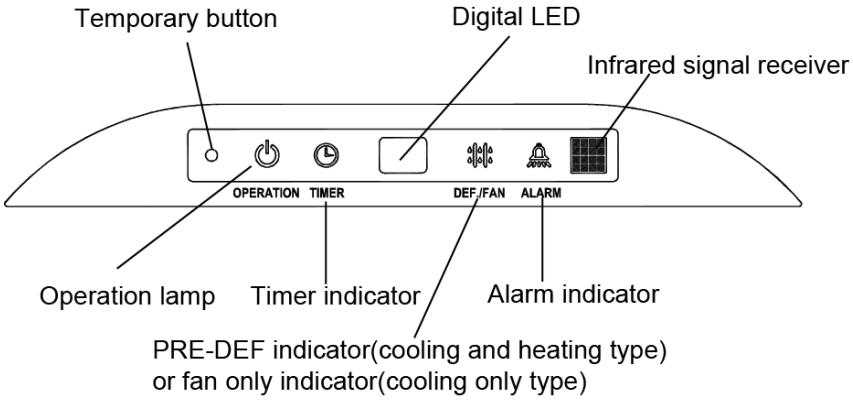
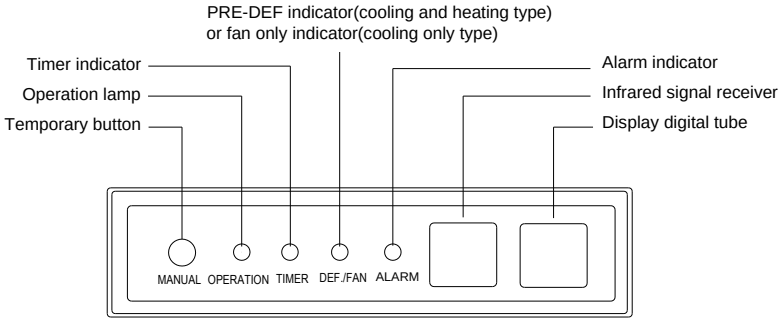
2. Troubleshooting

2.1 Display board

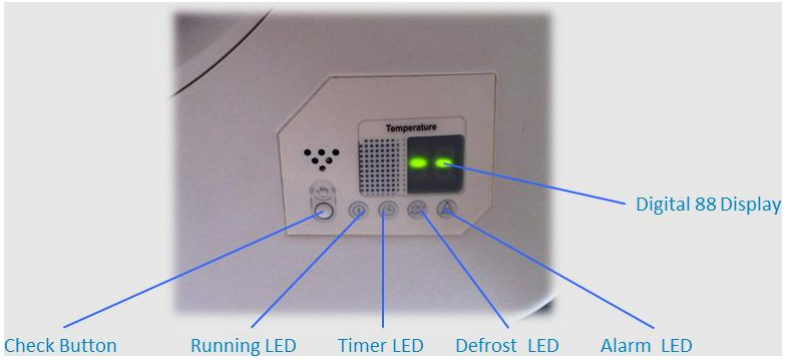
2.1.1 Icon explanation on indoor display board (Super slim cassette).



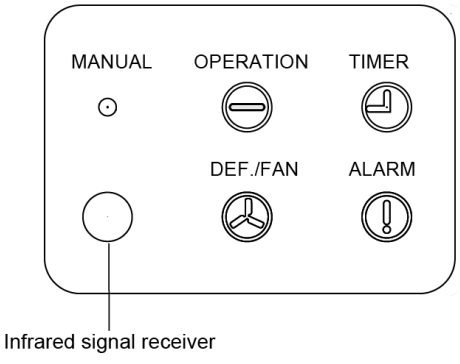
2.1.2 Icon explanation on indoor display board (A5 Duct)



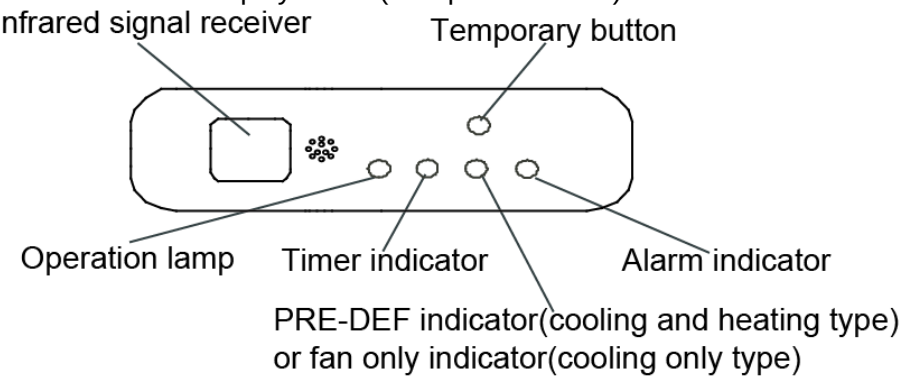
2.1.3 Auto-lifting panel of 4 way cassette



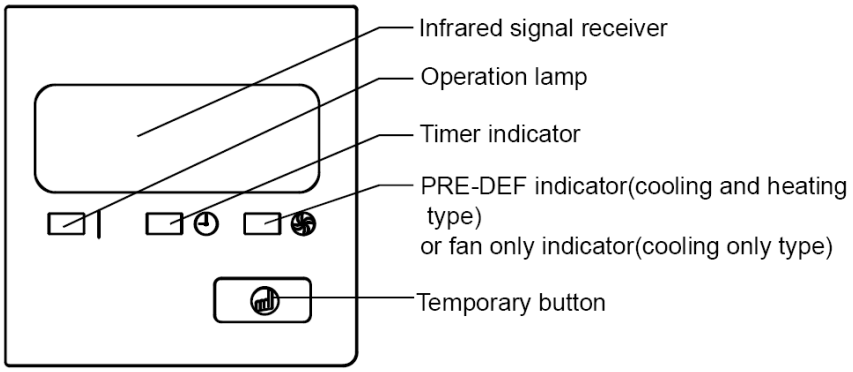
2.1.4 Display board of Ceiling-floor indoor unit



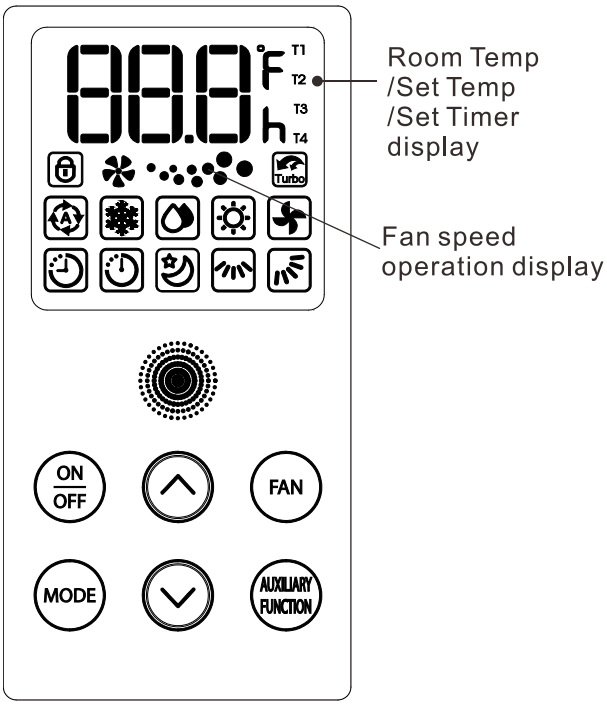
2.1.5 Icon explanation on indoor display board (Compact cassette).



2.1.6 Icon explanation on indoor display board (Console)



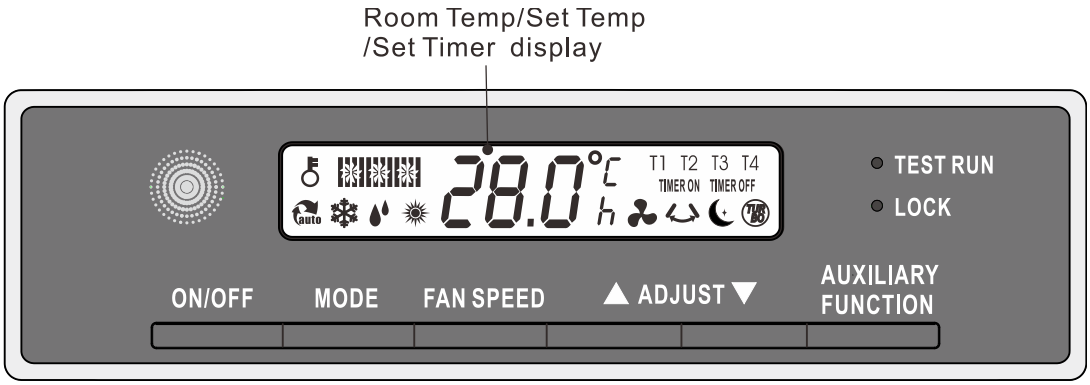
2.1.7 Display board of M floor-standing



Indicators

- Auto operation display
- Cooling operation display
- Dry operation display
- Heating operation display
- Fan operation display
- Vertical airflow display(optional)
- Horizontal airflow display
- Sleep operation display
- Turbo operation display(optional)
- Off timer operation display
- On timer operation display
- Lock operation display

2.1.8 Display board of GA floor-standing



Indicators

- Auto operation display
- Cooling operation display
- Dry operation display
- Heating operation display
- Fan operation display
- Swing operation display
- Sleep operation display
- Turbo operation display
- TIMER ON On timer operation display
- TIMER OFF Off timer operation display
- Lock operation display
- Fan speed display

2.2 Indoor Unit Malfunctions

For the Console

Malfunction	Timer Lamp	Operation Lamp (flashes)
Indoor EEPROM malfunction	X	1
Communication malfunction between indoor and outdoor units	X	2
Indoor fan speed malfunction	X	4
T1 temperature sensor open or short circuit	X	5
T2 temperature sensor open or short circuit	X	6
Refrigerant leakage	X	7
Overcurrent protection (for some units)	O	1
T4 temperature sensor open or short circuit	O	2
T3 temperature sensor open or short circuit	O	3
T5 temperature sensor open or short circuit	O	4
Outdoor EEPROM malfunction (for some units)	O	5
Outdoor fan speed malfunction	O	6
IPM module malfunction	☆	1
DC voltage too high/too low protection	☆	2
Low ambient temperature protection	☆	4
Inverter compressor drive protection	☆	5
Compressor voltage protection	☆	7
O (on) X(off) ☆(flash at 2Hz)		

For Other types (12K)

Malfunction	Error Code	Timer Lamp	Operation Lamp (flashes)
Indoor EEPROM malfunction	E0	X	1
Communication malfunction between indoor and outdoor units	E1	X	2
Indoor fan speed malfunction	E3	X	4
T1 temperature sensor open or short circuit	E4	X	5
T2 temperature sensor open or short circuit	E5	X	6
Refrigerant leakage detection	EC	X	7
Water level alarm	EE	X	8
Communication error between master and slave unit (for twins system)	E8	X	9
Another indoor unit malfunction (for twins system)	E9	X	10
Overcurrent protection (for some units)	F0	O	1
T4 temperature sensor open or short circuit	F1	O	2
T3 temperature sensor open or short circuit	F2	O	3
T5 temperature sensor open or short circuit	F3	O	4
Outdoor EEPROM malfunction (for some units)	F4	O	5
Outdoor fan speed malfunction	F5	O	6
T2B temperature open or short circuit (for free-match indoor units)	F6	O	7
IPM module malfunction	P0	☆	1
DC voltage too high/too low protection	P1	☆	2
Low ambient temperature protection	P3	☆	4
Inverter compressor drive protection	P4	☆	5
Compressor voltage protection	P6	☆	7
O (on) X(off) ☆(flash at 2Hz)			

For Floor Standing:

Malfunction	Error Code
Indoor EEPROM malfunction	E0
Communication malfunction between indoor and outdoor units	E1
Indoor fan speed malfunction	E3
T1 temperature sensor open or short circuit	E4
T2 temperature sensor open or short circuit	E5
Refrigerant leakage detection	EC
Outdoor unit is faulty (for old communication protocol)	Ed
Overcurrent protection (for some units)	F0
T4 temperature sensor open or short circuit	F1
T3 temperature sensor open or short circuit	F2
T5 temperature sensor open or short circuit	F3
Outdoor EEPROM malfunction (for some units)	F4
Outdoor fan speed malfunction	F5
T2B temperature open or short circuit	F6
IPM module malfunction	P0
DC voltage too high/too low protection	P1
Top of compressor high temperature protection	P2
Low ambient temperature protection	P3
Inverter compressor drive protection	P4
Outdoor IGBT sensor is faulty	P7

For Other Types (18K-60K):

Malfunction	Error Code	Timer Lamp	Operation Lamp (flashes)
Indoor EEPROM malfunction	E0	X	1
Communication malfunction between indoor and outdoor units	E1	X	2
Indoor fan speed malfunction	E3	X	4
T1 temperature sensor open or short circuit	E4	X	5
T2 temperature sensor open or short circuit	E5	X	6
Refrigerant leakage detection	EC	X	7
Water level alarm malfunction	EE	X	8
Communication error between master and slave unit (for twins system)	E8	X	9
Another indoor unit malfunction (for twins system)	E9	X	10
Outdoor unit is faulty (for old communication protocol)	Ed	X	11
Overcurrent protection (for some units)	F0	O	1
T4 temperature sensor open or short circuit	F1	O	2
T3 temperature sensor open or short circuit	F2	O	3
T5 temperature sensor open or short circuit	F3	O	4
Outdoor EEPROM malfunction (for some units)	F4	O	5
Outdoor fan speed malfunction	F5	O	6
T2B temperature open or short circuit (for free-match indoor units)	F6	O	7
Communication error between auto-lifting panel and slim cassette	F7	O	8
Auto-lifting panel is faulty (for slim cassettes with an auto-lifting panel)	F8	O	9
Auto-lifting panel is not closed (for slim cassettes with an auto-lifting panel)	F9	O	10
IPM module malfunction	P0	☆	1
DC voltage too high/too low protection	P1	☆	2
Top of compressor high temperature protection	P2	☆	3
Low ambient temperature protection	P3	☆	4
Inverter compressor drive protection	P4	☆	5
Compressor voltage protection	P6	☆	7

Outdoor IGBT sensor is faulty	P7	☆	8
O (on) X(off) ☆(flash at 2Hz)			

2.3 Outdoor Unit Malfunctions

For 16K:

Contents	LED1(Green)	LED2(Red)
Normal standby	On	Off
Normal operation	Off	On
DC voltage too high/too low protection or MCE malfunction	On	On
Compressor driven chip EEPROM malfunction	On	Flash
Compressor speed malfunction	Off	Flash
Zero speed protection or synchronous fault protection	Flash	On
IGBT strong current protection or IPM module protection	Flash	Off
Communication error between outdoor main chip and compressor driven chip	Flash	Flash

For 18~60K:

Display	Malfunction or Protection
E1	Communication malfunction between indoor and outdoor units
F0	Overcurrent protection
F1	Ambient temperature sensor (T4) malfunction
F2	Outdoor heat-exchanger temperature sensor (T3) malfunction
F3	Discharge temperature sensor (T5) malfunction
F4	Outdoor EEPROM malfunction
F5	Outdoor fan speed malfunction
P0	IPM module protection
P1	DC voltage too high/too low protection
P3	Ultra-low ambient temperature protection
P4	Compressor rotor position protection
J0	Evaporator high temperature protection
J1	Condenser high temperature protection
J2	High discharge temperature protection
J3	PFC module protection
J4	Communication error between outdoor main chip and compressor driven chip
J5	High pressure protection
J6	Low pressure protection
P7	IGBT sensor malfunction
J8	AC power input voltage protection

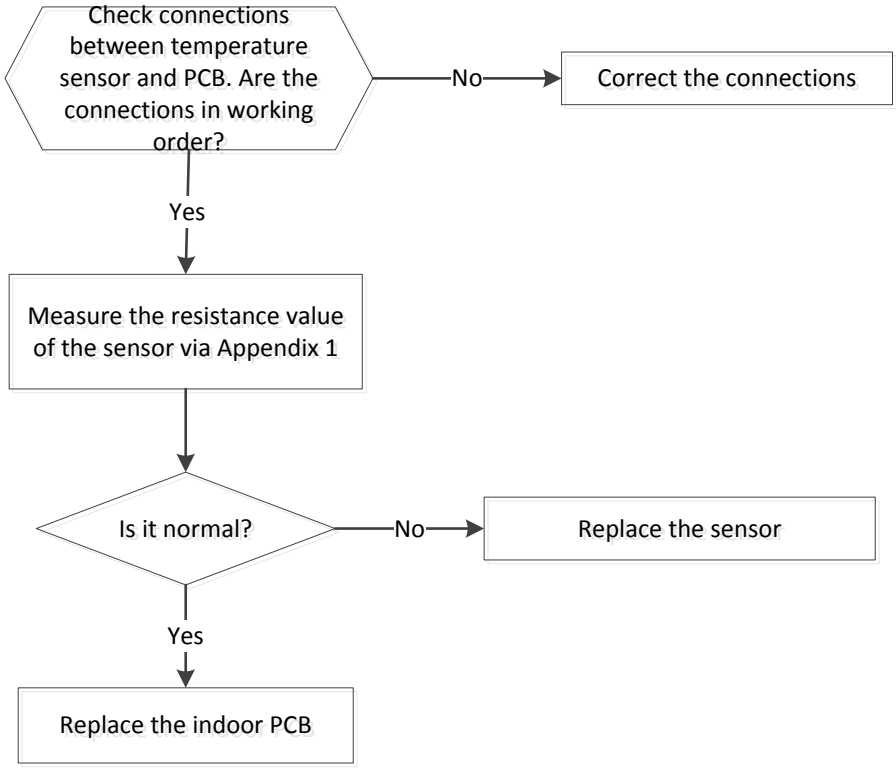
In low ambient cooling mode, the LED displays“LC”or alternates between running frequency and “LC” (each appears for 0.5s).

2.4 Resolving Typical Malfunctions

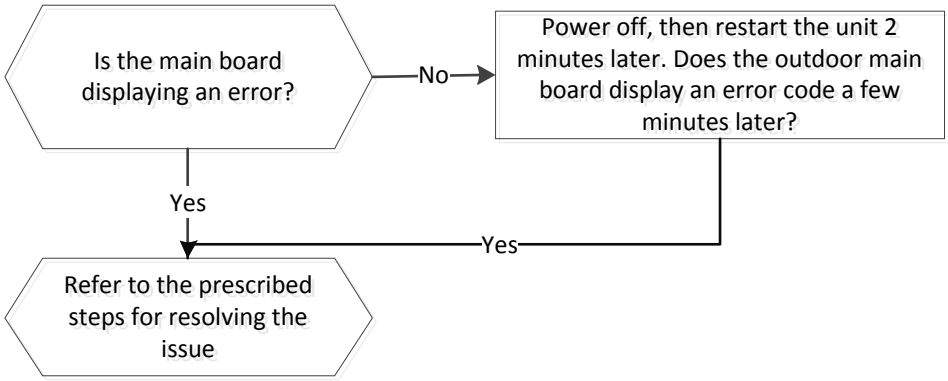
2.4.1 For Indoor Units

2.4.1.1 Temperature Sensor Open or Short Circuit

Malfunction conditions	If the sampling voltage is lower than 0.06V or higher than 4.94V, the LED will display the failure.
Possible causes	● Wiring mistakes ● Faulty sensor ● Faulty PCB

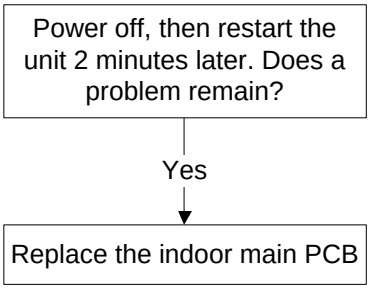


2.4.1.2. Outdoor Unit Malfunction



2.4.1.3. Indoor EEPROM Malfunction

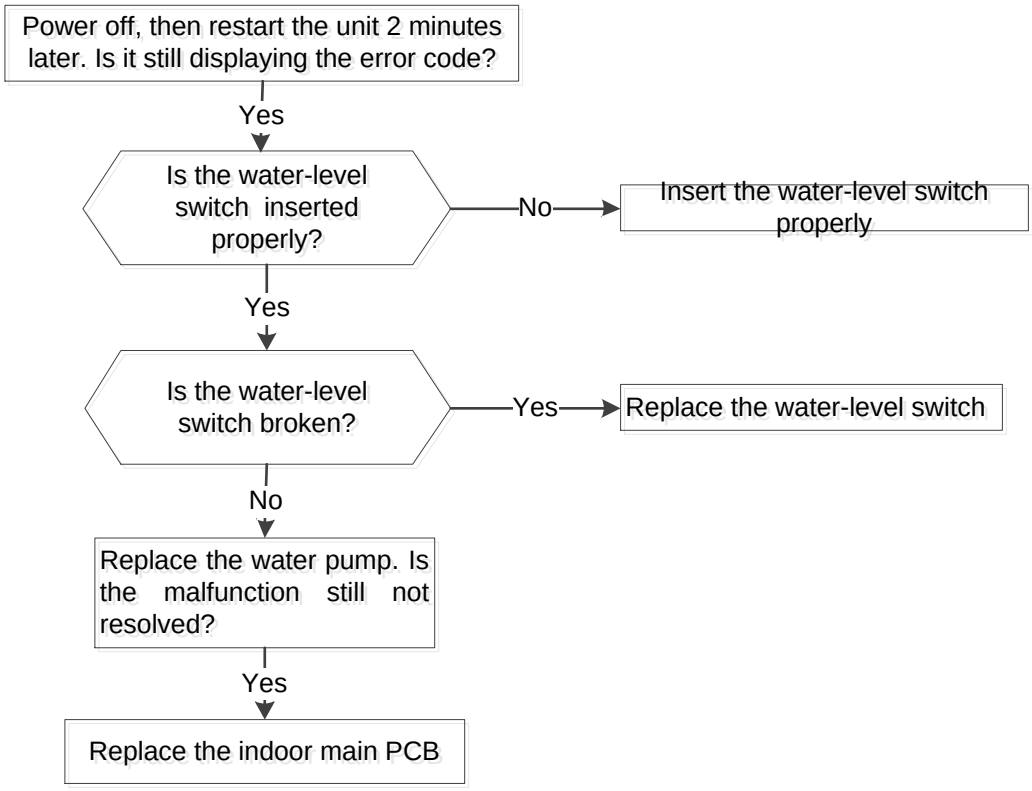
Malfunction conditions	Main PCB chip does not receive feedback from EEPROM chip
Possible causes	● Installation mistakes ● Faulty PCB



EEPROM: An electrically erasable programmable read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

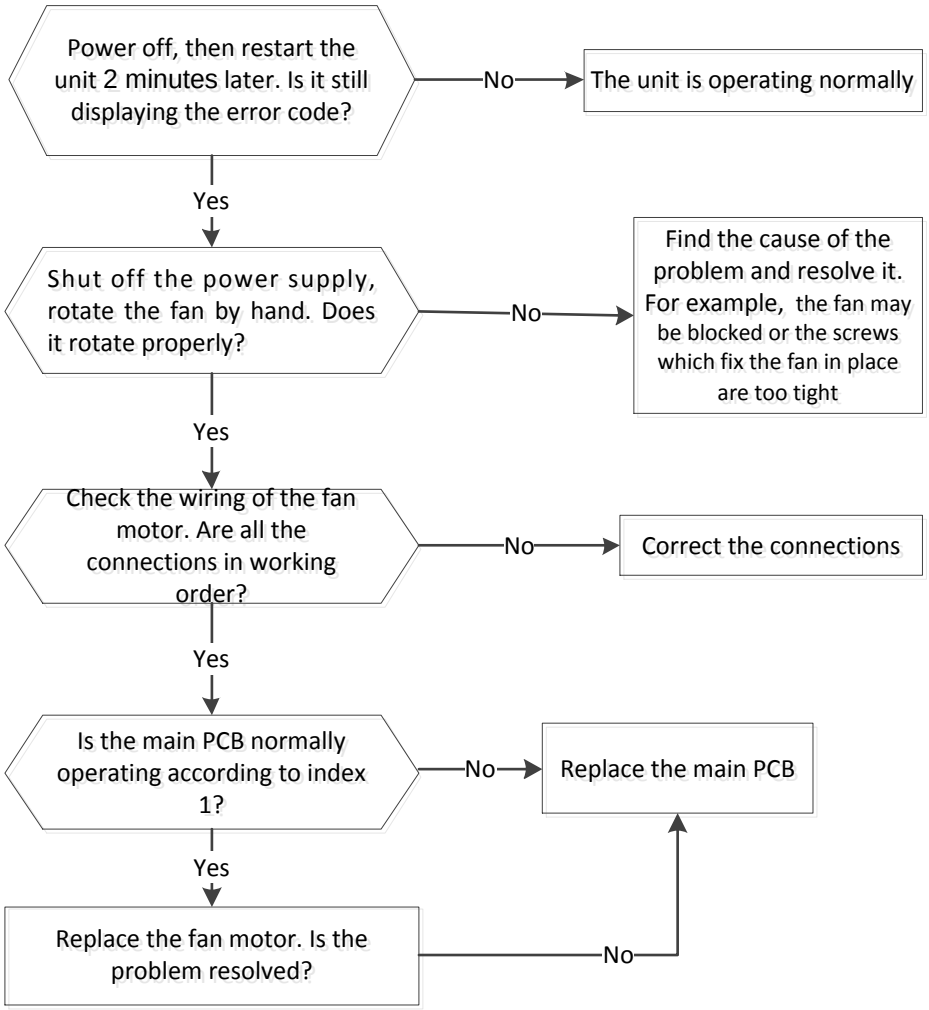
2.4.1.4. Water-Level Alarm Malfunction

Malfunction conditions	If the sampling voltage is not 5V, the LED will display the failure code.
Possible causes	● Wiring mistakes ● Faulty water-level switch ● Faulty water pump ● Faulty indoor PCB



2.4.1.5. Indoor Fan Speed Malfunction

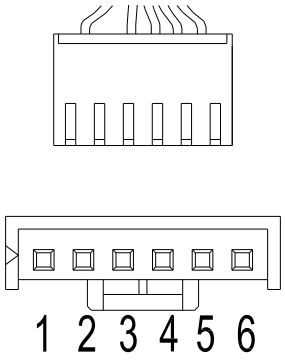
Malfunction conditions	When indoor fan speed continues to run at too low a speed (300RPM) for a certain period of time, the unit will stop and the LED will display a failure code.
Possible causes	● Wiring mistakes ● Faulty fan assembly ● Faulty fan motor ● Faulty PCB



Index 1:

1. Indoor DC fan motor (control chip is located inside the fan motor)

Power on and when the unit is on standby, measure the voltage of pin1-pin3, pin4-pin3 in the fan motor connector. If the value of the voltage is not within the range shown in the following table, the PCB may be experiencing problems and may need to be replaced.

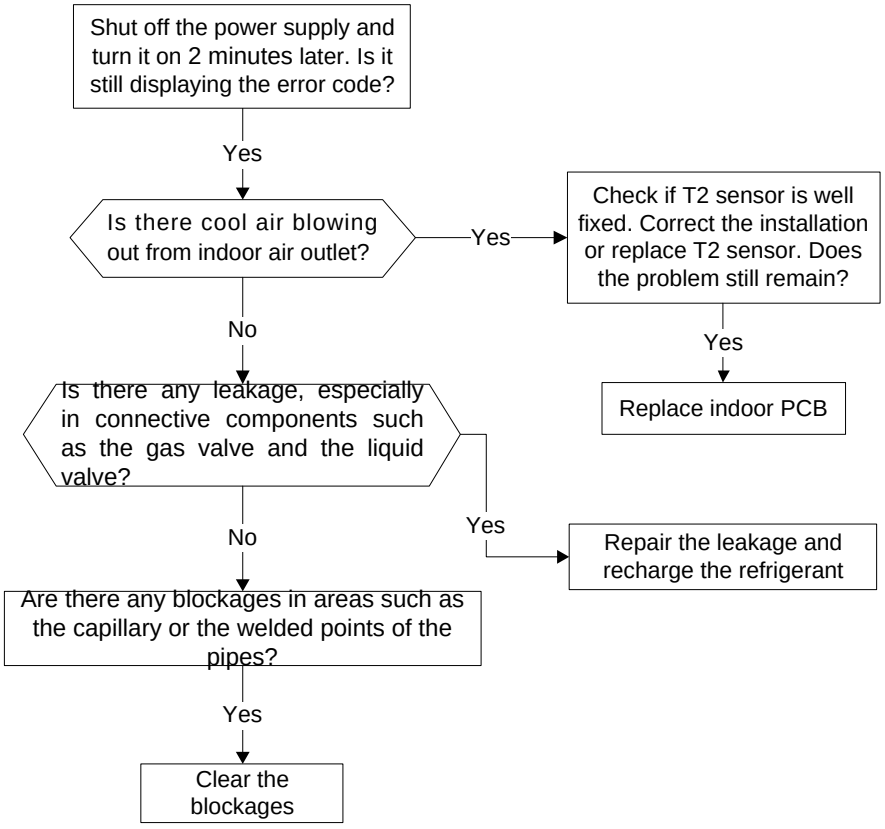


DC motor voltage input and output

NO.	Color	Signal	Voltage
1	Red	Vs/Vm	200V~380V
2	---	---	---
3	Black	GND	0V
4	White	Vcc	13.5-16.5V
5	Yellow	Vsp	0~6.5V
6	Blue	FG	13.5-16.5V

2.4.1.6. Refrigerant Leakage Detection

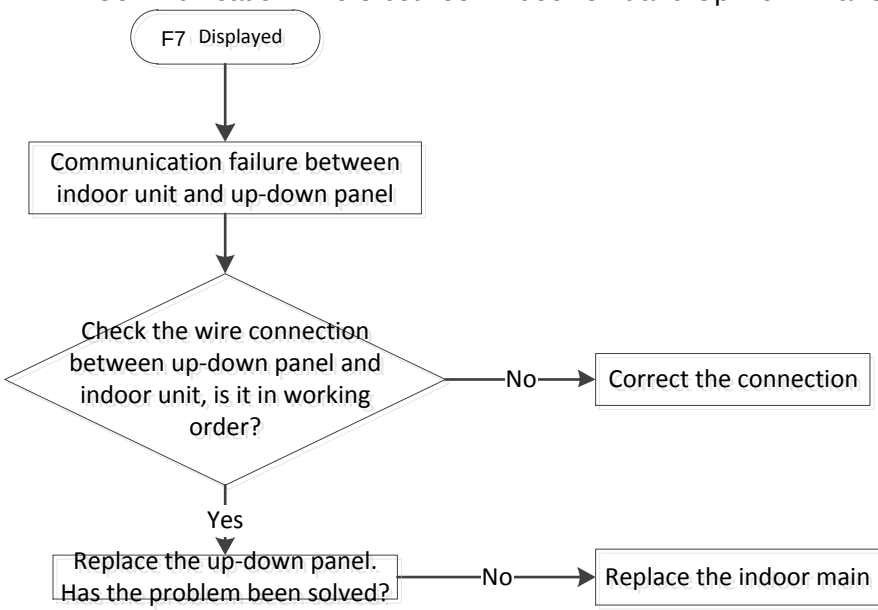
Malfunction conditions	**Define the evaporator coil temperature T2 of the compressor starts running as Tcool.** **If the following occurs 3 times, the display shows "EC" and the unit switches off:** **In the first 8 minutes after the compressor starts up, if T2 ＜Tcool－2℃ is not maintained for 4 seconds and compressor running frequency is not higher than 50Hz for 3 minutes**
Potential causes	● **T2 sensor error** ● **Indoor PCB error** ● **Refrigerant system error, such as leakage or blockages**



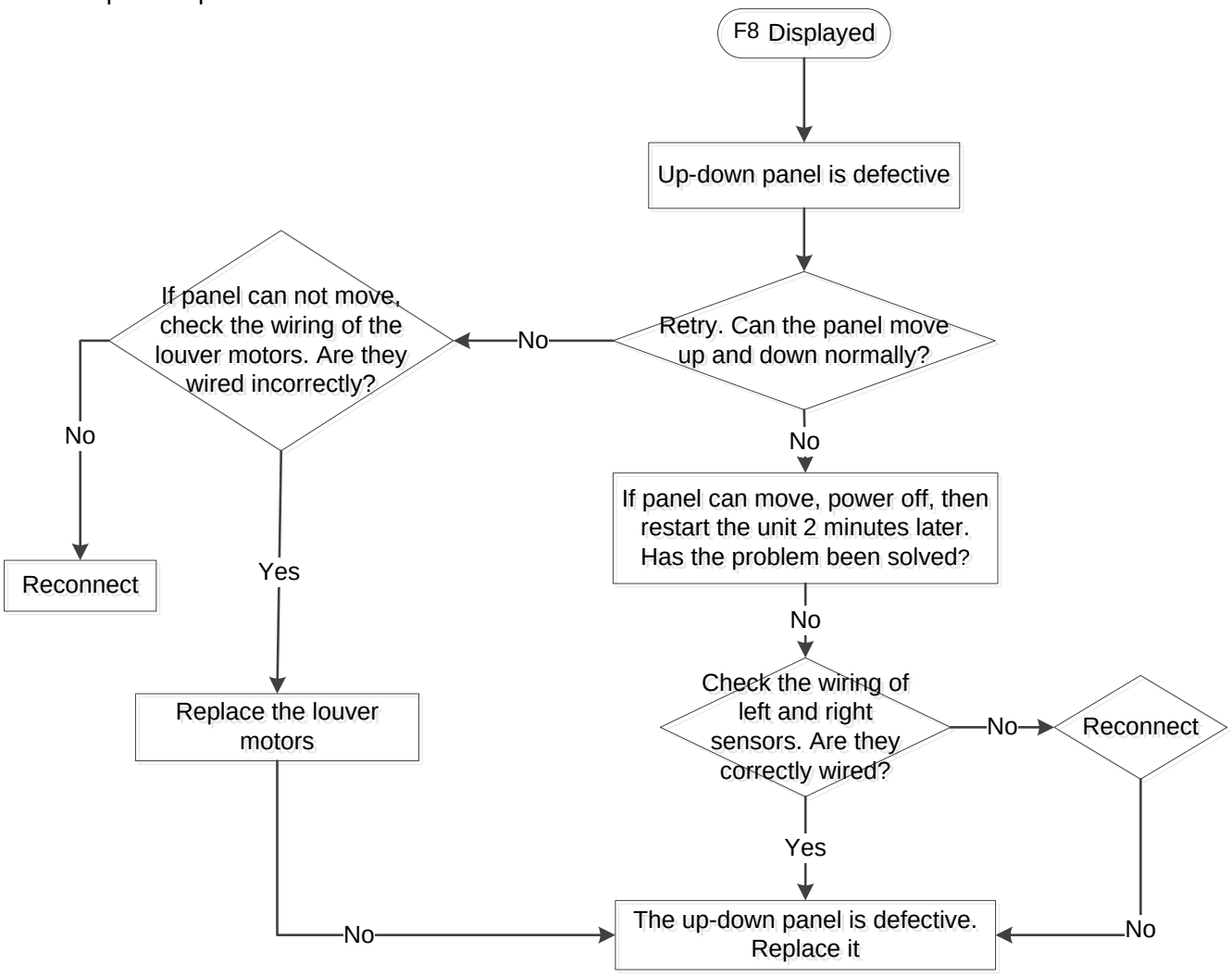
2.4.1.7 Communication malfunction between indoor and outdoor units
The same as E1 in outdoor.

2.4.2 Super-Slim Cassettes with an Up-Down Panel

2.4.2.1 Communication Errors between Indoor Unit and Up-Down Panel

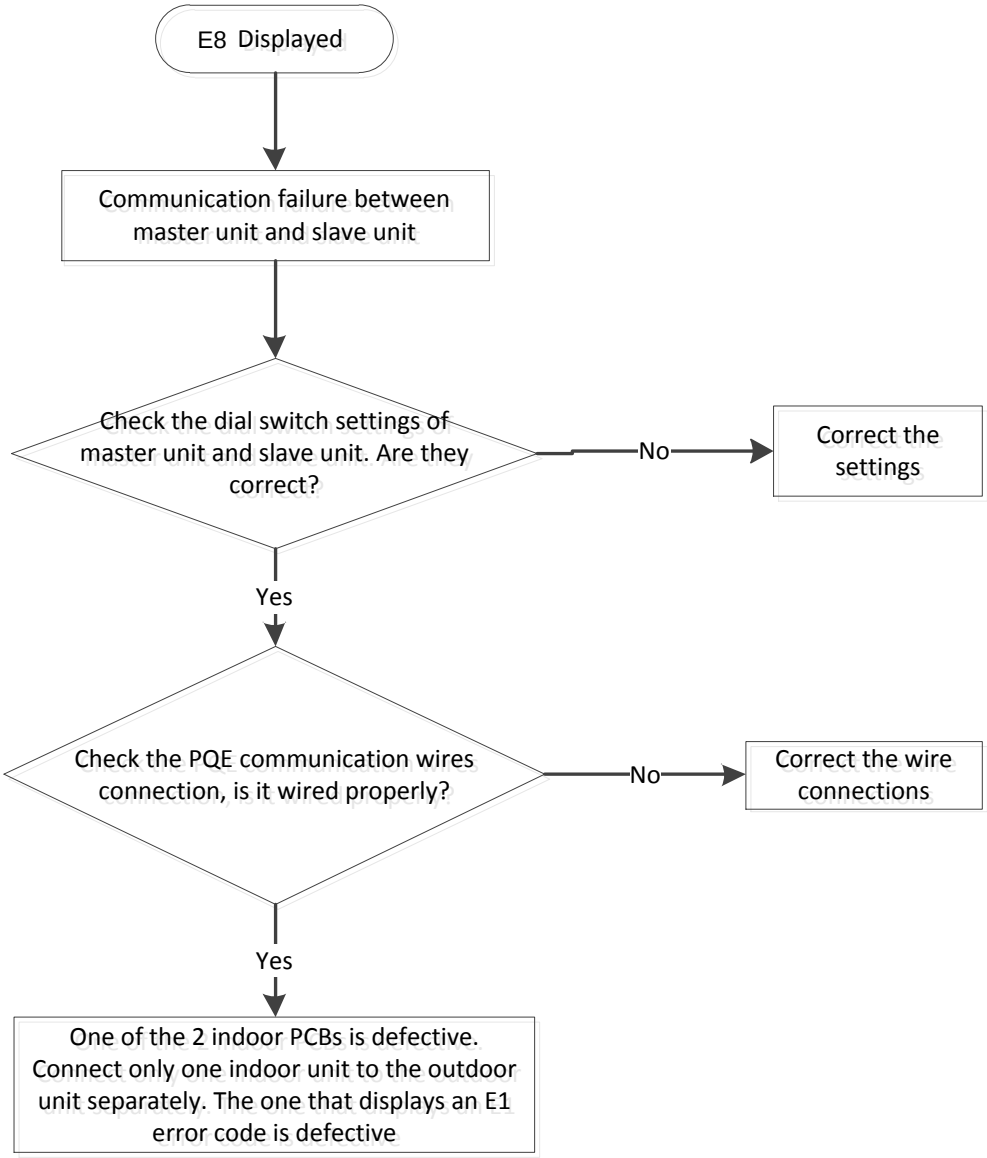


2.4.2.2 Up-down panel is defective



2.4.3 Units with TWINS Function (for the Super-Slim Cassette & A5 Duct)

2.4.3.1 Communication Malfunction between Master Unit and Indoor Unit



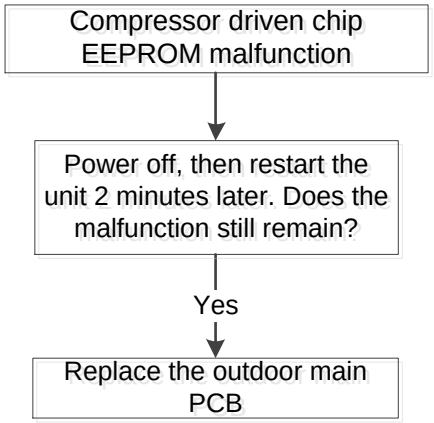
2.4.3.2 Other Malfunction between Master Unit and Indoor Unit

One indoor unit displays ”E9”, which means the other indoor unit is faulty. Check the other indoor unit’s error code and then follow the prescribed solutions to resolve the malfunction.

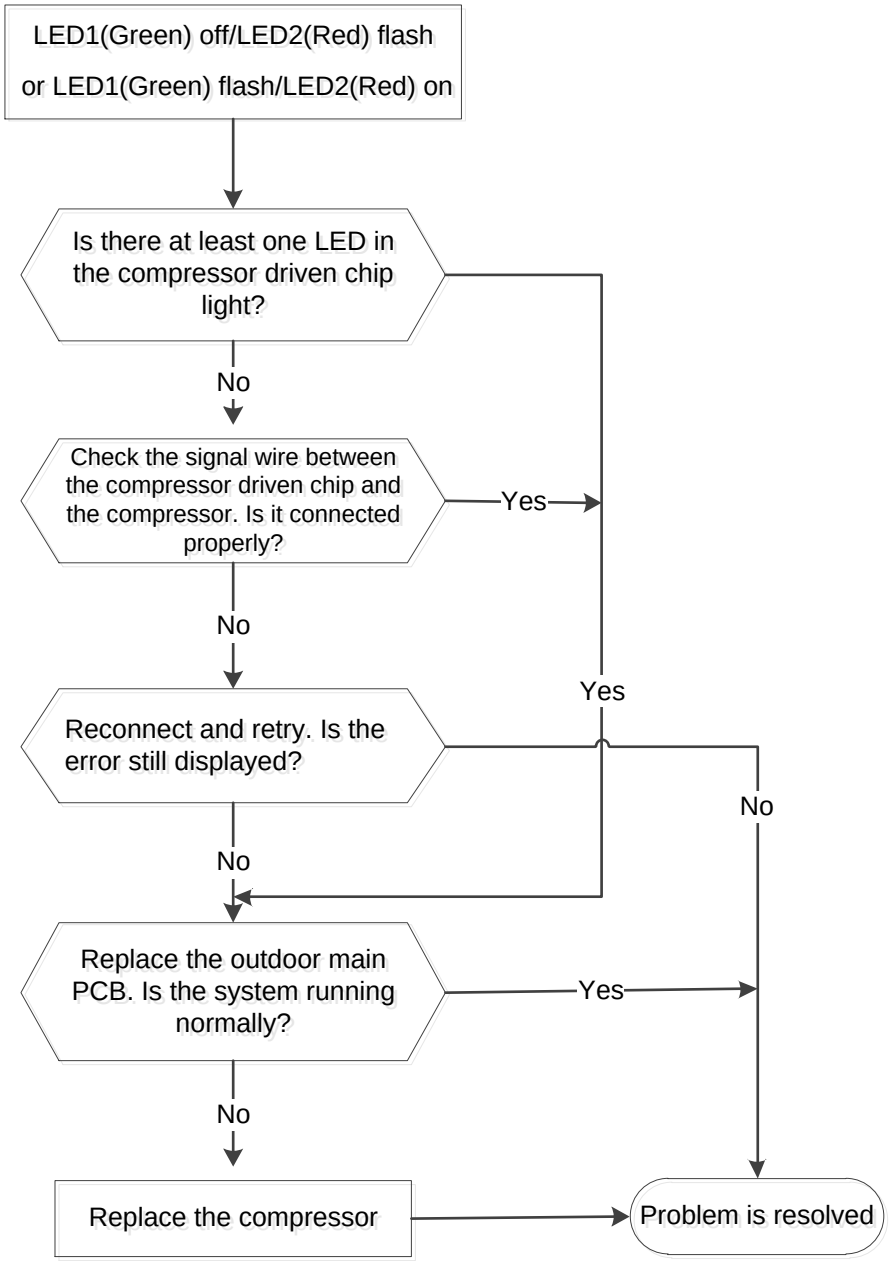
2.4.4 Outdoor Units

2.4.4.1. Compressor Driven Chip EEPROM Malfunction

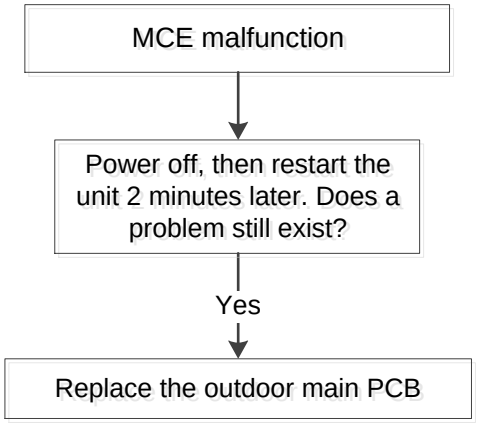
Malfunction conditions	Main PCB chip does not receive feedback from EEPROM chip
Possible causes	● Installation mistakes ● Faulty PCB



2.4.4.2 Compressor Speed Malfunction/ Zero Speed Protection / Synchronous Fault Protection

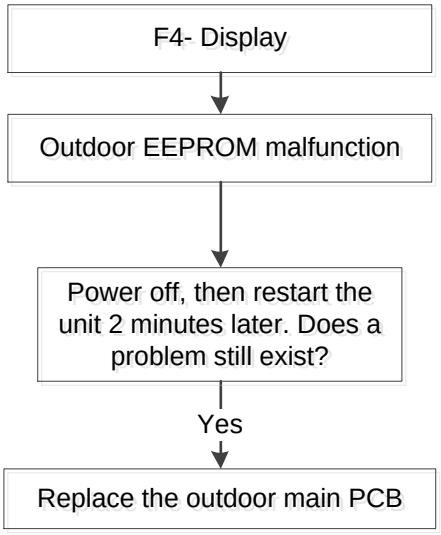


2.4.4.3 MCE Malfunction



2.4.4.4. F4 Malfunction

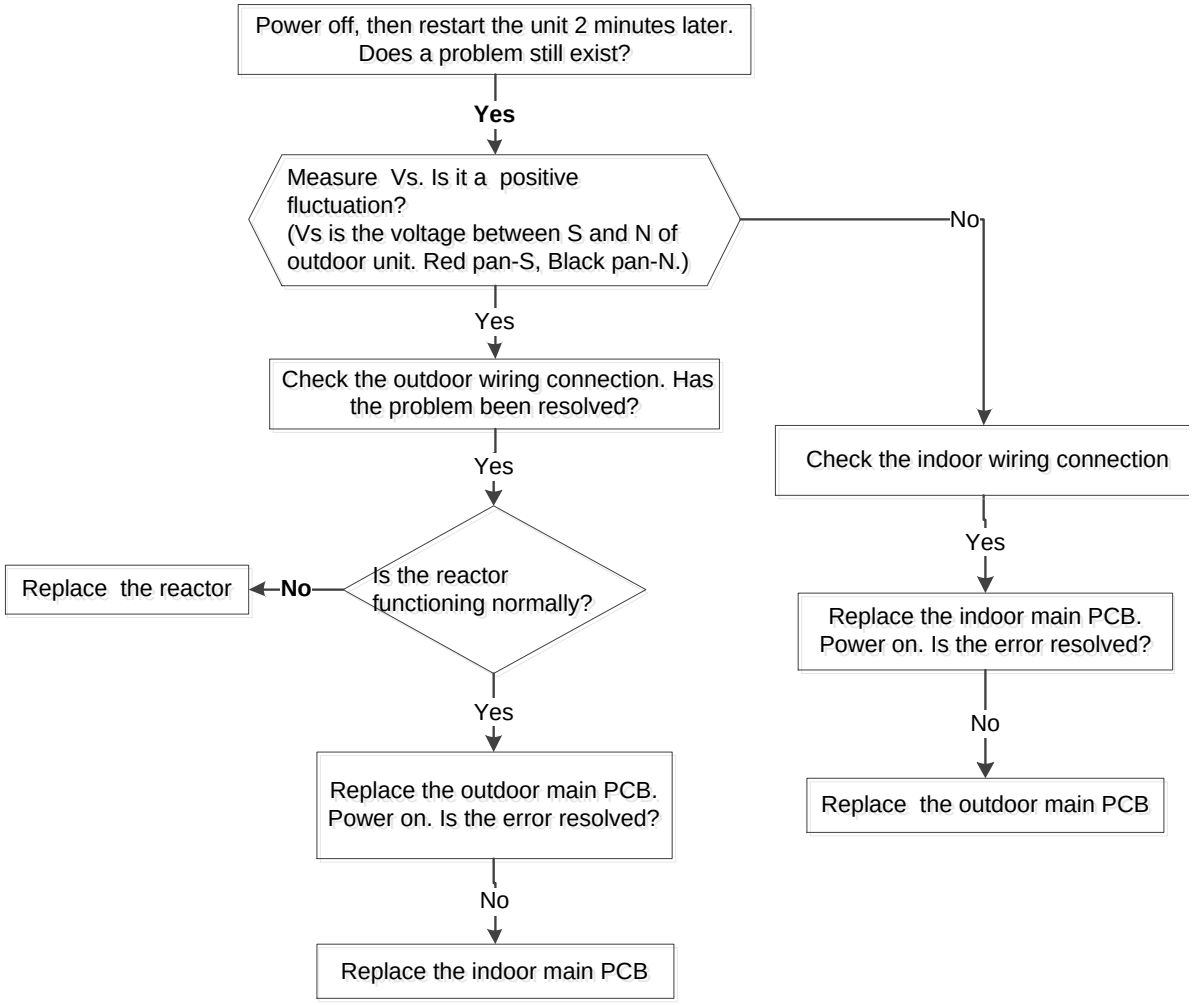
Malfunction conditions	Main PCB chip does not receive feedback from EEPROM chip
Possible causes	● Installation mistakes ● Faulty PCB



EEPROM: An electrically erasable programmable read-only memory whose contents can be erased and reprogrammed using a pulsed voltage.

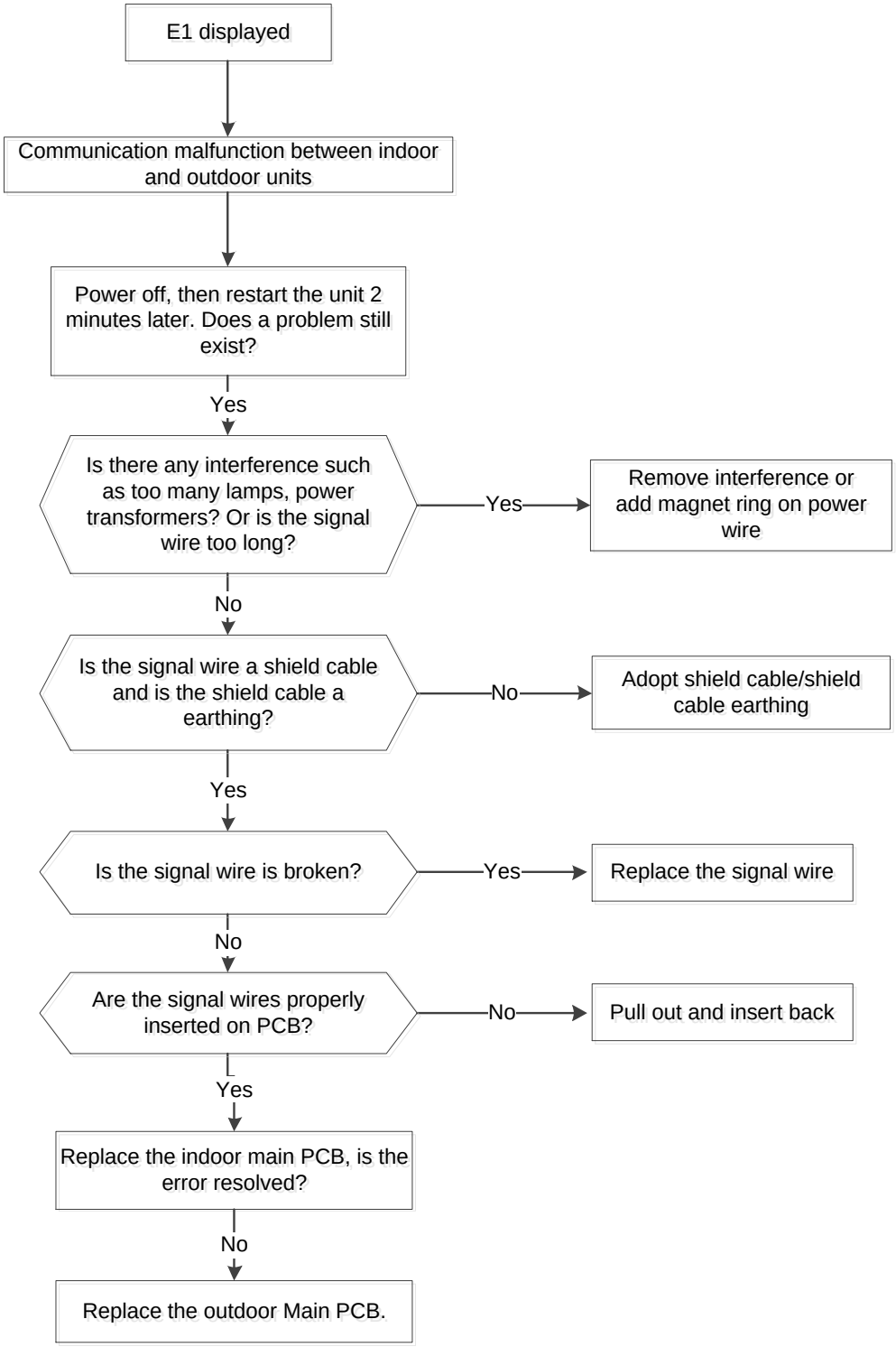
2.4.4.5. E1 malfunction
Current loop communication:

Malfunction conditions	**Indoor unit does not receive feedback from outdoor unit for 110 seconds. This occurs 4 times in a row.**
Possible causes	● Wiring mistakes ● Faulty indoor or outdoor PCB

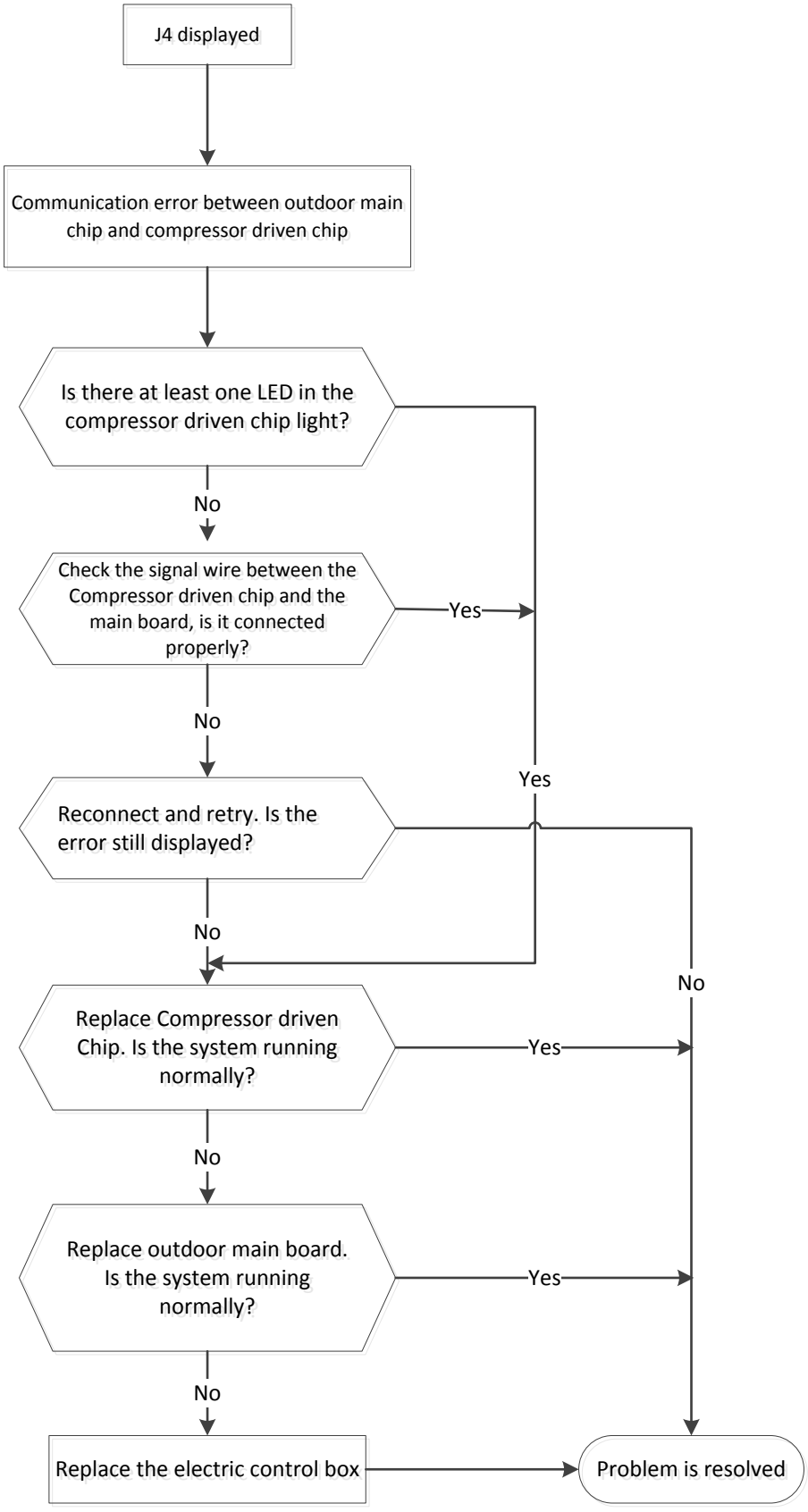


For 485 Communication

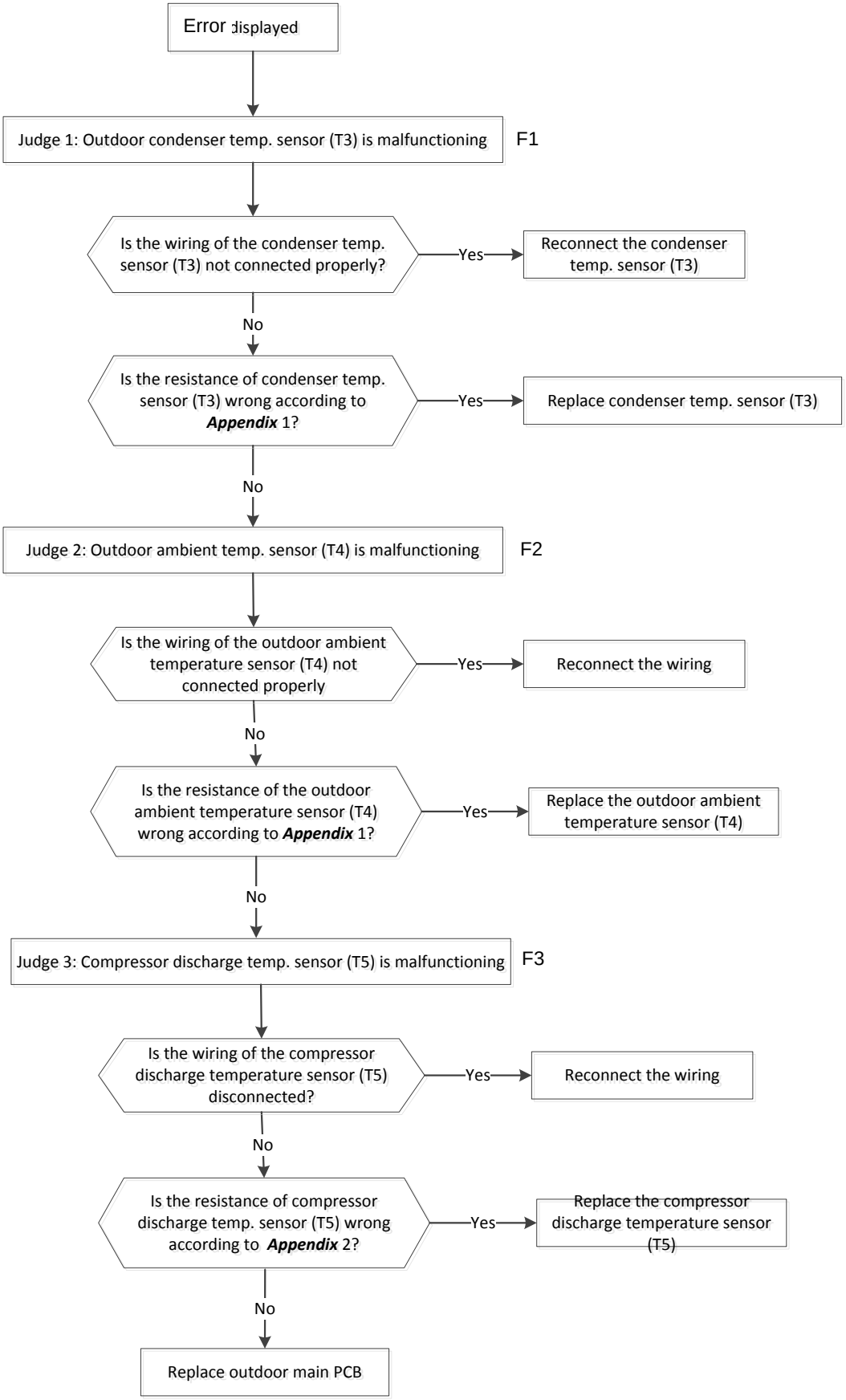
Malfunction conditions	Indoor unit does not receive feedback from outdoor unit for 60 seconds OR outdoor unit does not receive feedback from indoor unit for 120 seconds.
Possible causes	● Wiring mistakes ● Faulty indoor or outdoor PCB


E1 displayed
Communication malfunction between indoor and outdoor units
Power off, then restart the unit 2 minutes later. Does a problem still exist?
Yes
Is there any interference such as too many lamps, power transformers? Or is the signal wire too long?
Yes
Remove interference or add magnet ring on power wire
No
Is the signal wire a shield cable and is the shield cable a earthing?
No
Adopt shield cable/shield cable earthing
Yes
Is the signal wire is broken?
Yes
Replace the signal wire
No
Are the signal wires properly inserted on PCB?
No
Pull out and insert back
Yes
Replace the indoor main PCB, is the error resolved?
No
Replace the outdoor Main PCB.

2.4.4.6. J4 Malfunction

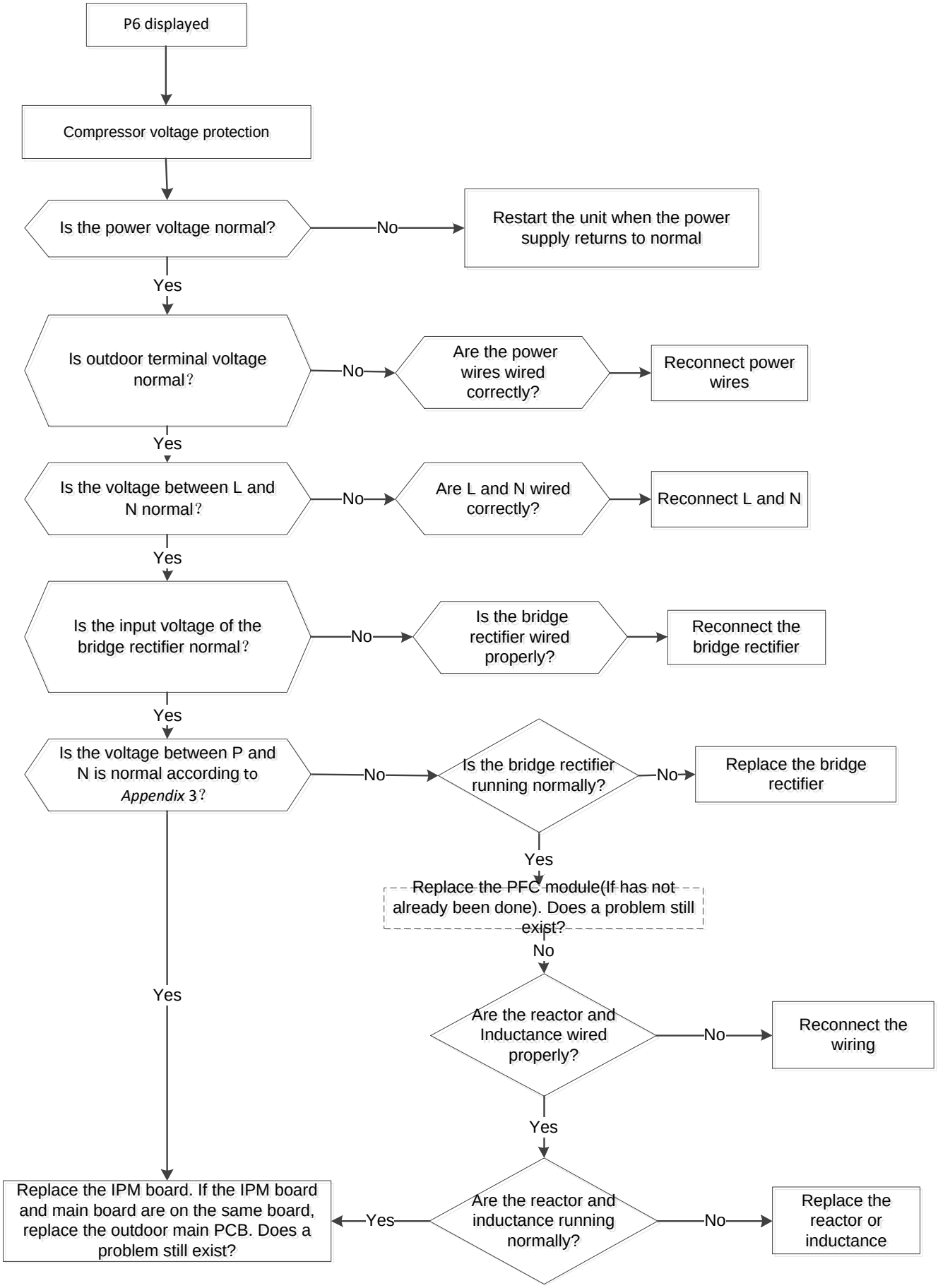


2.4.4.7. F1, F2, F3 Malfunction



2.4.4.8. P6 Malfunction

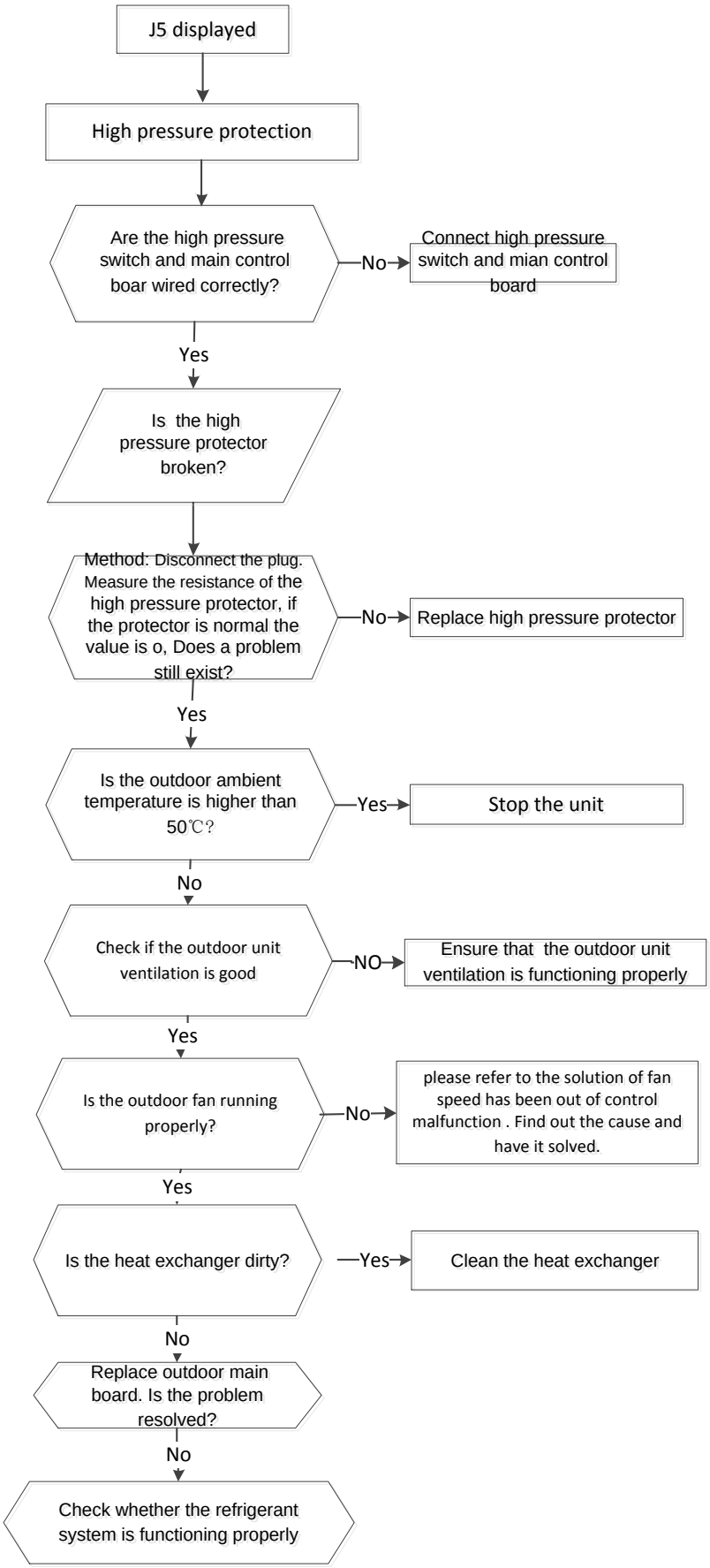
Malfunction conditions	An abnormal voltage rise or drop is detected by checking the specified voltage detection circuit.
Possible causes	● Abnormal power supply ● Wiring mistakes ● Faulty bridge rectifier ● Faulty IPM board


P6 displayed
Compressor voltage protection
Is the power voltage normal?
No
Restart the unit when the power supply returns to normal
Yes
Is outdoor terminal voltage normal?
No
Are the power wires wired correctly?
Reconnect power wires
Yes
Is the voltage between L and N normal?
No
Are L and N wired correctly?
Reconnect L and N
Yes
Is the input voltage of the bridge rectifier normal?
No
Is the bridge rectifier wired properly?
Reconnect the bridge rectifier
Yes
Is the voltage between P and N is normal according to Appendix 3?
No
Is the bridge rectifier running normally?
No
Replace the bridge rectifier
Yes
Replace the PFC module(If has not already been done). Does a problem still exist?
No
Yes
Are the reactor and Inductance wired properly?
No
Reconnect the wiring
Yes
Replace the IPM board. If the IPM board and main board are on the same board, replace the outdoor main PCB. Does a problem still exist?
Yes
Are the reactor and inductance running normally?
No
Replace the reactor or inductance

2.4.4.9. F5 Malfunction
The same as E3 in indoor.

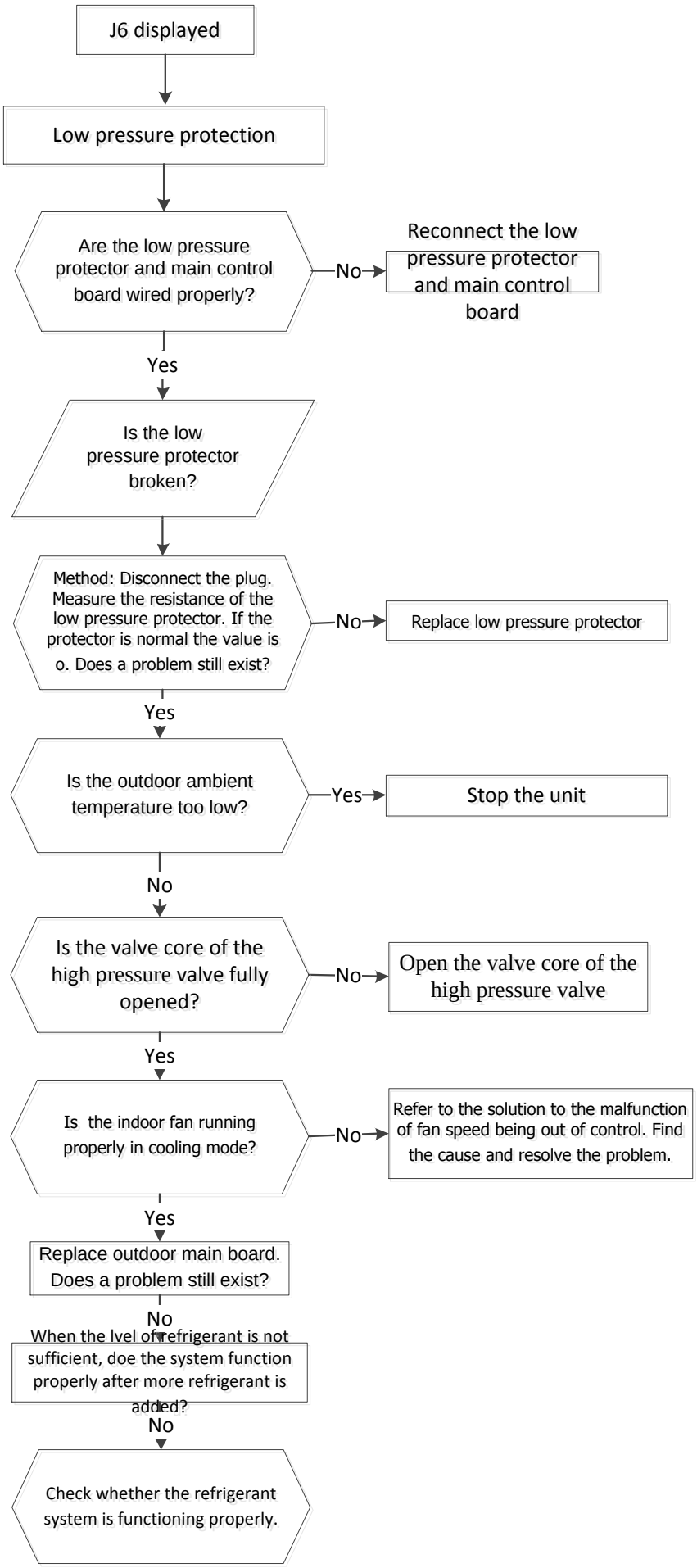
2.4.4.10. J5 Malfunction

Malfunction conditions	If the sampling voltage is not 5V, the LED displays a failure code.
Possible causes	● Wiring mistakes ● Faulty overload protector ● System blockages ● Faulty outdoor PCB


J5 displayed
High pressure protection
Are the high pressure switch and main control boar wired correctly?
No
Connect high pressure switch and mian control board
Yes
Is the high pressure protector broken?
Method: Disconnect the plug. Measure the resistance of the high pressure protector, if the protector is normal the value is o, Does a problem still exist?
No
Replace high pressure protector
Yes
Is the outdoor ambient temperature is higher than 50℃?
Yes
Stop the unit
No
Check if the outdoor unit ventilation is good
NO
Ensure that the outdoor unit ventilation is functioning properly
Yes
Is the outdoor fan running properly?
No
please refer to the solution of fan speed has been out of control malfunction . Find out the cause and have it solved.
Yes
Is the heat exchanger dirty?
Yes
Clean the heat exchanger
No
Replace outdoor main board. Is the problem resolved?
No
Check whether the refrigerant system is functioning properly

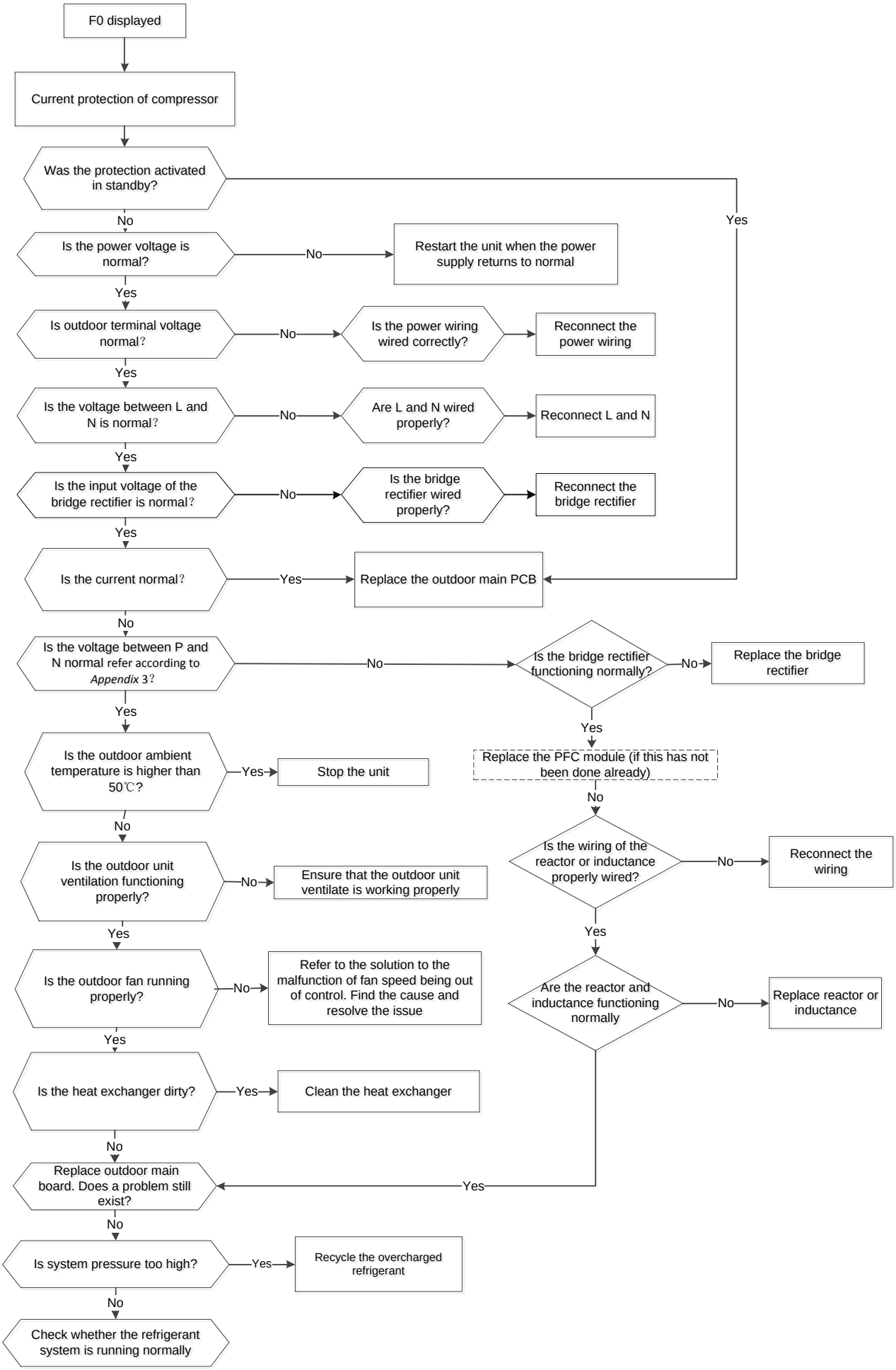
2.4.4.11. J6 Malfunction

Malfunction conditions	If the sampling voltage is not 5V, the LED displays a failure code.
Possible causes	● Wiring mistake ● Faulty over load protector ● System blockages ● Faulty outdoor PCB


J6 displayed
Low pressure protection
Are the low pressure protector and main control board wired properly?
No
Reconnect the low pressure protector and main control board
Yes
Is the low pressure protector broken?
Method: Disconnect the plug. Measure the resistance of the low pressure protector. If the protector is normal the value is o. Does a problem still exist?
No
Replace low pressure protector
Yes
Is the outdoor ambient temperature too low?
Yes
Stop the unit
No
Is the valve core of the high pressure valve fully opened?
No
Open the valve core of the high pressure valve
Yes
Is the indoor fan running properly in cooling mode?
No
Refer to the solution to the malfunction of fan speed being out of control. Find the cause and resolve the problem.
Yes
Replace outdoor main board. Does a problem still exist?
No
When the lvel of refrigerant is not sufficient, doe the system function properly after more refrigerant is added?
No
Check whether the refrigerant system is functioning properly.

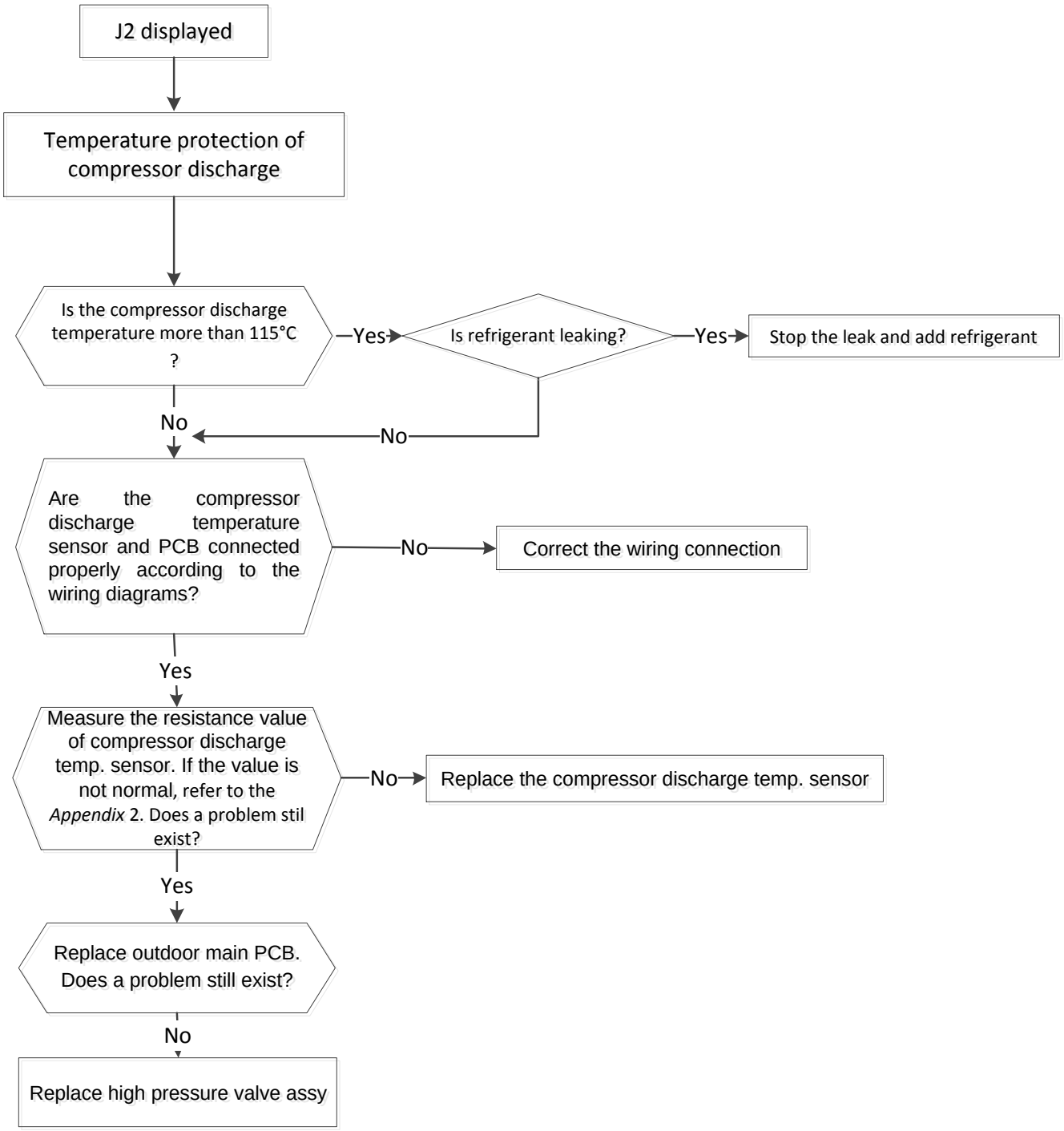
2.4.4.12. F0 Malfunction

Malfunction conditions	If the outdoor current exceeds the current limit value, the LED displays a failure code.
Possible causes	● Wiring mistakes ● Faulty bridge rectifier ● System blockages ● Faulty outdoor PCB


F0 displayed
Current protection of compressor
Was the protection activated in standby?
Yes
No
Is the power voltage is normal?
No
Restart the unit when the power supply returns to normal
Yes
Is outdoor terminal voltage normal?
No
Is the power wiring wired correctly?
Reconnect the power wiring
Yes
Is the voltage between L and N is normal?
No
Are L and N wired properly?
Reconnect L and N
Yes
Is the input voltage of the bridge rectifier is normal?
No
Is the bridge rectifier wired properly?
Reconnect the bridge rectifier
Yes
Is the current normal?
Yes
Replace the outdoor main PCB
No
Is the voltage between P and N normal refer according to Appendix 3?
No
Is the bridge rectifier functioning normally?
No
Replace the bridge rectifier
Yes
Replace the PFC module (if this has not been done already)
Yes
Is the outdoor ambient temperature is higher than 50℃?
Yes
Stop the unit
No
Is the outdoor unit ventilation functioning properly?
No
Ensure that the outdoor unit ventilate is working properly
Yes
Is the outdoor fan running properly?
No
Refer to the solution to the malfunction of fan speed being out of control. Find the cause and resolve the issue
Yes
Is the heat exchanger dirty?
Yes
Clean the heat exchanger
No
Replace outdoor main board. Does a problem still exist?
No
Is system pressure too high?
Yes
Recycle the overcharged refrigerant
No
Check whether the refrigerant system is running normally
No
Is the wiring of the reactor or inductance properly wired?
No
Reconnect the wiring
Yes
Are the reactor and inductance functioning normally
No
Replace reactor or inductance
Yes

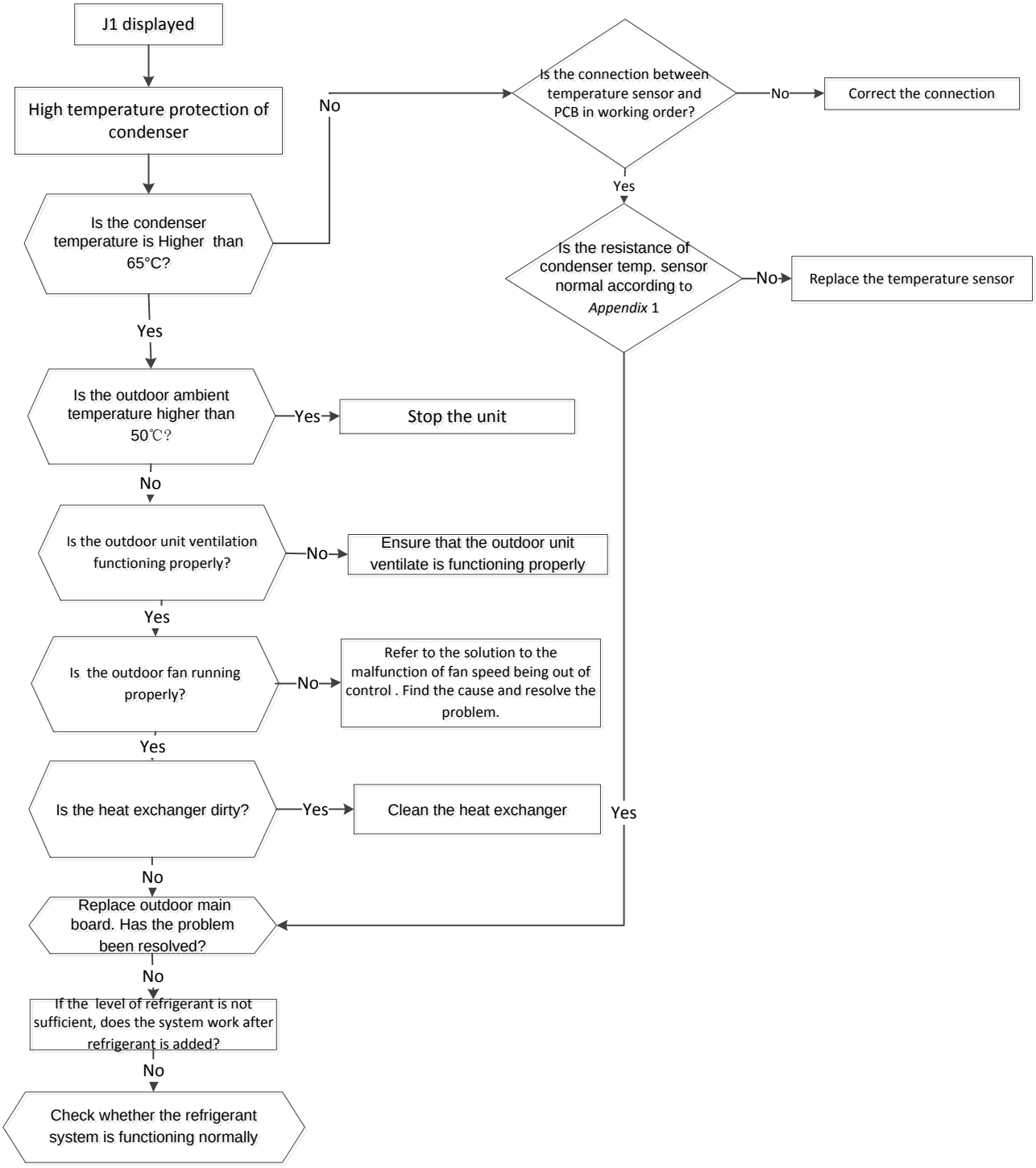
2.4.4.13. J2 Malfunction

Malfunction conditions	When the compressor discharge temperature (T5) is more than 115℃ for 10 seconds, the compressor will stop and not restart until T5 is less than 90℃.
Possible causes	● Refrigerant leakage ● Wiring mistake ● Faulty discharge temperature sensor ● Faulty outdoor PCB



2.4.4.14. J1 Malfunction

Error Code	P5
Malfunction conditions	When the outdoor pipe temperature is more than 65°C, the unit stops. It starts again only when the outdoor pipe temperature is less than 52°C.
Possible causes	● Faulty condenser temperature sensor ● Dirty heat exchanger ● System leakage or blockages



2.4.4.15. P0 Malfunction

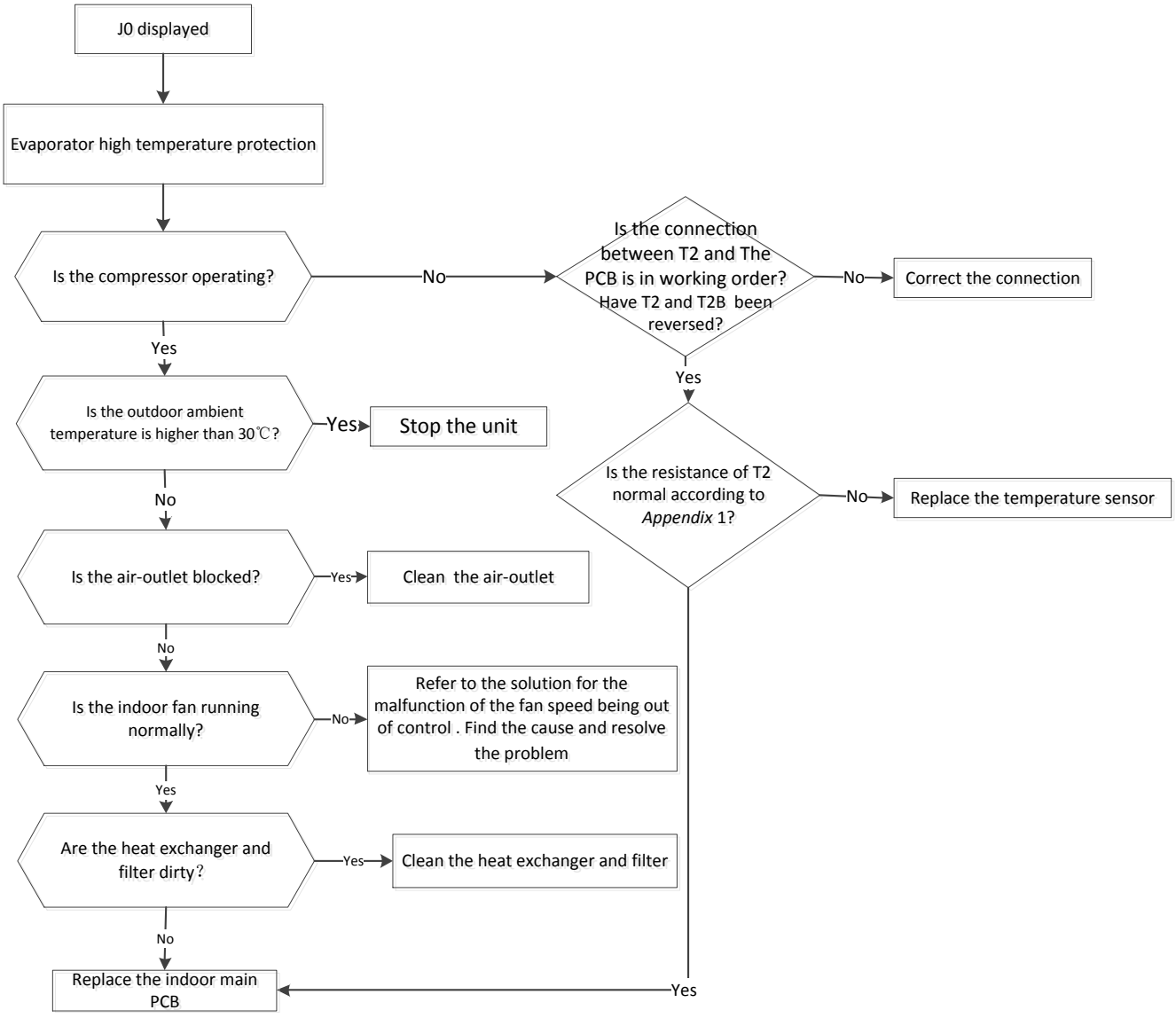
Malfunction conditions	When the voltage signal te IPM sends to compressor drive chip is not normal, the LED displays “P0” and the unit turns off.
Possible causes	● Wiring mistakes ● Faulty IPM board ● Faulty outdoor fan assemby ● Compressor malfunction ● Faulty outdoor PCB

First, test the resistance between every two ports of U, V, the W of the IPM and P, N. If any of the results is 0 or close to 0, the IPM is defective. If not, follow the following procedure:


P0 displayed
IPM module protection
No
Is the power voltage normal?
No
Restart the unit when the power supply returns to normal
Yes
Is the outdoor terminal voltage normal?
No
Are the power wires connected properly?
Reconnect the power wires
Yes
Is the voltage between L and N normal?
No
Are L and N wired correctly?
Reconnect L and N
Yes
Is the input voltage of bridge rectifier normal?
No
Is the bridge rectifier properly wired?
Reconnect the bridge rectifier
Yes
Is the voltage between P and N properly wired according to Appendix 3?
No
Is the bridge rectifier operating normally?
No
Replace the bridge rectifier
Yes
Yes
Is the connecting wire between the main board and the IPM board connected tightly?
No
Reconnect the main board and IPM board
Replace the PFC module(If This has not been done already)
No
Yes
Is the connecting wire of the compressor is connected correctly or tightly
No
Reconnect he connecting wire of the compressor
Are the reactor or inductance wired properly?
No
Reconnect the wiring
Yes
Yes
Is the outdoor unit ventilation in working order?
No
Make sure that the outdoor unit is ventilating properly
Yes
Are the reactor or inductance normal?
No
Replace reactor or inductance
Yes
Is the outdoor fan running properly?
No
Refer to the solution for themalfunction of the fan speed being out of control . Find the cause and resolve the problem
Yes
Replace IPM Board. Is the problem resolved?
Yes
No
Replace the outdoor main PCB. Is the problem resolved?
No
Is the compress is running normally?
No
Replace the compressor
Yes
Check whether the refrigerant system is in working order

2.4.4.16. J0 Malfunction

Malfunction conditions	When evaporator coil temperature is more than 60°C, the unit stops. It starts again only when the evaporator coil temperature is less than 54°C
Possible causes	• Faulty evaporator coil temperature sensor • Dirty heat exchanger • Faulty fan • Faulty PCB



Appendix 1 Temperature Sensor Resistance Value Table (℃--K)

℃	K Ohm	℃	K Ohm	℃	K Ohm	℃	K Ohm
-20	115.266	20	12.6431	60	2.35774	100	0.62973
-19	108.146	21	12.0561	61	2.27249	101	0.61148
-18	101.517	22	11.5000	62	2.19073	102	0.59386
-17	96.3423	23	10.9731	63	2.11241	103	0.57683
-16	89.5865	24	10.4736	64	2.03732	104	0.56038
-15	84.2190	25	10.000	65	1.96532	105	0.54448
-14	79.3110	26	9.55074	66	1.89627	106	0.52912
-13	74.5360	27	9.12445	67	1.83003	107	0.51426
-12	70.1698	28	8.71983	68	1.76647	108	0.49989
-11	66.0898	29	8.33566	69	1.70547	109	0.48600
-10	62.2756	30	7.97078	70	1.64691	110	0.47256
-9	58.7079	31	7.62411	71	1.59068	111	0.45957
-8	56.3694	32	7.29464	72	1.53668	112	0.44699
-7	52.2438	33	6.98142	73	1.48481	113	0.43482
-6	49.3161	34	6.68355	74	1.43498	114	0.42304
-5	46.5725	35	6.40021	75	1.38703	115	0.41164
-4	44.0000	36	6.13059	76	1.34105	116	0.40060
-3	41.5878	37	5.87359	77	1.29078	117	0.38991
-2	39.8239	38	5.62961	78	1.25423	118	0.37956
-1	37.1988	39	5.39689	79	1.21330	119	0.36954
0	35.2024	40	5.17519	80	1.17393	120	0.35982
1	33.3269	41	4.96392	81	1.13604	121	0.35042
2	31.5635	42	4.76253	82	1.09958	122	0.3413
3	29.9058	43	4.57050	83	1.06448	123	0.33246
4	28.3459	44	4.38736	84	1.03069	124	0.32390
5	26.8778	45	4.21263	85	0.99815	125	0.31559
6	25.4954	46	4.04589	86	0.96681	126	0.30754
7	24.1932	47	3.88673	87	0.93662	127	0.29974
8	22.5662	48	3.73476	88	0.90753	128	0.29216
9	21.8094	49	3.58962	89	0.87950	129	0.28482
10	20.7184	50	3.45097	90	0.85248	130	0.27770
11	19.6891	51	3.31847	91	0.82643	131	0.27078
12	18.7177	52	3.19183	92	0.80132	132	0.26408
13	17.8005	53	3.07075	93	0.77709	133	0.25757
14	16.9341	54	2.95896	94	0.75373	134	0.25125
15	16.1156	55	2.84421	95	0.73119	135	0.24512
16	15.3418	56	2.73823	96	0.70944	136	0.23916
17	14.6181	57	2.63682	97	0.68844	137	0.23338
18	13.9180	58	2.53973	98	0.66818	138	0.22776
19	13.2631	59	2.44677	99	0.64862	139	0.22231

Appendix 2

Unit: ℃---K			Discharge temperature sensor table				
-20	542.7	20	68.66	60	13.59	100	3.702
-19	511.9	21	65.62	61	13.11	101	3.595
-18	483	22	62.73	62	12.65	102	3.492
-17	455.9	23	59.98	63	12.21	103	3.392
-16	430.5	24	57.37	64	11.79	104	3.296
-15	406.7	25	54.89	65	11.38	105	3.203
-14	384.3	26	52.53	66	10.99	106	3.113
-13	363.3	27	50.28	67	10.61	107	3.025
-12	343.6	28	48.14	68	10.25	108	2.941
-11	325.1	29	46.11	69	9.902	109	2.86
-10	307.7	30	44.17	70	9.569	110	2.781
-9	291.3	31	42.33	71	9.248	111	2.704
-8	275.9	32	40.57	72	8.94	112	2.63
-7	261.4	33	38.89	73	8.643	113	2.559
-6	247.8	34	37.3	74	8.358	114	2.489
-5	234.9	35	35.78	75	8.084	115	2.422
-4	222.8	36	34.32	76	7.82	116	2.357
-3	211.4	37	32.94	77	7.566	117	2.294
-2	200.7	38	31.62	78	7.321	118	2.233
-1	190.5	39	30.36	79	7.086	119	2.174
0	180.9	40	29.15	80	6.859	120	2.117
1	171.9	41	28	81	6.641	121	2.061
2	163.3	42	26.9	82	6.43	122	2.007
3	155.2	43	25.86	83	6.228	123	1.955
4	147.6	44	24.85	84	6.033	124	1.905
5	140.4	45	23.89	85	5.844	125	1.856
6	133.5	46	22.89	86	5.663	126	1.808
7	127.1	47	22.1	87	5.488	127	1.762
8	121	48	21.26	88	5.32	128	1.717
9	115.2	49	20.46	89	5.157	129	1.674
10	109.8	50	19.69	90	5	130	1.632
11	104.6	51	18.96	91	4.849		
12	99.69	52	18.26	92	4.703		
13	95.05	53	17.58	93	4.562		
14	90.66	54	16.94	94	4.426		
15	86.49	55	16.32	95	4.294	B(25/50)=3950K	
16	82.54	56	15.73	96	4.167		
17	78.79	57	15.16	97	4.045	R(90℃)=5KΩ±3%	
18	75.24	58	14.62	98	3.927		
19	71.86	59	14.09	99	3.812		

Appendix 3

Normal voltage of P and N			
208-240V(1-phase,3-phase)			380-420V(3-phase)
In standby			
around 310VDC			around 530VDC
In operation			
With passive PFC module	With partial active PFC module	With fully active PFC module	/
>200VDC	>310VDC	>370VDC	>450VDC