

MAINTENANCE

1 TROUBLE SHOOTING

1.1 Trouble Display of Indoor Unit

Error Code	Error	Source of error signal	Control description
E1	Compressor high pressure protection	High pressure switch	The high pressure protection value is 4.2MPa. When high pressure of a compressor is detected for successive three times, the compressor will stop. Error code E1 will be displayed and the running LED will blink.
E2	Indoor antifreezing protection	Temperature sensor of evaporator	When $T_{\text{evaporator}} \leq -2^{\circ}\text{C}$ lasts for 10min, the antifreezing protection will occur. The indoor electronic expansion valve will be closed and the capacity is 0.
E3	Compressor low pressure protection	Low pressure switch	When the low pressure protection value (0.15Mpa, absolute pressure) is reached, the low pressure switch will be disconnected. The low pressure protection will be displayed.
E4	Compressor discharge temperature protection	Discharge temperature sensor	When discharge temperature T is 113°C or higher, the stop protection will occur. E4 is displayed upon the first discharge protection. After discharge temperature is lower than $TR^{\circ}\text{C}$ and the unit stops for 3min, the compressor will resume running. If this occurs for three times in one hour, the compressor can not resume running. It is a must to cut off the power and restart the unit.
E5	Conversion overcurrent protection	Compressor driver	The driving board of conversion compressor is wrong. Refer to the error code of outdoor nixie tube for specific error information.
E6	Communication Error	Communication	There is communication error between the mainboard of indoor unit or wired controller and the outdoor unit. The wrong indoor unit will stop and display error code.
E7	Mode conflict	User operation	The running modes of the unit running first and that of later are variant. There is mode conflict among cooling, defrosting and heating mode. There is no mode conflict among fan, cooling, defrosting and heating mode. When mode conflict occurs, the indoor unit will display E7 and stop.
E9	Water full protection	Water pump	When the water is full for successive 8s, the water full protection will occur. The wired controller will display E9 and alarm will occur. In that case, the water pump will work while the other load of indoor unit will stop. The outdoor unit needs to adjust capacity output.
F0	Ambient temperature sensor error of indoor unit	Ambient temperature sensor of indoor unit	The indoor unit of temperature sensor error displays the error code and stop.
F1	Indoor coil pipe inlet temperature sensor error	Indoor coil pipe inlet temperature sensor	The indoor unit of temperature sensor error displays the error code and stop.
F2	Indoor coil pipe middle temperature sensor error	Indoor coil pipe middle temperature sensor	The indoor unit of temperature sensor error displays the error code and stop.
F3	Indoor coil pipe outlet temperature sensor error	Indoor coil pipe outlet temperature sensor	The indoor unit of temperature sensor error displays the error code and stop.
F4	Outdoor ambient temperature sensor error	Outdoor ambient temperature sensor	If short circuit occurs to the temperature sensor, there will be alarm.. The error information will be transmitted to each indoor unit. The error LED or wired controller will display the error code. When outdoor ambient temperature is lower than -5°C , the break circuit of outdoor temperature sensor will be shielded. It is treated according to -30°C .
F7	Outdoor defrosting temperature sensor error	Outdoor defrosting temperature sensor	If short circuit occurs to the temperature sensor, there will be alarm.. The error information will be transmitted to each indoor unit. The error LED or wired controller will display the error code. When outdoor ambient temperature is lower than -5°C , the break circuit of outdoor temperature sensor will be shielded. It is treated according to -30°C .
F9	Discharge temperature sensor error	Discharge temperature sensor	If short circuit occurs to the temperature sensor, there will be alarm.. The error information will be transmitted to each indoor unit. The error LED or wired controller will display the error code. When outdoor ambient temperature is lower than -5°C , the break circuit of outdoor temperature sensor will be shielded. It is treated according to -30°C .

1.2 Trouble Display of Mainboard LED of Outdoor Unit

Description of indicator LED.

Definition:

LED6:

LED5:

LED4, LED3, LED2, LED1:

Error Description	Main control display of the outdoor units						Transfer board Display	Drive board of compressor			Drive board of fan motor		
	LED1	LED2	LED3	LED4	LED5	LED6	Nixietube	LED1 (Red)	LED2 (Yellow)	LED3 (Green)	LED1 (red) Continuous fast blinking counts		
											Red	Yellow	Green
Normal	○	●	●	●	○	○	ON	◎	●	●	1		
Capacity dial-up error	○	●		●	◎	○	-	-	-	-	-		
Compressor high-pressure protection	◎	●	●	●	◎	○	E1	-	-	-	-		
Compressor low-pressure protection	●	◎	●	●	◎	○	E3	-	-	-	-		
Compressor air-out protection	◎	◎	●	●	◎	○	E4	-	-	-	-		
Overcurrent Protector	●	●	◎	●	◎	○	E5	-	-	-	-		
No-refrigerant protection	●	○	◎	◎	◎	○	E3	-	-	-	-		
Error with sub-module and main control communication (display in sub-module)	◎	●	◎	●	◎	○	-	-	-	-	-		
Communication error with frequency conversion drive	◎	●	●	●	○	○	E5	●	◎	◎	-		
The temperature of radiating fin is too high	◎	○	○	○	◎	○	E5	○	◎	○	-		
Radiating fin sensor abnormal	○	○	◎	○	◎	○	E5	●	◎	○	-		
Clogged	◎	○	○	●	◎	○	E5	-	-	-	-		
Over-current protection of frequency conversion compressor	◎	○	◎	○	◎	○	E5	◎	◎	◎	-		
DC input voltage is too high	○	○	○	○	◎	○	E5	◎	◎	●	-		
DC input voltage is too low	○	◎	◎	○	◎	○	E5	◎	◎	●	-		
IPM ABNORMAL	○	○	○	◎	◎	○	E5	◎	●	◎	-		
Motor out of synchronization	●	●	○	●	◎	○	E5	◎	○	○	-		
Overspeed	●	○	○	◎	◎	○	E5	◎	○	◎	-		
Open phase, tripping	◎	●	○	●	◎	○	E5	○	●	○	-		
Temperature drift protection	○	●	○	◎	◎	○	E5	○	◎	◎	-		
Error with the temperature sensor on drive board	○	●	◎	○	◎	○	E5	◎	●	○	-		
Startup failure	○	○	○	●	◎	○	E5	○	◎	●	-		
AC current protection (input side)	●	○	◎	○	◎	○	E5	-	-	-	-		
PFC ABNORMAL	●	○	○	●	◎	○	E5	-	-	-	-		
Drive module reset	○	●	○	●	◎	○	E5	-	-	-	-		

Fixed-frequency compressor abnormal	○	◎	○	●	◎	○	-	-	-	-	
Fan motor module protection	○	○	●	○	◎	○	-	-	-	-	2 ◎ ● ◎
Voltage protection of fan motor drive	●	○	●	○	◎	○	-	-	-	-	4 ◎ ◎ ●
Current protection of fan motor drive	◎	○	●	○	◎	○	-	-	-	-	3 ◎ ◎ ◎
Overheat protection of fan motor module	○	●	●	○	◎	○	-	-	-	-	6 ○ ◎ ○
Communication error with fan motor drive board and main control	○	◎	◎	●	◎	○	-	-	-	-	5 ● ◎ ◎
Overheat protection of fan motor and motor	●	●	●	○	◎	○	-	-	-	-	- ◎ ○ ●
Communication error with indoor units and outdoor units	●	◎	◎	●	◎	○	E6	-	-	-	-
Defrosting(normal operating, not error)	◎	◎	◎	●	◎	○	-	-	-	-	-
Oil return operating (normal operating, not error)	◎	○	◎	◎	◎	○	-	-	-	-	-
Balancing oil(normal operating, not error)	○	◎	◎	◎	◎	○	-	-	-	-	-
Online testing	●	○	●	●	○	○	-	-	-	-	-
Outdoor ambient temperature sensor error	●	●	●	◎	◎	○	F4	-	-	-	-
Error with outdoor coil inlet temperature sensor	◎	●	●	◎	◎	○	F5	-	-	-	-
Indoor coil middle temperature sensor error	●	◎	●	◎	◎	○	F6	-	-	-	-
Outdoor coil middle temperature sensor error	◎	◎	●	◎	◎	○	F7	-	-	-	-
Variable-frequency exhaust temperature sensor error	◎	●	◎	◎	◎	○	F9	-	-	-	-
Fixed frequency 1 error with air-out sensor	●	●	◎	◎	◎	○	F8	-	-	-	-
Fixed frequency 2 error with air-out sensor	○	●	◎	◎	◎	○	F8	-	-	-	-
Variable-frequency top casing temperature sensor error	◎	●	●	○	◎	○	F9	-	-	-	-
Fixed frequency 1 error with sensor of housing head cover	○	◎	●	○	◎	○	-	-	-	-	-
Fixed frequency 2 error with sensor of housing head cover	●	◎	●	○	◎	○	-	-	-	-	-
High-voltage sensor error	◎	◎	◎	○	◎	○	Fc	-	-	-	-
Low-voltage sensor error	◎	◎	○	○	◎	○	Fd	-	-	-	-
The quantity of modules and dial-up is inconformity	○	○	◎	●	◎	○	-	-	-	-	-
Other modules stop due to error	●	○	◎	●	◎	○	-	-	-	-	-

Notes: 1. ◎ blink; ● dark; ○ bright

The error of DC fan motor board is displayed by the continuous blinking counts of single LED red, the error of AC fan motor board is displayed by the state of LED red, yellow and green.

Note: The code E5 represents different errors. Therefore, then the wired controller of indoor unit or the lamp displays E5 protection, please do not immediately cut off the power of complete unit, but checking the records of mainboard, adaptor board and drive board on outdoor side and observing the detailed display of the error lamp to identify the specific error protection.