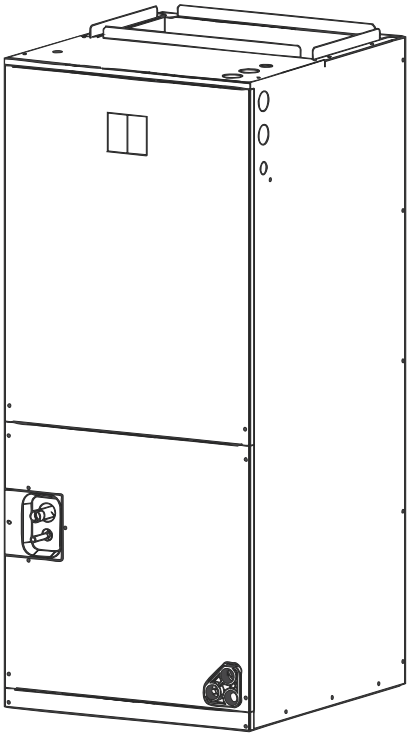
KIDT-KOIT

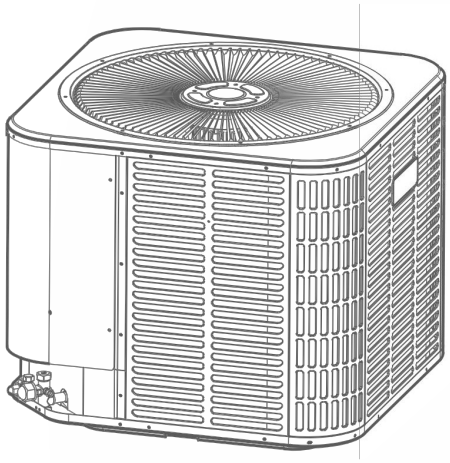
SERIES

CENTRAL DUCTED

AIR CONDITIONER / HEAT PUMP

Error codes & Troubleshooting





Models Covered:

Indoor Unit	Outdoor Unit
KIDT24H2-41X	KOIT24H2-41G
KIDT36H2-41X	KOIT36H2-41G
KIDT48H2-41X	KOIT48H2-41G
KIDT60H2-41X	KOIT60H2-41G

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IMPORTANT NOTE:
Read this manual carefully before installing or operating your new air conditioning unit.
Be sure to keep this manual for future reference.
For more information, please visit www.klimaire.com

SCAN ME!

Scan the QR code to visit our Help Center for installation guides, manuals, videos and more.

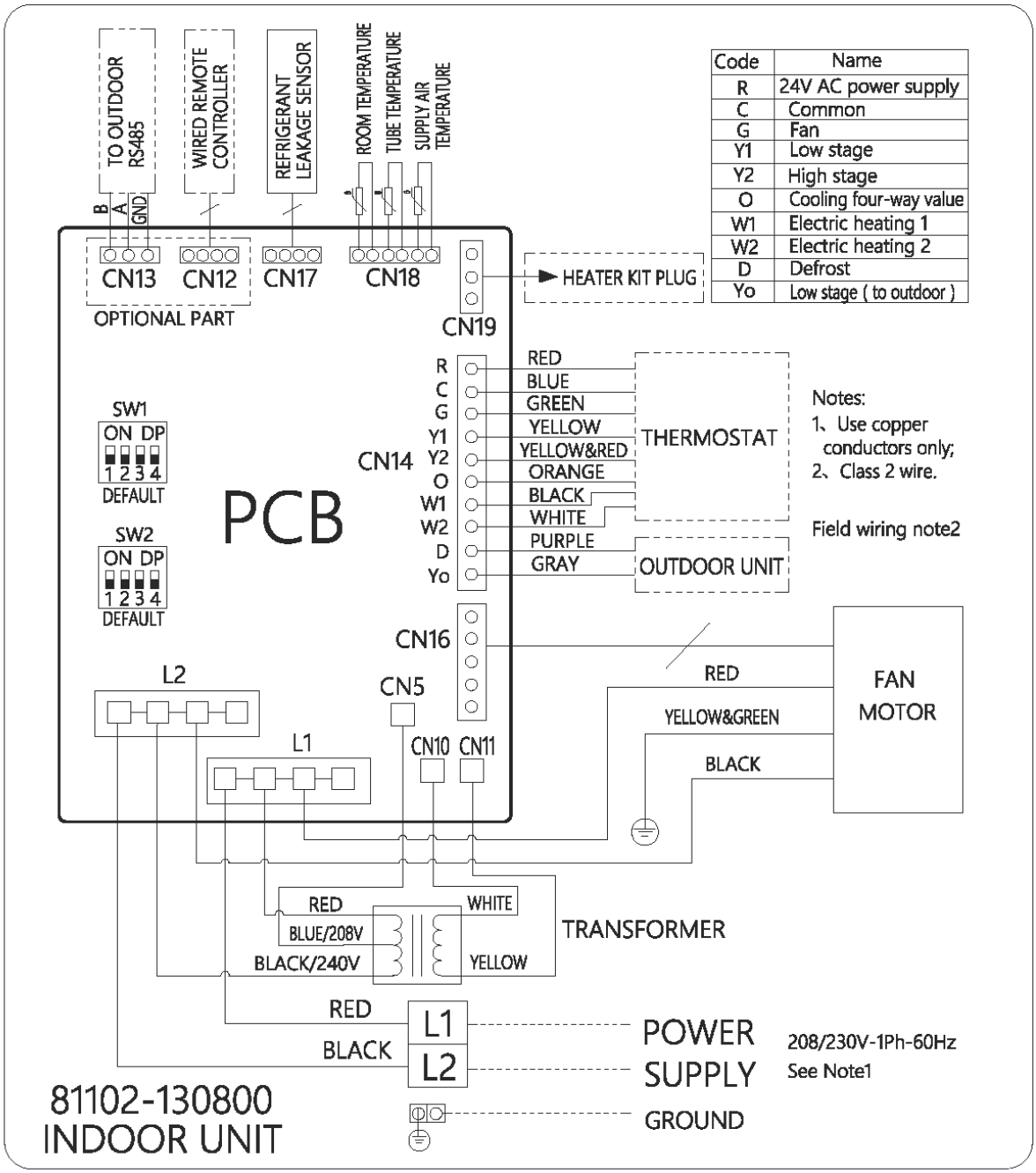
S1IT2604

Contents

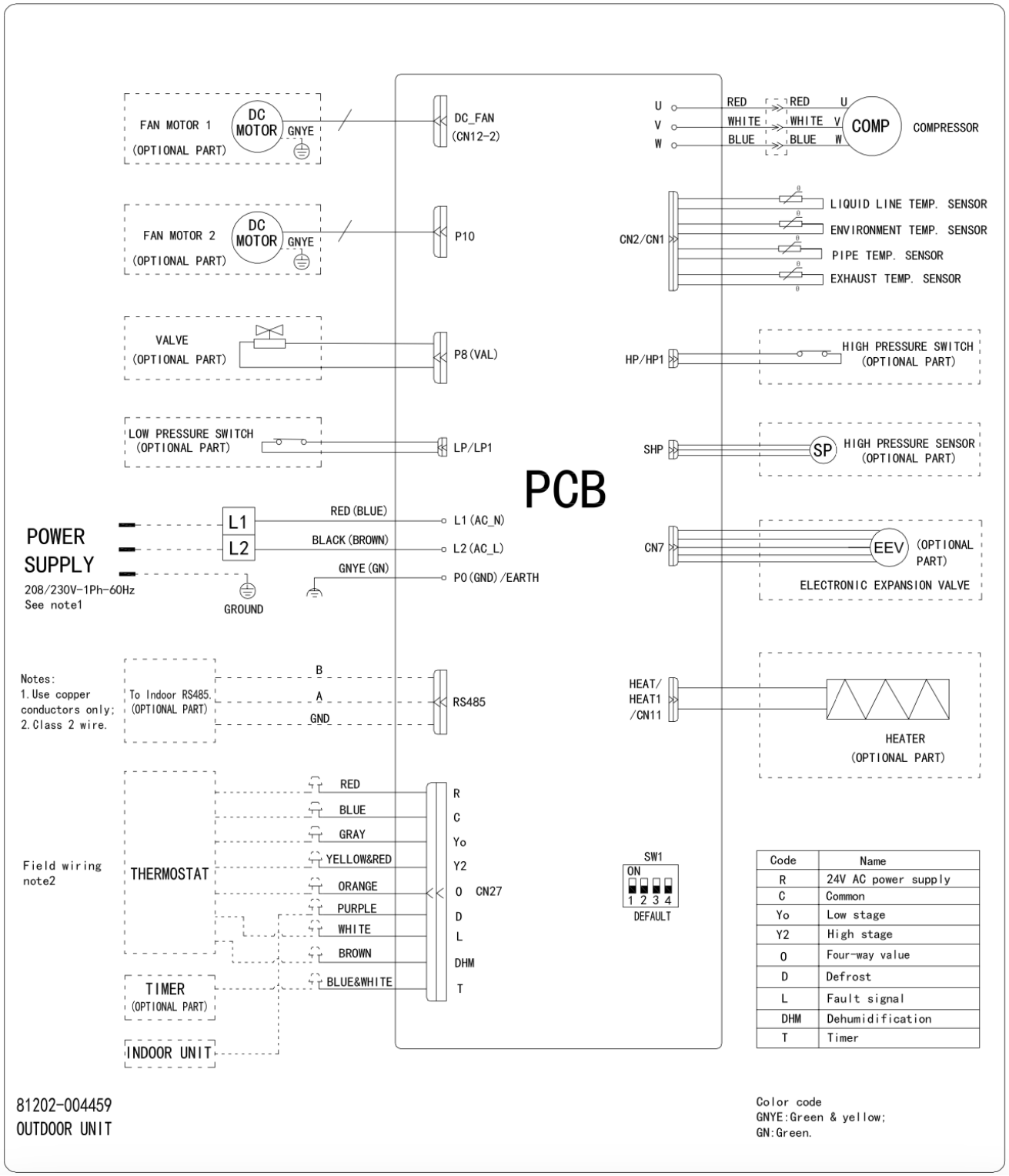
1.0 troubleshooting

1.1 Wiring diagrams

Wiring diagram of indoor unit



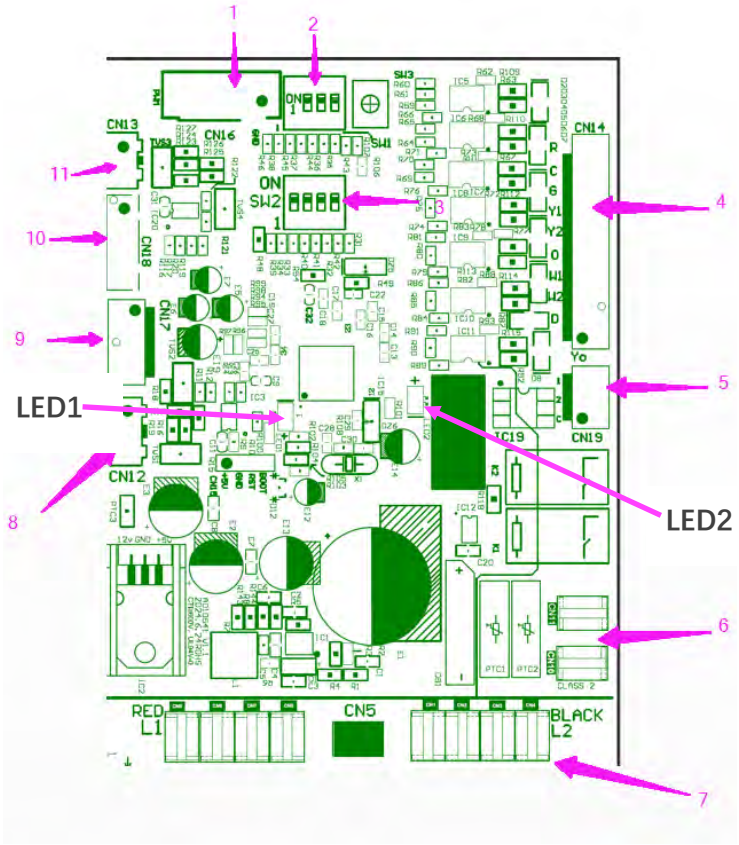
Wiring diagram of outdoor unit



Code	Name
R	24V AC power supply
C	Common
Yo	Low stage
Y2	High stage
O	Four-way value
D	Defrost
L	Fault signal
DHM	Dehumidification
T	Timer

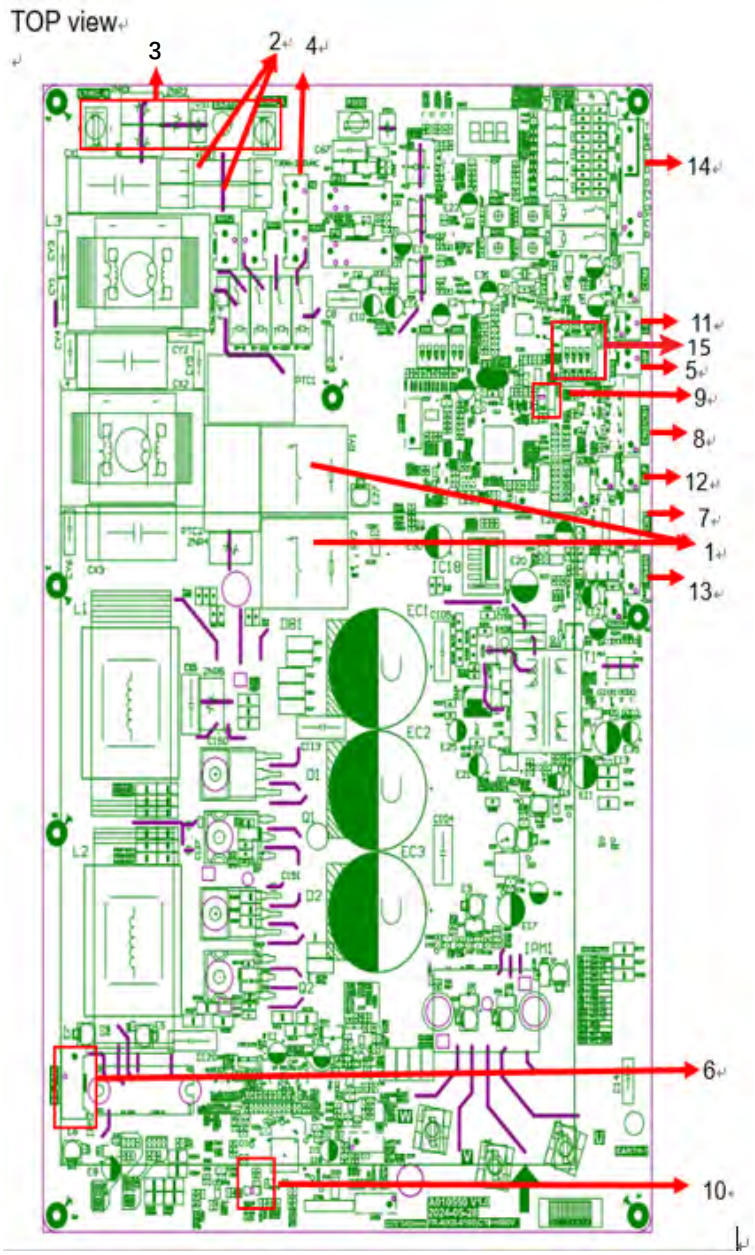
1.2 PCB Layout

Electric control of indoor unit



1	Fan motor
2	Dual In-line package switch 1
3	Dual In-line package switch 2
4	24V AC Thermostat
5	Heater
6	AC 24V power supply
7	AC208/230 60Hz power supply
8	Wired remote controller
9	Refrigerant sensor
10	Temperature sensor
11	Outdoor 485
	LED1 (Red)
	LED2 Green)

Electric control of outdoor unit



1	ODU PCB Mainly relay
2	Fuse
3	L1, L2 & P0
4	4-way valve
5	High pressure switch (HP)
6	DC fan motor connector
7	EEV
8	Temperature sensors connector
9	LED2 (Red)
10	LED1 (Red)
11	Low pressure switch (LP)
12	Pressure sensor (SHP)
13	RS485
14	AC 24V power supply
15	Dual In-line package switch 1

NOTE

LED1---- Indicates the main control IC works condition.

When unit works normal----LED1 flashing

When unit works abnormal -----LED1 OFF.

LED2-----Indicates the compressor / DC motor driving IC status:

When unit works normal----LED2 flashing

When unit works abnormal -----LED2 OFF.

1.3 Error codes

Code	Reason	Remark
E0	IDU & ODU Communication failure	The IDU & ODU wiring connection correct?
E1	IDU Room temperature sensor failure. (IDU RT failure)	IDU room sensor and PCB.
E2	IDU Tube temperature sensor failure. (IDU IPT failure)	IDU coil sensor and PCB.
E3	ODU Pipe temperature sensor failure. (OPT)	ODU pipe sensor and ODU PCB
E6	IDU PG Fan motor / DC fan motor works abnormal (IDU failure)	Fan motor, fan blade and PCB.
E7	ODU Environment temperature sensor failure	ODU environment sensor and ODU PCB.
E8	ODU Exhaust temperature sensor failure.	ODU exhaust sensor and ODU PCB.
E9	IPM / Compressor driving control abnormal.	ODU PCB, compressor, etc.
EA	ODU Current test circuit failure	ODU PCB broken?
Eb	The main PCB and display board communication abnormal	Display board and ODU PCB.
EC	The ODU PCB MCU and Fan motor / Compressor driving IC communication abnormal	ODU main PCB
EE	ODU EEPROM failure.	ODU PCB broken? Try to re-power on AC unit.
EF	ODU DC fan motor failure.	Fan motor, ODU PCB.
EU	ODU Voltage test circuit abnormal.	ODU PCB.
Ey	ODU Condenser outlet temperature sensor failure	ODU Condenser outlet sensor and ODU PCB.
P0	IPM module protection.	ODU PCB
P1	Over / under voltage protection.	ODU PCB broken? Power supply abnormal?
P2	Over current protection.	ODU PCB broken? Power supply abnormal?
P4	ODU Discharge pipe over temperature protection.	Please check the troubleshooting for detail.
P5	Sub-cooling protection on cooling mode.	Please check the troubleshooting for detail.
P6	Overheating protection on cooling mode.	Please check the troubleshooting for detail.
P7	Overheating protection on heating mode.	Please check the troubleshooting for detail.
P8	Outdoor Over temperature/Under temperature protection.	Please check the troubleshooting for detail.
P9	Compressor driving protection (Load abnormal).	Please check the troubleshooting for detail.
F0	Infrared Customer feeling test sensor failure. (IDU failure)	Querying by press remote controller

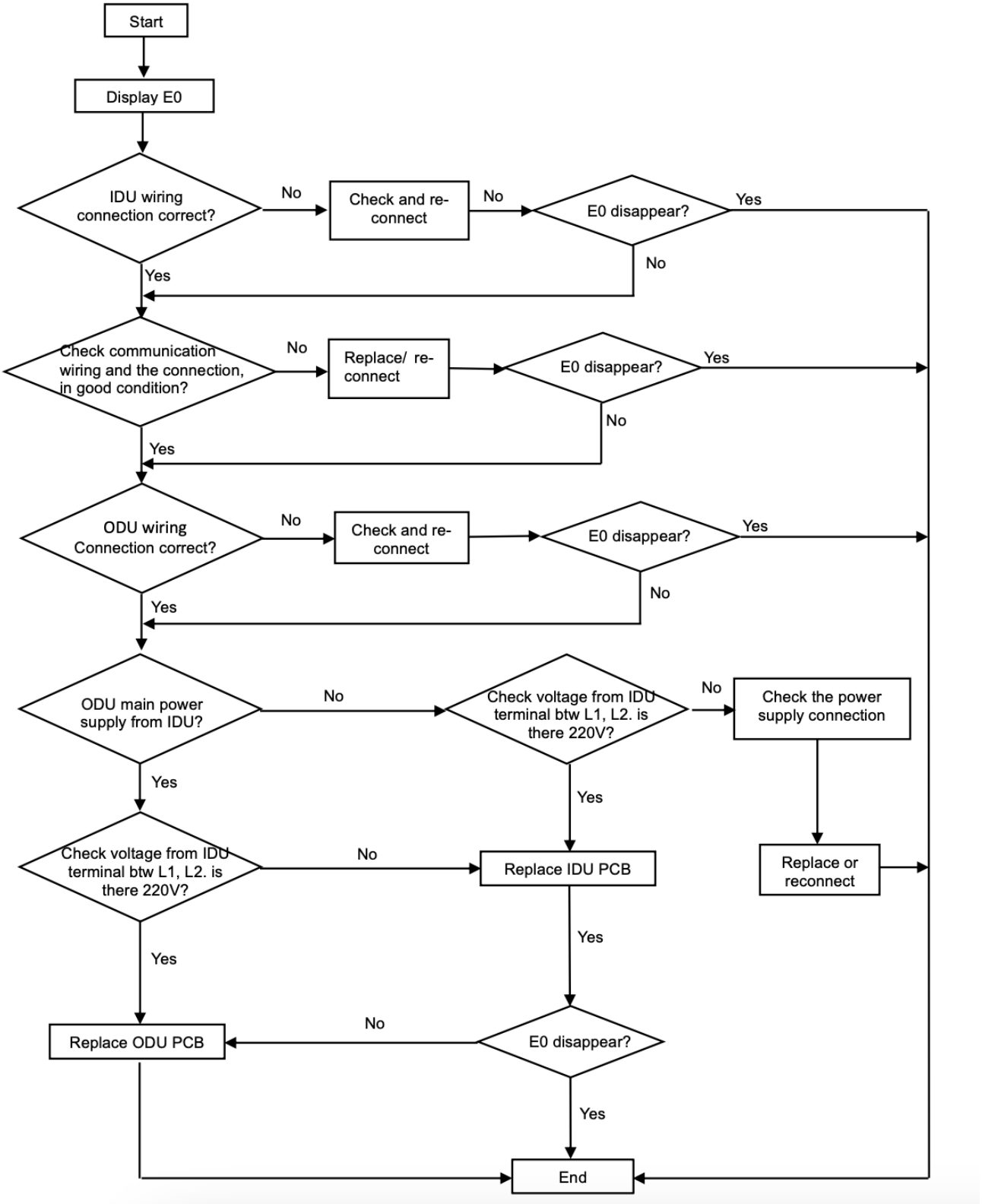
F1	Electric power test module failure. (IDU failure)	Querying by press remote controller
F2	Discharge temperature sensor failure PROTECTION.	1. The discharge temperature sensor damage 2. The discharge temperature sensor connection is loose 3. ODU main PCB damage
F3	ODU coil temperature failure PROTECTION.	1. The coil temperature sensor damage 2. The coil temperature sensor connection is loose 3. ODU main PCB damage
F4	Cooling system gas flow abnormal PROTECTION.	Please check the troubleshooting for detail.
F5	PFC PROTECTION	Please check the troubleshooting for detail.
F6	The Compressor lack of phase / Anti-phase PROTECTION.	Please check the troubleshooting for detail.
F7	IPM Module temperature PROTECTION	Please check the troubleshooting for detail.
F8	4-Way Value reversing abnormal.	Please check the troubleshooting for detail.
F9	The module temperature test circuit failure.	ODU PCB
FA	The compressor phase-current test circuit failure.	ODU PCB
Fb	Limiting/Reducing frequency for over load protection on Cooling/Heating mode.	Querying by press remote controller
FC	Limiting/Reducing frequency for high power consumption protection.	Querying by press remote controller
Fd	The communication of refrigerant detection sensor and indoor PCB abnormal	The refrigerant sensor disengaged or faulty.
FE	Limiting/Reducing frequency for module current protection (phase current of compressor).	Querying by press remote controller
FF	Limiting/Reducing frequency for module temperature protection.	Querying by press remote controller
FH	Limiting/Reducing frequency for compressor driving protection.	Querying by press remote controller
FP	Limiting/Reducing frequency for anti-condensation protection.	Querying by press remote controller
FU	Limiting/Reducing frequency for anti-frost protection.	Querying by press remote controller
Fj	Limiting/Reducing frequency for discharge over temperature protection.	Querying by press remote controller
Fn	Limiting/Reducing frequency for ODU AC current protection.	Querying by press remote controller
Fy	Gas leakage protection	Please check the troubleshooting for detail.
H1	High pressure switch failure (HP)	1. High pressure switch damage 2. High pressure switch loose connection

		3. ODU main PCB damage
H2	Low pressure switch failure (LP)	1. Low pressure switch damage 2. Low pressure switch loose connection 3. ODU main PCB damage
H3	High pressure sensor failure (SHP)	1. high pressure sensor damage 2. high pressure sensor loose connection 3. ODU main PCB damage
H4	Low pressure sensor failure (SHP)	1. Low pressure sensor damage 2. Low pressure sensor loose connection 3. ODU main PCB damage
Hd	Excessive refrigerant concentration / refrigerant leakage	1. Is there R454B gas leakage? 2. Are there polluting gases around the environment? 3. Refrigerant test sensor fault? 4. Indoor PCB defective?
C5	Communication fault of the Wired Controller and indoor unit main PCB.	1. Check the connection of the wired controller and PCB; 2. Indoor PCB defective? 3. The wired controller failed?
dA	The indoor supply air temperature sensor failure	Check the sensor and PCB

Note: Remote controller FAILURE CODE Querying function
As shown in the failure codes, some of the codes (Fb~bj) need to press remote control for inspection. While unit on operation, press the ECO button 8 times with 8 seconds, the buzzer BIBI 2 times, you can inspect the special failure code as Fb~Fn, bj etc.

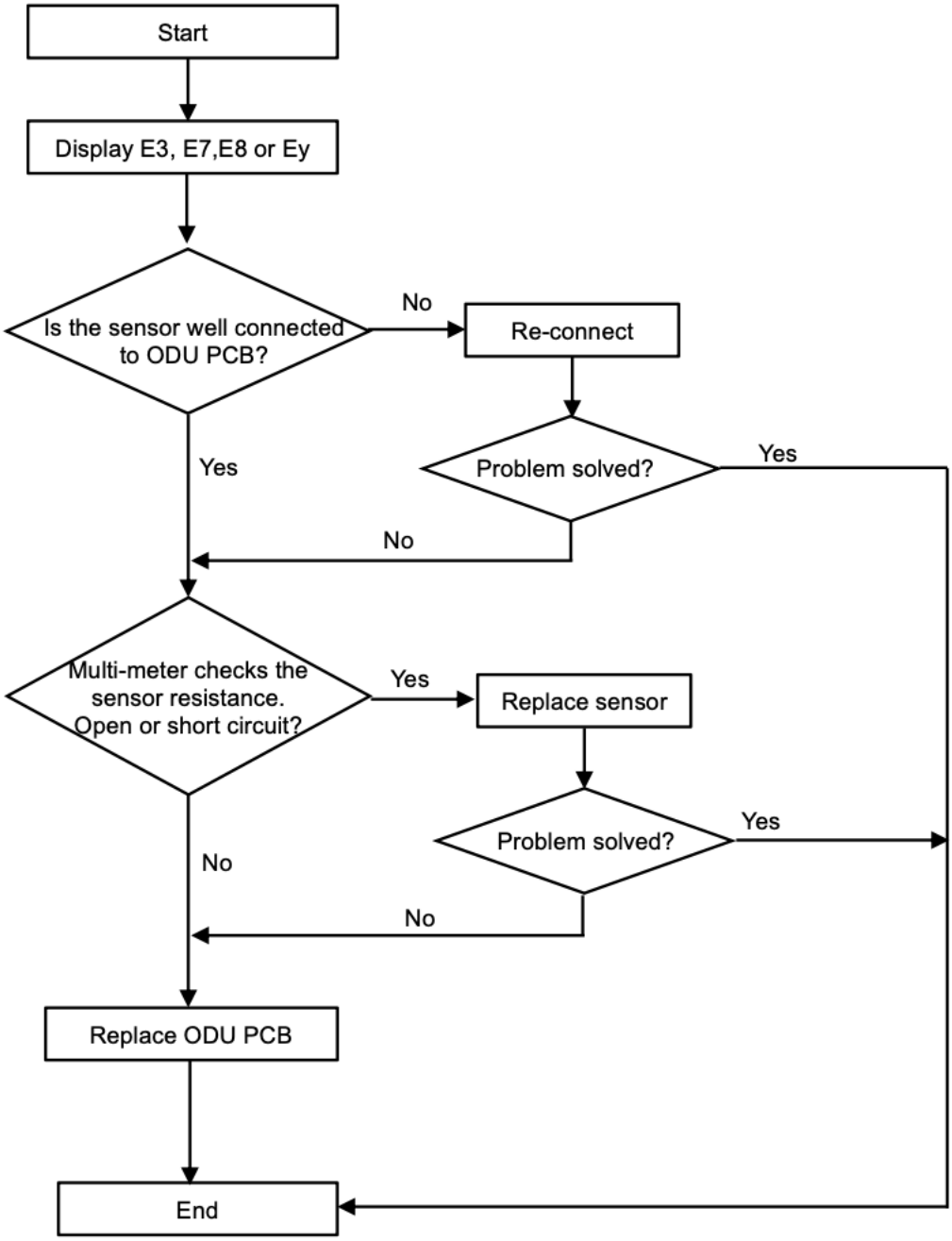
1.4 Trouble shooting

1.4.1 E0 ---IDU & ODU communication failure



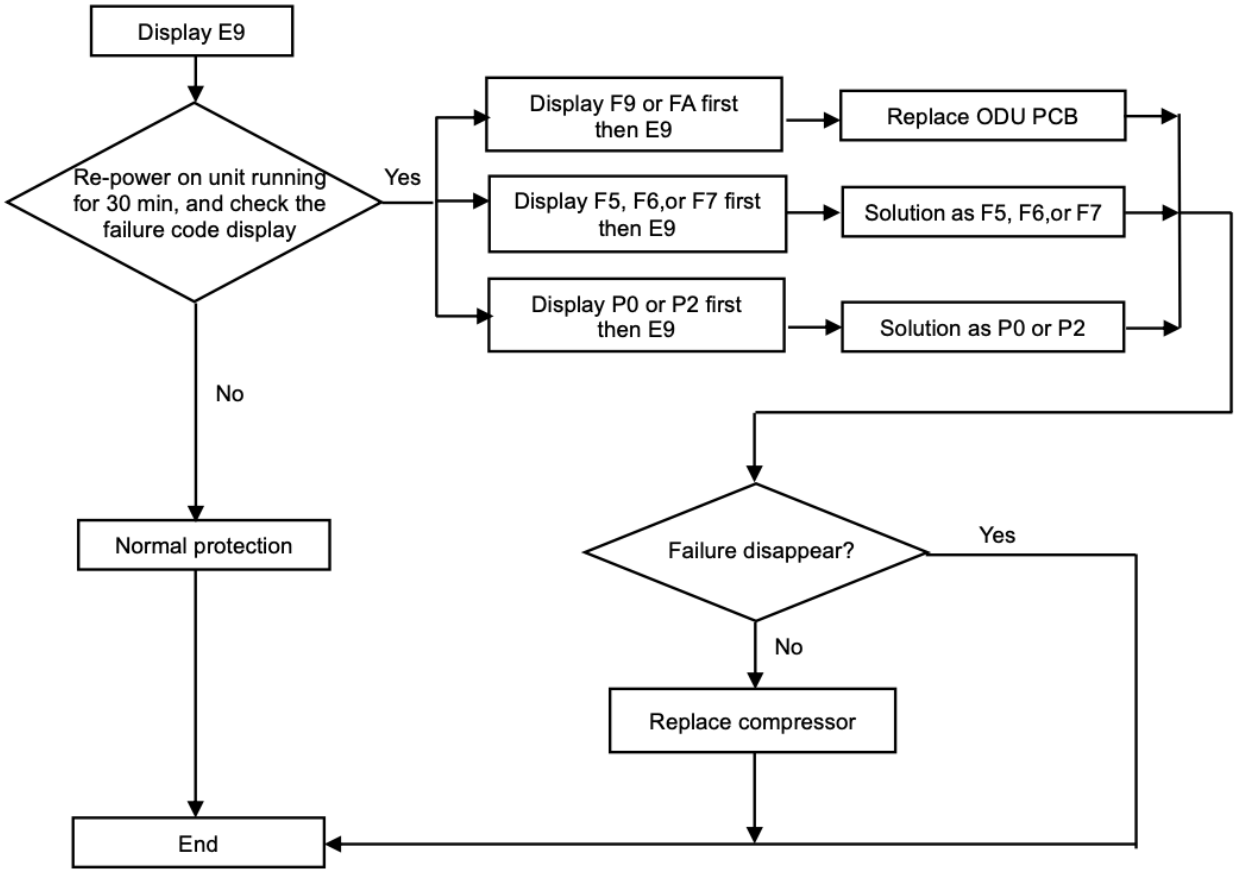
1.4.2 E3, E7, E8 or Ey----ODU Coil temperature sensor, Ambient temperature sensor or Discharge temperature sensor, Condenser outlet temperature failure.

When any of sensor resistance open or short circuit, the unit will display failure code as E3, E7, E8 or Ey, IDU and ODU turns off. When the sensor resistance recovery, unit revert to be standby, customer can switch on the unit directly.



1.4.3 E9---ODU IPM /Compressor driving fault

If unit have 6 times stopping works for IPM protection continuously, it will display E9 error, and unit can't be recovered to operation, except press ON/OFF button.



1.4.4 EA—ODU current sampling failure

Cause: Outdoor current sampling circuit failure or driver parameter mismatch
Solution: Replace the ODU PCB.

1.4.5 Eb—ODU communication abnormal of main board and display board

Cause: 1. The communication wire damaged.
2. Outdoor main board damaged
3. Display board damaged.

Solution: 1. Replace the communication wire.
2. Replace the outdoor main board.
3. Replace the display board.

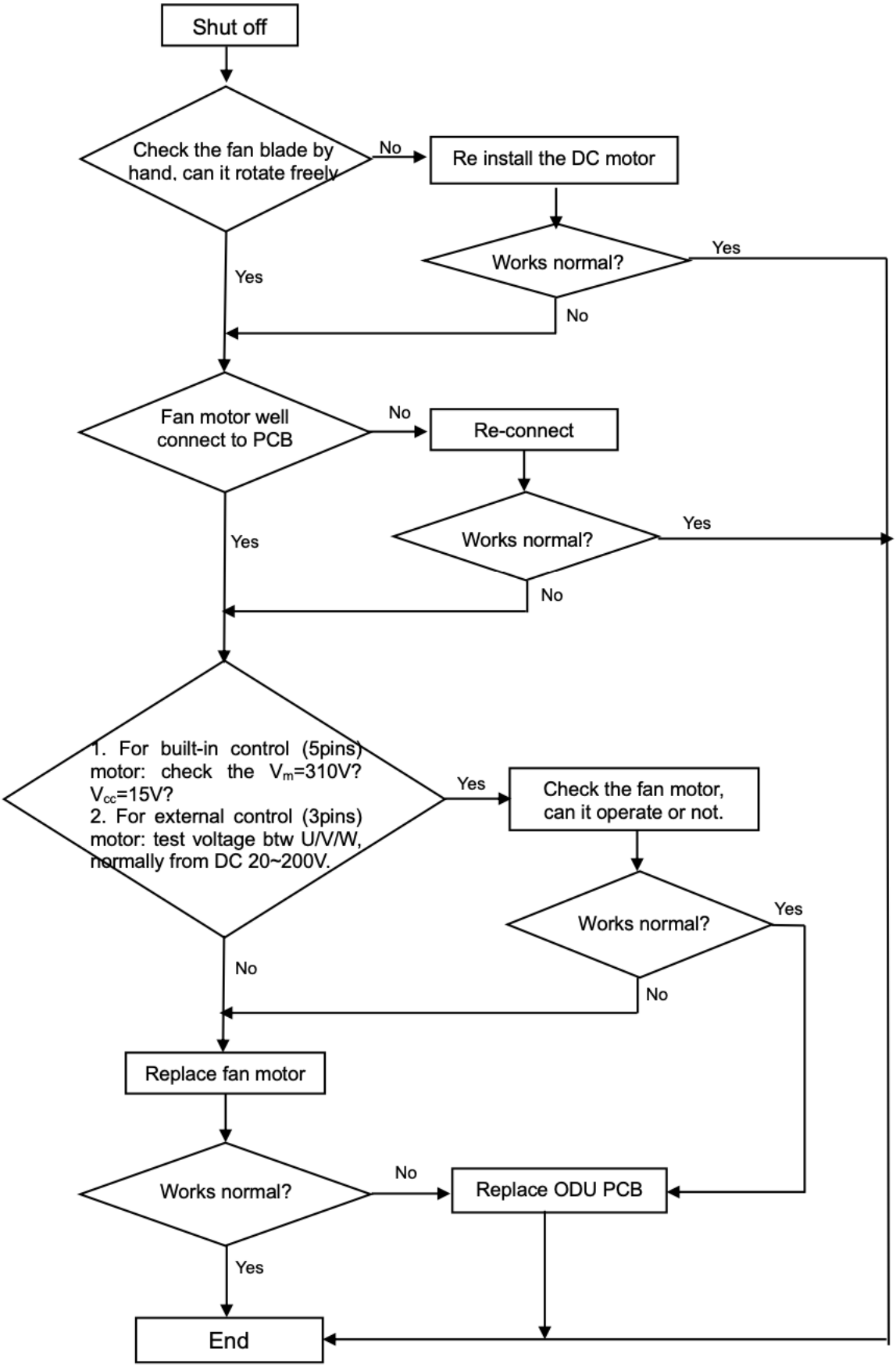
1.4.6 EC—Communication Error btw ODU PCB MCU and Fan motor / Compressor driving IC

Cause: The ODU mainboard damaged
Solution: Replace the ODU PCB.

1.4.7 EE—ODU EEPROM failure.

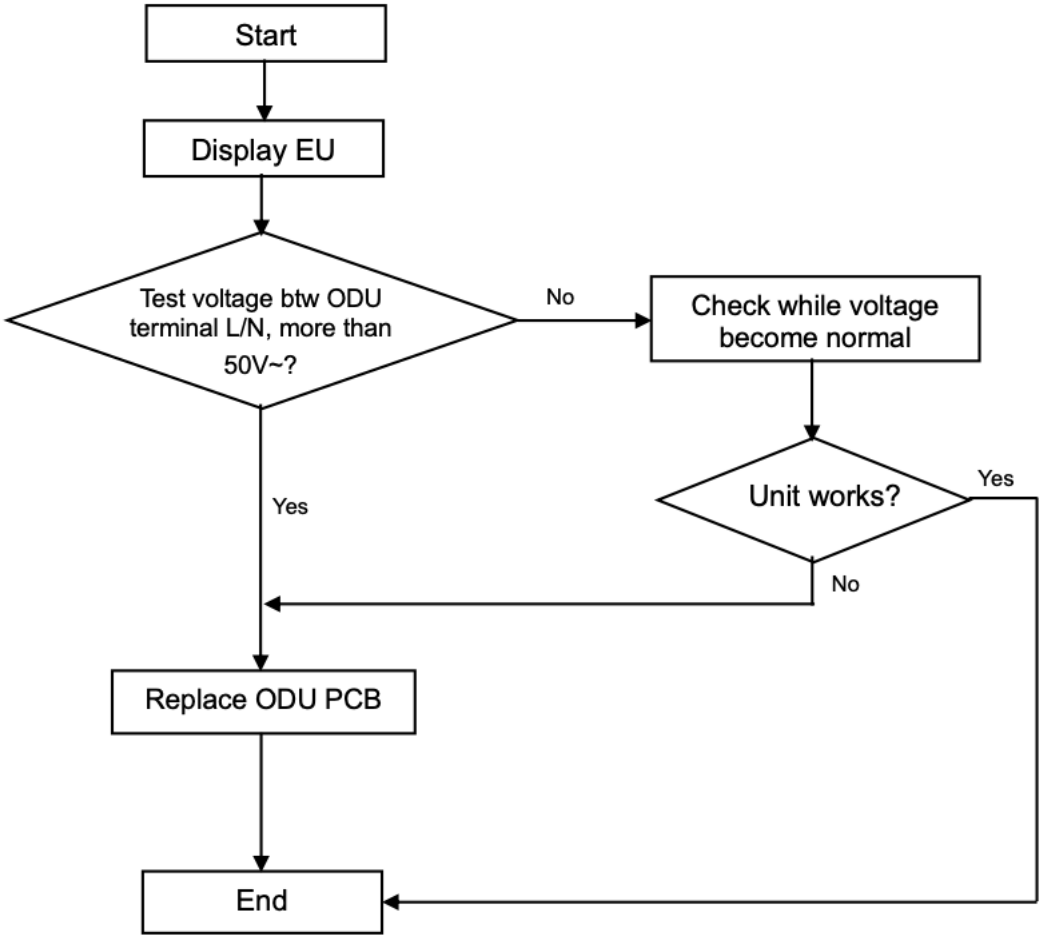
Cause: The ODU mainboard damaged.
Solution: Replace the ODU PCB.

1.4.8 EF---ODU DC fan motor failure



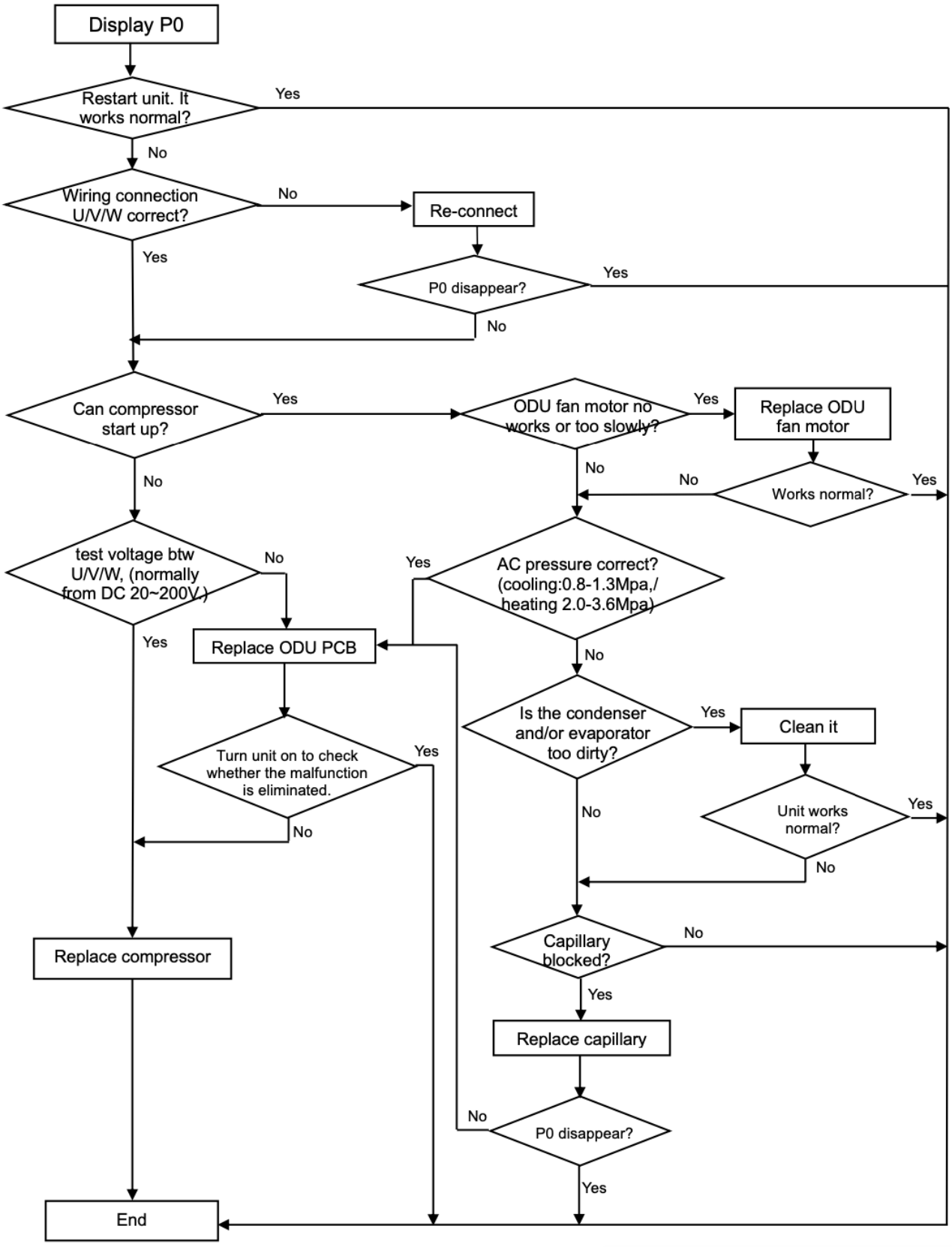
1.4.9 EU---ODU voltage test sensor failure

After power relay works, while tested voltage effective value less than 50V for 3s continuously, unit will display EU.



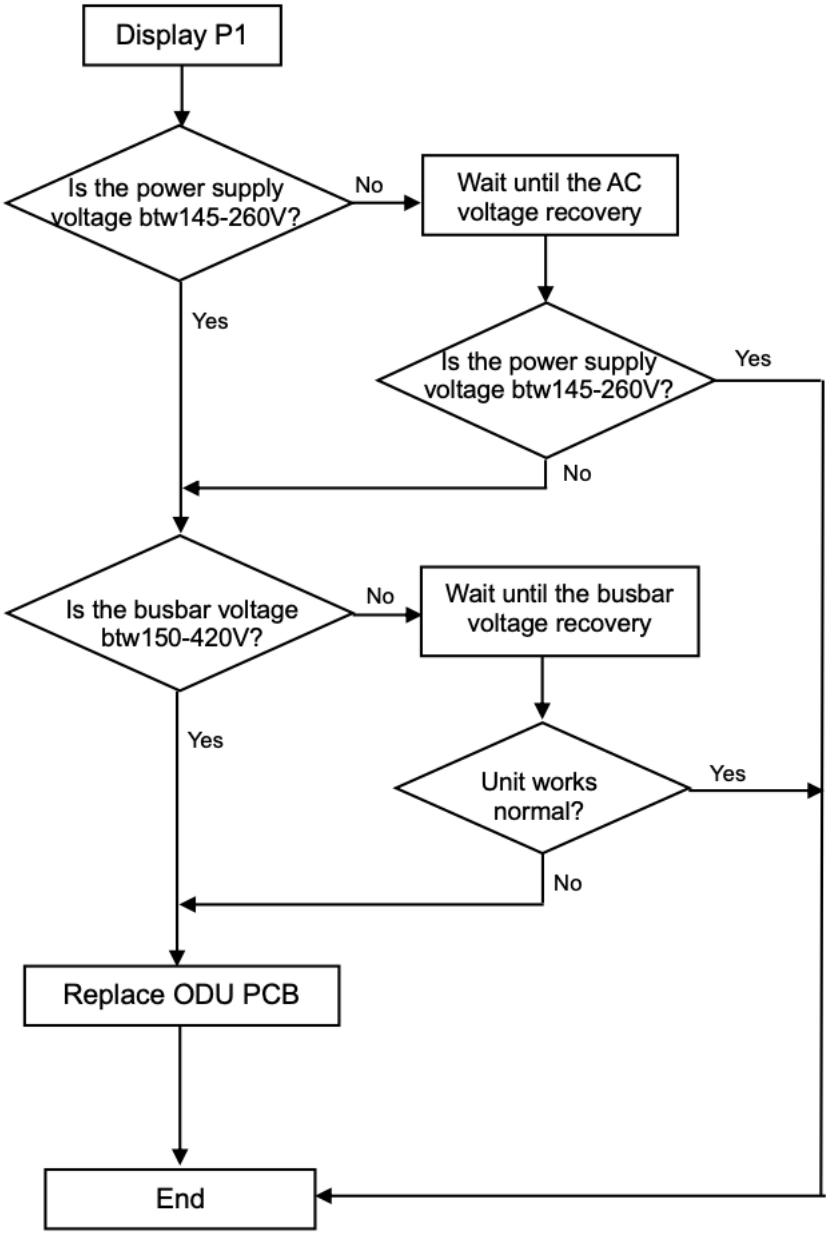
1.4.10 P0---IPM protection

When overheat or overcurrent for IPM, AC unit will display P0 protection.



1.4.11 P1--- Over / under voltage protection

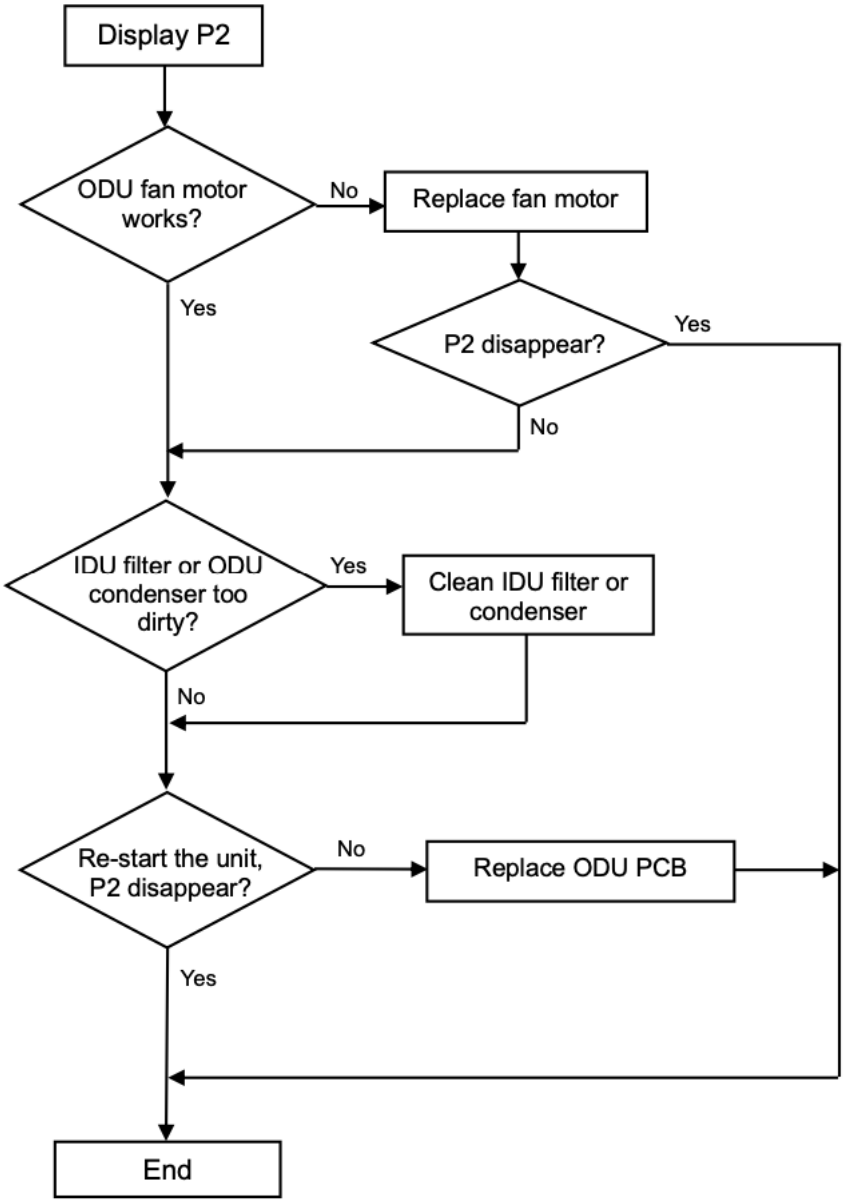
1. Test voltage between L1 & L2, When the power supply V＞AC260V or V＜AC150V, AC will display P1 protection, unit will recover back to previous status while V＞AC155V.
2. Test voltage on the big size electrolytic capacitor of ODU PCB, When DC busbar voltage V＞DC420V or V＜DC150V, IDU display P1 protection. unit will recover back to previous status while DC190V＜V＜DC410V



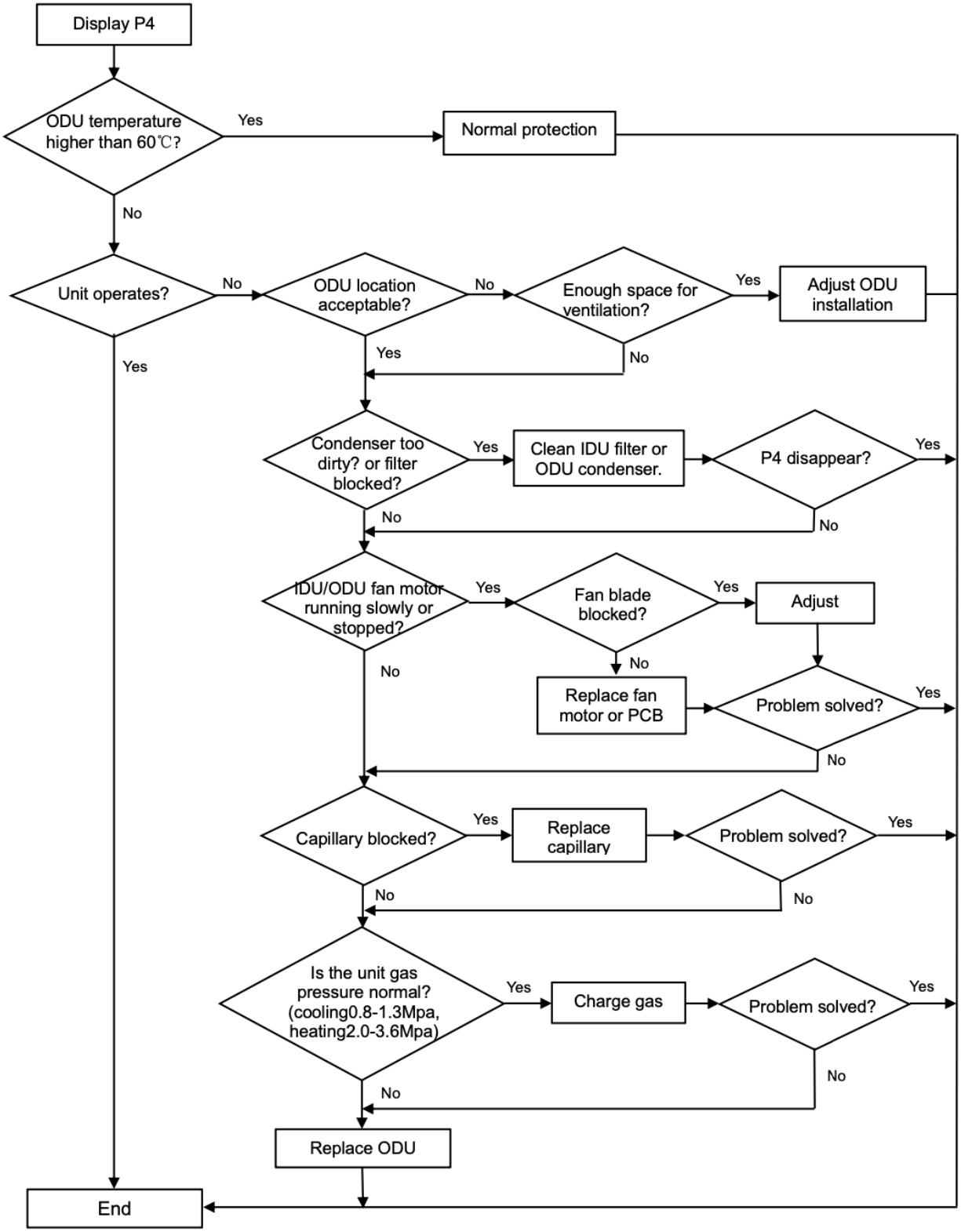
1.4.12 P2---Over Current protection

When the AC unit running current more than I_{max}, it will stop and display P2 protection.

Note: for different AC model, I_{max} has a difference valve.

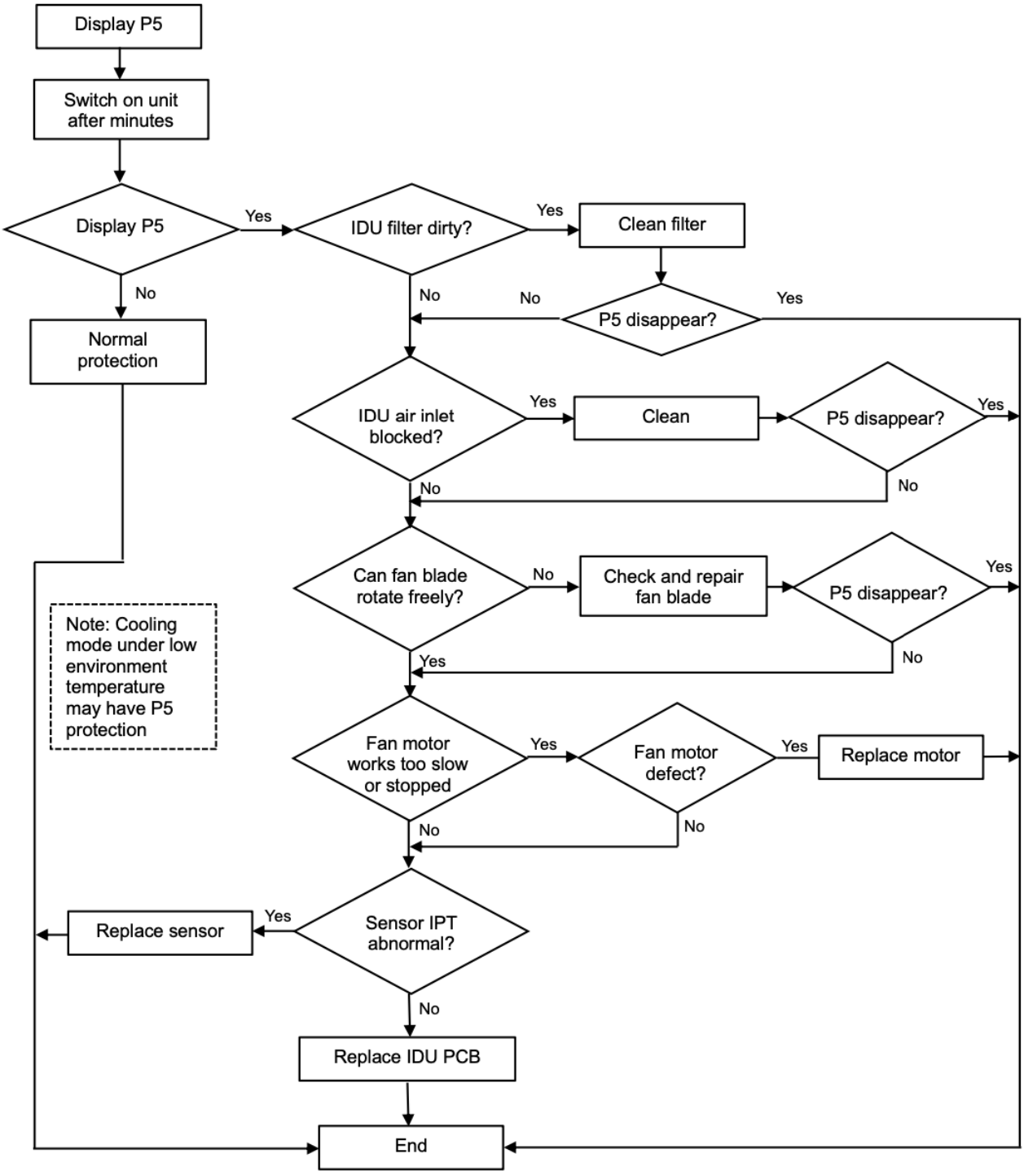


1.4.13 P4 ---ODU Discharge temperature overheating protection



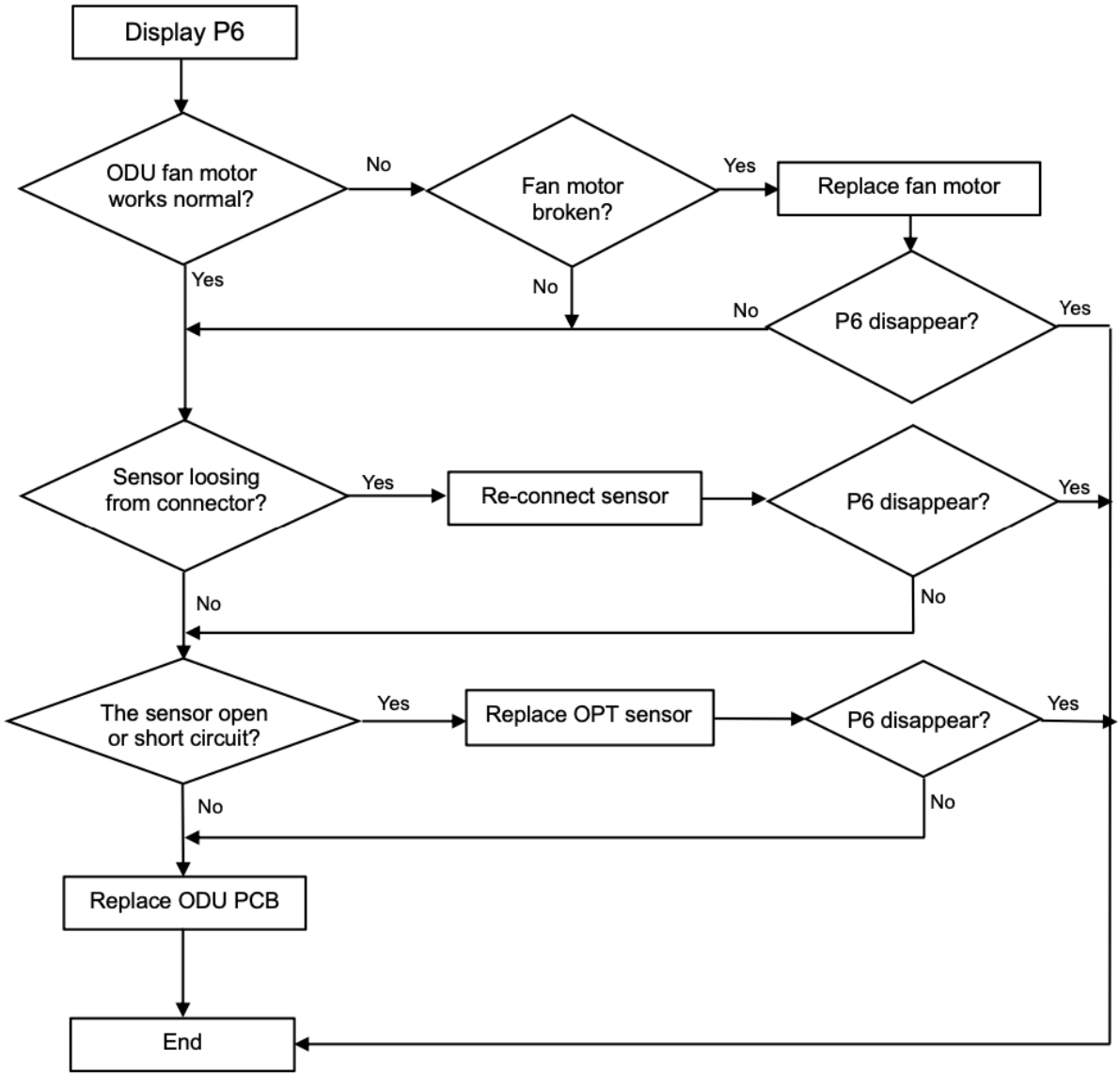
1.4.14 P5---Sub-cooling protection on Cooling/Dry mode

On Cooling or Dry mode, when IDU evaporator coil temperature **IPT < 11°C / IPT < 34º F** continuously for 3 min after compressor start up for 6 min, CPU will switch off outdoor unit and show P5 failure code.



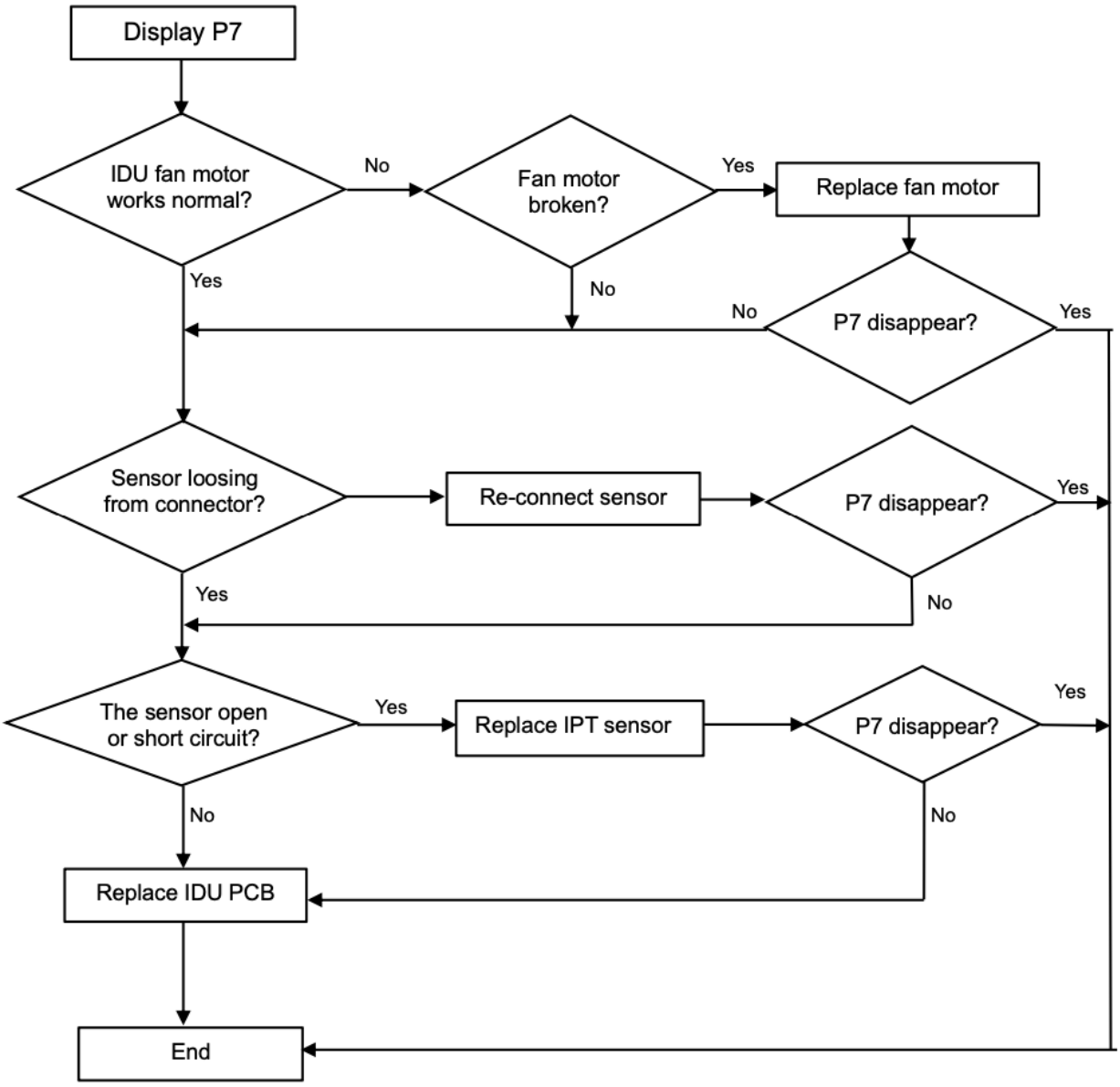
1.4.15 P6---Overheating protection on Cooling mode

On Cooling or Dry mode, when ODU condenser coil temperature OPT≥62° / OPT > 144º FC ，MCU will switch off outdoor unit and show P6 failure code.



1.4.16 P7---Overheating protection on Heating mode

On heating mode, when IDU evaporator coil temperature IPT≥62°C / IPT > 144º F, IDU PCB will switch off outdoor unit and show P7 failure code.



1.4.17 P8---Outdoor Overtemperature/Under-temperature protection

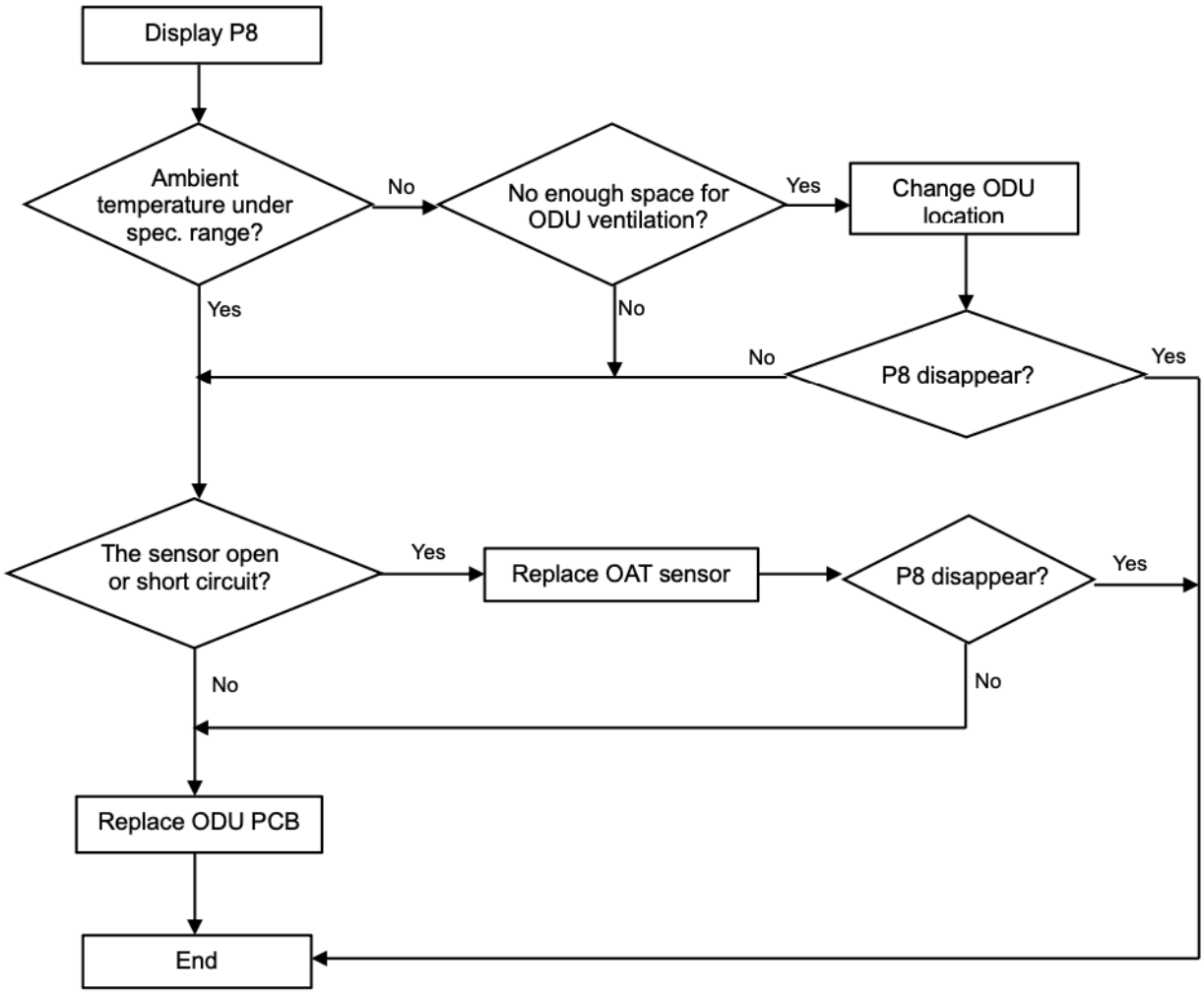
When environment temperature as below condition, the compressor will stop working, after 200s delay, the IDU will show P8 failure code.

(1). **On Cooling or Dry mode**: ODU ambient temperature: OAT < -20°C / OAT < -4º F or OAT > 63°C / OAT > 145º F;

(2). **On Heating mode**:

a. OAT ≥ 40°C / OAT > 104º F

b. 30°C < OAT ≤ 40°C and RT > 35°C / 86ºF < OAT ≤ 104ºF and RT > 95ºF



1.4.18 P9---The compressor driving protection (the compressor load abnormal)

When compressor start up or in the process of operation, if:

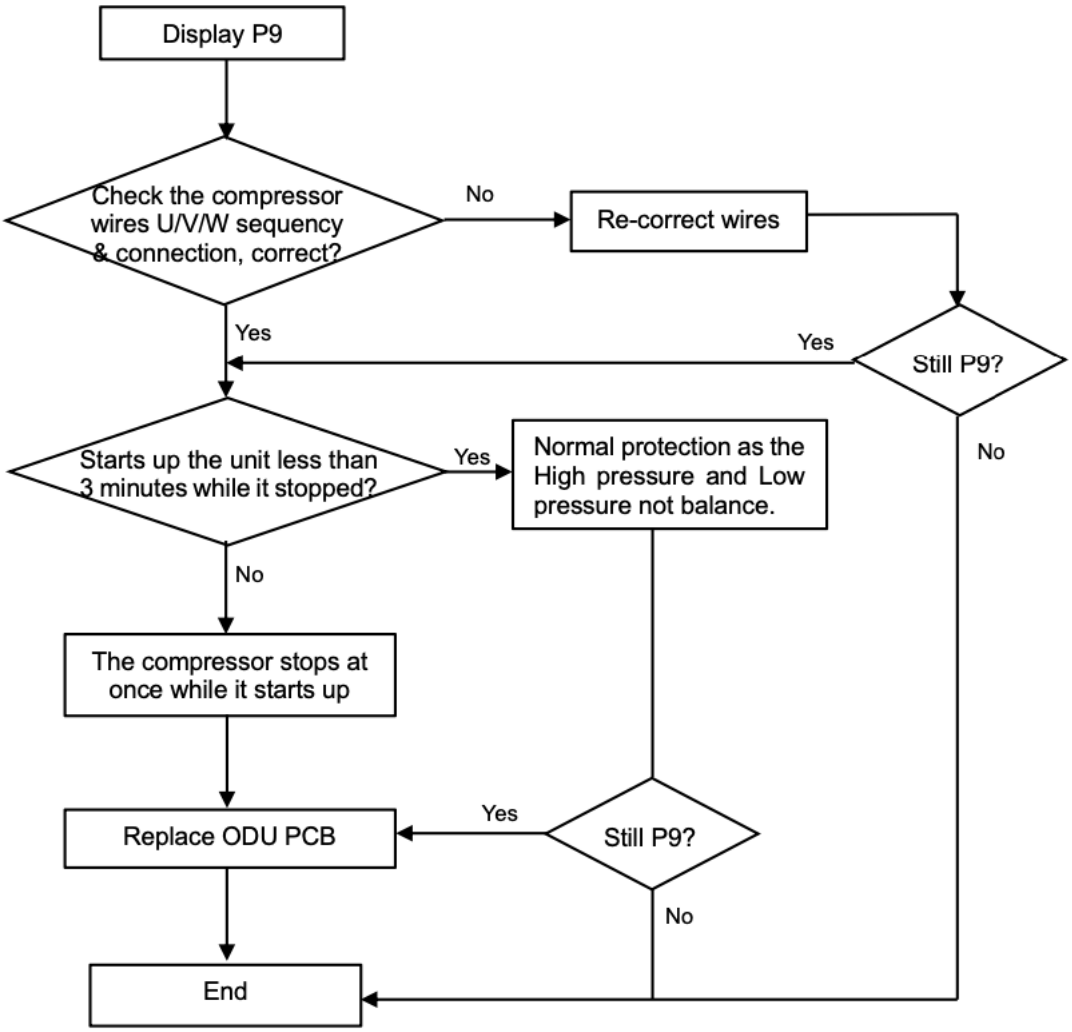
(1). MCU can't test the feedback signal from compressor, or

(2). Tested an abnormal signal from compressor, or

(3). The compressor startup abnormal.

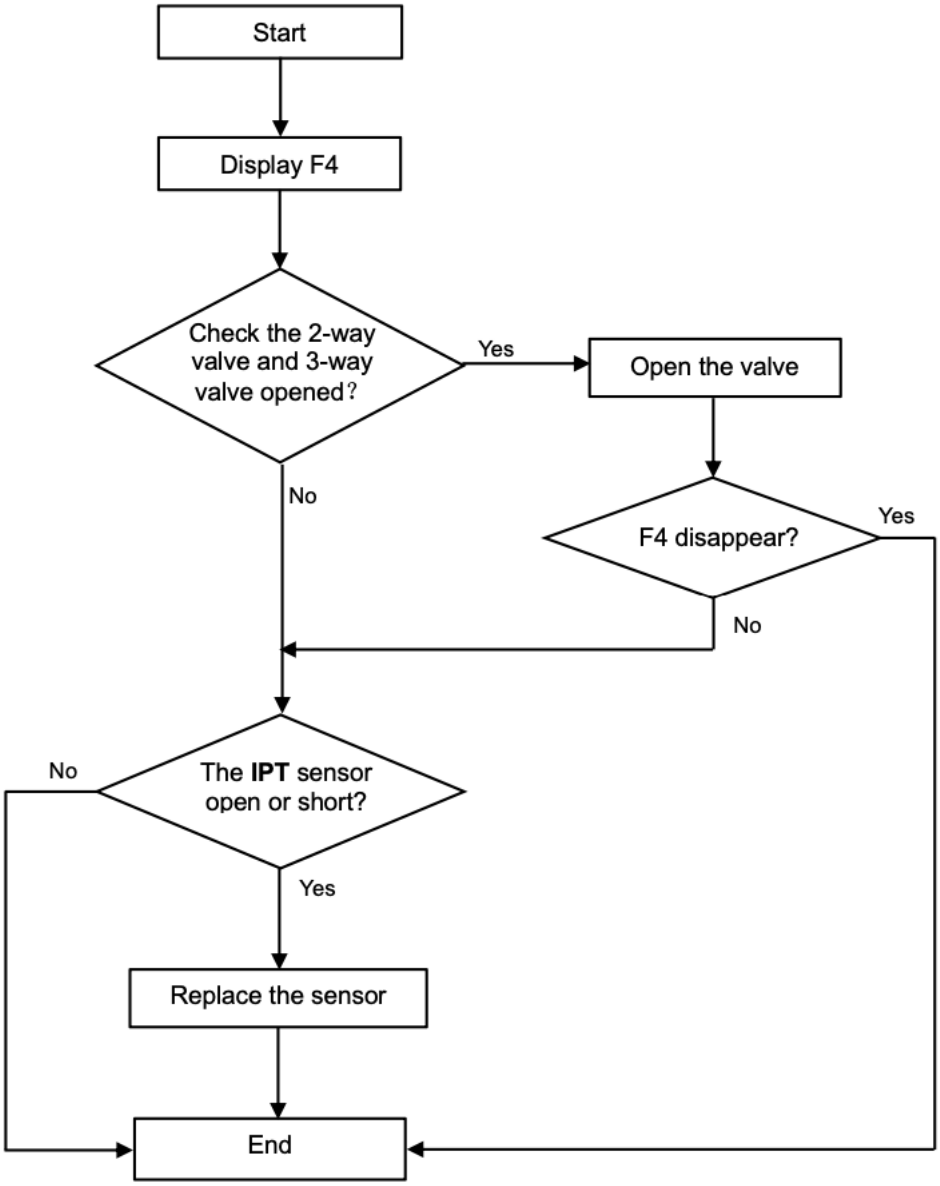
The outdoor unit will shut off, and show P9 protection.

(The unit will re-startup 6 times continuously, if it still can't work normal, then show P9 code)



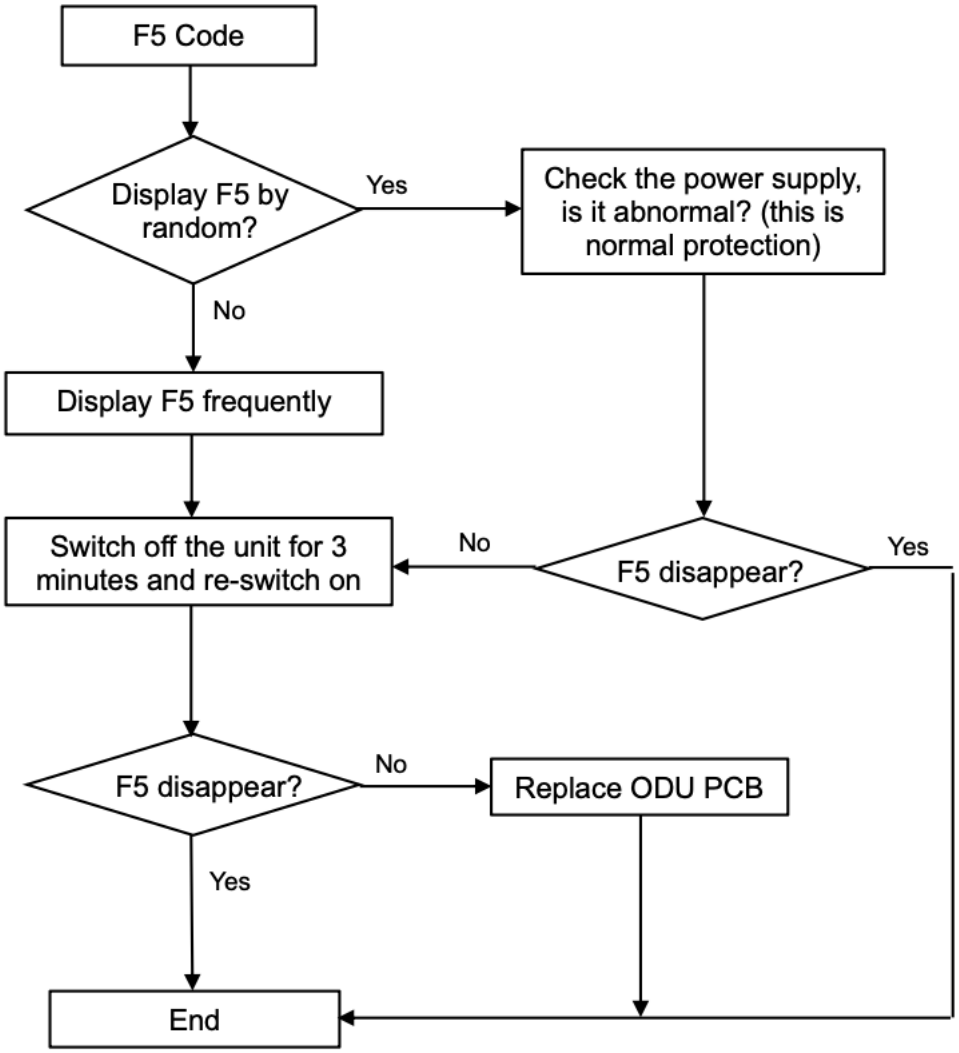
1.4.19 F4---Cooling system Gas flow abnormal protection

When compressor startup, unit will check the variation of IDU coil temperature. If there is mistake installer forgetting to open the 2-way or 3-way valve on ODU, the gas can’t flow in the cooling system, it will show F4 protection.



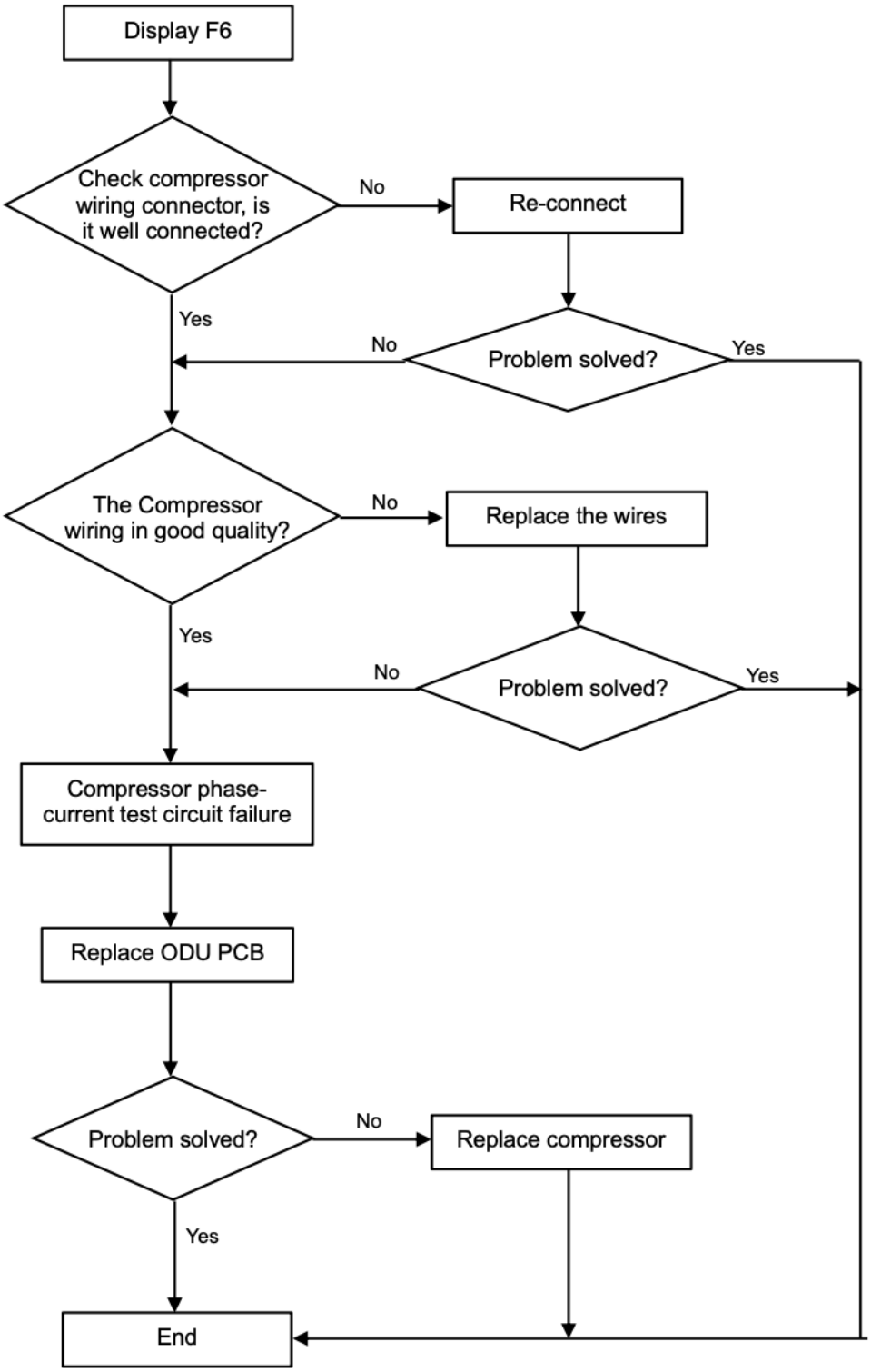
1.4.20 F5---PFC Protection

PFC Overcurrent protection



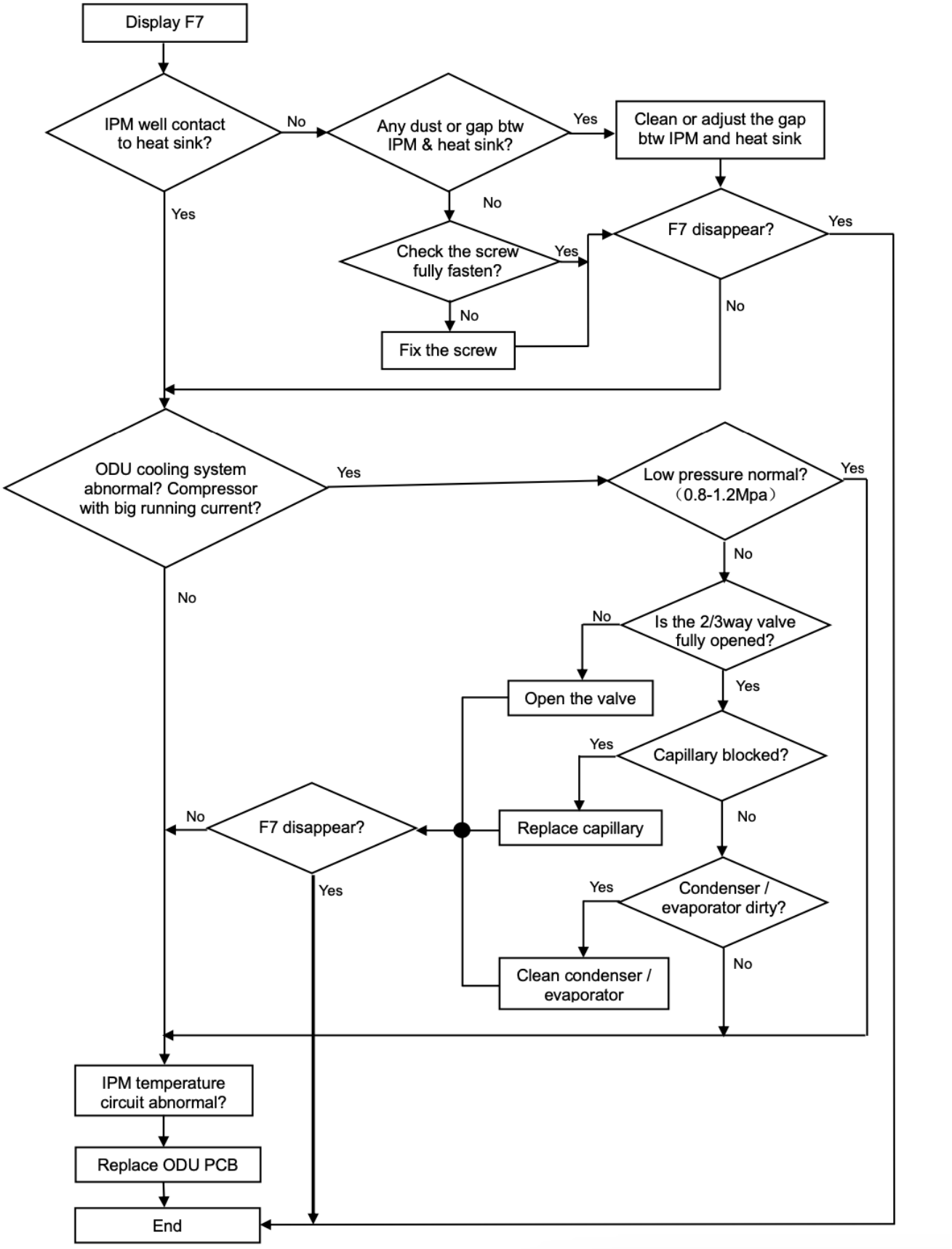
1.4.21 F6---The Compressor Lack of phase / Anti-phase protection.

If ODU PCB can't test one, two or even three phases of compressor current, it will show F6 protection.



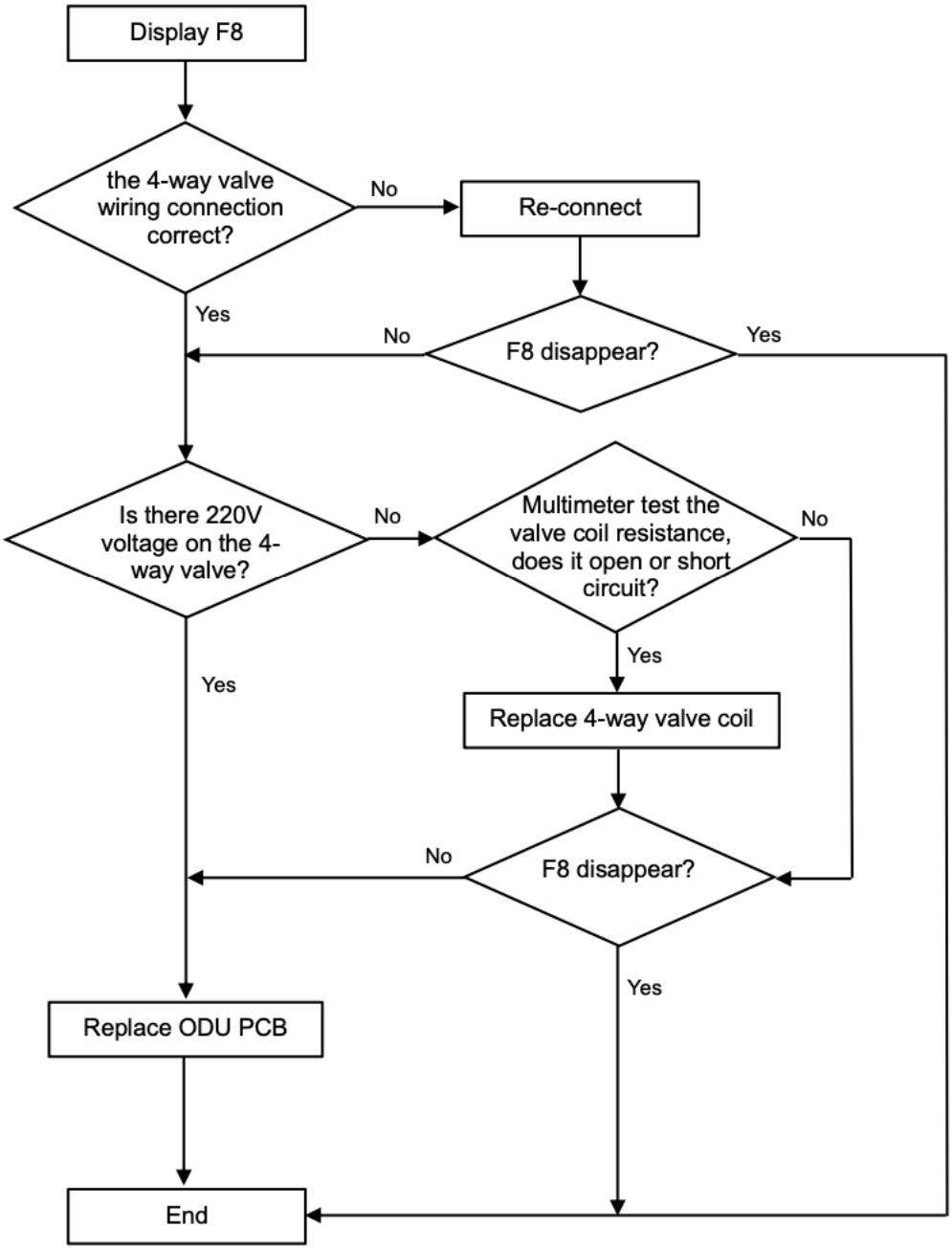
1.4.22 F7---Module temperature protection.

IPM overtemperature protection, when IPM temperature more than 95℃, it will show F7.



1.4.23 F8---4-Way Value Reversing abnormal

On heating mode, if IDU Coil temperature tested lower than Room temperature 5℃ or even more after compressor works for 8min, unit will show F8 code.



1.4.24 F9—The module temperature test circuit failure Reason:

The IPM module temperature test circuit failure.

Solution: Replace the ODU PCB.

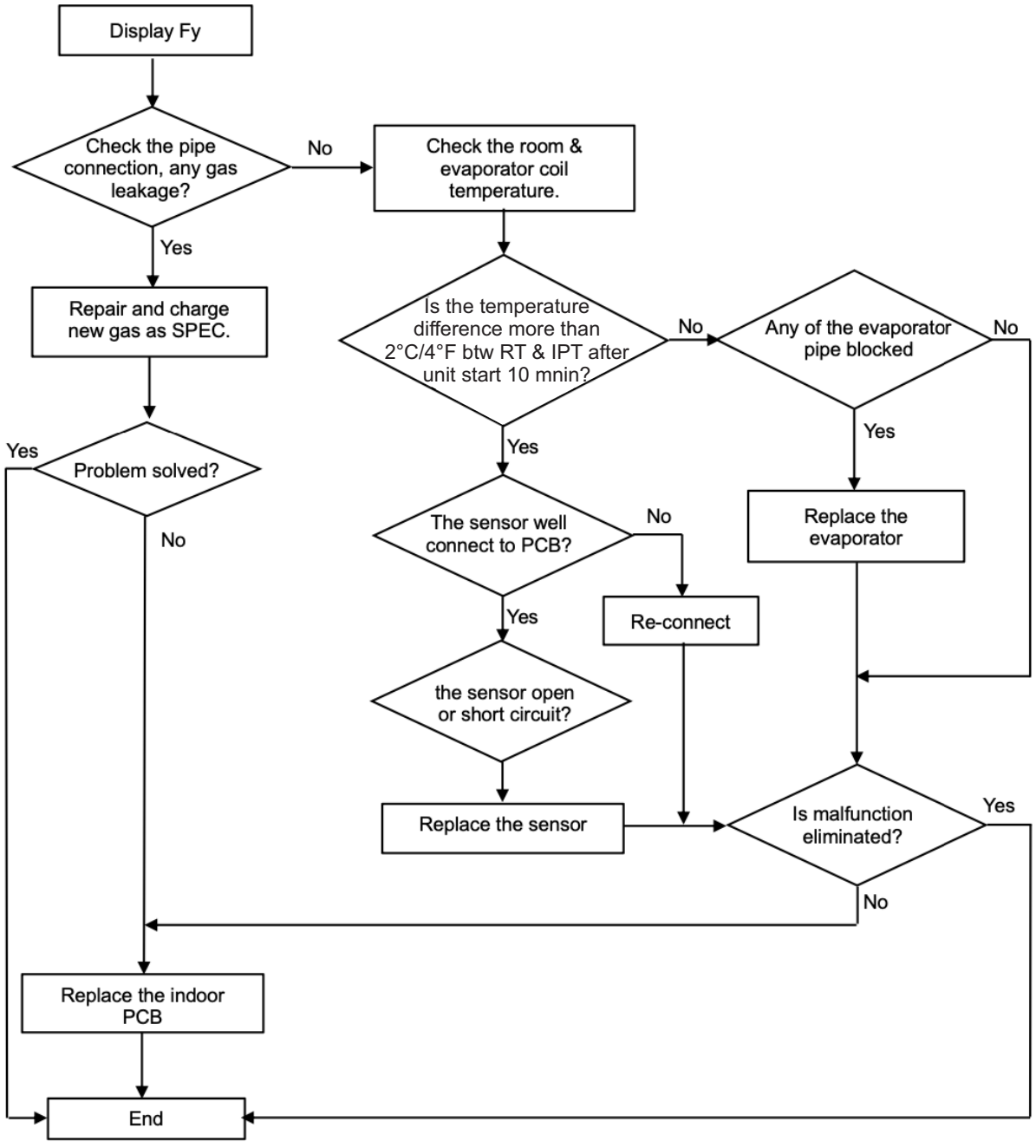
1.4.25 FA—The compressor Phase-current test circuit failure

Reason: The IPM module temperature test circuit failure.

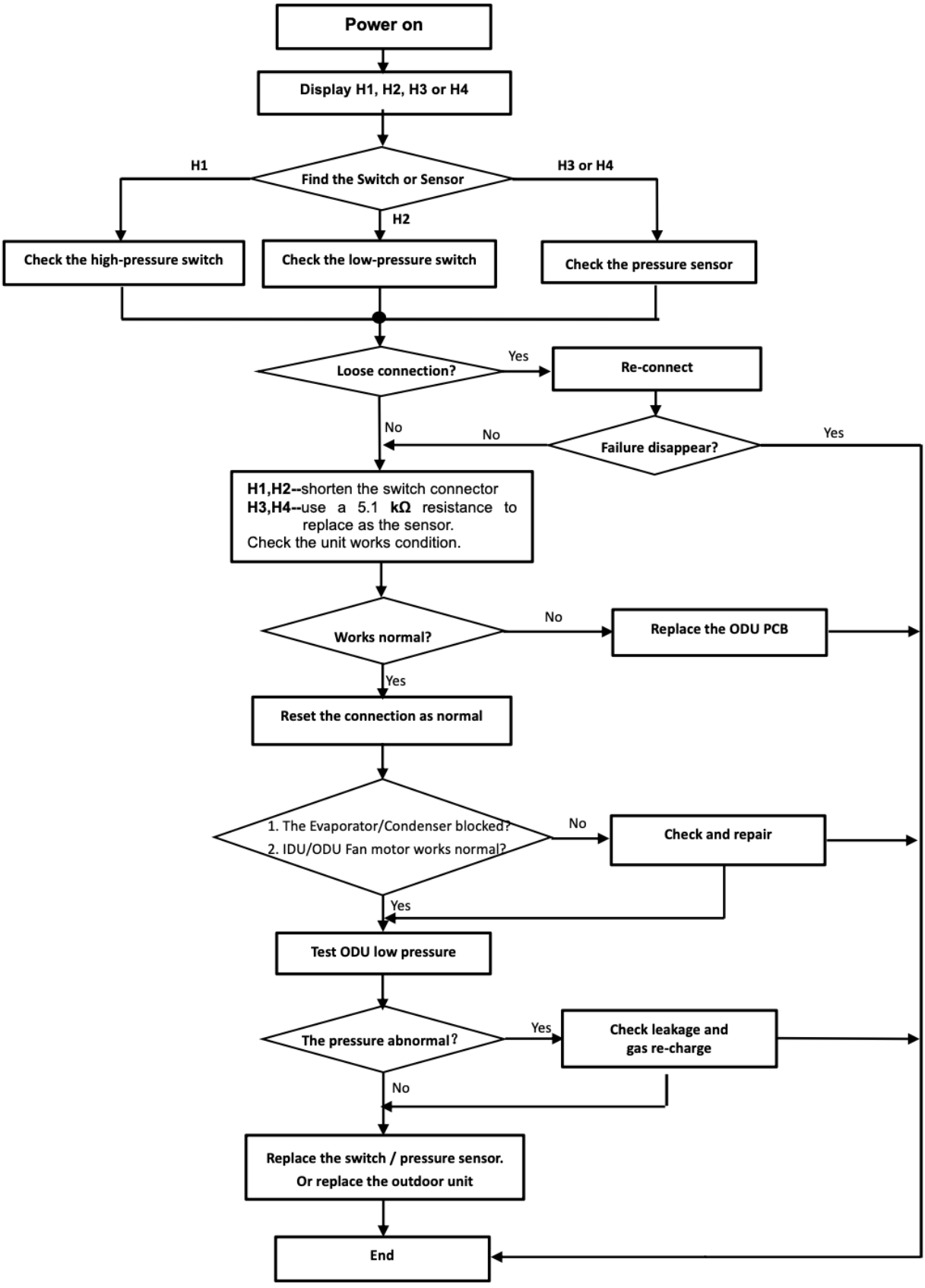
Solution: Replace the ODU PCB.

1.4.26 Fy--- Gas leakage protection

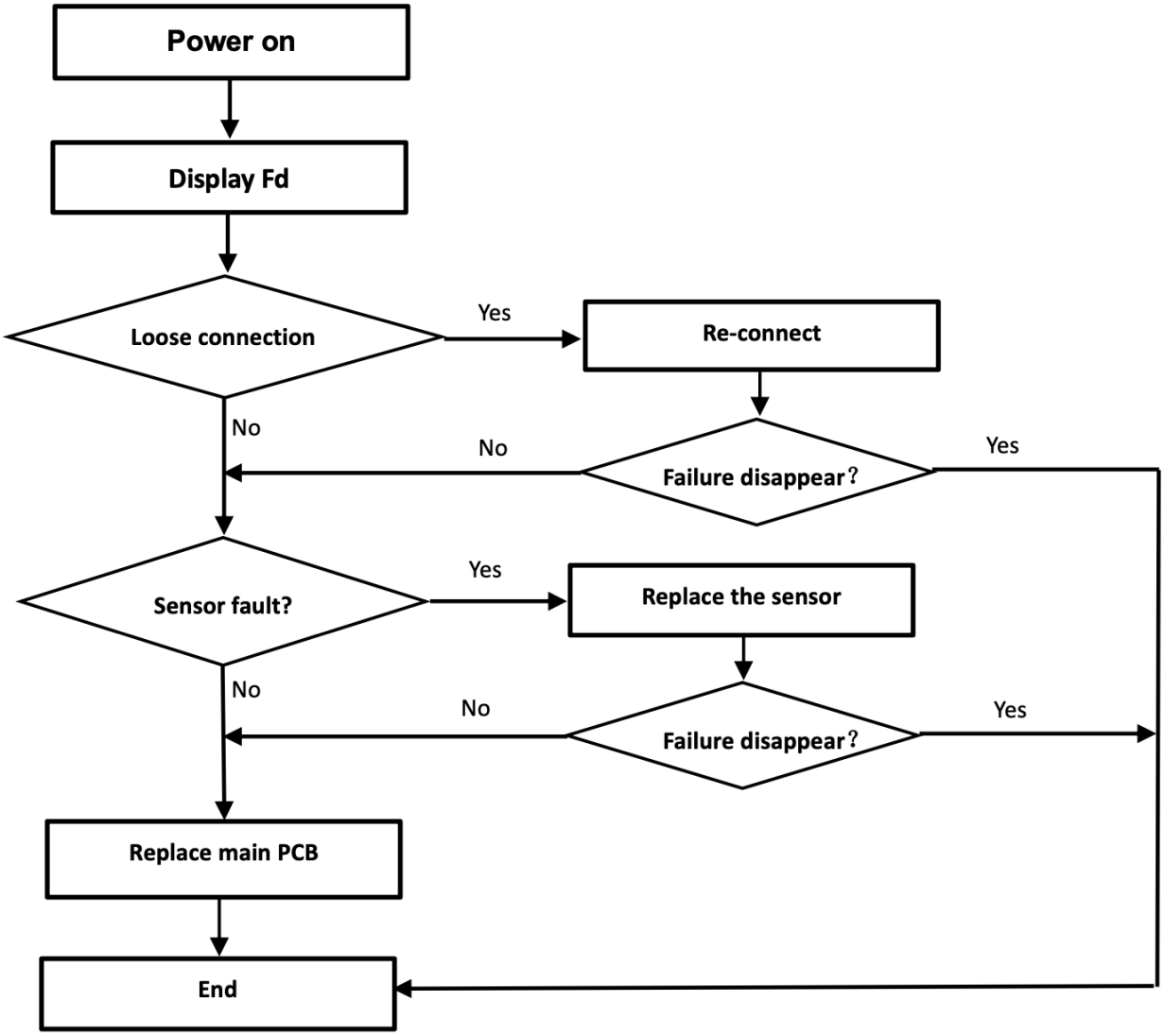
After compressor works in high frequency for 9 min, if the temperature on IDU evaporator & ODU condenser has only a little variation comparing previous, but, the compressor discharge temperature on high level, then the unit will show Fy failure code.



1.4.27 H1,H2,H3 & H4 — High pressure/Low pressure switch, Pressure sensor test abnormal.



1.4.28 Fd — The communication of refrigerant detection sensor and indoor PCB abnormal



1.5 Failures Not Caused by Errors

The following symptoms are not a malfunction and no need repairing.

Problem	Possible Cause
Abnormal noises of outdoor unit	The unit will make different sounds based on its current operating mode.
Both the indoor and outdoor units make noises	The air conditioner may hum during operation. This is a normal phenomenon, which is caused by refrigerant gas flowing through the indoor and outdoor units.
	When the air conditioner is turned on, and just stopped or defrosted, a hiss may be heard. This noise is normal and is caused by refrigerant gas stopping or turning.
Unit does not turn on when pressing ON/ OFF button	The unit has a 3-minute protection feature that prevents the unit from overloading. The unit cannot be restarted within three minutes of being turned off.
	Cooling and Heating Models: If the Operation light and PRE-DEF (Pre-heating/ Defrost) indicators are lit up, the outdoor temperature is too cold and the unit's anti-cold wind is activated in order to defrost the unit.
The unit changes from COOL mode to FAN mode	The unit changes its setting to prevent frost from forming on the unit. Once the temperature increases, the unit will start operating again.
	The set temperature has been reached, at which point the unit turns off the compressor. The unit will resume operating when the temperature fluctuates again.
Both the indoor and outdoor units emit white mist	When the unit restarts in HEAT mode after defrosting, white mist may be emitted due to moisture generated from the defrosting process.
Dust is emitted from either the indoor or outdoor unit	The unit may accumulate dust during extended periods of nonuse, which will be emitted when the unit is turned on. This can be mitigated by covering the unit during long periods of inactivity.
The unit emits a bad odor	The unit may absorb odors from the environment (such as furniture, cooking, cigarettes, etc.) which will be emitted during operations.
	The unit filters have become moldy and should be cleaned.
The fan of the outdoor unit does not operate	During operation, the fan speed is controlled to optimize product operation.

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7999 NW 81 Place Miami, FL 33195
Klimaire Products Inc.

Tel: (305) 593 - 8358
E-mail:info@klimaire.com
Website: www.klimaire.com

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