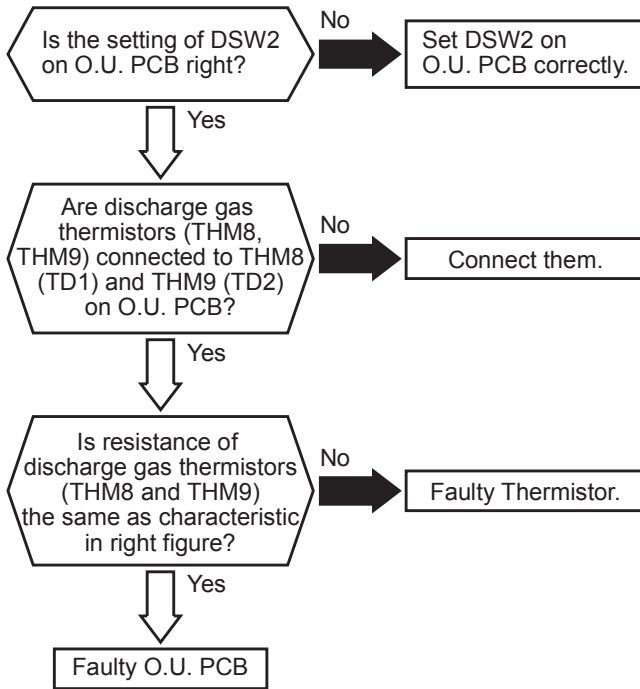
Alarm Code 23

Abnormality of Thermistor for Discharge Gas Temperature on the Top of Compressor

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB. (For the combination of outdoor units, the alarm code is displayed on PCB of outdoor unit A.) Additionally for the outdoor unit number and compressor number with abnormal thermistor, check the alarm code history.

★ This alarm code is indicated when a short circuit (less than 0.9kΩ) for a second or disconnection (more than 5946kΩ) of the thermistor is detected during the operation.

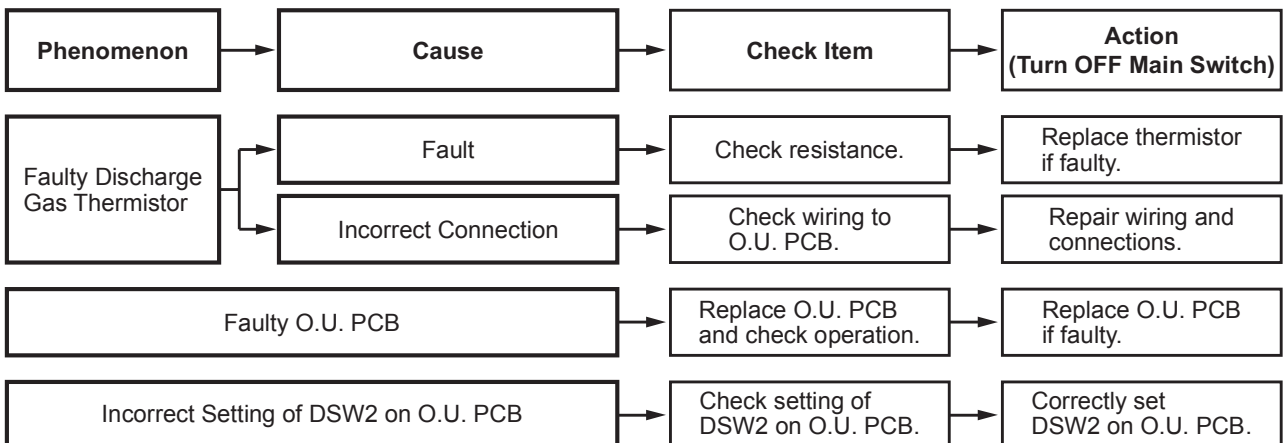
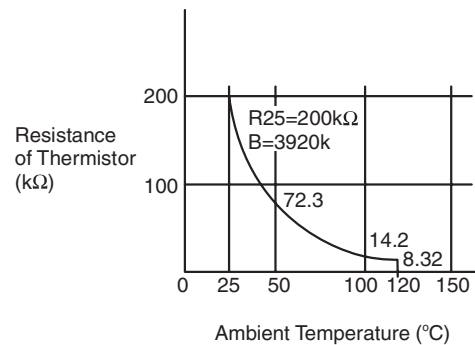
O.U. PCB: Outdoor Unit PCB



Model	Thermistor	
	Td1 (THM8)	Td2 (THM9)
Single Comp.	○	-
Dual Comp.	○	○

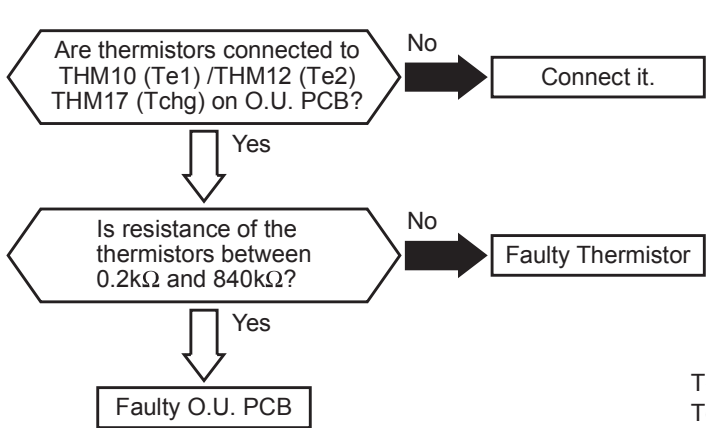
In the case of the combination of outdoor units, each outdoor unit detect abnormality.

Characteristics of Thermistor



Alarm Code	24	Abnormality of Thermistor for Outdoor Unit Heat Exchanger Liquid Pipe (Te1/Te2/Tchg)
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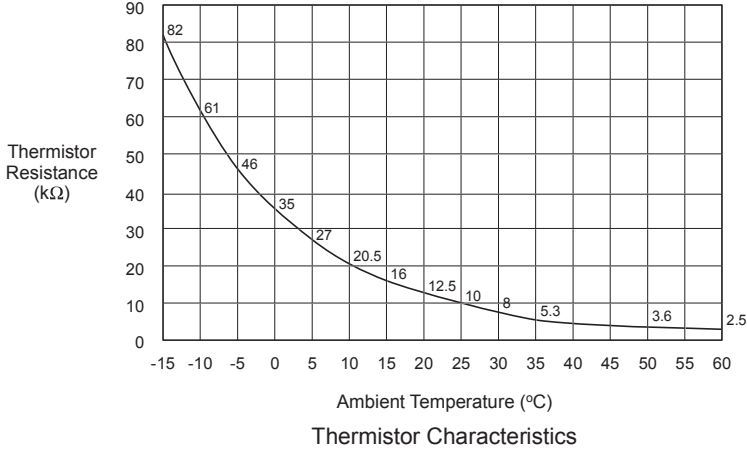
- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB. (For the combination of outdoor units, the alarm code is displayed on PCB of outdoor unit A.) Additionally for the outdoor unit number and compressor number with abnormal thermistor, check the alarm code history.
- ★ This alarm code is indicated when a short circuit (less than 0.2kΩ) or disconnection (more than 840kΩ) of the thermistor is detected continuously for 8 minutes during the operation.



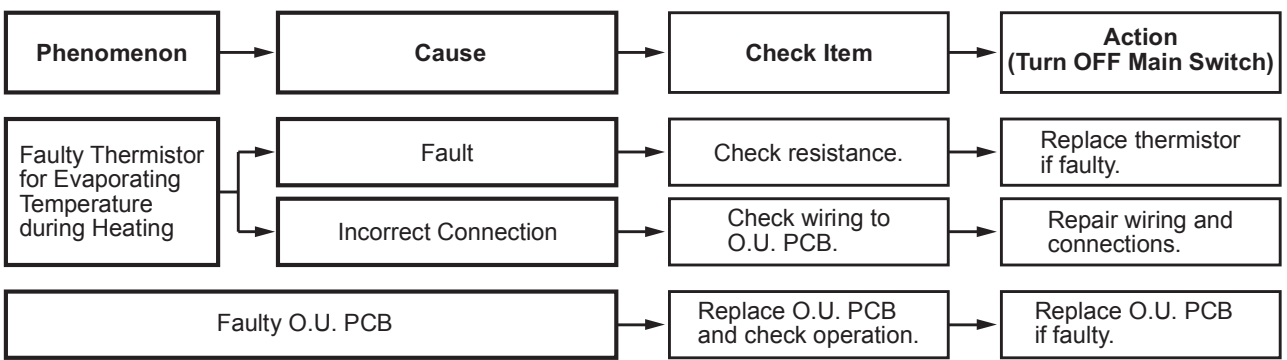
Model	Thermistor	
	Te1 (THM10)	Te2 (THM12)
Single HEX.	○	-
Dual HEX.	○	○

In the case of the combination of outdoor units, each outdoor unit detect abnormality.

Te1/Te2: Thermistor for Outdoor Liquid Pipe
 Tchg: Thermistor for Super Cooling Main Line
 O.U. PCB: Outdoor Unit PCB
 HEX.: Heat exchanger



- NOTE:**
 This figure is applicable to the following thermistors.
1. Ambient Temperature Thermistor (THM7),
 2. Evaporation Liquid Line Thermistor (THM10/THM12),
 3. Evaporation Gas Line Thermistor (THM11),
 4. Super Cooling Main Line Thermistor (THM17),
 5. Super Cooling Bypass Line Thermistor (THM23)

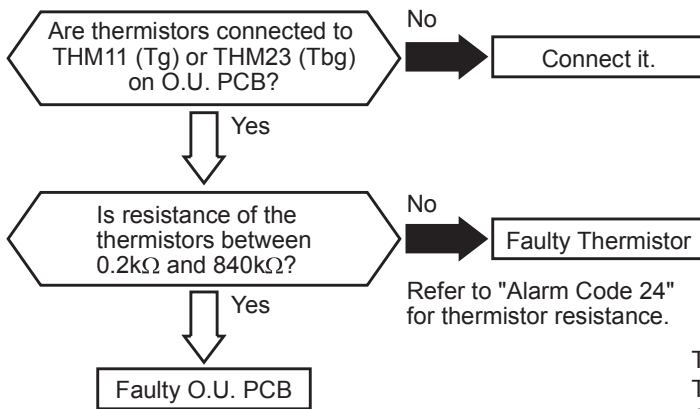


Alarm Code

25

Abnormality of Thermistor for Outdoor Unit Heat Exchanger Gas Pipe (Tg/Tbg)

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB. (For the combination of outdoor units, the alarm code is displayed on PCB of outdoor unit A.) Additionally for the outdoor unit number and compressor number with abnormal thermistor, check the alarm code history.
- ★ This alarm code is indicated when a short circuit (less than 0.2kΩ) or disconnection (more than 840kΩ) of the thermistor is detected continuously for 8 minutes during the operation.



Tg: Thermistor for Outdoor Gas Pipe
Tbg: Thermistor for Super Cooling Bypass Line
O.U. PCB: Outdoor Unit PCB

Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Outdoor Unit Gas Pipe Thermistor	Fault	Check resistance.	Replace thermistor if faulty.
	Incorrect Connection	Check wiring to O.U. PCB.	Repair wiring and connections.
Faulty O.U. PCB		Replace O.U. PCB and check operation.	Replace O.U. PCB if faulty.

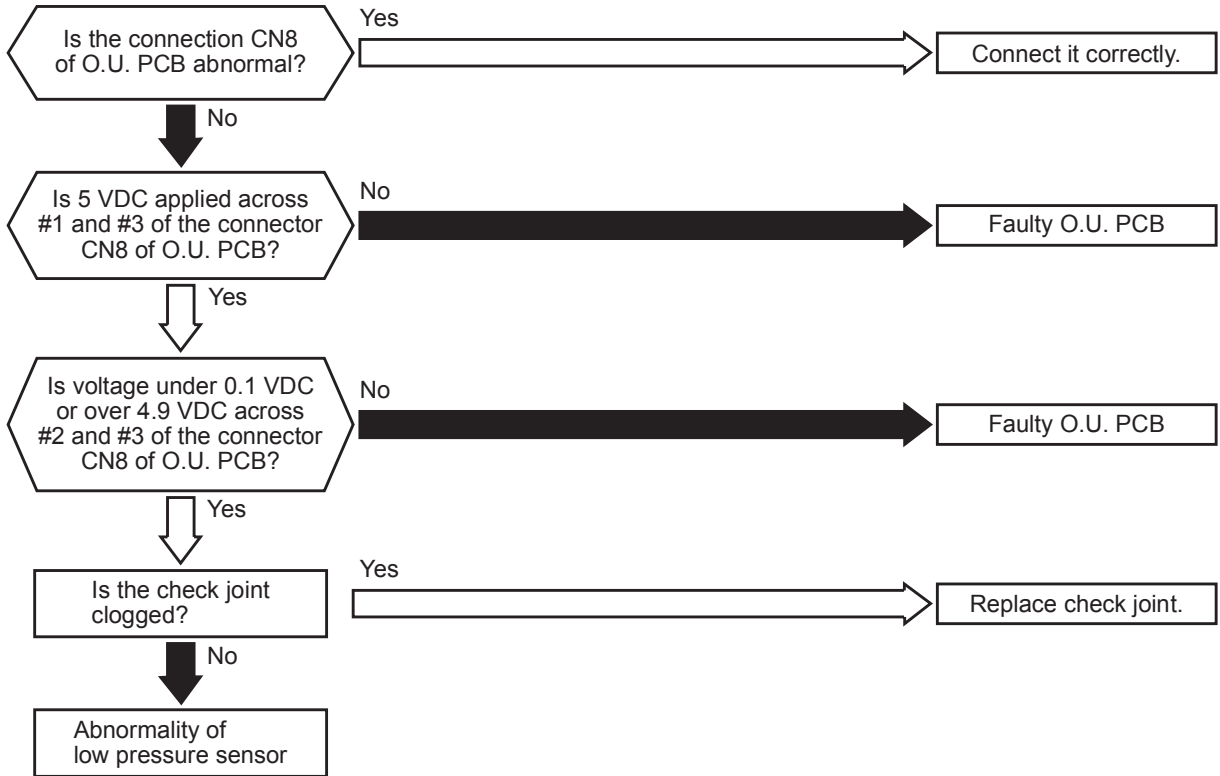
Alarm Code

29

Abnormality of Low Pressure Sensor for Outdoor Unit

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the pressure sensor voltage decreases to 0.1V or less or increases to 4.9V or more during running.

O.U. PCB: Outdoor Unit PCB



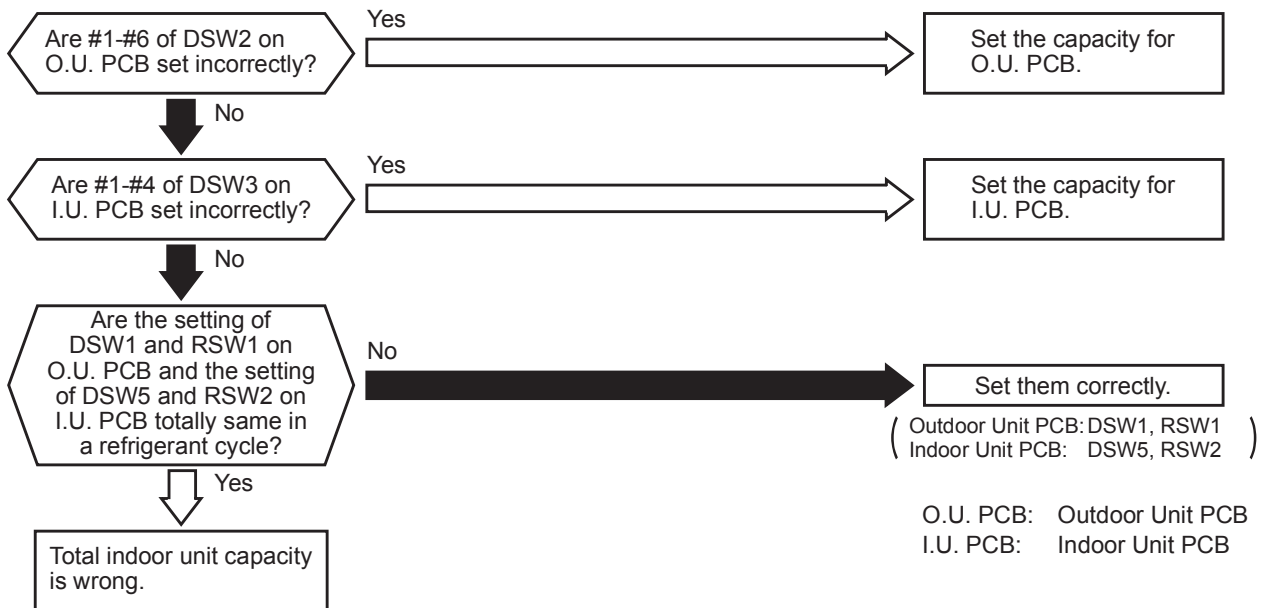
Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Faulty Low Pressure Sensor	Fault	Check output voltage is correct.	Replace pressure sensor if faulty.
	Incorrect Connection	Check wiring to O.U. PCB.	Repair wiring and connections.
Faulty O.U. PCB		Replace O.U. PCB and check operation.	Replace O.U. PCB if faulty.
Indicated Value of Pressure Value is Excessively High or Low	Malfunction of Pressure Sensor due to Faulty Check Joint	Check for clogging of check joint.	Replace check joint.

Alarm Code

31

Incorrect Capacity Setting of Indoor Unit and Outdoor Unit

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the capacity setting dip switch, DSW2 on the outdoor unit PCB, is not set (all the settings from #1 to #6 are OFF) or set incorrectly.
- ★ This alarm code is indicated when the total indoor unit capacity is smaller than 50% or greater than 150% of the combined outdoor unit capacity. This alarm code also can be triggered when Water Module capacity is greater than 100% of the combined outdoor unit capacity or improper function setting of "H4" on the outdoor unit PCB for Water Module application.



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Incorrect Capacity Setting of Indoor Unit		Check combination of indoor units and capacity setting on I.U. PCB.	Correctly set dip switch, DSW3.
Incorrect Capacity Setting of Outdoor Unit		Check capacity setting on O.U. PCB.	Correctly set dip switch, DSW2.
Total Indoor Unit Capacity Connected to the Outdoor Unit is Beyond Permissible Range		Check outdoor unit model by calculating total indoor units capacity.	Ensure that total indoor unit capacity is from 50% to 130%.
Refrigeration Cycle Setting of Outdoor Unit and Indoor Unit is Different		Check refrigeration cycle setting on O.U. PCB and I.U. PCB.	Set them correctly.

Refrigerant Cycle No. Setting

	Setting Switch	
	10 digit	1 digit
Outdoor Unit	DSW1	RSW1
Indoor Unit (Hi-NET II)	DSW5	RSW2

Example of Setting Refrigerant Cycle No. 25



Turn ON No. 2 pin.

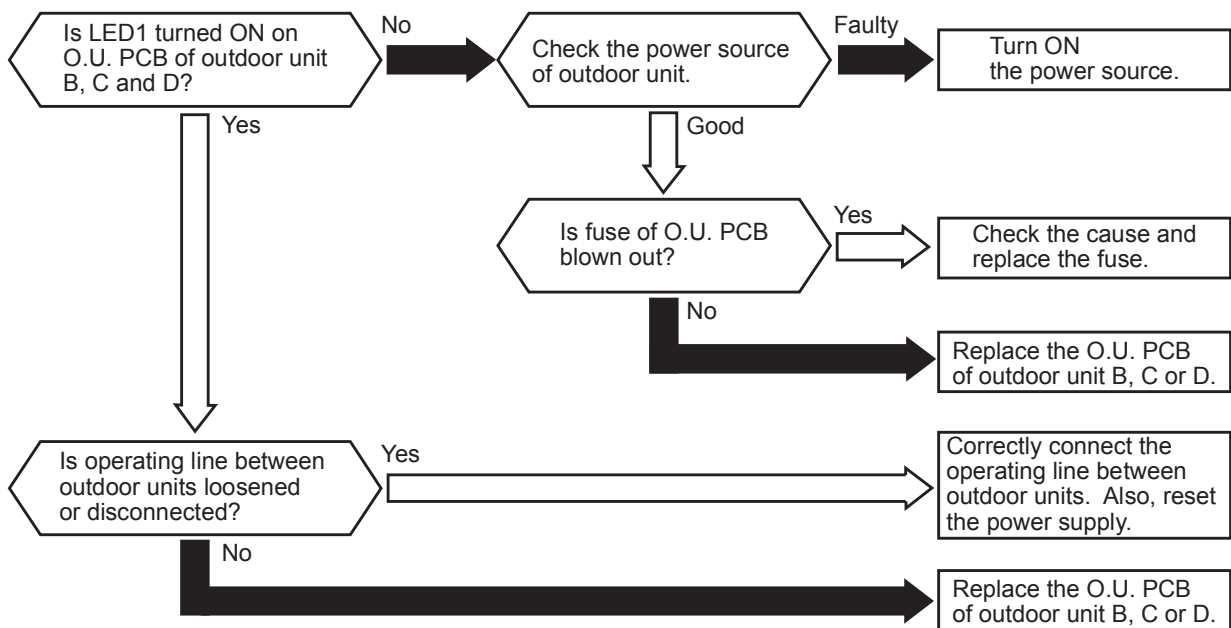


Set Dial No.5.

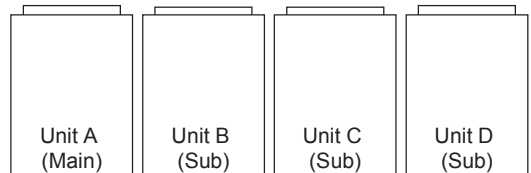
DSW and RSW setting before shipment is 0.
Maximum in setting refrigerant cycle No. is 63.

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the following conditions occur after normal transmitting between outdoor units is performed;
- Abnormality continues for 30 seconds.
 - Abnormality continues for 30 seconds even after micro-computer reset (automatic).

O.U. PCB: Outdoor Unit PCB



Outdoor Unit



Alarm
Code

35

Incorrect Indoor Unit No. Setting

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated 5 minutes after power is supplied to the outdoor unit when the indoor unit No. connected to the outdoor unit is duplicated by setting of DSW6 and RSW1.

NOTE:

- In the case of Hi-NET systems, this alarm code is indicated when DSW1 and RSW1 of PCB1 of the outdoor unit and DSW5 and RSW2 of the PCB of the indoor unit are incorrectly set. In this case, set them properly after turning OFF the main power switch and turn ON again the main power switch.
- When the setting of the refrigerant cycle number of the outdoor unit (Hi-NET II) and that of the outdoor unit (Hi-NET) is duplicated, alarm code "35" can be ON and OFF repeatedly.

Alarm
Code

36

Incorrect Indoor Unit Combination

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the indoor unit connected to the outdoor unit is for other refrigerants (R22 or R407C).

Alarm
Code

37

Incorrect Number Setting of Connected Water Module

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when Function Setting Value of n3 unequal the number of connected water module Or Abnormal Power Supply For Water Module.

Alarm Code

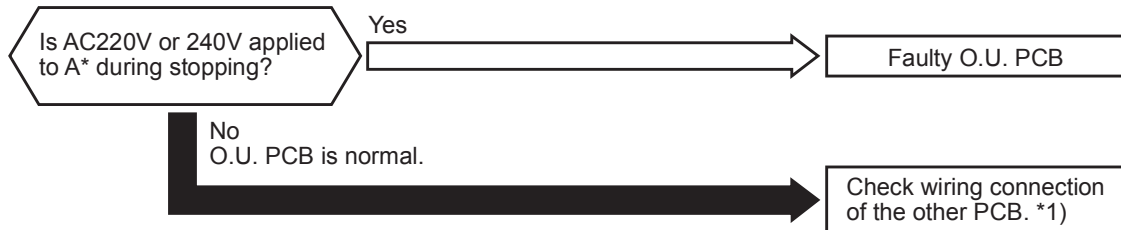
38

Abnormality of Picking up Circuit for Protection in Outdoor Unit

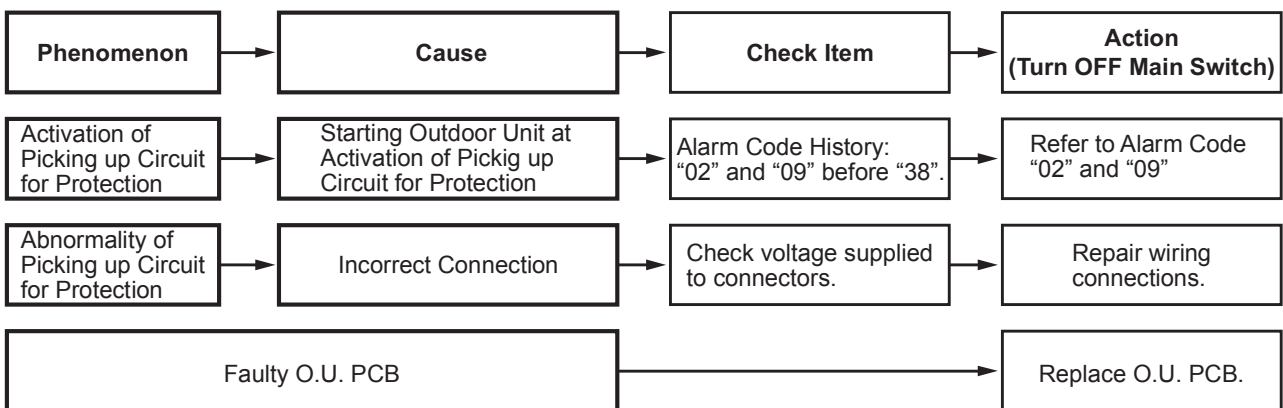
- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when AC 220V or 240V is not detected in A* during inverter compressor stoppage.

O.U. PCB: Outdoor Unit PCB



Power Supply	A*
380-415V/50Hz 380/60Hz	Between terminal #3 of PCN2, PCN16 and faston terminal "N1" on O.U. PCB
220V/60Hz	Between terminal #3 of PCN2, PCN16 and faston terminal "S1" on O.U. PCB



*1): This alarm code may be indicated when the high pressure switch (PSH) is connected incorrectly or fails (open fault). The item for alarm code 02 should be checked as well.

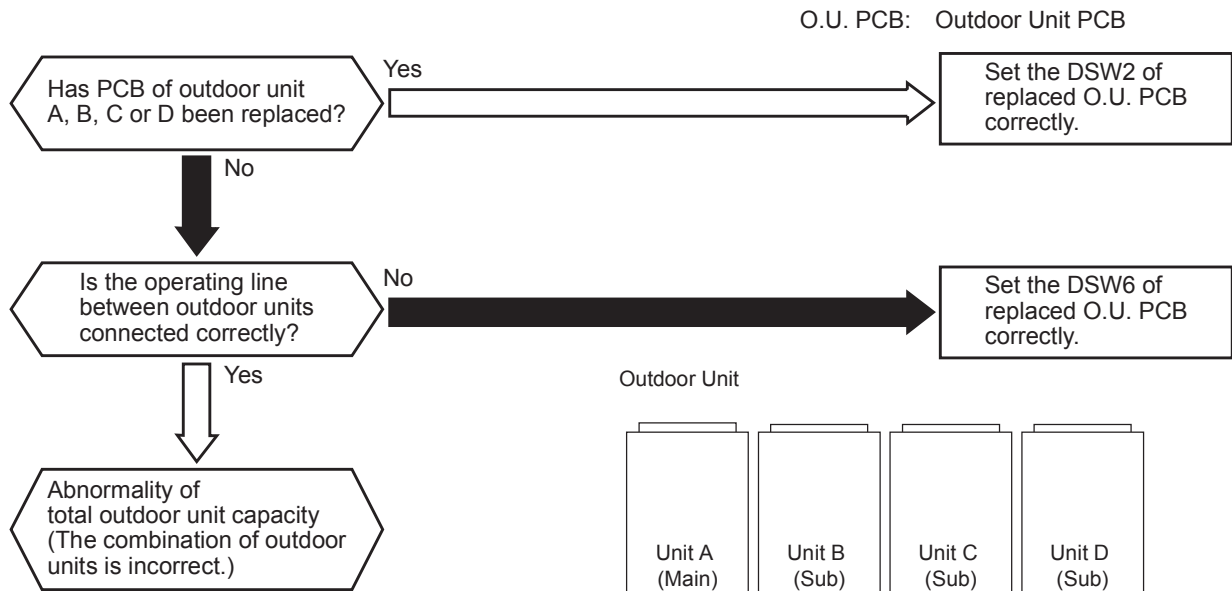
*2): Especially, check the wiring connection for PCN2 and PCN16 on O.U. PCB.

Alarm Code

3A

Abnormality of Outdoor Unit Capacity

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD, or the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the total capacity of outdoor unit connected to the transmission terminal between outdoor units exceeds maximum total power allowed.

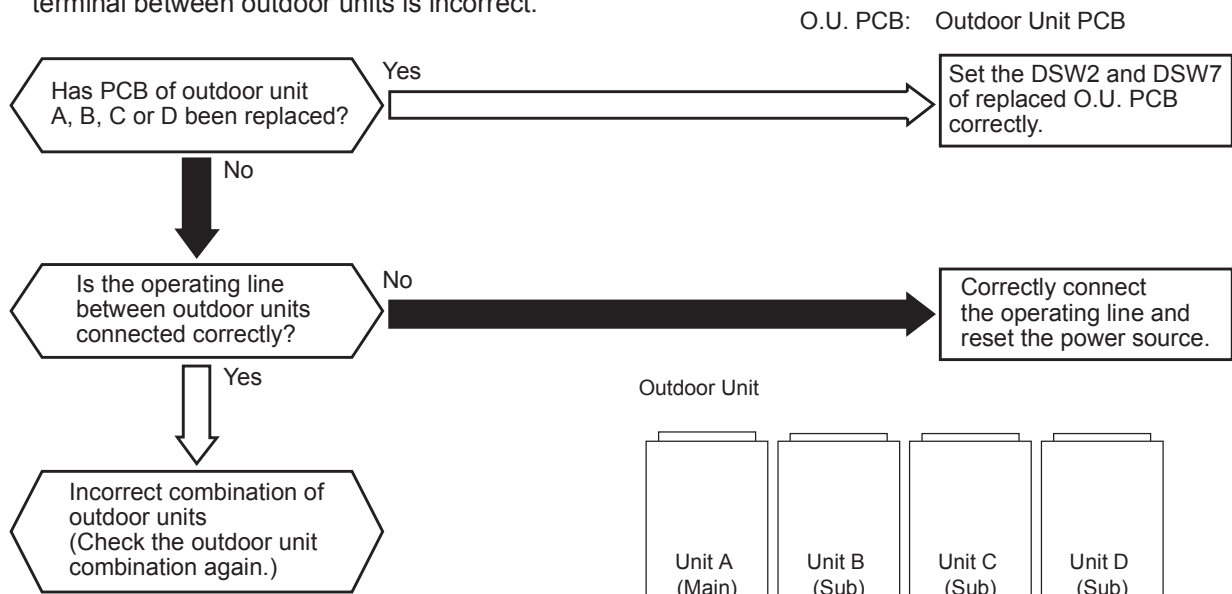


Alarm Code

3B

Incorrect Setting of Outdoor Unit Model Combination or Voltage

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD, or the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the model setting for outdoor unit connected to the transmission terminal between outdoor units is incorrect.



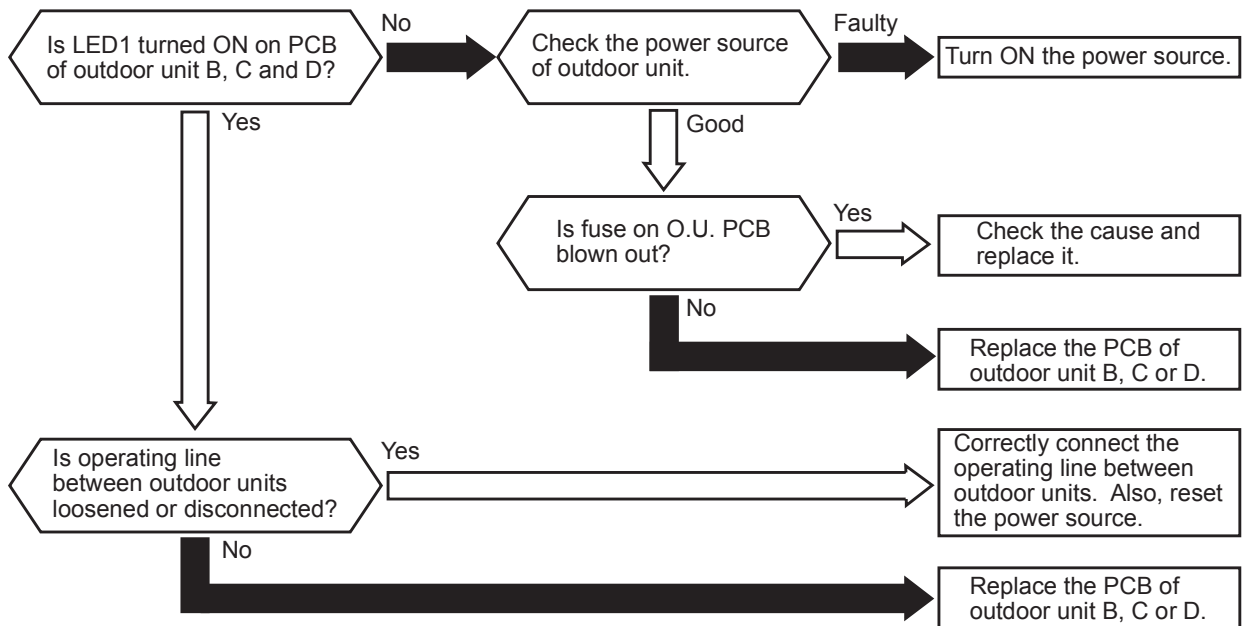
Alarm Code

3d

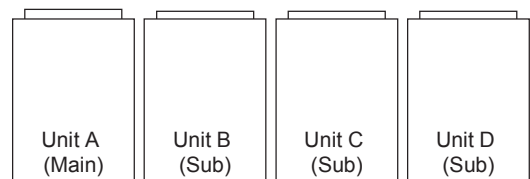
Abnormality Transmitting between Main Unit and Sub Unit(s)

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD, or the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ For the combination of outdoor units, this alarm code is indicated when transmission to outdoor unit B, C or D is NOT provided for 30 seconds.
(Alarm code “31” will be indicated when transmission to all the outdoor units connected to the transmission terminal between outdoor units is NOT provided.)

O.U. PCB: Outdoor Unit PCB



Outdoor Unit



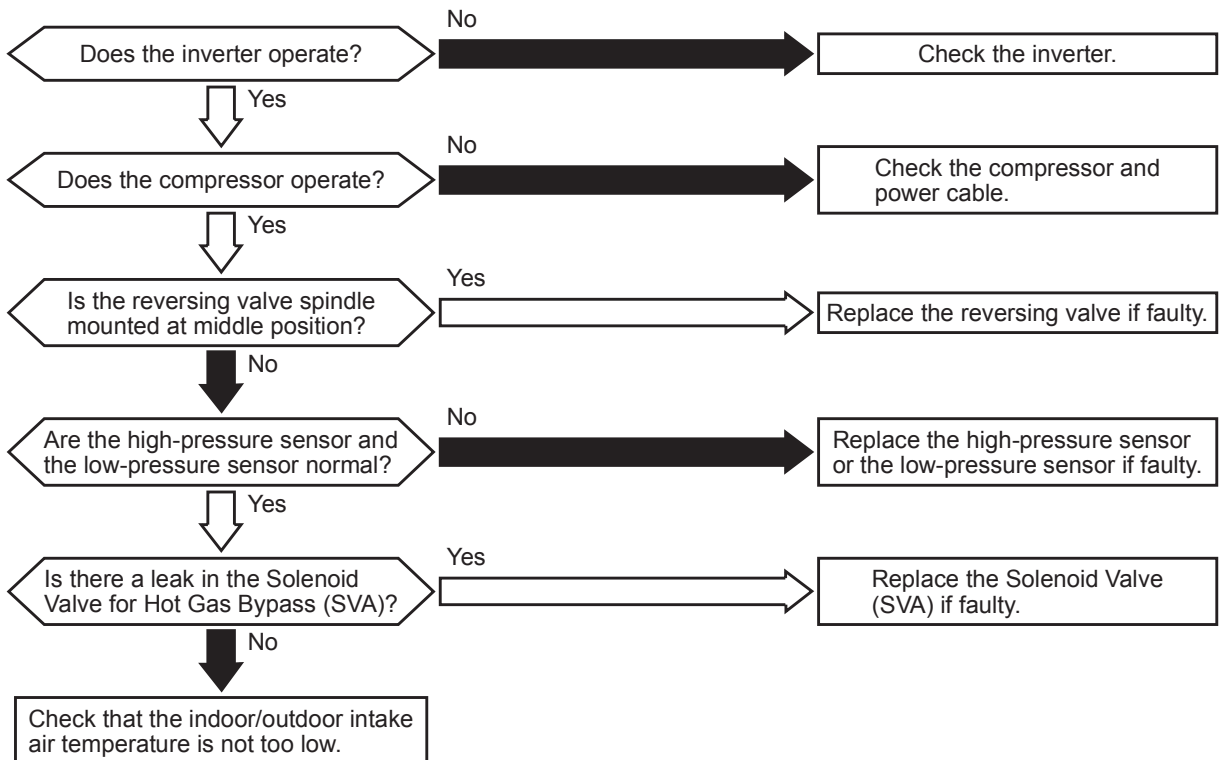
Alarm Code

43

Activation of Low Compression Ratio Protection Device

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when the following condition occurs more than twice in 30 minutes. A compression ratio $\varepsilon = \{(Pd + 0.1) / (Ps + 0.06)\}$, calculated from a discharge pressure (Pd MPa) and suction pressure (Ps MPa) is lower than 1.8 for 2 minutes.

O.U. PCB: Outdoor Unit PCB



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Excessively Low Compression Ratio	Inverter is not Functioning	Check inverter.	Repair faulty part.
	Compressor is not Operating	Check compressor.	Replace comp. if faulty.
	Valve Stoppage at Middle Position of Reversing Valve	Measure suction pipe temp. of reversing valve.	Replace reversing valve if faulty.
	Abnormality of High or Low Pressure Sensor	Check connector for O.U. PCB, power source and pressure indication.	Replace sensor if faulty.
	Excessively Low Indoor Intake Air Temperature	Check indoor unit and outdoor unit air temp. thermistor.	Replace thermistor if faulty.
	Leakage from Solenoid Valve (SVA)	Check Solenoid Valve.	Replace SVA if leakage occurs.

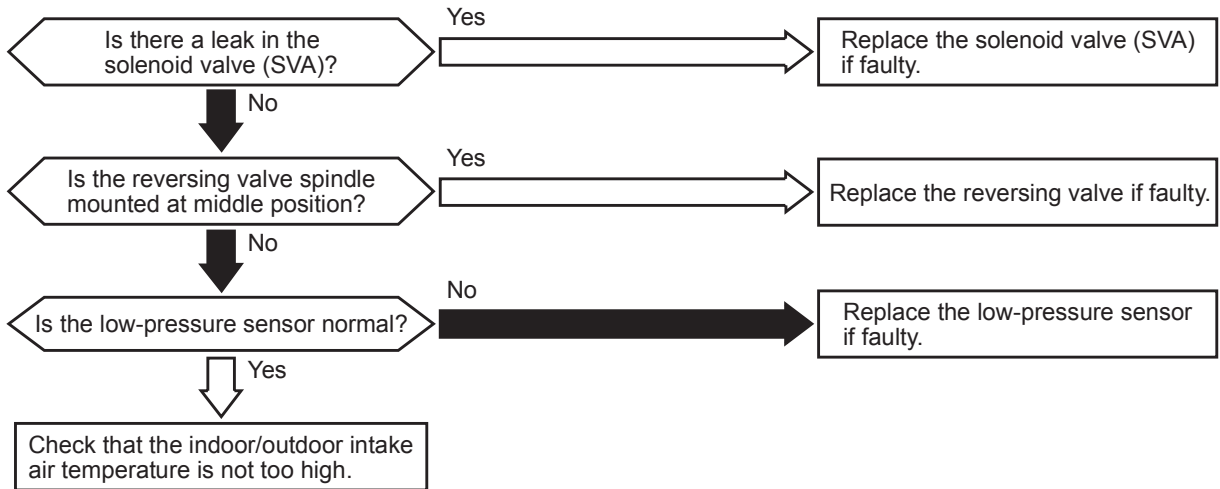
Alarm Code

44

Activation of Low Pressure Increase Protection Device

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ When the suction pressure (Ps) continues to be higher than 1.6MPa for more than one minute, all the compressors stop and then retry the operation after 3 minutes.
This alarm code is indicated when this occurs twice more within the next 30 minutes.

O.U. PCB: Outdoor Unit PCB



Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Excessively Low Suction Pressure	Leakage of Solenoid Valve (SVA)	Check outlet pipe temp. of solenoid valve (SVA).	Check connecting wires. Replace solenoid valve (SVA) if faulty.
	Valve Stoppage at Middle Position of Reversing Valve	Measure suction gas pipe temp. of reversing valve.	Replace reversing valve if faulty.
	Abnormal Suction Pressure Sensor	Check connectors of O.U. PCB and power source.	Replace sensor if faulty.
	Excessively High Indoor Unit and Outdoor Unit Suction Air Temperature	Check indoor unit and outdoor unit suction air temp. thermistor.	Replace thermistor if faulty.

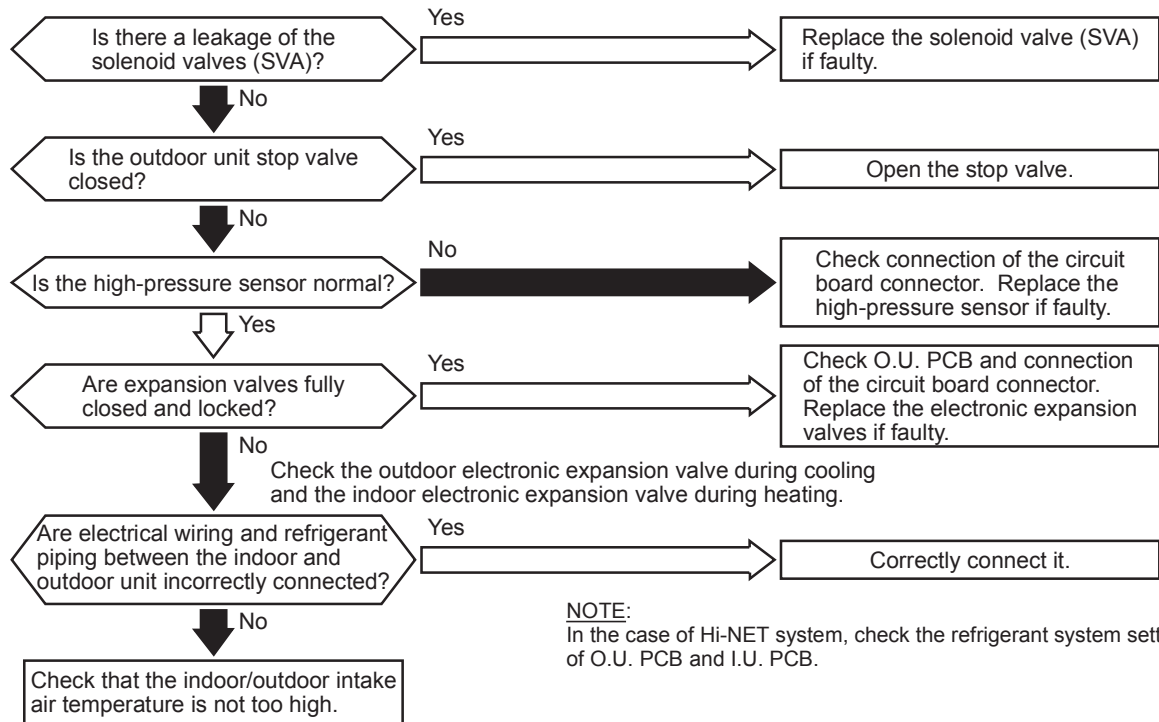
Alarm Code

45

Activation of High Pressure Increase Protection Device

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ When the discharge pressure (Pd) continues to be higher than 3.9MPa for 2 seconds, all the compressors stop and then retry the operation after 3 minutes.
This alarm code is indicated when this occurs twice more within the next 30 minutes.

O.U. PCB: Outdoor Unit PCB
I.U. PCB: Indoor Unit PCB



NOTE:

In the case of Hi-NET system, check the refrigerant system setting of O.U. PCB and I.U. PCB.

Phenomenon	Cause	Check Item	Action (Turn OFF Main Switch)
Excessively High Discharge Pressure	Leakage of Solenoid Valve (SVA)	Check outlet temp. of solenoid valve (SVA).	Check connection. Replace solenoid valve (SVA) if faulty.
	Closed Stop Valve	Check stop valve.	Open stop valve.
	Abnormal High Pressure Sensor	Check connectors for O.U. PCB.	Replace pressure sensor if faulty.
	Excessively High Indoor Unit and Outdoor Unit Inlet Air Temp.	Check thermistor for indoor unit and outdoor unit inlet air temp.	Replace thermistor if faulty.
	Incorrect Connection between Indoor Unit and Outdoor Unit	Check electrical system and ref. cycle.	Correctly connect them.
	Locked Expansion Valve with Fully Closed	Check connector for O.U. PCB.	Repair connector for O.U. PCB or expansion valve. Replace it if faulty.
Stoppage of Indoor Fan <Wall Type 1.0 to 3.0HP Only>	Melted Fuses	Check continuity of fuses.	Replace fuses.
	Faulty I.U. PCB	Replace I.U. PCB and check operation.	Replace I.U. PCB if faulty.

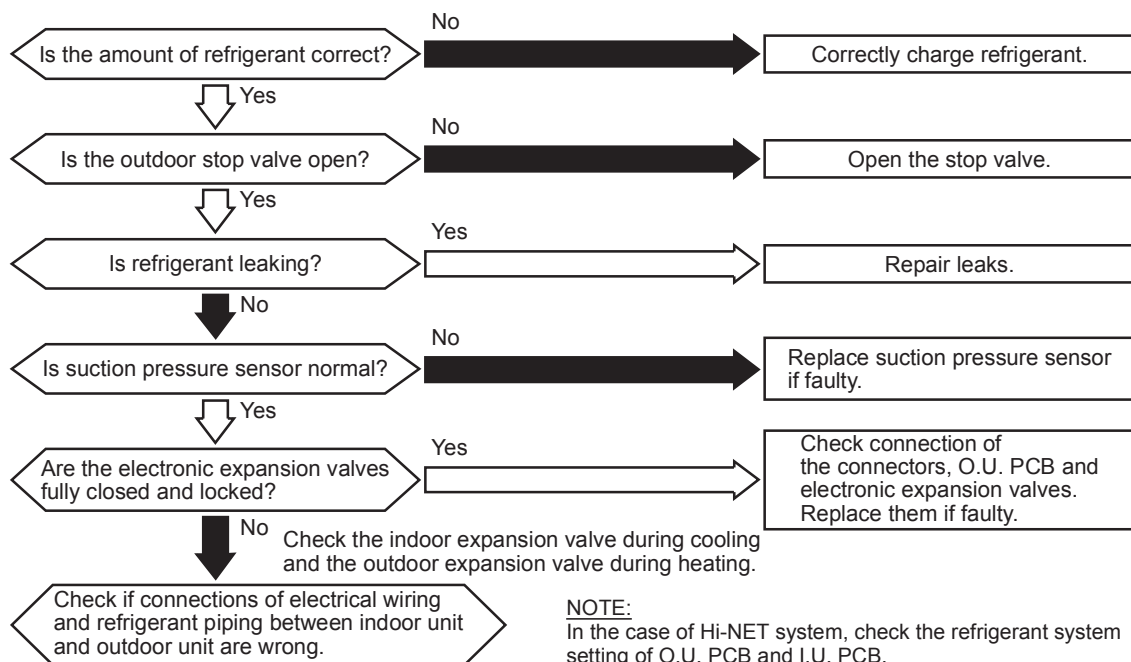
Alarm Code

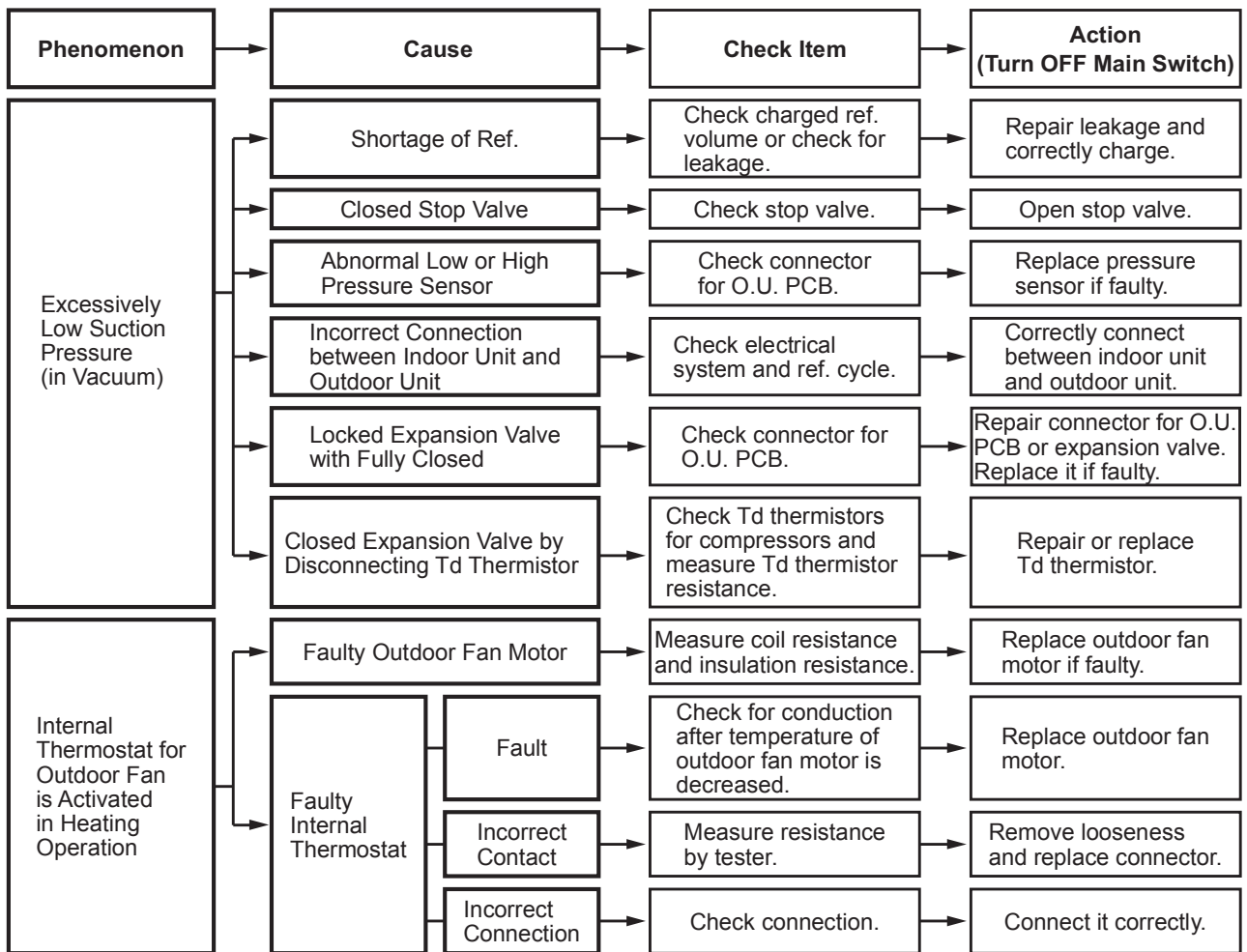
47

Activation of Low Pressure Decrease Protection Device (Vacuum Operation Protection)

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ This alarm code is indicated when a suction pressure (Ps) is lower than 0.09MPa for over 12 minutes and the same condition occurs twice or more within one hour.

O.U. PCB: Outdoor Unit PCB
I.U. PCB: Indoor Unit PCB





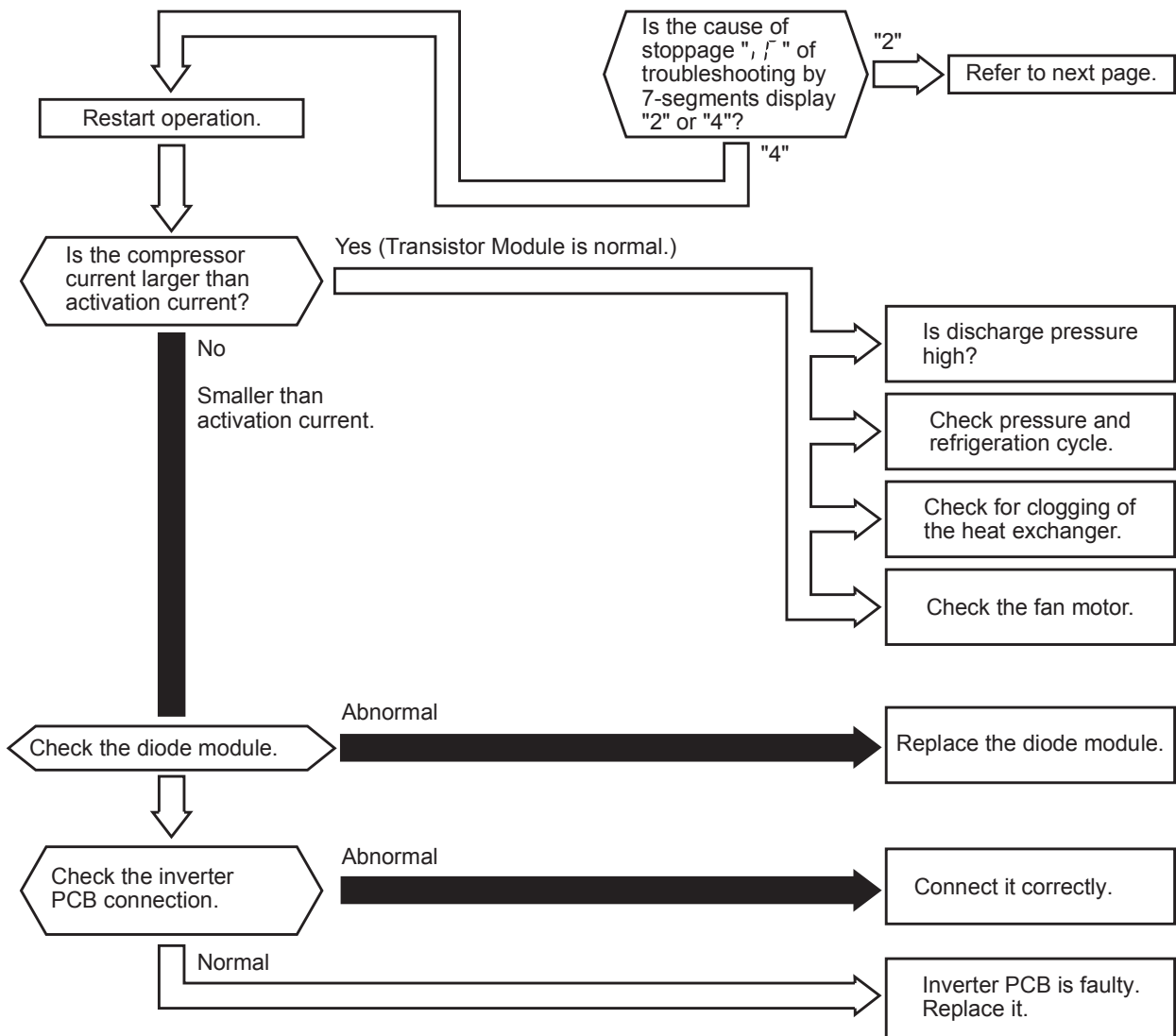
- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when inverter electronic thermal protection is activated six times within 30 minutes. (Retry operation is performed up to the occurrence of five times.)

Conditions of Activation:

- (1) Inverter current with 105% of the rated current runs for 30 seconds continuously.
- (2) Inverter current runs intermittently and the accumulated time reaches up to 3 minutes, in 10 minutes.

O.U. PCB: Outdoor Unit PCB

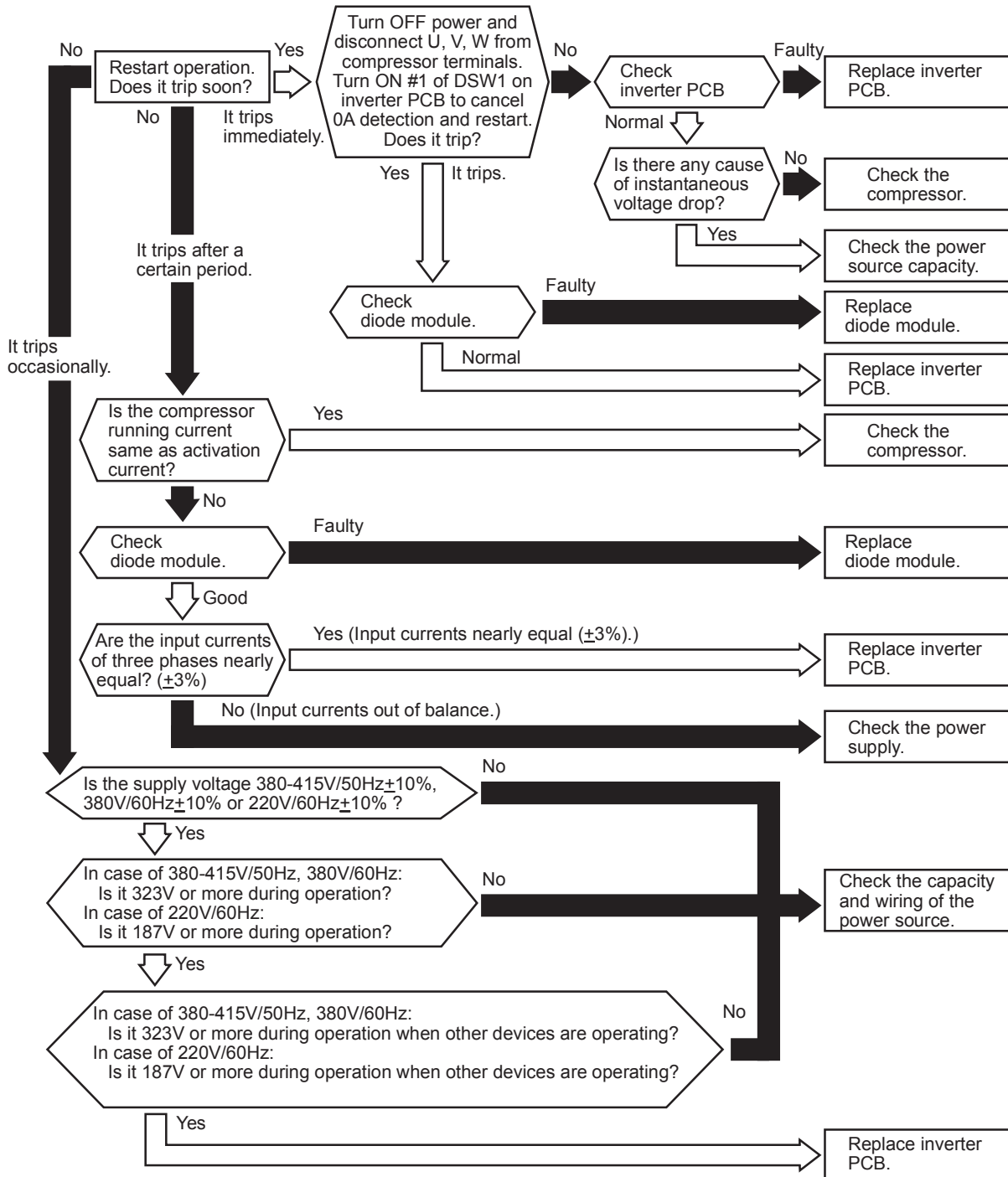


iTC	Cause of inverter stoppage
2	Instantaneous overcurrent
4	Inverter overcurrent

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when instantaneous overcurrent occurs six times within 30 minutes. (Retry operation is performed up to the occurrence of five times.)

Conditions of Activation: Inverter current with 150% of the rated current

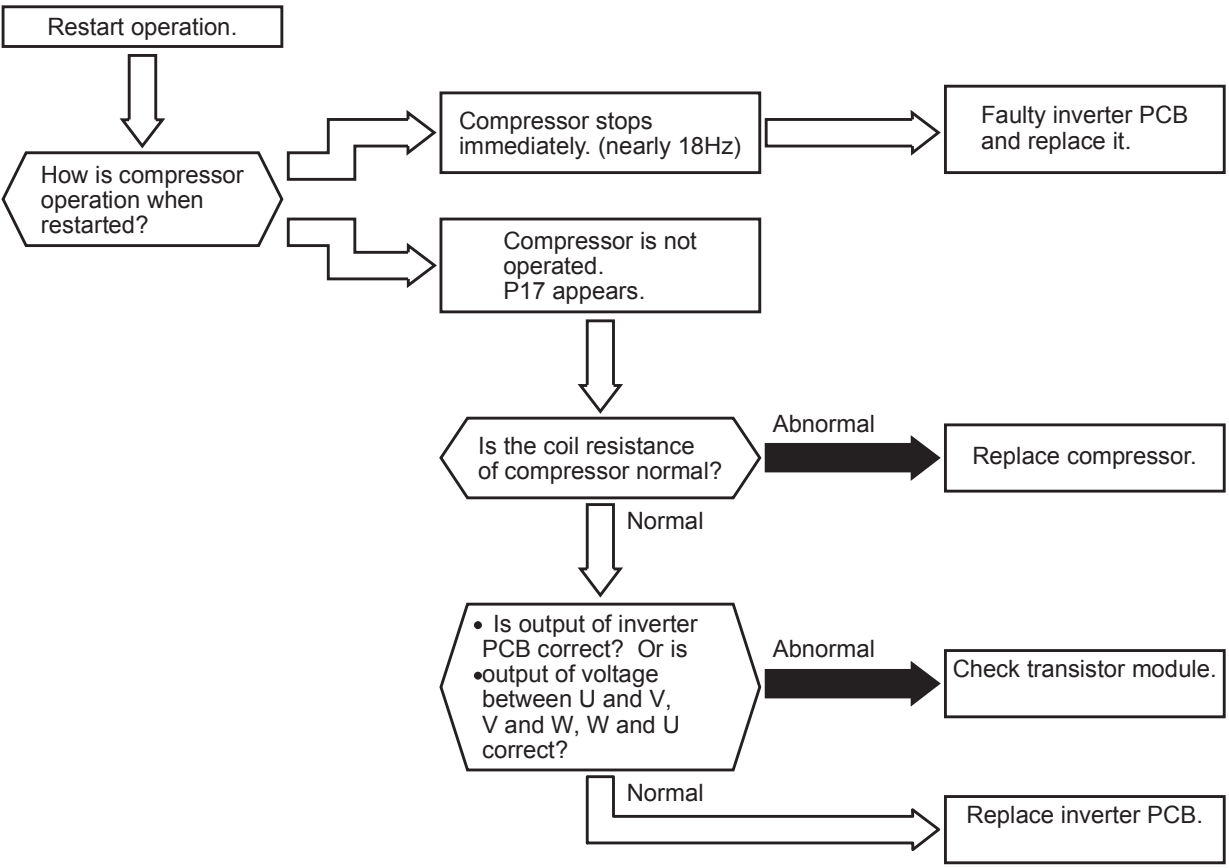


- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ In case that the abnormality of current transformer (0A detecting) occurs three times within 30 minutes, this alarm code is indicated at the third time.
(Retry operation is performed for the first two times.)

Condition of Activation:

- (1) When the frequency of compressor is maintained at 15 to 18Hz after compressor is started, one of the absolute value of running current detected by the current transformer at each phase U+, U-, V+ and V- is less than 1.5A (including 1.5A).
- (2) The wave height value of running current for the phase positioning is less than 5A before the compressor is started (at completing the phase positioning).



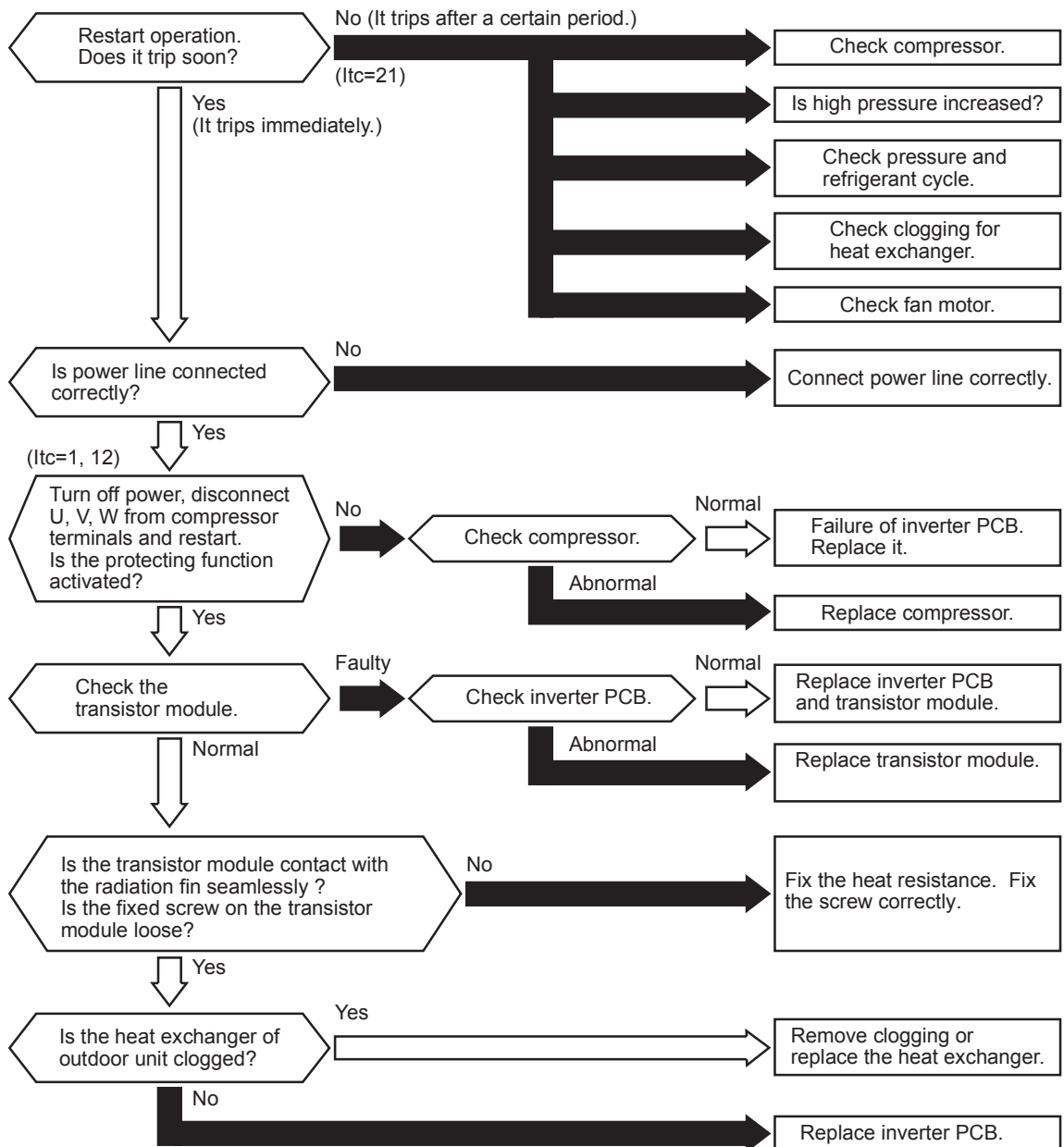
iTC	Cause of inverter stoppage
8	Abnormal current sensor or imbalance of U/V/W

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ IPM (Transistor Module) has abnormality-detecting function.
 This alarm code is indicated when the abnormality is detected seven times within 30 minutes. (Retry operation is performed for the first 6 times.)

Condition of Activation:

- (1) The abnormal current such as a short-circuit current, a ground-fault current or the overcurrent occurs at the transistor module.
- (2) The temperature at transistor module increases abnormally.
- (3) The control voltage decreases.

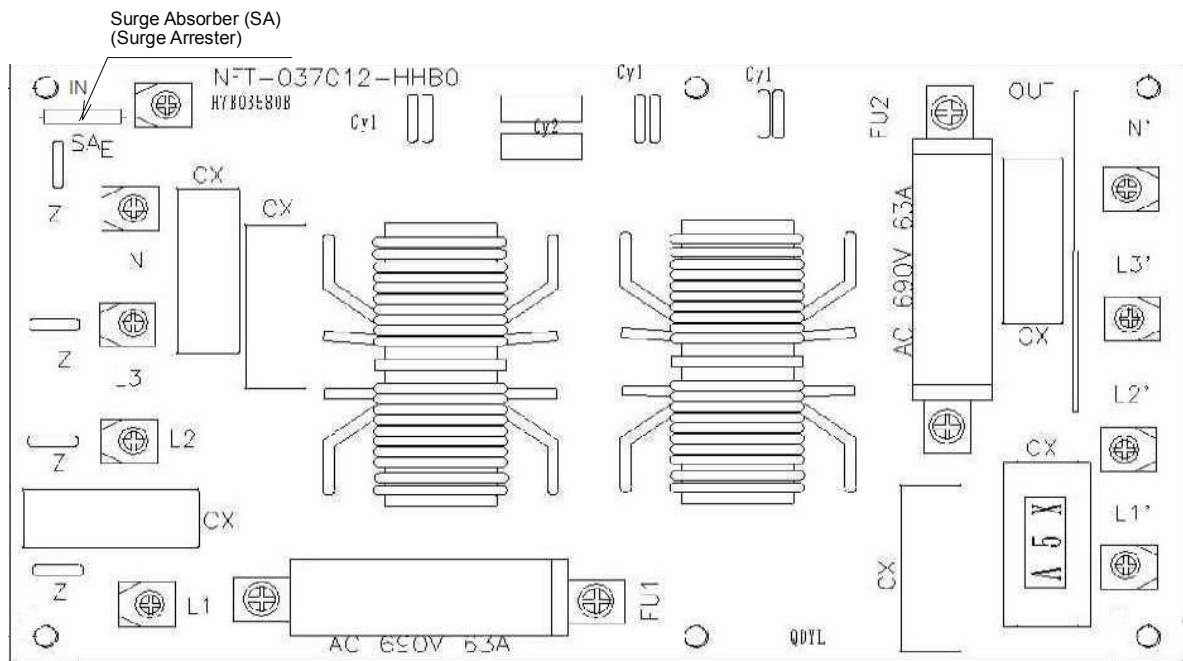


iTC	Cause of inverter stoppage
1	Activation of transistor module protection
12	Ground fault detection
21	Out-of-synchronism detection

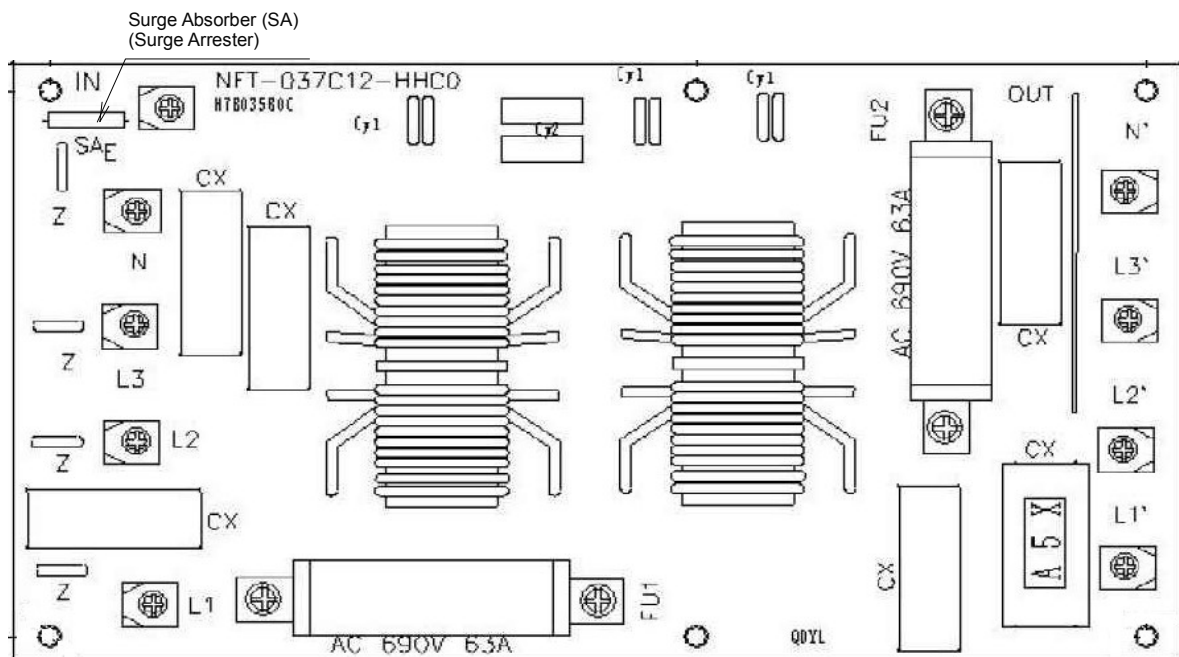
*1): When the unit is applied with excessive surge current due to lighting or other causes, this alarm code "53" will be indicated and the unit can not be operated. In this case, check to ensure the surge absorber/surge arrester (SA) on the noise filter (NF1, NF2). The surge absorber may be damaged if the inner surface of the surge absorber is black. In that case, replace the surge absorber. If the inside of the surge absorber is normal, turn OFF the power once and wait until LED4 on inverter PCB is OFF (approx. 5 min.) and turn ON again.

< Position of Surge Absorber >

NF1



NF2

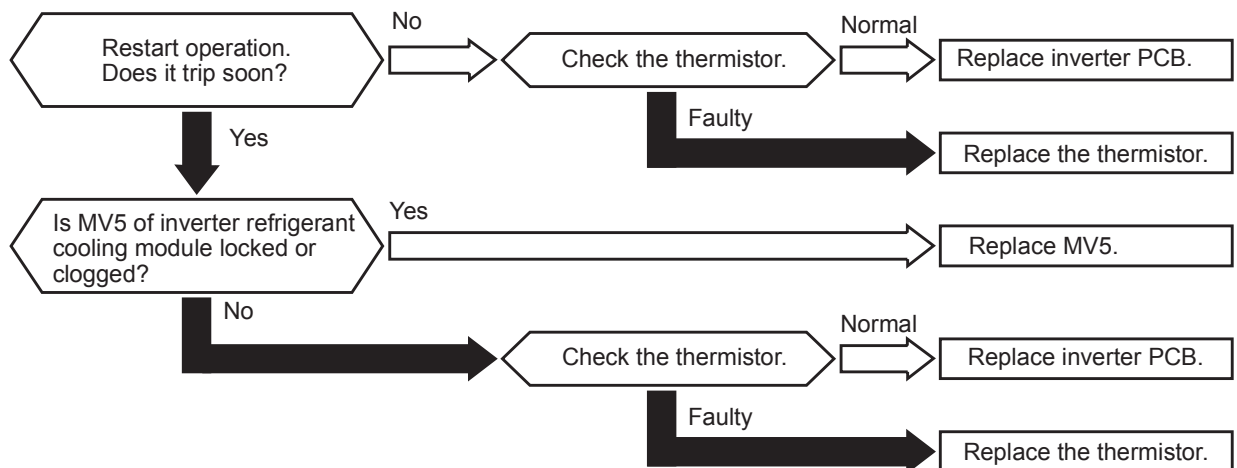


Alarm Code

54

Abnormality of Inverter Fin Temperature

- The RUN indicator (Red) is flashing
 - The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.
- ★ In case that the abnormality of inverter fin temperature occurs three times within 30 minutes, this alarm code is indicated at the third time.
(Retry operation is performed for the first two times.)
Conditions of Activation: The radiation fin temperature exceeds 100°C.



MV5	
CN15	

Alarm
Code

55

Inverter Failure

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

- ★ This alarm code is indicated when the following phenomenon occurs three times in 30 minutes. (Retry operation is performed for the first two times.)

Actual frequency from inverter PCB is less than 10Hz (after inverter frequency output from outdoor unit PCB).

Conditions of Activation: Inverter PCB does not operate normally.



- *1): When the unit is applied with excessive surge current due to lightning or other causes, this alarm code "55" will be indicated and the unit can not be operated. In this case, check to ensure the surge absorber/surge arrester (SA) on the noise filter (NF1, NF2). The surge absorber may be damaged if the inner surface of the surge absorber is black. In that case, replace the surge absorber. If the inside of the surge absorber is normal, turn OFF the power once and wait until LED4 on inverter PCB is OFF (approx. 5 min.) and turn ON again.

Alarm
Code

57

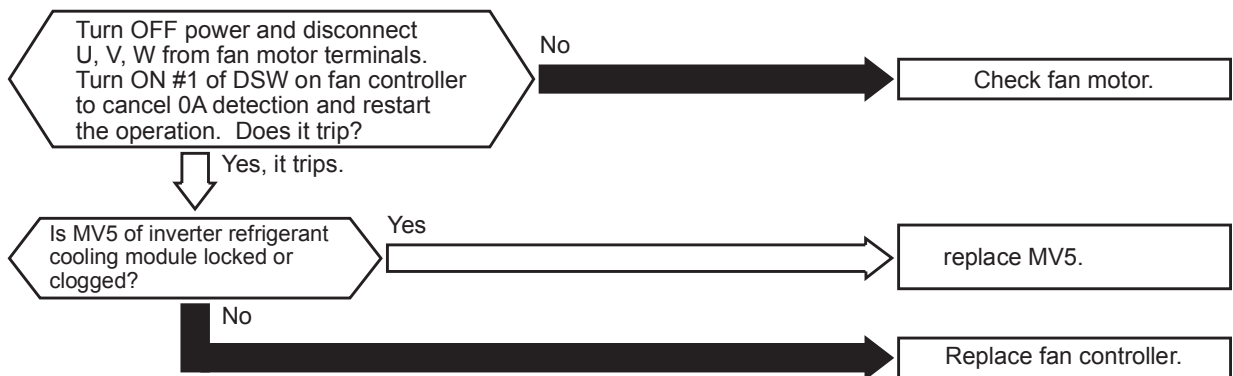
Activation of Fan Controller Protection

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

- ★ IPM (Transistor Module) has abnormality-detecting function.
This alarm code is indicated when the abnormality is detected ten times within 30 minutes. (Retry operation is performed for the first nine times.)

Condition of Activation:

- (1) The abnormal current such as a short-circuit current, a ground-fault current or the overcurrent occurs at the transistor module.
- (2) The control voltage decreases.



MV5	
CN15	

- *1): When the unit is applied with excessive surge current due to lighting or other causes, this alarm code "57" will be indicated and the unit can not be operated. In this case, check to ensure the surge absorber/surge arrester (SA) on the noise filter (NF1, NF2). The surge absorber may be damaged if the inner surface of the surge absorber is black. In that case, replace the surge absorber.
If the inside of the surge absorber is normal, turn OFF the power once and wait until LED4 on inverter PCB is OFF (approx. 5 min.) and turn ON again.

Alarm Code

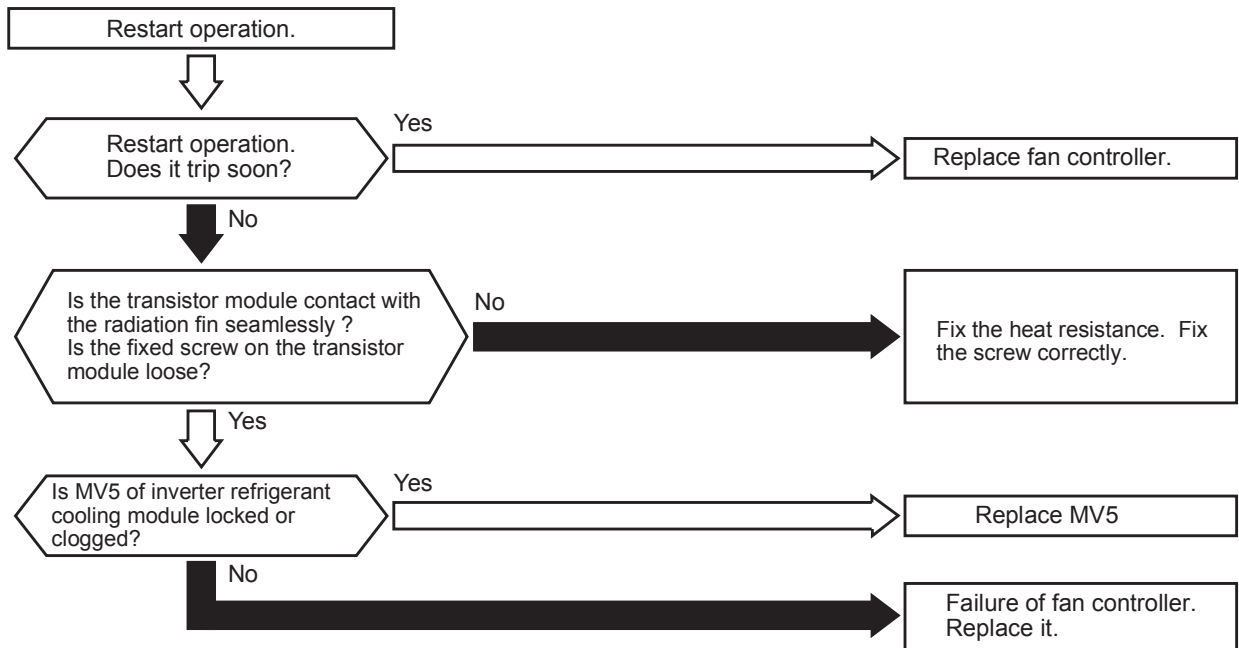
5A

Abnormality of Fan Controller Fin Temperature

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when the abnormality of fin temperature occurs ten times within 30 minutes. (Retry operation is performed for the first nine times.)

Conditions of Activation: The thermistor temperature inside transistor module exceeds 100°C.



MV5	
CN15	

Alarm Code

7A

Abnormality of Water Module

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

This alarm code is indicated when the abnormality is detected six times within 60 minutes. (Retry operation is performed for the first five times.)

Condition of Activation:

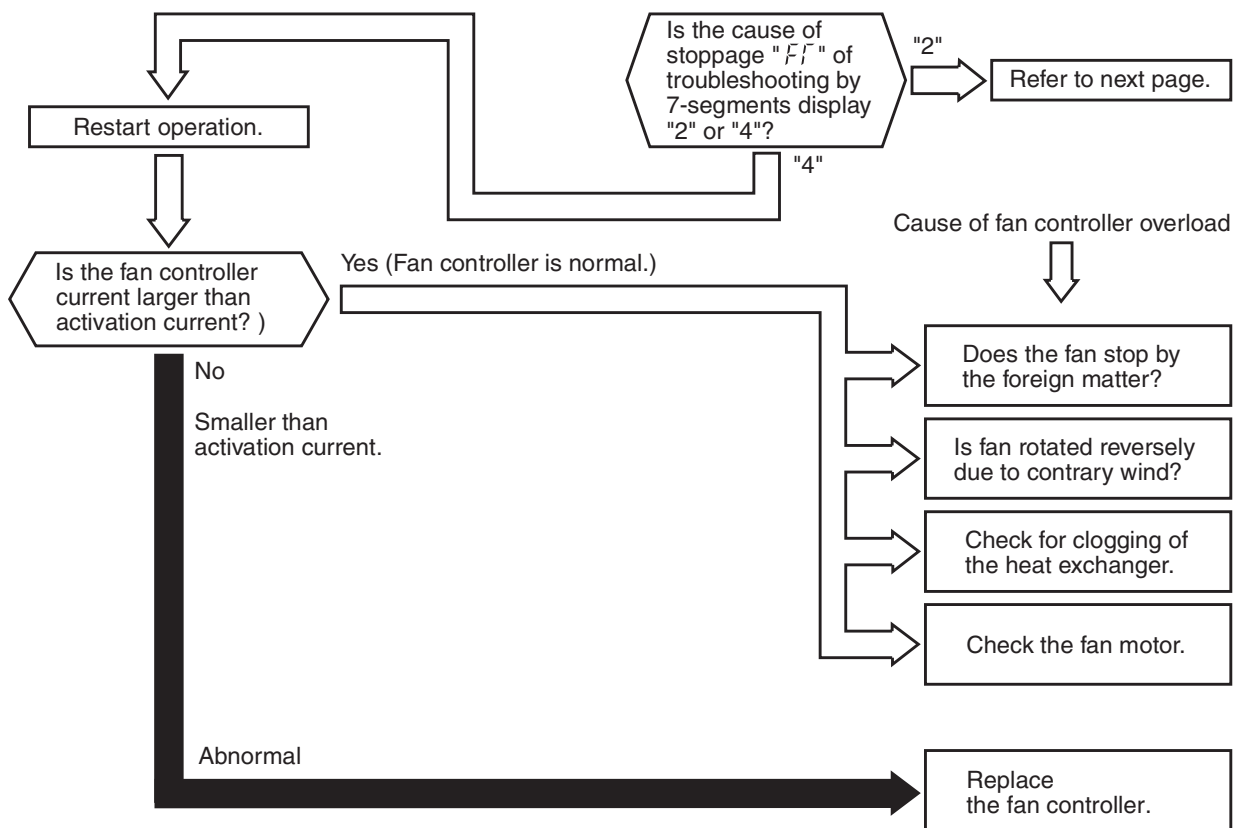
- (1) Freezing Protection occurs in Water Module.
- (2) Water flow Switch is triggered in Water Module.

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when fan controller electronic thermal protection is activated ten times within 30 minutes.
 (Retry operation is performed for the first nine times.)

Conditions of Activation:

- (1) Electric current with 105% of the rated current runs for 30 seconds continuously.
- (2) Electric current runs intermittently and the accumulated time reaches up to 3 minutes, in 10 minutes.



Alarm Code

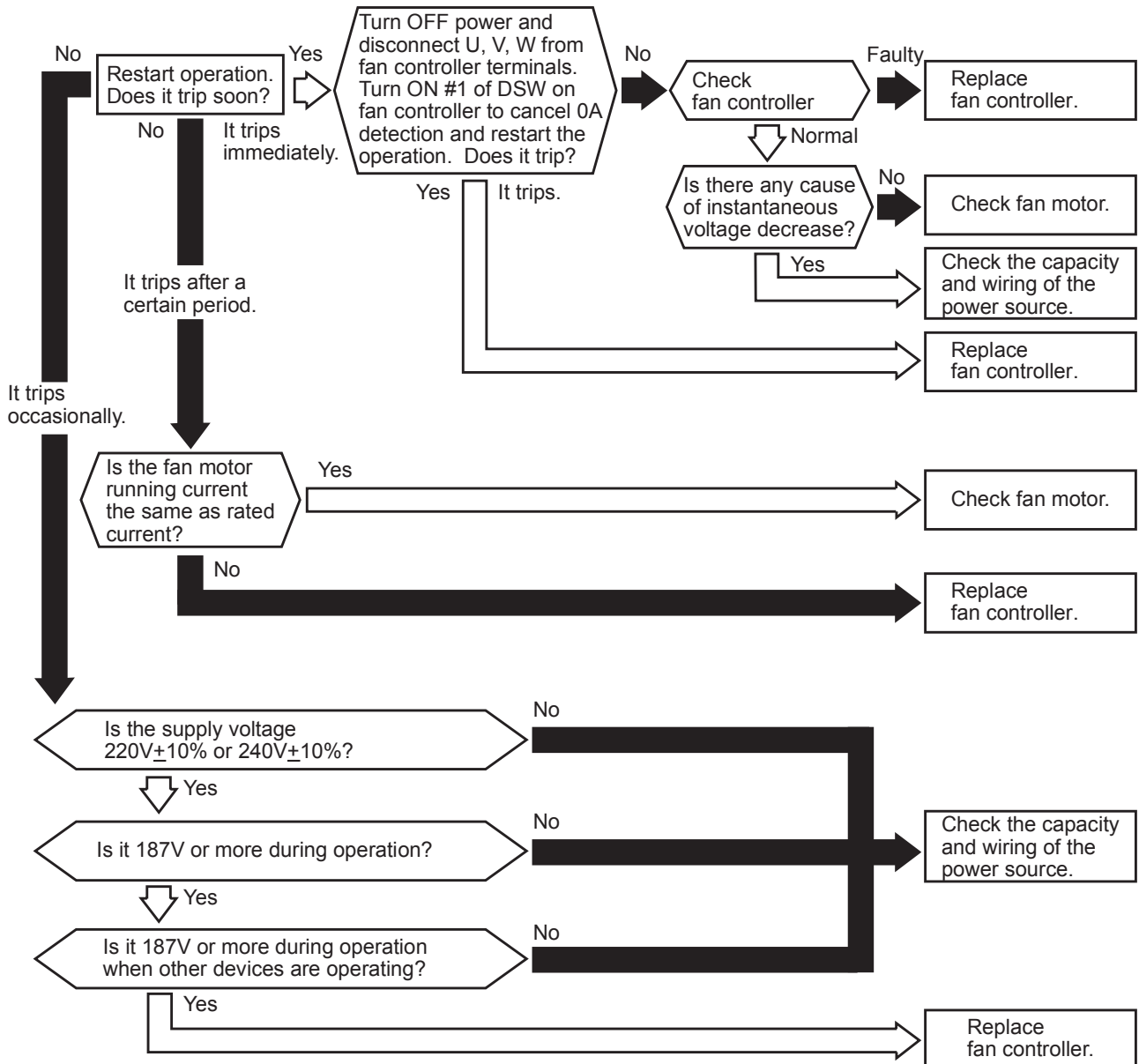
56

Activation of Fan Controller Overcurrent Protection Device (2)

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the connected number of indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated when instantaneous overcurrent occurs ten times within 30 minutes. (Retry operation is performed for the first nine times.)

Conditions of Activation: The running current exceeds the rated current of transistor module.



Alarm Code

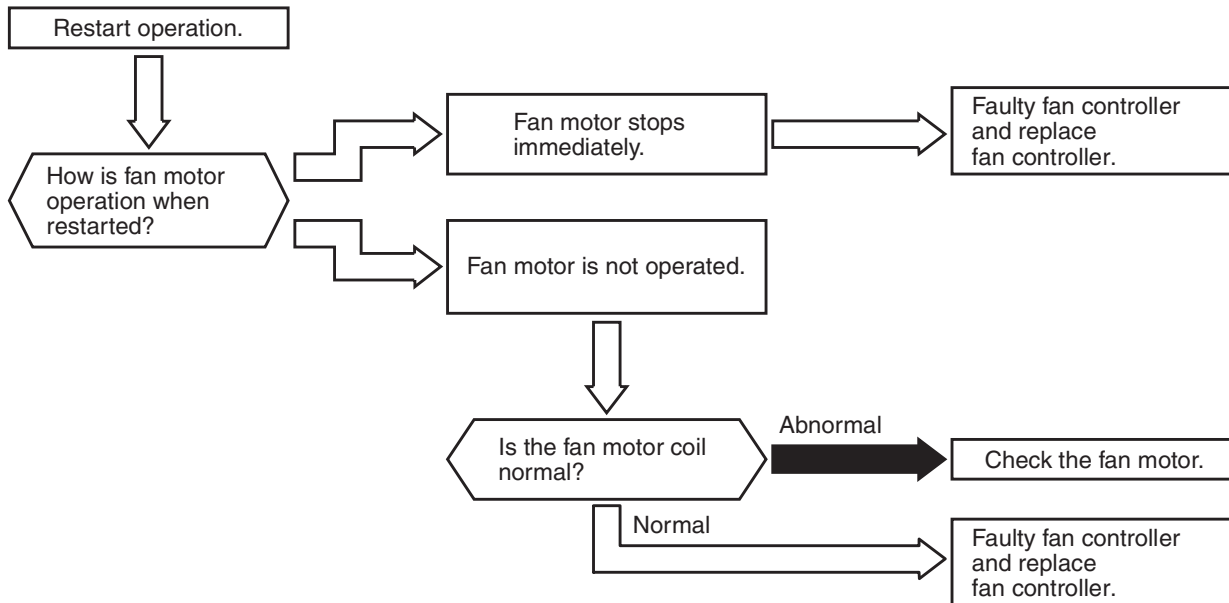
5E

Abnormality of Fan Controller Sensor

★ Conditions of Activation:

This alarm code is indicated when the following conditions occur.

- (1) After fan motor operation is started, fan controller current does NOT exceed 1.5A.
- (2) Before fan motor operation is started (at completing the phase positioning), the wave height value of running current for the phase positioning is less than 4A.



Alarm Code

EE

Compressor Protection

- ★ This alarm code appears when one of the following alarms occurs three times within 6 hours, which may result in serious compressor damages, if the outdoor unit is continuously operated without removing the cause. This alarm code can NOT be reset from the remote control switch.

Alarm Code:

Content of Abnormality

02	Activation of Protection Device (High Pressure Cut)
07	Decrease in Discharge Gas Superheat
08	Increase in Discharge Gas Temperature
39	Abnormality of Running Current at Constant Speed Compressor
43	Activation of Low Compression Ratio Protection Device
44	Activation of Low Pressure Increase Protection Device
45	Activation of High Pressure Increase Protection Device
47	Activation of Low Pressure Decrease Protection Device (Vacuum Operation Protection)

These alarms can be checked by the CHECK Mode 1. Follow the action indicated in each alarm chart. These alarms are cleared only by turning OFF the main power switch to the system. **However, great care must be taken before starting, since there is a possibility of causing serious damages to the compressors.**

Alarm Code	61	Incorrect Setting of Unit and Refrigerant Cycle Number
------------	----	--

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code, the unit model code and the number of connected indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

★ This alarm code is indicated in the following condition. Check dip switches and rotary switches after turning OFF the power source.

Unit No. Setting	Conditions	Action
1~64 (Recommended)	The unit number setting (DSW6 and RSW1) or the refrigerant cycle setting (DSW5 and RSW2) is set more than "64", or more than 2 pins are set at DSW5 or DSW6.	Set the unit number setting and the refrigerant cycle setting less than "64".
0~63	The unit number setting (DSW6 and RSW1) or the refrigerant cycle setting (DSW5 and RSW2) is set more than "63", or more than 2 pins are set at DSW5 or DSW6.	Set the unit number setting and the refrigerant cycle setting less than "63".
The unit number setting and the refrigerant number setting are set between "16" and "63", and the indoor unit does not correspond to Hi-NET II.		Set the unit number and the refrigerant cycle setting between "0" and "15".

Alarm Code	65	Incorrect Setting of Indoor Unit Number for Hi-NET Type
------------	----	---

- The RUN indicator (Red) is flashing
- The indoor unit number, the alarm code^{*)}, the unit model code and the number of connected indoor units are displayed on LCD. Meanwhile, the indoor unit number and the alarm code are displayed on the 7-segment of outdoor unit PCB.

*) : The alarm code indicated on the remote control switch is "35".

Condition	Action
The number of the connected indoor units not supporting Hi-NET II is 17 and after.	The number of the connected indoor units shall be 16 and before.

Alarm Code

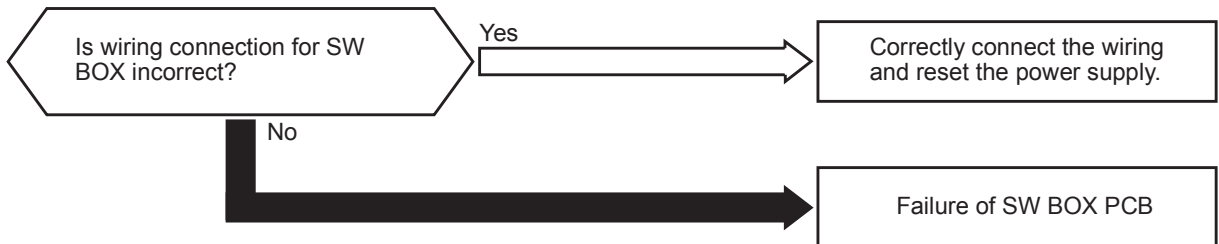
[1]

Incorrect Indoor Unit Connection (SW BOX)

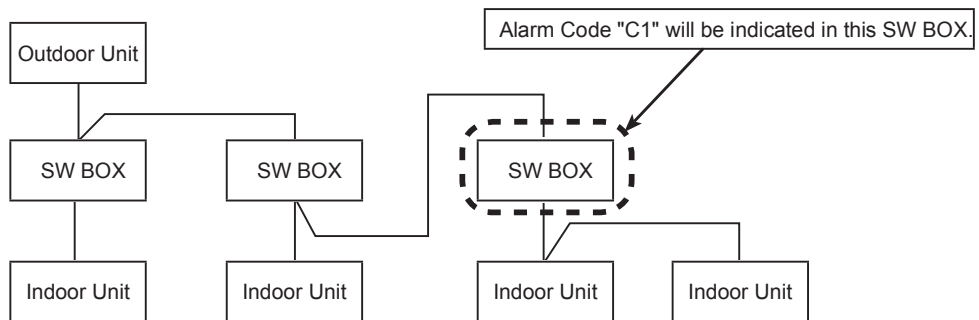
- LED (LED10, 11, 12, 13) on SW BOX PCB flashes.

★ <Heat Recovery System>

This alarm code is indicated when two or more SW BOXs are connected between outdoor unit and indoor unit.



- Alarm Code "C1" will be indicated when the units are connected as follows.



Alarm Code

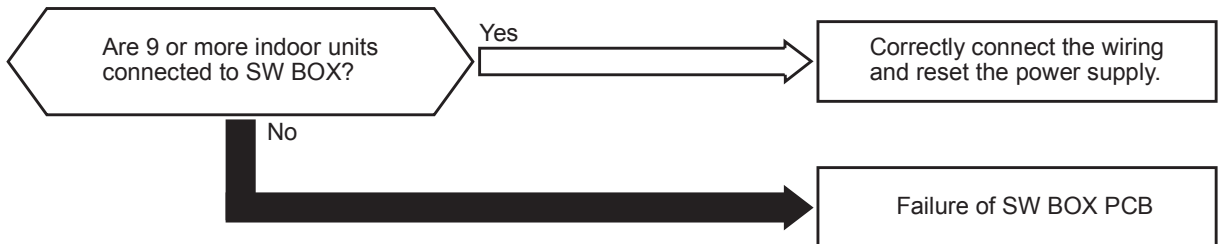
C2

Incorrect Indoor Unit Connection No. Setting (SW BOX)

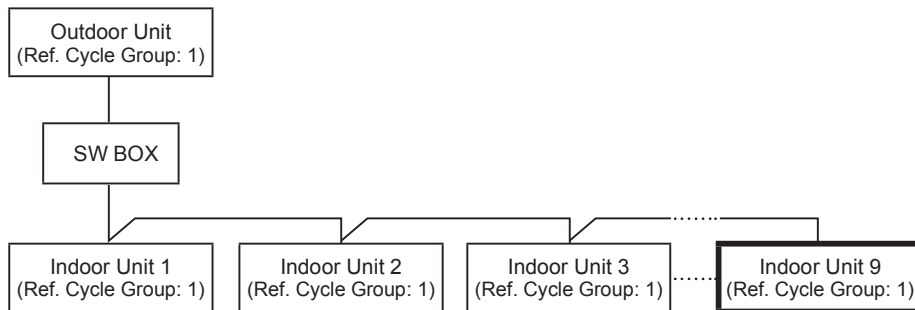
- LED (LED10, 11, 12) on SW BOX PCB flashes (for multiple branch type SW BOX, only LED on PCBs with abnormality flashes).

★ <Heat Recovery System>

This alarm code is indicated when nine or more indoor units are connected to SW BOX.



- Alarm Code "C2" will be indicated when the units are connected as follows.



Alarm Code

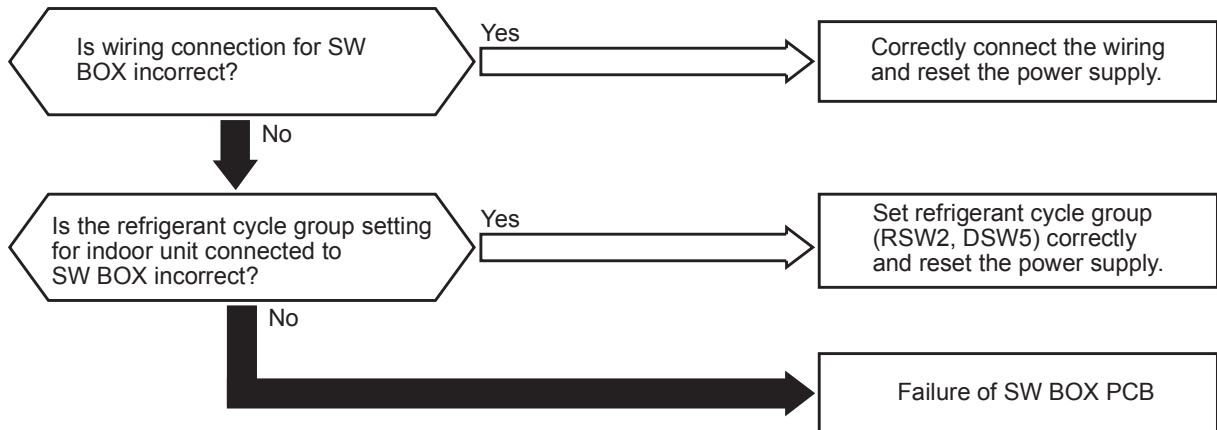
C3

Incorrect Indoor Unit Connection (SW BOX)

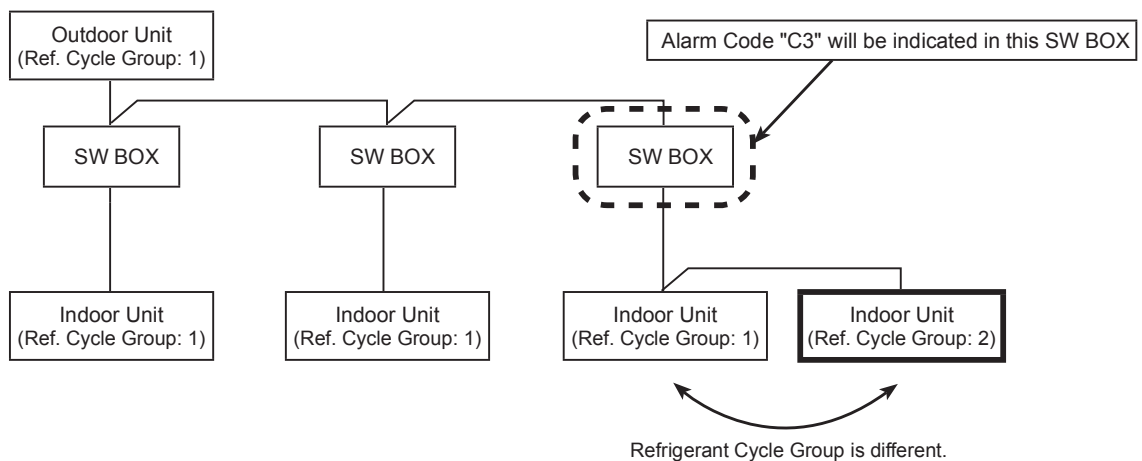
- LED (LED5, 6) on SW BOX PCB flashes

★ <Heat Recovery System>

This alarm code is indicated when indoor unit with different refrigerant cycle group is connected to SW BOX.



- Alarm Code "C3" will be indicated when the units are connected as follows.



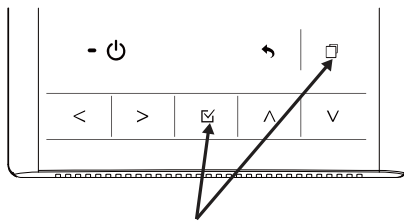
1.2.3 Troubleshooting in Check Mode by Remote Control Switch

1.2.3.1 Check mode

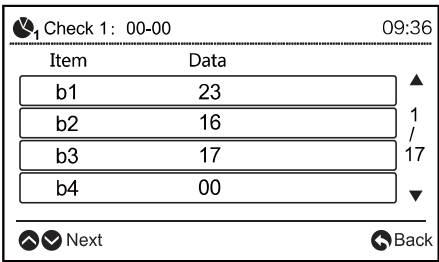
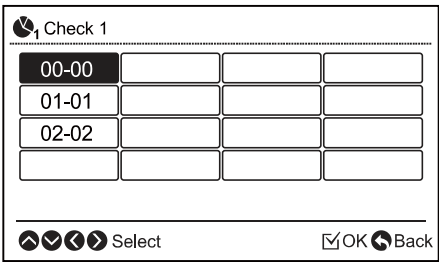
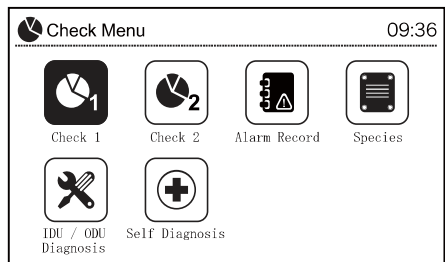
Each “Check Menu” item and its function are explained in the following table.

Check Menu Item	Function
Check 1	Sensor condition of air conditioner will be monitored and indicated.
Check 2	Sensor data of air conditioner prior to alarm occurrence will be indicated.
Alarm History Display	Previous alarm record (date, time, alarm code) will be indicated.

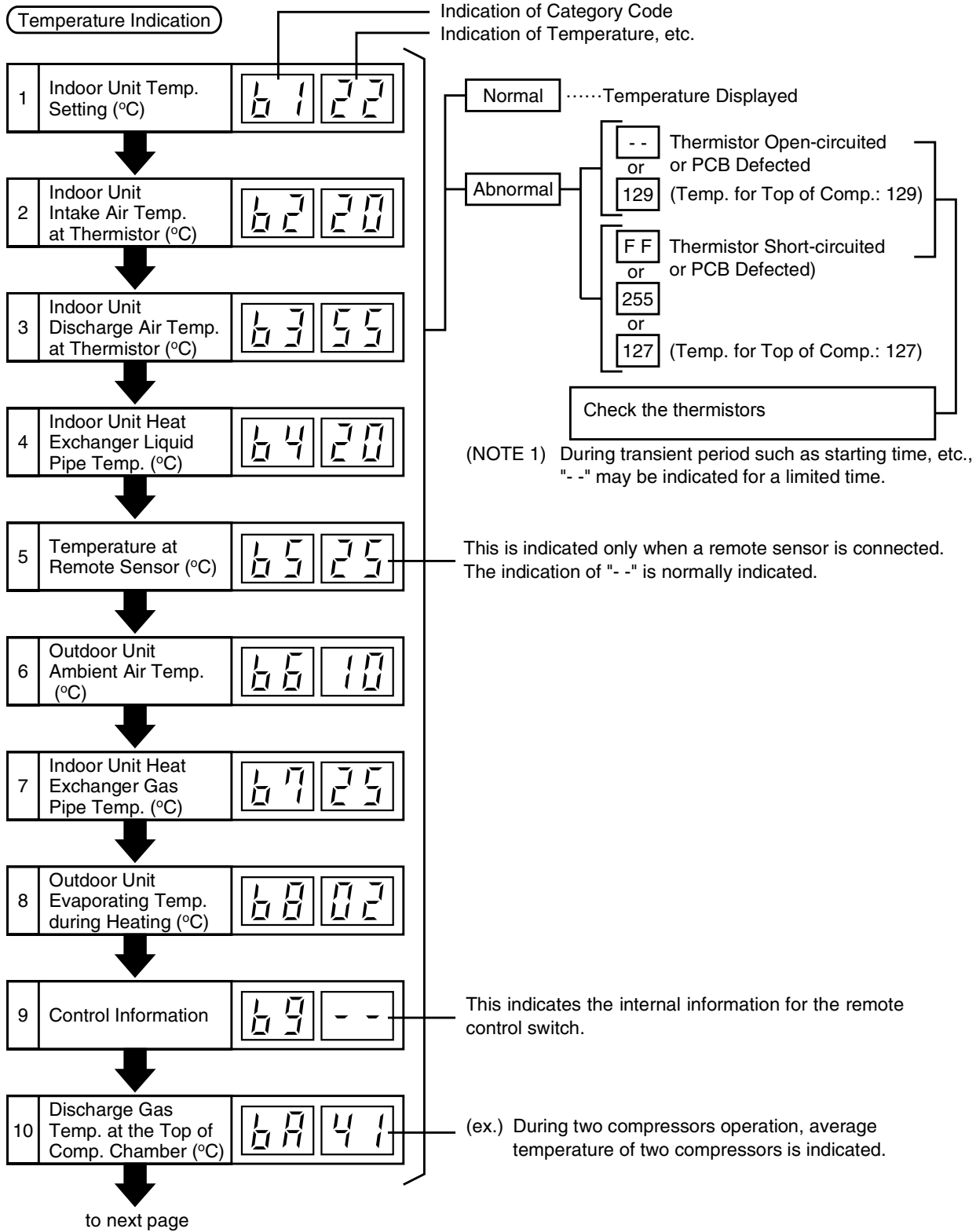
● Setting Method



Press and hold “☐” (menu) and “☑” simultaneously for at least 3 seconds during the normal mode . The check menu will be displayed.



(1) Contents of Check Mode 1

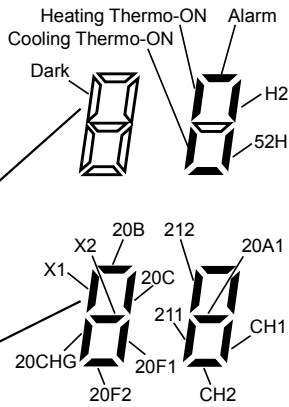


11 Thermo Temp. of Remote Control Switch bb 23

Indication on Micro-Computer Input/Output

12 Micro-Computer Input/Output in Indoor Unit E1 4

13 Micro-Computer Input/Output in Outdoor Unit E2 -



Indication of Unit Stoppage Cause

14 Cause of Stoppage d1 01

Abnormality Occurrence Counter

15 Abnormality Occurrence Times E1 01

16 Instantaneous Power Failure Occurrence Times in Indoor Unit E2 00

17 Transmission Error Occurrence Times between Remote Control Switch and Indoor Unit E3 00

18 Abnormality Occurrence Times on Inverter E4 00

Indication of Automatic Louver Condition

19 Louver Sensor F1 00

00	Operation OFF, Power OFF
01	Thermo-OFF (NOTE 1), Activating Float Switch
02	Alarm (NOTE 2)
03	Freeze Protection, Overheating Protection
05	Instantaneous Power Failure at Outdoor Unit, Reset (NOTE 3)
06	Instantaneous Power Failure at Indoor Unit, Reset (NOTE 4)
07	Stoppage of Cooling Operation due to Low Outdoor Air Temperature, Stoppage of Heating Operation due to High Outdoor Air Temperature
09	Reversing Valve Changeover, Stoppage
10	Demand, Enforced Stoppage
11	Retry due to Pressure Ratio Decrease
12	Retry due to Low Pressure Increase
13	Retry due to High Pressure Increase
14	Retry due to Abnormal Current of Constant Compressor
15	Retry due to Abnormal High Temperature of Discharge Gas, Excessively Low Suction Pressure
16	Retry due to Decrease of Discharge Gas Superheat
17	Retry due to Inverter Abnormality
18	Retry due to Voltage Decrease, Other Retry due to Inverter
19	Expansion Valve Opening Change Protection
21	Thermo-OFF by Oil Return Control
22	Hot Start of Outdoor Unit
26	Retry due to High Pressure Decrease
28	Cold Draft Control
30	Thermo-OFF due to Compressor Forced Stop
32	Retry due to Excessive Outdoor Unit Number

(NOTE 1) Explanation of Term,

Thermo-ON: A condition that an indoor unit is requesting compressor to operate.

Thermo-OFF: A condition that an indoor unit is not requesting compressor to operate.

(NOTE 2) Even if stoppage is caused by "Alarm", "02" is not always indicated.

(NOTE 3) If transmission between the inverter printed circuit board and the control printed circuit board is not performed during 30 seconds, the outdoor unit is stopped. In this case, stoppage is d1-05 cause and the alarm code "04" may be indicated.

(NOTE 4) If transmission between the indoor unit and the outdoor unit is not performed during 3 minutes, indoor units are stopped. In this case, stoppage is d1-06 cause and the alarm code "03" may be indicated.

Countable up to 99.

Over 99 times, "99" is always indicated.

(NOTE 1) If a transmitting error continues for 3 minutes, one is added to the occurrence times.

to next page

Compressor Pressure/Frequency Indication

20 Discharge Pressure (High) (x 0.1 MPa) 41 18

21 Suction Pressure (Low) (x 0.01 MPa) 42 04

22 Control Information 43 44

This is an indication for internal information for the remote control switch. This does not have any specific meaning.

23 Operation Frequency (Hz) 44 44

This is an indication for frequency of Inverter.

Indoor Unit Capacity Indication

24 Indoor Unit Capacity 11 00

The capacity of the indoor unit is indicated as shown in the table below.

Capacity Code of Indoor Unit

Indication Code	Equivalent Capacity (HP)
06	0.8
08	1.0
10	1.3
13	1.5
14	1.8
16	2.0
18	2.3
20	2.5
22	2.8
26	3.0
32	4.0
40	5.0
64	8.0
80	10.0

25 Outdoor Unit Code 12 Fn

26 Refrigerant Cycle Number 13 01

27 Refrigerant Cycle Number 14 00

"n" indicates total number of indoor units;

n = 1~9, A, B, C, D, E, F, U
(10) (11) (12) (13) (14) (15) (16)

Expansion Opening Indication

28 Indoor Unit Expansion Valve Opening (%) 11 20

J3: 01 to 16
(01: when shipment (DSW5), Decimal Indication)

J4: 00 to 0F
(00: when shipment (DSW5), Indication with 16 numbers)

29 Outdoor Unit Expansion Valve MV1 Opening (%) 12 99

In case of models without Expansion Valve (MV2), the same figure is indicated.

30 Outdoor Unit Expansion Valve MV2 Opening (%) 13 99

31 Outdoor Unit Expansion Valve MVB Opening (%) 14 00

Estimated Electric Current Indication

32 Compressor Running Current (A) P1 25

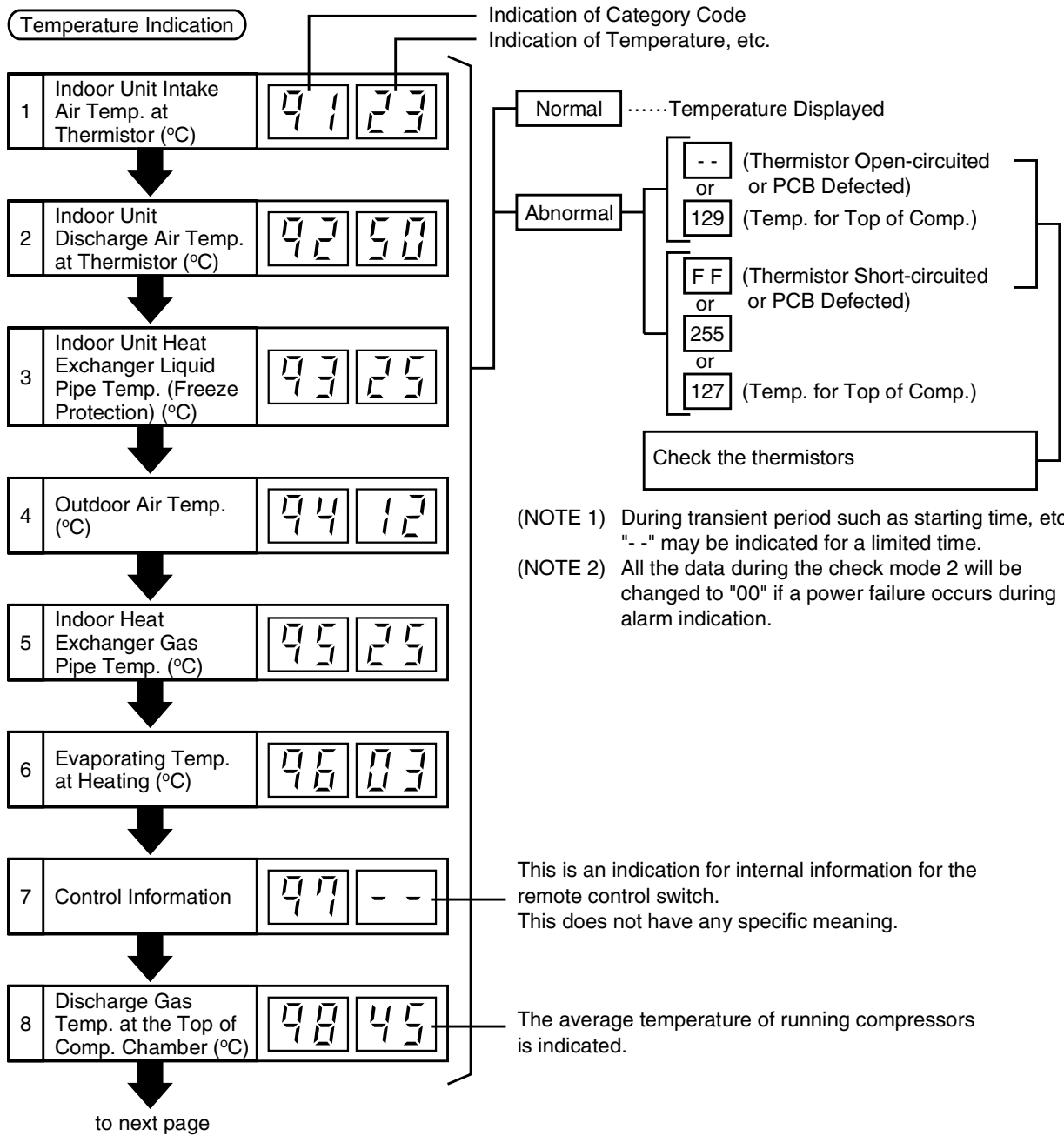
The total current is indicated when several compressors are running.

In case of inverter compressor, the running current of primary side of inverter is indicated.

Returns to Temperature Indication

Temperature Indication

(2) Contents of Check Mode 2



Compressor Pressure/Frequency Indication

9	Discharge Pressure (High) (x 0.1 MPa)	99	18
---	---------------------------------------	----	----



10	Suction Pressure (Low) (x 0.01 MPa)	98	04
----	-------------------------------------	----	----



11	Control Information	96	44
----	---------------------	----	----

This is an indication for internal information for the remote control switch. This does not have any specific meaning.



12	Operating Frequency (Hz)	97	44
----	--------------------------	----	----

This is an indication for frequency of inverter.



Expansion Opening Indication

13	Indoor Unit Expansion Valve Opening (%)	9d	20
----	---	----	----



14	Outdoor Unit Expansion Valve MV1 Opening (%)	9E	99
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Estimated Electric Current Indication

15	Compressor Running Current (A)	9F	20
----	--------------------------------	----	----

The total value is indicated when two compressors are running.



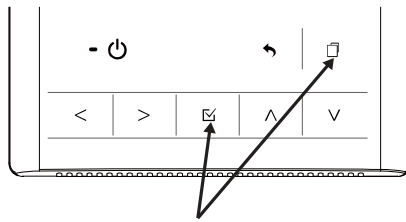
Returns to Temperature Indication



Temperature Indication

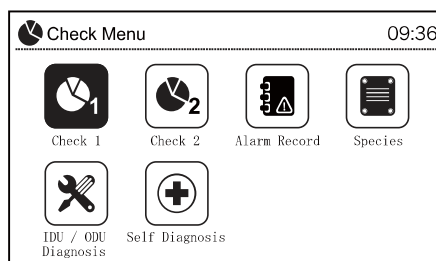
1.2.3.2 Alarm History Display

The alarm history display is available to be set from the check menu.

● Setting Method





Press and hold “” (menu) and “” simultaneously for at least 3 seconds during the normal mode. The check menu will be displayed.



● Select "Alarm Record"

※ To Erase Alarm Record

Press “” when the abnormality record is indicated. After that, the confirmation interface will be displayed.

Select “Yes” and press “” so that the alarm record will be deleted.

1.2.4 Troubleshooting by 7-Segment Display

Only the authorized person can check with this method. Operating conditions and each part of refrigeration cycle can be checked by 7-segment and push switches on the PCB in the outdoor unit.

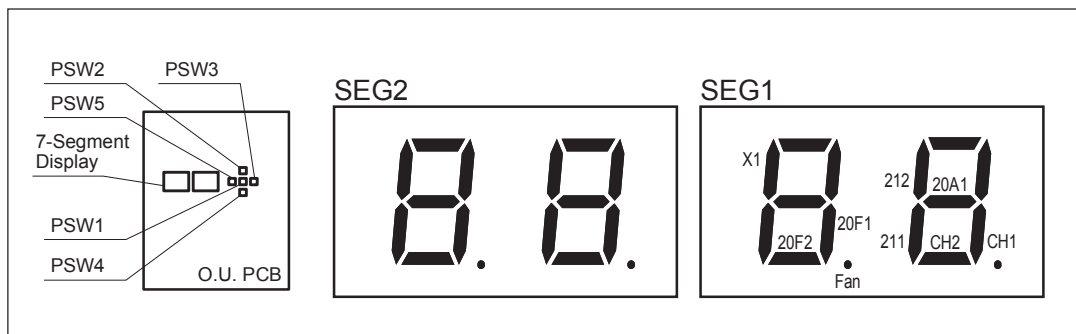
- (1) Before Checking
 - (a) Turn ON main power source. Wait for more than 20 seconds to start checking.
 - (b) Checking Items
 - * Connecting Information
 - * Outdoor Unit Information
 - * Indoor Unit Information
 - * Cause of Alarm Code Information
 - * Alarm Code History Information
 - (c) Check the location of 7-segment and push switches.

! WARNING

AC220-240V is applied to PCB and electrical parts. Never touch electrical parts and wires when checking.

(2) Location of Push Switches and 7-Segment Display

The push switches and 7-segment display are located on the outdoor unit PCB.



Mark	Description of Mark	Parts Mark in Wiring Diagram
CH ₁	Contactora of Relay (Y _{CH1}) on O.U. PCB for Crankcase Heater	CH1
CH ₂	Contactora of Relay (Y _{CH2}) on O.U. PCB for Crankcase Heater	CH2
20A ₁	Contactora of Relay (Y _{20A1}) on O.U. PCB for Solenoid Valve	SVA
20A ₂	-	-
21 ₁	Contactora of Relay (Y ₂₁₁) on O.U. PCB for Reversing Valve	RVR1
21 ₂	Contactora of Relay (Y ₂₁₂) on O.U. PCB for Reversing Valve	RVR2
FAN	-	-
20B	-	-
20C	-	-
20F ₁	Contactora of Relay (Y _{20F1}) on O.U. PCB for Solenoid Valve	-
20F ₂	Contactora of Relay (Y _{20F2}) on O.U. PCB for Solenoid Valve	-
20CHG	-	-
X ₁	Contactora of Relay (Y _{X1}) on O.U. PCB for Solenoid Valve	SVG
X ₂	-	-

(3) Protection Control Code on 7-Segment Display

- * Protection control code is displayed on 7-segment during operation when a protection control is activated.
- * Protection control code is displayed while function is working, and goes out when released.
- * When several protection controls are activated, code number with higher priority will be indicated (see below for the priority order).

(a) Higher priority is given to the protection control related to frequency control than the others.

< Priority Order >

- | | |
|---|---|
| <1> Pressure Ratio Control | <6> Low-Pressure Decrease Protection |
| <2> High-Pressure Increase Protection | <7> Demand Current Control
(Running Current Limit Control) |
| <3> Current Protection | <8> Low-Pressure Increase Protection |
| <4> Inverter Fin Temperature Increase Protection | <9> High-Pressure Decrease Protection |
| <5> Discharge Gas Temperature Increase Protection | |

(b) In relation to retry control, the latest retry code will be indicated unless a protection control related to frequency control is indicated.

Code	Protection Control	Code during Degeneration Control
P01	Pressure Ratio Protection Control	Pc1
P02	High-Pressure Increase Protection	Pc2
P03	Inverter Current Protection	Pc3
P04	Inverter Fin Temperature Increase Protection	Pc4
P05	Discharge Gas Temperature on Top of Compressor Increase Protection	Pc5
P06	Low-Pressure Decrease Protection	Without
P09	High-Pressure Decrease Protection	
P0A	Demand Current Protection Control	
P0d	Low-Pressure Increase Protection	

Code	Retry Control	Code during Degeneration Control
P11	Pressure Ratio Decrease Retry	Without
P12	Low-Pressure Increase Retry	
P13	High-Pressure Increase Retry	
P15	Discharge Gas Temperature Increase Retry/Low-Pressure Decrease Retry	
P16	Discharge Gas SUPERHEAT Decrease Retry	
P17	Inverter Abnormality Retry	
P18	Abnormal Inverter Voltage Retry/Inverter Failure Retry	
P26	High-Pressure Decrease Retry	

NOTE:

- (1) Retry indication continues for 30 minutes unless a protection control is indicated.
- (2) Retry indication disappears if the stop signal comes from all rooms.
- (3) The protection control code indicated on 7-segment display changes to an alarm code when an abnormal operation occurs. Also, the same alarm code is indicated on the remote control switch.
- (4) In case that the degeneration control is activated, the indications Pc1 to Pc5 are indicated instead of P01 to P05.

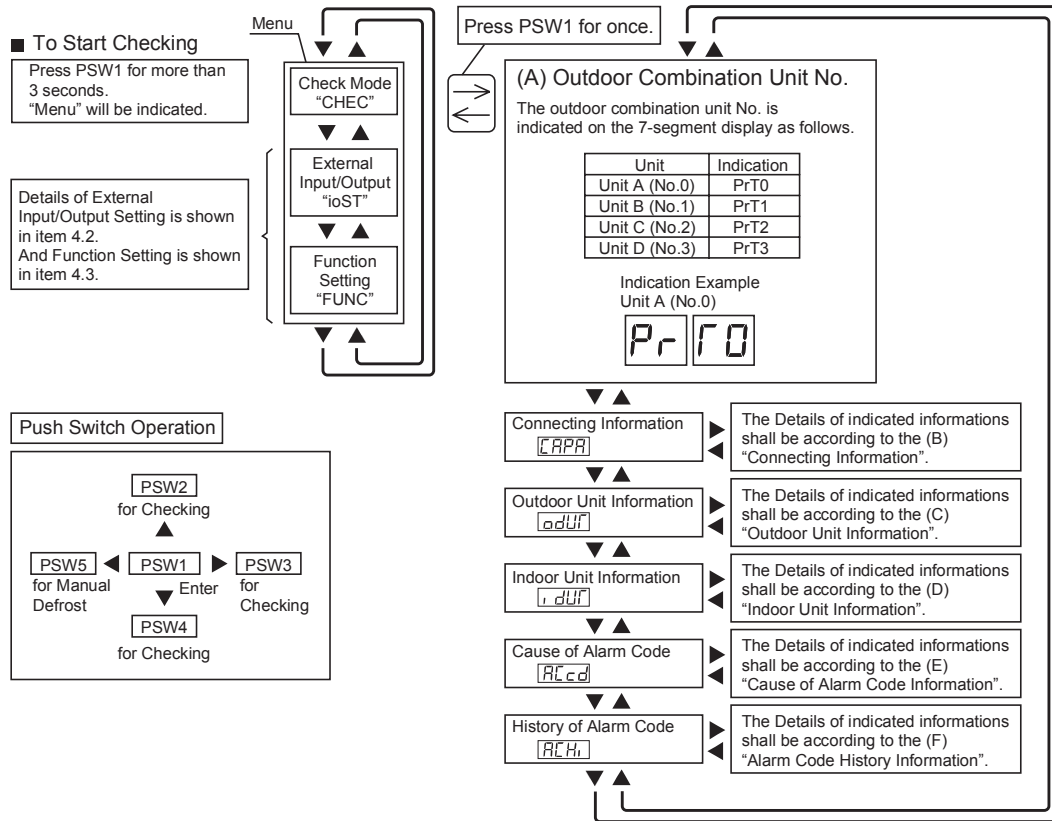
- (4) Activating Condition of Protection Retry Control Code
 Protection Control or Retry Control is performed to prevent the abnormal operation.
 The activating conditions are shown in the table below.

Code	Protection Control	Activating Condition	Remarks
P01	Pressure Ratio Protection Control	Compression Ratio $\epsilon \geq 8.5$ or Compression Ratio $\epsilon \leq 1.8$	-
P02	High-Pressure Increase Protection	Discharge Pressure $P_d \geq 3.50$ (at Cooling Mode) $P_d \geq 3.50$ (at Heating Mode and Heat Recovery Mode)	-
P03	Inverter Current Protection	Inverter Output Current $\geq 31A$	-
P04	Inverter Fin Temperature Increase Protection	Inverter Fin Temperature $\geq 98^\circ C$	-
P05	Discharge Gas Temperature Increase Protection	Temperature at the Top of Compressor $T_d \geq 108^\circ C$	-
P06	Low-Pressure Decrease Protection	Suction Pressure $P_s \leq 0.1MPa$	-
P09	High-Pressure Decrease Protection	Discharge Pressure $P_d \leq 1.0MPa$	-
P0A	Demand Current Protection Control	Running Current for Compressor \geq Demand Current Setting Value	Demand Current Setting Value: Upper limit of total running current is set 100%, 80%, 70%, 60% and 40% at normal operation.
P0d	Low-Pressure Increase Protection	Suction Pressure $\geq 1.5MPa$	-

Code	Retry Control	Activating Condition	Remarks
P11	Pressure Ratio Decrease Retry	Pressure Ratio $\epsilon < 1.8$ over 2 minute	When activating 3 times in 30 minutes, "43" alarm is indicated.
P12	Low-Pressure Increase Retry	$P_s > 1.6MPa$ over 1 minute	When activating 3 times in 30 minutes, "44" alarm is indicated.
P13	High-Pressure Increase Retry	$P_d \geq 3.9MPa$ over 2 seconds	When activating 3 times in 30 minutes, "45" alarm is indicated.
P15	Discharge Gas Temperature Increase Retry	Discharge Gas Temperature $\geq 115^\circ C$ over 10 minutes or Discharge Gas Temperature $\geq 120^\circ C$ over 5 seconds	When activating 3 times in 60 minutes, "08" alarm is indicated.
	Low-Pressure Decrease Retry	$P_s < 0.09MPa$ over 12 minutes	When activating 3 times in 60 minutes, "47" alarm is indicated.
P16	Discharge Gas SUPERHEAT Decrease Retry	Discharge Gas SUPERHEAT $\leq T_c + 10$ deg. over 30 minutes. T_c : Saturation Temperature	When activating 3 times in 120 minutes, "07" alarm is indicated.
P17	Inverter Abnormality Retry	Instantaneous Overcurrent	When activating 6 times in 30 minutes, "48" alarm is indicated.
		Abnormality of Current Sensor	When activating 3 times in 30 minutes, "51" alarm is indicated.
		IPM Error	When activating 7 times in 30 minutes, "53" alarm is indicated.
		Fin Temperature $\geq 100^\circ C$	When activating 3 times in 30 minutes, "54" alarm is indicated.
P18	Abnormal Inverter Voltage Retry	Insufficient Voltage at Inverter Circuit	When activating 3 times in 30 minutes, "06" alarm is indicated.
		Excessive Voltage at Inverter Circuit	When activating 3 times in 30 minutes, "06" alarm is indicated.
	Inverter Failure Retry	Actual Inverter Frequency continues to be 0Hz for 3 seconds, 3 minutes after Inverter Frequency is output.	When activating 3 times in 30 minutes, "55" alarm is indicated.
P26	High-Pressure Decrease Retry	$P_d < T_a / 130 + 0.4MPa$ over 4 minutes or $P_d < 1.0MPa$ over 30 minutes T_a : Ambient Temperature	When activating 2 times in 30 minutes, "46" alarm is indicated.

Ps: Suction Pressure of Compressor, Pd: Discharge Pressure of Compressor

- (5) Alarm Code
Refer to the item 1.2.1.
- (6) Checking Method by Checking Mode



- To Cancel Checking Method
Press "PSW1" for more than 3 seconds while "Menu Mode" is displayed.
The indication of LCD will be turned off and condition will return to normal.

NOTICE
Make sure to cancel Checking Mode after checking is completed.

- (B) Connecting Information
This information is indicated on the unit A (main unit) only.
Press PSW4 (▼) to forward or PSW2 (▲) to backward.
Select the outdoor unit No. for indication.
Press PSW3 (▶) for details information of selected unit No.
Press PSW4 (▼) to forward or PSW2 (▲) to backward.
The information will be indicated alternately as "Item" → "Details".
Press PSW5 (◀) for return to Outdoor Unit No. Selection.

Unit	Indication
Unit A (No.0)	od00
Unit B (No.1)	od01
Unit C (No.2)	od02
Unit D (No.3)	od03

Details of Indication

Item	7-Segment Display		Details
	SEG2	SEG1	
1 Total Capacity of Connected Outdoor Units	□	CP	Total Capacity of O.U. Combination Refer to "Outdoor Unit Capacity Table".
2 O.U. Constitution Quantities	□	RR	Constitution Quantities of O.U. Combination
3 Total Capacity of Connected Indoor Units	,	CP	Total Capacity of Connected Indoor Units
4 Connected I.U. Number	,	RR	Connected Indoor Unit Number
5 Refrigerant Group		CR	Refrigerant Group Number (0 to 64)
6 Total Capacity of Operated I.U.		oP	Total Capacity of Operated Indoor Units Refer to "Indoor Unit Capacity Table".
7 Total Compressor Frequency		Ht	Unit: Hz
8 Accumulated Operation Time		UU	Unit: Hour (Indication x 10 Hours)

(C) Outdoor Unit Information

Select the outdoor combination unit No. for indication.

When the selection is changed, press PSW4 (▼) to forward or PSW2 (▲) to backward.

Select the outdoor combination unit No. for indication by pressing PSW4 or PSW2.

Press PSW3(▶) for details information.

Press PSW4(▼) to forward or PSW2(▲) to backward.

The information will be indicated alternately as "Item" → "Details".

Press PSW5(◀) for return to Outdoor Combination Unit No. Selection.

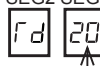
Unit	Indication
Unit A (No.0)	0000
Unit B (No.1)	0001
Unit C (No.2)	0002
Unit D (No.3)	0003

Item	7-Segment Display		Details
	SEG2	SEG1	
1 Outdoor Unit Capacity	CR	0 ^{*3)}	Unit Capacity Indication Refer to "Outdoor Unit Capacity Table".
2 Output State of Outdoor Micro-Computer	SC	0	Output State of Outdoor Micro-Computer Indication Refer to "Location of Push Switches and 7-Segment Display".
3 Running Frequency of Inverter Compressor MC1	H1	0	Running Frequency of INV. Compressor Indication
4 Total Number of Running Compressor	CC	0	Total Number of Running Compressor Indication
5 Air Flow Rate	F0	0	Air Flow Rate Indication (0 to 25 Steps)
6 Outdoor Expansion Valve MV1 Opening	E1	0	Outdoor Expansion Valve MV1 Opening Indication (Unit: %)
7 Outdoor Unit Expansion Valve MVB Opening for Bypass	Eb	0	Expansion Valve Opening for Bypass Indication (Unit: %)
8 Discharge Pressure (High)	Pd	0	Unit: MPa Indication of Thermistor Open Circuit: 562 Indication of Thermistor Short Circuit: -062
9 Suction Pressure (Low)	Ps	0	Unit: MPa Indication of Thermistor Open Circuit: 225 Indication of Thermistor Short Circuit: -025
10 Ambient Air Temperature (Ta)	To	0	Unit: °C Indication of Thermistor Open Circuit: -127 Indication of Thermistor Short Circuit: 127
11 Discharge Gas Temperature on the Top of Compressor MC1 (TD1)	Td	10	Unit: °C Indication of Thermistor Open Circuit: 0 Indication of Thermistor Short Circuit: 225
12 Discharge Gas Temperature on the Top of Compressor MC2 (TD2)	Td	20	Unit: °C (Only for 14, 16FSXN1) Indication of Thermistor Open Circuit: 0 Indication of Thermistor Short Circuit: 225
13 Evaporating Temperature TE at Heating	TE	0	Unit: °C Indication of Thermistor Open Circuit: -127 Indication of Thermistor Short Circuit: 127
14 Outdoor Heat Exchanger Gas Temperature	TE	0	Unit: °C Indication of Thermistor Open Circuit: -127 Indication of Thermistor Short Circuit: 127
15 Supercooling Temperature	TC	40	Unit: °C Indication of Thermistor Open Circuit: -127 Indication of Thermistor Short Circuit: 127
16 Supercooling Temperature at Bypass	Tb	00	Unit: °C Indication of Thermistor Open Circuit: -127 Indication of Thermistor Short Circuit: 127
17 Inverter Fin Temperature	FF	,0	Unit: °C
18 Fan Controller Fin Temperature	FF	F0	Unit: °C
19 Compressor MC1 Current ^{*1)}	R1	0	Unit: A
20 Compressor MC2 Current ^{*1)}	R2	0	Unit: A (Only for 14, 16FSXN1)
21 Fan Motor (MFO1) Current ^{*1)}	RF	0	Unit: A
22 Accumulated Operation Time of Compressor MC1	UU	10	Unit: Hour (Indication x 10Hours)
23 Accumulated Operation Time of Compressor MC2	UU	20	Unit: Hour (Indication x 10Hours) (Only for 14, 16FSXN1)
24 Accumulated Operation Time of Compressor MC1	cU	10	Unit: Hour (Indication x 10Hours) Accumulated operation time can be reset. ^{*2)}
25 Accumulated Operation Time of Compressor MC2	cU	20	Unit: Hour (Indication x 10Hours) (Only for 14, 16FSXN1) Accumulated operation time can be reset. ^{*2)}
26 Cause of Inverter Stoppage	,r	10	Refer to "Inverter Stoppage Cause Table".
27 Connected Indoor Unit Number	FF	10	Refer to "Fan Controller Stoppage Cause Table".

*1): The indicated current is reduced value. Use a clamp meter for the accurate current value.

*2): For resetting the accumulated operation time, press "PSW1 + PSW3" for 5 seconds while the accumulated data is displayed.

(Example)
SEG2 SEG1



*3): The outdoor unit No. is indicated on the one digit of "SEG1".

● Outdoor Unit Capacity Table

Indication	Capacity (kW/10)	Horsepower (HP)	Model (KBtu/h)
64	224	8.0	76
80	280	10.0	96
96	335	12.0	114
112	400	14.0	136
128	400	16.0	154
144	500	18.0	170
...
HP×8	≈HP×28	HP	≈HP×9.55

NOTE:

In case of combination unit, the indication of outdoor unit capacity is total capacity of construction units.

(D) Indoor Unit Information

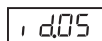
This information is indicated on the unit A (main unit) only.
 Select the indoor unit number for the information indication.
 Press PSW4 (▼) to forward or press PSW2 (▲) for backward.
 Select the indoor unit No. for indication by pressing PSW4 or PSW2.
 Press PSW3 (▶) for details information of selected unit No.
 Press PSW4 (▼) to forward or PSW2 (▲) to backward.
 The information will be indicated alternately as "Item" → "Details".
 Press PSW5 (◀) for return to Indoor Unit No. Selection.

Unit No.	Indication
No. 0	, d00
No. 1	, d01
↓	↓
No.63	, d63

NOTE:

For the indoor unit connected to SW BOX, "•" (point) will be displayed on the bottom right of "i d".

< Example for Unit No. 5 with SW BOX >



Details of Indication

Item	7-Segment Display		Details
	SEG2	SEG1	
1 Indoor Unit Capacity	CR	00 ^{*1)}	Unit Capacity Indication Refer to "Indoor Unit Capacity Table".
2 Expansion Valve Opening	, E	00	Unit: %
3 Heat Exchanger Liquid Piping Temp.	FL	00	Unit: °C
4 Heat Exchanger Gas Piping Temp.	FG	00	Unit: °C
5 Air Inlet Temp.	Fi	00	Unit: °C
6 Air Outlet Temp.	Fo	00	Unit: °C
7 Unit Stoppage Cause Code	d1	00	Indoor Unit Stoppage Cause Code Indication Refer to "Cause of Indoor Unit Stoppage Table".

(Example)
SEG2 SEG1



*1): The indoor unit No. is indicated on the one digit of "SEG1".

● Indoor Unit Capacity Table

Indication	Capacity (kW)	Horsepower (HP)	Indication	Capacity (kW)	Horsepower (HP)	Indication	Capacity (kW)	Horsepower (HP)
6	22	0.8	16	56	2.3	40	140	5.0
8	28	1.0	18	63	2.5	48	160	6.0
10	36	1.3	20	71	2.8	64	224	8.0
11	40	1.5	22	80	3.0	80	280	10.0
13	45	1.8	26	90	3.3	128	450	16.0
14	50	2.0	32	112	4.0	160	560	20.0

(E) Cause of Alarm Code Information

This information is indicated on the unit A (main unit) only.
 Press PSW4 (▼) to forward of press PSW2 (▲) for backward.
 The information will be indicated alternately as "Item" → "Details".

Details of Indication

Item	7-Segment Display		Details
	SEG2	SEG1	
1 Alarm Cause Code		AC	Latest O.U. Stoppage Alarm Code Indication Refer to "Alarm Code Table".
2 Degeneracy Control for Pressure Ratio Decrease Protection	C	11	□: Degeneracy Control is not Activated. ┆: Degeneracy Control is Activated.
3 Degeneracy Control for Pressure Ratio Increase Protection	C	13	□: Degeneracy Control is not Activated. ┆: Degeneracy Control is Activated.
4 Degeneracy Control for Inverter Fin Temp. Increase Protection	C	14	□: Degeneracy Control is not Activated. ┆: Degeneracy Control is Activated.
5 Degeneracy Control for Discharge Gas Temp. Increase Protection	C	15	□: Degeneracy Control is not Activated. ┆: Degeneracy Control is Activated.
6 Degeneracy Control for Td SH Decrease Protection	C	16	□: Degeneracy Control is not Activated. ┆: Degeneracy Control is Activated.
7 Degeneracy Control for Overcurrent Protection	C	17	□: Degeneracy Control is not Activated. ┆: Degeneracy Control is Activated.

(F) Alarm Code History Information

This information is indicated on the unit A (main unit) only.
 If history of abnormality exists, it is indicated maximum 15 cases in chronological order.
 Press PSW4 (▼) to forward of press PSW2 (▲) for backward.

Select the data No. for indication by pressing PSW4 or PSW2.
 Press PSW3(▶) for details information.
 Press PSW4(▼) to forward or PSW2(▲) to backward.
 Press PSW5(◀) for return to Combination Unit No. Selection.

Data No.	7-Segment Display	
	SEG2	SEG1
1 (Latest Data)	no	01
↓	↓	↓
15 (Oldest Data)	no	15

Details of Indication

Item	7-Segment Display		Details
	SEG2	SEG1	
1 Unit Accumulated Operation Time	07	08	O.U. Accumulated Operation Time at Stoppage Unit: Hour (Indication x 10 Hours)
2 Cause of Stoppage	AC		Alarm Stoppage
	d1		Retry Stoppage
	C1		Control Information
3 Alarm/Stoppage Cause Code	01	48	Alarm and Stoppage Cause Code O.U. No. is indicated on 10 digit of SEG2. Compressor and fan controller No. are indicated on one digit of SEG2. Alarm and stoppage code are indicated on SEG1.
4 Alarm Data Indication	1F	12	Inverter stoppage cause code is indicated when IT code is existing on SEG2.
	FF	12	Fan controller stoppage cause code is indicated when FT code is existing on SEG2.
	CF	0	Stoppage cause of constant speed compressor abnormal current is 0A stoppage.
	CF	FF	Overcurrent Stoppage of Constant Speed Compressor
	--	--	Except for the above

(7) Running Current of Compressor

● Inverter Primary Current

The inverter primary current is estimated from the running current of the compressor MC1 indicated on 7-segment.

● Indicated Running Current of Compressor MC2

The running current of the compressor MC2 is detected by current sensor. (CT2)

● Cause of Inverter Stoppage (Check Item “ i ”)

Code	Cause
1	IPM Error (Overcurrent, Decrease Voltage, Short Circuit)
2	Instantaneous Overcurrent
3	Abnormal Inverter Fin Temperature
4	Inverter Overcurrent
5	Inverter Voltage Decrease
6	Inverter Voltage Increase
7	Abnormal Inverter Transmission
8	Abnormal Current Sensor
9	Instantaneous Power Failure Abnormal Power Source Phase
11	Micro Computer Reset
12	Earth Fault Detecting
13	Abnormal Power Source Phase
16	Inverter Failure
21	Abnormal Start-up

● Cause of Fan Controller Stoppage (Check Item “ F_i ”)

Code	Cause
1	Driver IC Error
2	Instantaneous Overcurrent
3	Abnormal Inverter Fin Temperature
4	Inverter Overcurrent
5	Fan Controller Voltage Decrease
6	Fan Controller Voltage Increase
7	Abnormal Fan Controller Transmission
8	Abnormal Current Sensor
9	Instantaneous Power Failure
11	Micro Computer Reset
12	Earth Fault Detecting
15	Reverse Rotation
16	Fan Controller Retry
17	Abnormal Control
21	Abnormal Start-up



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