

Haier Air conditioner DC Invert Product Abnormity Solution

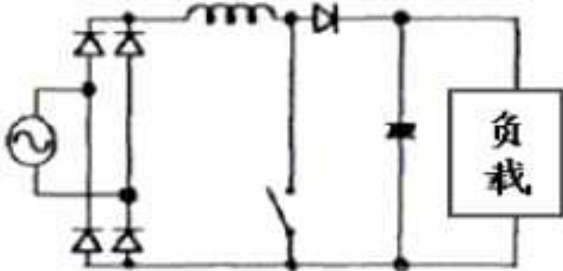
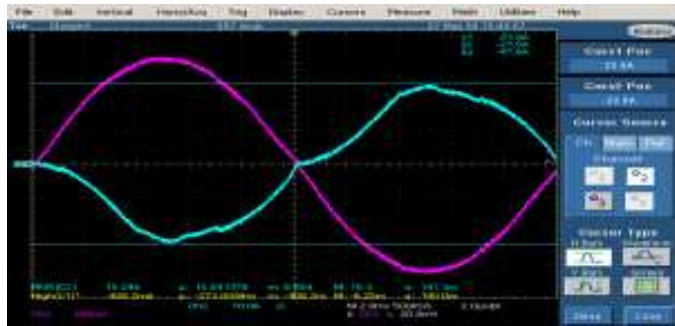
1. DC INVERTER MODELS FOR EUROPE MARKET
2. PFC CONTROL
3. MALFUNCTION CODES
4. PROBLEM SYMPTOMS AND MEASURES
5. EASY DAMAGED PARTS LIST



1. DC INVERTER MODEL FOR MB FRIGO

MODEL	DISP	IINDOOR MOTOR	OUTDOOR MOTOR	COMP	DRIVE MODE	PFC CONTROL	Malfunction codes
HSU-09HVA103/R2(DB)	LCD	AC	AC	Rotary	sine wave	NEW Active swiching	Table1
HSU-12HVA103/R2(DB)	LCD	AC	AC	Rotary	sine wave	NEW Active swiching	Table1
HSU-18HVA103/R2(DB)	LCD	AC	AC	Scroll	sine wave	NEW Active swiching	Table1
HSU-22HVA103/R2(DB)	LCD	AC	AC	Scroll	sine wave	NEW Active swiching	Table1

2. PFC CONTROL

SYSTEM	New Active PFC
ELECTRO_CIRCUIT	
WAVE	
POWER FACTOR	98%
OUTPUT VOLTAGE	DC260V-310V can control
REACTOR	5mH

3. Malfunction codes

TABLE 1

Content	Malfunction codes	Indoor Unit	Outdoor Unit	Auto Restart
Room-temperature sensor malfunction	E1	*		*
Heat-exchange sensor malfunction	E2	*		*
Indoor EEPROM error	E4	*		
Communication fault between the indoor and outdoor units	E7	*	*	
High work-intense protection	E9	*		
Indoor fan motor malfunction	E14	*		
IPM protection	F1		*	
Communication fault between the IPM and outdoor PCB	F3		*	
Overheat protection for exhaust temperature	F4		*	
Outdoor Ambient temp sensor fault	F6		*	*
Compressor startup error or out of position	F11		*	
Power voltage is too high or low	F19		*	
current protection	F22		*	
Outdoor EEPROM fault	F12		*	
defrosting temperature sensor fault	F21		*	*
Exhaust temperature sensor fault	F25		*	*

4.1 Problem Symptoms and Measures

- **For sensor fault**

Room-temperature sensor malfunction

Heat-exchange thermister anomaly

Defrosting temperature sensor fault

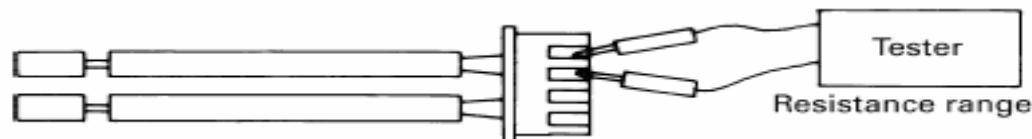
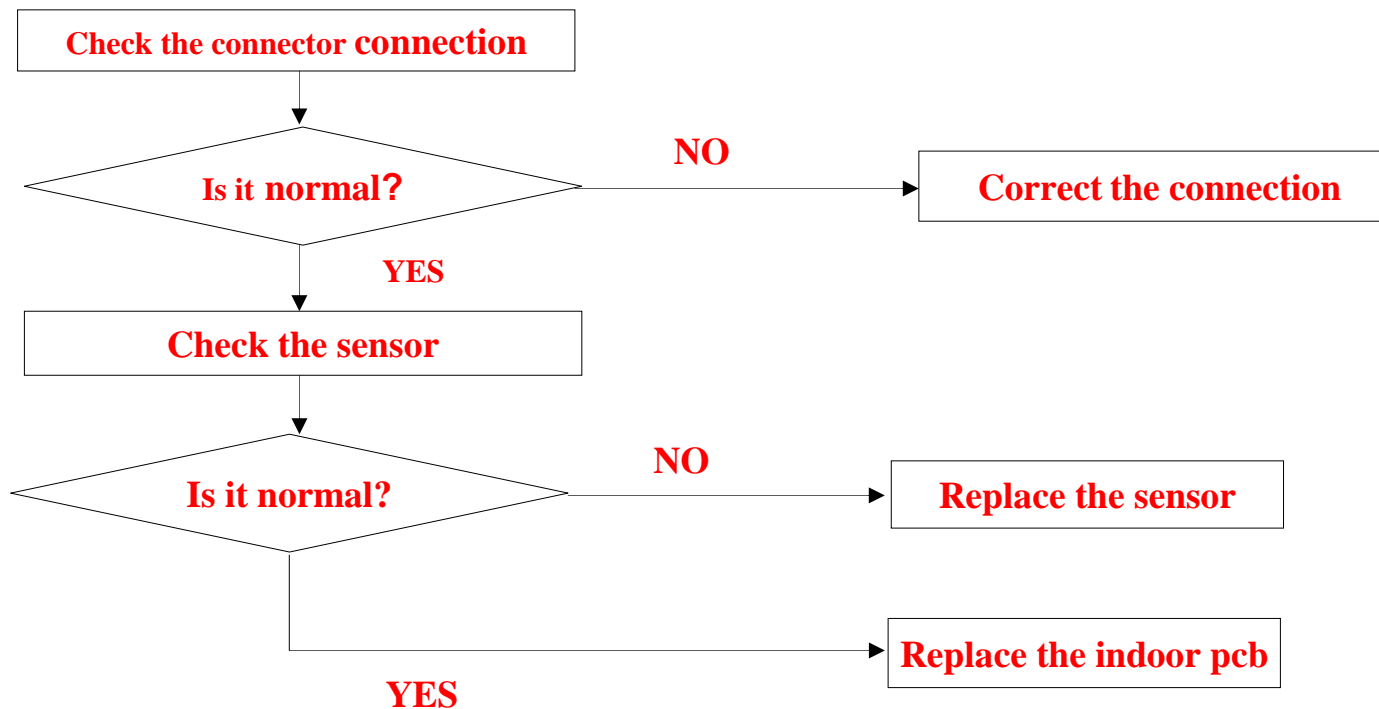
Exhaust temperature sensor fault

Ambient temp sensor fault

4. 2 Problem Symptoms and Measures

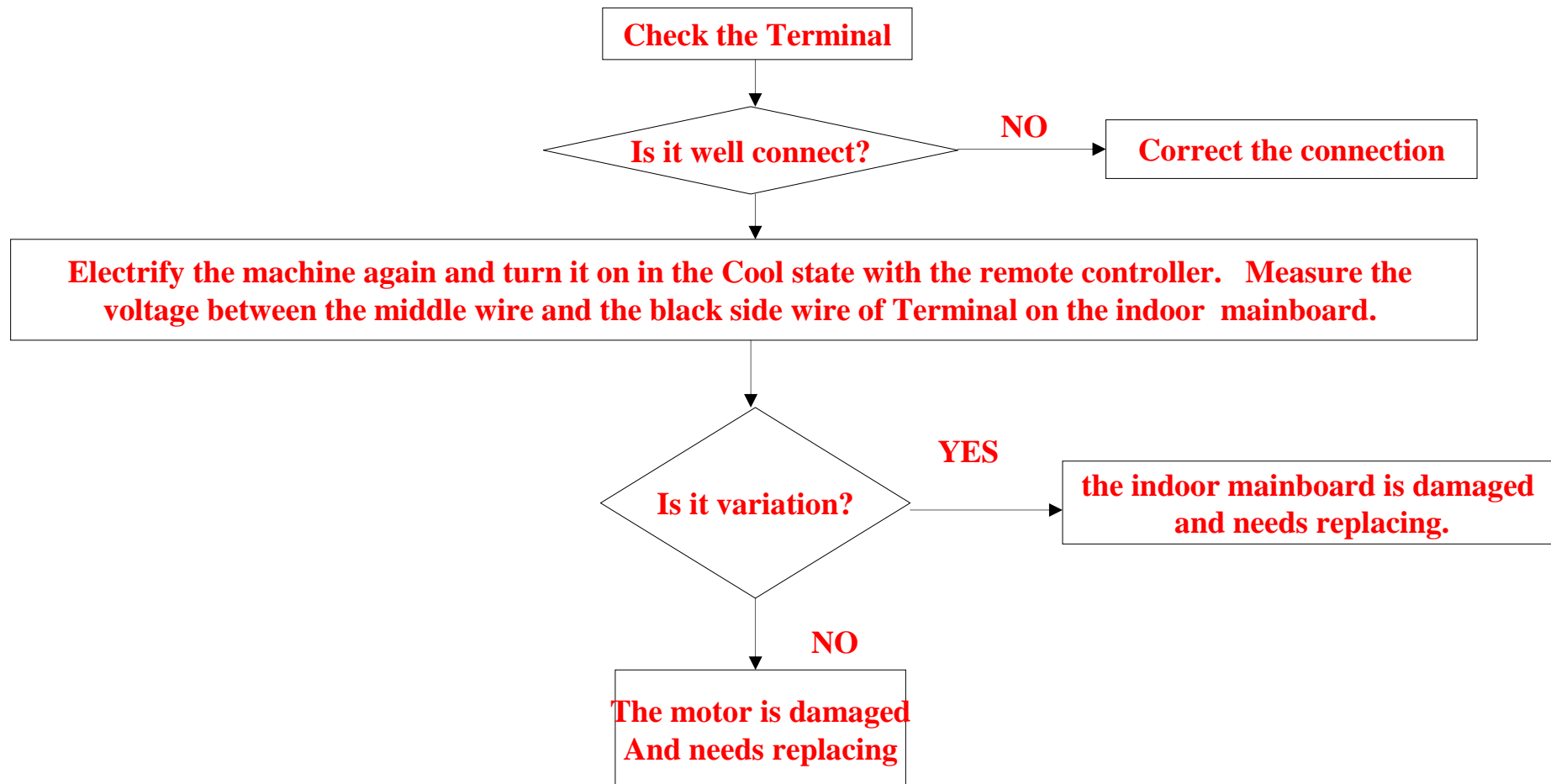
- For sensor fault indoor display E1,E2,F6,F21,F25

Countermeasure Flow Chart:



4. 3 Problem Symptoms and Measures

- **For indoor AC fan motor fault indoor display :E14**



4. 4 Problem Symptoms and Measures

- For High work-intense protection indoor display :E9

Countermeasure Flow Chart□

Electrify the machine again and turn it on with the remote controller, then observe its operation.

CASE2

CASE1

If the wind temperature is below 65□ and the malfunction is reported after the machine has run for some time, check whether the sensor or the temperature monitoring circuit of the indoor mainboard is in order. See countermeasures for sensor troubles.

If both the sensor and the temperature monitoring circuit of the indoor mainboard are in order, shoot the trouble as follows:

1. Check whether the indoor unit blows poorly due to blocked filters or poor condition of the fan. If yes, clean the filters or reinstall the fan. If not, go forward to 2.
2. Measure the pressure of the system. If the pressure is too high, the system is over charged with gas.

4.5 Problem Symptoms and Measures

- For EEPROM error indoor display :E4,F12

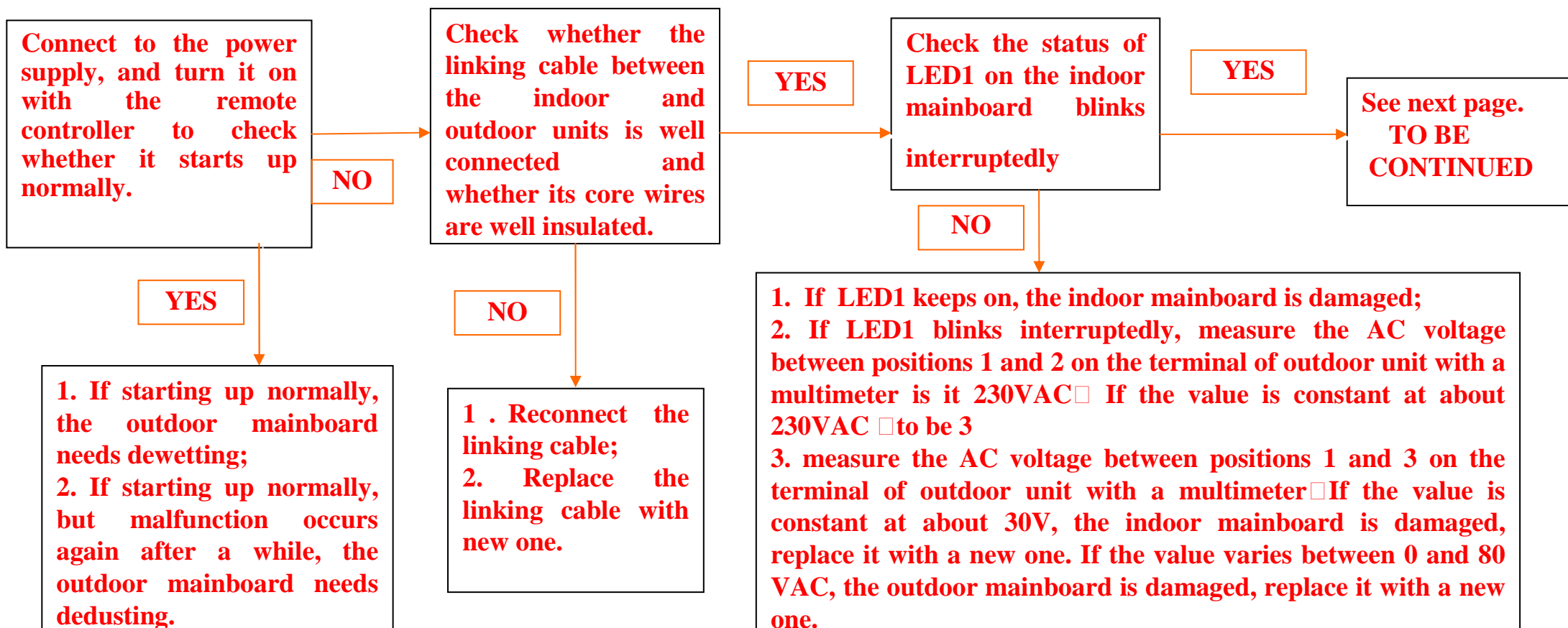
IF indoor display E4, Replace the indoor mainboard

IF indoor display F12, Replace the outdoor mainboard

4. 6 Problem Symptoms and Measures

•For Communication fault between indoor and outdoor indoor display □ E7

Countermeasure Flow Chart:



4.7 Problem Symptoms and Measures

- For Communication fault between indoor and outdoor indoor display □ E7

Countermeasure Flow Chart □ CONTINUE □ □

LED1 of indoor mainboard blinks interruptedly

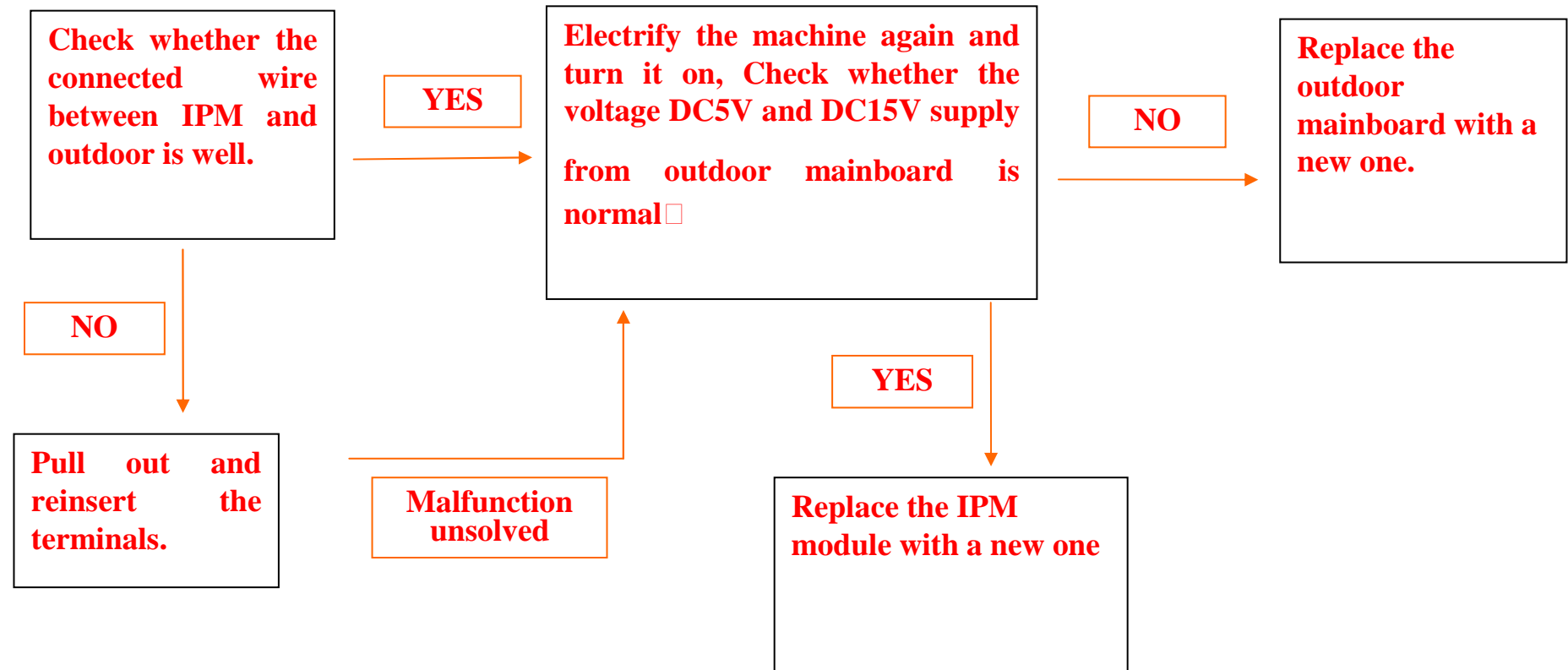
Trouble shooting process:

1. Test the outdoor power supply (230VAC and +310VDC) with a multimeter. If 230VAC is available but 310DC not, the IPM MODULE is damaged, replace it with a new one. If both 230VAC and 310DC are available, go forward to step 2.
2. Measure the voltage +5DC on the outdoor mainboard with a multimeter. If +5DC is not available, the outmainboard is damaged, replace it with a new one. If +5VDC is available, disturbance factors

4. 8 Problem Symptoms and Measures

- For Communication fault between the IPM and outdoor PCB Indoor display □ F3

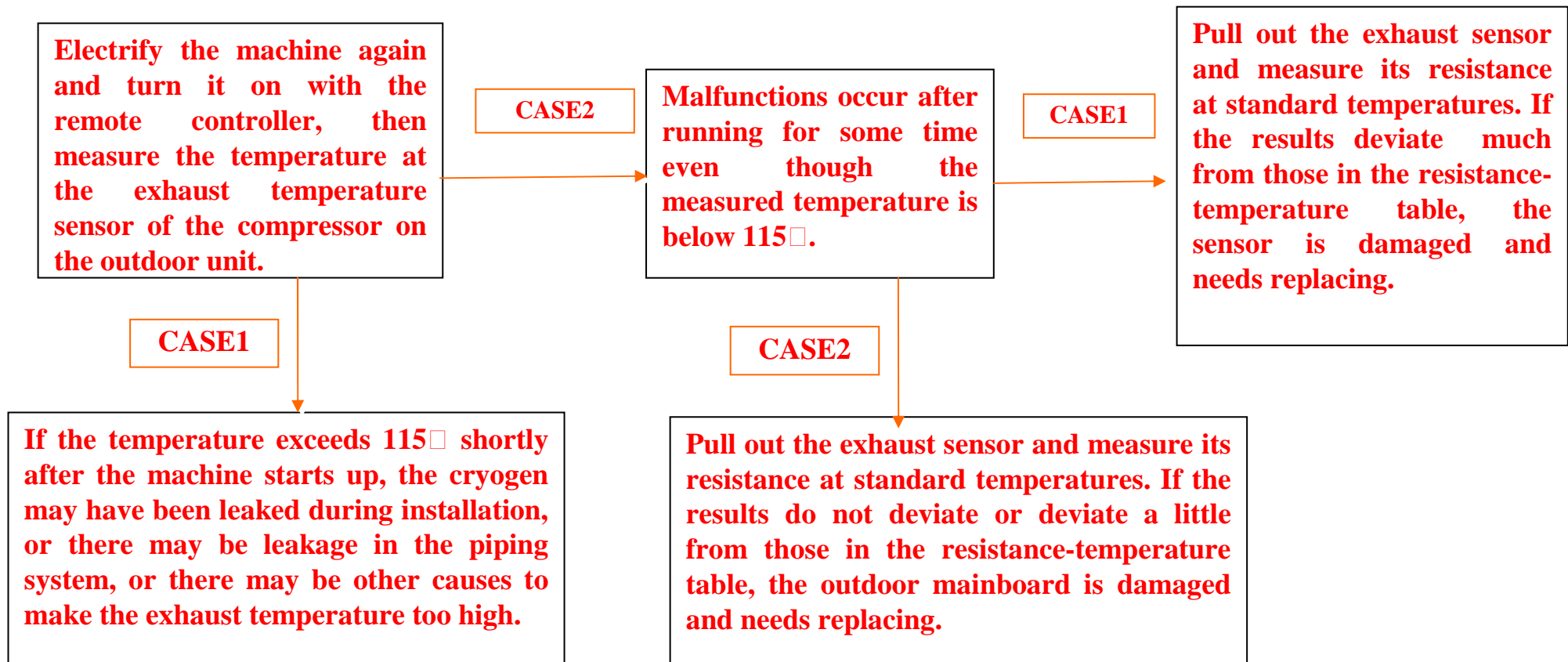
Countermeasure Flow Chart □



4. 9 Problem Symptoms and Measures

- For Overheat protection for exhaust temperature Indoor display □F4

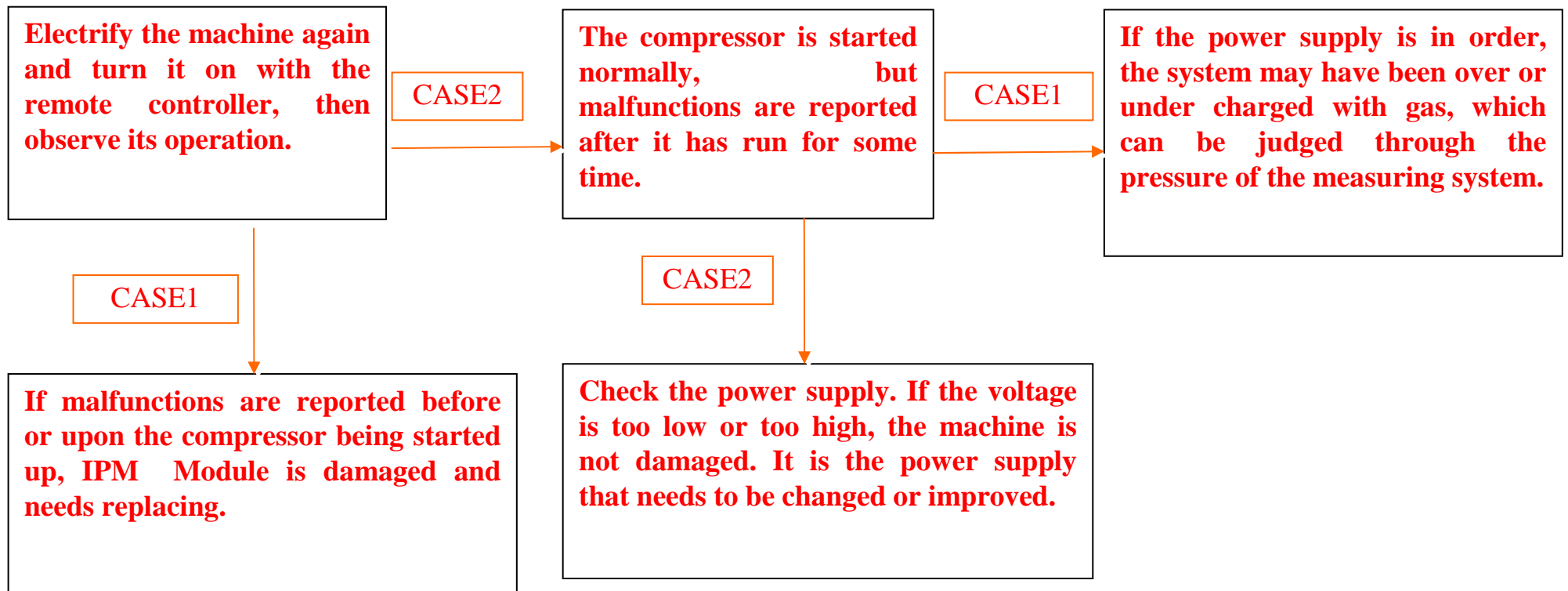
Countermeasure Flow Chart□



4. 10 Problem Symptoms and Measures

- For current protection indoor display □ F22

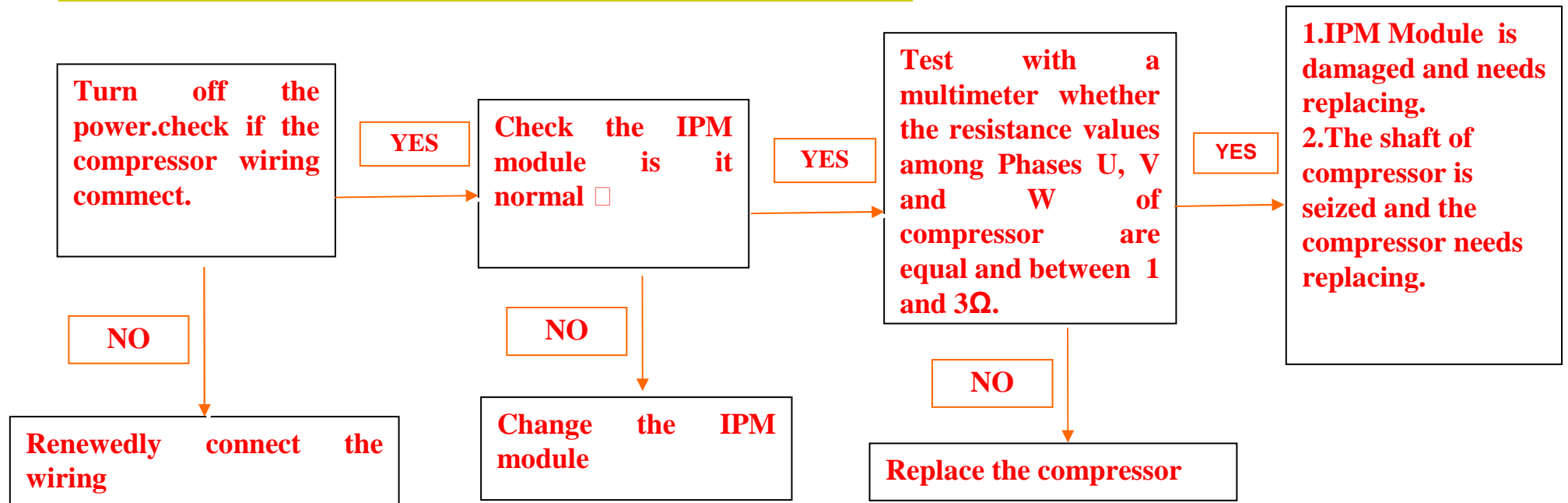
Countermeasure Flow Chart □



4.11 Problem Symptoms and Measures

- For IPM module protection Indoor display \square F1

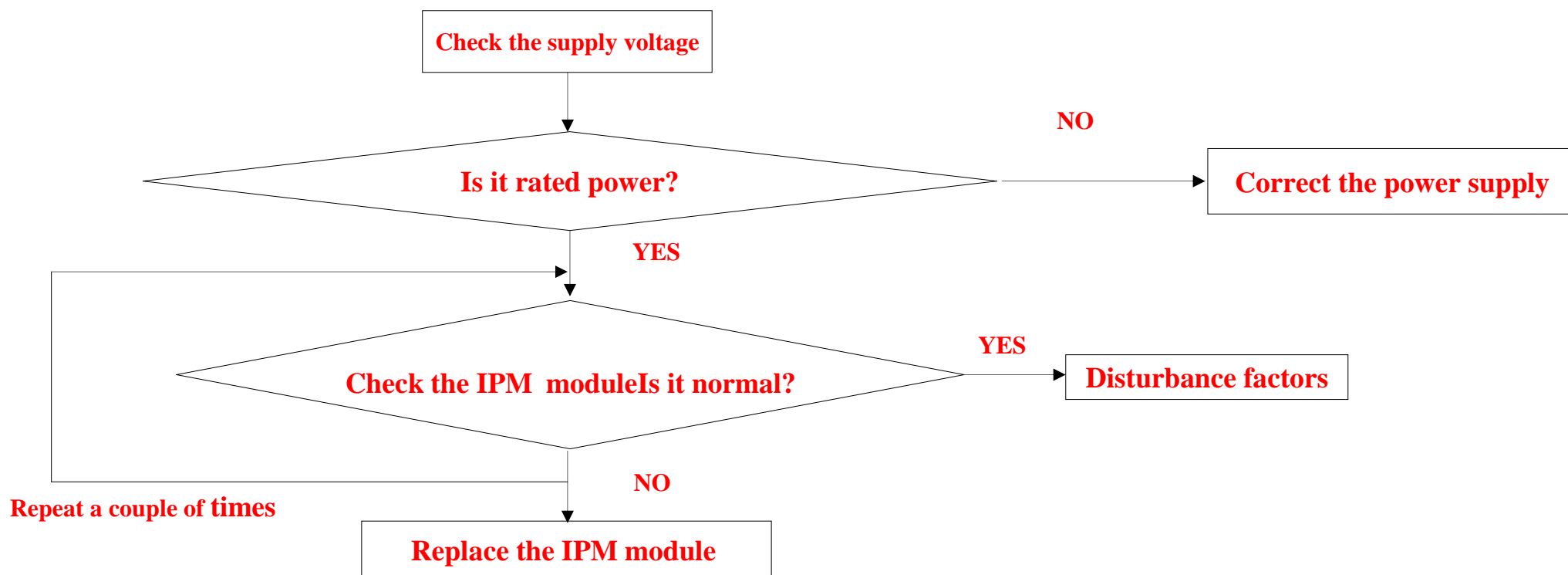
Countermeasure Flow Chart \square



4.12 Problem Symptoms and Measures

- **For Power voltage is too high or low Indoor display □ F19**

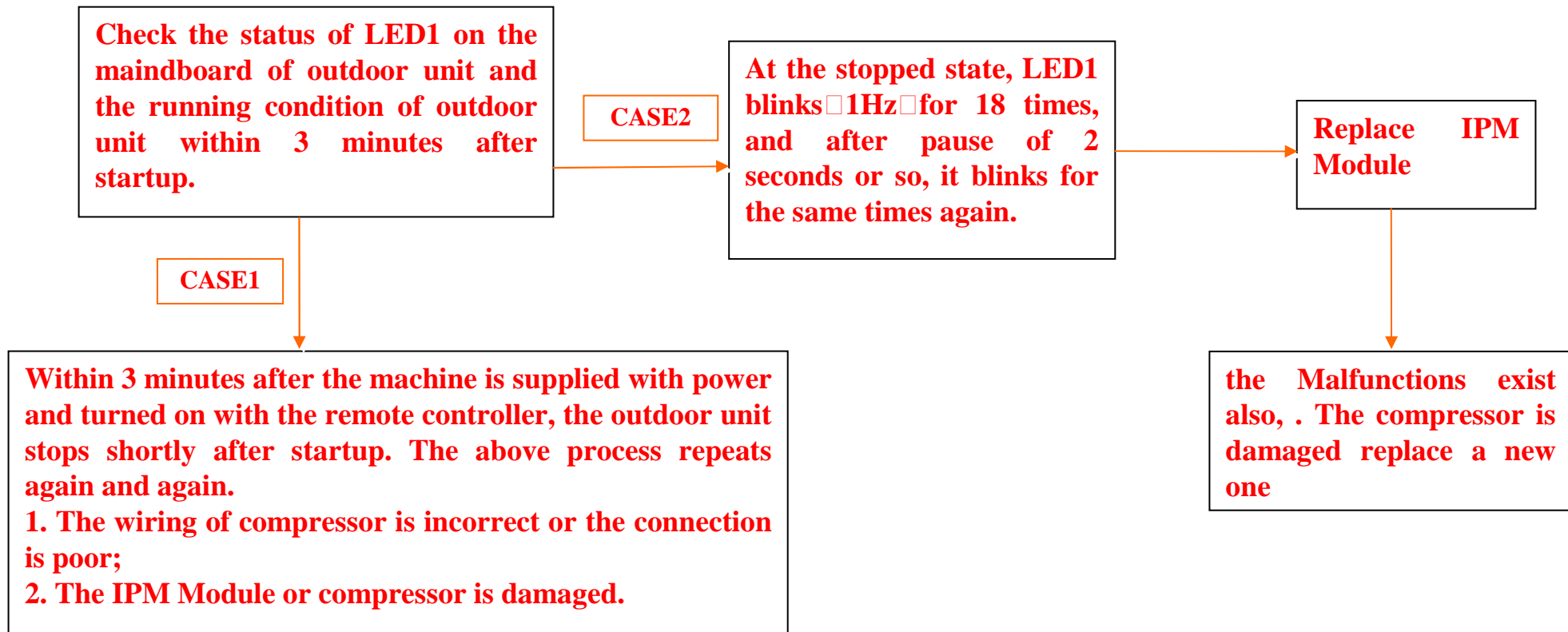
Countermeasure Flow Chart □



4.13 Problem Symptoms and Measures

- For Compressor startup error or out of position indoor display □ F11

Countermeasure Flow Chart □



5. EASY DAMAGED PARTS LIST

MODEL	IPM MODULE	OUTDOOR PCB BOARD	INDOOR PCB BOARD	INDOOR FAN MOTOR	OUTDOOR FAN MOTOR
HSU-09HVA103/R2(DB)	0011800052	0011800066F	0010400858E	0010404202	0010403508E
HSU-12HVA103/R2(DB)	0011800052	0011800066F	0010400034	0010404202	0010403508E
HSU-18HVA103/R2(DB)	0010404385	0011800105	0010400269	001A3000088E	0010403508E
HSU-22HVA103/R2(DB)	0010404385	0011800104	0010400269	001A3000088E	001A3000069E



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THANKS