VRF system Trouble shooting

Content

- **Outdoor Error Code Explanation**
- **Indoor Error Code Explanation**
- **System trouble analysis**

Outdoor unit Error Code

Midea VRF system has self trouble analysis function,

the service people can be benefited a lot:

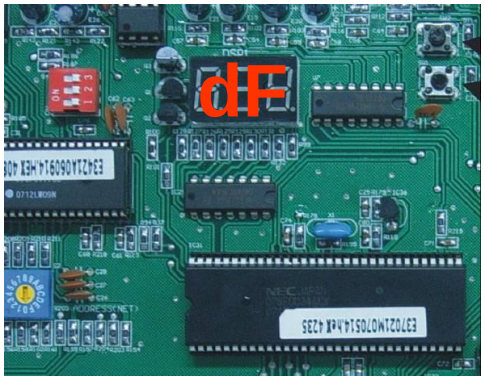
When system in error status, the outdoor unit or indoor unit can display the error code:

- ***In the indoor PCB, there's LED for error code display;***
- ***In the outdoor unit display board, it will display the error code.***

Outdoor unit Error Code

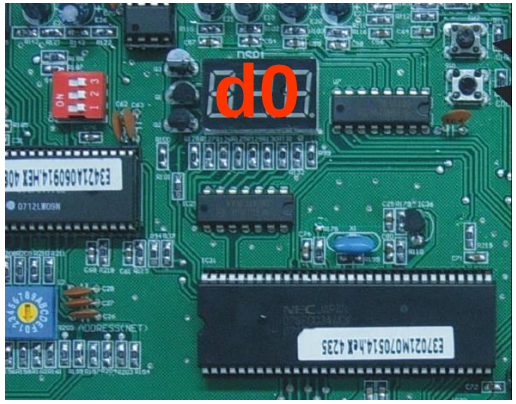
23: when in standby mode,
it display the quantity of indoor units in the system;

70: when outdoor unit is running,
For DC Inverter System,
It display the frequency of inverter compressor(70HZ);
For Digital Scroll System
It display the ratio of power output (70%)

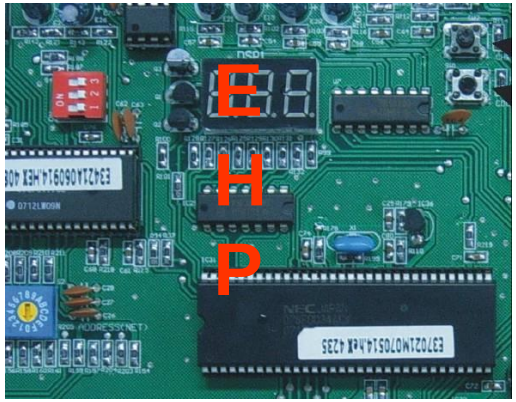


dF: when in defrost mode,
it display “dF”

Outdoor unit Error Code



d0: when in oil return program, it display “d0”;



when system is in error or protection mode, it display Error code or protection code.

Error code: (E1, E2,…….E9), (H1,H2,H3)
Protection code: (P1,P2……..P8)

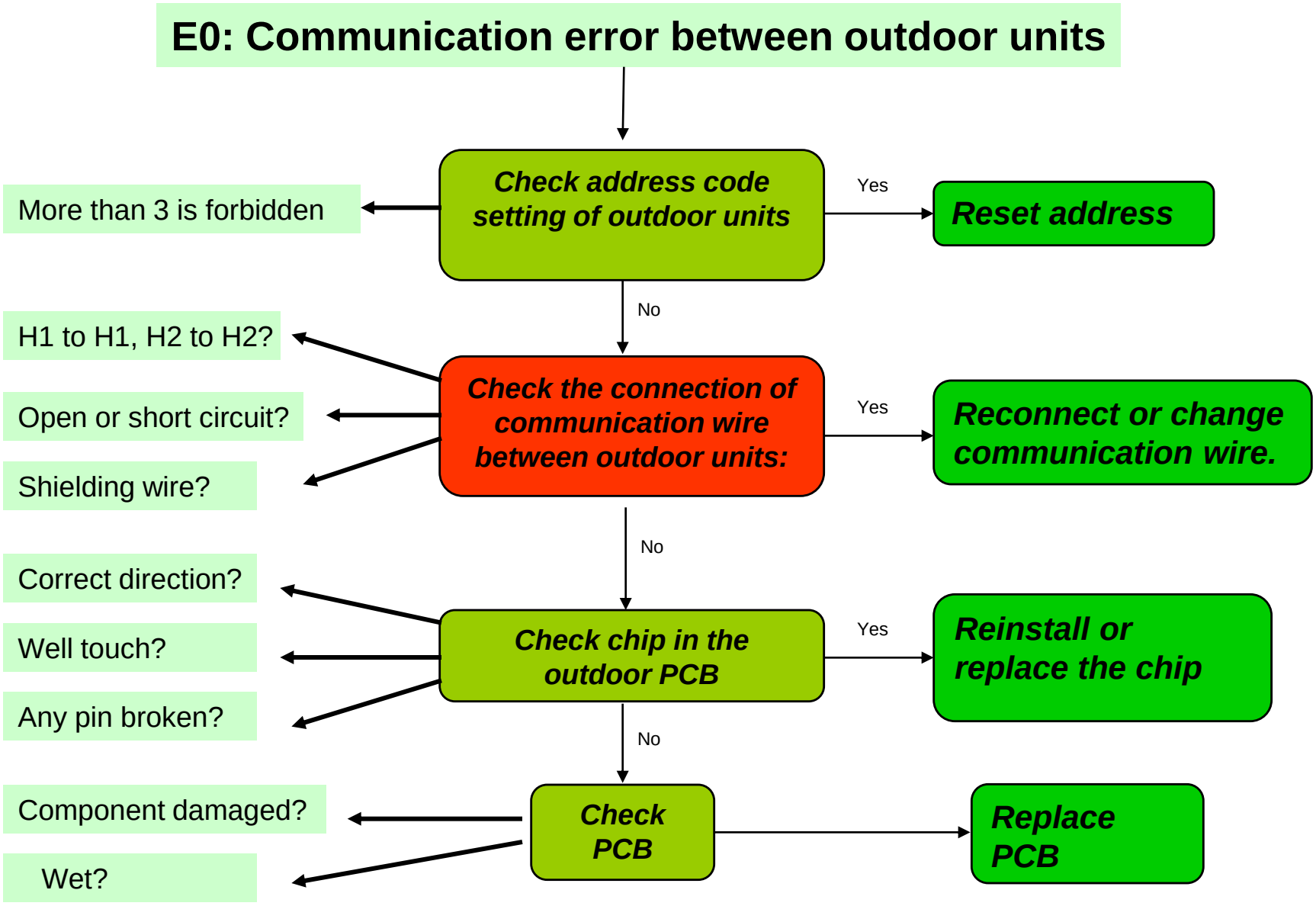
Outdoor unit Error Code

No	Display	Malfunction or Protection	Remark
1	**E0**	Communication error between outdoor units	Only slave unit display
2	**E1**	Phase protection	All the outdoor units display
3	**E2**	Communication error between indoor unit and master unit	All the outdoor units display
4	**E4**	Outdoor temperature sensor error	All the outdoor units display
5	**E5**	Compressor discharge temp. sensor malfunction.	
6	**E8**	Outdoor unit address error	All the outdoor units display
7	**E9**	Power volt. Error (only for inverter VRF system)	All the outdoor units display
8	**H0**	Communication malfunction between DSP and 780034 (only for inverter VRF system)	All the outdoor units display
		Mode conflict malfunction (only for digital VRF system)	
9	**H1**	Communication malfunction between 9177 and 780034	All the outdoor units display
10	**H2**	Quantity of outdoor unit decreases	Only master unit display
11	**H3**	Quantity of outdoor unit increases	Only master unit display
12	**H4**	Display after P6 Protection for 4 times (only for inverter VRF system)	All the outdoor units display
13	**P0**	Inverter compressor top temperature protection (only for inverter VRF system)	All the outdoor units display

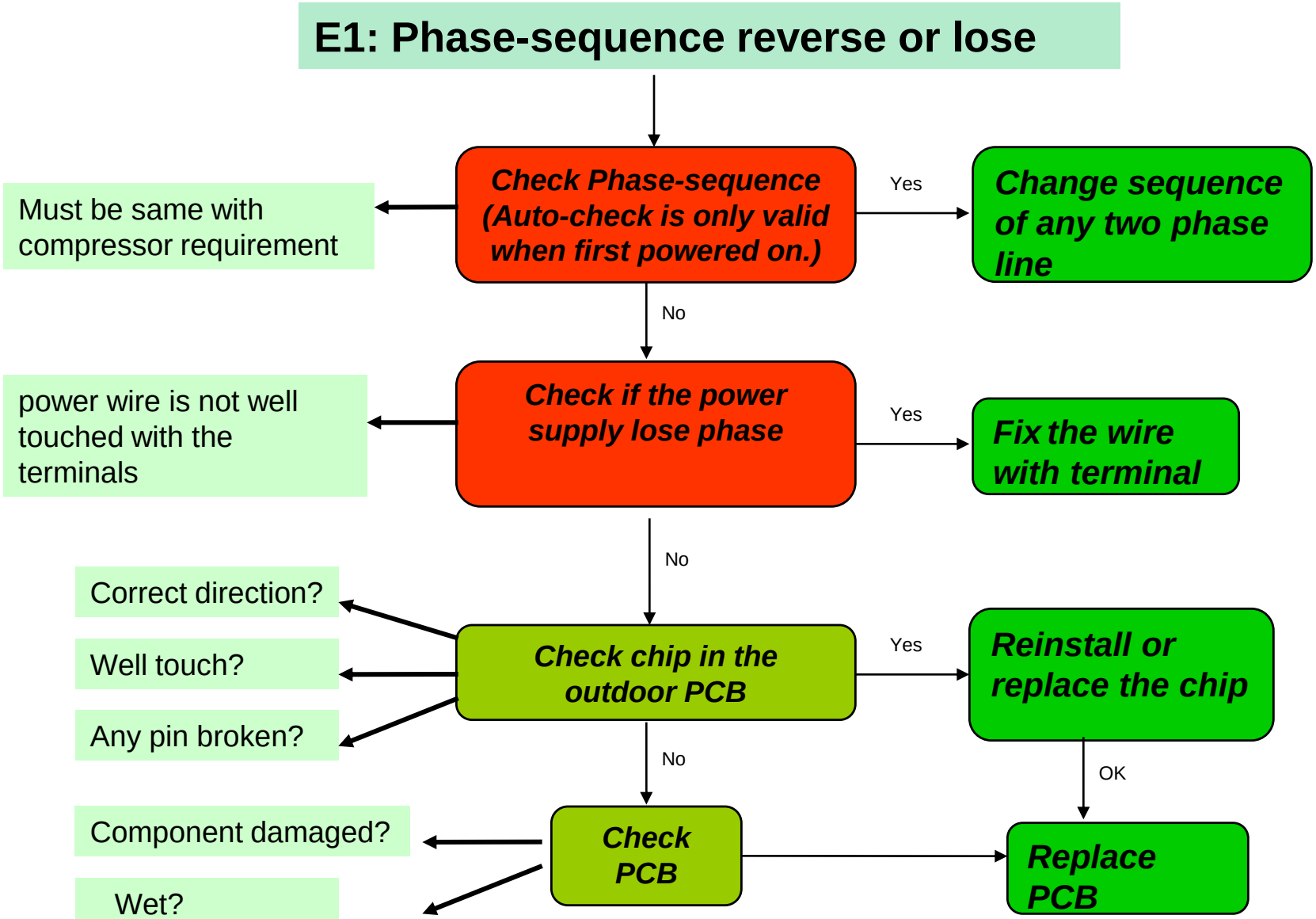
Outdoor unit Error Code

No	Display	Malfunction or Protection	Remark
14	**P1**	Hi-pressure protection	All the outdoor units display
15	**P2**	Low-pressure protection	All the outdoor units display
16	**P3**	Inverter or digital compressor current Protection	All the outdoor units display
17	**P4**	Compressor discharge temperature protection	All the outdoor units display
18	**P5**	Outdoor condenser high temperature protection	All the outdoor units display
19	**P6**	Inverter module protection (only for inverter VRF system)	All the outdoor units display
20	**P7**	Current protection, No.1 fixed compressor	All the outdoor units display
21	**P8**	Current protection, No.2 fixed compressor	14/16HP outdoor units display

Outdoor unit trouble shooting

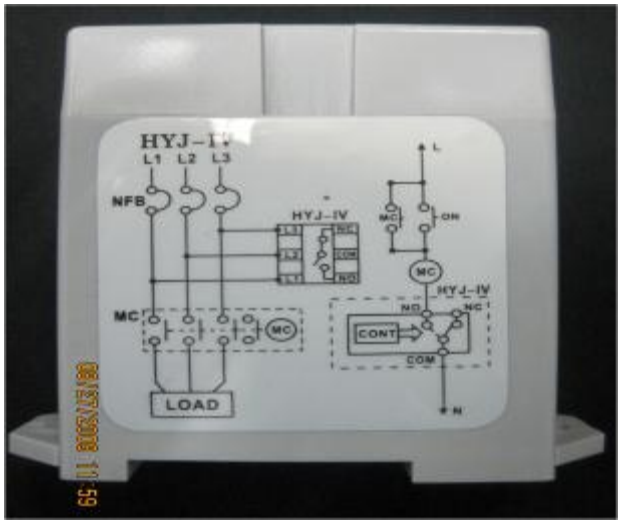


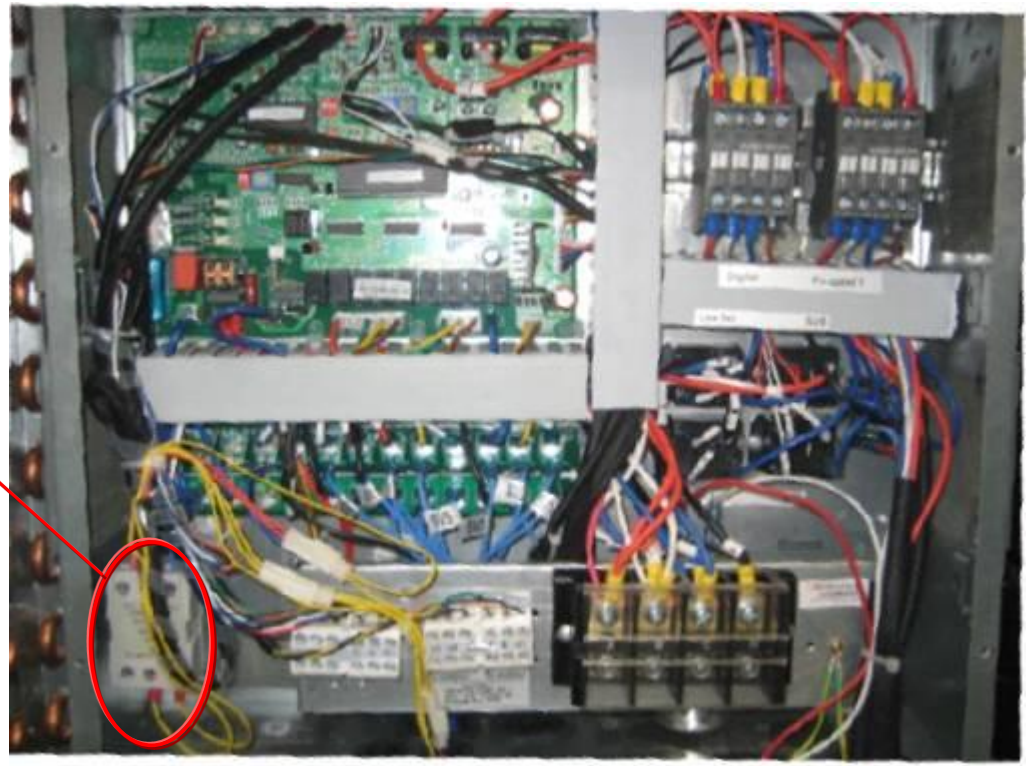
Outdoor unit trouble shooting



Outdoor unit trouble shooting

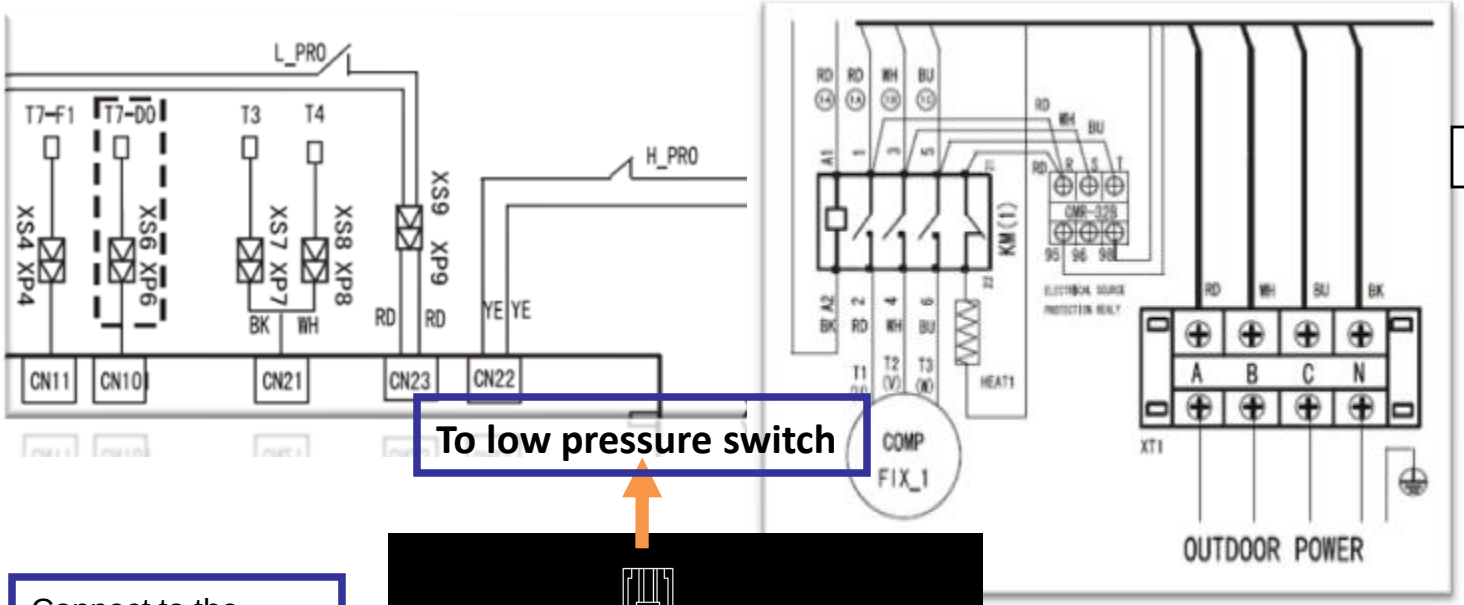
Three-phase power protector

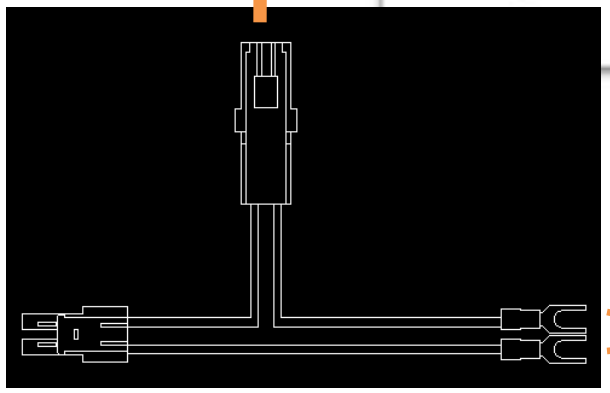




The bad power supply may cause the compressor badly damaged by frequent start/stop, over/under voltage, over current, reverse roll, etc.

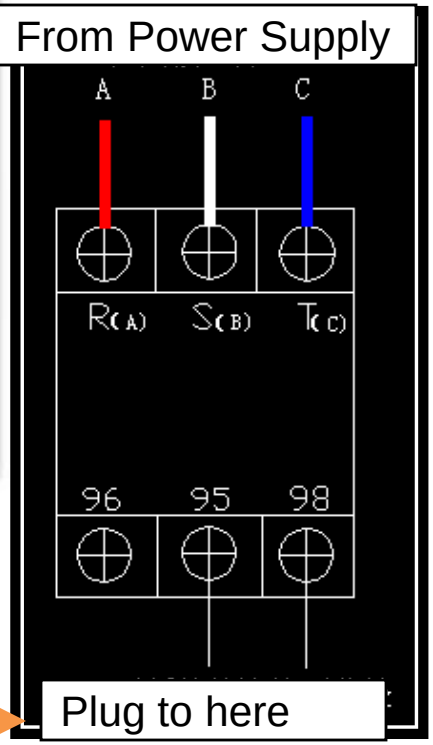
Outdoor unit trouble shooting





Connect to the transferring cable of lower pressure switch, i.e. the original port of low pressure switch.

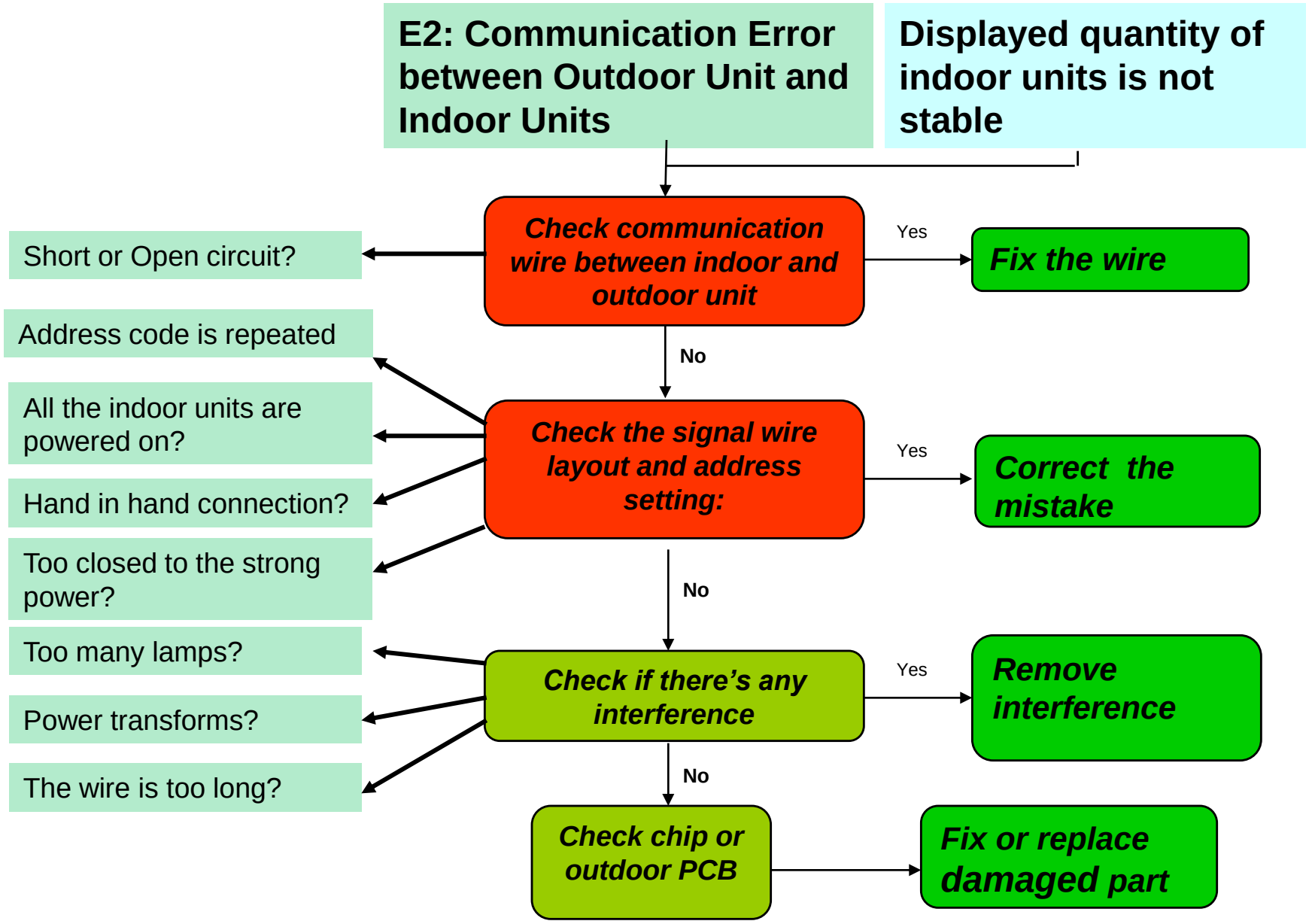
To Port 95, 98



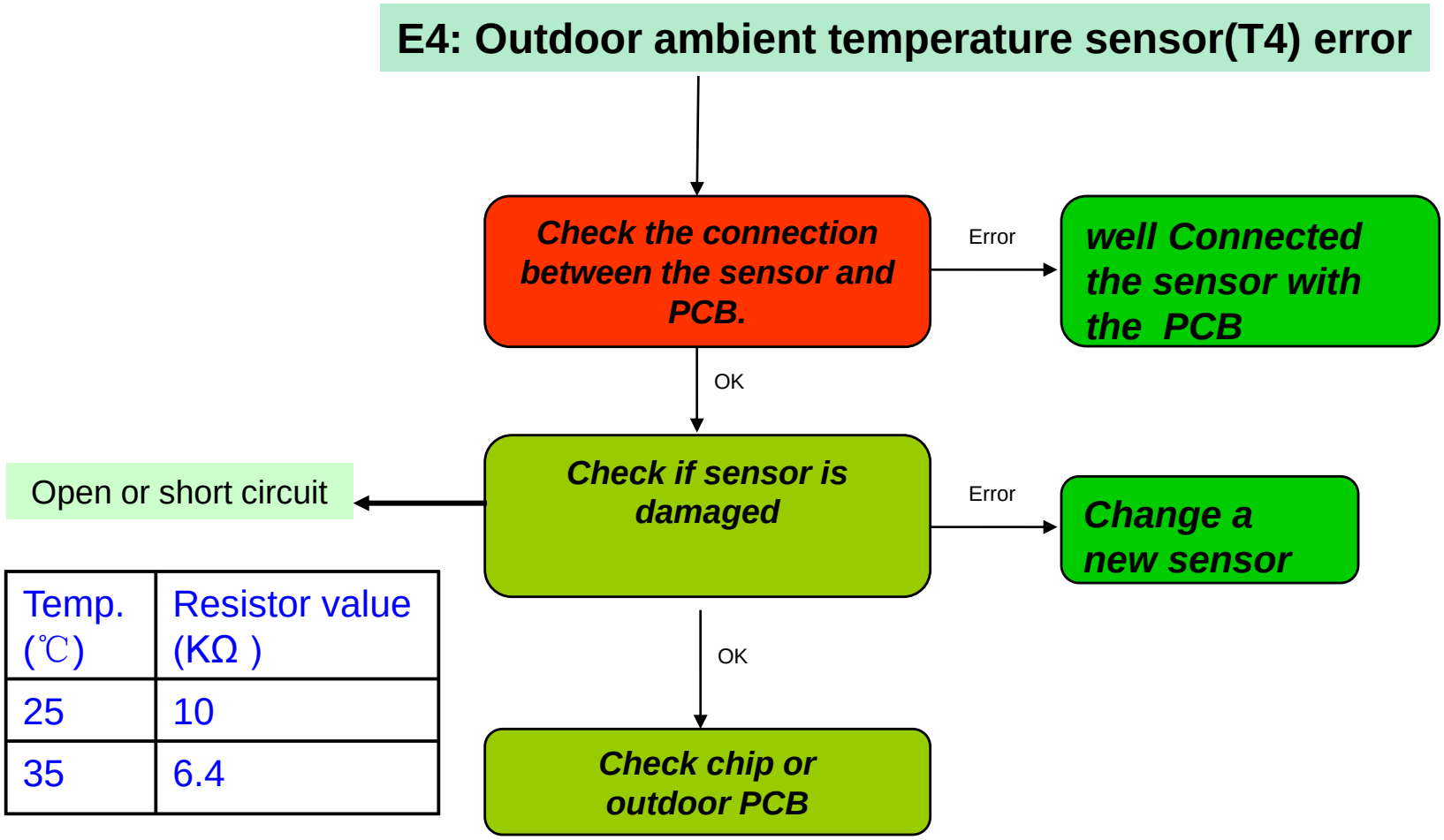
The logic is:
Serial in the protector output signal to the Low pressure switch,
When phase sequence error or lack of phase, the Outdoor PCB will display E1 or P2.

Note:
R——Phase A
S——Phase B
T——Phase C

Outdoor unit trouble shooting

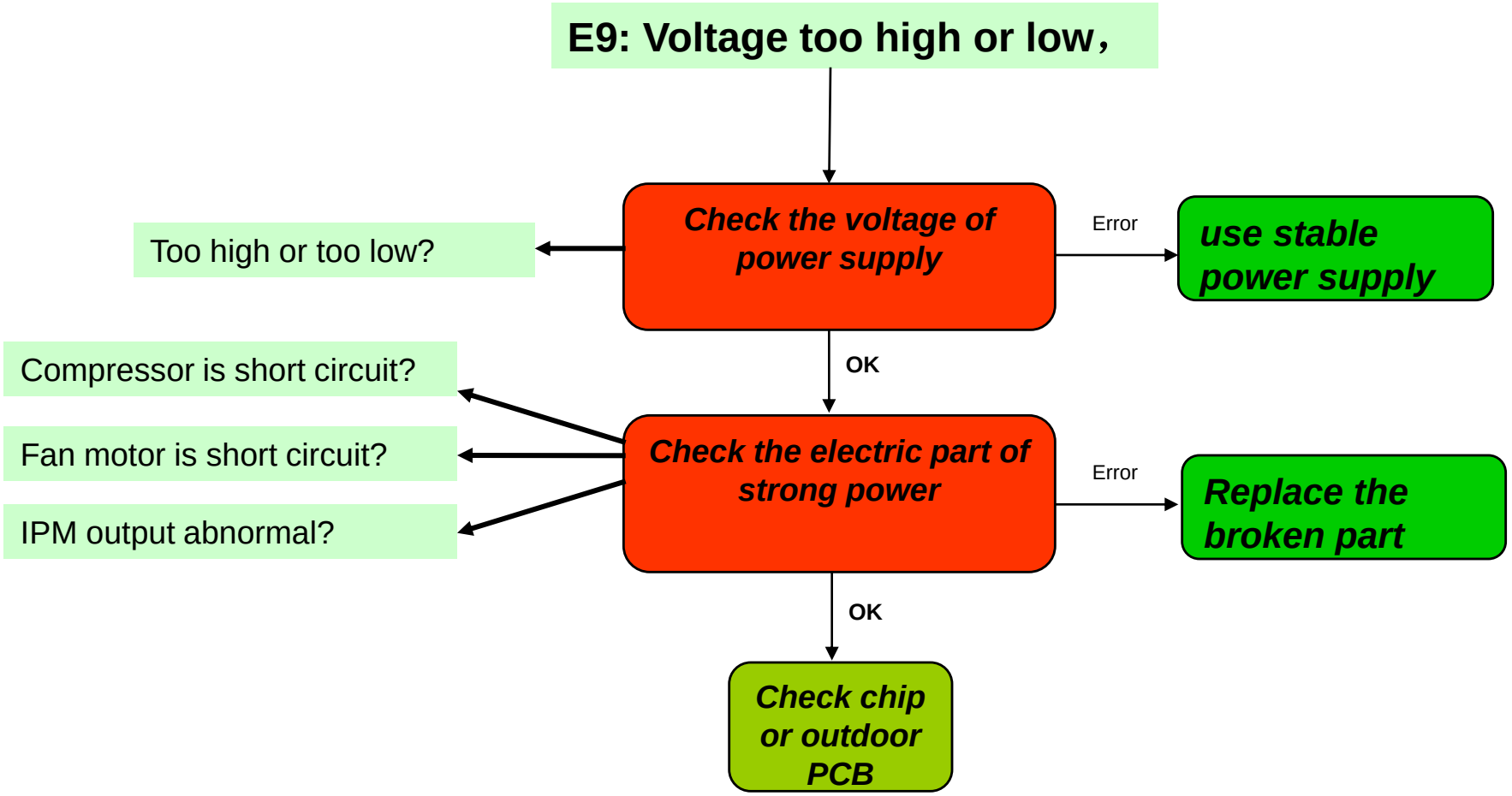


Outdoor unit trouble shooting

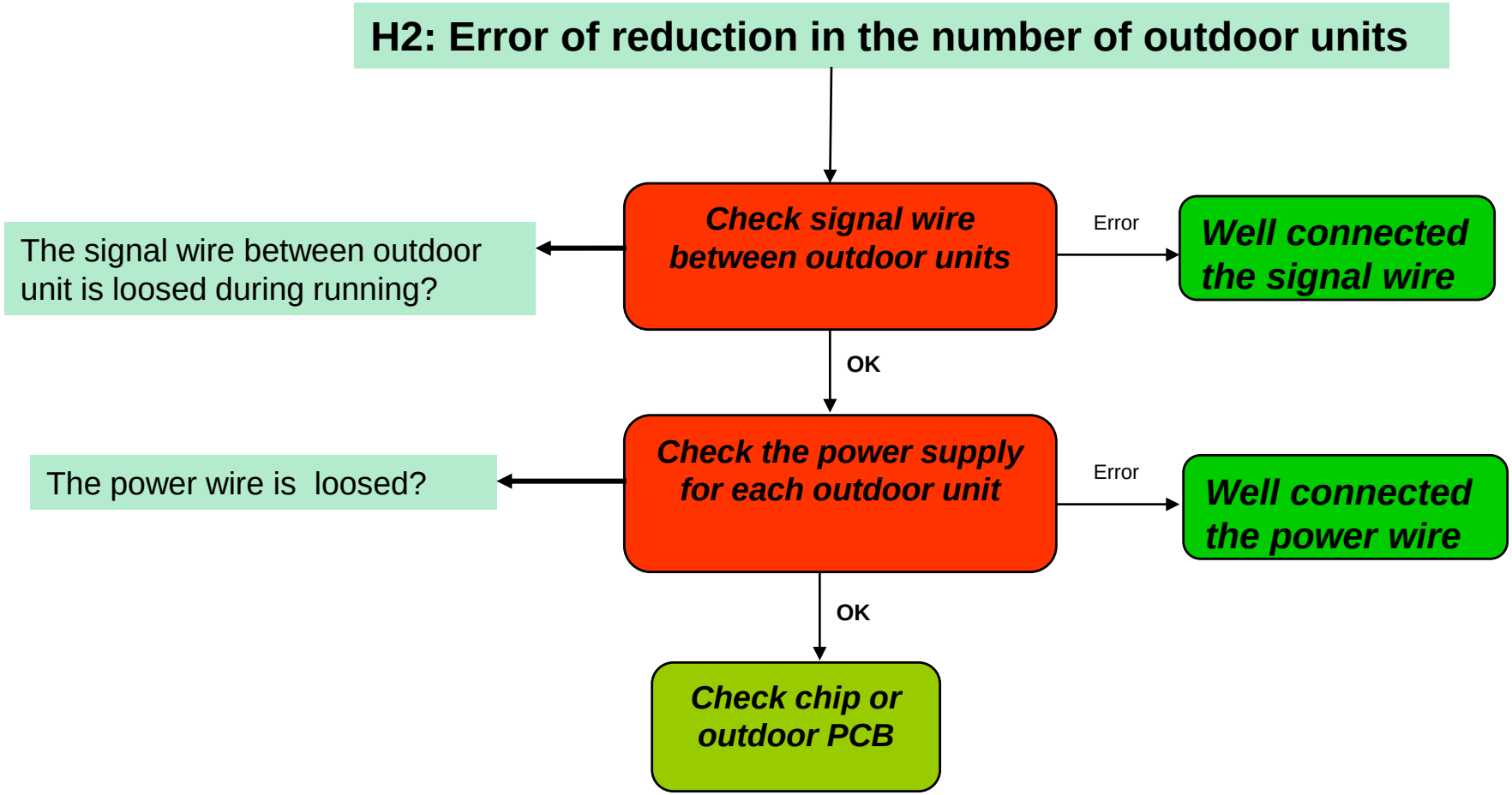


Temp. (℃)	Resistor value (KΩ)
25	10
35	6.4

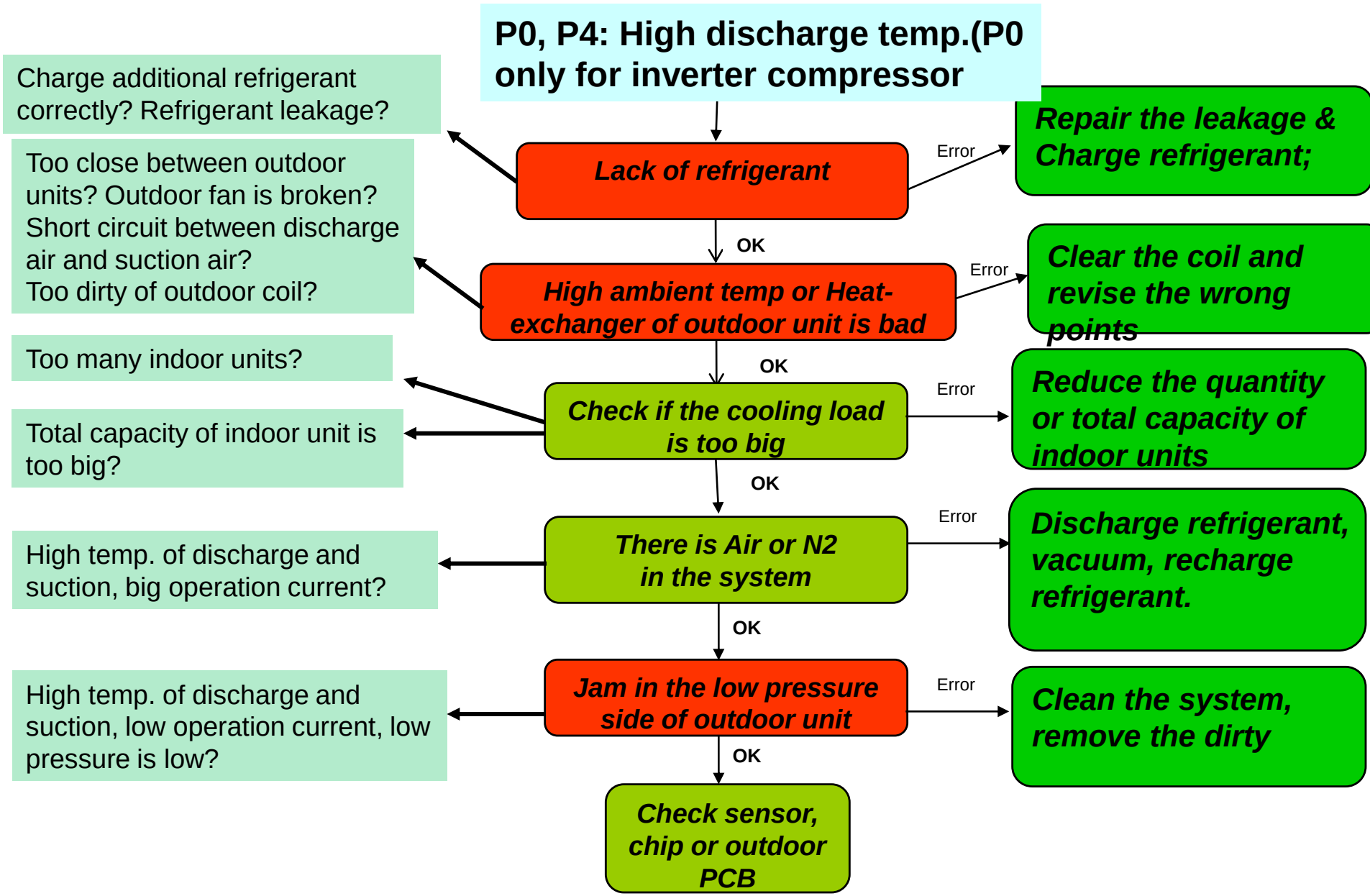
Outdoor unit trouble shooting



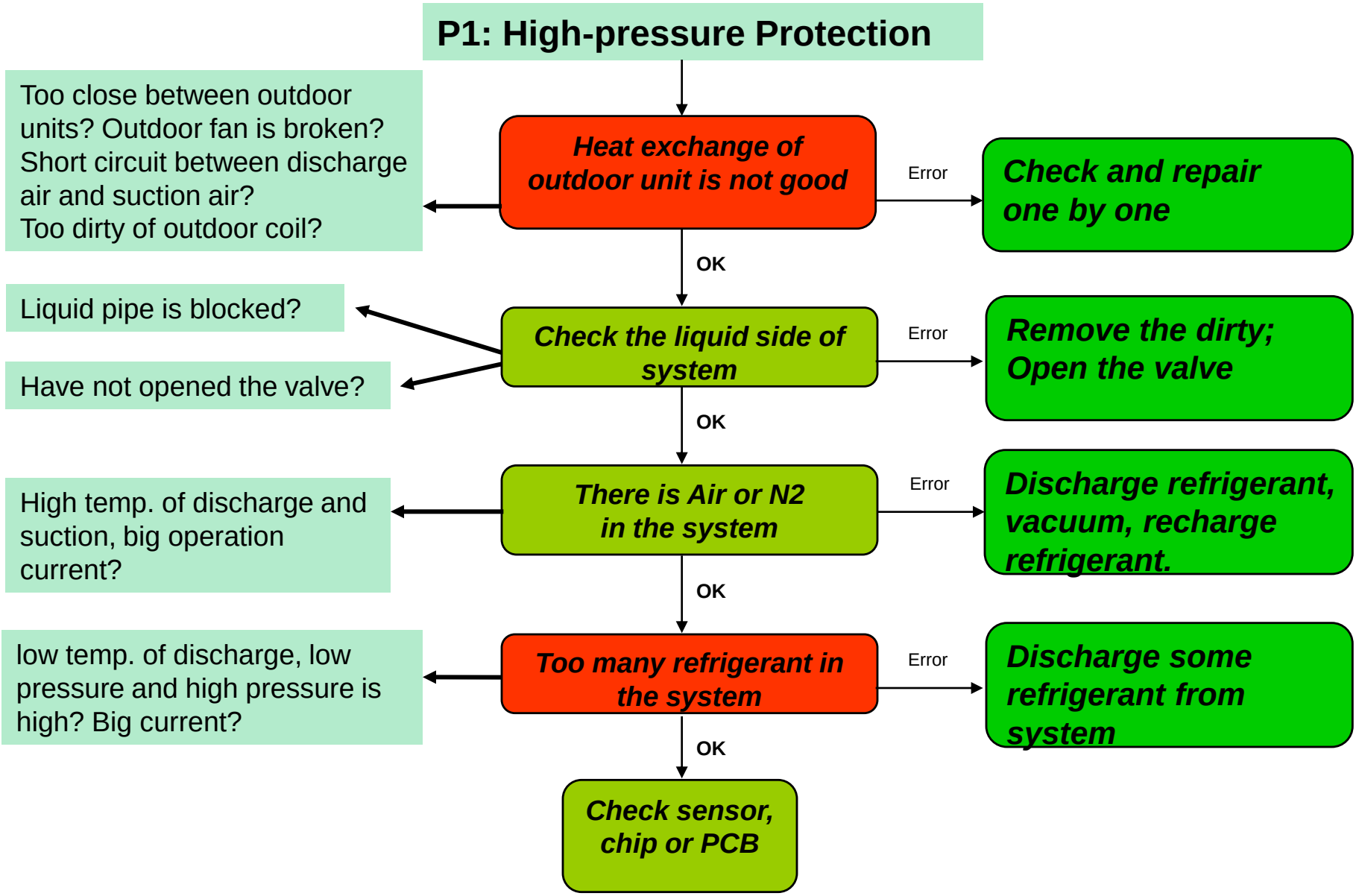
Outdoor unit trouble shooting



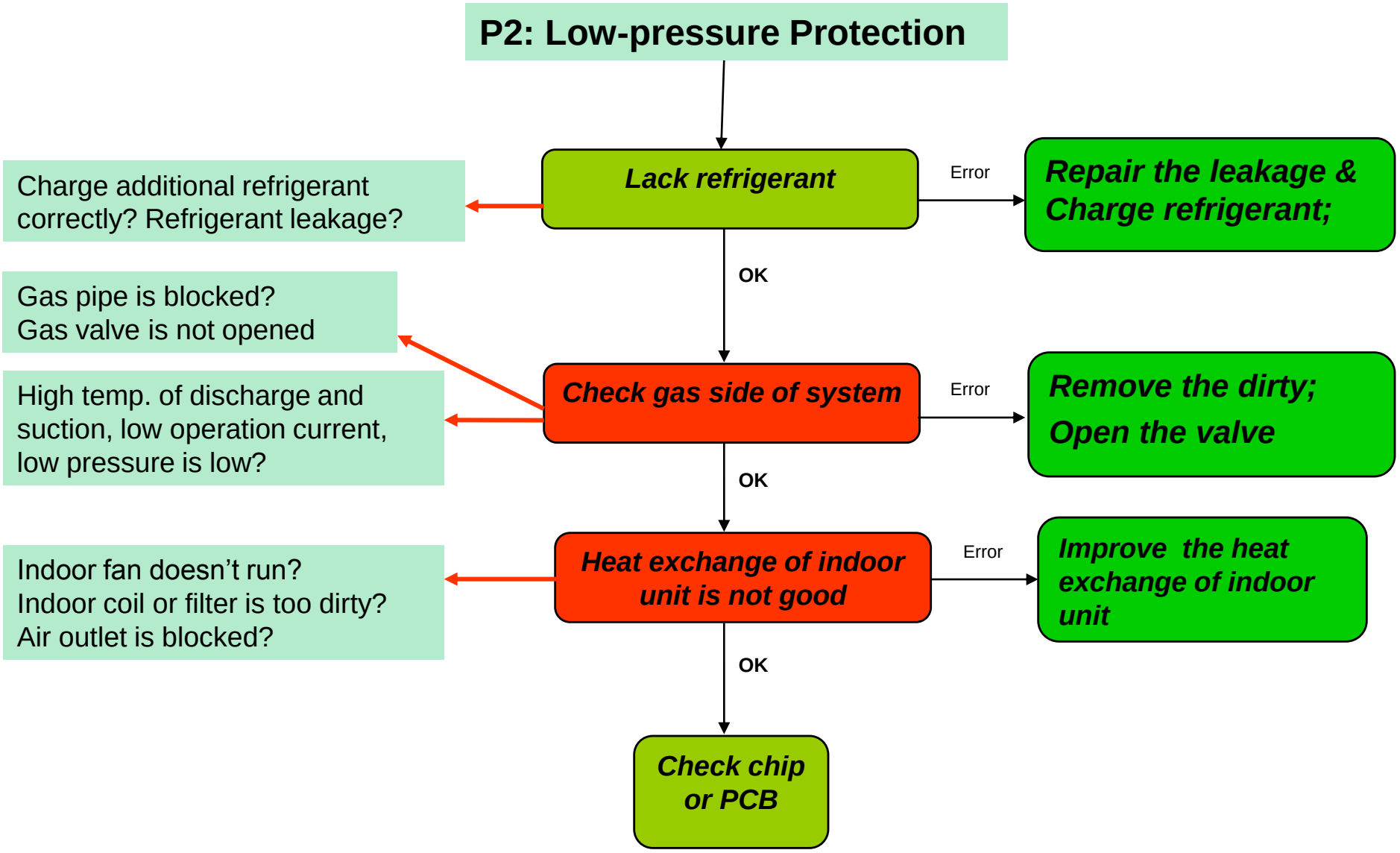
Outdoor unit trouble shooting



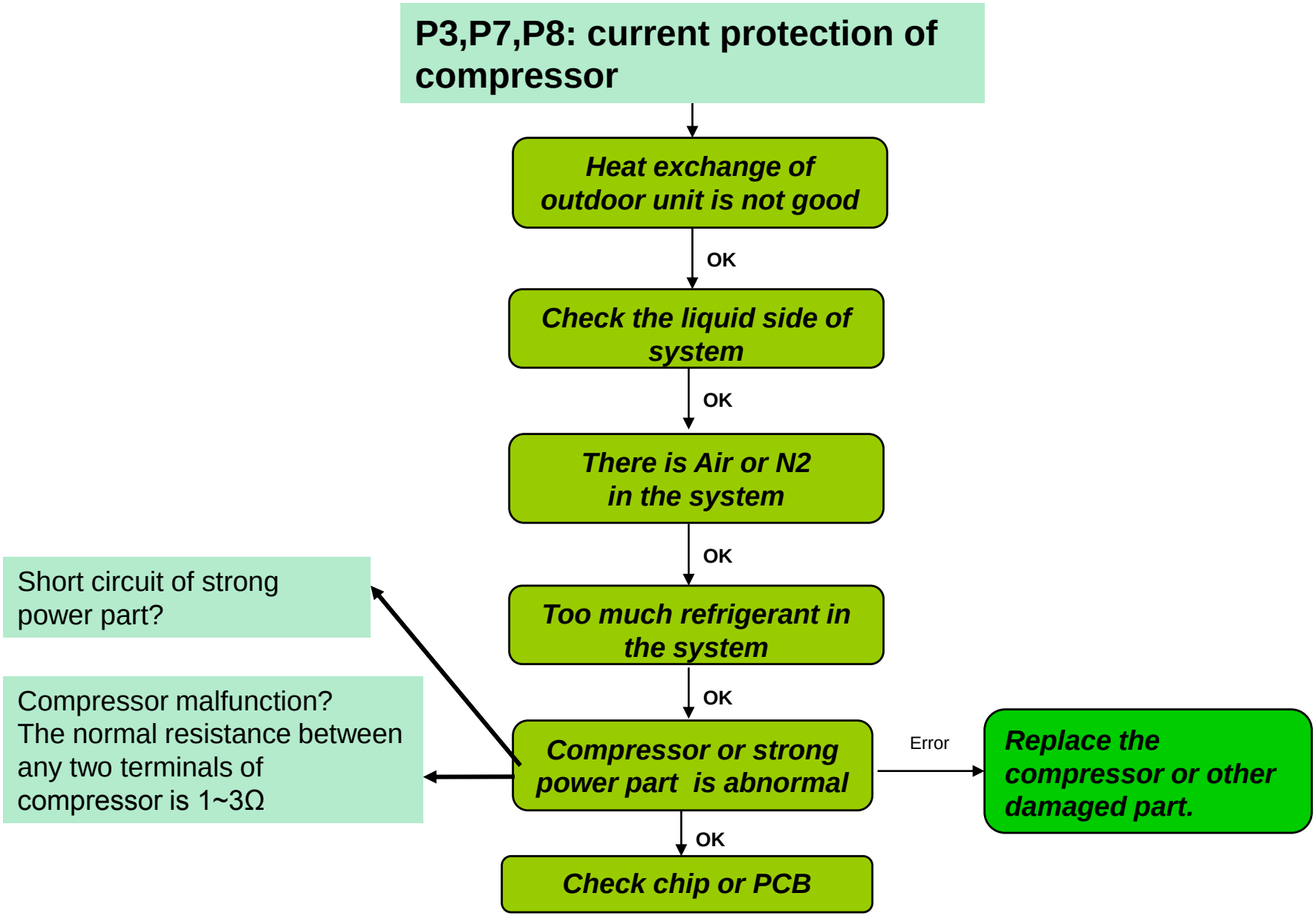
Outdoor unit trouble shooting



Outdoor unit trouble shooting

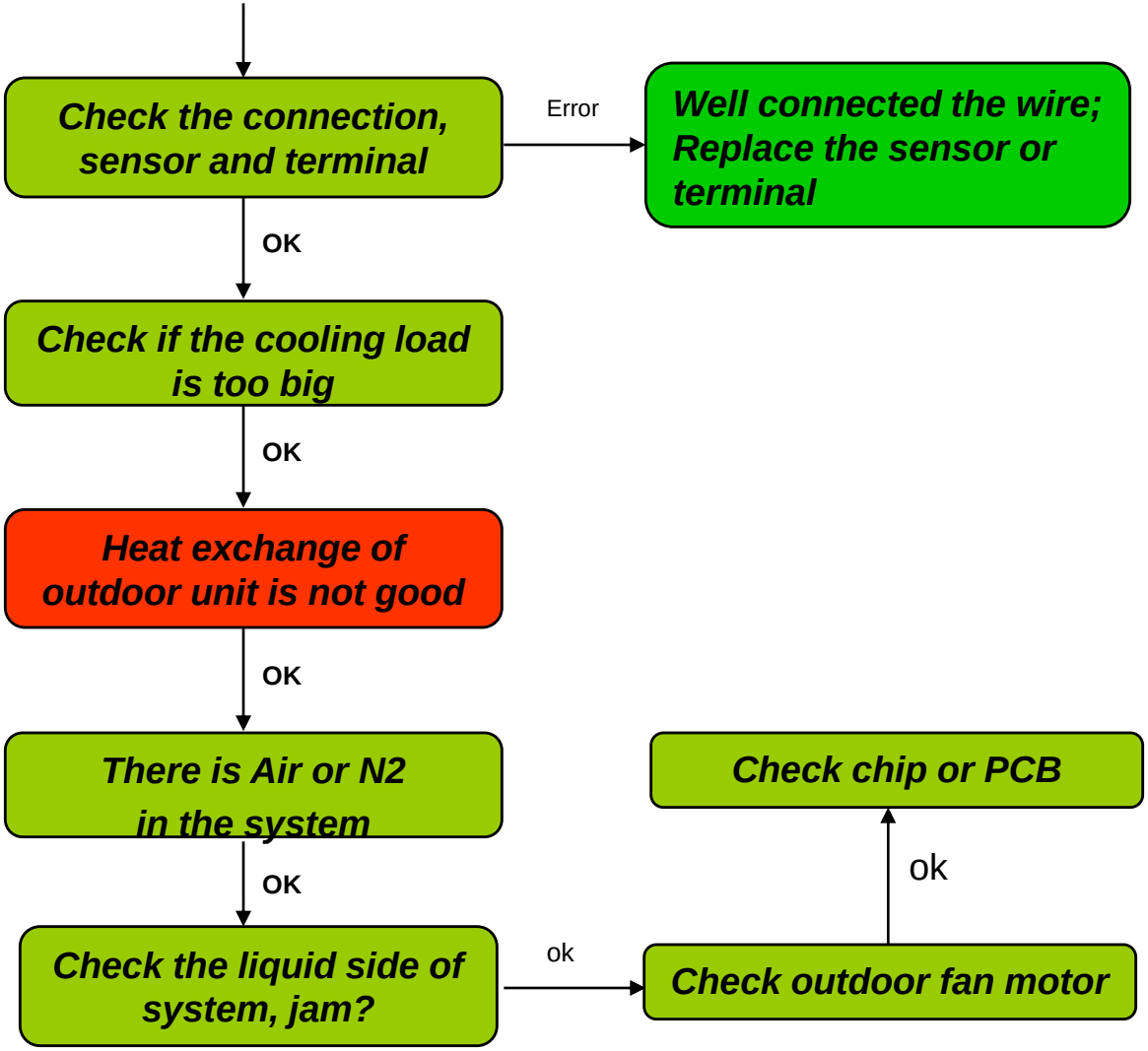


Outdoor unit trouble shooting

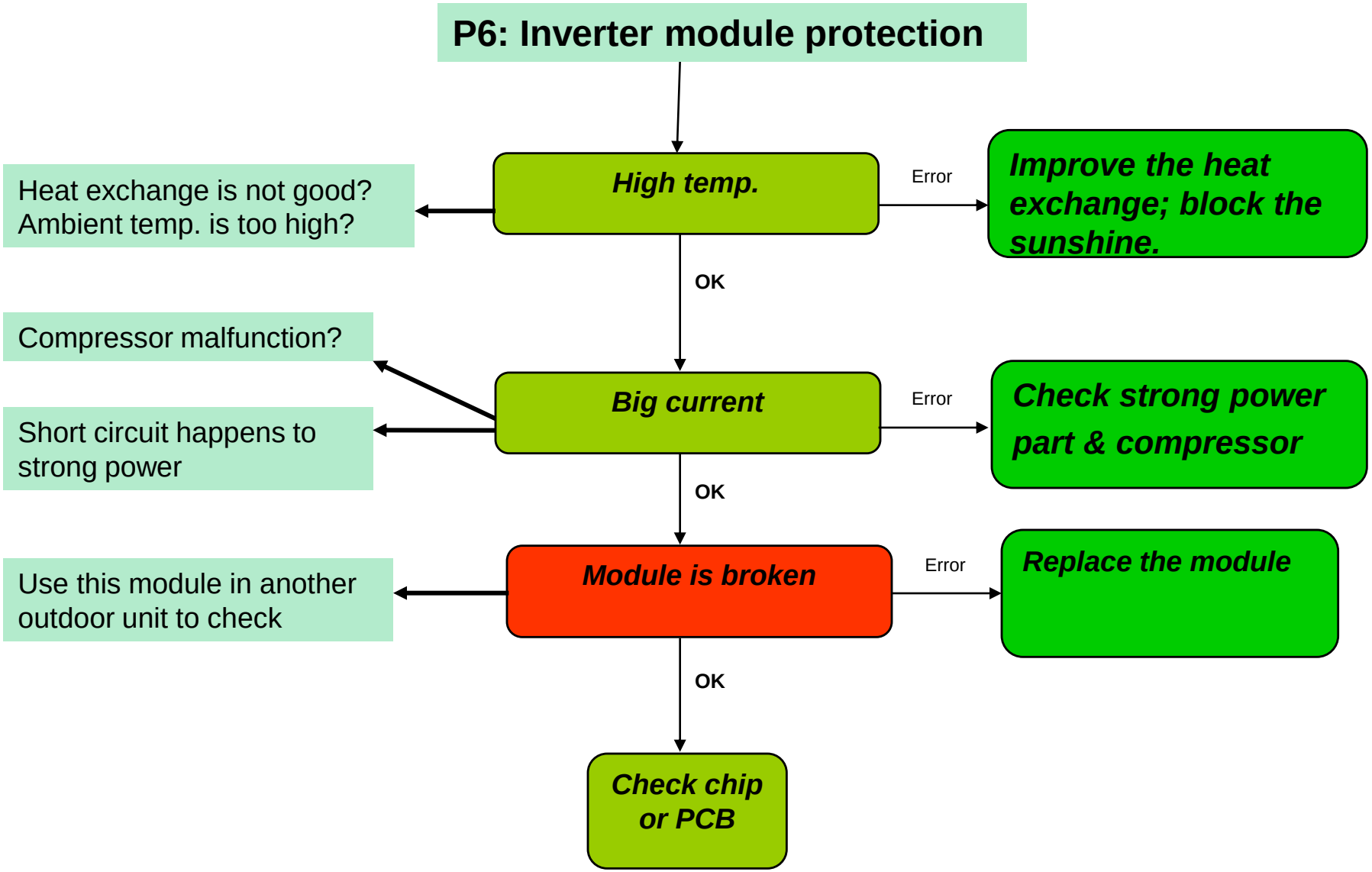


Outdoor unit trouble shooting

P5: High temp. protection of outdoor condensor



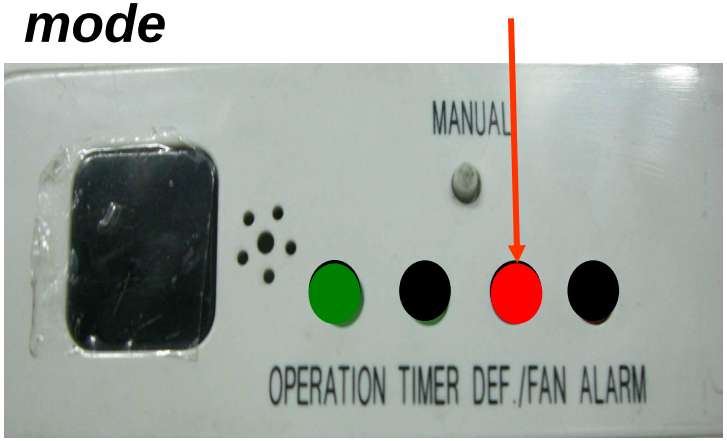
Outdoor unit trouble shooting



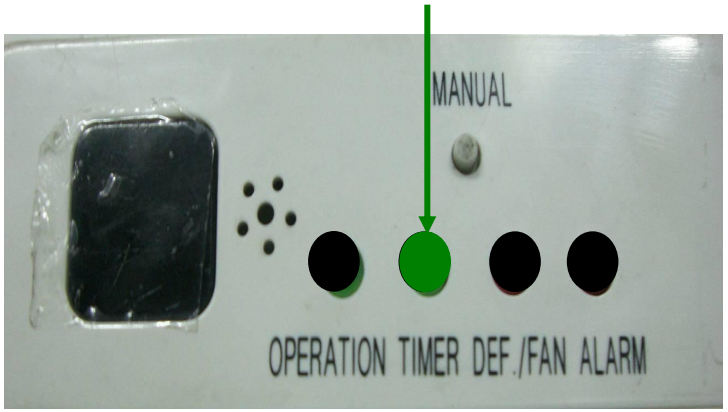
Indoor unit trouble shooting

All lamps off: indoor unit is in standby mode

DEF lamp is on:
Anti cold air or in defrosting mode



TIMER lamp is on:
Timer function is on



Indoor unit trouble shooting

Timer lamp flashes

Communication Error between Outdoor Unit and Indoor Units:

See the solution in E2 of outdoor unit

Indoor unit trouble shooting

Defrost lamp flash

Mode conflict :

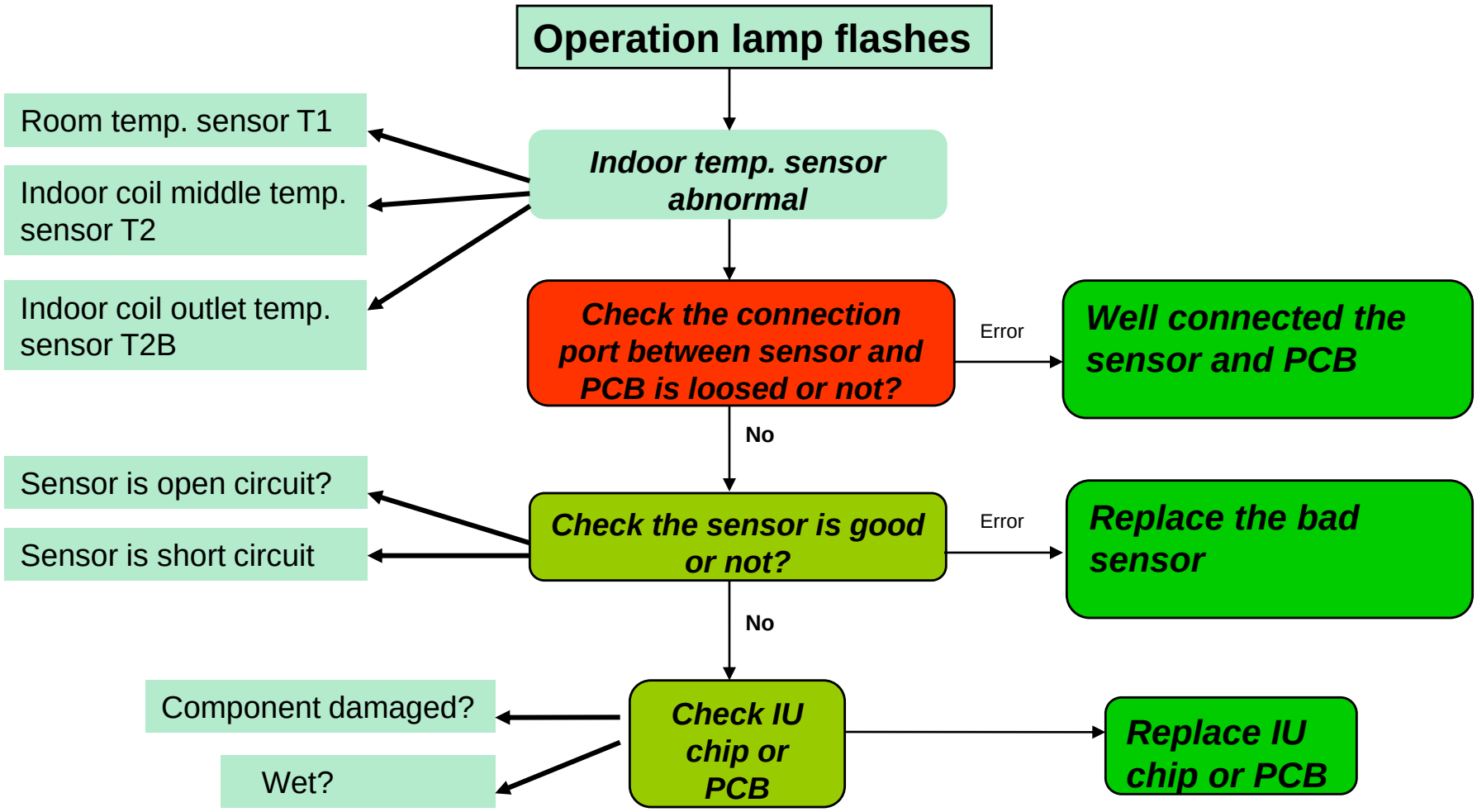
For the Inverter Smart system, cooling or heating can be not realized by the same system at the same time. Heating mode has priority:

Rules：

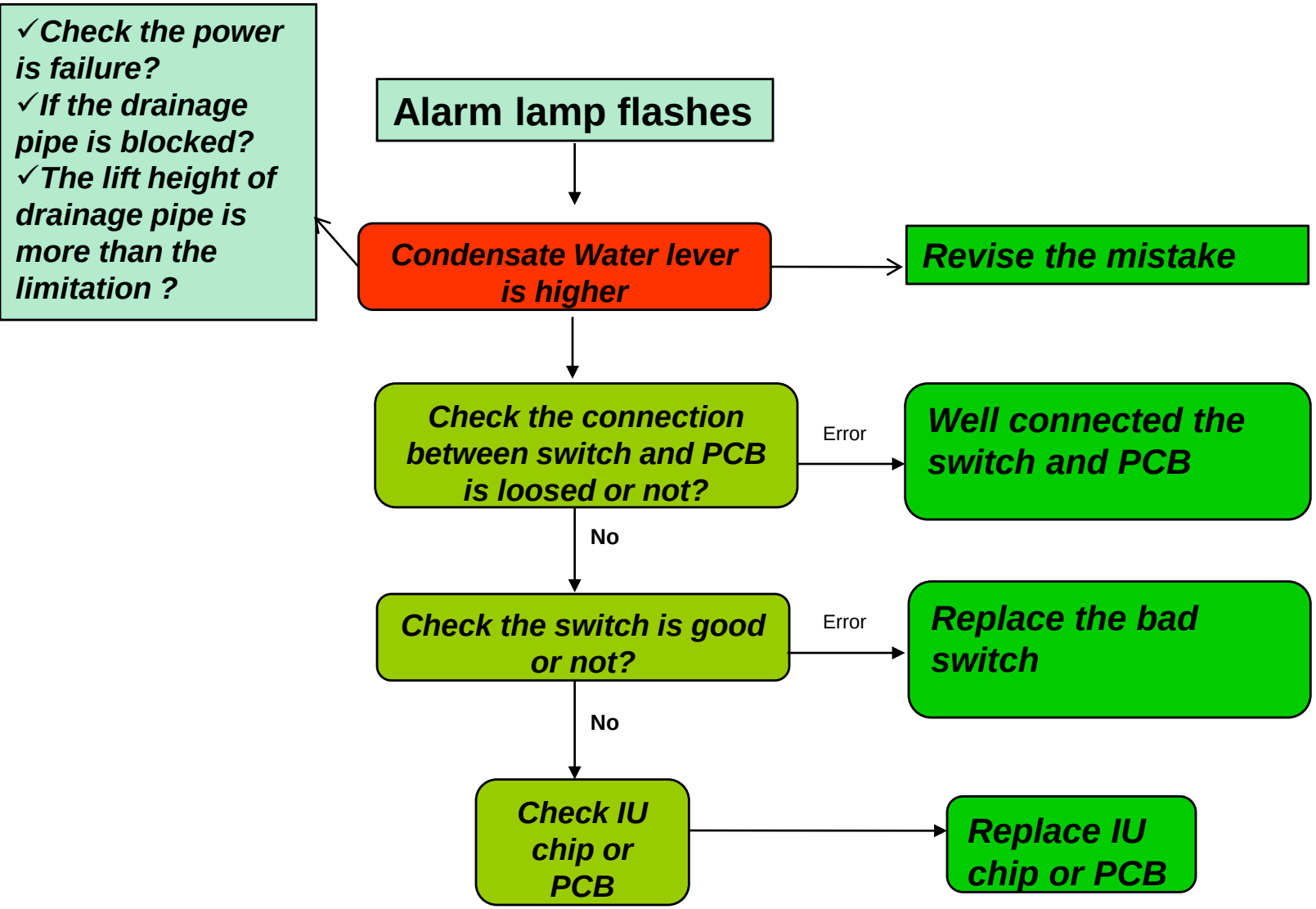
- ***Outdoor unit is running in cooling mode, when received heating requirement, outdoor unit change to heating mode and the indoor units which are in cooling mode will display mode conflict;***
- ***Outdoor unit is running in heating mode, when received cooling or fan only requirement, outdoor unit don't response to the requirement. The indoor unit required cooling mode or fan only will display mode conflict;***

	Cooling	Heating	Fan only	OFF
Cooling model	No	Conflict	No	No
Heating model	Conflict	No	Conflict	No
Fan only model	No	Conflict	No	No
OFF	No	No	No	No

Indoor unit trouble shooting

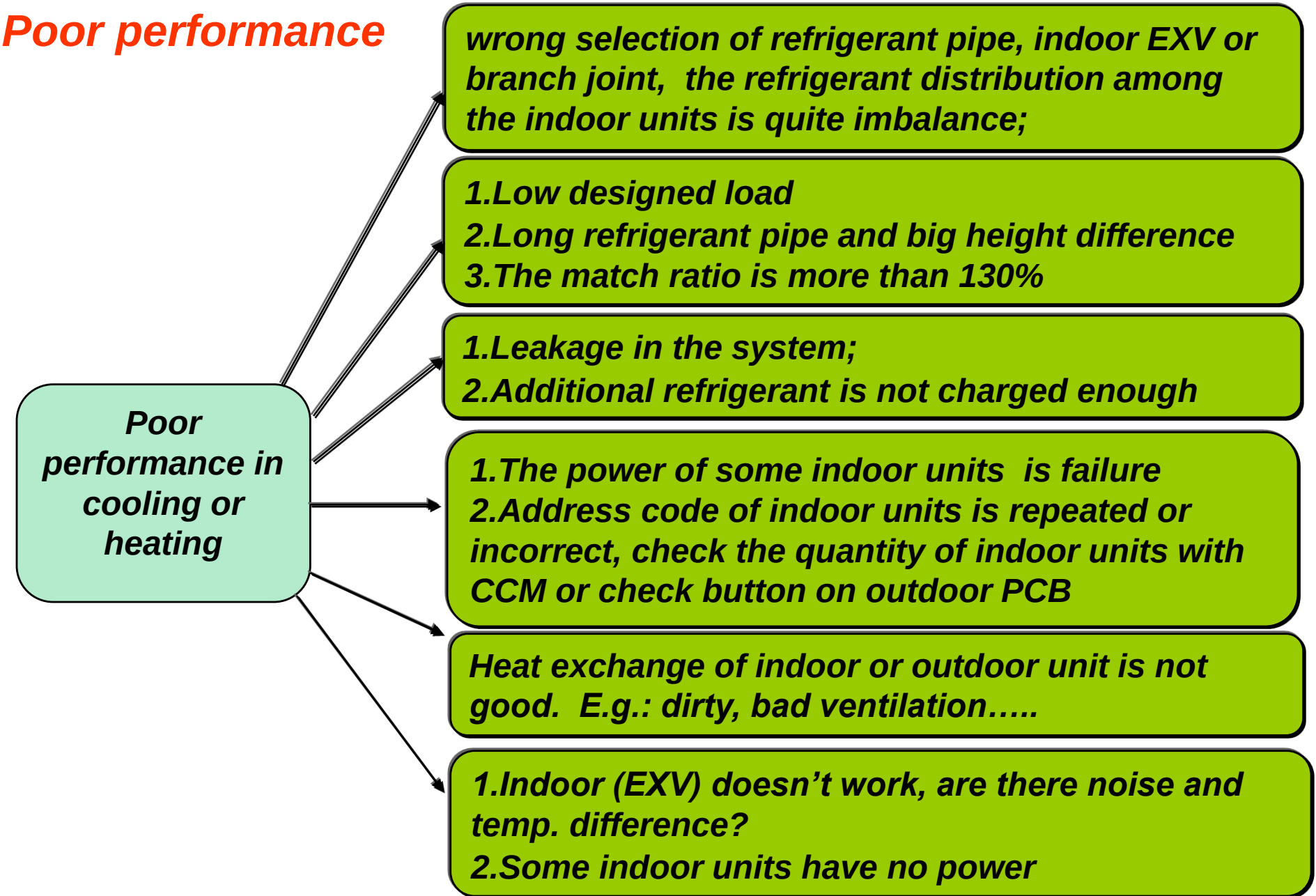


Indoor unit trouble shooting



System trouble analysis

Poor performance



System trouble analysis

How to Check indoor capacity code Quickly

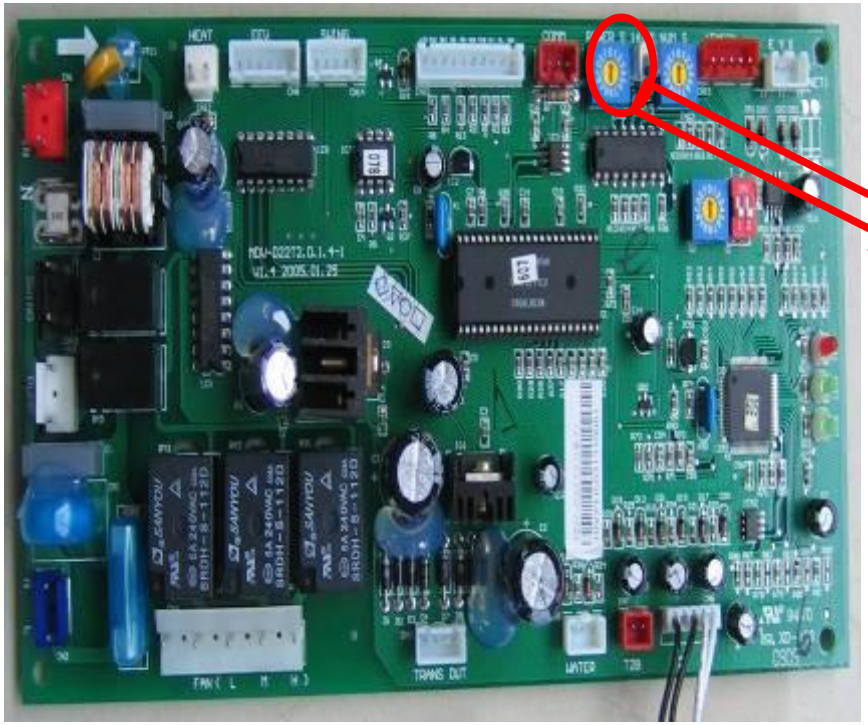
Address code	0	1	2	3	4	5	6	7	8	9
Capacity (x 100W)	22	28	36	45	56	71	80	90	112	140
Horsepower (HP)	0.8	1.0	1.2	1.6	2.0	2.5	3.0	3.2	4.0	5.0

In the below example:
Operation and Alarm lamp is constant-on.
The capacity code = 8+1=9

Continue pressing the “manual” button” of indoor unit for 10s, the capacity code of this indoor unit will display.

System trouble analysis

How to set indoor capacity code



Switch	Power setting	Capacity of indoor units
	0	0.8hp (2200W)
	1	1.0hp (2800W)
	2	1.2 hp (3600W)
	3	1.7hp (4500W)
	4	2.0 hp (5600W)
	5	2.5 hp (7100W)
	6	3.0hp (8000W)
	7	3.2 hp (9000W)
	8	4.0hp (11200W)
	9	5.0hp (14000W)

System trouble analysis