



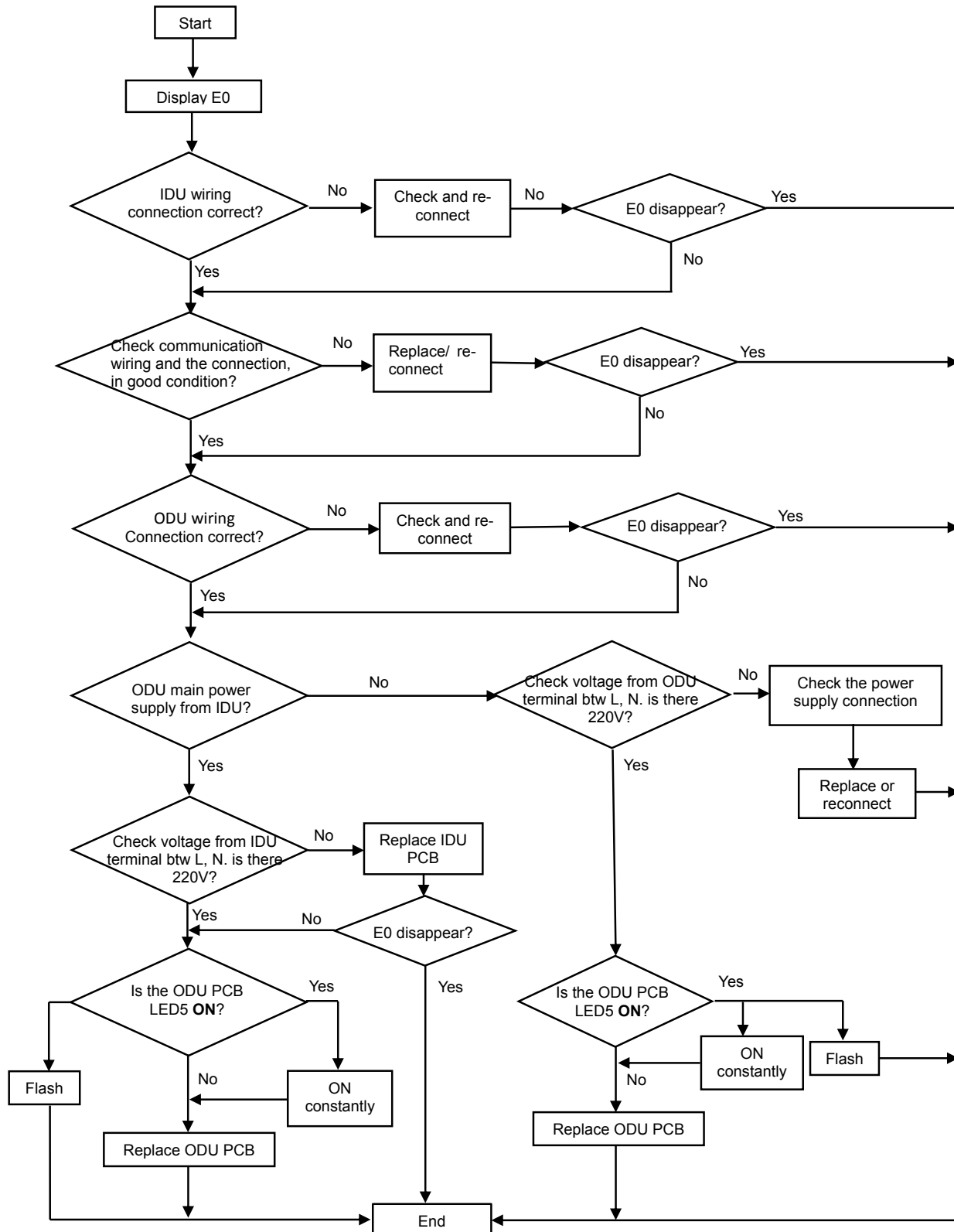
AIR CONDITIONER SERVICE MANUAL



HIGH WALL INVERTER

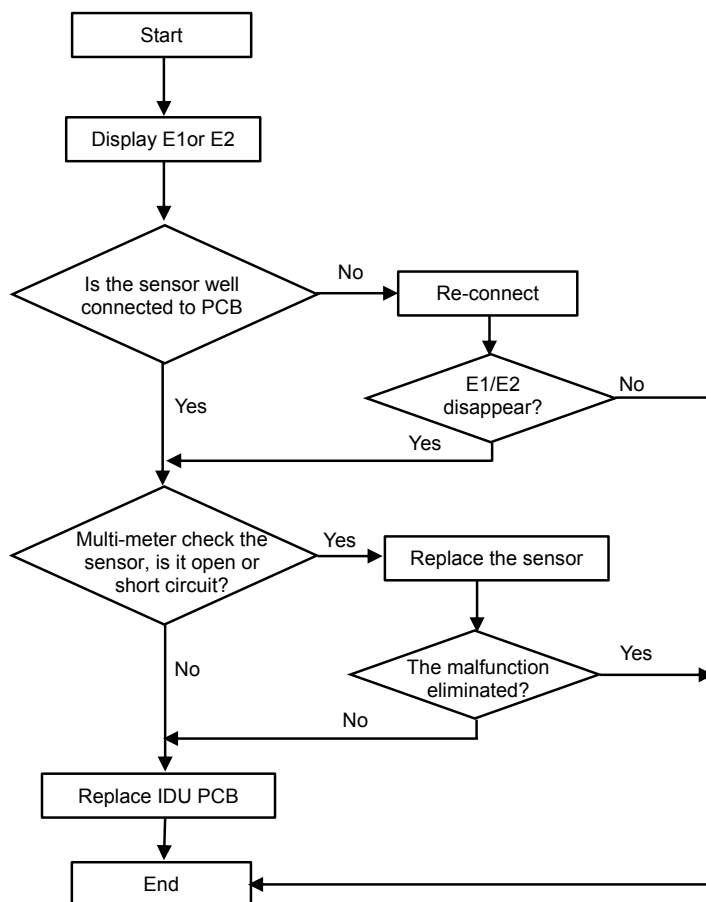
2. Trouble shooting

2.1 E0 ---IDU & ODU communication failure

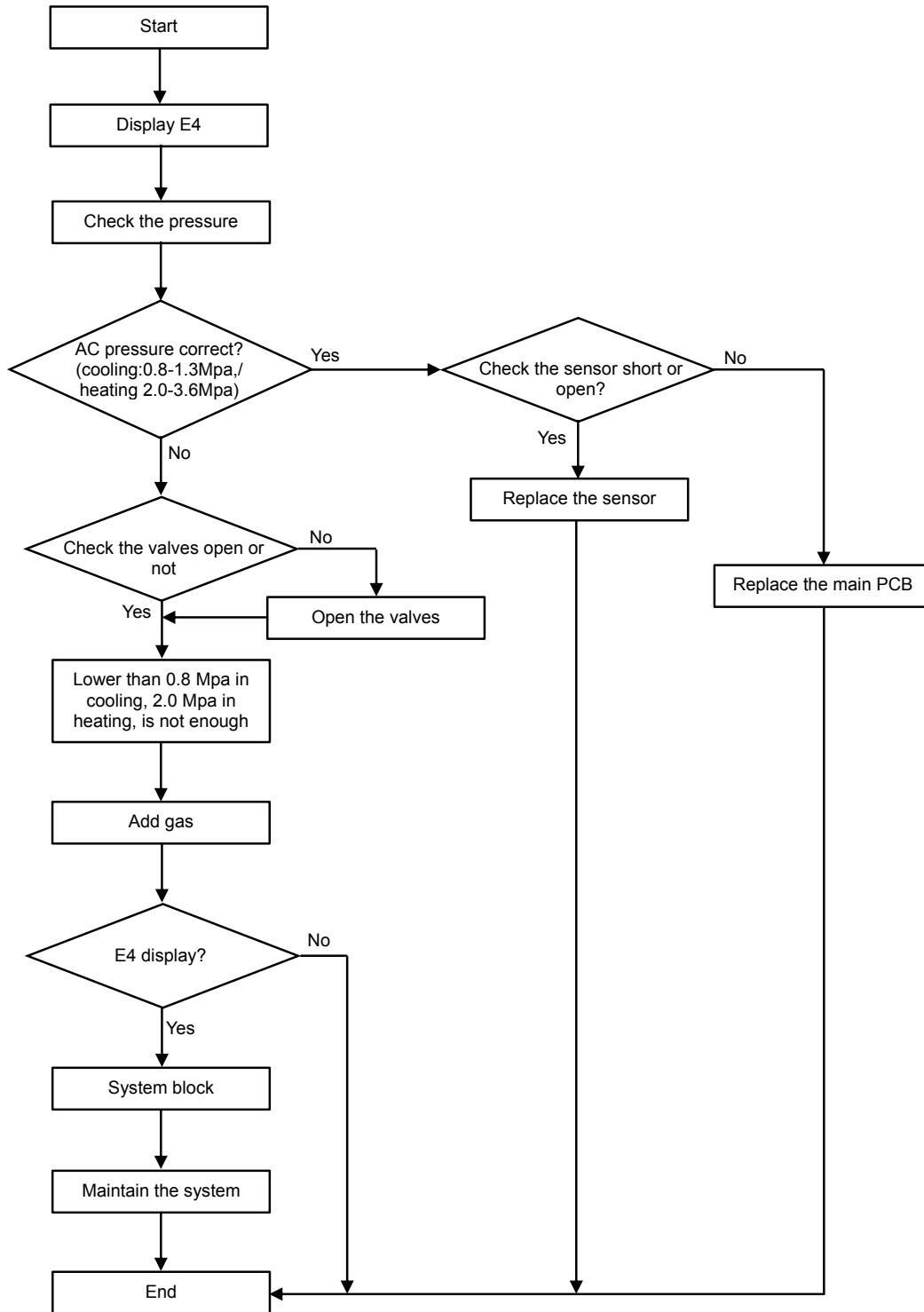


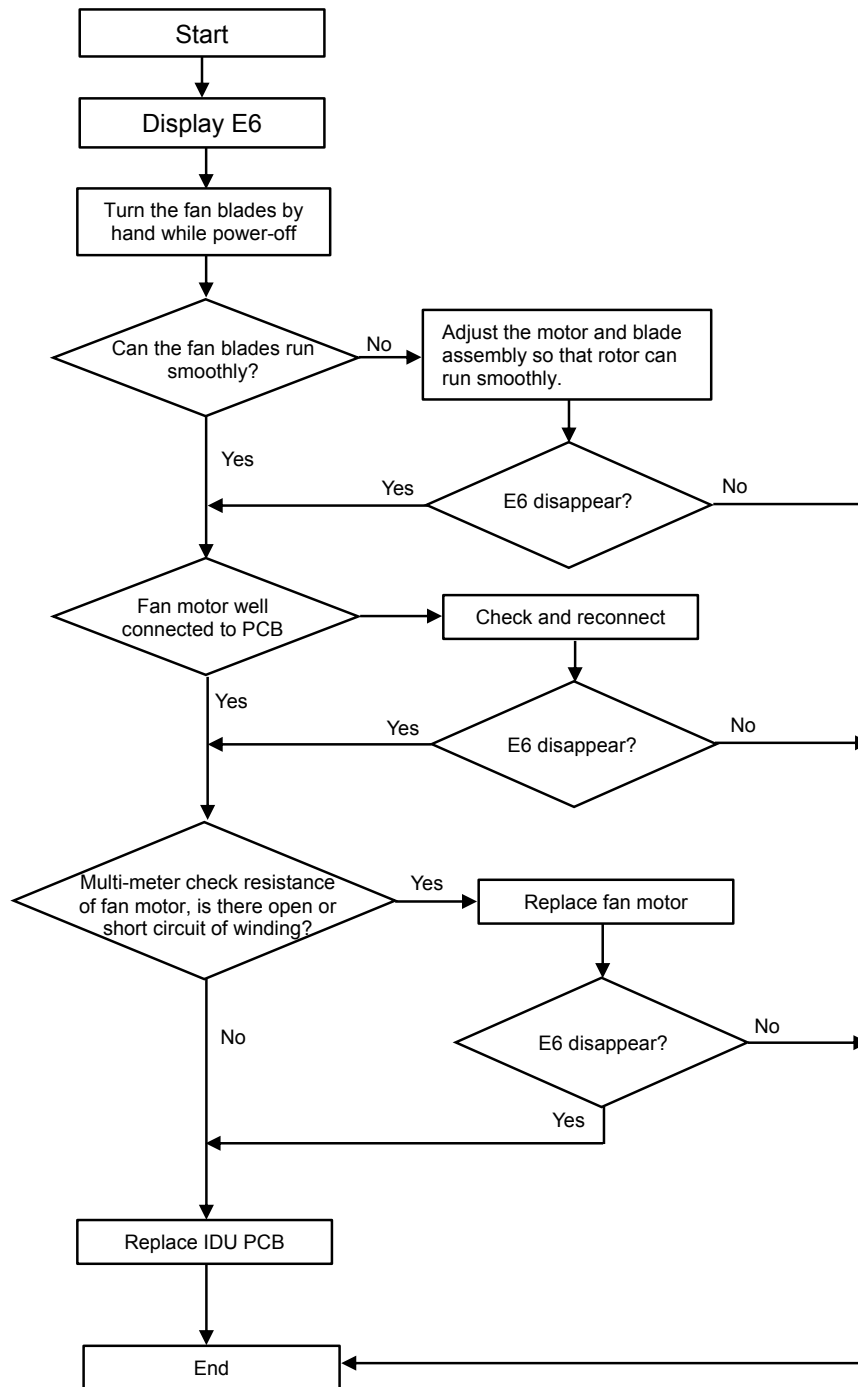
Remark: 1. if the communication wiring 1(S) is not well connected, the ODU LED5 will light ON always.

2. When unit works normal, there is a variable DC voltage (0~24V) btw 1(S) & N. and LED5 flashes.

2.2 E1, E2 ---IDU Room temperature sensor and/or coil temperature sensor failure.

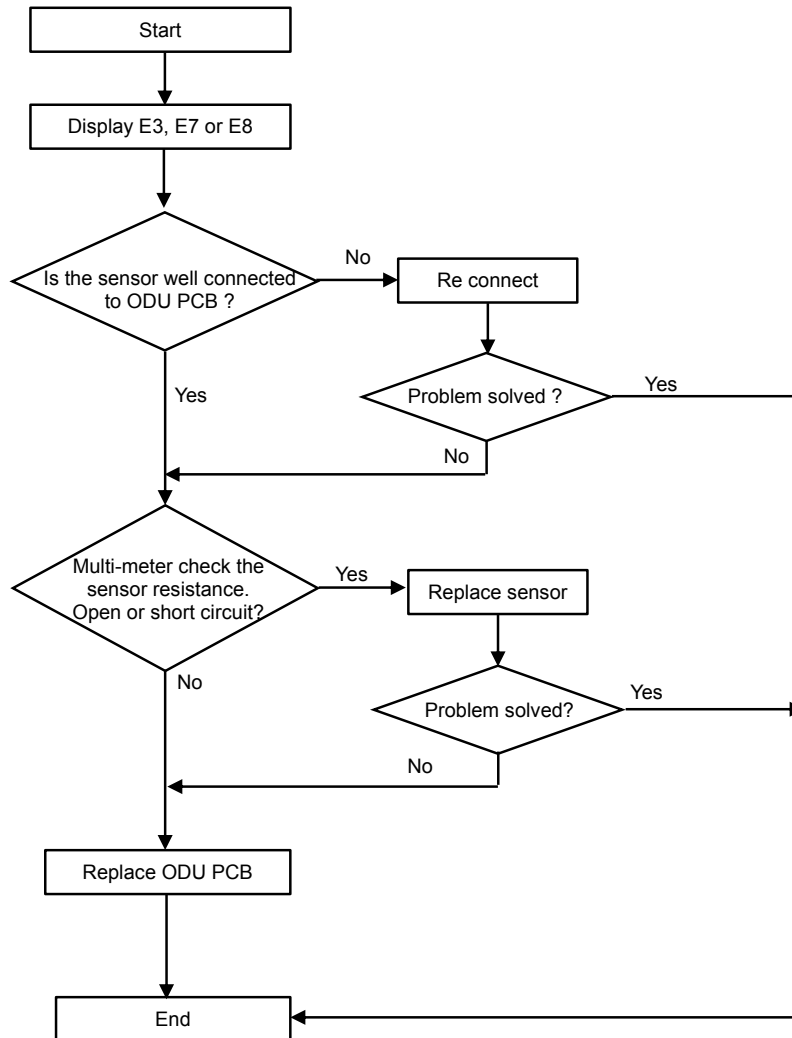
2.3 E4 --- AC Cooling system abnormal (Gas not enough)



2.4 E6----IDU ventilation failure (PG and DC fan motor only)

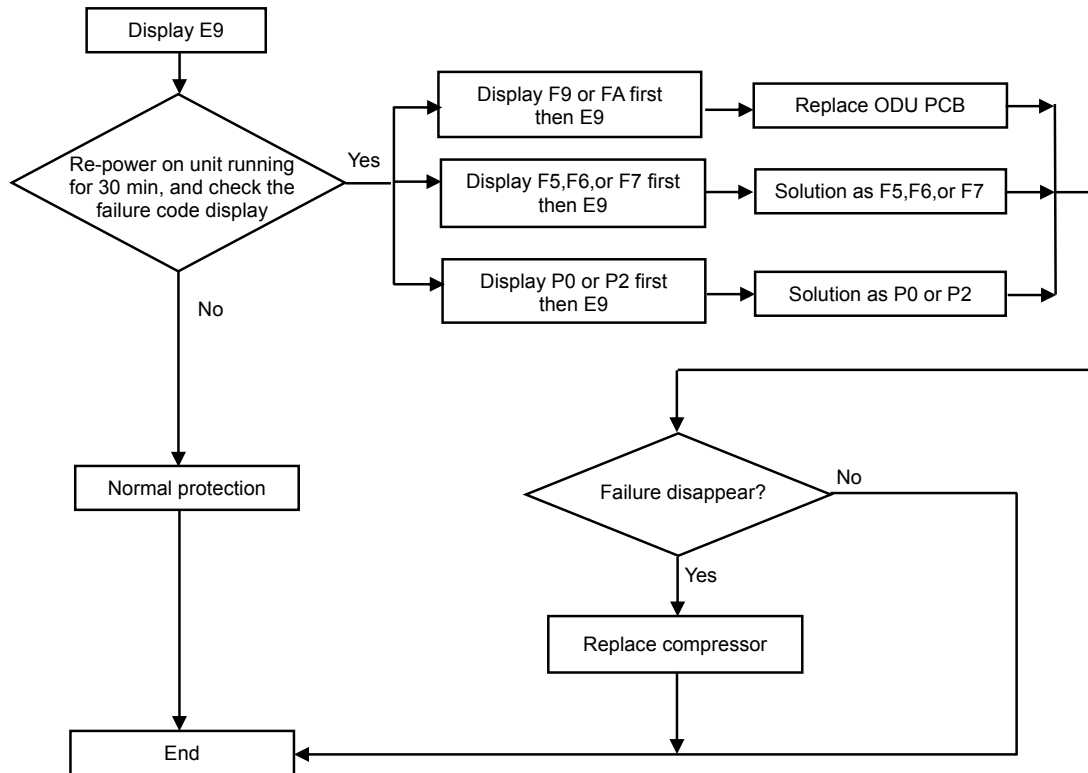
2.5 E3, E7 or E8----ODU Coil temperature sensor, Ambient temperature sensor or Discharge temperature sensor failure.

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



2.6 E9---ODU IPM /Compressor drive fault

If unit have 6 times stopping works for IPM protection (P0) continuously, it will display E9 error, and unit can't be recovered to operation, except press ON/OFF button.



Remark:

1. F9 code

Reason: The IPM module temperature test circuit failure.

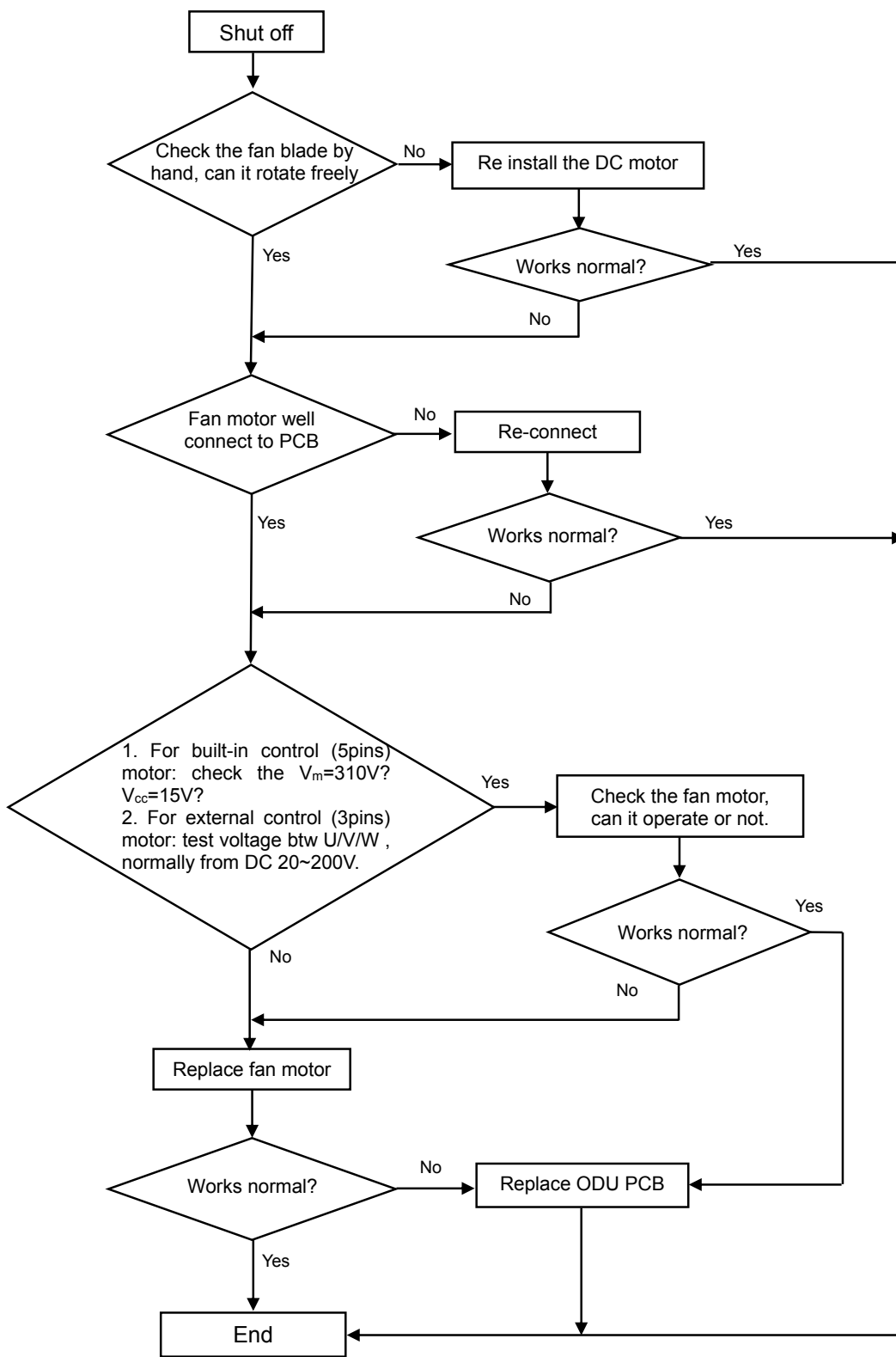
Solution: Replace the ODU PCB.

2. FA code

Reason: The compressor phase-current test circuit failure.

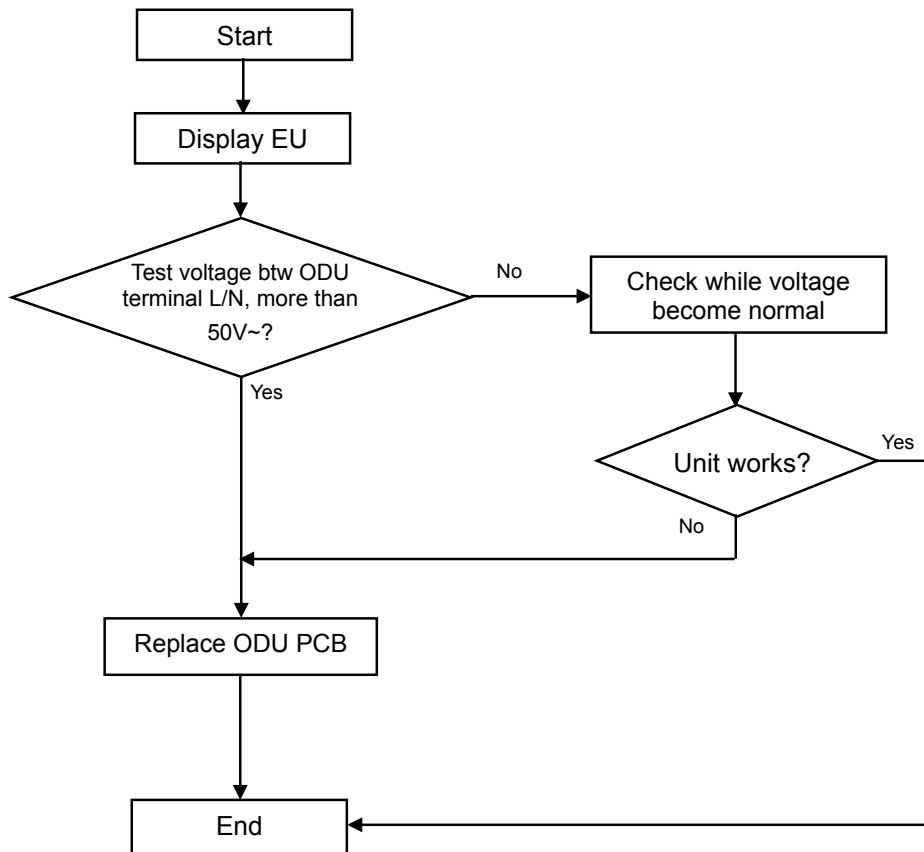
Solution: Replace the ODU PCB.

2.7 EF---ODU DC fan motor failure



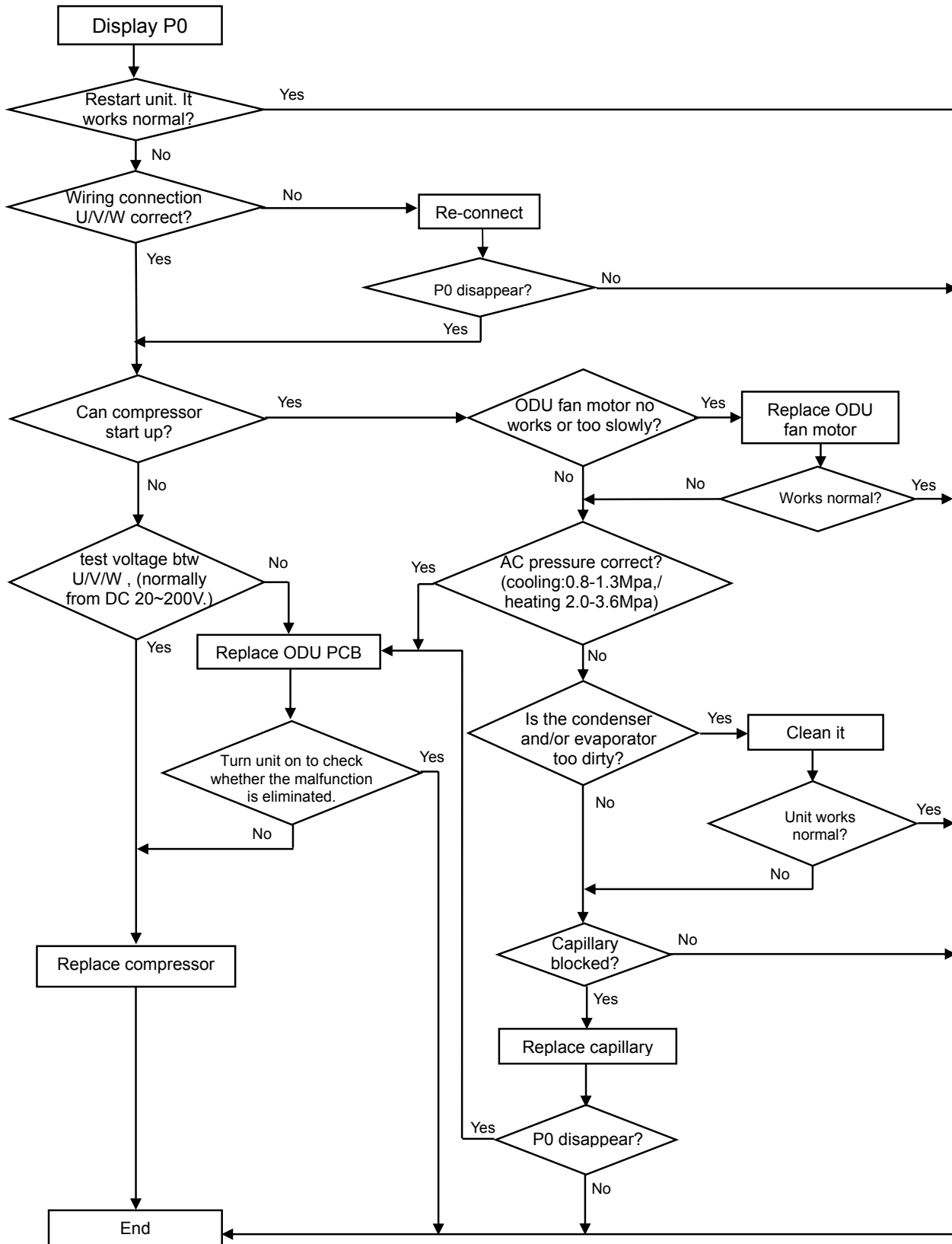
2.8 EU---ODU voltage test sensor failure

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



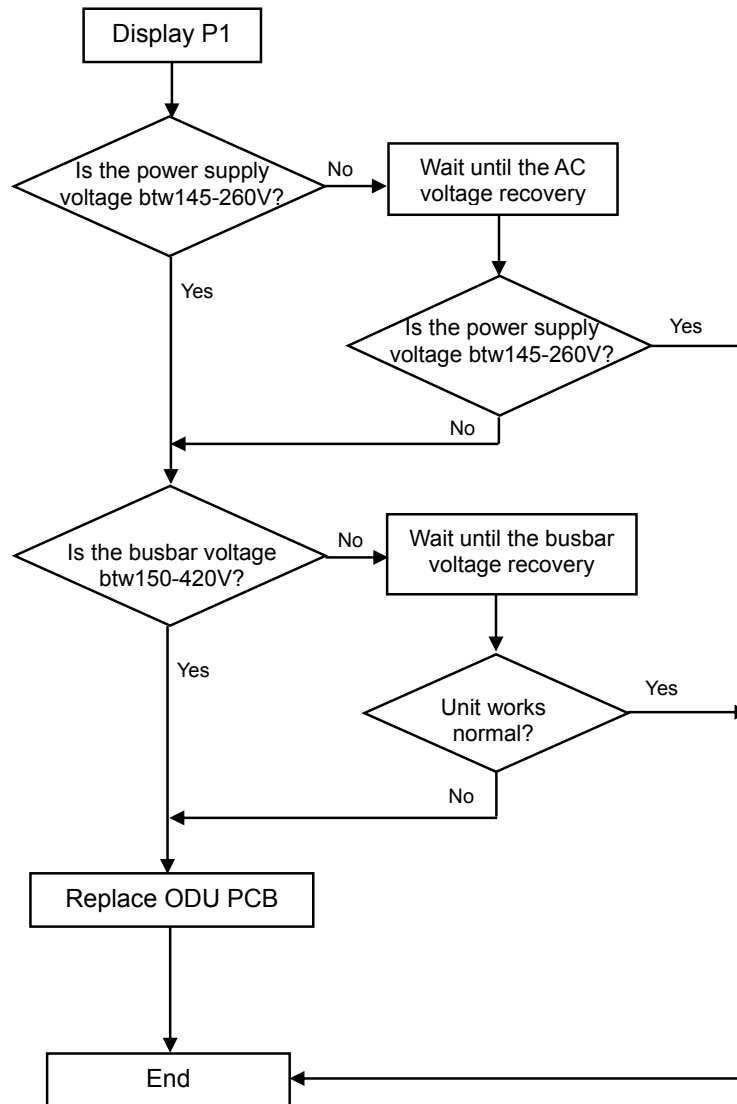
2.9 P0---IPM protection

When overheat or overcurrent for IPM, AC unit will display P0protection.



2.10 P1--- Over / under voltage protection

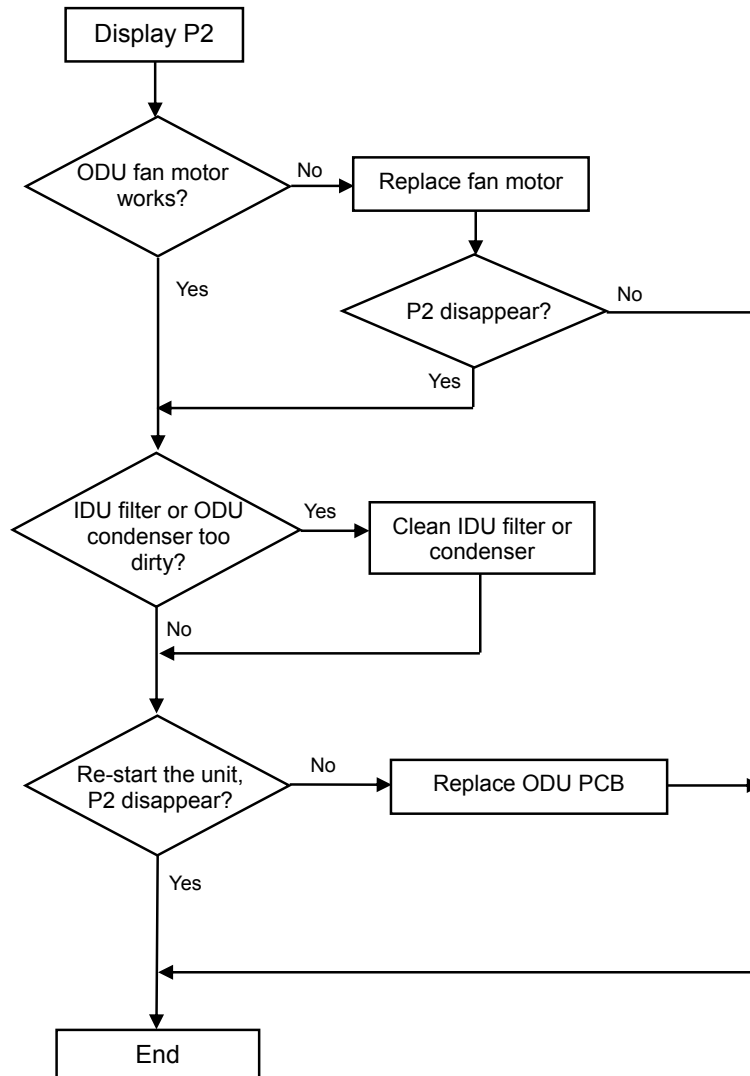
1. Test voltage between L & N, When the power supply $V > AC260V$ or $V < AC150V$, AC will display P1 protection, unit will recover back to previous status while $V > AC155V$.
2. Test voltage on the big size electrolytic capacitor of ODU PCB, When DC busbar voltage $V > DC420V$ or $V < DC150V$, unit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



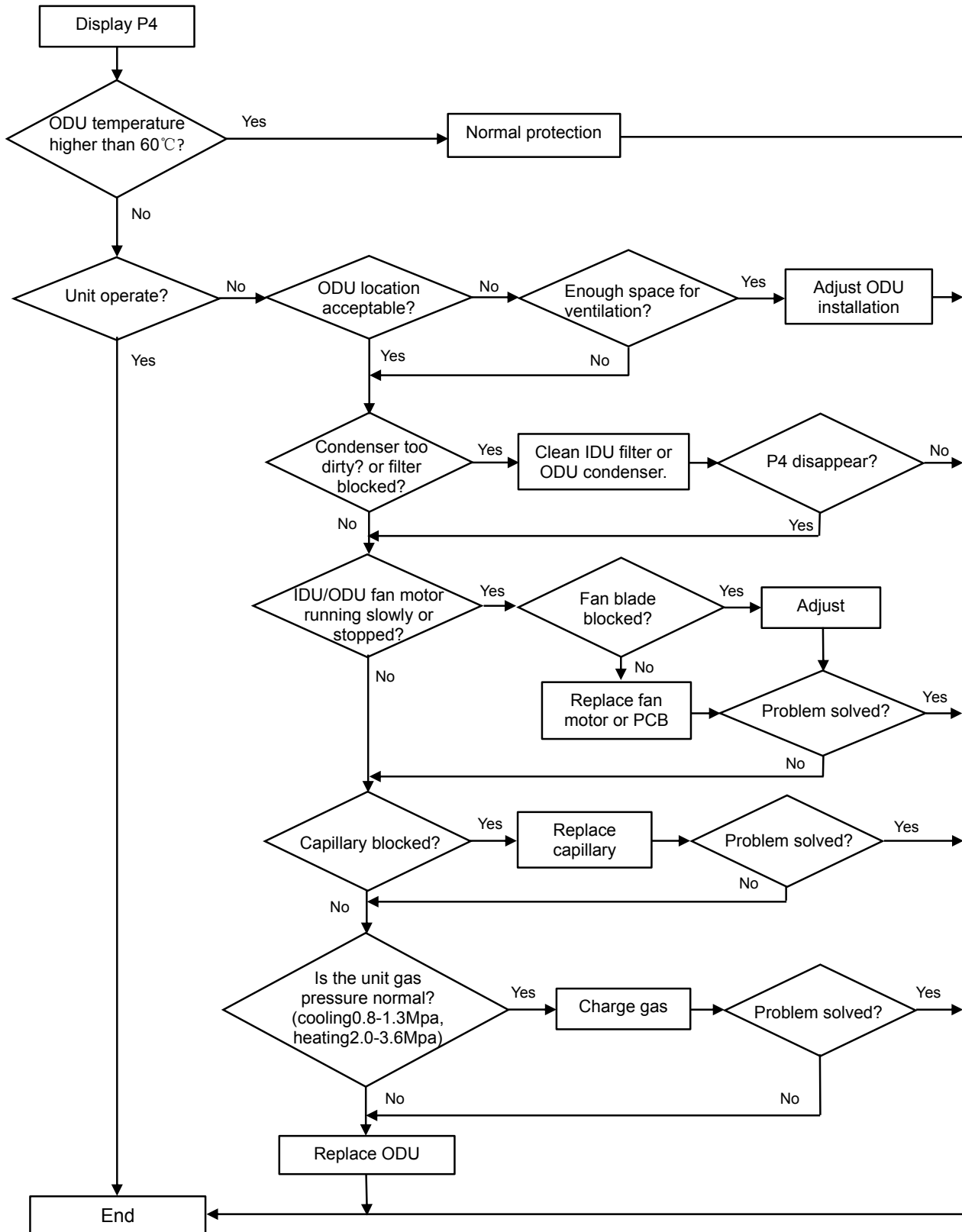
2.11 P2---Over Current protection

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 difference value.

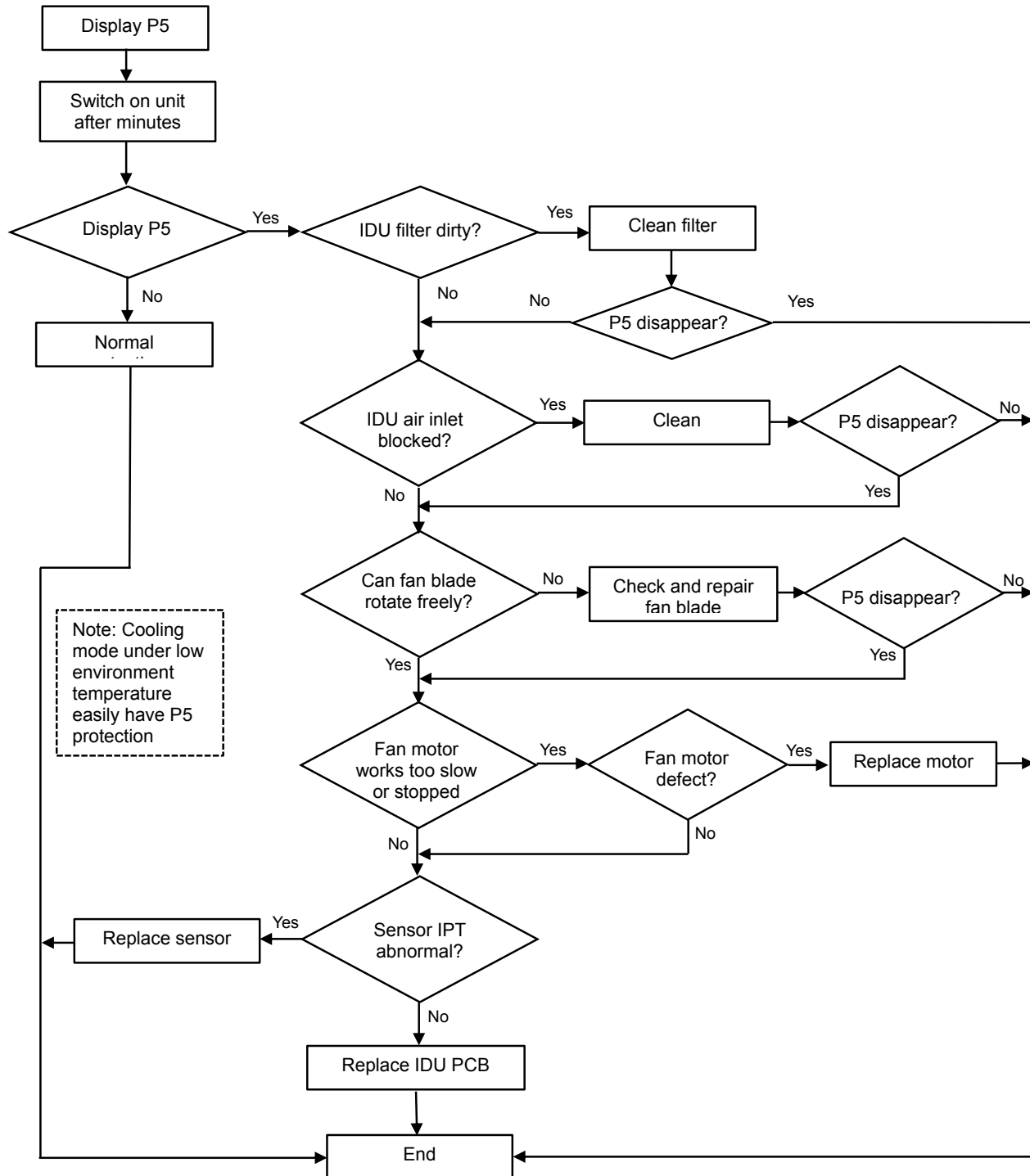


2.12 P4 ---ODU Discharge temperature overheating protection



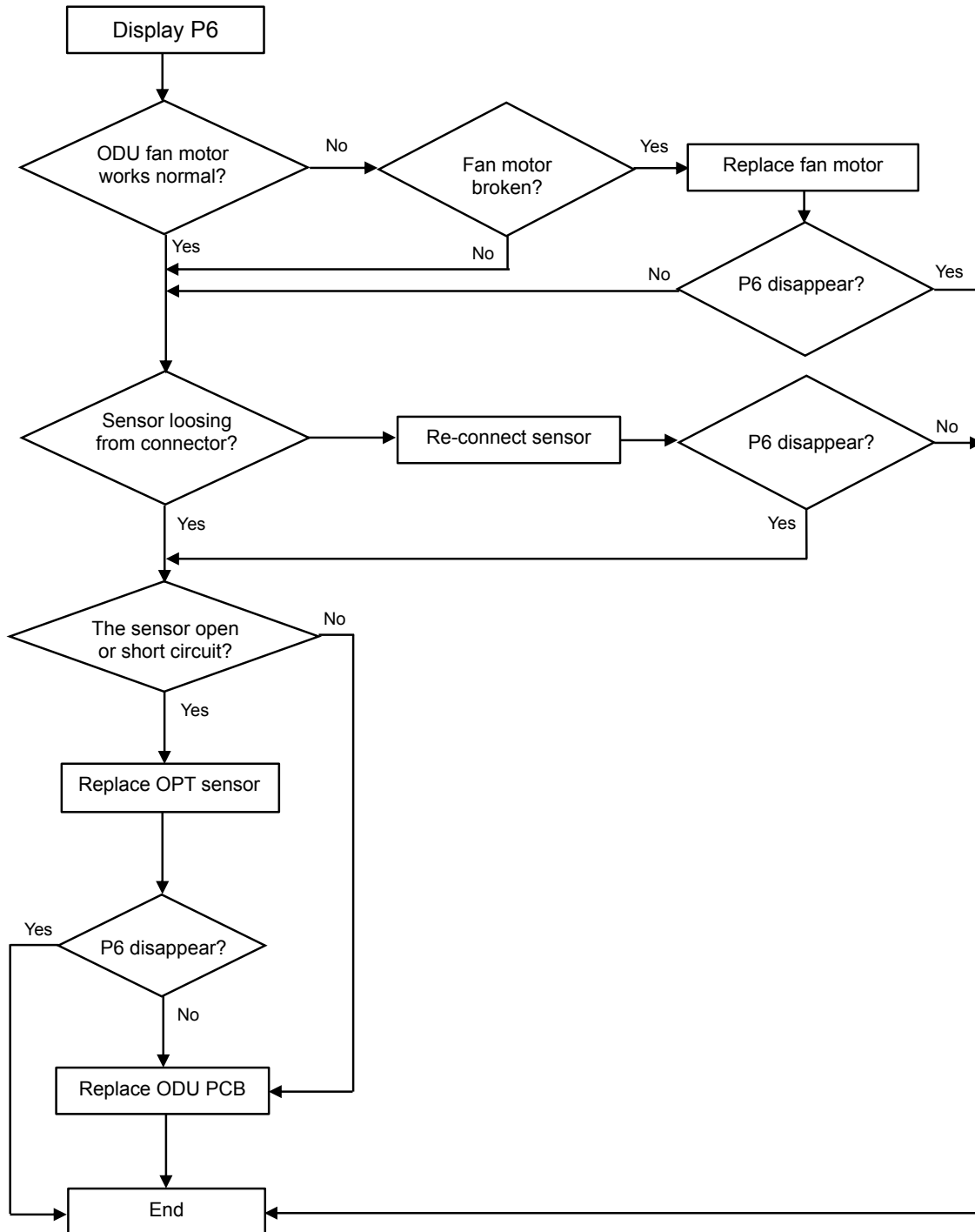
2.13 P5---Sub-cooling protection on Cooling/Dry mode

On Cooling or Dry mode, when IDU evaporator coil temperature $IPT < 1^{\circ}\text{C}$ continuously for 3 min after compressor start up for 6 min, CPU will switch off outdoor unit and show P5 failure code.



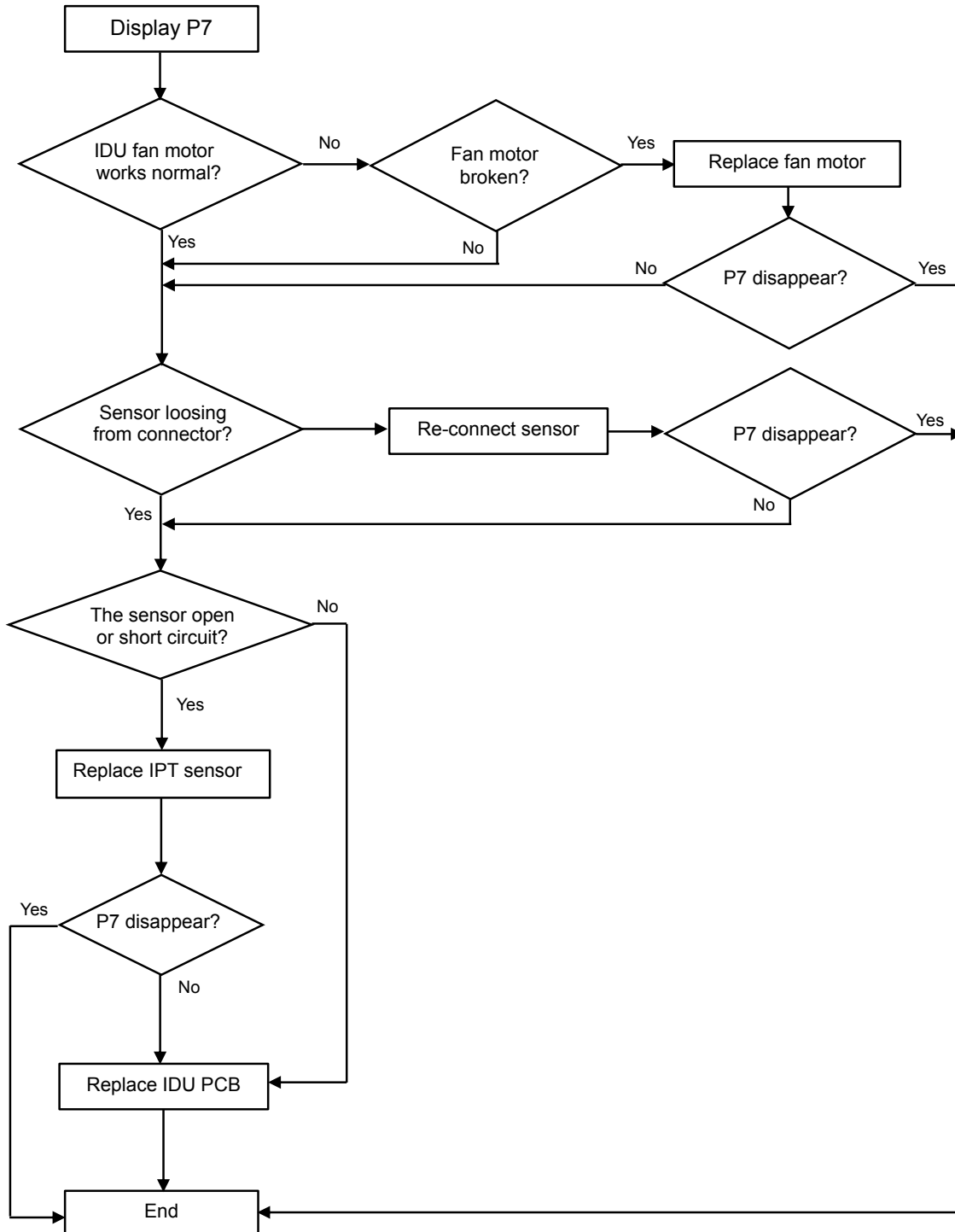
2.14 P6---Overheating protection on Cooling mode

On Cooling or Dry mode, when ODU condenser coil temperature $OPT \geq 62^{\circ}\text{C}$, MCU will switch off outdoor unit and show P6 failure code.



2.15 P7---Overheating protection on Cooling mode

On heating mode, when IDU evaporator coil temperature $IPT \geq 62^{\circ}\text{C}$, ODU PCB will switch off outdoor unit and show P7 failure code.



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

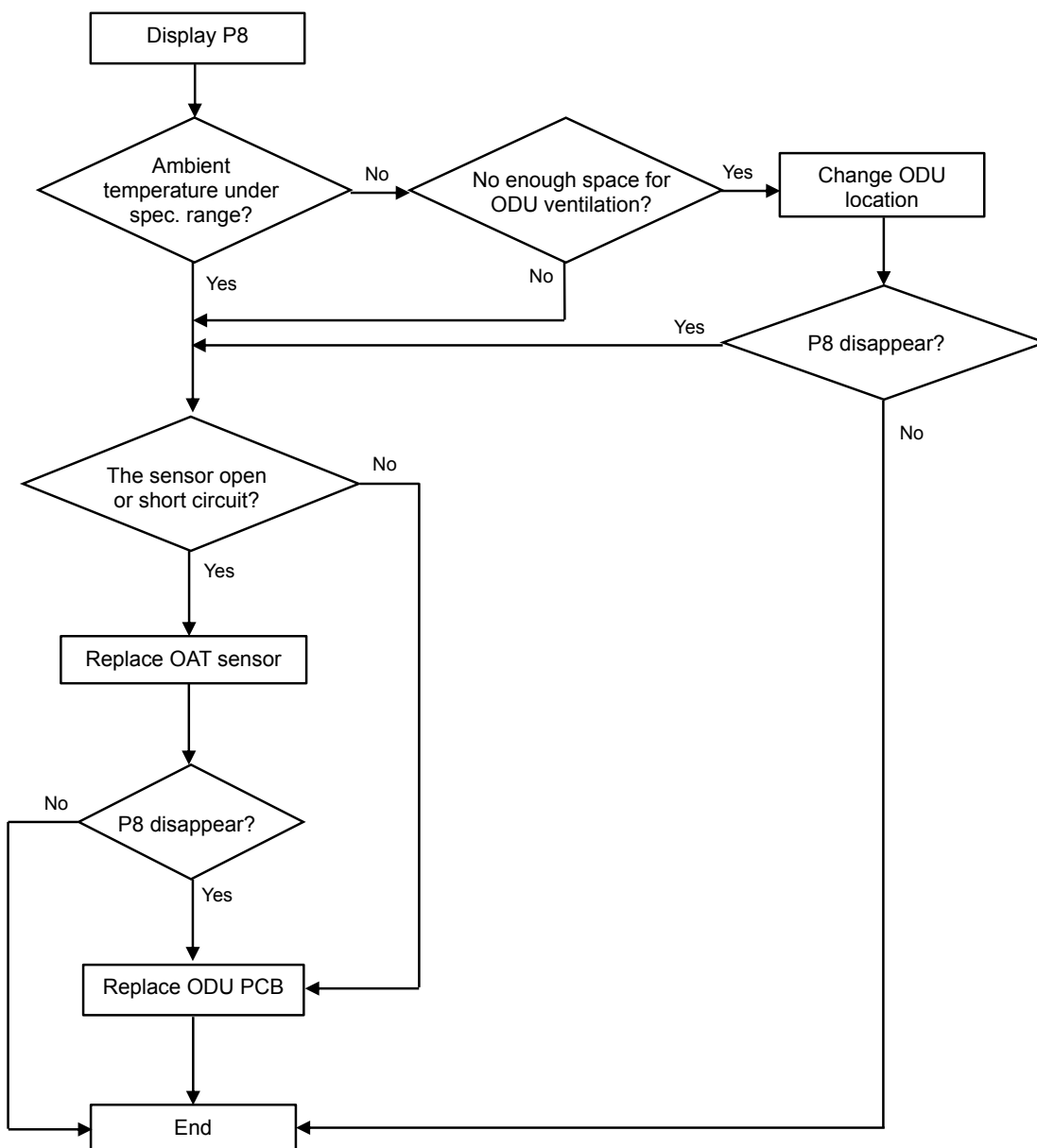
When environment temperature as below condition, the compressor will stop working, after 200s delay, the IDU will show P8 failure code.

(1). **On Cooling or Dry mode:** ODU ambient temperature: $OAT < -20^{\circ}\text{C}$ or $OAT > 63^{\circ}\text{C}$;

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

a. $OAT \geq 40^{\circ}\text{C}$

b. $30^{\circ}\text{C} < OAT \leq 40^{\circ}\text{C}$ and $RT > 35^{\circ}\text{C}$



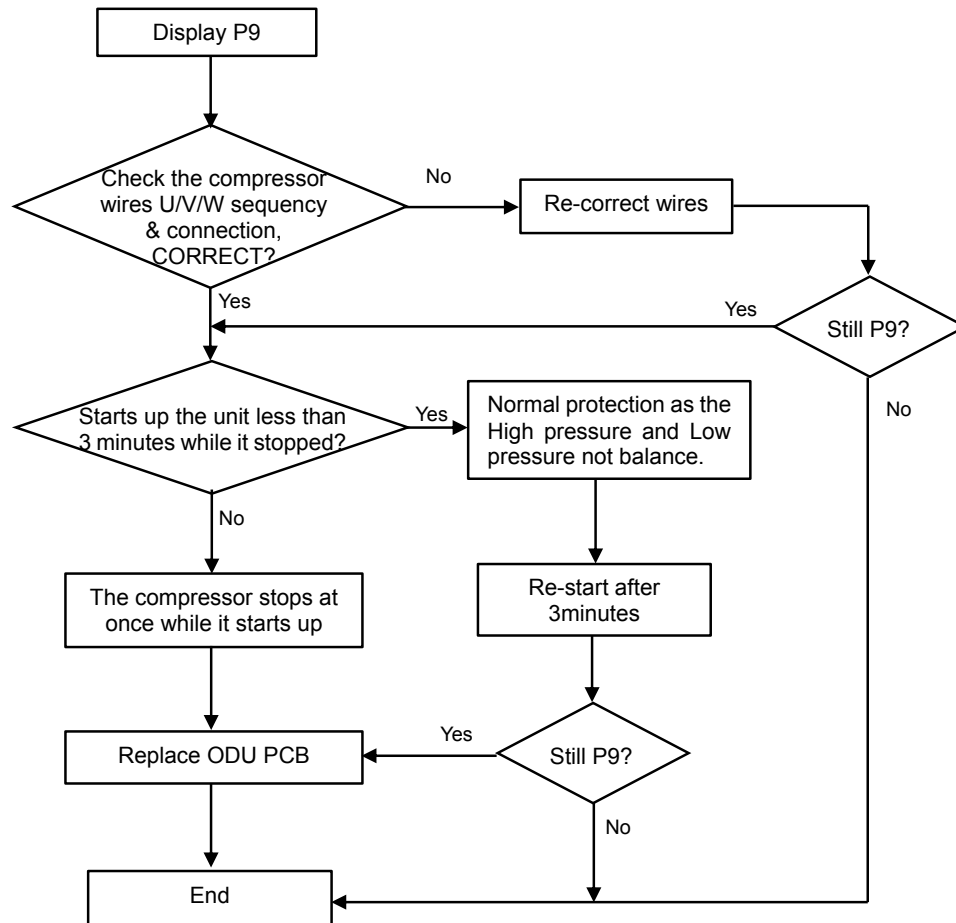
2.17 P9---The compressor driving protection (the compressor load abnormal)

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

- (1). MCU can't test the feedback signal from compressor, or
- (2). Tested a abnormal signal from compressor, or
- (3). The compressor startup abnormal.

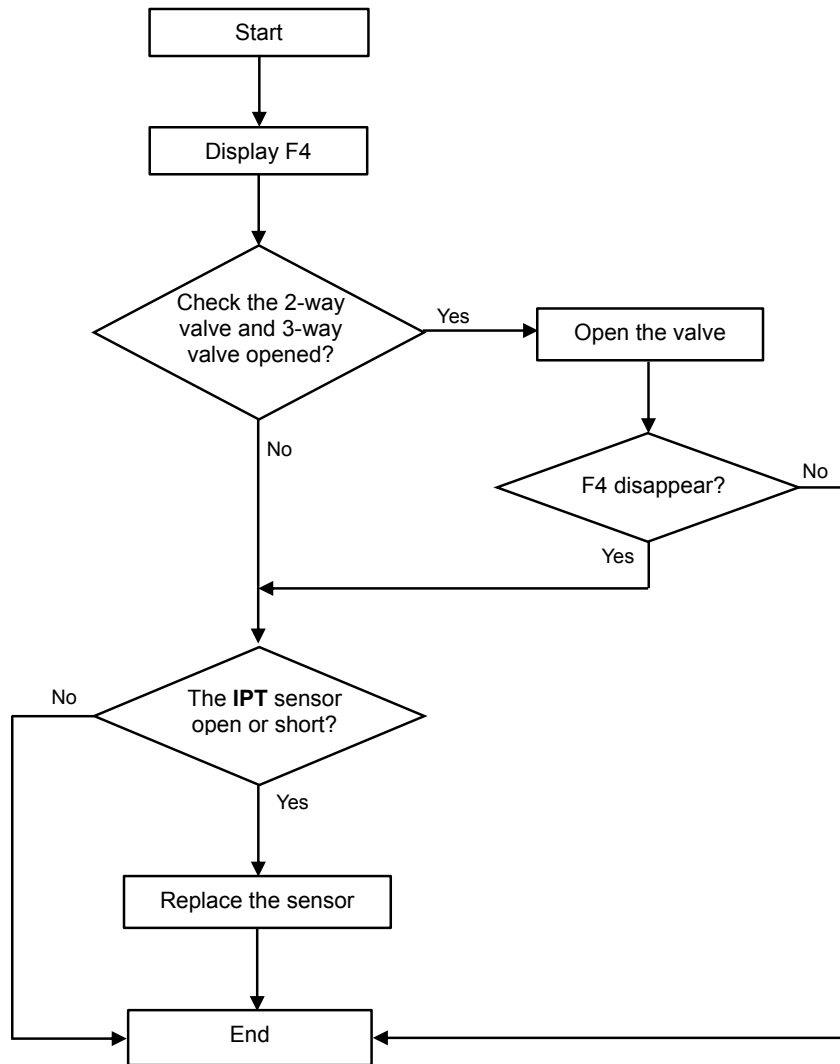
The outdoor unit will shut off, and show P9 protection.

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



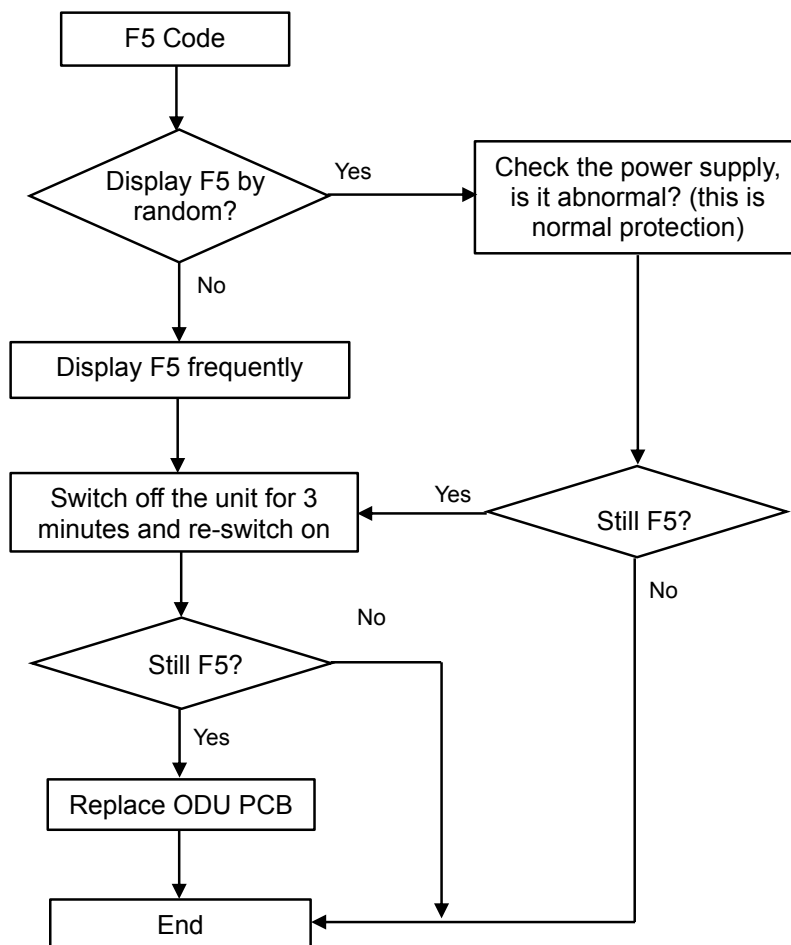
2.18 F4---Cooling system Gas flow abnormal protection

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.



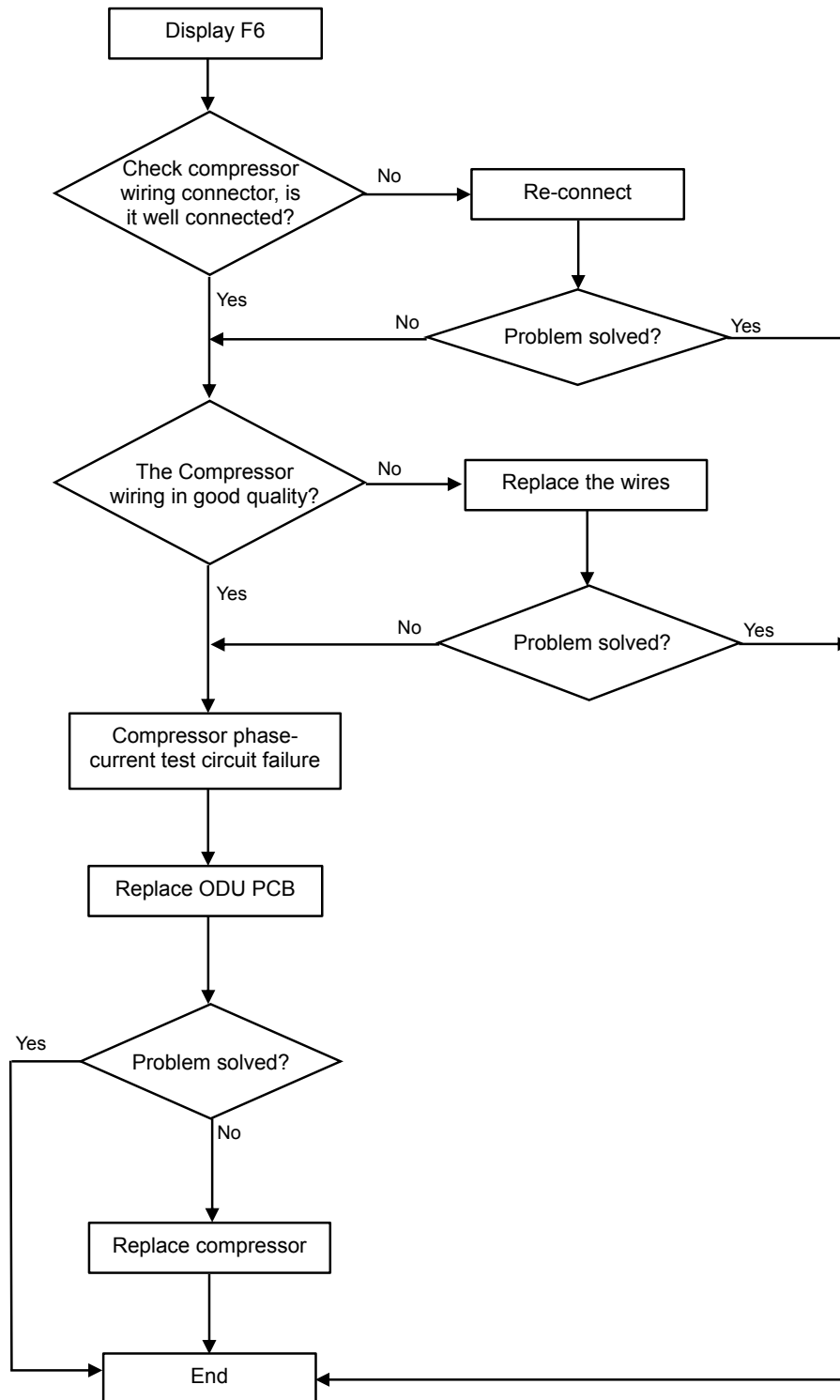
2.19 F5---PFC Protection

PFC Overcurrent protection



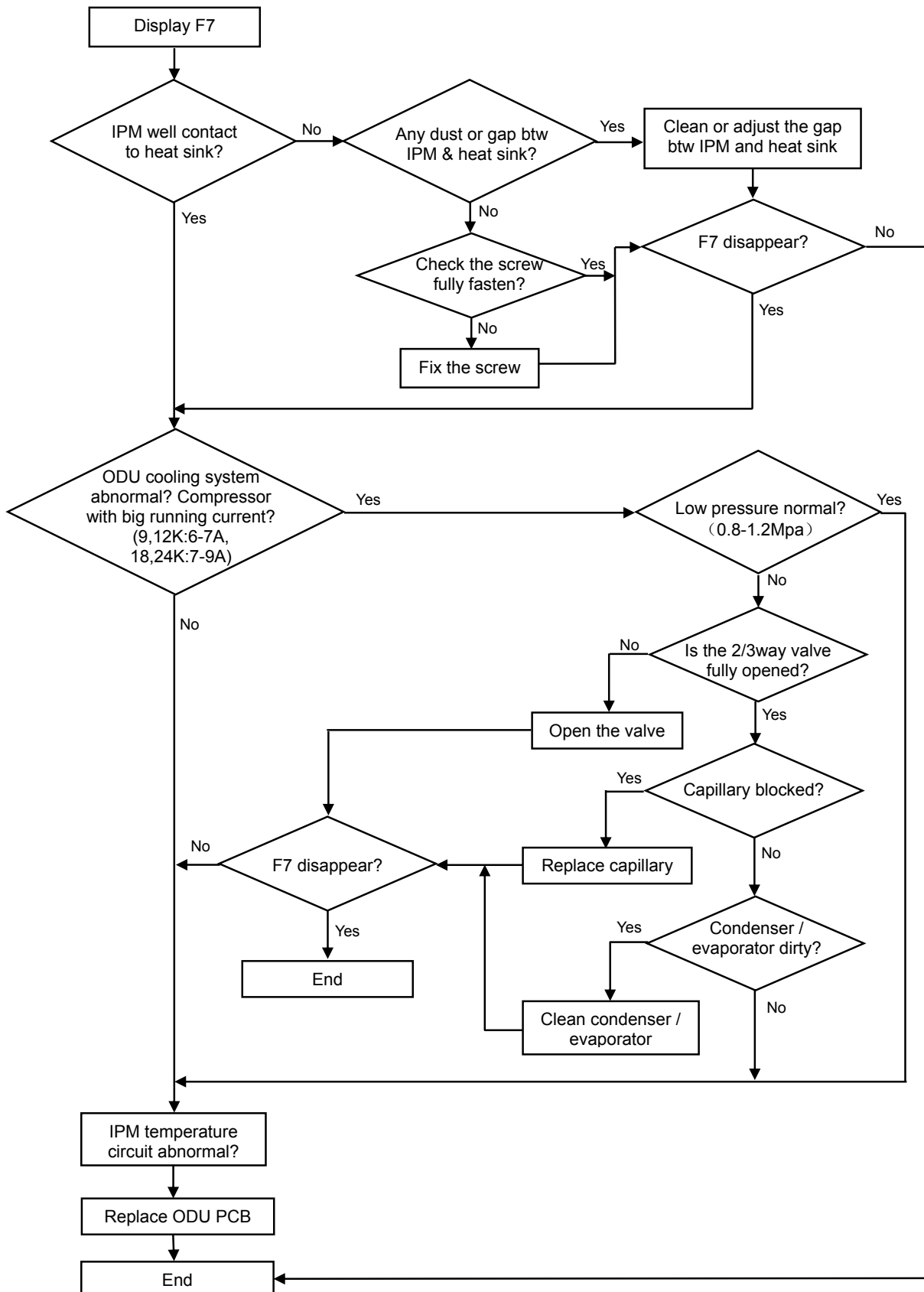
2.20 F6 The Compressor Lack of phase / Anti-phase protection.

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



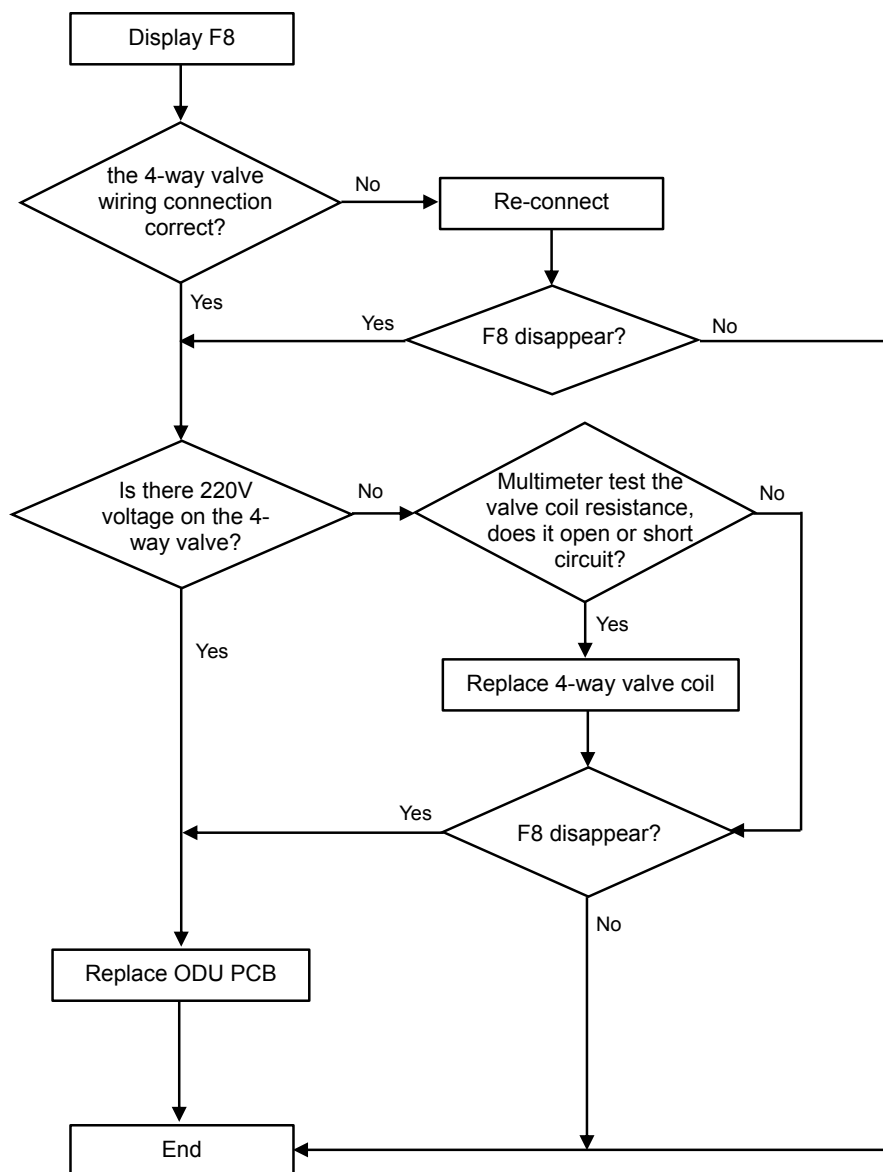
2.21 F7---Module temperature protection.

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



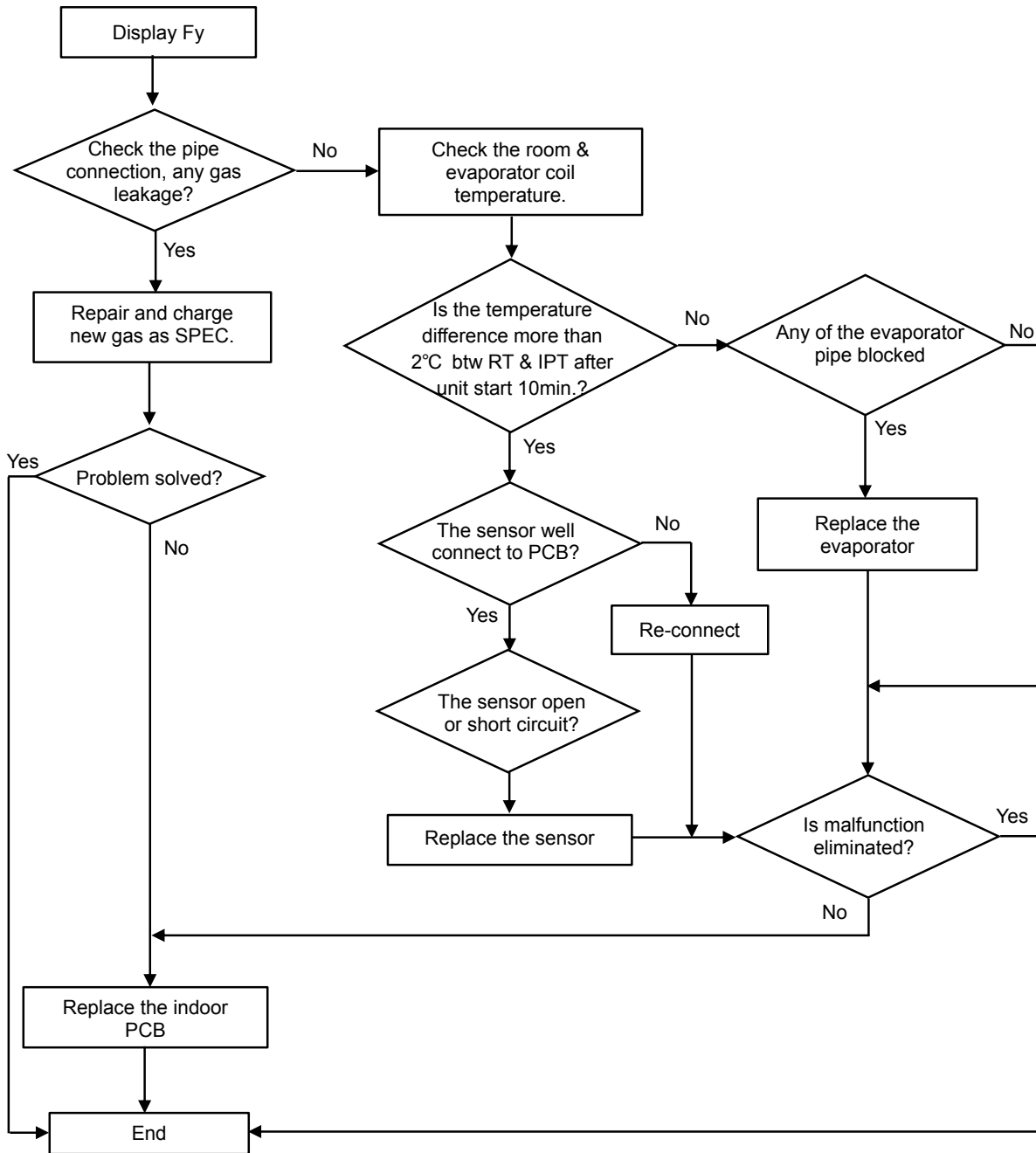
2.22 F8---4-Way Valve Reversing abnormal

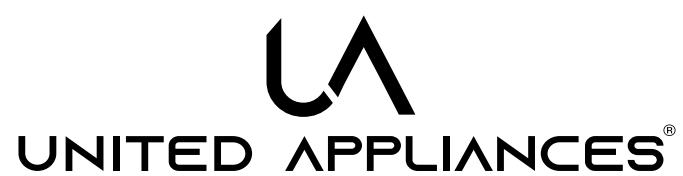
On heating mode, if IDU Coil temperature tested lower than Room temperature 5°C or even more after compressor works for 8min, unit will show F8 code.



2.23 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.





MAXIMUM **QUALITY** | MAXIMUM **EFFICIENCY**
