

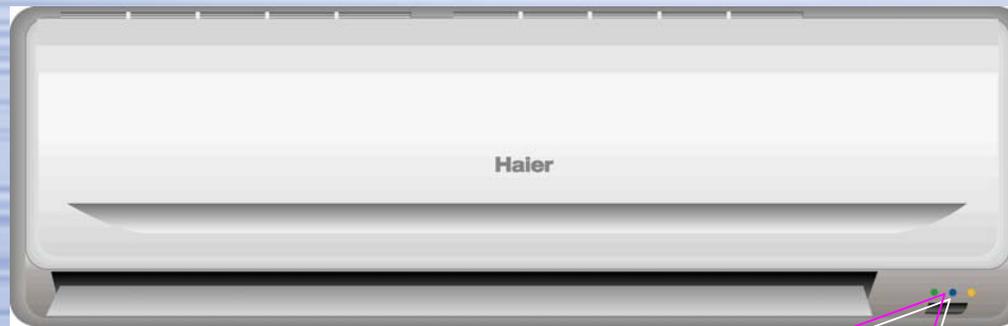
# Haier Air conditioner 2006'

**New DC Invert Products Abnormality Solution**

**HAND in HAND  
HIGHER and HIGHER**

# HSU-12HB03/R2(DB)

## Indoor unit



# HSU-12HSB03/R2(DB)

## Indoor Unit



●  
Operate

●  
Heat

●  
Cool

## Malfunction Codes ( HB&HSB (1) )

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)

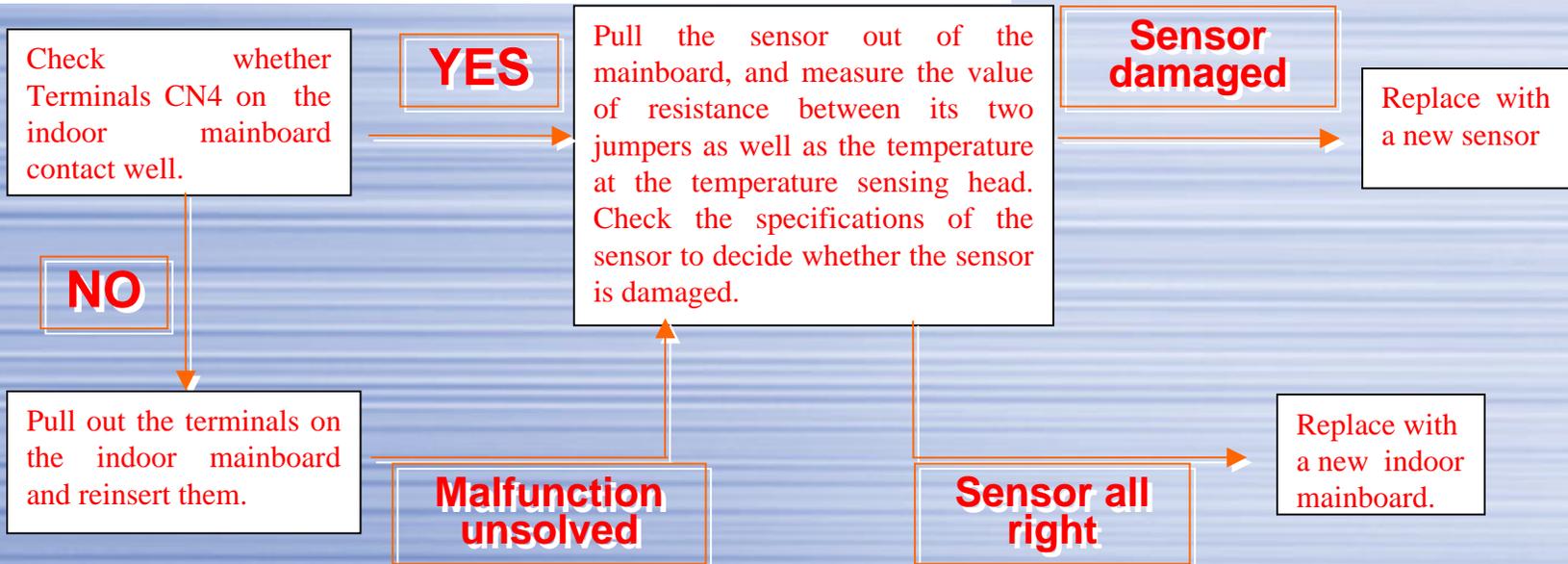
Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover	Twinkling times of outdoor LED1
	Power operate	Timer operate	Heat Cool				
High work-intense protection	★	★	★	*			21
EEPROM error	★	□	★	*	*		1 only for outdoor
Indoor fan motor malfunction	■	□	★	*			

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 operate	Timer operate	Heat Cool			
Room-temperature sensor malfunction	★	■	■	*		*

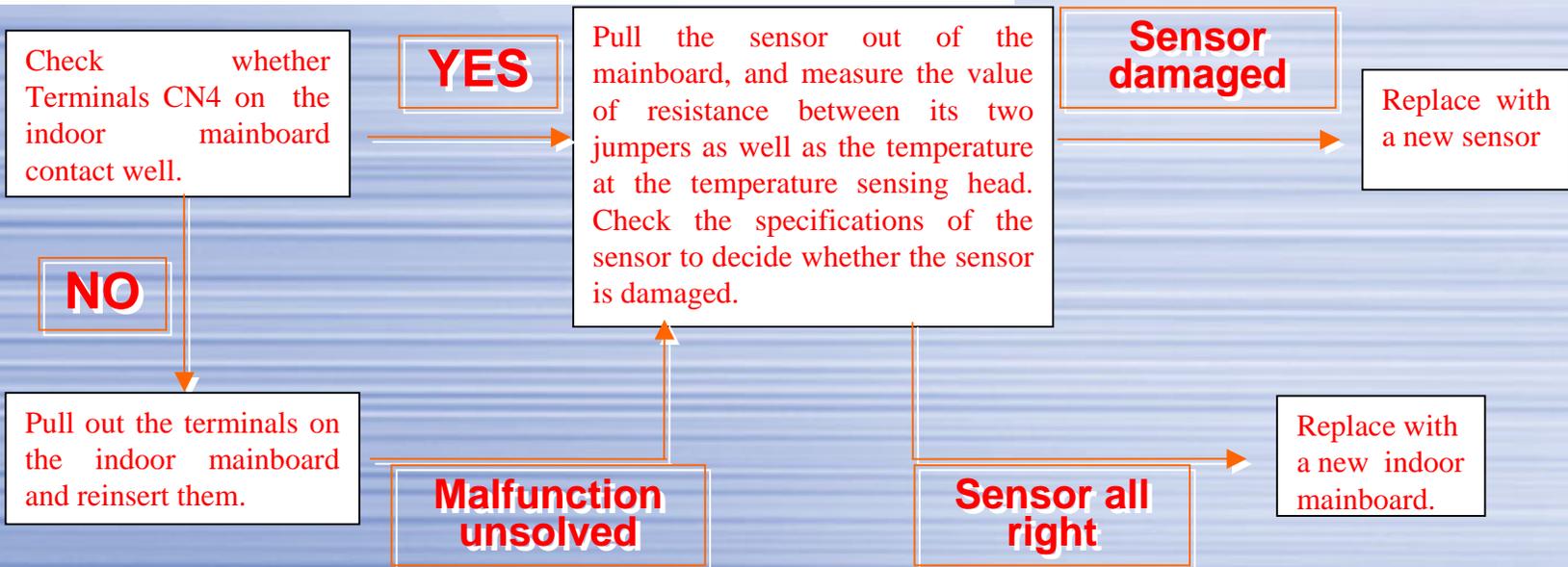
### Countermeasure Flow Chart:



## Countermeasures for Frequent Malfunctions (2)

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

### Countermeasure Flow Chart:

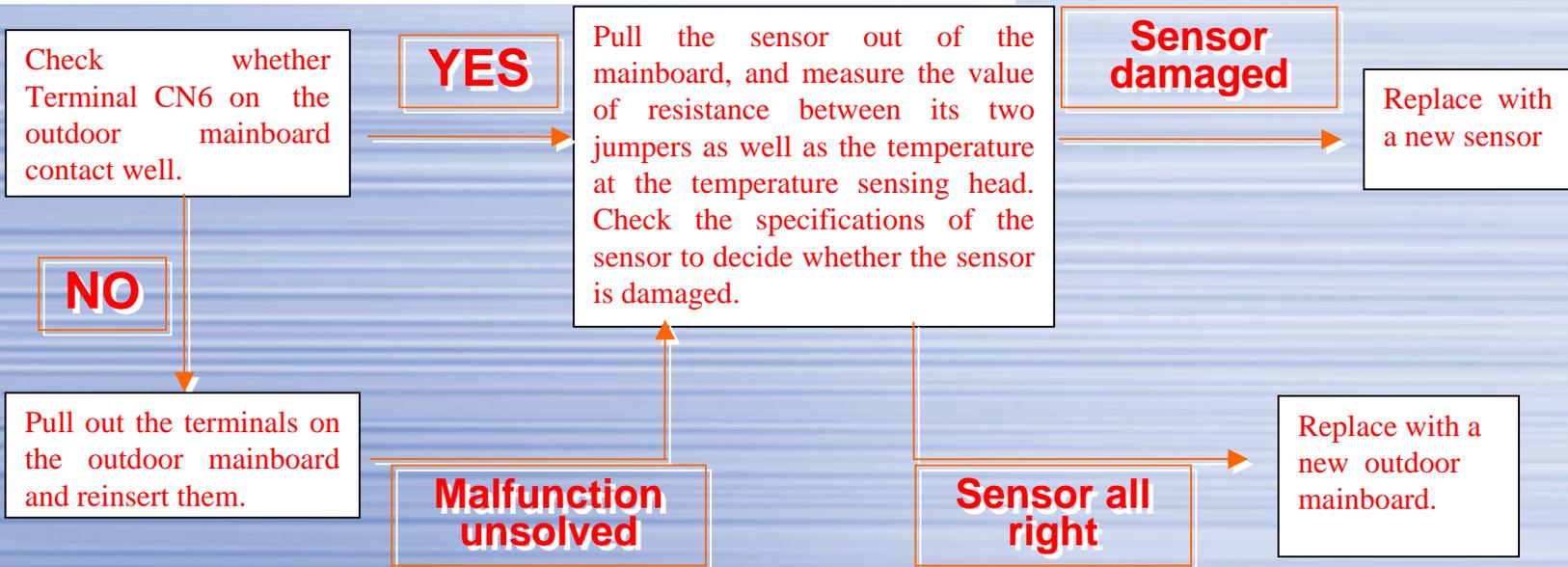


### Countermeasures for Frequent Malfunctions (3)

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

### Countermeasure Flow Chart:

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

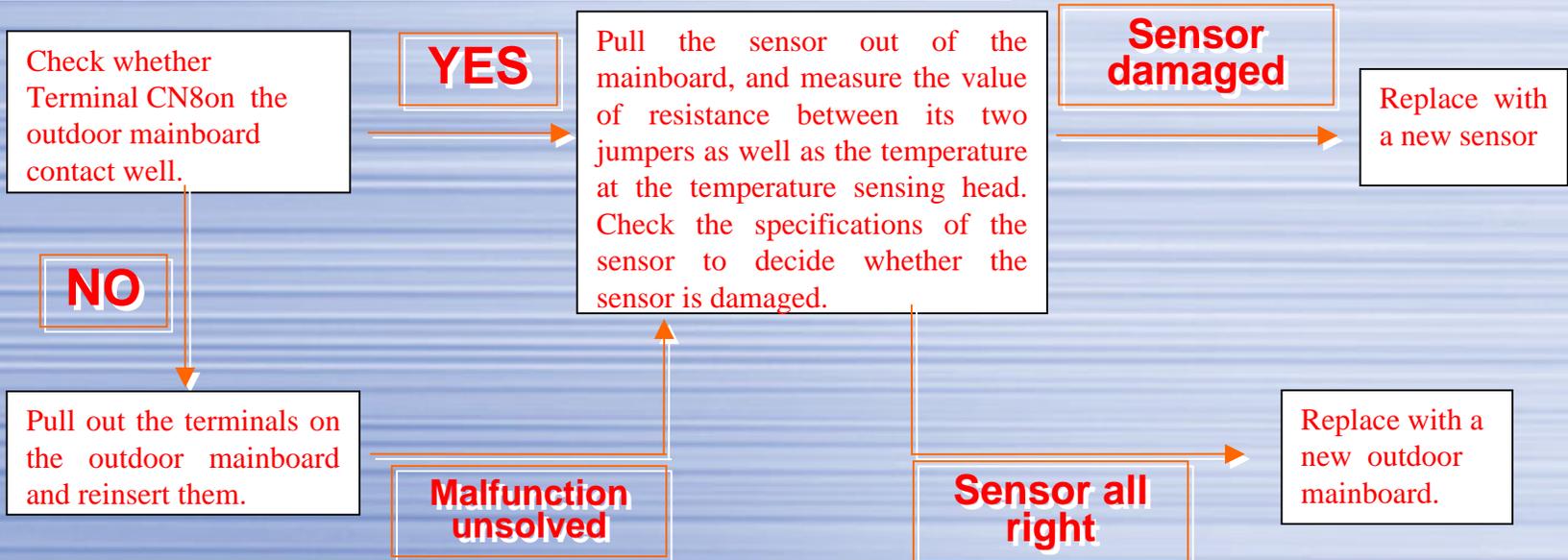


## Countermeasures for Frequent Malfunctions (4)

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

### Countermeasure Flow Chart:

With the malfunction, LED1 on the outdoor mainboard blinks 13 times at frequency of 1 Hz

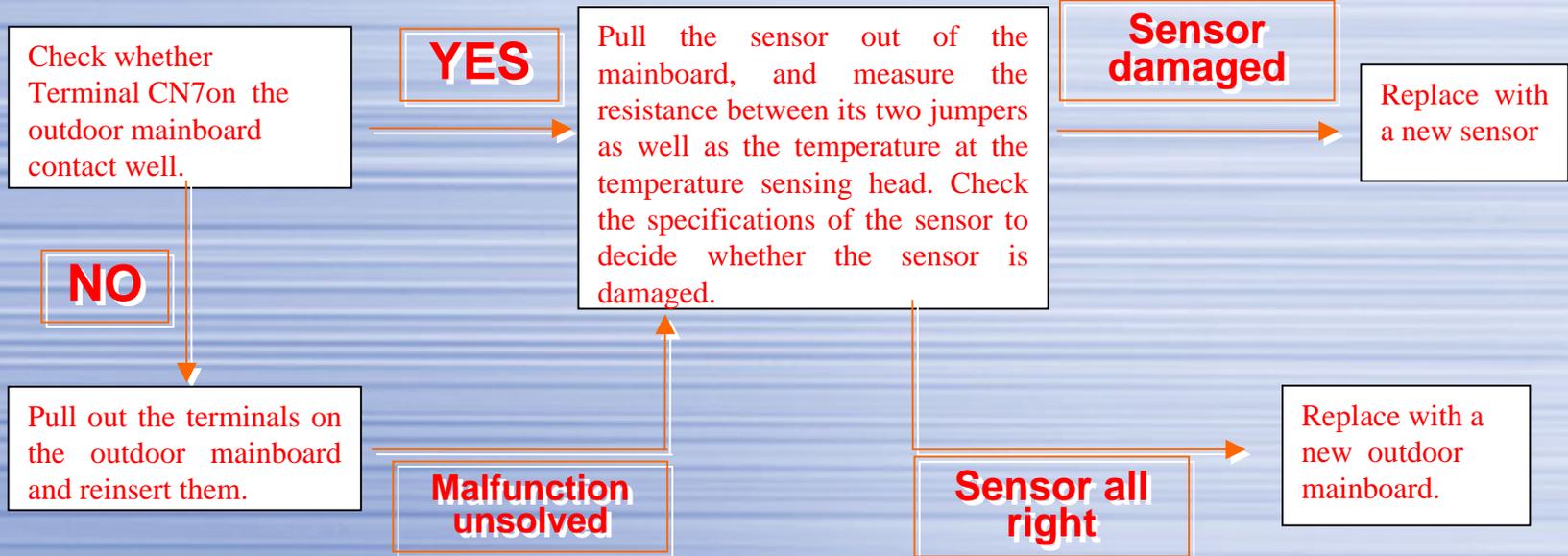


## Countermeasures for Frequent Malfunctions (5)

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

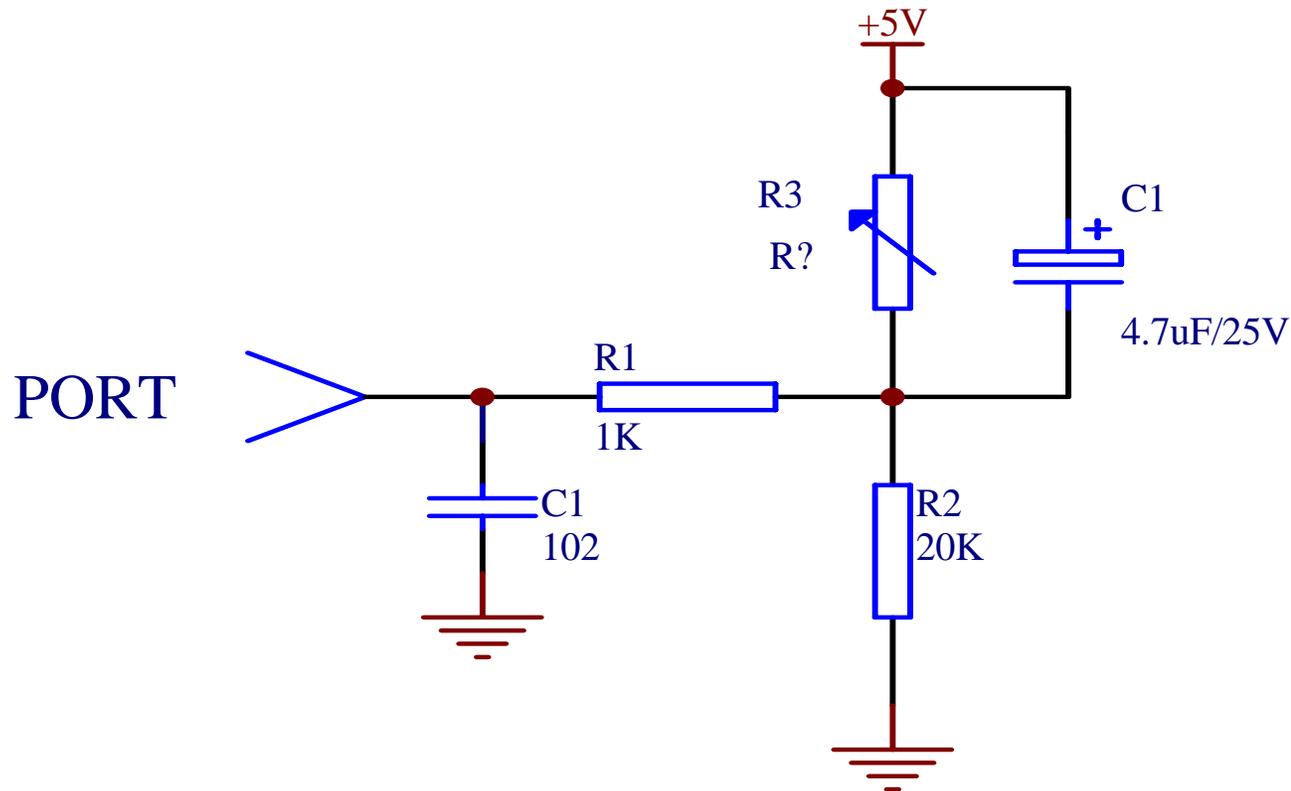
### Countermeasure Flow Chart:

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:

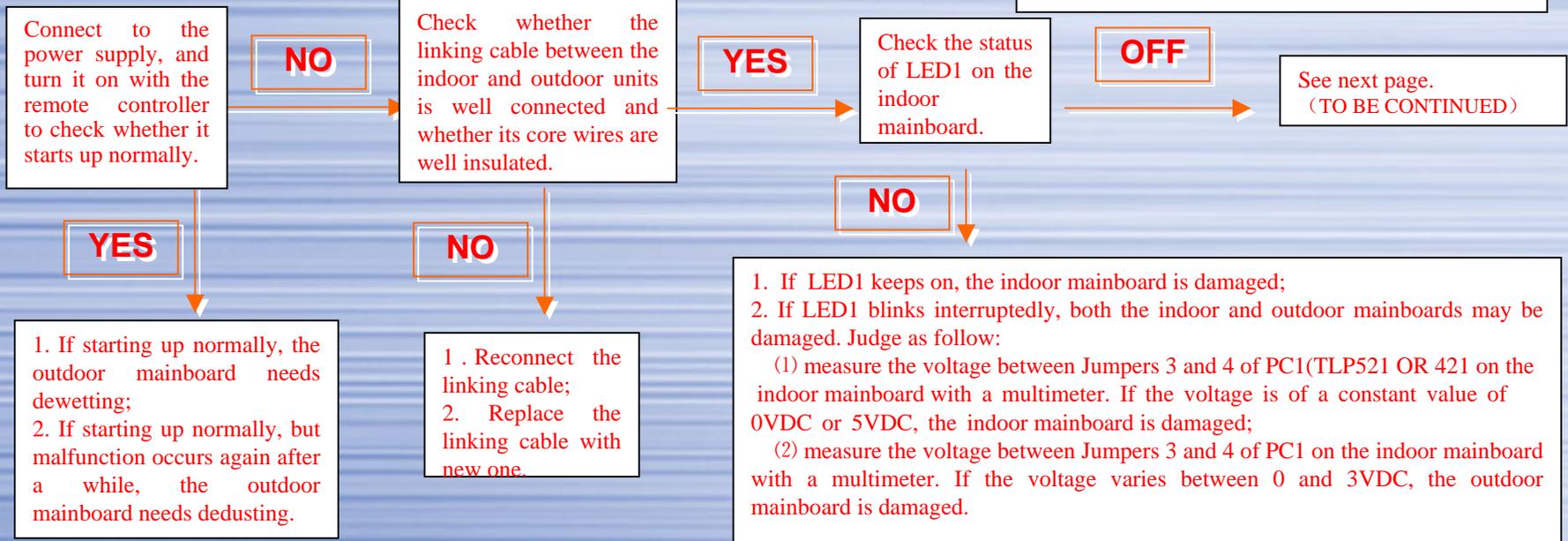


## Countermeasures for Frequent Malfunctions (6-1)

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 operate	Heat Cool			
Communication fault between the indoor and outdoor units	■	■	★	*	*	

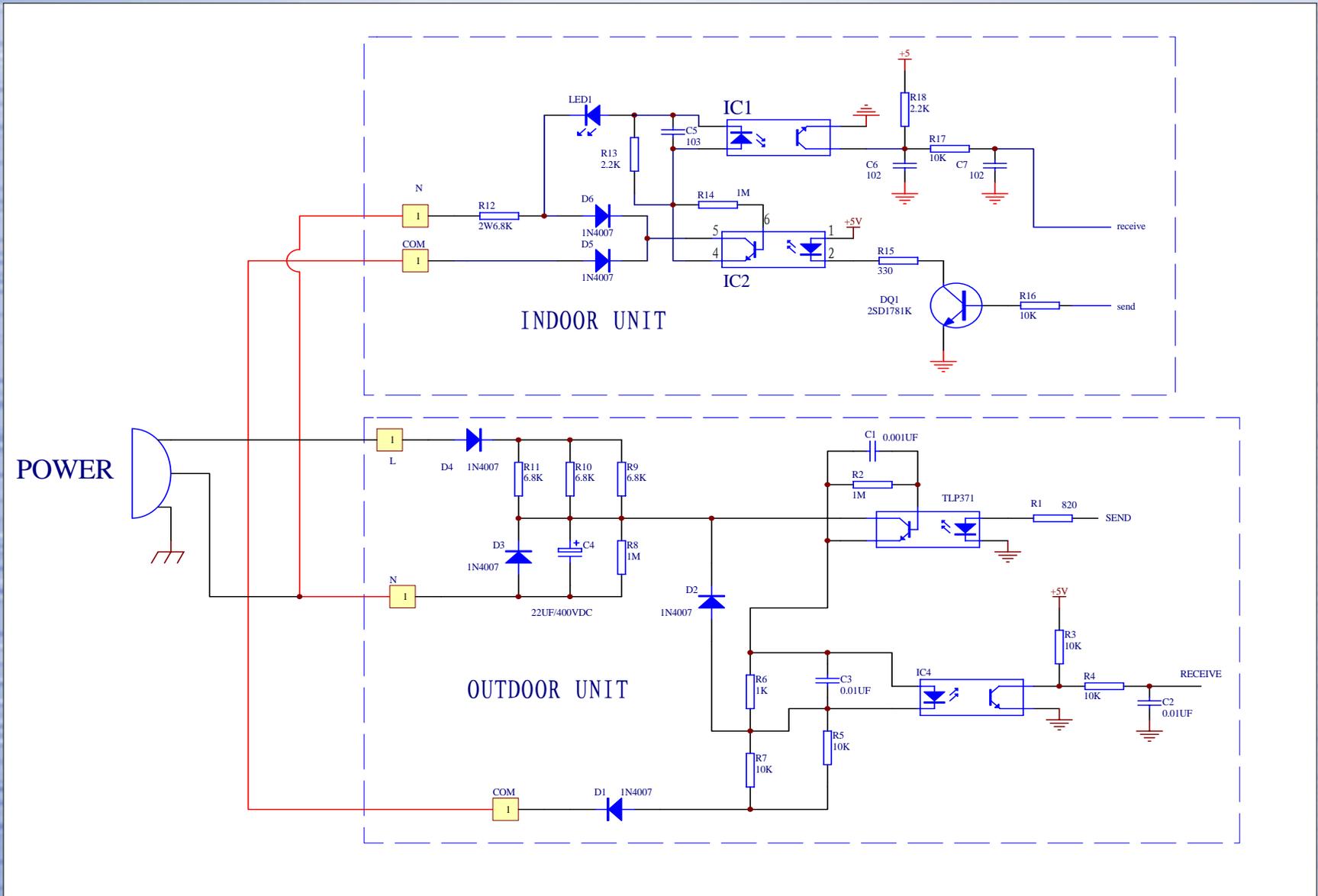
### Countermeasure Flow Chart (CONTINUE) :

LED1 of indoor mainboard is OFF.



Trouble shooting process:

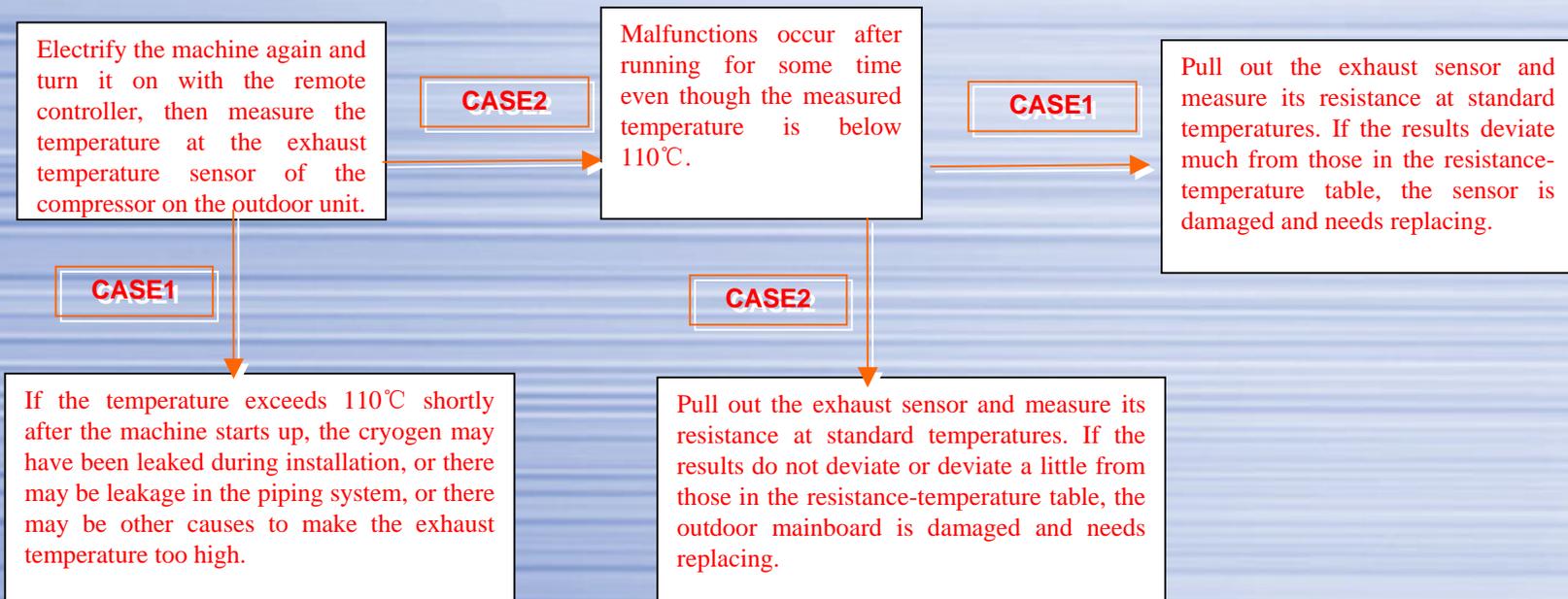
1. Test the outdoor power supply (230VAC and +310VDC) with a multimeter. If 230VAC is available but 310DC not, rectifying bridge is damaged, replace it with a new one. If both 230VAC and 310DC are available, go forward to step 2.
2. Measure the voltage across Jumpers 1 and 2 of IC4(7805) on the outdoor mainboard with a multimeter. If +12DC 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:

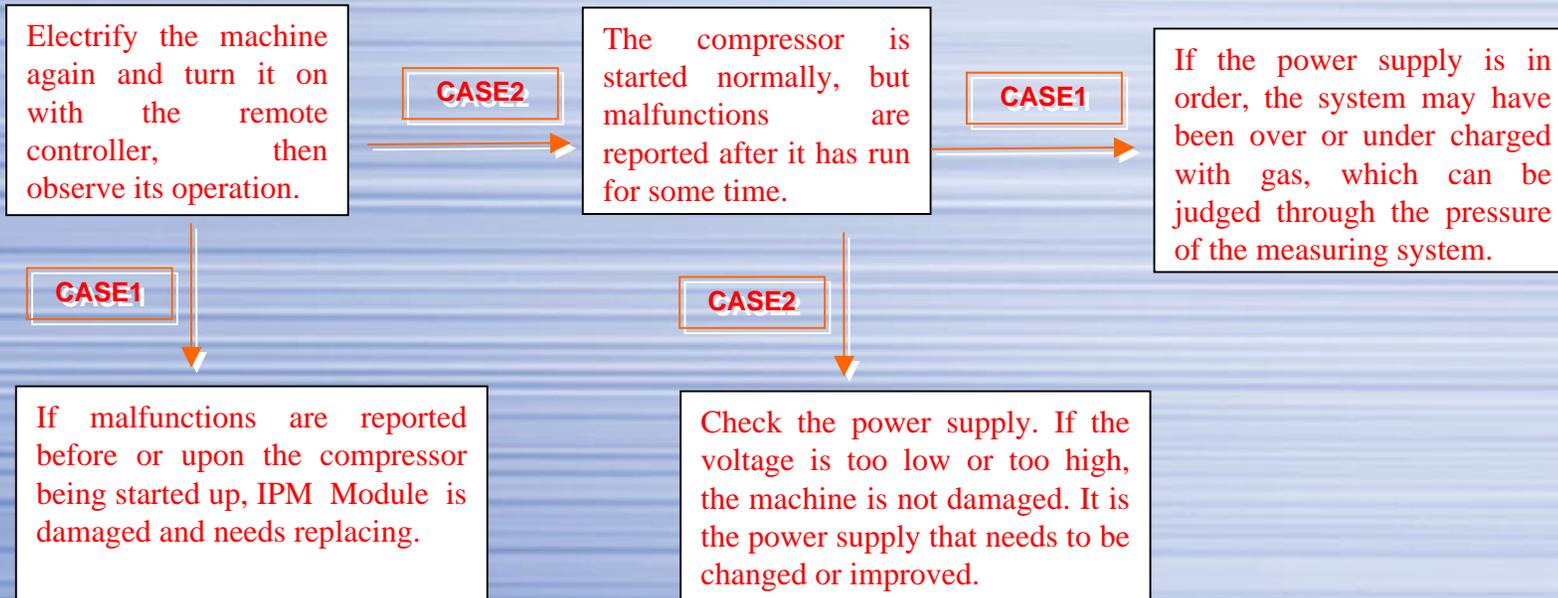


### Countermeasures for Frequent Malfunctions (9)

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

### Countermeasure Flow Chart:

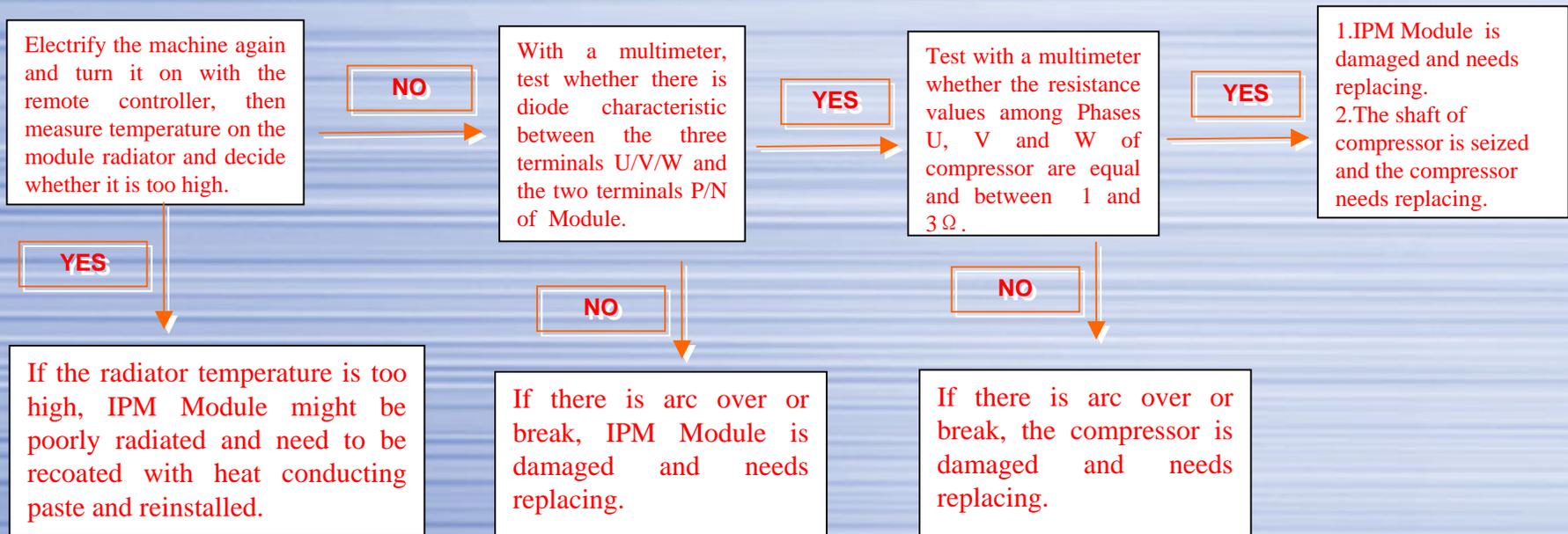
With this malfunction, LED1 on the outdoor mainboard blinks 3 times.



## Countermeasures for Frequent Malfunctions (10)

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

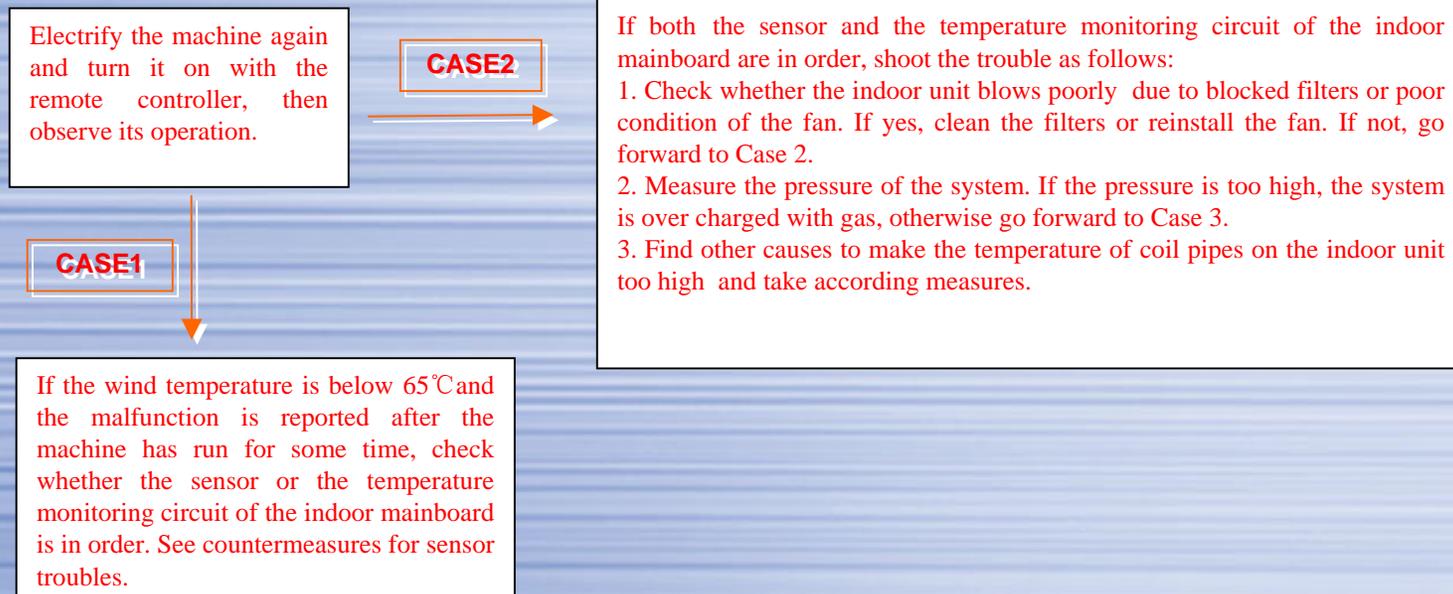
### Countermeasure Flow Chart:



## Countermeasures for Frequent Malfunctions (11)

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

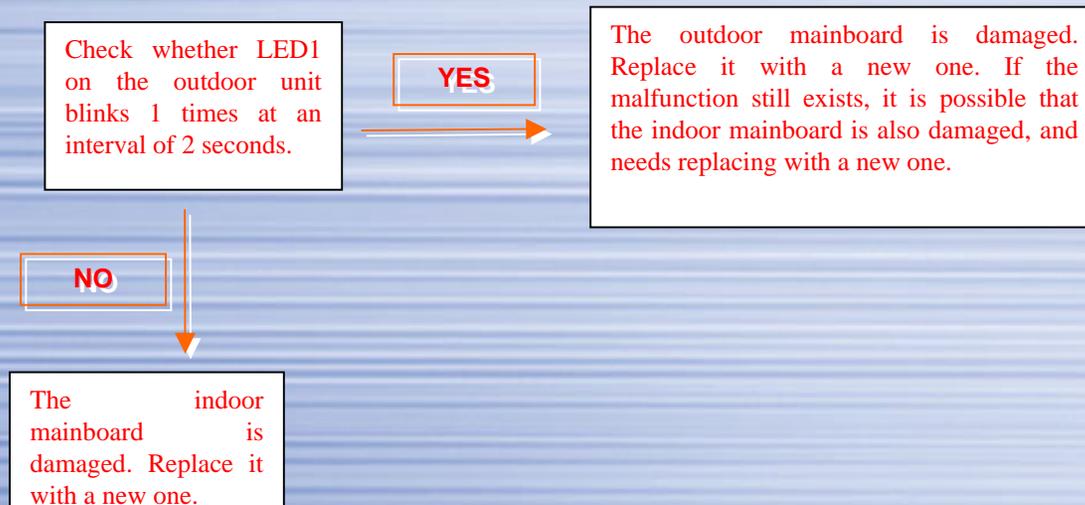
### Countermeasure Flow Chart:



## Countermeasures for Frequent Malfunctions (12)

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

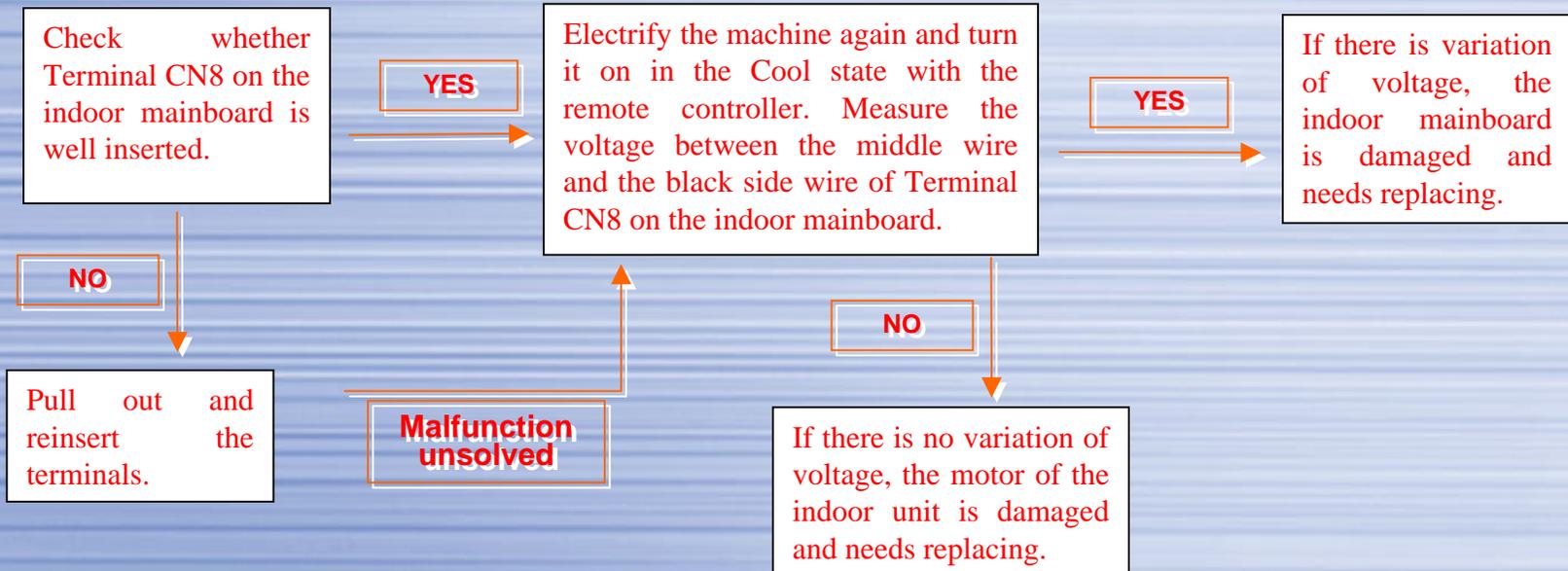
### Countermeasure Flow Chart:



## Countermeasures for Frequent Malfunctions (13)

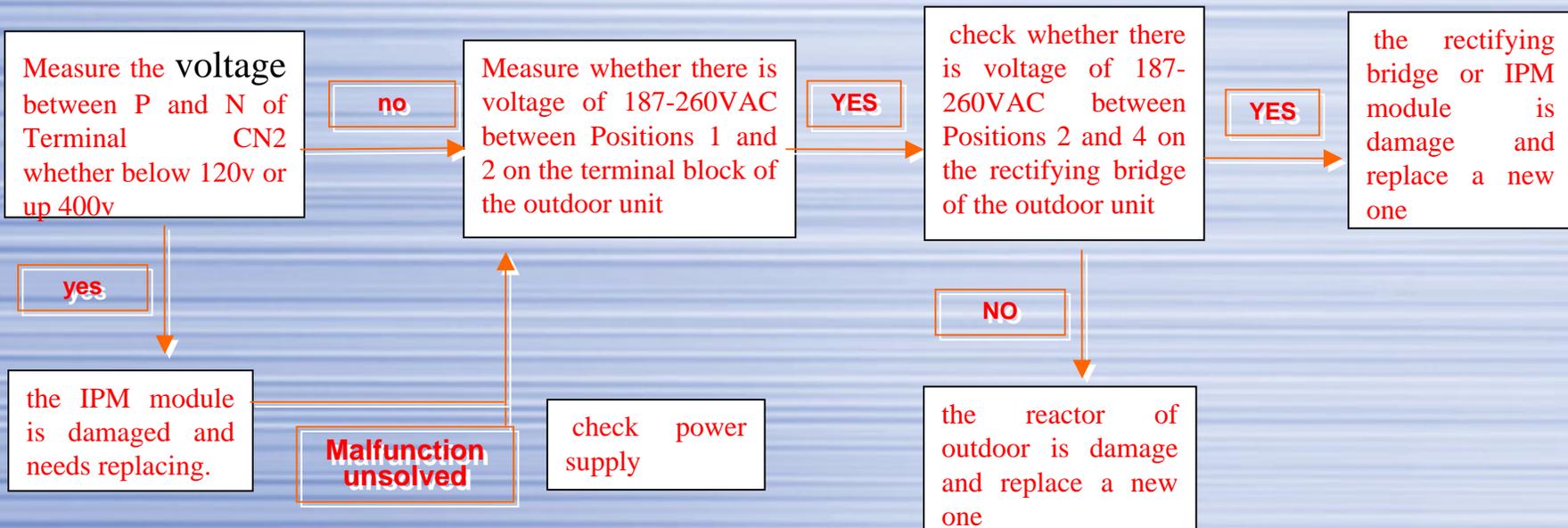
Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
Indoor fan motor malfunction	■	□	★	*		

### Countermeasure Flow Chart:



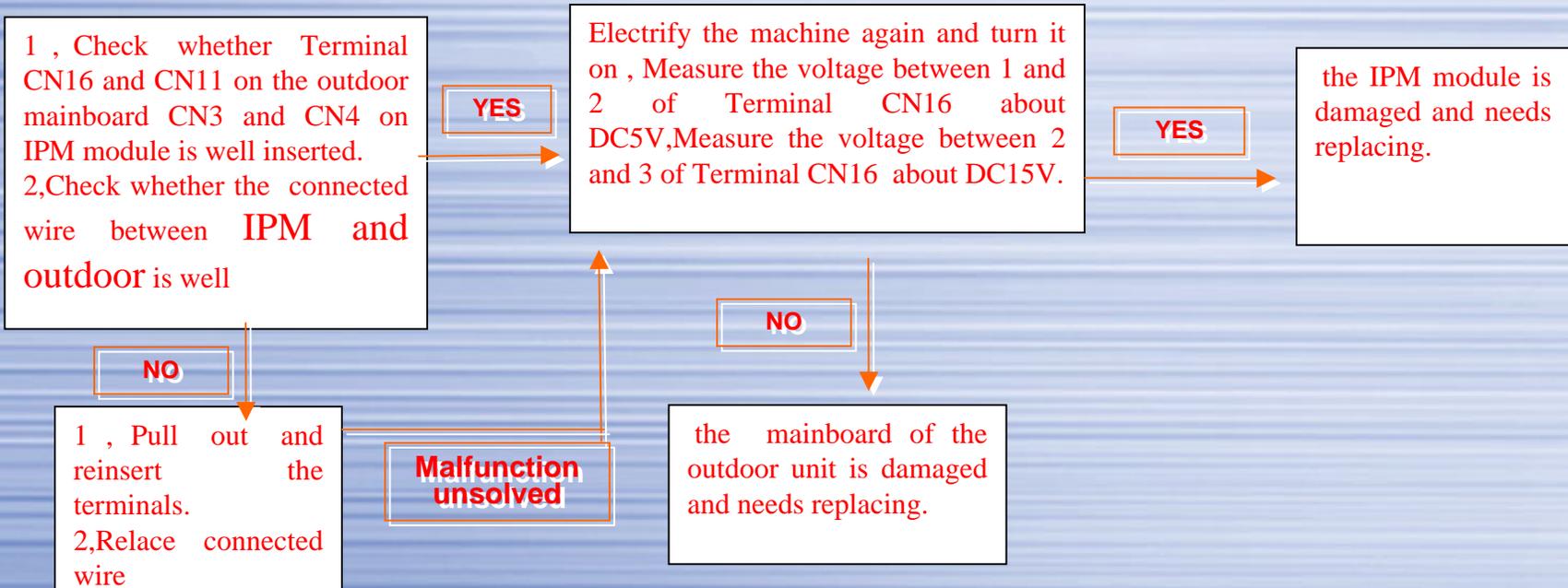
Content	Malfunction codes			Indoor Unit	Outdoor Unit	Auto Recover
	Power operate	Timer operate	Heat Cool			
Power voltage is too high or low	■	★	□		*	

## 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		*	

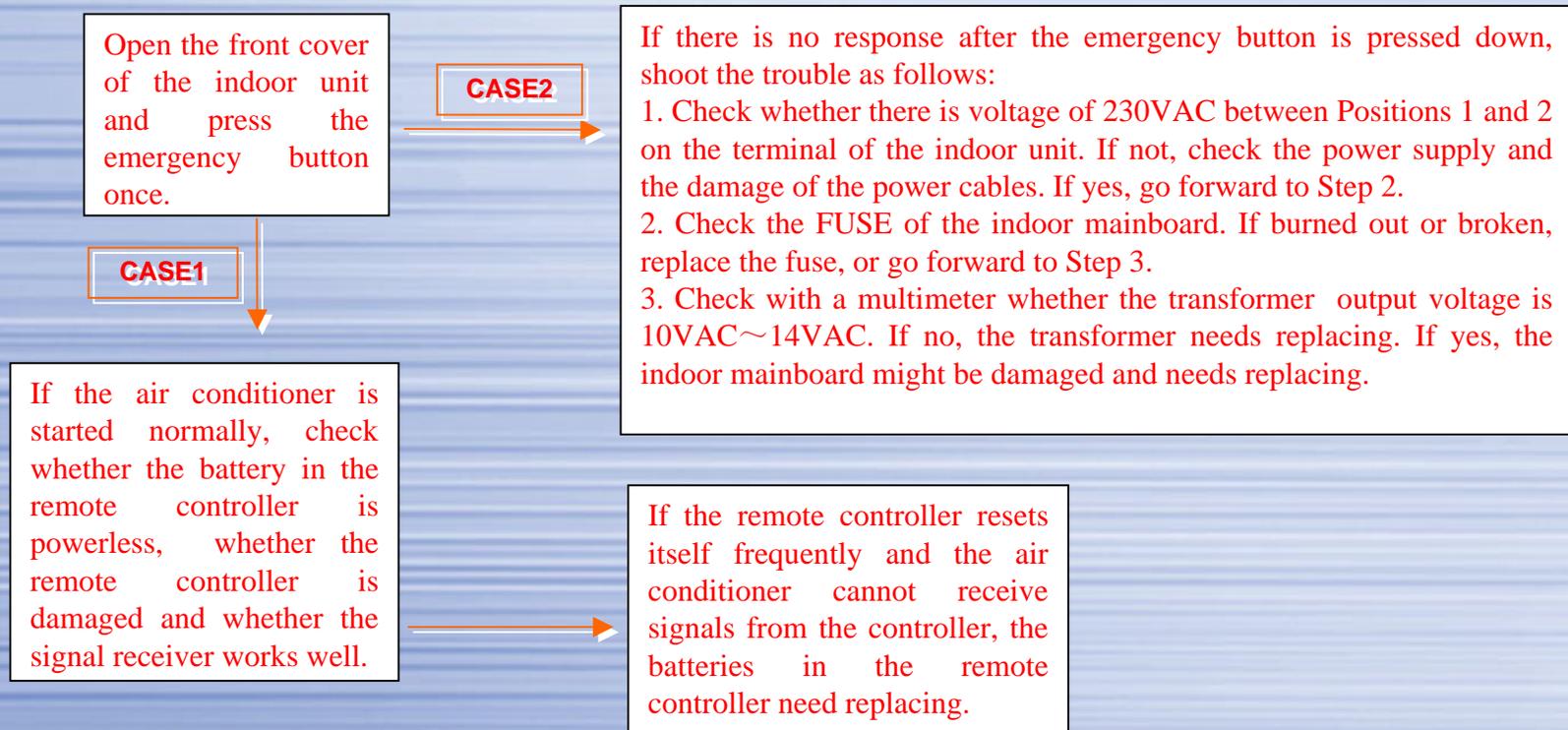
## Countermeasure Flow Chart:



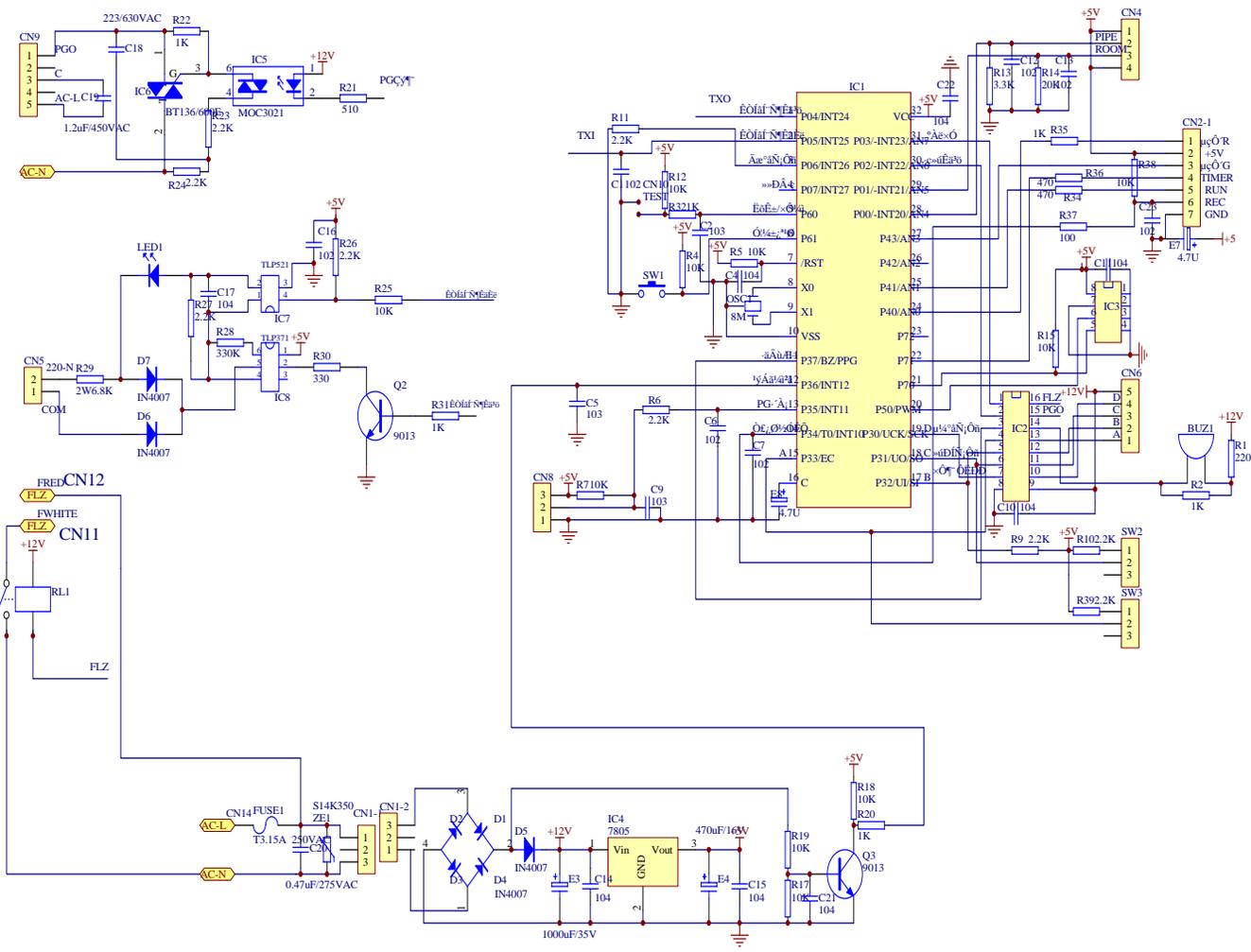
## Countermeasures for Other Frequent Malfunctions (14)

With the machine electrified, the remote controller cannot start it

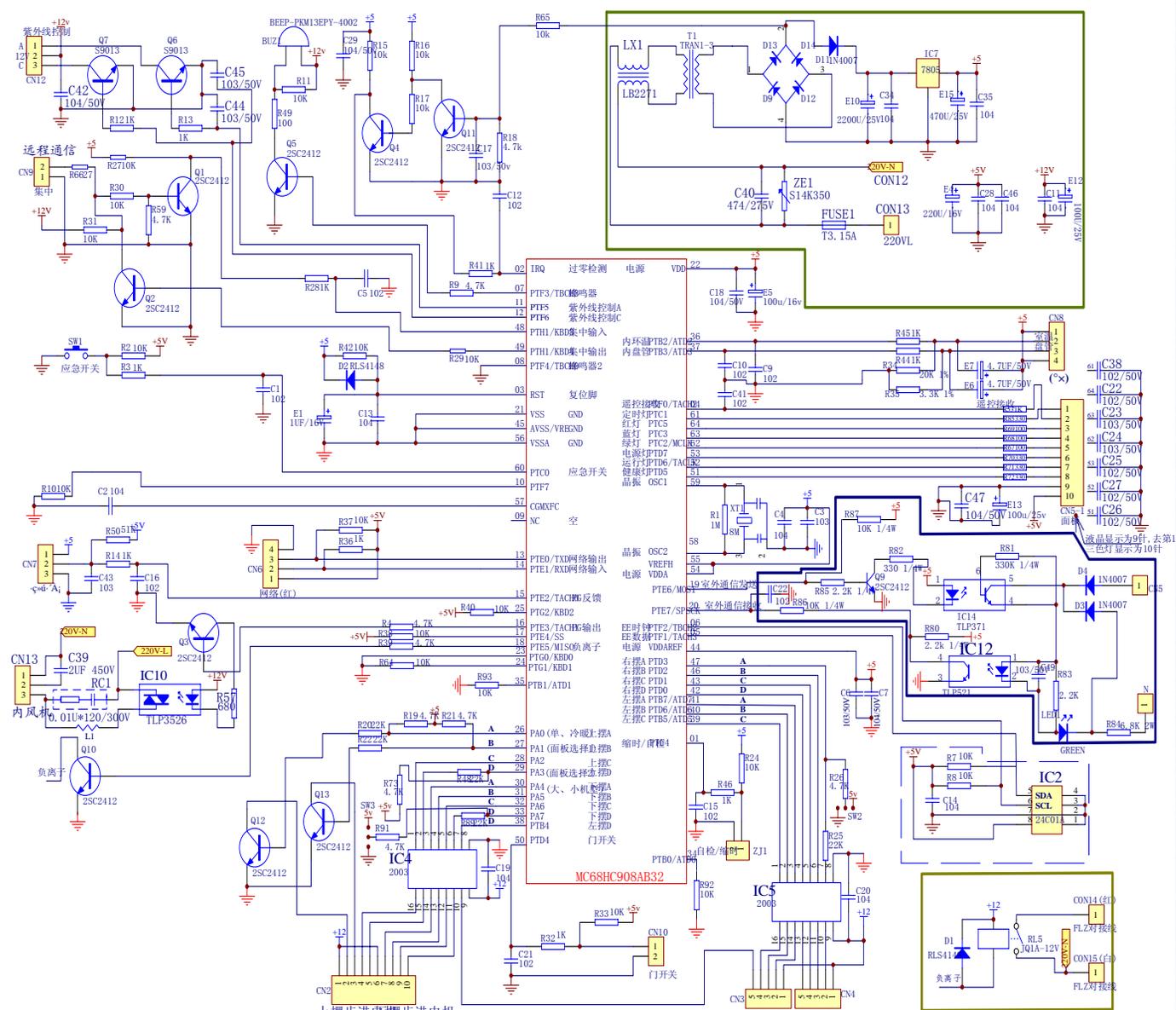
### Countermeasure Flow Chart:



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

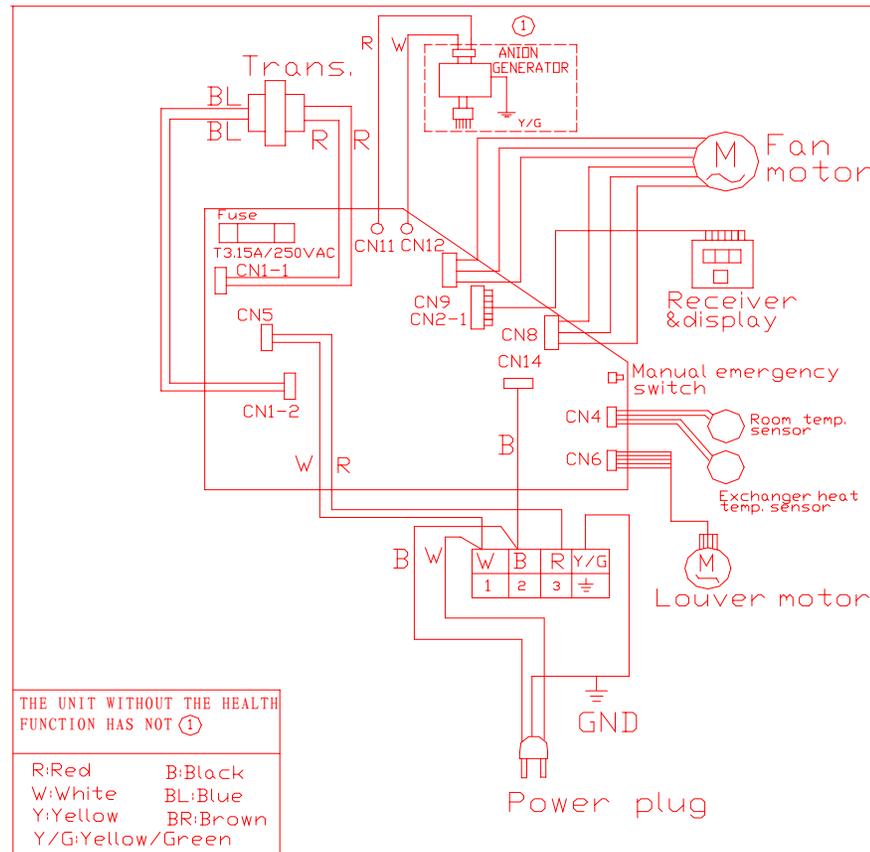


The figure on the right shows the electric diagram for the indoor unit of DC products with Model HSB Economical Series.





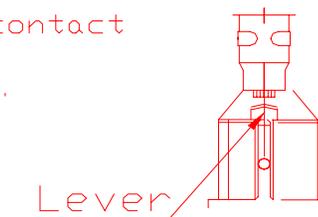
The figure on the right shows the wiring diagram for the indoor unit of DC products with Model HB Economical Series.



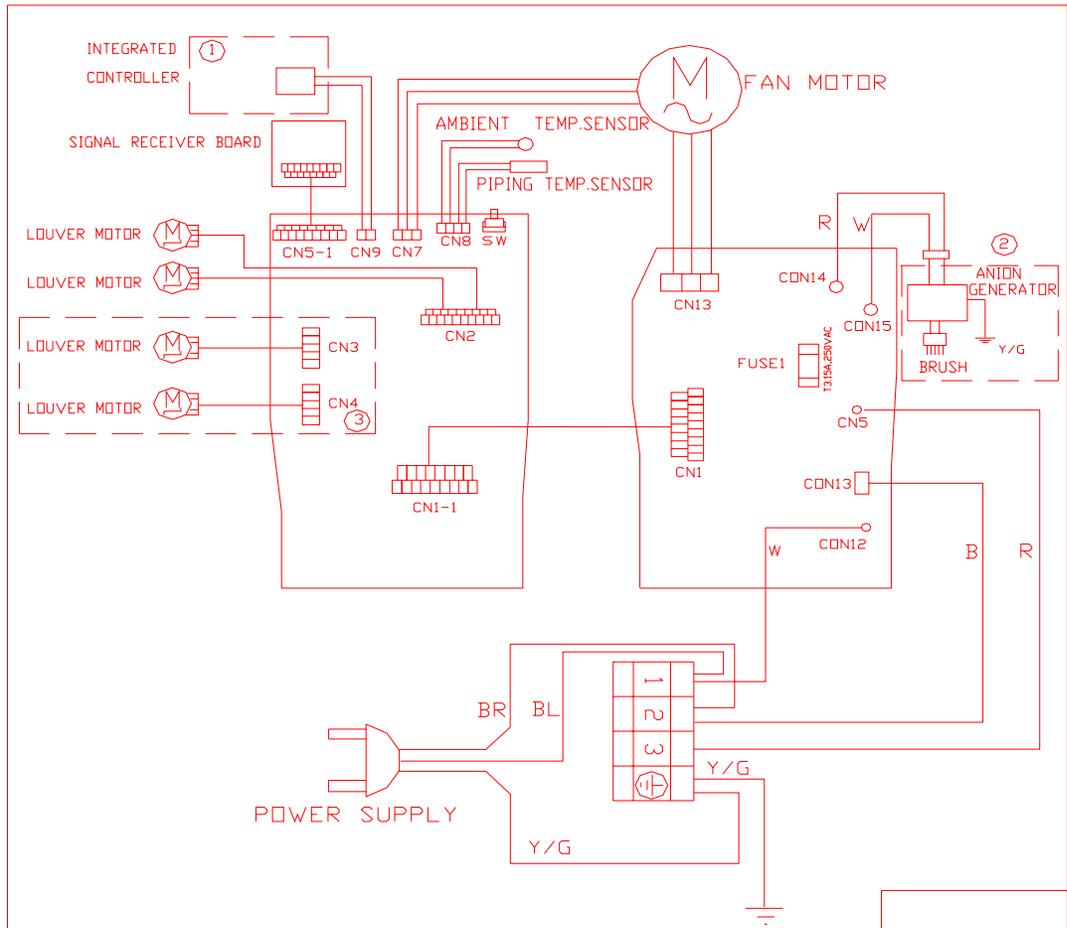
Removal of locking terminal contact

Terminal contact (mark ※) comes with locking structure.

Please press the front lever to release the locking and pull the cable out.



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



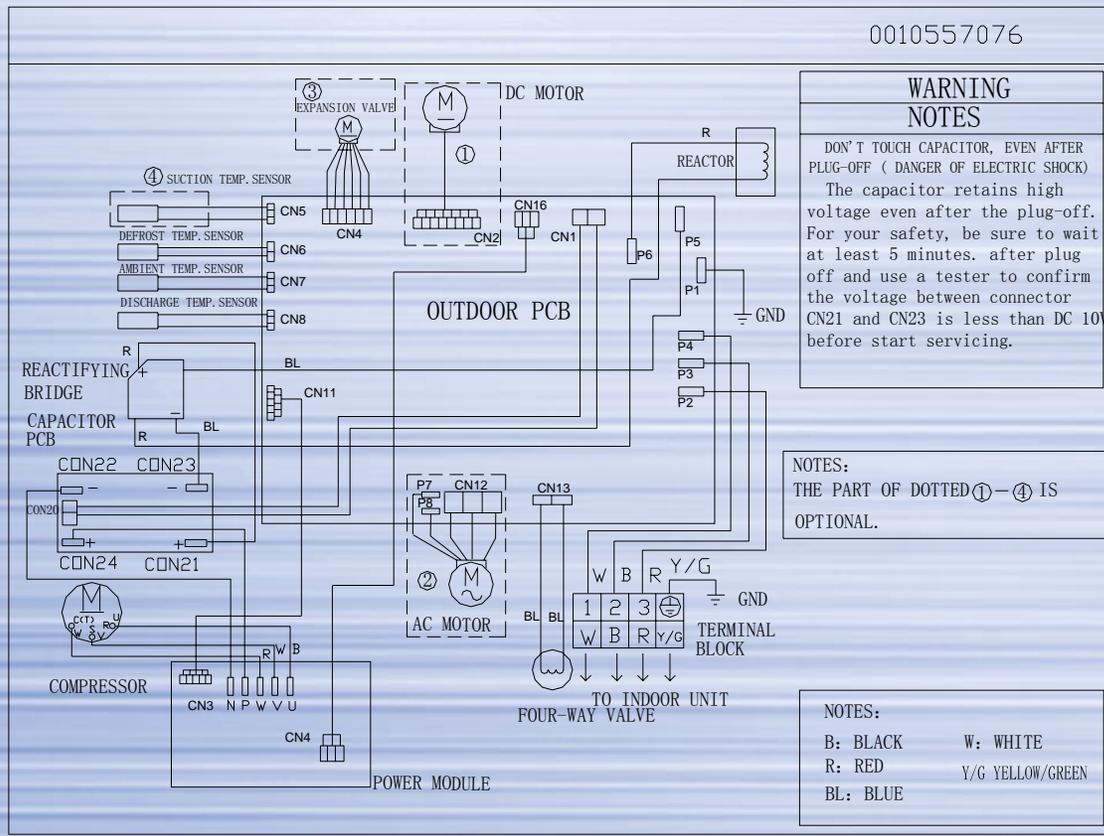
NOTES THE PARTS OF DOTTED ①、② AND ③ ARE OPTIONAL  
THE UNIT WITHOUT THE HEALTH FUNCTION HAS NOT ②

B	BLACK
BL	BLUE
BR	BROWN
R	RED
W	WHITE
Y/G	YELLOW/GREEN

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

WIRING DIAGRAM OF OUTDOOR UNIT

0010557076



**WARNING NOTES**

DON'T TOUCH CAPACITOR, EVEN AFTER PLUG-OFF ( DANGER OF ELECTRIC SHOCK)

The capacitor retains high voltage even after the plug-off. For your safety, be sure to wait at least 5 minutes. after plug off and use a tester to confirm the voltage between connector CN21 and CN23 is less than DC 10V before start servicing.

NOTES:  
THE PART OF DOTTED ①-④ IS OPTIONAL.

NOTES:

B: BLACK	W: WHITE
R: RED	Y/G YELLOW/GREEN
BL: BLUE	

**THANKS!**