

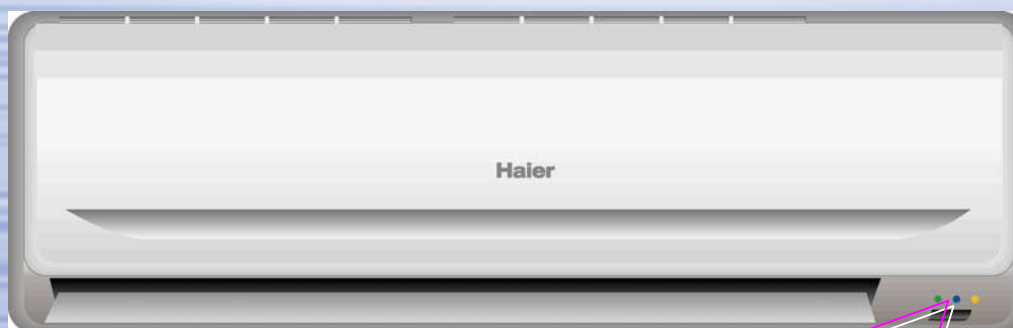
Haier Air conditioner 2006'

New DC Invert Products Abnormality Solution

HAND in HAND
HIGHER and HIGHER

HSU-12HB03/R2(DB)

Indoor unit




● **Power/Health**
● **TIMER**
● **Operate**


HSU-12HSB03/R2(DB)

Indoor Unit






Operate



Heat



Cool

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover	Twinkling times of outdoor LED
	Power Operation	Timer Heat	Operation Cool				
Room-temperature sensor malfunction	★	■	■	*		*	
Heat-exchange thermister anomaly	★	□	□	*		*	
Defrosting temperature sensor fault	□	□	★		*	*	10
Exhaust temperature sensor	★	□	■		*	*	13
Ambient temp sensor fault	□	★	■		*	*	12



Malfunction Codes (2)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover	Twinkling times of outdoor LED1
	Power operate	Timer operate	Heat Cool				
Communication fault between indoor and outdoor	■	■	★	*	*		15
Overheat protection for exhaust temperature	■	★	■		*		13
current protection	★	★	■		*		3
IPM mouldle protection	★	★	□		*		2
Power voltage is too high or low	■	★	□		*		6

Malfunction Codes （3）

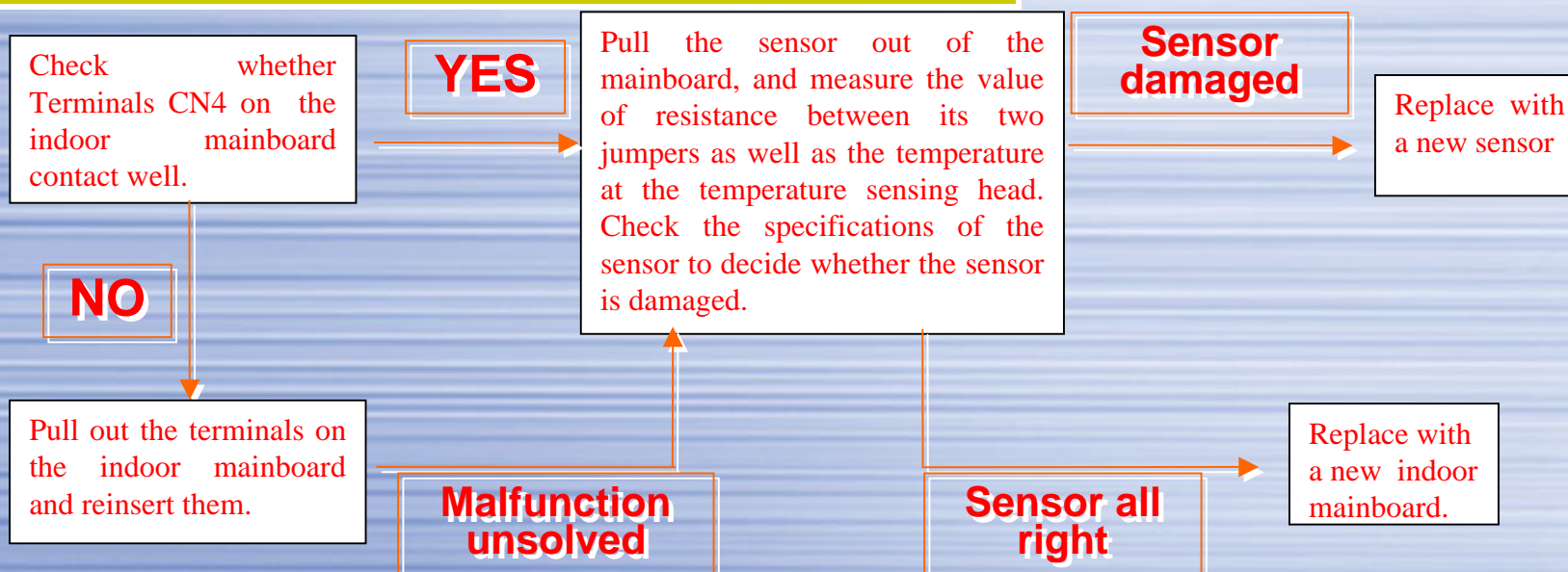
Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover	Twinkling times of outdoor LED1
	Power operate	Timer operate	Heat Cool				
High work-intense protection	★	★	★	*			21
EEPROM error	★	□	★	*	*		1 only for outdoor
Indoor fan motor malfunction	■	□	★	*			

Explanation : □bright ★flashing ■turn-off * Represents there is this function

Countermeasures for Frequent Malfunctions (1)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power	Timer operate	operate			
		Heat	Cool			
Room-temperature sensor malfunction	★	■	■	*		*

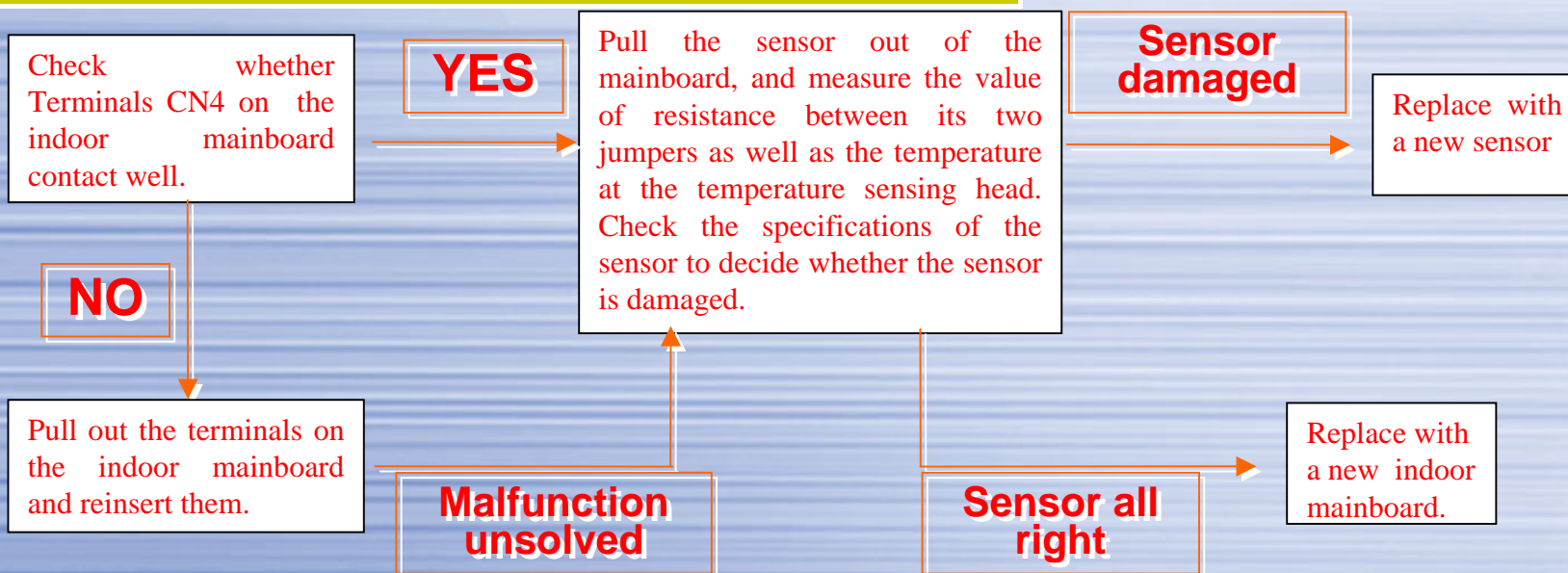
Countermeasure Flow Chart:



Countermeasures for Frequent Malfunctions (2)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power	Timer operate	operate			
		Heat	Cool			
Heat-exchange sensor malfunction	★	□	□	*		*

Countermeasure Flow Chart:

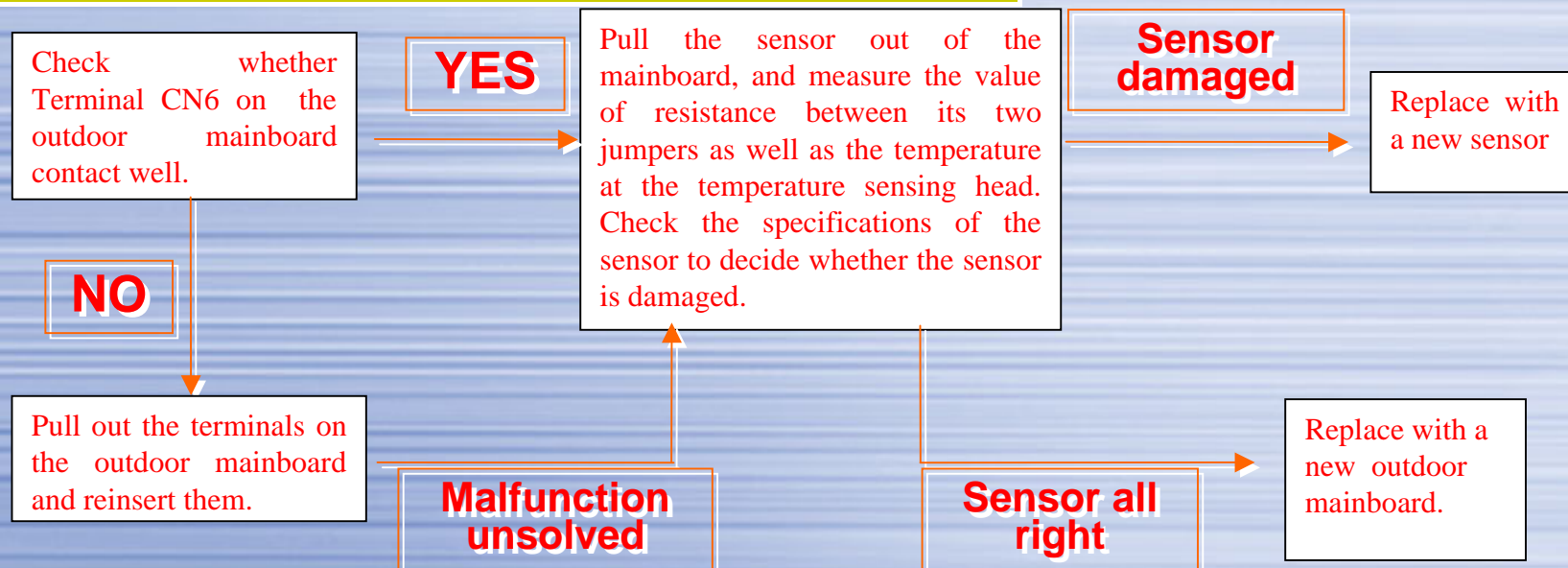


Countermeasures for Frequent Malfunctions (3)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power	Timer operate	operate Heat Cool			
Frost-removing temperature sensor fault	□	□	★		*	*

With the malfunction, LED1 on the outdoor mainboard blinks 10 times at frequency of 1 Hz

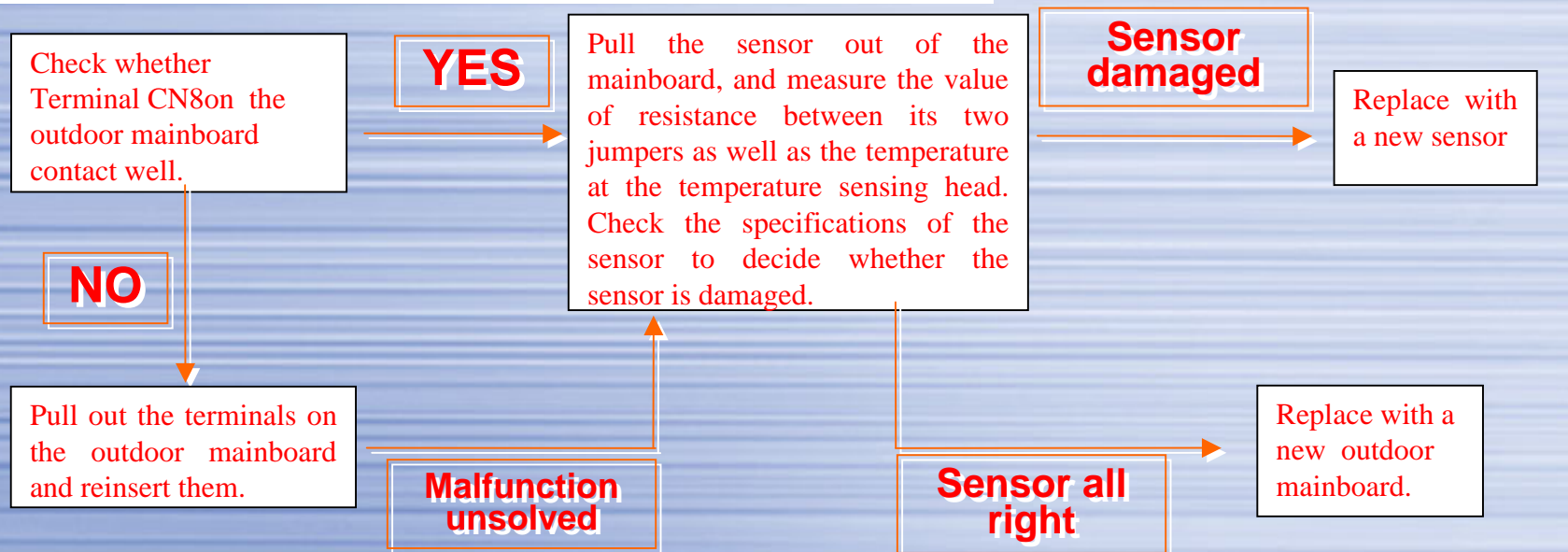
Countermeasure Flow Chart:



Countermeasures for Frequent Malfunctions (4)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power	Timer operate	operate			
		Heat	Cool			
Exhaust temperature sensor	★	□	■		*	*

Countermeasure Flow Chart:

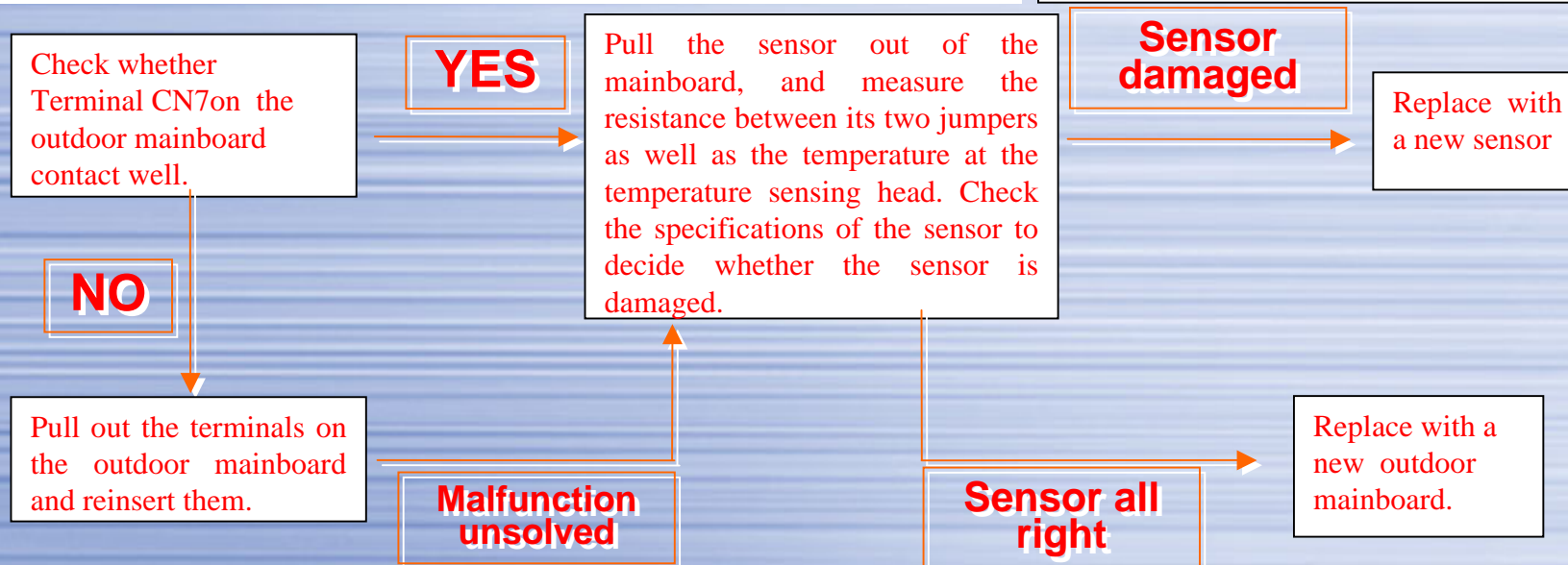


Countermeasures for Frequent Malfunctions (5)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power	Timer operate	operate			
		Heat	Cool			
Ambient temp sensor fault	□	★	■		*	*

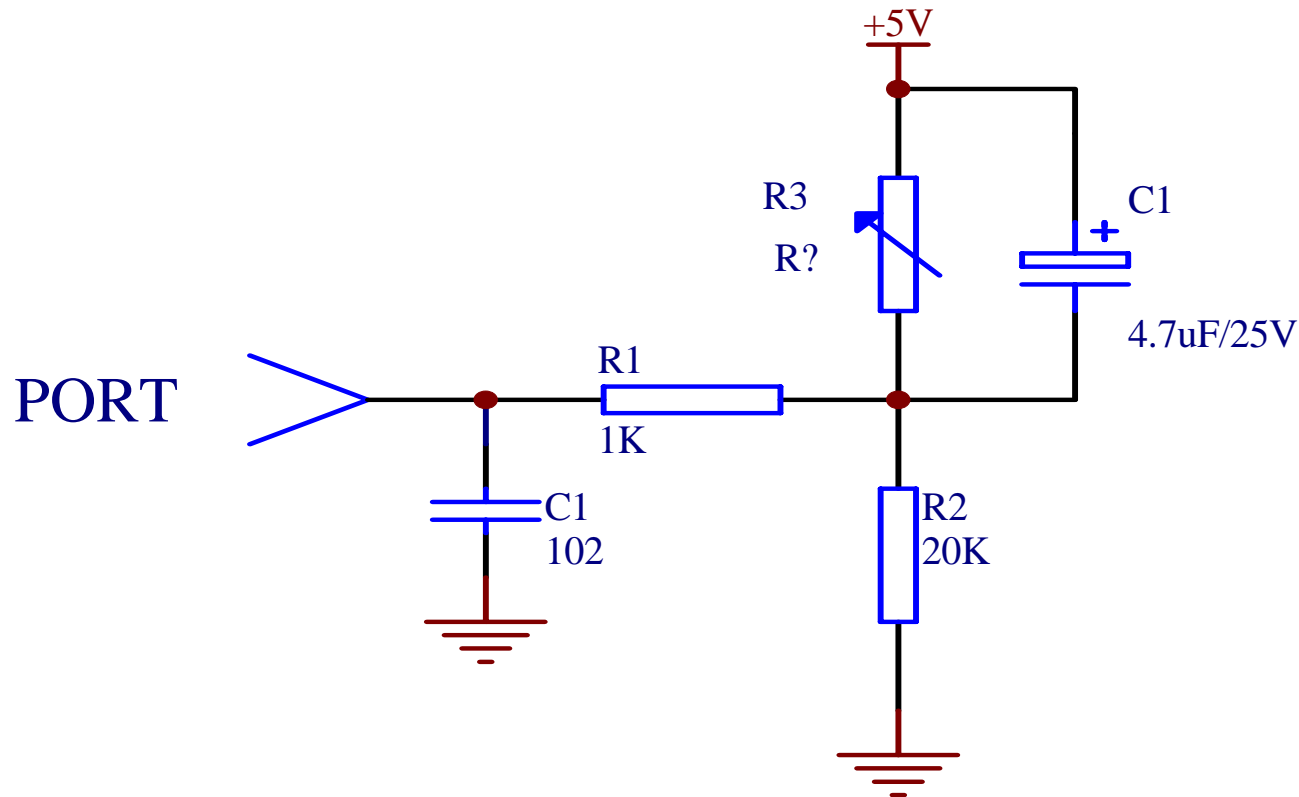
Countermeasure Flow Chart:

With the malfunction, LED1 on the outdoor mainboard blinks once at 12 times of 1 Hz and interval of 2 seconds or so.



Mechanism of Sensor Malfunctions

The A/D circuit of sensor is as follows:

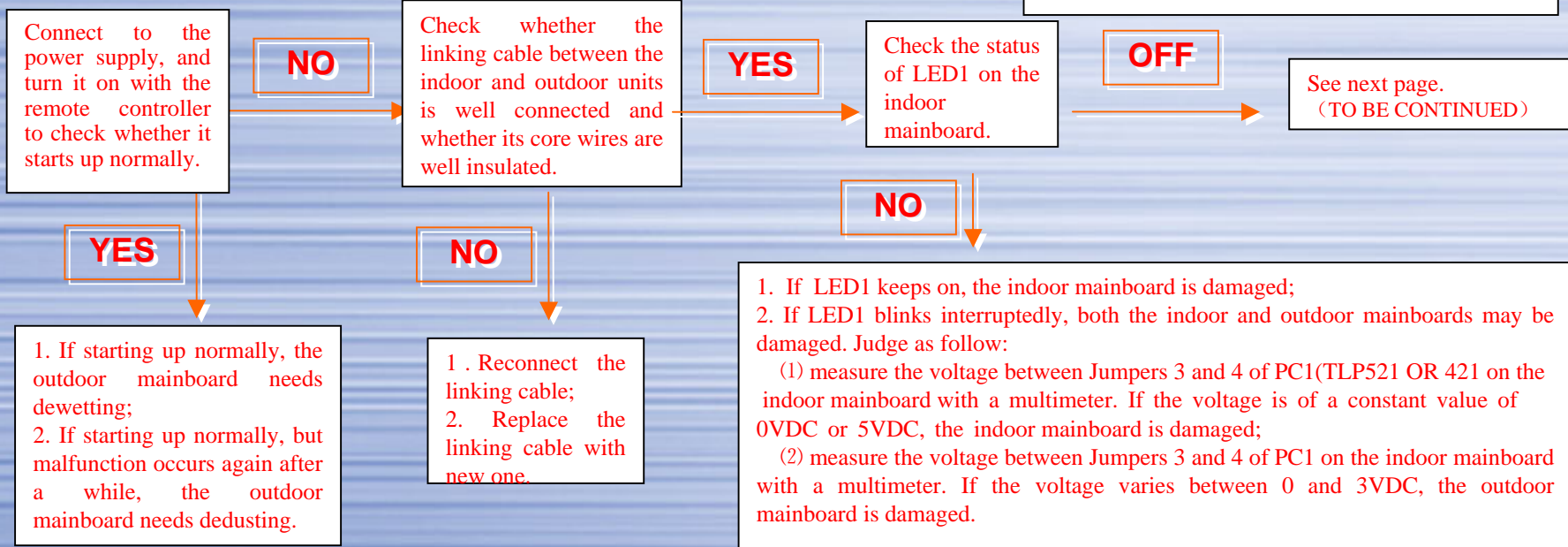


Countermeasures for Frequent Malfunctions (6-1)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	operate Heat Cool			
Communication fault between the indoor and outdoor units	■	■	★	*	*	

Countermeasure Flow Chart:

With the malfunction, LED1 on the outdoor mainboard blinks 15 times



Countermeasures for Frequent Malfunctions (6-2)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer Heat	operate Cool			
Communication fault between the indoor and outdoor units	■	■	★	*	*	

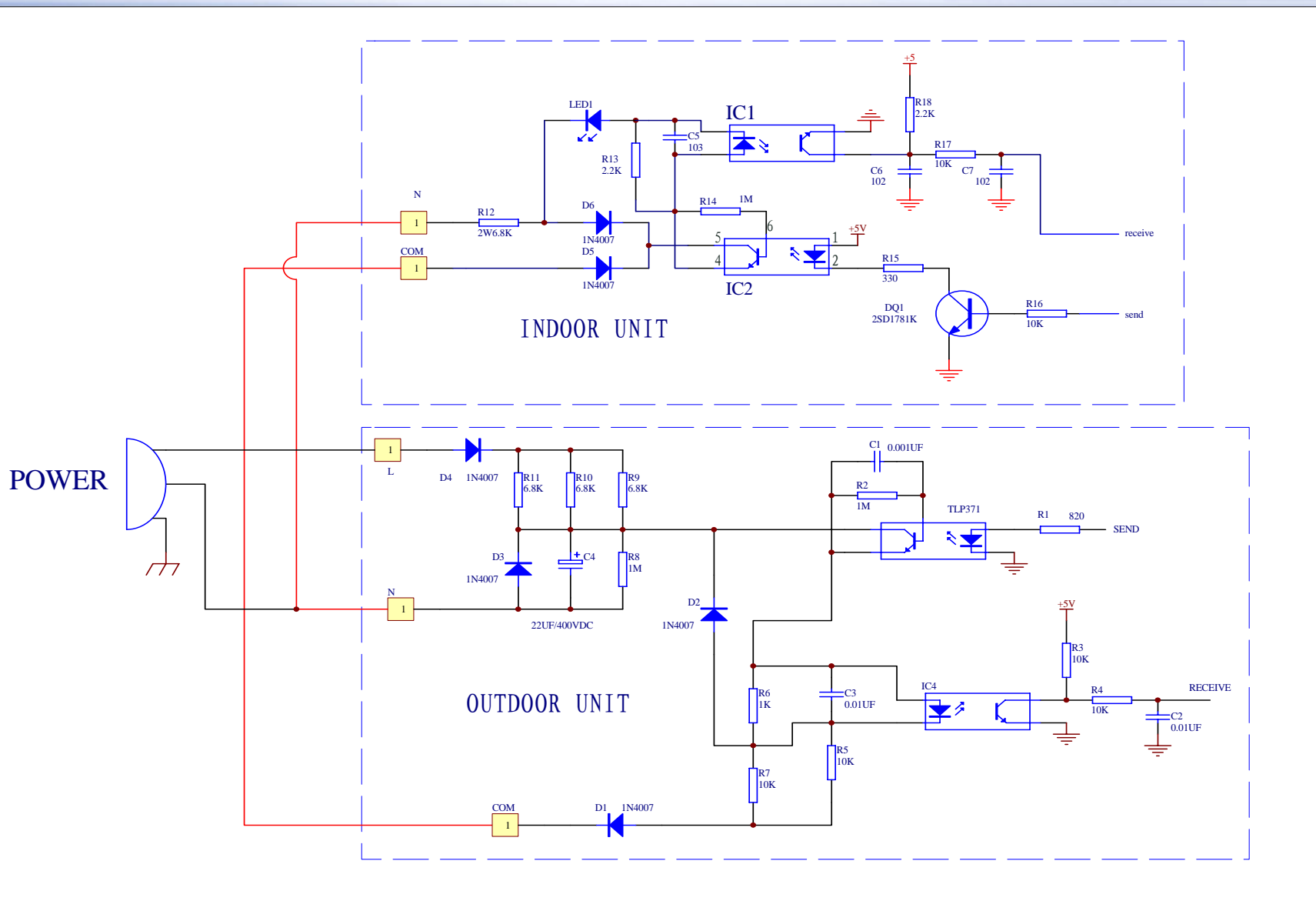
Countermeasure Flow Chart (CONTINUE) :

LED1 of indoor mainboard is OFF.



Trouble shooting process:

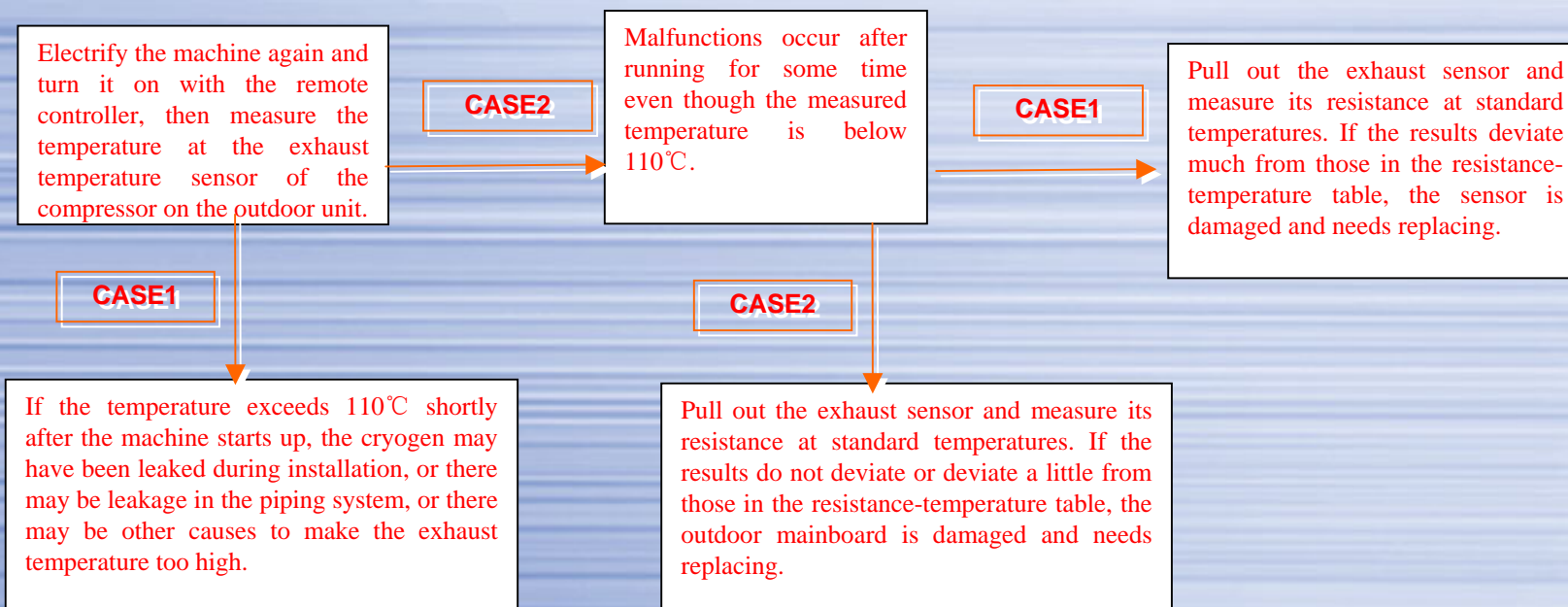
1. Test the outdoor power supply (230VAC and +310VDC) with a multimeter. If 230VAC is available but 310VDC not, rectifying bridge is damaged, replace it with a new one. If both 230VAC and 310VDC are available, go forward to step 2.
2. Measure the voltage across Jumpers 1 and 2 of IC4(7805) on the outdoor mainboard with a multimeter. If +12VDC is not available, the outdoor pcb is damaged, replace it with a new one. If +12VDC is available, go forward to step 3.
3. Within two minutes after the machine is supplied with power and turn on, measure the AC voltage between positions 1 and 3 on the terminal of outdoor unit with a multimeter. If the value varies between 0 and 80 VAC, the outdoor mainboard is damaged, replace it with a new one. If the value is constant at about 30V, the indoor mainboard is damaged, replace it with a new one.



Countermeasures for Frequent Malfunctions (8)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
Overheat protection for exhaust temperature	■	★	■		*	

Countermeasure Flow Chart:

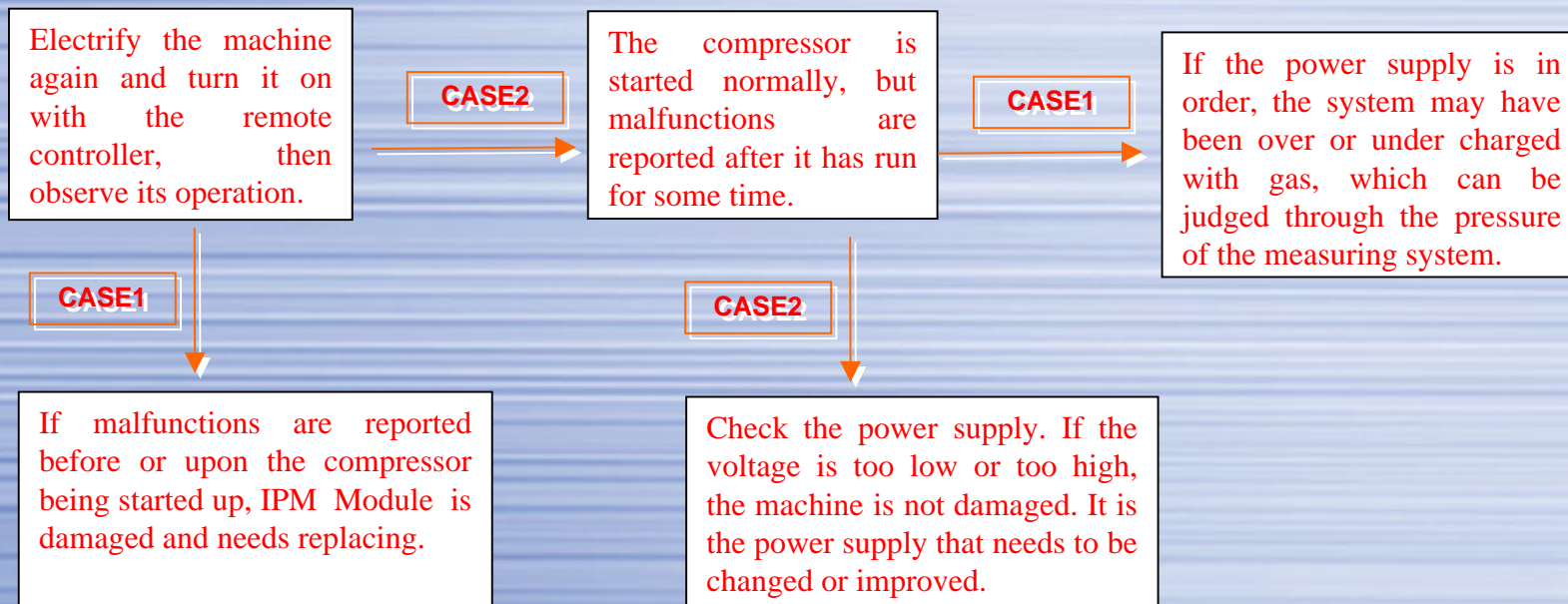


Countermeasures for Frequent Malfunctions (9)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
current protection	★	★	■		*	

Countermeasure Flow Chart:

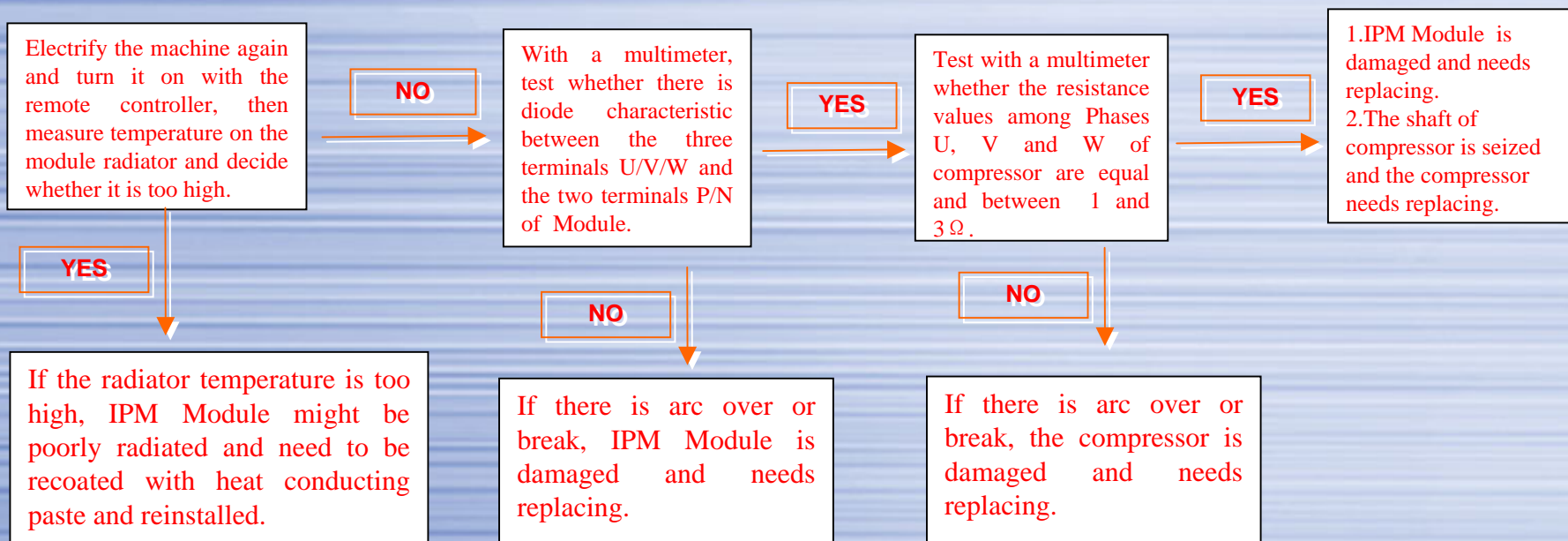
With this malfunction, LED1 on the outdoor mainboard blinks 3 times.



Countermeasures for Frequent Malfunctions (10)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
The protection of IPM	★	★	□		*	

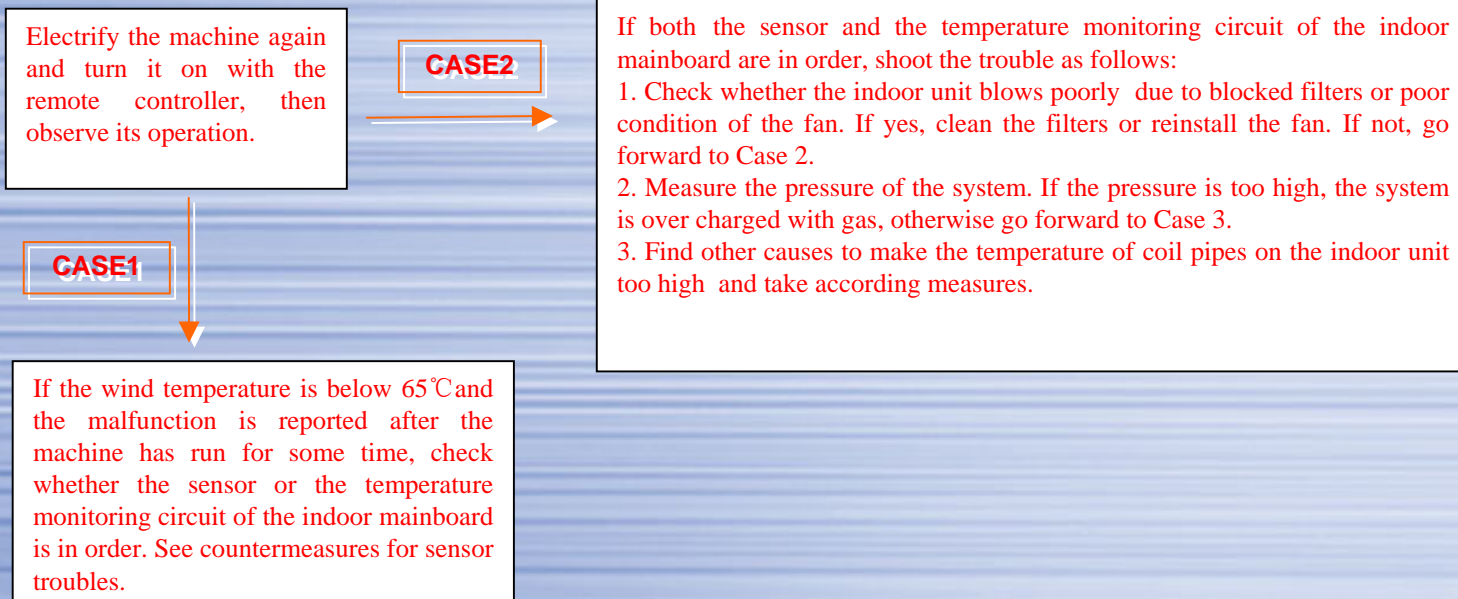
Countermeasure Flow Chart:



Countermeasures for Frequent Malfunctions (11)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
High work-intense protection	★	★	★	*		

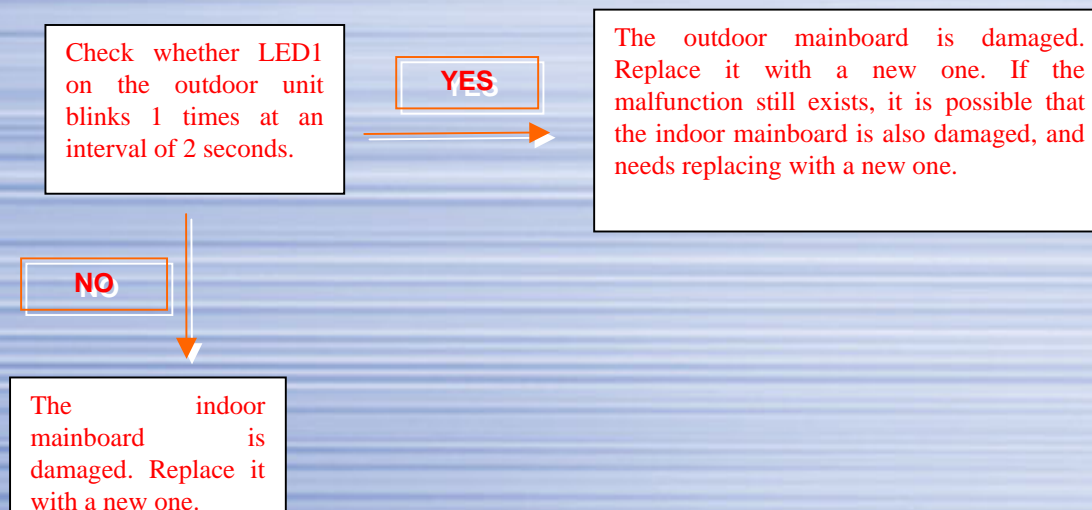
Countermeasure Flow Chart:



Countermeasures for Frequent Malfunctions (12)

Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
EEPROM error	★	□	★	*	*	

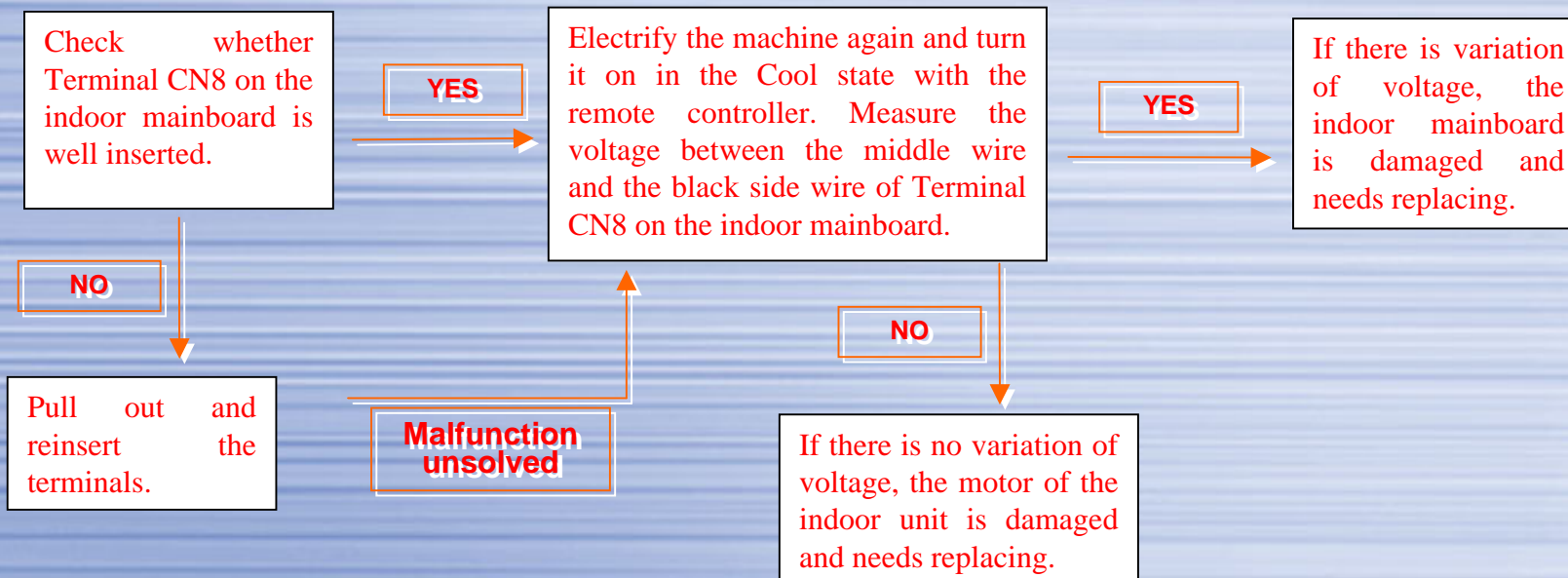
Countermeasure Flow Chart:



Countermeasures for Frequent Malfunctions (13)

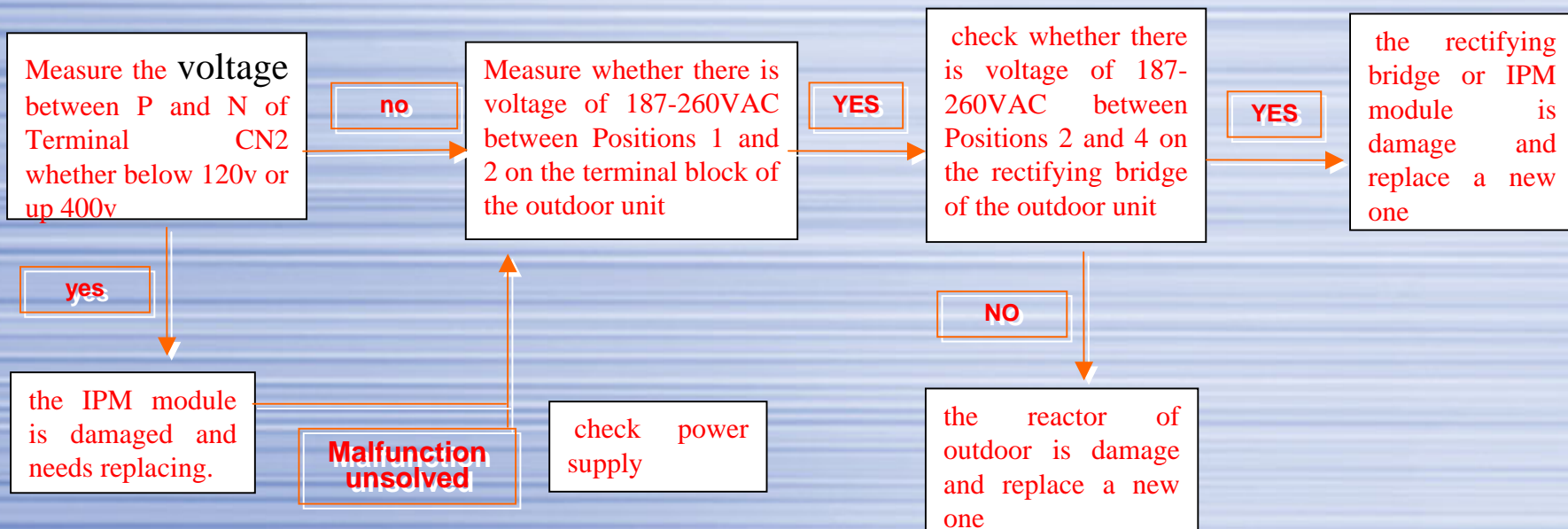
Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power	Timer operate	operate Heat Cool			
Indoor fan motor malfunction	■	□	★	*		

Countermeasure Flow Chart:



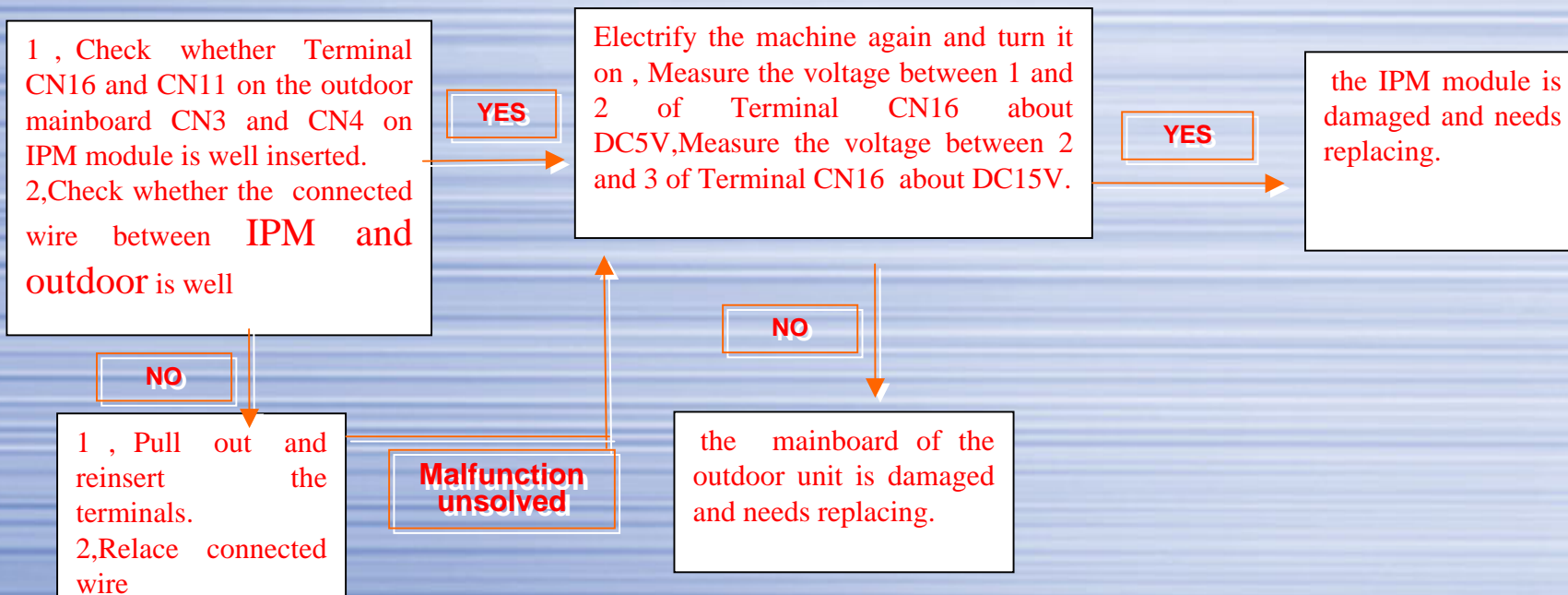
Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
Power voltage is too high or low	■	★	□		*	

Countermeasure Flow Chart:



Content	Malfunction codes	Indoor Unit	Outdoor Unit	Auto Restart
Communication fault between the IPM and outdoor PCB	LED1 on the outdoor mainboard blinks 4 times		*	

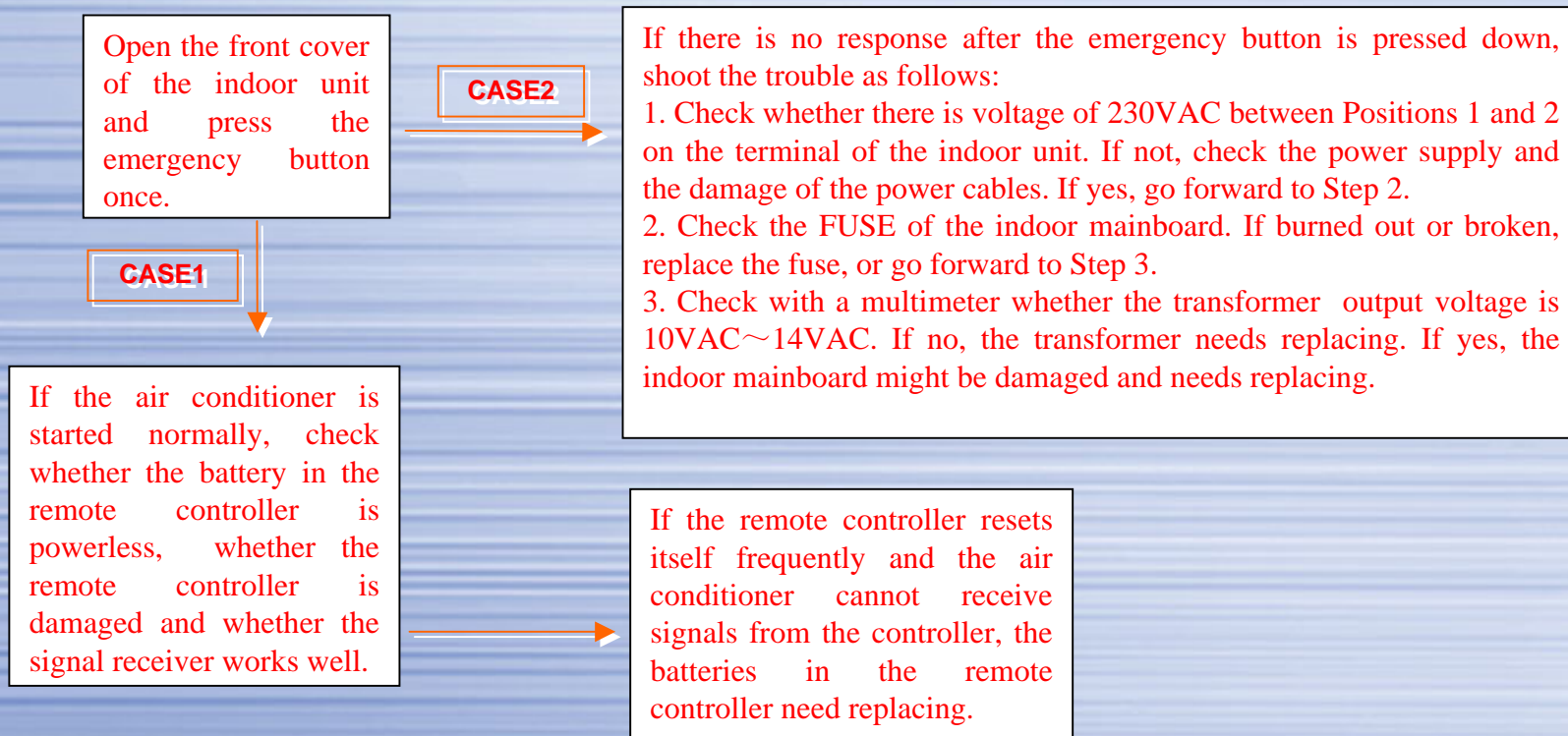
Countermeasure Flow Chart:



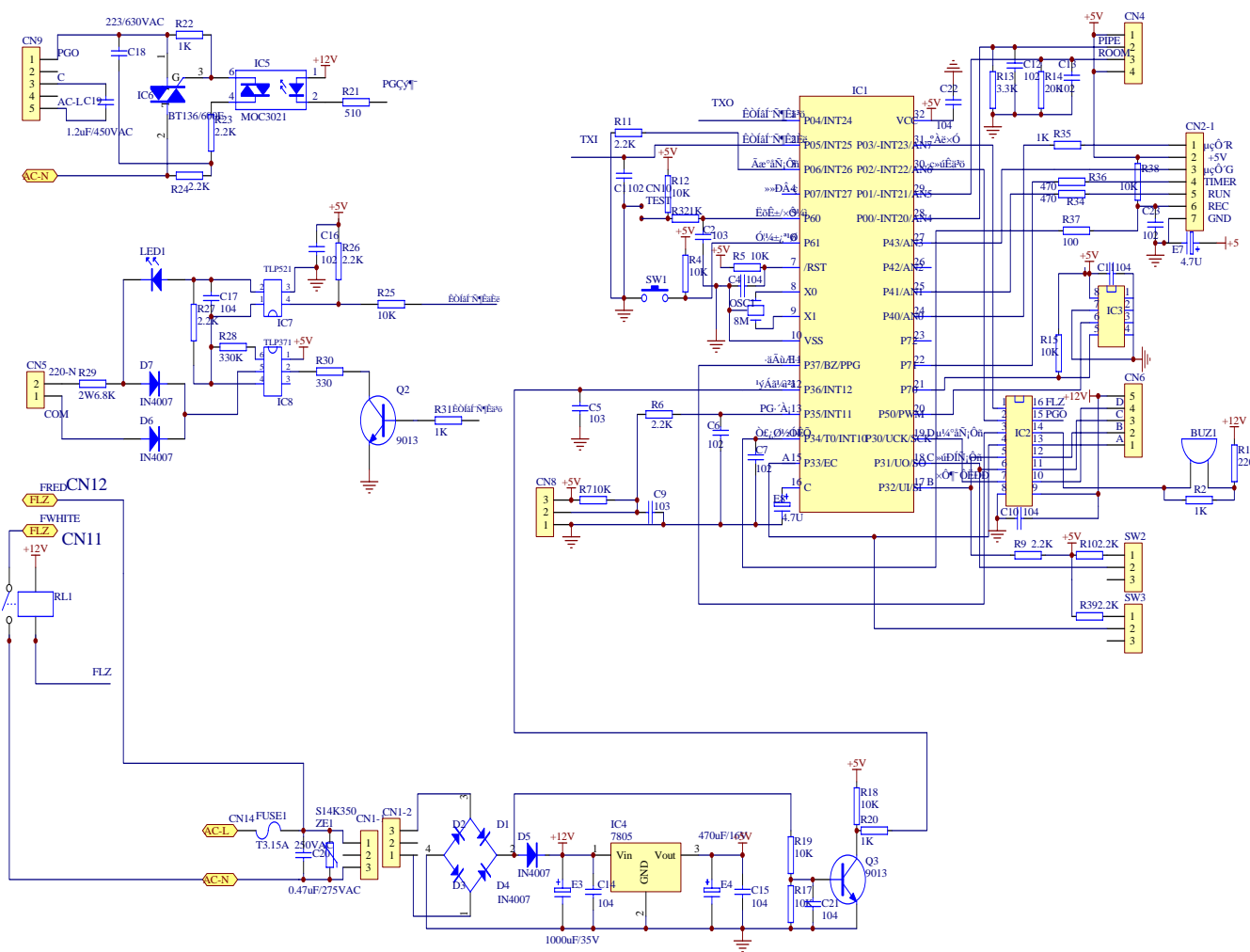
Countermeasures for Other Frequent Malfunctions (14)

With the machine electrified, the remote controller cannot start it

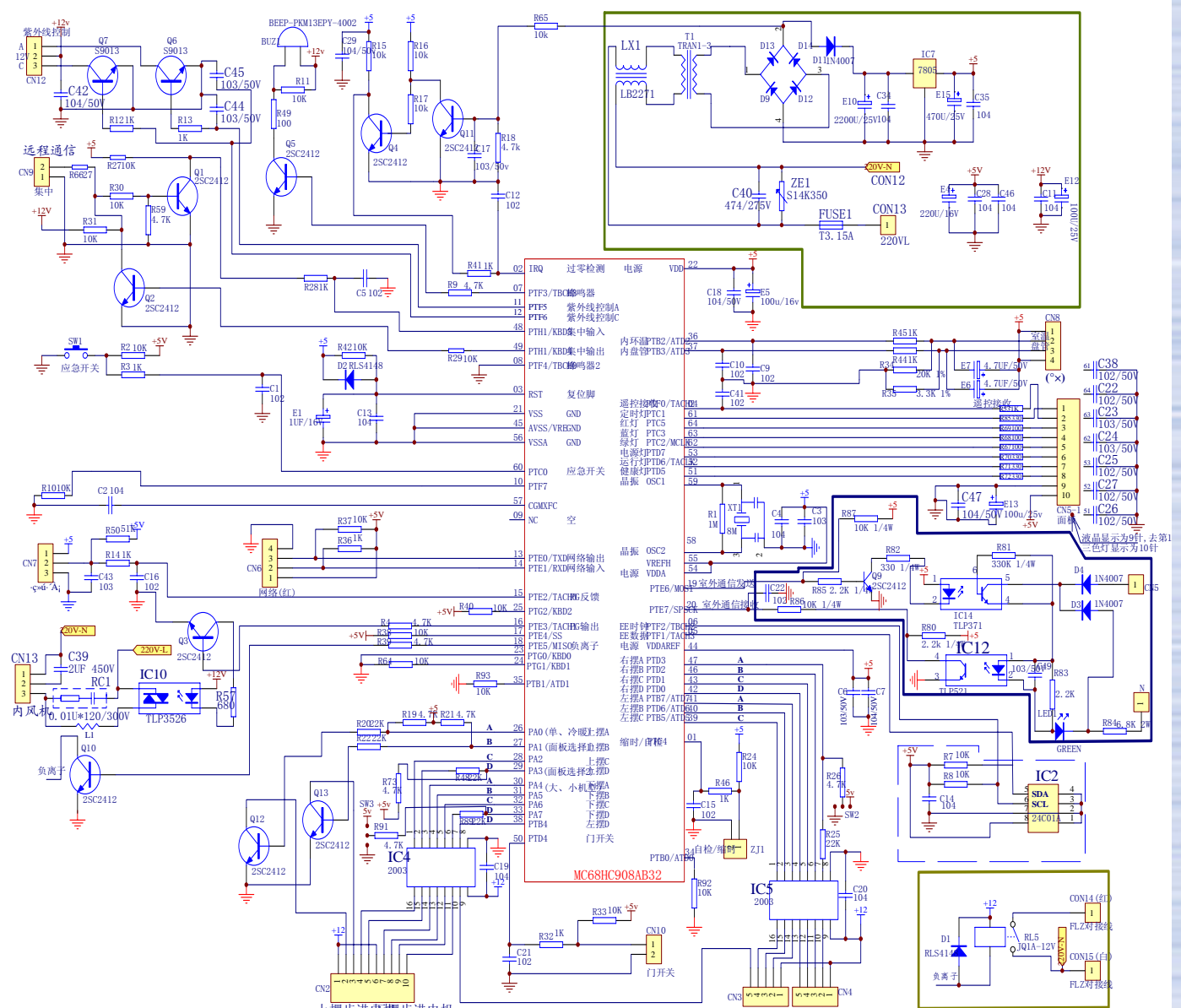
Countermeasure Flow Chart:



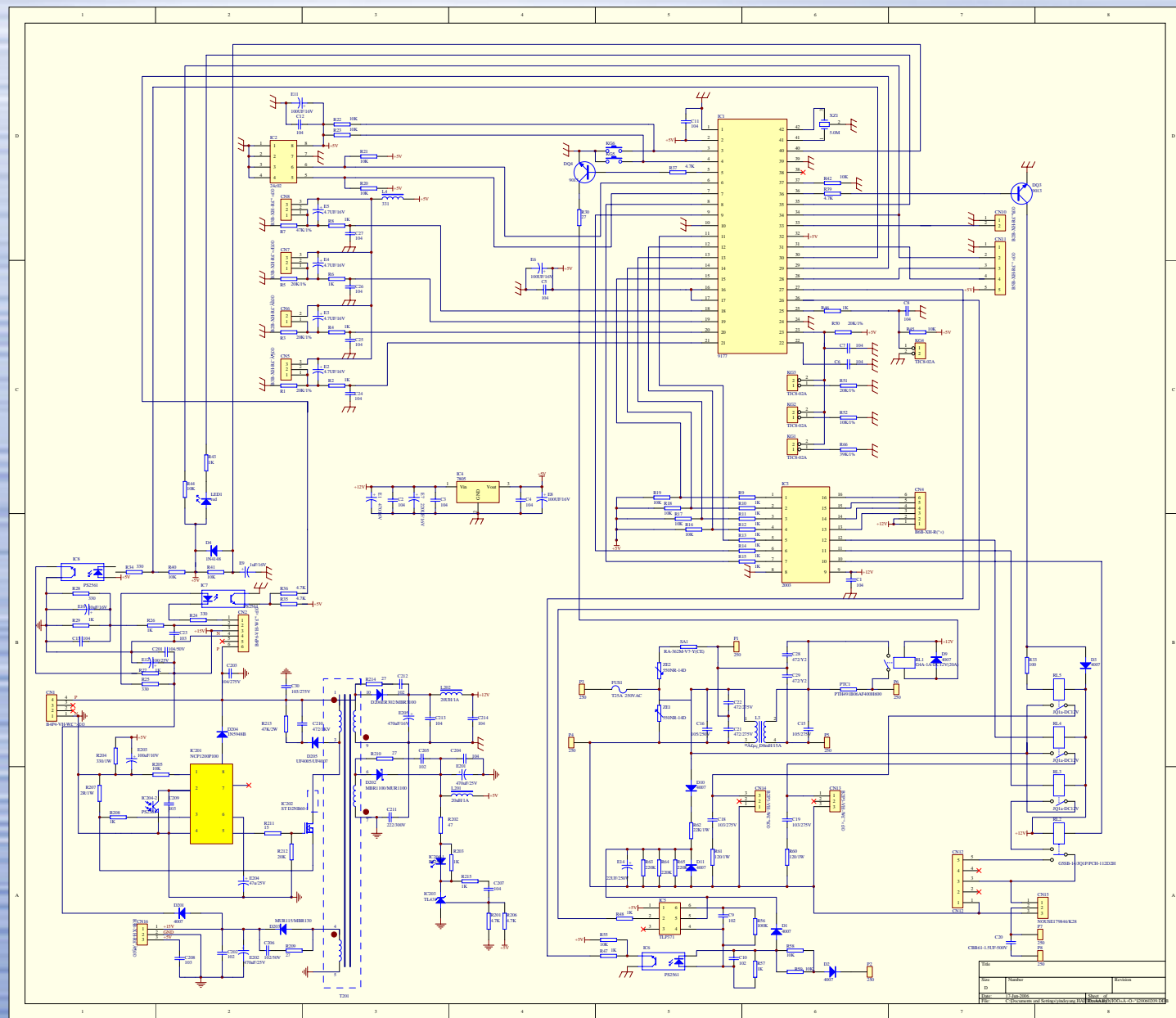
The figure on the right shows the electric diagram for the indoor unit of DC products with Model HB Economical Series.



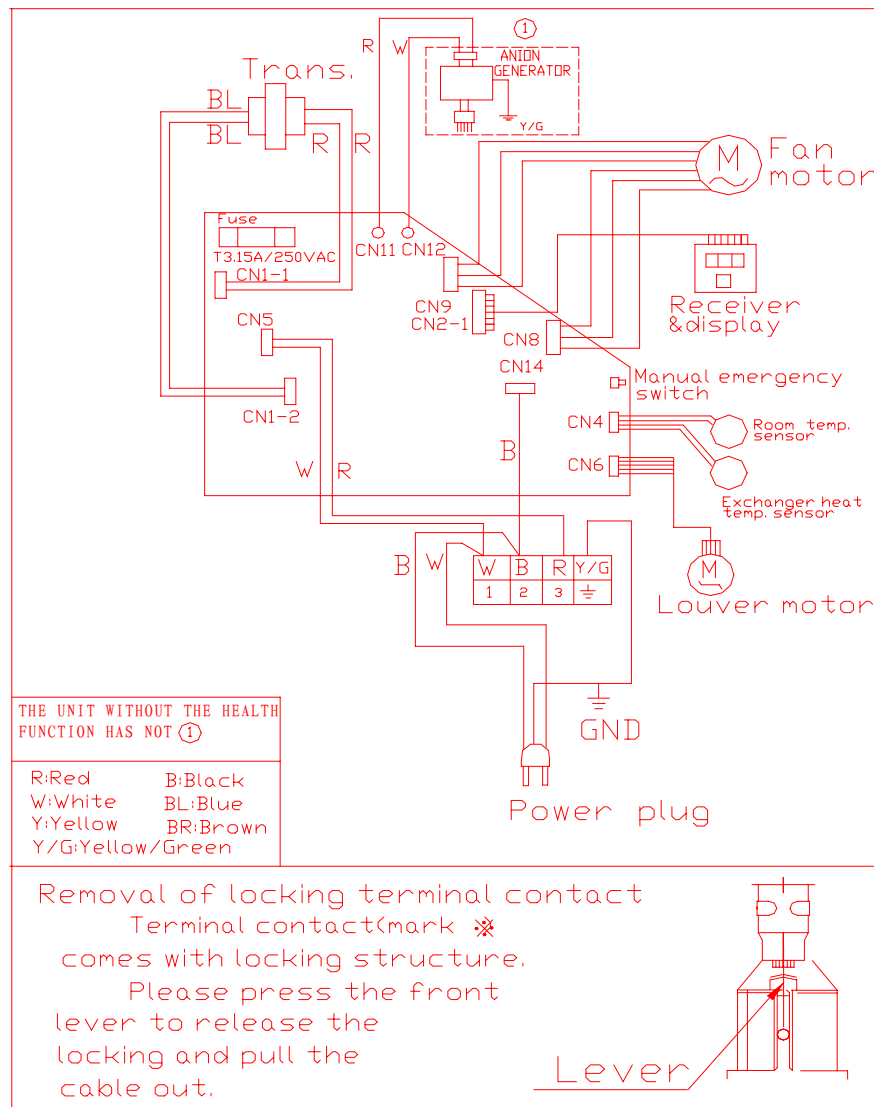
The figure on the right shows the electric diagram for the indoor unit. of DC products with Model HSB Economical Series.



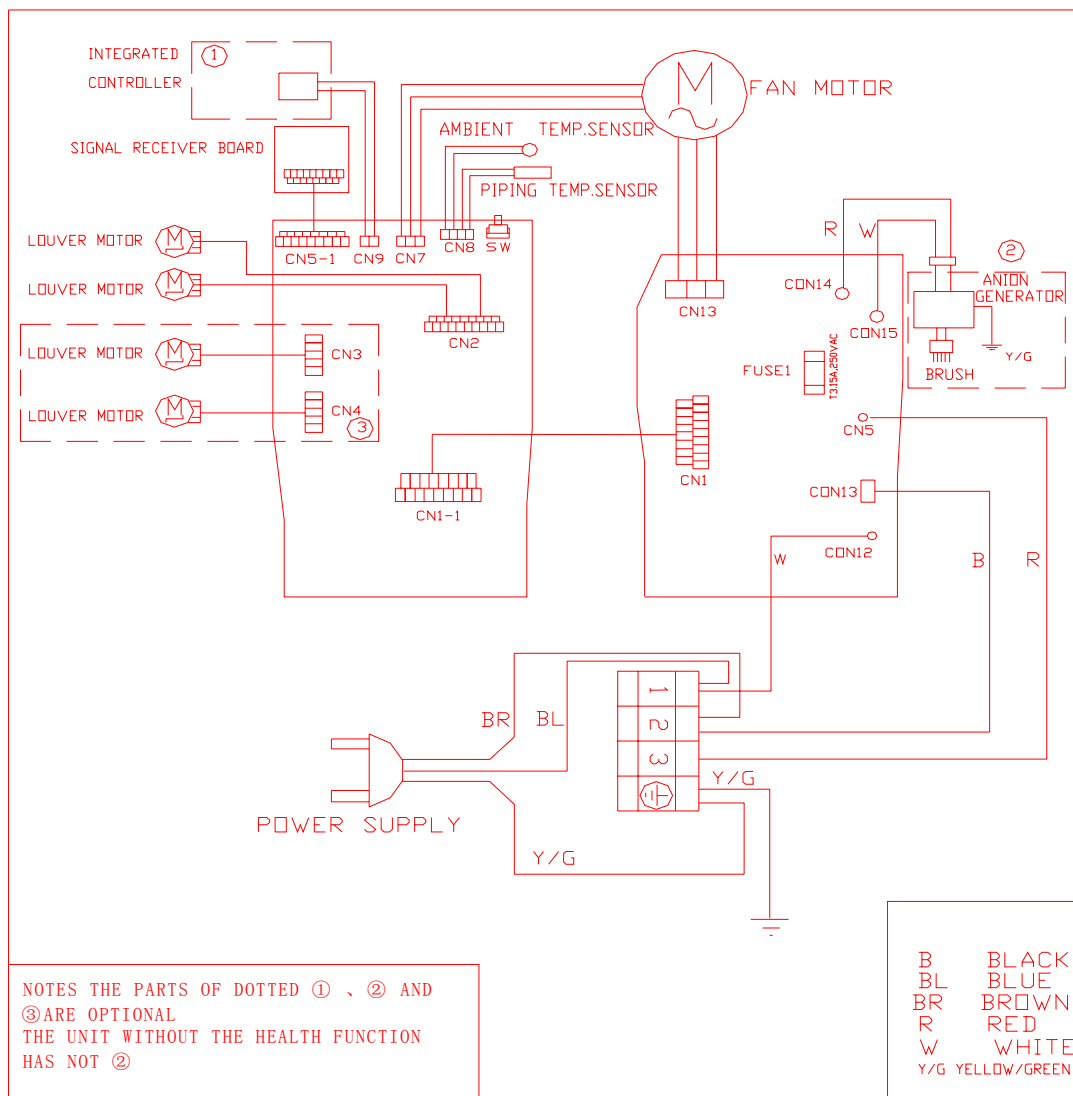
the
electric
diagram
for the
outdoor
unit.



The figure on the right shows the wiring diagram for the indoor unit of DC products with Model HB Economical Series.

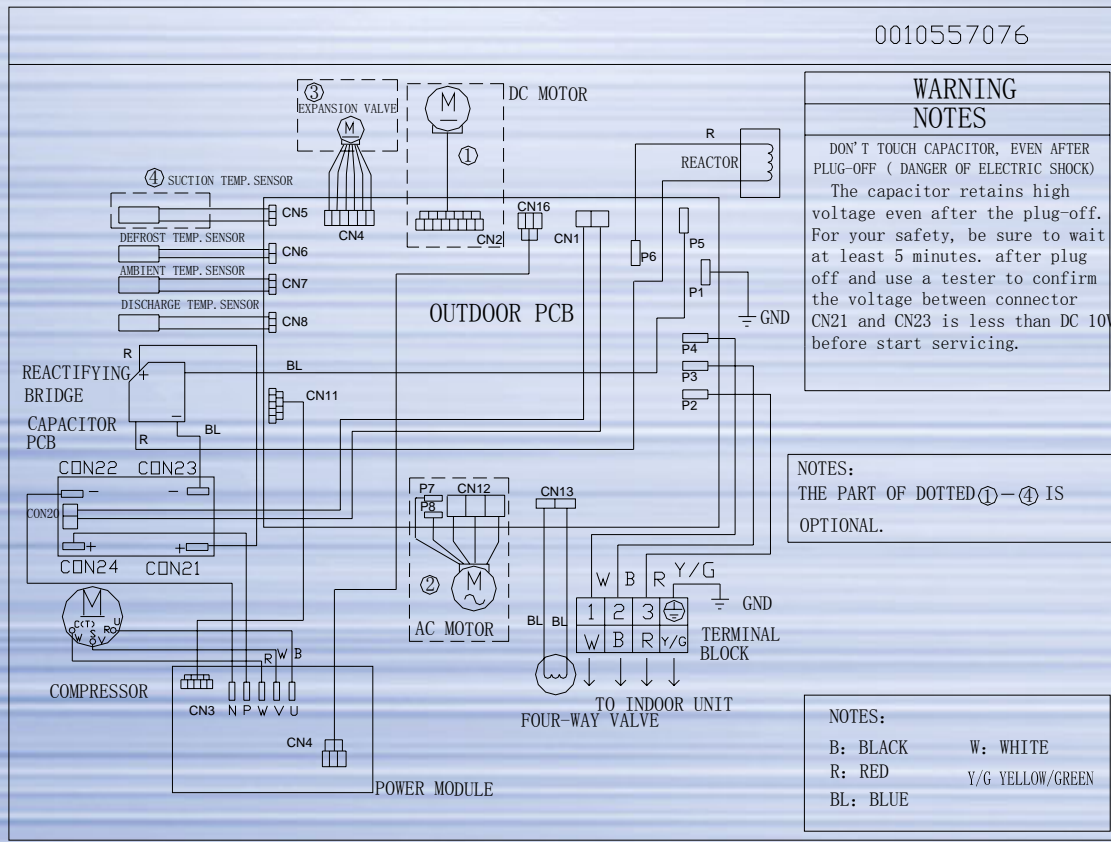


The figure on the right shows the wiring diagram for the indoor unit. of DC products with Model HSB



The figure on the right shows the wiring diagram for the outdoor unit

WIRING DIAGRAM OF OUTDOOR UNIT





THANKS!