UNITED APPLIANCES®

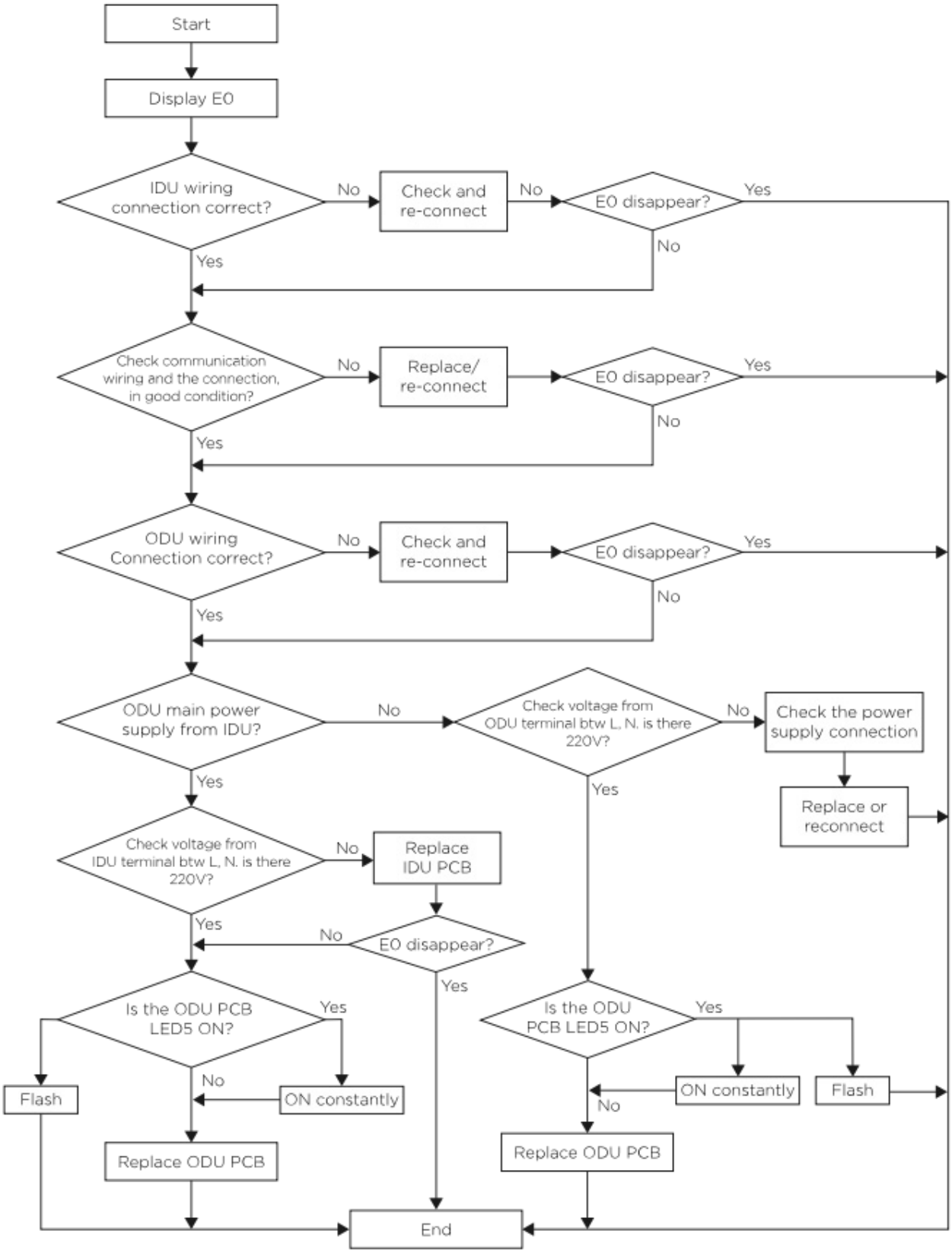
AIR CONDITIONER
SERVICE MANUAL

MAXUM PRO SERIES

MULTI INVERTER

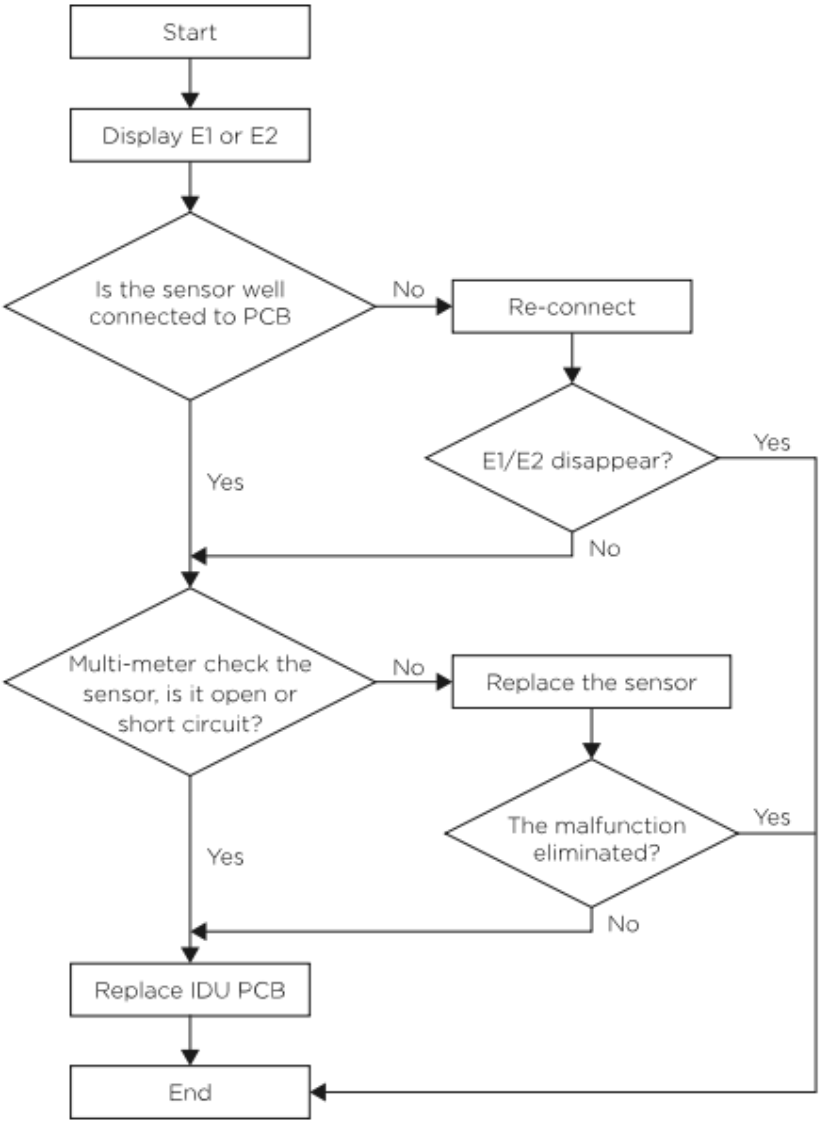
7.8 - Trouble shooting

E0 ---IDU & ODU communication failure

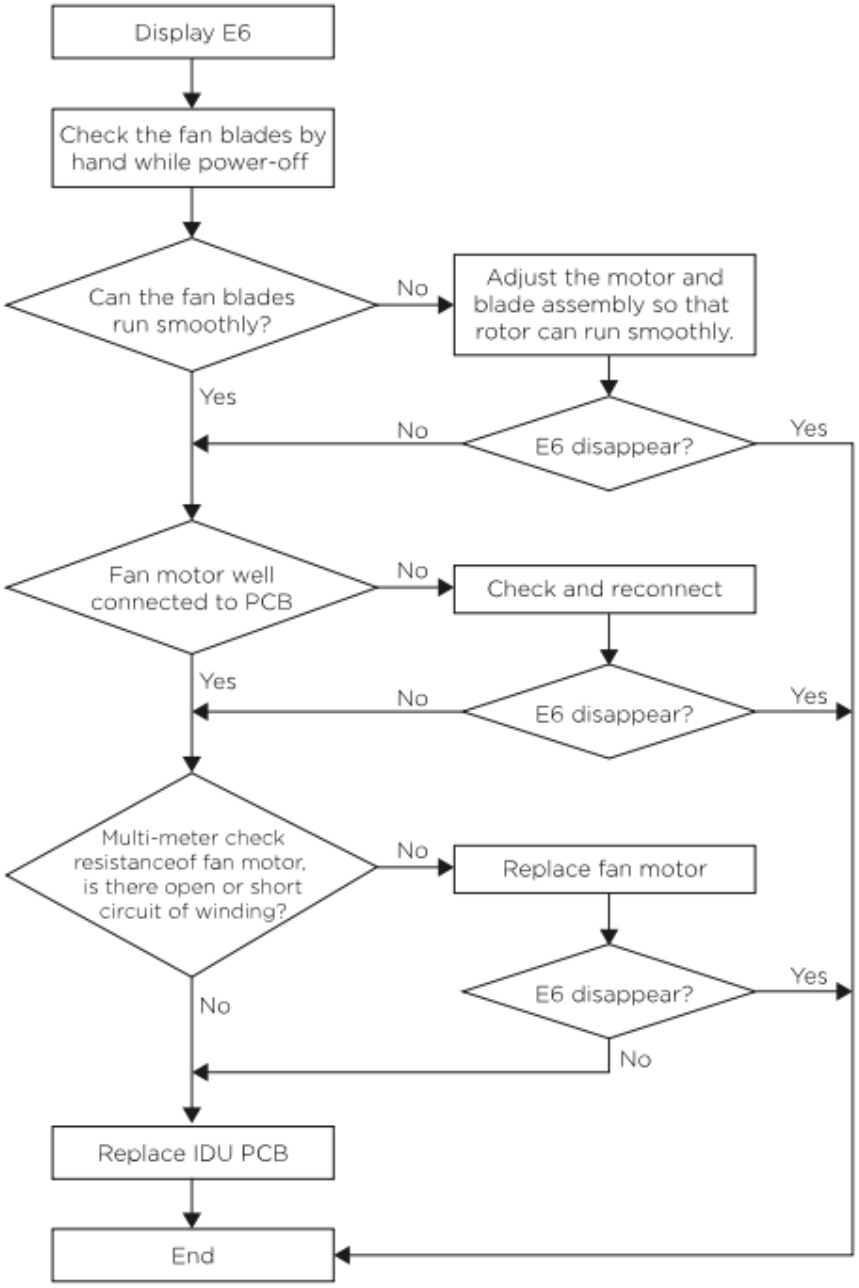


Remark: 1. if the communication wiring 1(S) is not well connected, the ODU LED5 will light ON always.

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

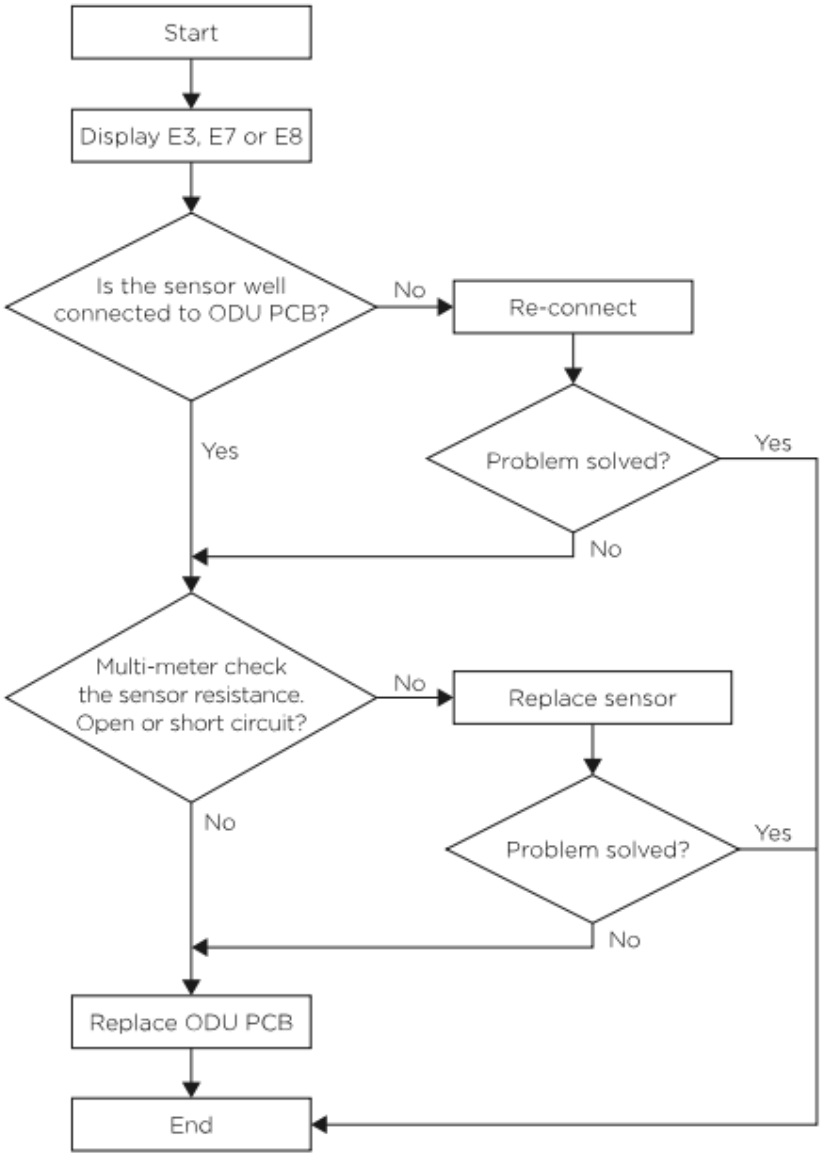


E6----IDU ventilation failure (PG and DC fan motor only)



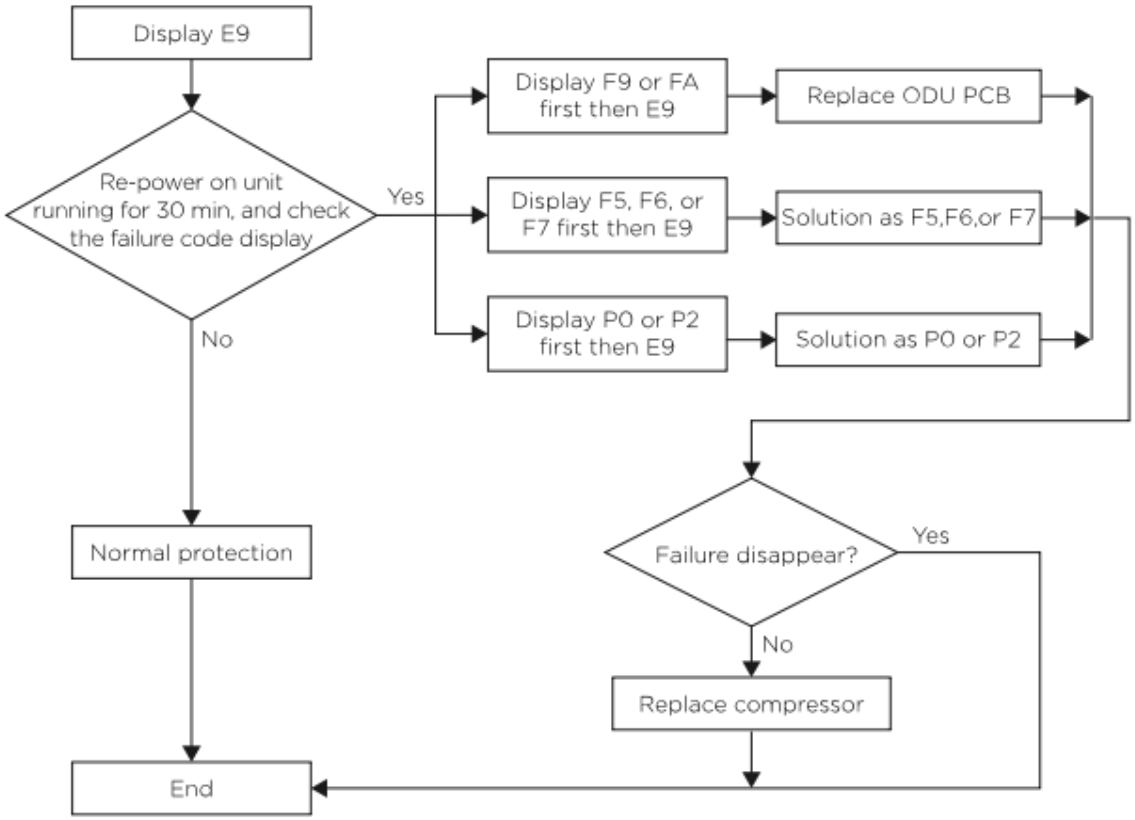
E3, E7 or E8----ODU Coil temperature sensor, Ambient temperature sensor or Discharge temperature sensor failure.

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.



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.



EA--- ODU Current Test circuit failure

Cause: Outdoor current sampling circuit failure or driver parameter mismatch

Solution: Replace the ODU PCB.

Eb--- IDU communication abnormal of main board and operating board

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

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

EC--- The Communication abnormal of system module and drive module

Cause: 1. The communication circuit of the outdoor unit PCB is damaged.2. Program mismatch between system module and driver module

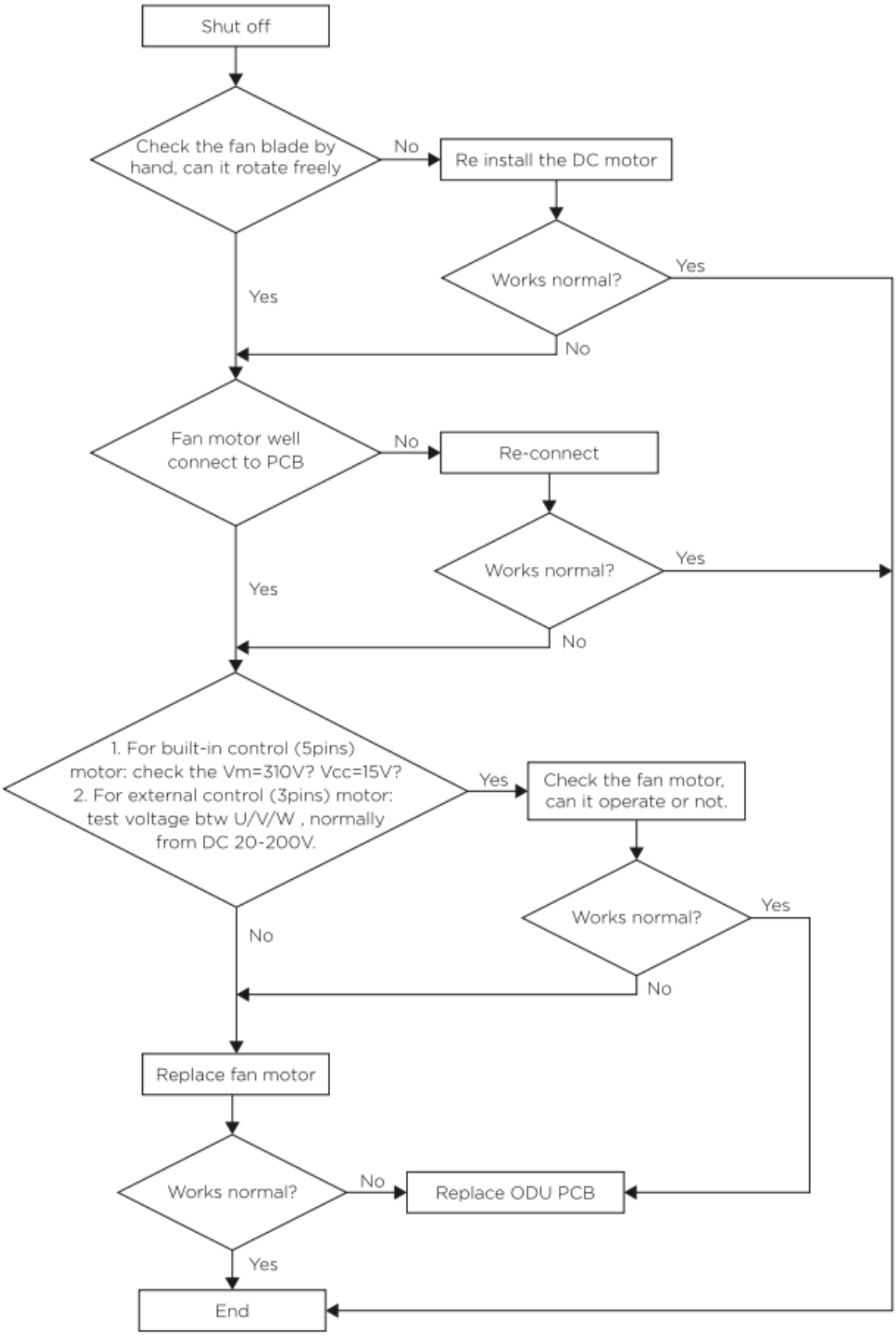
Solution: Replace the ODU PCB.

EE--- ODU EEPROM failure

Cause: The ODU mainboard damaged.

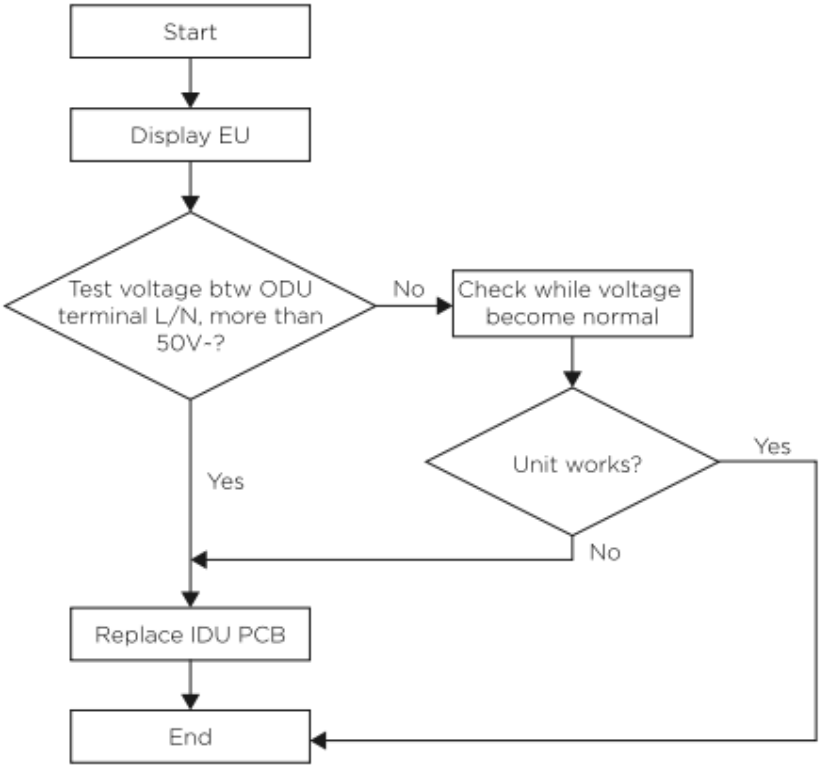
Solution: Replace the ODU PCB.

EF---ODU DC fan motor failure



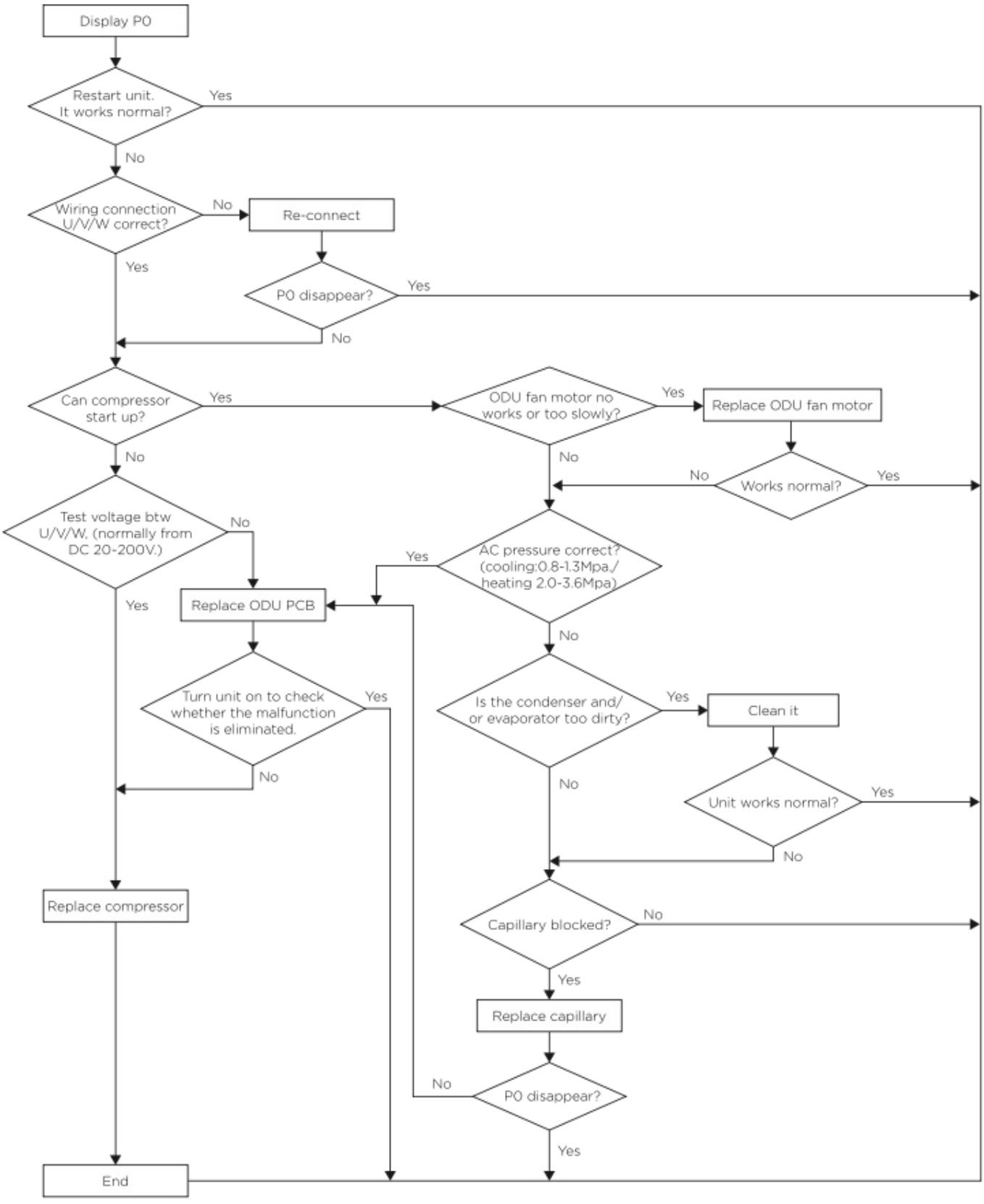
EU---ODU voltage test sensor failure

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



P0---IPM protection

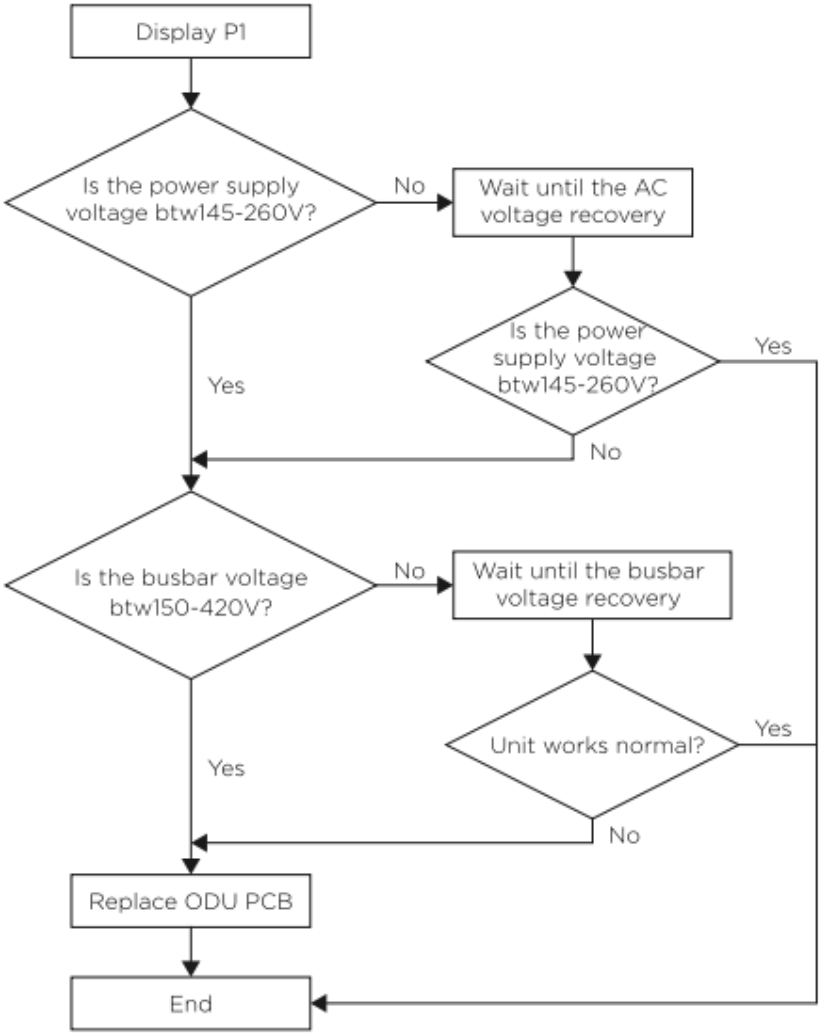
When overheat or overcurrent for IPM, AC unit will display P0 protection.



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.

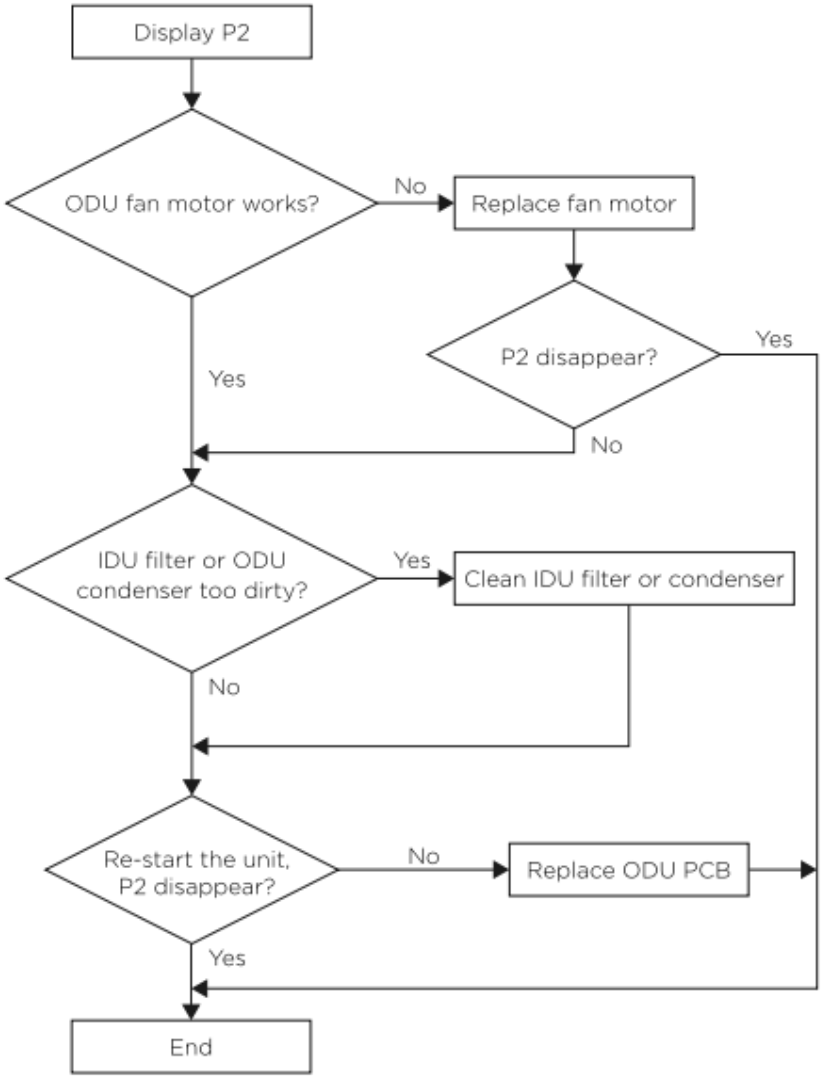
2. Test voltage on the big size electrolytic capacitor of ODU PCB, When DC busbar voltage V＞DC420V or V＜DC150V, IDU display P1 protection. unit will recover back to previous status while DC190V＜V＜DC410V.



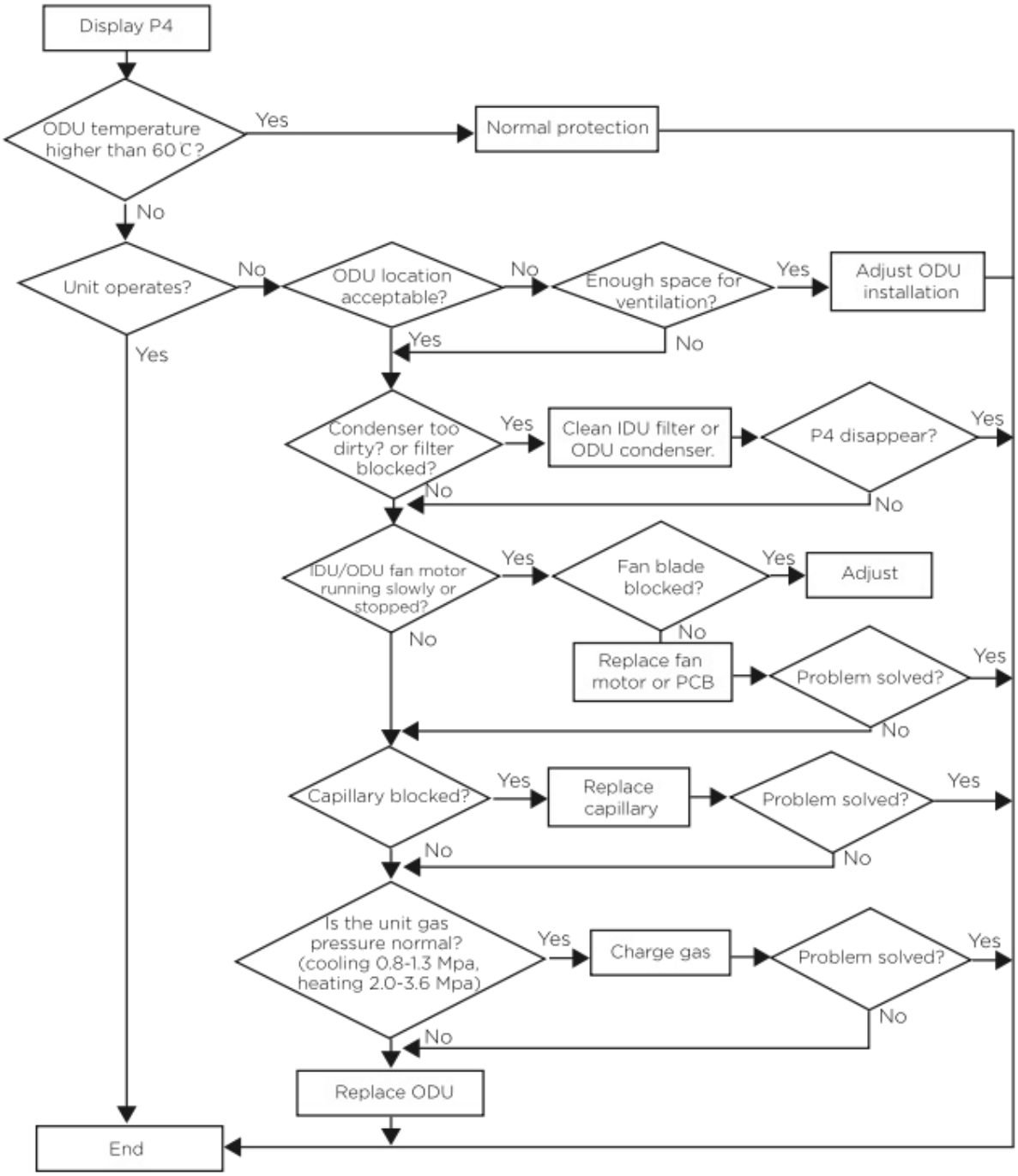
P2---Over Current protection

When the AC unit running current more than Imax, it will stop and display P2 protection.

Note: for different AC model, Imax has a difference valve.

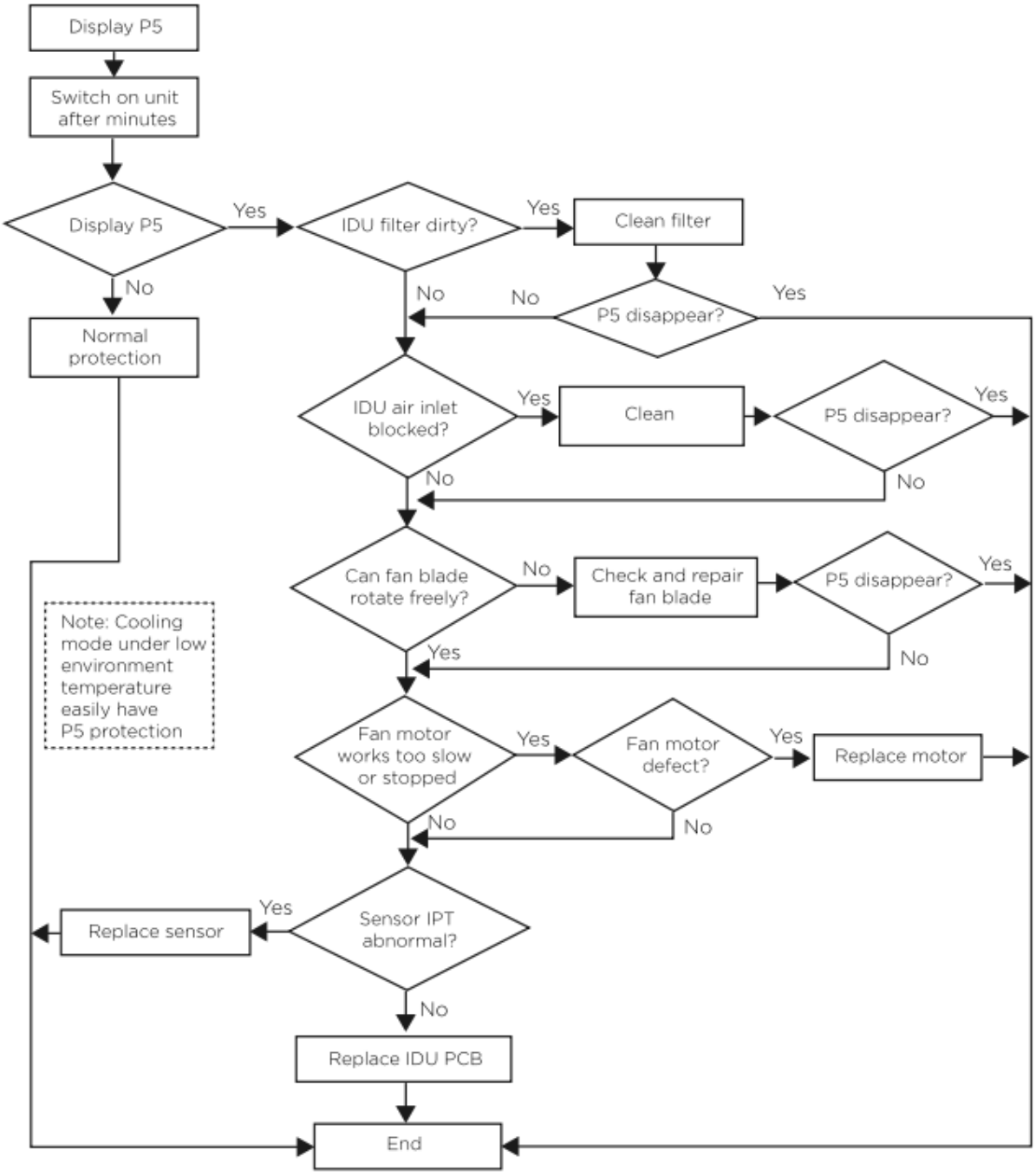


P4 ---ODU Discharge temperature overheating protection



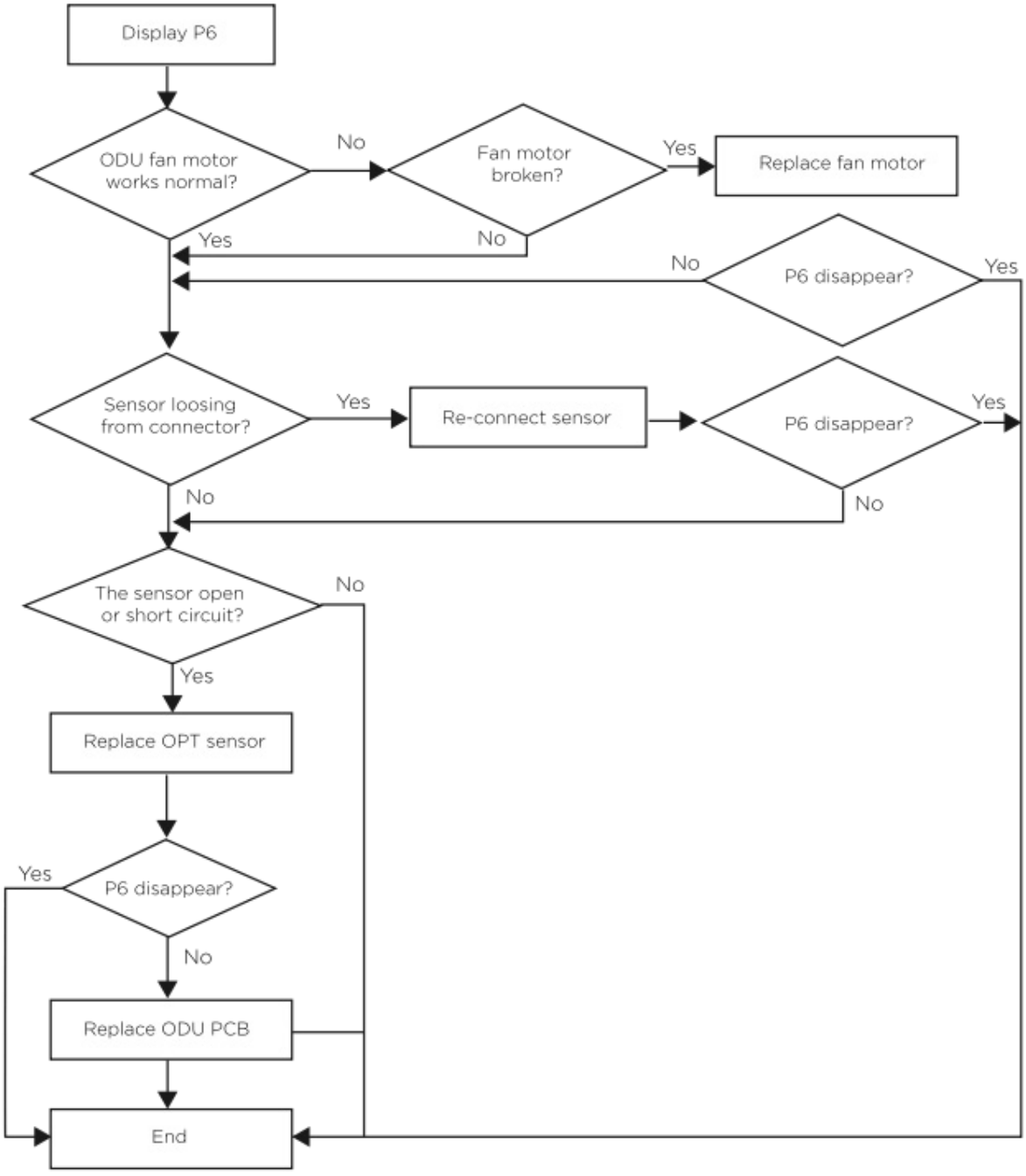
P5---Sub-cooling protection on Cooling/Dry mode

On Cooling or Dry mode, when IDU evaporator coil temperature IPT＜1℃ continuously for 3 min after compressor start up for 6 min, CPU will switch off outdoor unit and show P5 failure code.



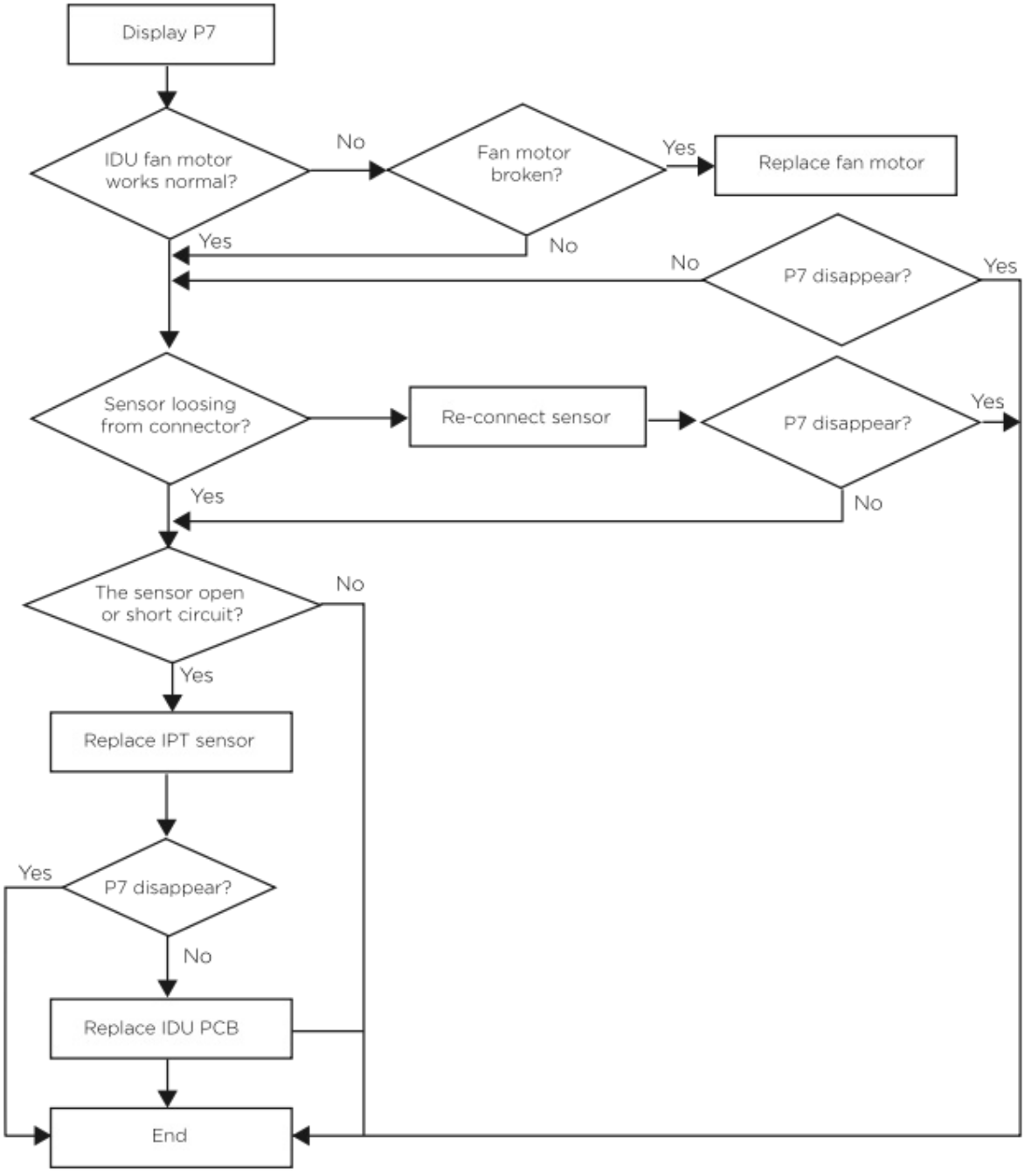
P6---Overheating protection on Cooling mode

On Cooling or Dry mode, when ODU condenser coil temperature OPT≥62℃ , MCU will switch off outdoor unit and show P6 failure code.



P7---Overheating protection on Heating mode

On heating mode, when IDU evaporator coil temperature IPT≥62℃, IDU PCB will switch off outdoor unit and show P7 failure code.



P8---Outdoor Overtemperature/Under-temperature protection

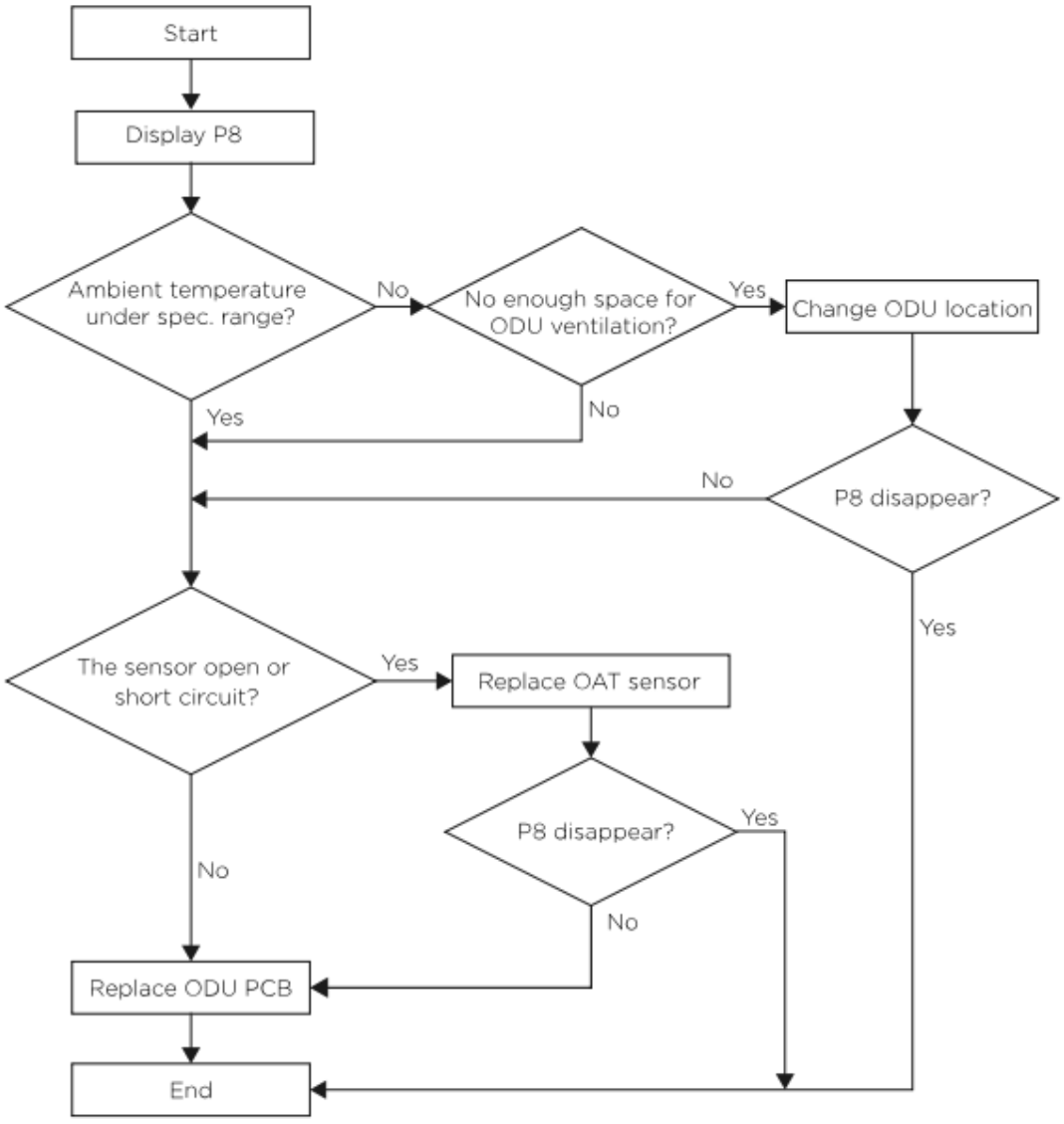
When environment temperature as below condition, the compressor will stop working, after 200s delay, the IDU will show P8 failure code.

(1). On Cooling or Dry mode: ODU ambient temperature: OAT＜-20℃ or OAT＞63℃;

(2). On Heating mode:

a. OAT≥40℃ or

b. 30℃＜OAT≤40℃ and RT＞35℃



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

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

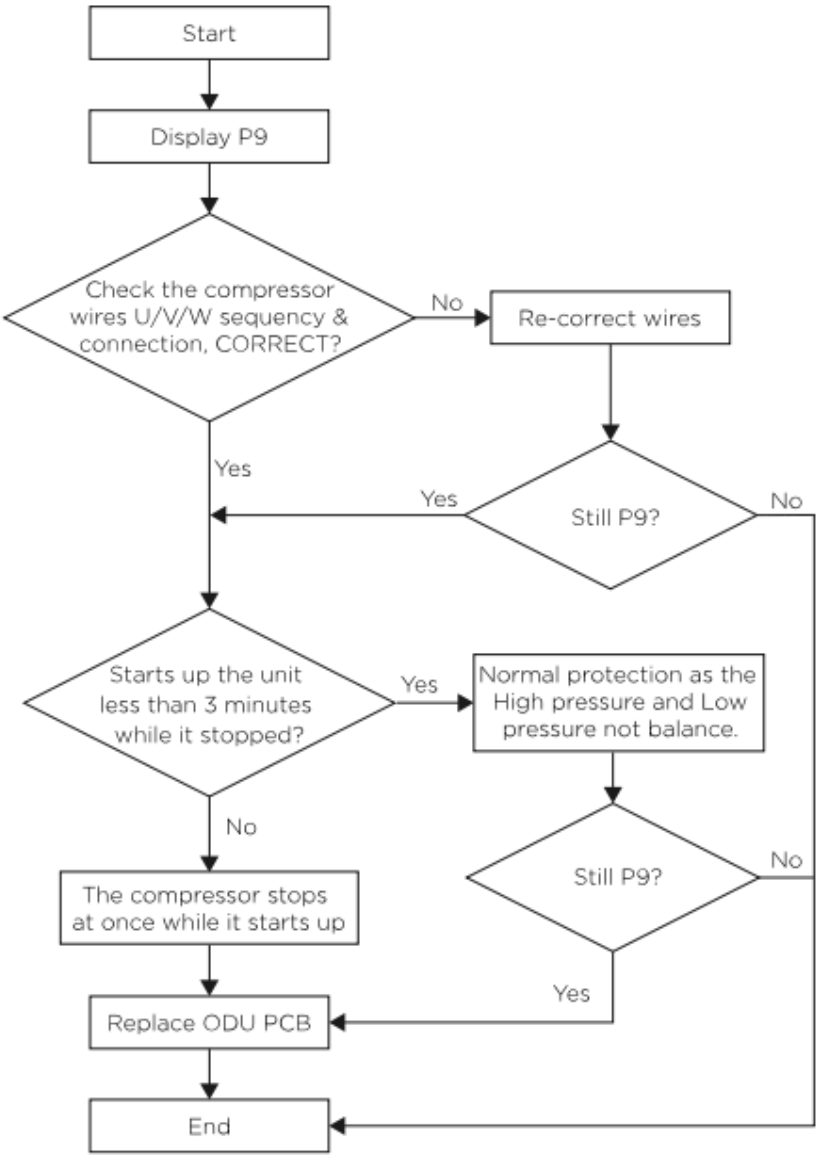
(1). MCU can't test the feedback signal from compressor, or

(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 5 times continuously, if it still can't work normal, then show P9 code)



PA--- Communication failure for TOP flow unit/ Preset mode conflict

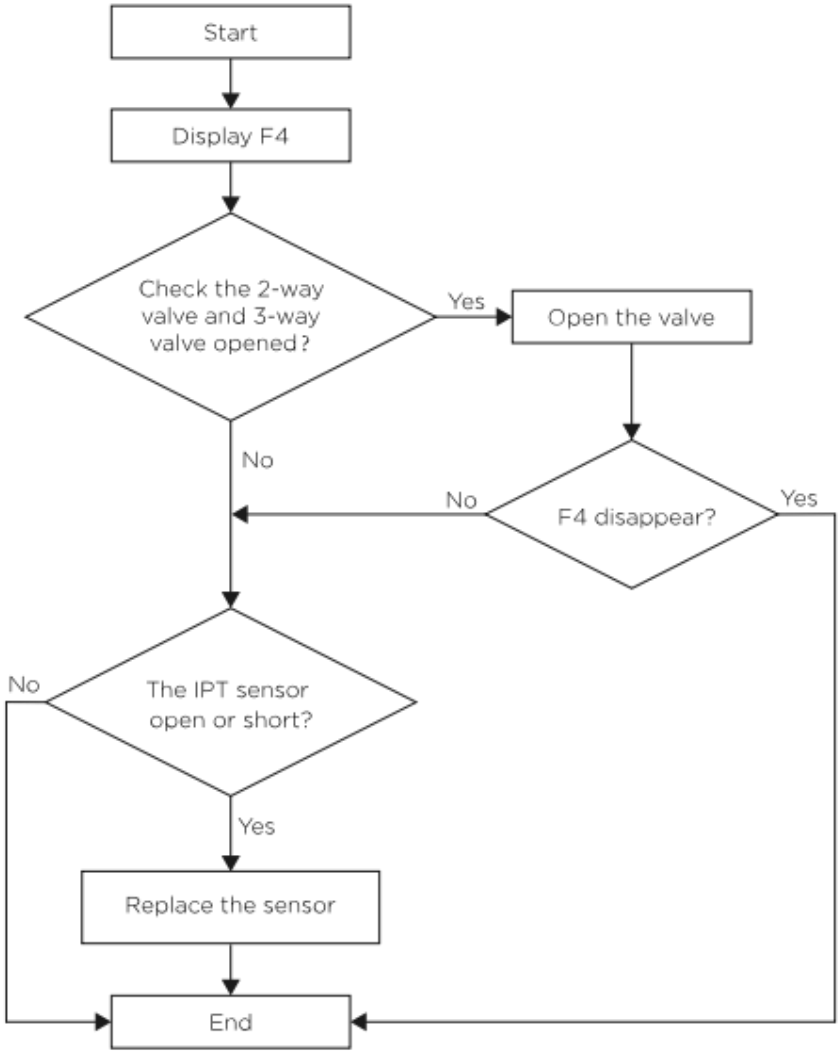
Cause: 1.If the first - turned - on indoor unit (with the highest priority) operates in cooling/dehumidification mode, other indoor units can only operate in cooling/dehumidification mode and air supply mode. Otherwise, the indoor unit operating in other modes will report a mode conflict fault, and it will not be allowed to start up, but this will not affect the indoor units that are already running.

2.If the first - turned - on indoor unit (with the highest priority) operates in heating mode, other indoor units can only operate in heating mode. Otherwise, the indoor unit operating in other modes will report a mode conflict fault, and it will not be allowed to start up, but this will not affect the indoor units that are already running.

Solution: Set all indoor units to the same mode.

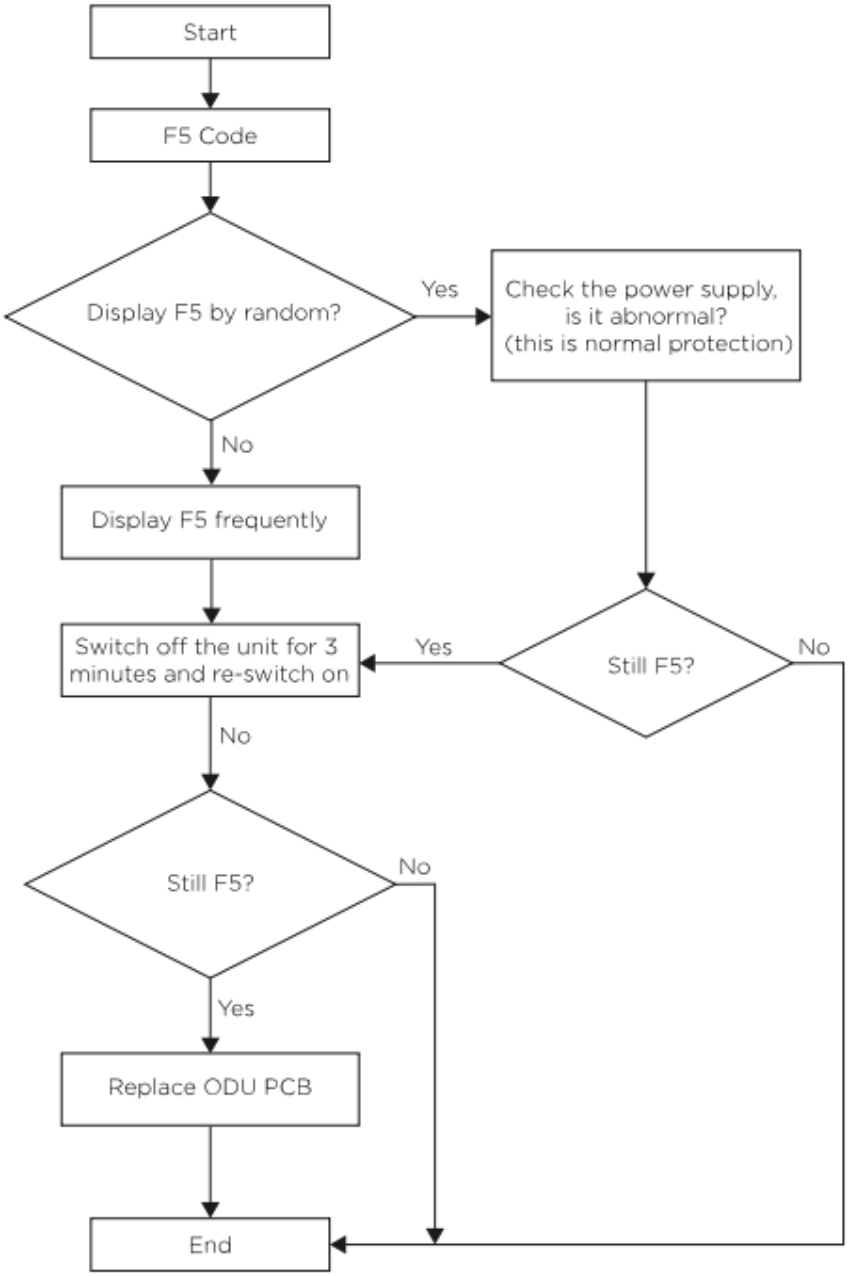
F4---Cooling system Gas flow abnormal protection

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.



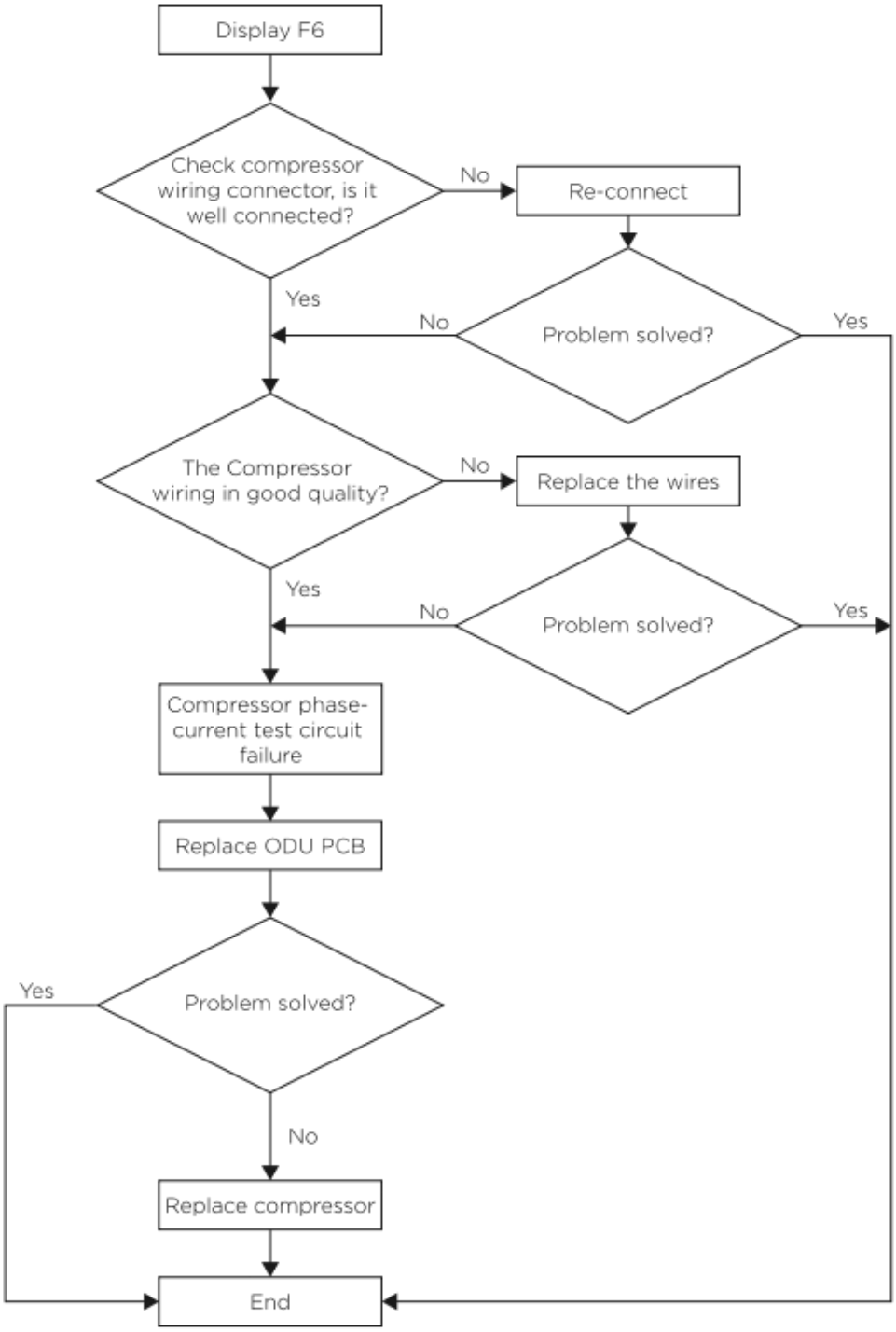
F5---PFC Protection

PFC Overcurrent protection



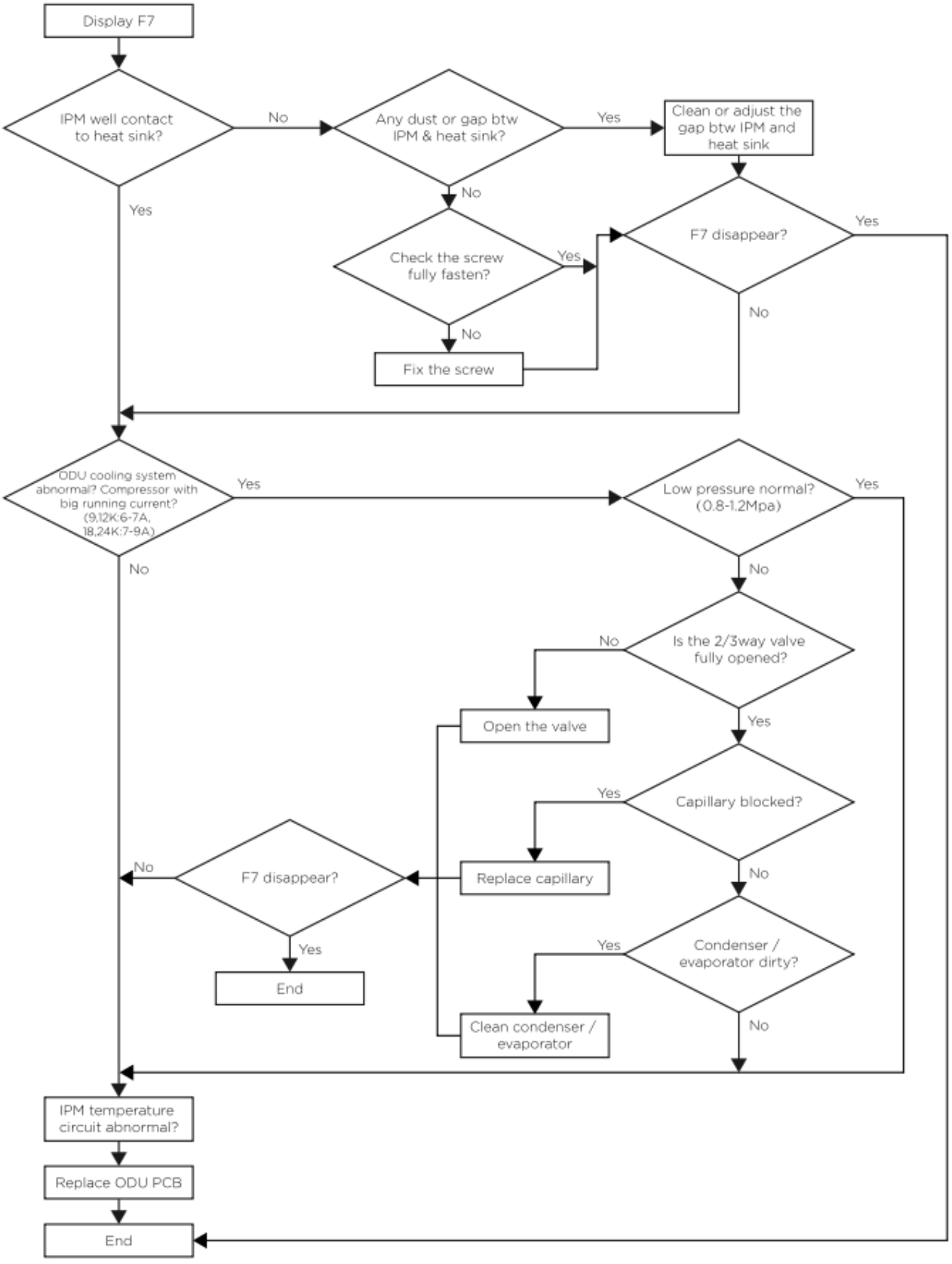
F6---The Compressor Lack of phase / Anti-phase protection.

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



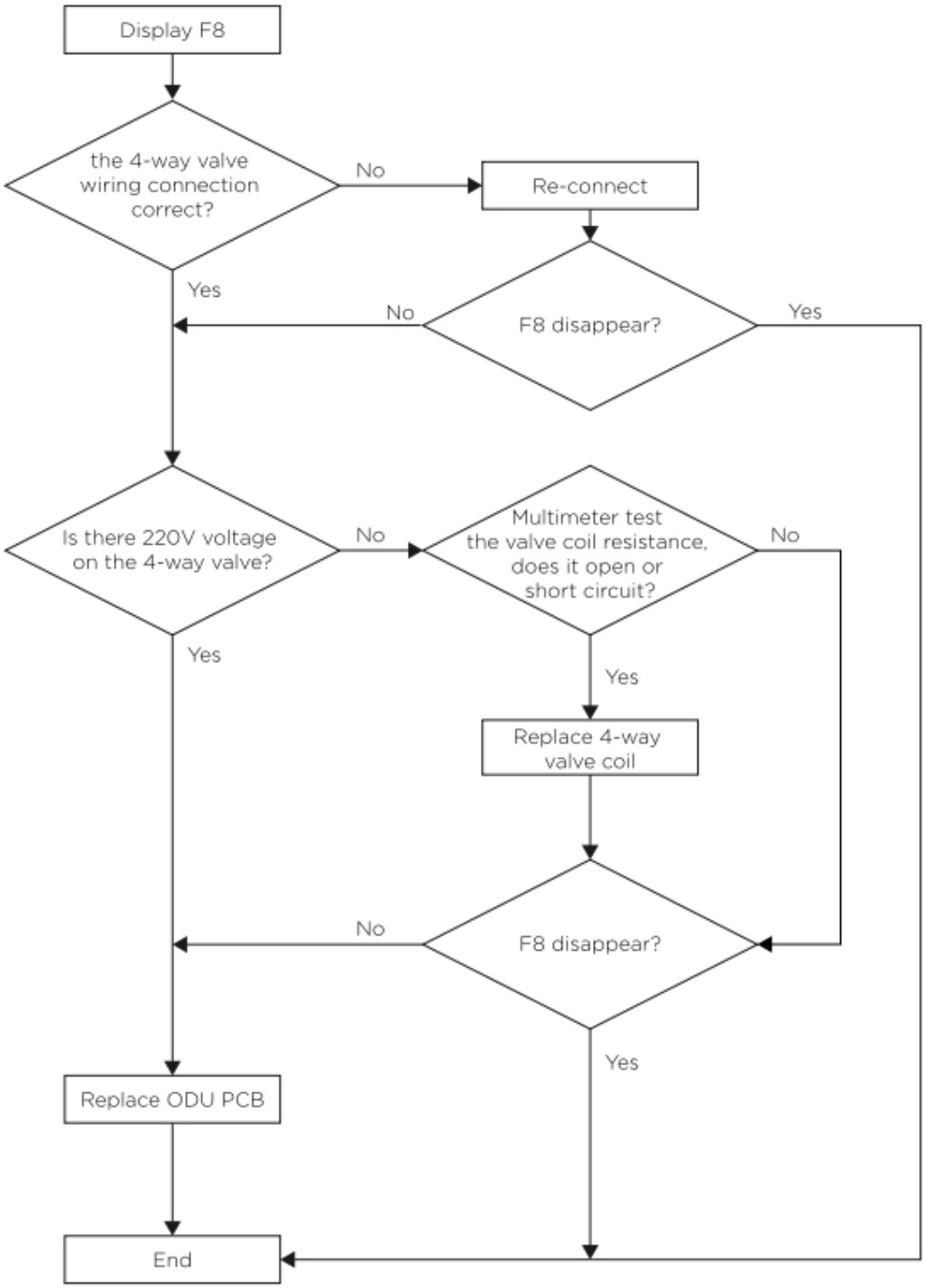
F7---Module temperature protection.

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



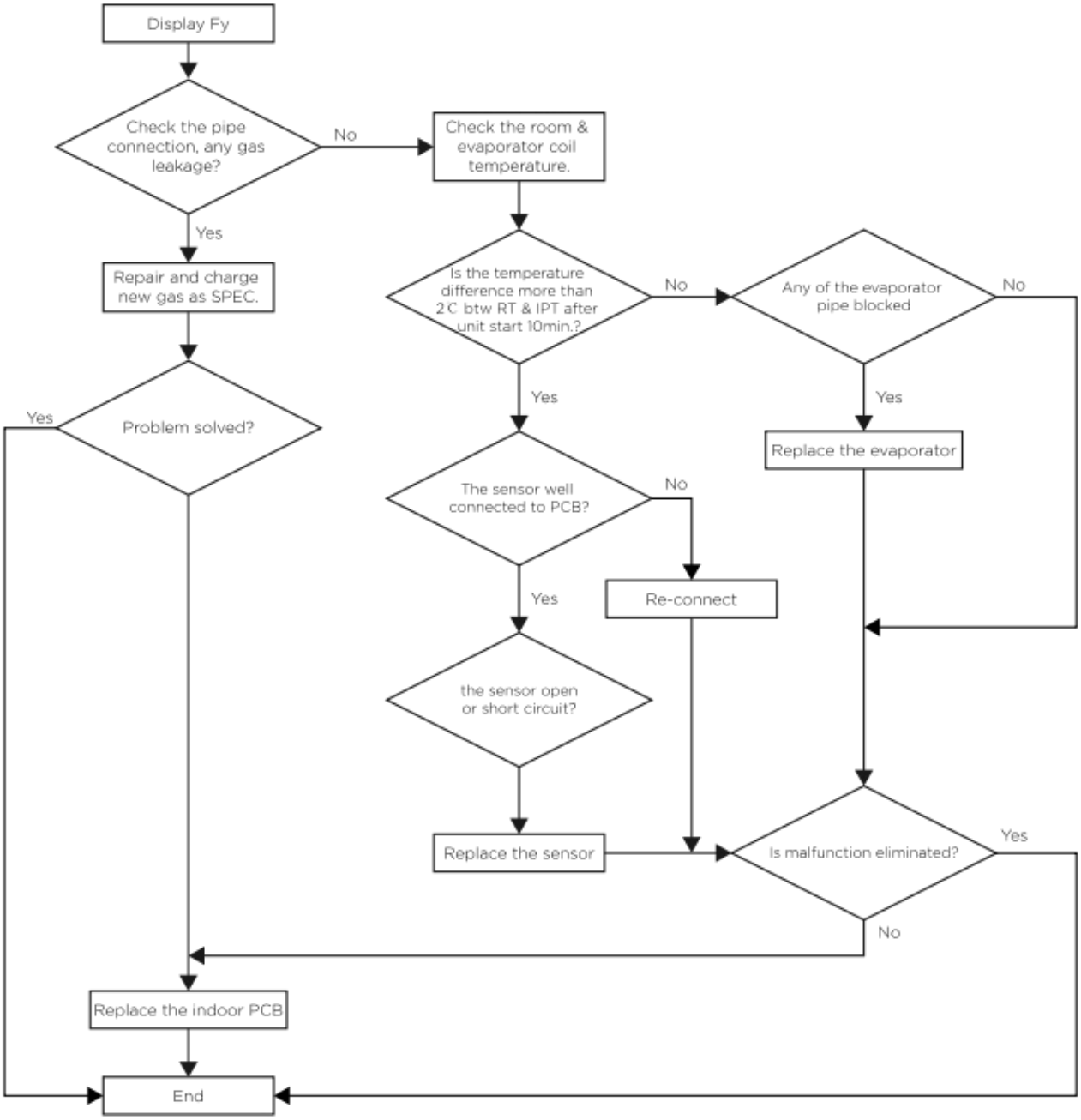
F8---4-Way Value Reversing abnormal

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.



Fy--- Gas leakage protection

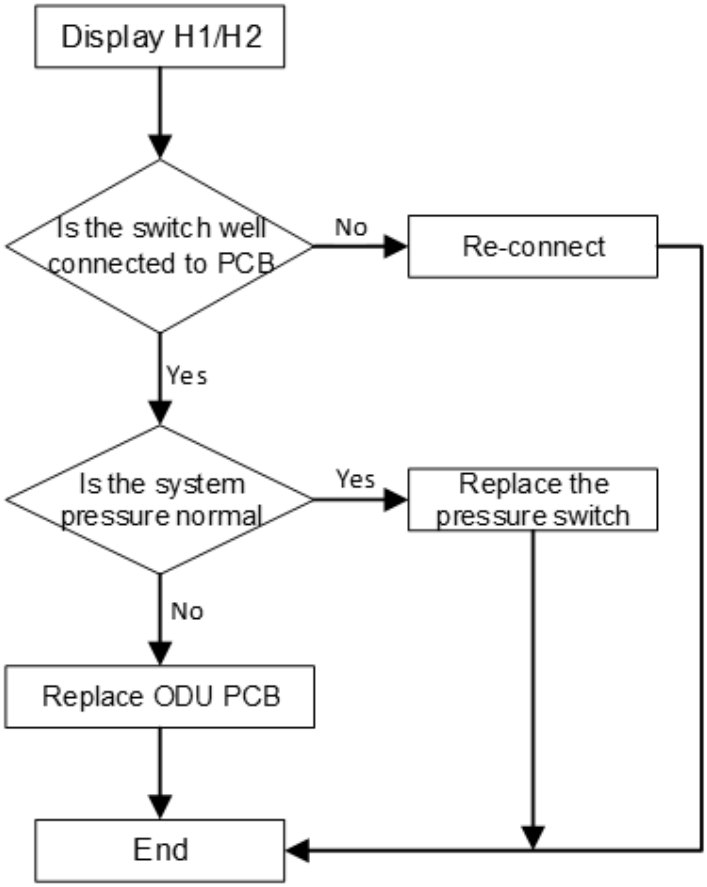
After compressor works in high frequency for 9 min, if the temperature on IDU evaporator & ODU condenser has only a little variation comparing previous, but, the compressor discharge temperature on high level, then the unit will show Fy failure code.



H1 or H2--- High pressure switch failure, Low pressure switch failure

1.The high-pressure switch is installed at the discharge pipe of the system. When the pressure on the high-pressure side of the system exceeds the preset protection value, the protection mechanism is triggered, and the H1 fault code is displayed.

2.The low-pressure switch is installed at the suction pipe of the system. When the pressure on the low-pressure side of the system falls below the preset protection value, the protection mechanism is triggered, and the H2 fault code is displayed.



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