

# **TECHNICAL SERVICE MANUAL**

— **Dehumidifier Series**

GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI

Jinji West Rd. Qianshan Zhuhai

Guangdong China

# Introduction

In this technical service manual, you will find rich references to Dehumidifier Series products, including photos, technical specifications, explosive views, spare parts lists and circuit diagrams. Service people and engineers of Gree's customers and distributors would find it a very handy source of technical information of our products.

Technical Support Department  
GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI  
Nov. 2002

**Editor In Chief:** Chen Jianmin

**Compiler:** Chen Zhian   Ouyang Jun   Tian Guoku  
Yang Rong   Jia Tianwei   Cao Xuan   Wang Min

**Proofreader:** Zhang Yuanzhong   He Jiefeng   Jin Gang   Li Gangxiang

**Designer of Cover:** Li Jiesheng   Sheng Zhiguo

# CONTENT

1.CF0.5E、CF0.5M、CF0.8E、CF0.8M type .....	1
1.1 Summary .....	1
1.2 Technical specifications .....	3
1.3 Outlines and dimensions .....	4
1.4 Explosive view and spare parts list .....	6
1.5 Circuit diagram .....	8
1.6 PCB function manual .....	10
2.CF0.5M/A、CF0.7M/A、CF0.8M/A type .....	15
2.1 Summary .....	15
2.2 Technical specifications .....	17
2.3 Outlines and dimensions .....	18
2.4 Explosive view and spare parts list .....	20
2.5 Circuit diagram .....	22
2.6 PCB function manual .....	23

1. CF0.5E、CF0.5M、CF0.8E、CF0.8M type

1.1 Summary



CF0.5M  
CF0.8M

Fig. 1-1



CF0.5E  
CF0.8E

Fig. 1-2

MODEL

CF0.5M  
CF0.5E  
CF0.8M  
CF0.8E

NOTE

CE  
1Ph 220-230V 50Hz  
R134a

## Dehumidifier

### 1.2 Technical specifications

Table 1-1

Model	CF0.5M	CF0.5E	CF0.8M	CF0.8E
Power supply	1Ph 220-230V 50Hz			
Dehumidifying Capacity (L/day)	12		20	
Rated input (W)	210		400	
Rated current (A)	0.9		1.8	
Air flow (M <sup>3</sup> /h)	120		150	
Motor	Fan speed (rpm)	520/450/400		570/510/450
	Output power (W)	5.5		5.5
	Working capacitor (uF)	1		
Fan type/piece	Axial fan-1			
Diameter -length	234-46			
Evaporator	Aluminum fin-copper tube			
Row-fin distance (mm)	10-1.8		12-1.6	
Working area (m <sup>2</sup> )	0.047		0.056	
Condenser	Aluminum fin-copper tube			
Row-fin distance (mm)	10-1.3		12-1.3	
Working area (m <sup>2</sup> )	0.047		0.056	
Compressor model	Rotary			
Compressor	XB357VMCC		YB645VMCC	
Power (W)	170		295	
Protect equipment	LYDN 96X		LYGN 78X	
Starting method	capacitor			
Working current (A)	0.8		1.4	
Working temp.	Exhaust temperature ≤ 115°C			
Compressor capacitor (uF)	4.8		6.5	
Throttling method	Capillary			
Fuse(A)	3.15		3.15	
Noise (dB(A))	41		43	
dimension	Width (mm)	380		
	Height (mm)	545		
	Depth (mm)	261.5		
Net weight (kg)	12.5		14	
Refrigerant	R134a			
Refrigerant charge(g)	140		170	

The technical data are subject to change without notice .Please refer to the nameplate of the unit.

### 1.3 Outlines and dimensions



Fig. 1-3



Fig. 1-4



Fig. 1-5



Fig. 1-6

## Dehumidifier

---

(Blank)

### 1.4 Explosive view and spare parts list

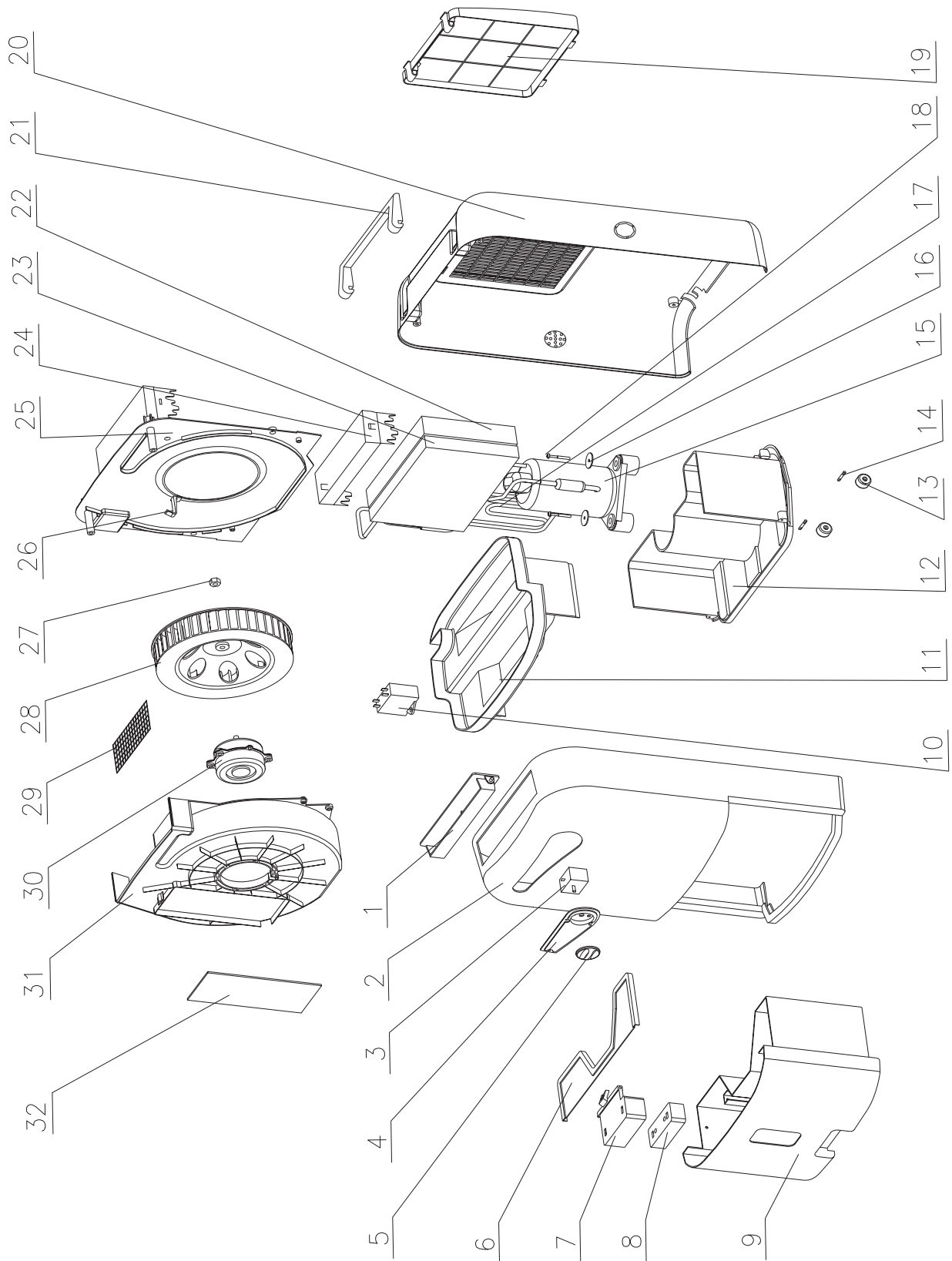


Fig. 1-7



## Dehumidifier

Table 1-2

No.	Description		Part No.				Qty
			CF0.5M	CF0.5E	CF0.8M	CF0.8E	
1	Air guider	导风板	10512384	10512384	10512384	10512384	1
2	Front case	面壳	01513420	01513420	01513420	01513420	1
3	Main switch	主令开关	45010301	/	45010301	/	1
	Lo-volt PCB	控制器弱电板 18F1	/	30021001	/	30021001	1
4	Knob supporting plate	旋钮板	70411204	/	70411204	/	1
	Button supporting plate	按钮板	/	45037004	/	45037004	1
5	Knob	旋钮	20106010	/	20106010	/	1
6	Protecting plate	保护板	01491531	01491531	01491531	01491531	1
7	Buoy supporter	浮标卡	12497002	12497002	12497002	12497002	1
8	Buoy	浮子	12497001	12497001	12497001	12497001	1
9	Water tank	水箱	20186505	20186505	20186505	20186505	1
10	Comp. Capacitor	压缩机电容 4.8UF/450VAC	33000028	33000028	/	/	1
		压缩机电容 6.5UF/450VAC	/	/	33010032	33010032	1
11	Water tray	接水盘	12412050	12412050	12412050	12412050	1
12	Base assy	底盘	22226504	22226504	22226504	22226504	1
13	Castor	脚轮	24236551	24236551	24236551	24236551	2
14	Crank	轮轴	10546521	10546521	10546521	10546521	2
15	Compressor	压缩机XB357VMCC	00100040	00100040	/	/	1
		压缩机YB645VMCC	/	/	00100041	00100041	1
16	Gasket	垫片	70411201	70411201	70411201	70411201	3
17	Pipes	管路系统	06106421	06106421	06102422	06102422	1
18	Bolt	压缩机螺钉	70140555	70140555	70140555	70140555	3
19	Filter	过滤网	11126503	11126503	11126503	11126503	1
20	Rear case	后壳	01513413	01513413	01513413	01513413	1
21	Handle	把手	26233432	26233432	26233432	26233432	1
22	Evaporator	蒸发器	01036501	01036501	01036503	01036503	1
23	Condenser	冷凝器	01136501	01136501	01136503	01136503	1
24	Fixing clamp	两器卡	20196501	20196501	20190000	20190000	1
25	Cover of propeller housing	蜗壳盖	12104110	12104110	12104110	12104110	1
26	Positioning sticker	导风板制	10511133	10511133	10511133	10511133	1
27	Nut	螺母 M8	70310133	70310133	70310133	70310133	1
28	Centrifugal fan	风叶	10356501	10356501	10356501	10356501	1
29	Grille	格栅	22416551	22416551	22416551	22416551	1
30	Motor	电机 CF6A	15016501	15016501	15016501	15016501	1
31	Propeller housing	蜗壳	12102010	12102010	12102010	12102010	1
32	PCB	控制器电路板 1701	30021002	/	30021002	/	1
	PCB	控制器强电板 18F1	/	30021001	/	30021001	1

The data are subject to change without notice.

# Dehumidifier

## 1.5 Circuit diagram

### 1.5.1 Circuit diagram for CF0.5M \ CF0.8M

This circuit diagrams are subject to change without notice.

Please refer to the ones stuck on the machines.

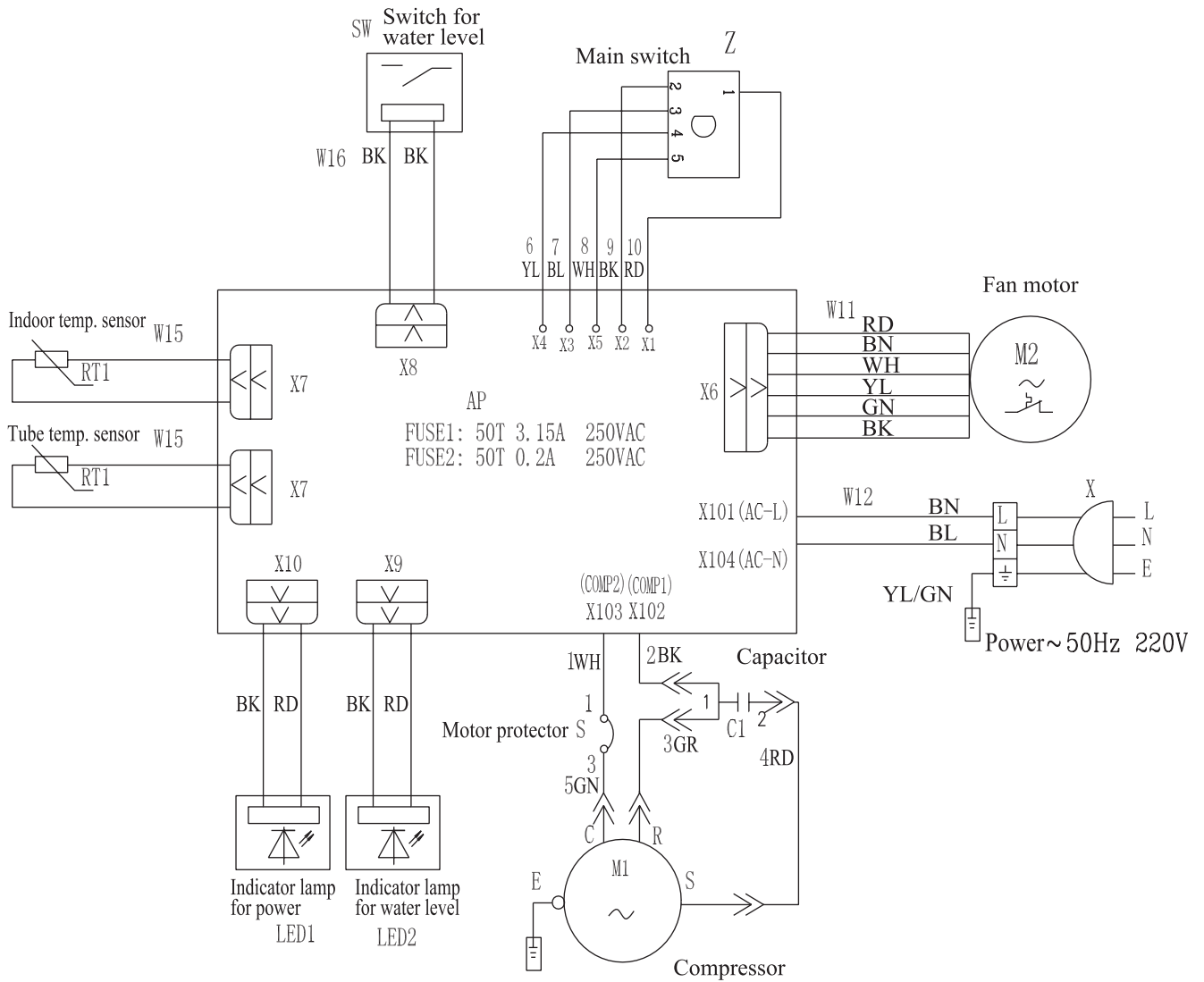


Fig. 1-8

# Dehumidifier

## 1.5.2 Circuit diagram for CF0.5E、CF0.8E

This circuit diagrams are subject to change without notice.  
Please refer to the ones stuck on the machines.

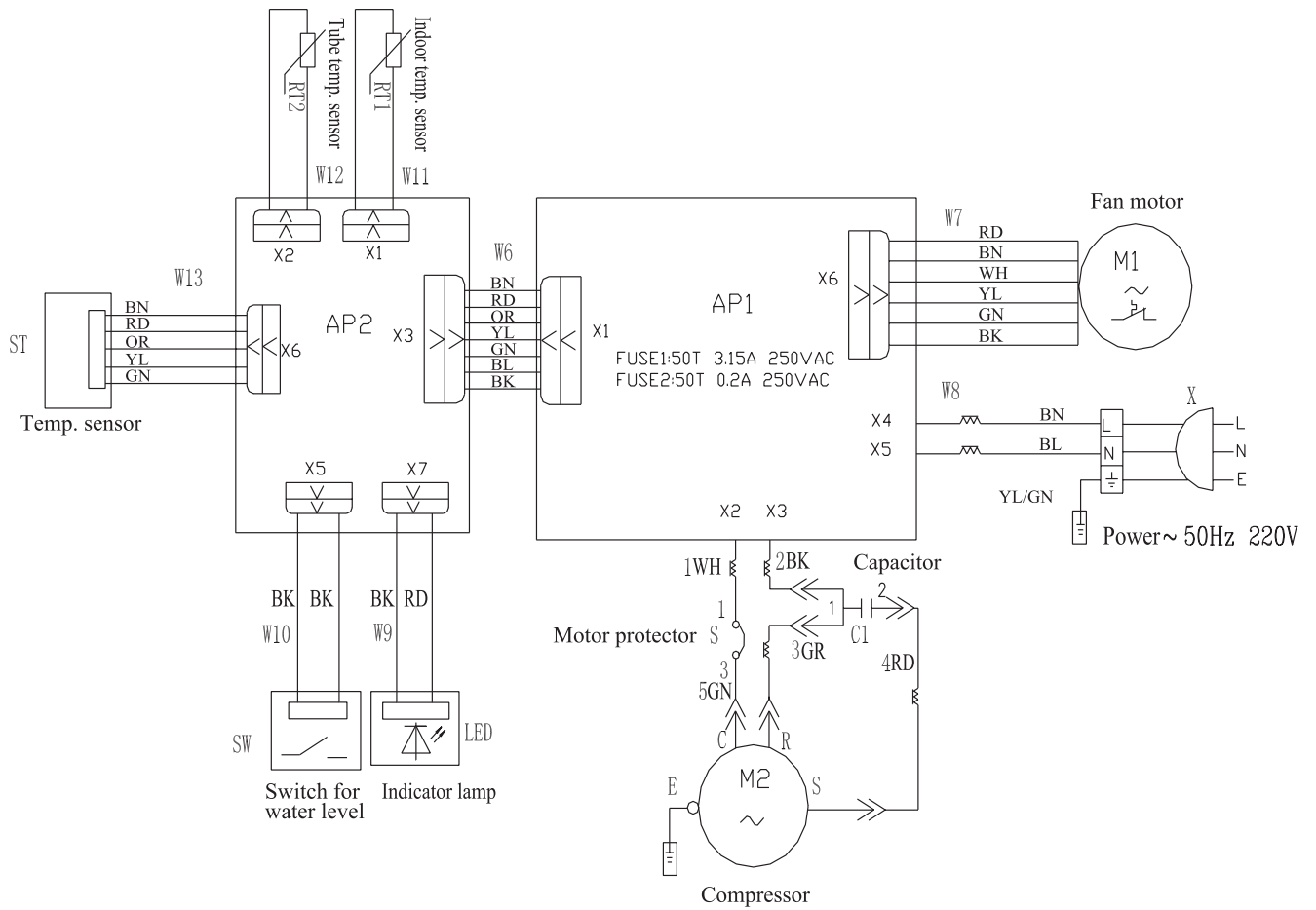


Fig. 1-9

## 1.6 PCB function manual

### Control for M type

**A. Main control function:** Dehumidify

**B. Aim of the control**

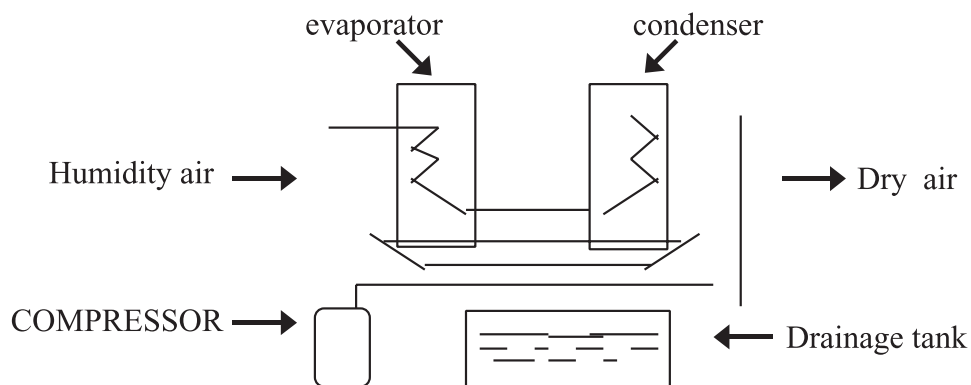
1. Fan motor:(include drying clothes , dehumidifying and silence
2. Compressor
3. Full lamp
4. Power lamp

**C.The input parameter of the PCB**

1. Temperature of the environment : T Ring(Detect only before the starting of the compressor)
2. Temperature of the tube of the Evaporator : T Tube(the same tube temperature sense as T Ring)
3. Liquid switch: S Liquid
4. Quick detect switch
5. Work mode of the main switch

**D. Work voltage**      **220-230V**                      **Frequency**                      **50Hz**

**E. Systematic diagram of the dehumidifying cycle**



**F. The way of the control in each mode**

This unit have only one Main Switch, including OFF, silence, dehumidifying and drying clothes. When the unit is connected with power, the power lamp light.

1. OFF: turning the switch to "OFF", the unit will stop running.
2. Silence: compressor startup, fan motor is running at low wind speed;
3. Dehumidifying: compressor startup, fan motor is running at medium wind speed;
4. Drying clothes: compressor startup, fan motor is running at high wind speed;

## Dehumidifier

---

### G. Protect function

1. Work range: set  $T1=4^{\circ}\text{C}$ ,  $T2=35^{\circ}\text{C}$ , when  $T\text{ Ring} \leq T1-1^{\circ}\text{C}$  or  $T\text{ Ring} \geq T2+1^{\circ}\text{C}$ , compressor doesn't start in order to protect the units from working in bad environment, and fan motor maintain running state.
2. 3 minutes protect : After you stop running, put through power supply to renew start, fan motor startup, compressor automatically delay 3 minutes to startup.
3. Water full protection: when water is full in water tank, Full Lamp will light, compressor will stop, and fan motor maintain running state.
4. Anti-freezing function : After the compressor start for 10 minutes, if detect  $T\text{ Tube} \leq -5^{\circ}\text{C}$  for continuous 3 minutes, compressor will stop, and Fan motor maintain running state; when  $T\text{ Tube} \geq 4^{\circ}\text{C}$  or the time of the defrosting reach 20 minutes, compressor will reset, and fan motor maintain running state.
5. Tube Temperature Sensor Protect : When detect  $T\text{ Tube} \leq -30^{\circ}\text{C}$  or  $T\text{ Tube} \geq 80^{\circ}\text{C}$ , system run into OFF mode, only the power lamp light.

### H. Quick detect function

When S quick detector is in short circuit, running one second will consider as one minute. This function only use for test, in usual time S quick detector should break.

## Control for E type

### A. Main control function: Dehumidify

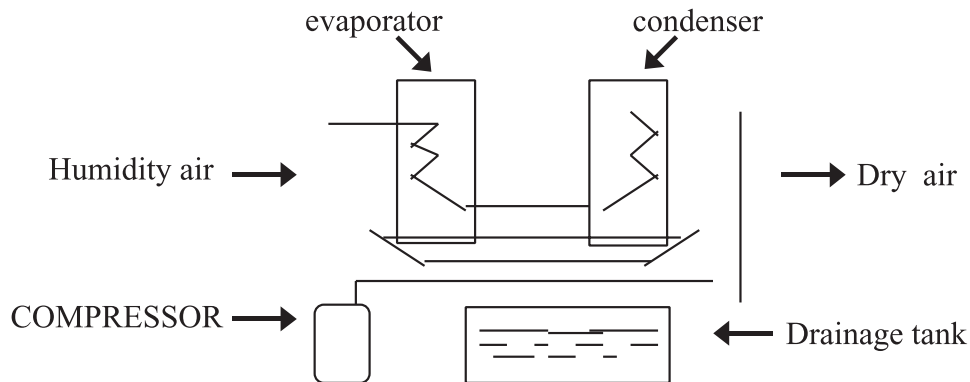
### B. Aim of the control

1. Fan motor:(include drying clothes, dehumidifying and silence)
2. Compressor
3. Mode lamp(drying clothes , dehumidifying and silence)
4. humidity lamp(continuous dehumidify, 50%, 60%, 70%)
5. Full lamp

### C. The input parameter of the PCB

1. Temperature of the indoor environment : T Ring(Detect only before the starting of the compressor)
2. Temperature of the tube of the Evaporator : T Tube(the same tube temperature sense as T Ring)
3. Humidity of the indoor environment :H Ring
4. Power switch :S switch
5. Mode switch : S mode
6. Humidity select : S humidity
7. Liquid switch: S Liquid
8. Quick detect switch :S quick detector

### D. Systematic diagram of the dehumidifying cycle



### E. Main control function

#### 1. Control key

(1) S switch : Control On and Off. When adding electricity, power lamp light, press switch key to start running with default mode, press switch key again to stop running.

(2) S mode : Press this key, you can control system's 4 mode, corresponding mode indicator light will bright: silence (low wind speed) → dehumidify (medium wind speed) → drying clothes (high wind speed). Starting default mode is dehumidify mode.

(3) S humidity : Set dehumidify of room, 4 kinds : continuous dehumidify、50%、60%、70%. corresponding mode indicator light will bright. Starting default mode is continuum mode.

#### 2. Humidity control:

Press the humidity select key, the unit will run continuously without the humidity compare in 10 seconds.

50%: when detect H Ring<45%, stop the unit, H Ring>55%, run the unit;

60%: when detect H Ring<55%, stop the unit, H Ring>65%, run the unit;

70%: when detect H Ring<65%, stop the unit, H Ring>75%, run the unit;

continuous dehumidify: the unit runs continuously.

#### 3. Mode

The system have 4modes: Off, Dehumidify, Drying clothes and Silence.

OFF : compressor and fan motor stop, mode lamp and humidity lamp extinguish, power lamp light..

Dehumidifying: humidity lamp light, others extinguish; fan motor is running at medium wind speed, compressor startup;

Drying clothes: Drying clothes lamp light, others extinguish; fan motor is running at high wind speed, compressor startup;

Silence: Silence lamp light, others extinguish; fan motor is running at low wind speed, compressor startup.

## Dehumidifier

---

### 4. Protect function

(1) Work range: set  $T1=2^{\circ}\text{C}$ ,  $T2=38^{\circ}\text{C}$ , when  $T \text{ Ring} \leq T1-1^{\circ}\text{C}$  or  $T \text{ Ring} \geq T2+1^{\circ}\text{C}$ , compressor don't start in order to protect the units from working in bad environment, and humidify lamp light, humidify and switch key is active, mode key is inactive.

(2) 3 minutes protect : After you stop running, put through power supply to renew start, fan motor startup, compressor automatically delay 3 minutes to startup.

(3) Water full protection: when water is full in water tank, Full Lamp will light, compressor and fan motor will stop.

(4) Anti-freezing function : After the compressor start for 10 minutes, if detect  $T \text{ Tube} \leq -5^{\circ}\text{C}$  for continuous 3 minutes, compressor will stop, and Fan motor maintain running state; when  $T \text{ Tube} \geq 4^{\circ}\text{C}$  or the time of the defrosting reach 20 minutes, compressor will reset, and fan motor maintain running state.

(5) High temperature mode: when  $T \text{ Ring} \geq 35$ , the high temperature mode startup, Fan motor only can ran at high speed, and mode key is inactive.

### F. Quick check function

When S quick detector is in short circuit, running one second will consider as one minute. This function only use for test, in usual time S quick detector should break.