جداول تشخیص عیب دستگاههای سبک مارک

GREE

جداول عیب یابی
دستگاههای اسپلیت
مدل دیواری

ADMIRAL..

ADMIRAL-09H1 (GWH09JE-K1NNA2A)
ADMIRAL-12H1 (GWH12JE-K1NNA2A)
ADMIRAL-18H1 (GWH18JF-K1NNA2A)

9.2 Malfunction Code Table

Code	Malfunction name	Display method of indoor unit				Air conditioner state	Possible results for malfunction
		Dual-8 code display	Indicator lamp display (indicator lamp is 0.5s on and 0.5 off when it blinks)				
			Operation indicator lamp	Cooling indicator lamp	Heating indicator lamp		
1	The indoor ambient temperature sensor is open and short circuit.	**F1**				The unit is stopped due to reach to the temperature point. Compressor and outdoor fan stop. Cooling, dry, fan: indoor fan runs at preset state. Heating: indoor fan runs after blow residual heat.	1.The connection terminal of indoor ambient temperature sensor and control plate is loosened or bad contact. 2.The indoor ambient temperature sensor is damaged. (Check it refer to resistance table of temperature sensor) 3.Control plate is damaged.
2	The indoor evaporator temperature sensor is open and short circuit.	**F2**				The unit is stopped due to reach to the temperature point. Compressor and outdoor fan stop. Cooling, dry, fan: indoor fan runs at preset state. Heating: indoor fan runs after blow residual heat.	1.The connection terminal of indoor evaporator temperature sensor and control plate is loosened or bad contact. 2.The indoor evaporator temperature sensor is damaged. (Check it refer to resistance table of temperature sensor) 3.Control plate is damaged.
3	DC motor (indoor fan) doesn't run	**H6**	3s off and blinks 11 times			The indoor and outdoor fan, compressor, electric heating pipe stop,4-way valve stops 22 min later, air deflector stops at the current position	1.The control terminal of DC motor is bad contact. 2.The fan isn't correct installed. 3.The motor doesn't install correctly. 4.The motor is damaged. 5.The control plate is damaged.
4	Protection for jump cap malfunction	**C5**				The receiving of remote control and button are valid, but no control dealing for detailed object	1.There is no jump cap on the controller. 2.The jump cap is wrong inserted. 3.The jump cap is damaged. 4.The control plate is damaged.
5	Malfunction for detection plate	**FP**				It doesn't influence the operation of air conditioner.	1.The connection terminal of sensor and control plate is loosened or bad contact. 2.The detection plate is damaged. 3.The controller is damaged.
6	Alarm due to the concentration of CO2 is too high	**Cd**				The buzzer gives out a alarm continuously, the air function is turned on forcibly	1.The detection plate is damaged. 2.The controller is damaged.

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AZURE..

Code	Name of malfunction	Display of indoor unit				Status of air conditioner	Reasons
		Dual-8 code display	Indicator lamp display(indicator lamp blink 0.5S on, 0.5S off)				
			Operation indicator lamp	Cooling indicator lamp	Heating indicator lamp		
1	Indoor environment temperature sensor open circuit and short circuit	F1		3S off, blink once		Stop disposal by reach to temperature point. Cooling, humidity: indoor fan runs, other overloads stop Heating: unit stops	1.The terminal connect indoor environment temperature sensor and control plate is loosen and bad connection 2. Device is felled on the control panel which leads short circuit. 3. The indoor environment temperature sensor is damaged. (Check it with temperature sensor resistance value table) 4. The mainboard is damaged.
2	Indoor evaporator temperature sensor open circuit and short circuit	F2		3S off, blink twice		Stop disposal by reach to temperature point. Cooling, humidity: indoor fan runs, other overloads stop Heating: unit stops	1.The terminal connect indoor evaporator temperature sensor and control plate is loosen and bad connection 2. Device is felled on the control panel which leads short circuit. 3. The indoor evaporator temperature sensor is damaged. (Check it with temperature sensor resistance value table) 4. The mainboard is damaged.
3	Outdoor environment temperature sensor open circuit and short circuit	F3		3S off, blink 3 times		Stop disposal by reach to temperature point. Cooling, humidity: indoor fan runs, other overloads stop Heating: unit stops	1.The terminal connect outdoor environment temperature sensor and control plate is loosen and bad connection 2. Device is felled on the control panel which leads short circuit. 3. The outdoor environment temperature sensor is damaged. (Check it with temperature sensor resistance value table) 4. The mainboard is damaged.
4	PG motor (indoor fan) doesn't run	H6	3S off, blink 11 times			Indoor fan, outdoor fan, compressor and electric heating pipe stops, 4-way valve stops 2min later, air deflector stops in the current position	1. Feedback from PG motor that the terminal is bad connection. 2. The control terminal of PG motor is bad connection. 3. Wrong installation for louver and bad rotary. 4. Wrong installation for motor. 5. Motor is damaged. 6. The control plate is damaged.
5	Malfunction protection of jump cap	C5	3S off, blink 15 times			Receive with remote control, the button is valid and no control deal for detailed objective	1. No jump cap on the controller. 2. The jump cap is wrong fixed and inserting. 3. The jump cap is damaged. 4. The control plate is damaged.
6	Malfunction of PG motor (indoor fan)zero-cross detecting	U8	3S off, blink 17 times			Receive with remote control, the button is valid and no control deal for detailed objective	1. The control plate is damaged.

9. 2 Malfunction Code and Troubleshooting

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Reasons
		Error Code	Indicator lamp (During blinking, ON 0.5S and OFF 0.5 S				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Communication malfunction	E6	OFF 3S and blink 6 times			During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	1. Is the communication line is connected tightly or poorly contacted? Poor contact of any line may cause the communication malfunction. 2. Check whether the match between main board and display panel is correct? Whether the indoor and outdoor unit boards are matched correctly? 3. Whether there's wrong wire connection? 4. Controller was damaged.
2	Indoor ambient temperature sensor is open/short-circuited	F1		OFF 3S and blink once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads （such as compressor, outdoor fan, 4-way valve） stop operation; During heating operation, the complete unit stops	1. The wiring terminal between indoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
3	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blink twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
4	Outdoor condenser temperature sensor is open/short-circuited	F4		OFF 3S and blink 4 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor condenser temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor condenser temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.

5	High pressure protection	E1	OFF 3S and blink once			During cooling and drying operation, except indoor fan operates all loads stop operation. During heating operation, if it is inverter unit, the complete unit stops; if it is floor standing unit, the complete unit stops and operation of remote controller or controller is unavailable.	1. Check whether the main board and the display panel are connected well? 2. Check whether the OVC terminal on main board is connected well with the high pressure switch on the complete unit? 3. Whether the wiring of high pressure switch was loosened? 4. Refrigerant was superabundant; 5. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7.Check whether the supply voltage is normal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. Check whether the air intake and air discharge at indoor / outdoor heat exchanger is smooth? Whether the air cycle is short circuited? 9. Check whether there's filth blockage of the filter and heat exchange fin of indoor/outdoor units? 10. The system pipeline is blocked. 11. Check whether the gas valve and liquid valve for outdoor unit are opened completely? 12. Check whether the high-pressure signal is high level?
6	freezing protection	E2	OFF 3S and blink twice			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.	1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor was not connected well.
7	Overcurrent protection	E5	OFF 3S and blink 5 times			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Supply voltage is unstable. The normal fluctuation is within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller . 4. Whether the indoor and outdoor heat exchanger is too dirty, or the air inlet and air outlet are blocked? 5. Whether the fan motor is run? Fan speed is abnormal, fan speed is too low or it doesn't run 6. Whether the compressor runs normally? Whether there's abnormal sound, oil leakage and whether the temperature of the shell is too high, etc. 7. There's blockage in the system（filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely）

9. Troubleshooting

9.1 Precautions before Performing Inspection or Repair

Be cautious during installation and maintenance. Do operation following the regulations to avoid electric shock and casualty or even death due to drop from high attitude.

* Static maintenance is the maintenance during de-energization of the air conditioner.

For static maintenance, make sure that the unit is de-energized and the plug is disconnected.

*dynamic maintenance is the maintenance during energization of the unit.

Before dynamic maintenance, check the electricity and ensure that there is ground wire on the site. Check if there is electricity on the housing and connection copper pipe of the air conditioner with voltage tester. After ensure insulation place and the safety, the maintenance can be performed.

Take sufficient care to avoid directly touching any of the circuit parts without first turning off the power.

At times such as when the circuit board is to be replaced, place the circuit board assembly in a vertical position.

Normally,diagnose troubles according to the trouble diagnosis procedure as described below.(Refer to the check points in servicing written on the wiring diagrams attached to the indoor/outdoor units.)

No.	Troubleshooting procedure
1	Confirmation
2	Judgement by Flashing LED of Indoor/Outdoor Unit
3	How to Check simply the main part

9.2 Confirmation

(1)Confirmation of Power Supply

Confirm that the power breaker operates(ON) normally;

(2)Confirmation of Power Voltage

Confirm that power voltage is AC 220–230–240 ± 10%.

If power voltage is not in this range, the unit may not operate normally.

9.3 Judgement by Flashing LED of Indoor/Outdoor Unit

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/short-circuited	F1		OFF 3S and blinks once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blinks twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	Outdoor ambient temperature sensor is open/short-circuited	F3		OFF 3S and blinks 3 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.

4	Outdoor condenser temperature sensor is open/short-circuited	F4		OFF 3S and blinks 4 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor condenser temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor condenser temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
5	Outdoor discharge temperature sensor is open/short-circuited	F5		OFF 3S and blinks 5 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor discharge temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor discharge temperature sensor is damaged. (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
6	High pressure protection	E1	OFF 3S and blinks once			During cooling and drying operation, except indoor fan operates, all loads stop operation. During heating operation, the complete unit stops; if it is floor standing unit	1. The main board and the display panel are not connected well. 2. The OVC terminal on main board is not connected well with the high pressure switch on the complete unit. 3. The wiring of high pressure switch is loosened. 4. Refrigerant is superabundant; 5. Poor heat exchange (including blocked heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7. The supply voltage is abnormal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. The air intake and air discharge at indoor / outdoor heat exchanger are not smooth. The air cycle is short circuited. 9. Filter and heat exchange fins of indoor/outdoor units are blocked. 10. The system pipeline is blocked.
7	Freeze protection	E2	OFF 3S and blinks twice.			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.	1. Poor air-return in indoor unit; 2. Abnormal fan speed; 3. Dirty evaporator; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor is not connected well.
8	Low pressure protection of compressor	E3	OFF 3S and blinks 3 times.			The complete unit stops	1. The main board and display panel are not connected well. 2. The LPP terminal on the main board is not connected well with the high pressure switch on the complete unit. 3. The wiring of the high pressure switch is loosened. High pressure switch is damaged or poorly contacted. 4. Insufficient or leaking out refrigerant. 5. Check whether LPP input is high level.
9	High discharge temperature protection of compressor	E4	OFF 3S and blinks 4 times			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Abnormal system (e.g.: blockage, etc) 2. Abnormal rotation speed of outdoor motor (cooling) 3. Abnormal air intake (cooling) 4. System is normal, but the compressor discharge temperature sensor is abnormal or poorly contacted.
10	Communication malfunction	E6	OFF 3S and blinks 6 times			During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	1. The communication line is not connected tightly or poorly contacted. Poor contact of any line may cause communication malfunction. 2. The match between main board and display panel is incorrect. Indoor and outdoor unit boards are matched incorrectly. 3. Incorrect wire connection. 4. Controller is damaged.

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Reasons
		Error Code	Indicator lamp (During blinking, ON 0.5S and OFF 0.5 S				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/short- circuited	F1		OFF 3S and blink once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
2	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blink twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
3	Outdoor ambient temperature sensor is open/short-circuited	F3		OFF 3S and blink 3 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
4	Outdoor condenser temperature sensor is open/short-circuited	F4		OFF 3S and blink 4 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor condenser temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor condenser temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
5	Outdoor discharge temperature sensor is open/short-circuited	F5		OFF 3S and blink 5 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor discharge temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Outdoor discharge temperature sensor was damaged. (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.

6	High pressure protection of system	E1	OFF 3S and blink once (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			During cooling and drying operation, except indoor fan operates all loads stop operation. During heating operation, if it is inverter unit, the complete unit stops; if it is floor standing unit, the complete unit stops and operation of remote controller or controller is unavailable.	1. Check whether the main board and the display panel are connected well? 2. Check whether the OVC terminal on main board is connected well with the high pressure switch on the complete unit? 3. Whether the wiring of high pressure switch was loosened? Whether the high pressure switch is broken or poorly connected? 4. Refrigerant was superabundant; 5. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7.Check whether the supply voltage is normal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. Check whether the air intake and air discharge at indoor / outdoor heat exchanger is smooth? Whether the air cycle is short circuited? 9. Check whether there's filth blockage of the filter and heat exchange fin of indoor/outdoor units? 10. The system pipeline is blocked.
7	Antifreezing protection	E2	OFF 3S and blink twice (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.	1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor was not connected well.
8	Low pressure protection of compressor	E3	OFF 3S and blink 3 times (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			The complete unit stops	1. Check whether the main board and display panel is connected well? 2. Check whether the LPP terminal on the main board was connected well with the high pressure switch on the complete unit? 3. Whether the wiring of the high pressure switch was loosened? Whether high pressure switch was damaged or poorly contacted. 4. Refrigerant is insufficient or leaked out. 5. Check whether the LPP input is high level?
9	High discharge temperature protection of compressor	E4	OFF 3S and blink 4 times (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. System is abnormal (e.g.: blockage, etc) 2. Rotation speed of outdoor motor is abnormal (cooling) 3. Air intake is abnormal (cooling) 4. System is normal, but the compressor discharge temperature sensor is abnormal or poorly contacted.
10	Communication malfunction	E6	OFF 3S and blink 6 times (inverter unit); blink (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	1. Is the communication line is connected tightly or poorly contacted? Poor contact of any line may cause the communication malfunction. 2. Check whether the match between main board and display panel is correct? Whether the indoor and outdoor unit boards are matched correctly? 3. Whether there's wrong wire connection? 4. Controller was damaged.

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/short-circuited	F1		OFF 3S and blinks once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads （such as compressor, outdoor fan, 4-way valve） stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blinks twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	PG motor (indoor fan motor) does not operate	H6	OFF 3S and blinks 11 times			Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position.	1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged.
4	Malfunction protection of jumper cap	C5	OFF 3S and blinks 15 times			Operation of remote controller or control panel is available, but the unit won't act.	1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged.
5	PG motor (indoor fan) circuit malfunction by zero cross detection	U8	OFF 3S and blinks 17 times			Operation of remote controller or control panel is available, but the unit won't act.	1. Controller is damaged.
6	Overcurrent protection	E5	OFF 3S and blinks 5 times (inverter unit); running indicator blinks (non-inverter floor standing unit); As for other types of units, please refer to the detailed function requirement.			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system （filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely）

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9. Troubleshooting

9.1 Error Code List

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/ short- circuited	F1		OFF 3S and blinks once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/ short-circuited	F2		OFF 3S and blinks twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	PG motor (indoor fan motor) does not operate	H6	OFF 3S and blinks 11 times			Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position.	1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged.
4	Malfunction protection of jumper cap	C5	OFF 3S and blinks 15 times			Operation of remote controller or control panel is available, but the unit won't act.	1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged.
5	PG motor (indoor fan) circuit malfunction by zero cross detection	U8	OFF 3S and blinks 17 times			Operation of remote controller or control panel is available, but the unit won't act.	1. Controller is damaged.

9. Troubleshooting

9.1 Judgement by Flashing LED of Indoor/Outdoor Unit

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/ short- circuited	F1		OFF 3S and blinks once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3. Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blinks twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3. Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	PG motor (indoor fan motor) does not operate	H6	OFF 3S and blinks 11 times			Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position.	1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged.
4	Malfunction protection of jumper cap	C5	OFF 3S and blinks 15 times			Operation of remote controller or control panel is available, but the unit won't act.	1.There's not jumper cap on the controller. 2.Jumper cap is not inserted properly and tightly. 3.Jumper cap is damaged 4.Controller is damaged.
5	PG motor (indoor fan) circuit malfunction by zero cross detection	U8	OFF 3S and blinks 17 times			Operation of remote controller or control panel is available, but the unit won't act.	1. Controller is damaged.
6	Overcurrent protection	E5	OFF 3S and blinks 5 times			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop	1.Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2.Supply voltage is too low and load is too high. 3.Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4.The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5.The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run. 6.The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7.There's blockage in the system (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely).

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No.	Malfunction Name	Display Method of Indoor Unit			A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)			
			Operation Lamp	COOL Lamp		
1	Indoor ambient temperature sensor is open/short-circuited	F1		OFF 3S and blinks once	The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads （such as compressor, outdoor fan, 4-way valve） stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blinks twice	The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	PG motor (indoor fan motor) does not operate	H6	OFF 3S and blinks 11 times		Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position.	1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged.
4	Malfunction protection of jumper cap	C5	OFF 3S and blinks 15 times		Operation of remote controller or control panel is available, but the unit won't act.	1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged.
5	Defrosting in heating mode	H1			OFF 3S and blinks once	The unit is defrosting in heating mode; 4-way valve, indoor and outdoor fan stop.
6	Overcurrent protection	E5	OFF 3S and blinks 5 times		During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system （filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely）

9. 2 Malfunction Code and Troubleshooting

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Reasons
		Error Code	Indicator lamp (During blinking, ON 0.5S and OFF 0.5 S				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Communication malfunction	E6	OFF 3S and blink 6 times			During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	1. Is the communication line is connected tightly or poorly contacted? Poor contact of any line may cause the communication malfunction. 2. Check whether the match between main board and display panel is correct? Whether the indoor and outdoor unit boards are matched correctly? 3. Whether there's wrong wire connection? 4. Controller was damaged.
2	Indoor ambient temperature sensor is open/short-circuited	F1		OFF 3S and blink once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads （such as compressor, outdoor fan, 4-way valve） stop operation; During heating operation, the complete unit stops	1. The wiring terminal between indoor ambient temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
3	Indoor evaporator temperature sensor is open/short-circuited	F2		OFF 3S and blink twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.
4	Outdoor condenser temperature sensor is open/short-circuited	F4		OFF 3S and blink 4 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor condenser temperature sensor and controller was loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor condenser temperature sensor was damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board was broken.

5	High pressure protection	E1	OFF 3S and blink once			During cooling and drying operation, except indoor fan operates all loads stop operation. During heating operation, if it is inverter unit, the complete unit stops; if it is floor standing unit, the complete unit stops and operation of remote controller or controller is unavailable.	1. Check whether the main board and the display panel are connected well? 2. Check whether the OVC terminal on main board is connected well with the high pressure switch on the complete unit? 3. Whether the wiring of high pressure switch was loosened? 4. Refrigerant was superabundant; 5. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); 6. Ambient temperature is too high; (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 7.Check whether the supply voltage is normal (if it is 3-phase unit, the high pressure protection may be caused by overcurrent protection due to this reason) 8. Check whether the air intake and air discharge at indoor / outdoor heat exchanger is smooth? Whether the air cycle is short circuited? 9. Check whether there's filth blockage of the filter and heat exchange fin of indoor/outdoor units? 10. The system pipeline is blocked. 11. Check whether the gas valve and liquid valve for outdoor unit are opened completely? 12. Check whether the high-pressure signal is high level?
6	freezing protection	E2	OFF 3S and blink twice			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.	1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty; 4. System is normal, but the indoor tube temperature sensor is abnormal, or the tube temperature sensor was not connected well.
7	Overcurrent protection	E5	OFF 3S and blink 5 times			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Supply voltage is unstable. The normal fluctuation is within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller . 4. Whether the indoor and outdoor heat exchanger is too dirty, or the air inlet and air outlet are blocked? 5. Whether the fan motor is run? Fan speed is abnormal, fan speed is too low or it doesn't run 6. Whether the compressor runs normally? Whether there's abnormal sound, oil leakage and whether the temperature of the shell is too high, etc. 7. There's blockage in the system（filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely）

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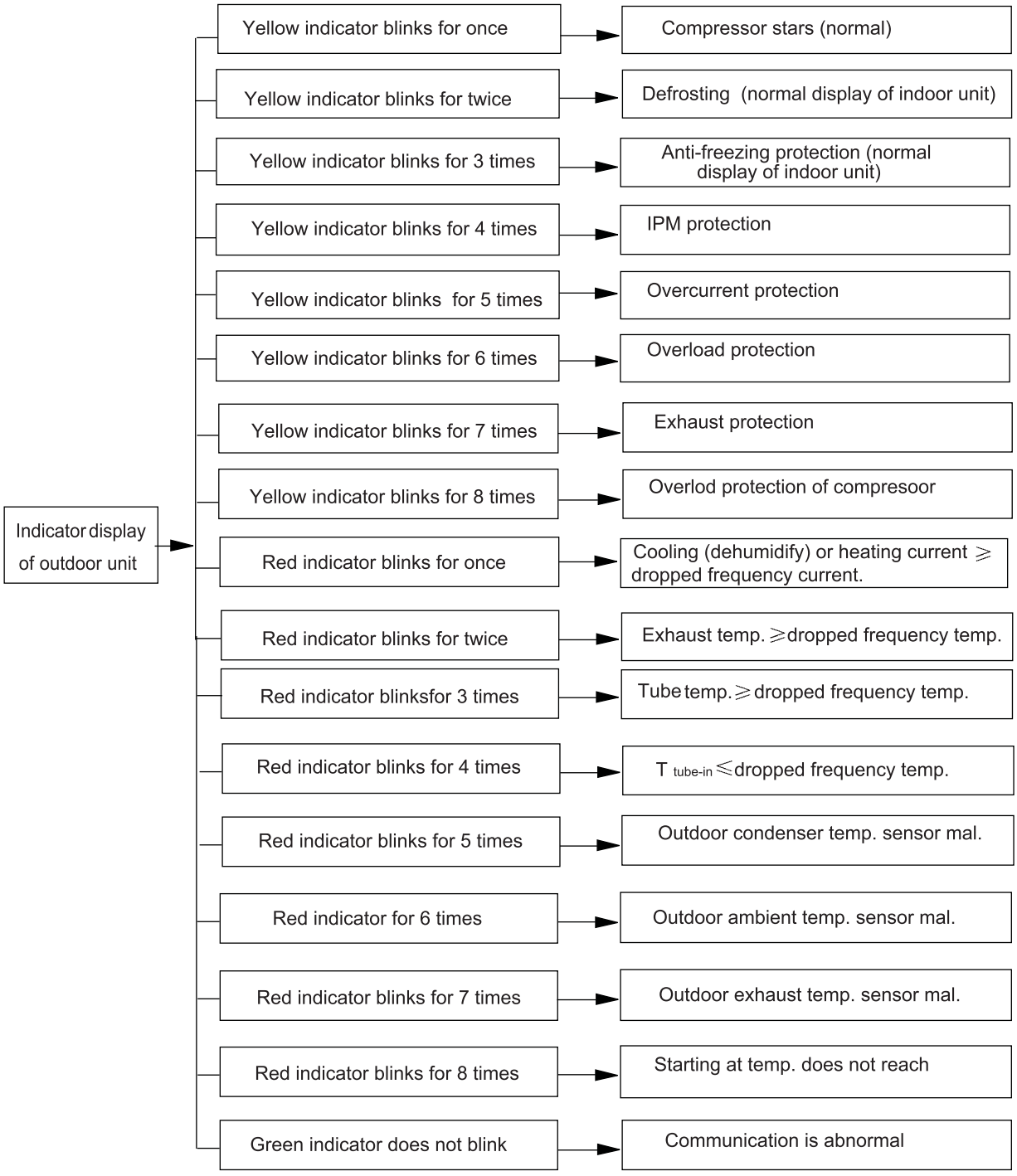
9.2 Malfunction Code

Flashing LED of Indoor/Outdoor Unit and Primary Judgement

	Name of Operation Status	Yellow LED	Red LED	Green LED	Display on IDU
1	Compressure operates	Blink once			
2	Defrosting	Blink twice			H1
3	Freeze prevention protection	Blink for 3 times			E2
4	IPM protection	Blink for 4 times			H5(displayed after it occurs for successively 6 times)
5	Overcurrent protection	Blink for 5 times			E5
6	Overload protection	Blink for 6 times			H4
7	Discharge protection	Blink for 7 times			E4
8	Overload protection	Blink for 8 times			H3
9	Capacity power protection	Blink for 9 times			L9
10	Read-write malfunction of EEPROM	Blink for 11 times			
11	Low-voltage protection	Blink for 12 times			PL
12	High-voltage protection	Blink for 13 times			PH
13	PFC overcurrent protection	Blink for 14 times			HC
14	Models of IDU and ODU don't not match	Blink for 16 times			LP
15	Limit frequency(current)		Blink once		
16	Limit frequency(discharge)		Blink twice		
17	Limit frequency(overload)		Blink for 3 times		
18	Limit frequency(freeze prevention)		Blink for 4 times		
19	Malfunction of outdoor ambient temp sensor		Blink for 6 times		F3
20	Malfunction of outdoor pipe temp sensor		Blink for 5 times		F4
21	Malfunction of outdoor discharge temp sensor		Blink for 7 times		F5
22	Temperature for operation of the unit is reached.		Blink for 8 times		
23	Limit frequency(power)		Blink for 13 times		
24	Protection of fan		Blink for 14 times		
25	Normal communication			Continuously blink	
26	Malfunction of communication			Off	E6
27	Malfunction of indoor ambient temp sensor				F1
28	Malfunction of indoor pipe temp sensor				F2

Malfunction Display

If malfunction occurs,corresponding code will display and the unit will resume normal until protection or malfunction disappears.



9.2 Confirmation

(1)Confirmation of Power Supply
Confirm that the power breaker operates(ON) normally;
(2)Confirmation of Power Voltage
Confirm that power voltage is AC 220-230-240 ±10%. If power voltage is not in this range, the unit may not operate normally.

9.3 Flashing LED of Indoor/Outdoor Unit and Primary Judgement

No.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.)				A/C status	Possible Causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			□ OFF ■ Illuminated ☆ Blink					
			Operation Indicator	Cool Indicator	Heating Indicator	D5 (D40)	D6 (D41)	D16 (D42)	D30 (D43)		
1	High pressure protection of system	E1	OFF 3s and blink once			□	☆	☆	☆	During cooling and drying operation, except indoor fan operates, all loads stop operation. During heating operation, the complete unit stops.	Possible causes: 1. Refrigerant was superabundant; 2. Poor heat exchange (including filth blockage of heat exchanger and bad radiating environment); Ambient temperature is too high.
2	Antifreezing protection	E2	OFF 3S and blink twice			■	□	■	□	During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates.	1. Poor air-return in indoor unit; 2. Fan speed is abnormal; 3. Evaporator is dirty.
3	High discharge temperature protection of compressor	E4	OFF 3S and blink 4 times			■	□	■	☆	During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	Please refer to the malfunction analysis (discharge protection, overload).
4	Overcurrent protection	E5	OFF 3S and blink 5 times			□	■	☆	□	During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Supply voltage is unstable; 2. Supply voltage is too low and load is too high; 3. Evaporator is dirty.
5	Communi-cation Malfunction	E6	OFF 3S and blink 6 times			□	□	□	☆	During cooling operation, compressor stops while indoor fan motor operates. During heating operation, the complete unit stops.	Refer to the corresponding malfunction analysis.
6	High temperature resistant protection	E8	OFF 3S and blink 8 times			■	□	■	■	During cooling operation: compressor will stop while indoor fan will operate. During heating operation, the complete unit stops.	Refer to the malfunction analysis (overload, high temperature resistant).
7	Indoor unit motor no feedback	H6	off 3s blink 11 times							Whole unit will stop to run	1.Poor insert for GPF 2.Indoor control board AP1 malfunction 3.Indoor motor M1 malfunction

No.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.)				A/C status	Possible causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			□ OFF ■ Illuminated ☆ Blink					
			Operation Indicator	Cool Indicator	Heating Indicator	D5 (D40)	D6 (D41)	D16 (D42)	D30 (D43)		
8	Jump wire cap malfunction protection	C5	off 3s blink 15 times							Whole unit will stop to run	Indoor control board AP1 jump cap poor connected please reinsert or replace the jump cap
9	Indoor ambient sensor open circuit,short circuit	F1		off 3s blink once						Cooling dehumidifying: indoor fan motor is running other overloads will stop;heating whole unit will stop to run.	1.Room temp sensor is not connected with the control panel AP1 2.Room temp sensor is damaged
10	Indoor evaporator temperature sensor is open/short circuited	F2		OFF 3S and blink twice						During cooling and drying operation, indoor unit will operate while other loads will stop; During heating operation, the complete unit will stop operation.	1.Room temperature sensor hasnt been connected well with indoor units control panel AP1 (refer to the wiring diagram for indoor unit); 2.Room temperature sensor is damaged (please refer to the resistance table of temperature sensor)
11	Outdoor ambient temperature sensor is open/short circuited	F3		OFF 3S and blink 3 times		□	□	☆	■	During cooling and drying operating, compressor stops while indoor fan operates; During heating operation, the complete unit will stop operation	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor)
12	Outdoor condenser temperature sensor is open/short circuited	F4		OFF 3S and blink 4 times		□	□	☆	□	During cooling and drying operation, compressor stops while indoor fan will operate; During heating operation, the complete unit will stop operation.	Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor)
13	Outdoor discharge temperature sensor is open/short circuited	F5		OFF 3S and blink 5 times		□	□	☆	☆	During cooling and drying operation, compressor will sop after operating for about 3 mins, while indoor fan will operate; During heating operation, the complete unit will stop after operating for about 3 mins.	1.Outdoor temperature sensor hasnt been connected well or is damaged. Please check it by referring to the resistance table for temperature sensor) 2.The head of temperature sensor hasnt been inserted into the copper tube
14	Limit/ decrease frequency due to overload	F6		OFF 3S and blink for 6 times		■	□	☆	☆	All loads operate normally, while operation frequency for compressor is decreased	Refer to the malfunction analysis (overload, high temperature resistant)
15	Decrease frequency due to overcurrent	F8		OFF 3S and blink 8 times		■	■	□	■	All loads operate normally, while operation frequency for compressor is decreased	The input supply voltage is too low; System pressure is too high and overload
16	Decrease frequency due to high air discharge	F9		OFF 3S and blink 9 times		■	■	□	□	All loads operate normally, while operation frequency for compressor is decreased	Overload or temperature is too high; Refrigerant is insufficient; Malfunction of electric expansion valve (EKV)
17	Malfunction of complete units current detection	U5		OFF 3S and blink 13 times		□	■	☆	■	During cooling and drying operation, the compressor will stop while indoor fan will operate; During heating operating, the complete unit will stop operation.	Theres circuit malfunction on outdoor units control panel AP1, please replace the outdoor units control panel AP1.

No.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.)				A/C status	Possible causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			□ OFF ■ Illuminated ☆ Blink					
			Operation Indicator	Cool Indicator	Heating Indicator	D5 (D40)	D6 (D41)	D16 (D42)	D30 (D43)		
18	Defrosting	H1			OFF 3S and blink once					Defrosting will occur in heating mode. Compressor will operate while indoor fan will stop operation.	Its the normal state
19	Static dedusting protection	H2			OFF 3S and blink twice						/
20	Overload protection for compressor	H3			OFF 3S and blink 3 times	□	☆	☆	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	1. Wiring terminal OVC-COMP is loosened. In normal state, the resistance for this terminal should be less than 1ohm. 2.Refer to the malfunction analysis (discharge protection, overload)
21	System is abnormal	H4			OFF 3S and blink 4 times	■	□	■	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis (overload, high temperature resistant)
22	IPM protection	H5			OFF 3S and blink 5 times	□	☆	□	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis (IPM protection, loss of synchronism protection and overcurrent protection of phase current for compressor.
23	PFC protection	HC			OFF 3S and blink 6 times	□	■	☆	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis
24	Decrease frequency due to high temperature resistant during heating operation	H0			OFF 3S and blink 10 times	■	□	☆	☆	All loads operate normally, while operation frequency for compressor is decreased	Refer to the malfunction analysis (overload, high temperature resistant)
25	Failure start-up	LC			OFF 3S and blink 11 times	□	☆	□	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop operation.	Refer to the malfunction analysis
26	Malfunction of phase current detection circuit for compressor	U1			OFF 3S and blink 13 times	□	☆	■	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1

No.	Malfunction Name	Display Method of Indoor Unit				Display Method of Outdoor Unit (Indicator has 3 kinds of display status and they will be displayed circularly every 5s.)				A/C status	Possible causes
		Dual-8 Code Display	Indicator Display (during blinking, ON 0.5s and OFF 0.5s)			□ OFF ■ Illuminated ☆ Blink					
			Operation Indicator	Cool Indicator	Heating Indicator	D5 (D40)	D6 (D41)	D16 (D42)	D30 (D43)		
28	EEPROM malfunction	EE			OFF 3S and blink 15 times	□	□	□	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1
29	Charging malfunction of capacitor	PU			OFF 3S and blink 17 times	□	■	□	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Refer to the part three—charging malfunction analysis of capacitor
30	Malfunction of module temperature sensor circuit	P7			OFF 3S and blink 18 times	□	□	■	☆	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Replace outdoor control panel AP1
31	Module high temperature protection	P8			OFF 3S and blink 19 times	■	□	☆	■	During cooling operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	After the complete unit is de-energized for 20mins, check whether the thermal grease on IPM Module of outdoor control panel AP1 is sufficient and whether the radiator is inserted tightly. If its no use, please replace control panel AP1.
32	Malfunction of voltage dropping for DC bus-bar	U3			OFF 3S and blink 20 times	□	■	■	■	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	Supply voltage is unstable
33	Voltage of DC bus-bar is too low	PL			OFF 3S and blink 21 times	□	■	■	□	During cooling and drying operation, compressor will stop while indoor fan will operate; During heating operation, the complete unit will stop	1. Measure the voltage of position L and N on wiring board (XT), if the voltage is higher than 150VAC, turn on the unit after the supply voltage is increased to the normal range. 2.If the AC input is normal, measure the voltage of electrolytic capacitor C on control panel (AP1), if its normal, theres malfunction for the circuit, please replace the control panel (AP1)
34	DC generatrix voltage is too high	PH	Off 3s blink 11times			□	■	□	☆	Cooling,dehumidifying,compressor stop running fanmotor works.Heating:all will stop	1.Testing wire terminal Land N positionIf higher than 265VAC,please cut off the power supplyand restart until back to normal 2. If input voltage is normal, testingthe voltage of electrolytic capacitoron AP1 after turn on the unit.There may be some problem andreplace the AP1 if the electrolyticcapacitor voltage range at 200-280V
35	Compressor current overurrent protection	P5	Off 3sblink 15time			□	☆	□	□	Cooling, dehumidifying;compressor stops running,indoor fan motor works.Heating: all will stoprunning	Please refer to troubleshooting(IPM protection, compressor lose steps, compressor current overcurrent protection)

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9. Troubleshooting

9.1 Error Code List

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/ short- circuited	F1		OFF 3S and blinks once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads (such as compressor, outdoor fan, 4-way valve) stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/ short-circuited	F2		OFF 3S and blinks twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
3	PG motor (indoor fan motor) does not operate	H6	OFF 3S and blinks 11 times			Indoor fan, outdoor fan, compressor and electric heat tube stop operation. 2 minutes later, 4-way valve stops; horizontal louver stops at the current position.	1. The feedback terminal of PG motor is not connected tightly. 2. The control terminal of PG motor is not connected tightly. 3. Fan blade rotates unsmoothly due to improper installation. 4. Motor is not installed properly and tightly. 5. Motor is damaged. 6. Controller is damaged.
4	Malfunction protection of jumper cap	C5	OFF 3S and blinks 15 times			Operation of remote controller or control panel is available, but the unit won't act.	1. There's not jumper cap on the controller. 2. Jumper cap is not inserted properly and tightly. 3. Jumper cap is damaged. 4. Controller is damaged.
5	PG motor (indoor fan) circuit malfunction by zero cross detection	U8	OFF 3S and blinks 17 times			Operation of remote controller or control panel is available, but the unit won't act.	1. Controller is damaged.

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TOWER...

TOWER-K28H3

Malfunction and protection codes:

E1: High pressure protection of compressor
E2 : Indoor anti -freezing Protection
E3: Low pressure protection of compressor
E5: Overcurrent protection

6.1.5.7 Malfunctions and protection codes

E1: High pressure protection of compressor;
E2 :Indooranti -freezing Protection;
E3: Low pressure protection of compressor ;
E4: High temperature protection of exhaust hose;
E5: Overcurrent protection;

6.1.5.8 Indicator lights control

Any one of the following cases happens,green indicator light flickers for interval of 3 sec.,the diferent times of flickering indicates different kind of protection.

E1: High pressure protection of compressor for once flicker;
E2 : Indooranti -freezing Protection for twice ;
E3: Low pressure protection of compressor for 3 times;
E4: High temperature protection of exhaust hose for 4 times;
E5: Overcurrent protection for 5 times ;
E6 : Static dedusting protection for 6 times,defrosting for 7 times;

No.	Malfunction Name	Display Method of Indoor Unit (dual 8 code display)	A/C Status	Possible Reasons (Check it in order)	Troubleshooting
1	High voltage protection of system	E1	Cooling or drying: all load will be stopped except the indoor fan. Heating : all will stop running (inverter unit); all loads will be tured off. Remote controler and buttons have action (inverter floor standing unit)	Main board and display panel hasn't been connected well	Connect the display board and main board well
				Poor connection between OVC terminal on main board and the high voltage switch on the mian unit	Connect the OVC terminal on main board and the high voltage switch on the complete unit
				Whether the wires for high voltage switch circuit is loosened; high voltage switch is damaged or poor connection	Connec the loosened wires according to the circuit diagram. If it's broken or poor conenction, replace the high voltage switch
				Refrigeratn is superaboundant	Adjust the volume of refrigerant accor-ding to the requirement of the system
				Poor heat exchange for the unit (including the heat exchanger is dirty and the radiating environment for the unit is not good	Adjust the unit to improve the heat exchange
				Ambient temperature is too high	Decrease the ambient ttemperature
				Supply power is abnormal	The fluctuation is within 10% of the rated voltage on nameplate
				Air intake and air discharge for indoor and outdoor heat exchanger is not smooth; the air cycle is short circuit	Adjust the system to let air intake and air discharge of indoor and outdoor heat exchanger become more smooth
				There's filth blcokage on the filter or heat exchange fin of indoor and outdoor unit	Get rid of the filth blockage
				There's blockage in the pipeline of the system	Get rid of the blockage in the peline of the system
				Gas valve and liquid valve of indoor unit haven't been opened completely	Open the gas valve and liquid valve of indoor unit and outdoor unit completely
				Whether the OVC input is high level	Check the system (replace the main board)
2	Antifreezing protection	E2	Cooling or drying : compressor and outdoor fan will stop running, while indoor unit will run.	1. Poor air return in indoor unit;	Resolve the corresponding system problem
				2. Speed of fan is abnormal;	Resolve the corresponding rotation problem
				3. Evaporator is drity;	Clean the evaporator
				4. System is normal, but resistance of indoor tube temp sensor is abnormal or it hasn't been connected well	Replace the temperature sensor
3	Low voltage protection of compressor	E3	The complete unit will stop running. Compressr, indoor fan and outdoor fan will all stop running.	Main board and display panel hasn't been connected well	Connect the display panel and main board well
				Poor connection between LPP terminal on main board and the high boltage switch on the complete unit	The connection should be kept well
				Wires of high voltage switch is loosened, high voltage switch is damaged or poor connection	Connec the loosened wires according to the circuit diagram. If it's broken or poor conenction, replace the high voltage switch
				Refrigerant is insufficient or it's leaked out	Add the refrigerant according to the requirement of the complete system
				LPP input isn't the high level	Check the system(replace the main board)
4	Discharge high temperature protection of compressor	E4	Cooling or drying : compressor and outdoor fan will stop running, while indoor fan will run. Heating : all of them will stop running	System is abnormal (eg: blockage, etc.)	Resolve the problem of system
				The speed of oudoor motor is abnormal (cooling)	Resolve the problem of rotation
				Outdoor air intake is abnormal (cooling)	Solve the problem of air intake
				System is normal, but the resistance of discharge temp sensor for compressor is abnormal or poor connection	Replace the temp sensor
5	Overcurrent protection	E5	Cooling or drying : compressor and outdoor fan will be stopped, while indoor fan will run. Heating mode: all of them will be stopped.	Supply power is unstable; high fluctuation	The fluctuation is within 10% of the rated voltage on nameplate
				Suppy power is too low; overload	Adjust the supply voltage
				Fan motor can't run normally, fan speed is too low or it doesn't run	Reinstall the motor and check the motor
				Whether the compressor is running normally, whether there's abnormal sound, oil leakage and the temp. of cabient is too high, etc.	Solve the problem of rotation for compressor
				The inner system is blocked (filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely)	Solve the problem of blockage in the system

Appendix 1: Resistance Table for Indoor and Outdoor Ambient Temperature Sensors (15K)							
Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）	Temp （℃）	Resistance（kΩ）	Temp（℃）	Resistance（k Ω）
-19	138.1	20	18.75	59	3.848	98	1.071
-18	128.6	21	17.93	60	3.711	99	1.039
-17	121.6	22	17.14	61	3.579	100	1.009
-16	115	23	16.39	62	3.454	101	0.98
-15	108.7	24	15.68	63	3.333	102	0.952
-14	102.9	25	15	64	3.217	103	0.925
-13	97.4	26	14.36	65	3.105	104	0.898
-12	92.22	27	13.74	66	2.998	105	0.873
-11	87.35	28	13.16	67	2.896	106	0.848
-10	82.75	29	12.6	68	2.797	107	0.825
-9	78.43	30	12.07	69	2.702	108	0.802
-8	74.35	31	11.57	70	2.611	109	0.779
-7	70.5	32	11.09	71	2.523	110	0.758
-6	66.88	33	10.63	72	2.439	111	0.737
-5	63.46	34	10.2	73	2.358	112	0.717
-4	60.23	35	9.779	74	2.28	113	0.697
-3	57.18	36	9.382	75	2.206	114	0.678
-2	54.31	37	9.003	76	2.133	115	0.66
-1	51.59	38	8.642	77	2.064	116	0.642
0	49.02	39	8.297	78	1.997	117	0.625
1	46.6	40	7.967	79	1.933	118	0.608
2	44.31	41	7.653	80	1.871	119	0.592
3	42.14	42	7.352	81	1.811	120	0.577
4	40.09	43	7.065	82	1.754	121	0.561
5	38.15	44	6.791	83	1.699	122	0.547
6	36.32	45	6.529	84	1.645	123	0.532
7	34.58	46	6.278	85	1.594	124	0.519
8	32.94	47	6.038	86	1.544	125	0.505
9	31.38	48	5.809	87	1.497	126	0.492
10	29.9	49	5.589	88	1.451	127	0.48
11	28.51	50	5.379	89	1.408	128	0.467
12	27.18	51	5.197	90	1.363	129	0.456
13	25.92	52	4.986	91	1.322	130	0.444
14	24.73	53	4.802	92	1.282	131	0.433
15	23.6	54	4.625	93	1.244	132	0.422
16	22.53	55	4.456	94	1.207	133	0.412
17	21.51	56	4.294	95	1.171	134	0.401
18	20.54	57	4.139	96	1.136	135	0.391
19	19.63	58	3.99	97	1.103	136	0.382

Appendix 2: Resistance Table for Indoor and Outdoor Tube Temperature Sensor (20K)							
Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）
-19	181.4	20	25.01	59	5.13	98	1.427
-18	171.4	21	23.9	60	4.948	99	1.386
-17	162.1	22	22.85	61	4.773	100	1.346
-16	153.3	23	21.85	62	4.605	101	1.307
-15	145	24	20.9	63	4.443	102	1.269
-14	137.2	25	20	64	4.289	103	1.233
-13	129.9	26	19.14	65	4.14	104	1.198
-12	123	27	18.13	66	3.998	105	1.164
-11	116.5	28	17.55	67	3.861	106	1.131
-10	110.3	29	16.8	68	3.729	107	1.099
-9	104.6	30	16.1	69	3.603	108	1.069
-8	99.13	31	15.43	70	3.481	109	1.039
-7	94	32	14.79	71	3.364	110	1.01
-6	89.17	33	14.18	72	3.252	111	0.983
-5	84.61	34	13.59	73	3.144	112	0.956
-4	80.31	35	13.04	74	3.04	113	0.93
-3	76.24	36	12.51	75	2.94	114	0.904
-2	72.41	37	12	76	2.844	115	0.88
-1	68.79	38	11.52	77	2.752	116	0.856
0	65.37	39	11.06	78	2.663	117	0.833
1	62.13	40	10.62	79	2.577	118	0.811
2	59.08	41	10.2	80	2.495	119	0.77
3	56.19	42	9.803	81	2.415	120	0.769
4	53.46	43	9.42	82	2.339	121	0.746
5	50.87	44	9.054	83	2.265	122	0.729
6	48.42	45	8.705	84	2.194	123	0.71
7	46.11	46	8.37	85	2.125	124	0.692
8	43.92	47	8.051	86	2.059	125	0.674
9	41.84	48	7.745	87	1.996	126	0.658
10	39.87	49	7.453	88	1.934	127	0.64
11	38.01	50	7.173	89	1.875	128	0.623
12	36.24	51	6.905	90	1.818	129	0.607
13	34.57	52	6.648	91	1.736	130	0.592
14	32.98	53	6.403	92	1.71	131	0.577
15	31.47	54	6.167	93	1.658	132	0.563
16	30.04	55	5.942	94	1.609	133	0.549
17	28.68	56	5.726	95	1.561	134	0.535
18	27.39	57	5.519	96	1.515	135	0.521
19	26.17	58	5.32	97	1.47	136	0.509

Appendix 3: Resistance Table for Outdoor Discharge Temperature Sensor (50K)							
Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）	Temp（℃）	Resistance（kΩ）
-29	853.5	10	98	49	18.34	88	4.754
-28	799.8	11	93.42	50	17.65	89	4.609
-27	750	12	89.07	51	16.99	90	4.469
-26	703.8	13	84.95	52	16.36	91	4.334
-25	660.8	14	81.05	53	15.75	92	4.204
-24	620.8	15	77.35	54	15.17	93	4.079
-23	580.6	16	73.83	55	14.62	94	3.958
-22	548.9	17	70.5	56	14.09	95	3.841
-21	516.6	18	67.34	57	13.58	96	3.728
-20	486.5	19	64.33	58	13.09	97	3.619
-19	458.3	20	61.48	59	12.62	98	3.514
-18	432	21	58.77	60	12.17	99	3.413
-17	407.4	22	56.19	61	11.74	100	3.315
-16	384.5	23	53.74	62	11.32	101	3.22
-15	362.9	24	51.41	63	10.93	102	3.129
-14	342.8	25	49.19	64	10.54	103	3.04
-13	323.9	26	47.08	65	10.18	104	2.955
-12	306.2	27	45.07	66	9.827	105	2.872
-11	289.6	28	43.16	67	9.489	106	2.792
-10	274	29	41.34	68	9.165	107	2.715
-9	259.3	30	39.61	69	8.854	108	2.64
-8	245.6	31	37.96	70	8.555	109	2.568
-7	232.6	32	36.38	71	8.268	110	2.498
-6	220.5	33	34.88	72	7.991	111	2.431
-5	209	34	33.45	73	7.726	112	2.365
-4	198.3	35	32.09	74	7.47	113	2.302
-3	199.1	36	30.79	75	7.224	114	2.241
-2	178.5	37	29.54	76	6.998	115	2.182
-1	169.5	38	28.36	77	6.761	116	2.124
0	161	39	27.23	78	6.542	117	2.069
1	153	40	26.15	79	6.331	118	2.015
2	145.4	41	25.11	80	6.129	119	1.963
3	138.3	42	24.13	81	5.933	120	1.912
4	131.5	43	23.19	82	5.746	121	1.863
5	125.1	44	22.29	83	5.565	122	1.816
6	119.1	45	21.43	84	5.39	123	1.77
7	113.4	46	20.6	85	5.222	124	1.725
8	108	47	19.81	86	5.06	125	1.682
9	102.8	48	19.06	87	4.904	126	1.64

TOWER-60H3 , H1

Error code:

E1	Compressor High-pressure Protection
E2	Indoor Antifreeze Protection
E3	Compressor Low-pressure Protection
E4	Exhaust Pipe High-temp. Protection
E5	Low-voltage Protection

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دستگاههای اسپلیت
مدل ایستاده بزرگ

RF-28W

MAINTENANCE

1 TROUBLE TABLE

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
E1	Compressor High Pressure Protection	High Pressure Switch (move 3.0Mpa，recovery 2.4MPa)	When high pressure protection has been detected in continuously 3 seconds, shut off all loadings and shields all buttons and remote control signals. LED blinks and displays E1. The unit cannot recover automatically. Turn off the unit by press ON/OFF, clear “E1”and turn off the LED.
	Compressor Overloading protection【Only in Model R(L)F28W*】	Overcurrent Protector	If detect that compressor overloading switch is cut off for continuously 3 seconds, it is believed that the compressor is in overloading protection. Turn off compressor and external fan and the LED blinks and displays the corresponding error code “E5”. Press ON/OFF to turn off the unit, clear error code and turn off the LED to recover the complete unit which cannot recover automatically.
E2	Indoor anti-freezing protection	Tube sensor of indoor units	In cooling and dehumidifying modes, if detect that Tevaporator ≤-2℃ for continuously 3min after 10min running of compressor, LED blinks and displays “E2. Stop compressor and external fan. In cooling mode, inner fan and swing motor keep original states; In dehumidifying mode, inner fan and swing motor stop. When Tevaporator≥10℃ and compressor has stopped for 3min, LED pauses, LCD recovers displays and control device is running at setting mode. In anti-freezing protection, buttons are not shielded.
E3	Compressor low pressure protection	Low pressure switch (move 0.05MPa, recovery0.15MPa)	After 3min running of compressor, detect signal from low pressure switch. If detect that low pressure switch is cut off in continuously 30s, the complete unit will stop and display “E3”while LED blinks. 3min later, if the error has cleared, the complete unit resume running; If the low pressure switch protection has been detected for 3 times during 30min, the LED will blinks and displays “E3”. The unit cannot recover automatically which requires pressing ON/OFF, and then clear error code and turn off LED.
E4	Compressor discharge temp. protection	Compressor discharge temp. sensor.	After the running of compressor, if detect that discharge temp. is higher that 130□ in continuously 30s, it is believed that there is high temp. protection of discharge pipes of compressor. Turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code “E4”. After 3min stop of compressor, if detect that the discharge temp. is lower than 90□ for

			continuously 5s, the compressor will resume running. Since the first error detected, if detect that there is 3 times of high temp. protection for compressor discharge pipes in 30min, turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code “E4”. The unit cannot recover automatically which requires pressing ON/OFF, and then clearing error code and turning off LED.
E5	Overloading Protection of Compressor	Overcurrent Protector	If detect that overloading switch is cut off for continuously 3 seconds, it is believed that compressor is in the condition of overloading protection. Turn off compressor and external fan and the LED blinks and displays the corresponding error code E5.After 3 min stop of compressor, if the error has disappeared, the compressor will restart. From the first error detected, if overloading protection of compressor has been detected in 3 times in 30 min, turn off all loads (except for 4-way valve) and shield all buttons and remote control signal except for ON/OFF button. Then LED will blink and display the corresponding error code E5 and the complete unit cannot be automatically recovered After turning off the unit by press ON/OFF button, if the error disappears, clear the error code and turn off the LED.
F0	障 Indoor ambient temp. sensor error	Indoor ambient temp. sensor	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.
F1	Temp. sensor error of indoor evaporator	Temp. sensor of indoor evaporator	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about-45□), it is believed that there is error of temp. sensor.
F2	Tube sensor error for outdoor condensator	Tube sensor for outdoor condensator	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.
F3	Outdoor ambient temp. sensor error	Outdoor ambient temp. sensor	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.
F4	Discharge temp. sensor error	Discharge temp. sensor	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp -45□), it is believed that there is error of temp. sensor.

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FG...

DUCT SPLIT

FG5T3/A-K
FG7T3H/(X)-K
FG9T3H/(X)-K
FG10T3H/(X)-K
FG12T3H/(X)-K
FG14T3H/(X)-M
FG16T3H/(X)-M1

TROUBLE TABLE

Error Code	Description	Causes	Control Description
E1	High pressure protection of compressor	High pressure switch	If high pressure is detected in 3s successively after startup of unit 4min, all loads of this system will be stopped.
E2	Indoor anti-freezing protection	Indoor evaporator temp. sensor	If the compressor has continuously run for 15m in cooling or dry mode, or the compressor(starting 6min and stops 4 min) has continuously run for 3min in dry mode, and $T_{evaporator}$ <-2℃ is detected in 3min successively, the compressor and outdoor fan stop and indoor fan keeps its previous running state. After 3min delay, if $T_{evaporator}$≥10℃ keeps for 1s, normal display will resume.
E3	Low pressure protection of compressor	Low pressure switch	If low pressure is detected in 30s successively after startup of unit 4min, all loads of this system will be stopped.
F0	Indoor ambient temp. sensor malfunction	Indoor ambient temp. sensor	In case of short or open circuit of indoor ambient sensor head, all loads will be stopped during cooling, drying or heating.
F1	Evaporator sensor malfunction	Indoor evaporator temp. sensor	In case of short or open circuit of evaporator sensor head, all loads will be stopped during cooling, drying or heating.
EH	Adhesion protection of AC contactor	AC contactor of auxiliary electric heater	If malfunction is detected in 3s successively in any case after energization, EH protection immediately acts.

running.

11) **Malfunction code display**

If there is something wrong with the conditioner, a malfunction code will be shown on the control panel as shown in Fig.11 The malfunction codes are shown in the following tables.

Malfunction code	Malfunction	Malfunction code	Malfunction
E1	Compressor high-pressure protection	F0	Indoor temperature sensor malfunction
E2	Indoor antifreeze protection	F1	Evaporator temperature sensor malfunction
E3	Compressor low-pressure protection	F2	Condenser temperature sensor malfunction
E4	Compressor discharge temperature protection	F3	Outdoor temperature sensor malfunction
E5	Compressor overload protection	F4	Air discharge temperature sensor malfunction
E6	Communication malfunction		
E8	Indoor unit overload protection		

Notice: *Please press the ON/OFF button to stop the buzzer if the alarm buzzer calls accompanying the Malfunction code.*

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BIG DUCT SPLIT

FG(R)16(H)/A-G(I)
FG(R)20(H)/A-G(I)
FG(R)25(H)/A-G(I)
FG(R)30(H)/A-G(I)
FG(R)35(H)/B-G(I)
FG(R)40(H)/A-G(I)
FG(R)45(H)/A-G(I)
FG(R)55(H)/A-G(I)
FG(R)65(H)/A-G(I)

MAINTENANCE

1 TROUBLE TABLE

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
E1	Compressor High Pressure Protection	High Pressure Switch	When high pressure protection has been detected in continuously 3 seconds, shut off all loadings and shield all buttons and remote control signals. LED blinks and displays E1. The unit cannot recover automatically. Turn off the unit by pressing ON/OFF, clearing "E1"and turning off the LED.
E3	Compressor low pressure protection	Low pressure switch	After 3min running of compressor, detect signal from low pressure switch. If detect that low pressure switch is cut off in continuously 30s, the complete unit will stop and display "E3"while LED blinks. 3min later, if the error has cleared, the complete unit resume running; If the low pressure switch protection has been detected for 3 times during 30min, the LED will blinks and displays "E3". The unit cannot recover automatically which requires pressing ON/OFF, and then clear error code and turn off LED.
E4	Compressor discharge temp. protection	Compressor discharge temp. sensor.	After the running of compressor, if detect that discharge temp. is higher that 130℃ in continuously 30s, it is believed that there is high temp. protection of discharge pipes of compressor. Turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code "E4". After 3min stop of compressor, if detect that the discharge temp. is lower than 90□ for continuously 5s, the compressor will resume running. Since the first error detected, if detect that there is 3 times of high temp. protection for compressor discharge pipes in 30min, turn off compressor, external fan and inner fan. LED blinks and displays corresponding error code "E4". The unit cannot recover automatically which requires pressing ON/OFF, and then clearing error code and turning off LED.
E5	Overloading Protection of Compressor	Overcurrent Protector	If it is detected that overloading switch is cut off for continuously 3 seconds, it is believed that compressor is in the condition of overloading protection. Turn off compressor and external fan and the LED blinks and displays the corresponding error code E5.After 3 min stop of compressor, if the error has disappeared, the compressor will restart. From the first error detected, if overloading protection of

			compressor has been detected in 3 times in 30 min, turn off all loads (except for 4-way valve) and shield all buttons and remote control signal except for ON/OFF button. Then LED will blink and display the corresponding error code E5 and the complete unit cannot be automatically recovered After turning off the unit by press ON/OFF button, if the error disappears, clear the error code and turn off the LED.
E6	Communication malfunction	Terminal COM	After energization, if outdoor unit continuously shows that there is not any feedback from indoor unit's mainboard, communication malfunction occurs. In this case, compressor will be stop and E6 will be displayed. After that, outdoor fan stops. If heating, the 4 way valve will stop after the compressor stops for adequate time. If the indoor unit hasn't received information from outdoor unit for a period of time, communication malfunction occurs. In this case, indoor unit stop (during heating, E-heater stopped firstly and the indoor fan blows residual heat). If the display board hasn't received information from indoor unit for a period of time, communication malfunction occurs. In this case, malfunction code is displayed and the unit won't act.
E9	Indoor fan protection	Fan's motor switch or thermal relay	After startup of indoor fan if overloading information of fan breaks for a period of time, all loads will stops and E9 will be displayed.
F0	Indoor ambient temp. sensor error	Indoor ambient temp. sensor	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.
F1	Temp. sensor error of indoor evaporator	Temp. sensor of indoor evaporator	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about-45□), it is believed that there is error of temp. sensor.
F2	Tube sensor error for outdoor condensator	Tube sensor for outdoor condensator	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.
F3	Outdoor ambient temp. sensor error	Outdoor ambient temp. sensor	If detect that AD value exceeds 250(short circuit with corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp about -45□), it is believed that there is error of temp. sensor.
F4	Discharge temp.	Discharge temp.	If detect that AD value exceeds 250(short circuit with

	sensor error	sensor	corresponding temp. 160 ℃) or less than 5 (open circuit with corresponding temp -45□), it is believed that there is error of temp. sensor.

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دستگاههای اسپلیت
مدل کانالی، کاستی و زمینی

U-MATCH..

MAINTENANCE

1 TROUBLE TABLE

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
E0	Pump Failure	Pump	If water full protection continues for 2 hours and fails to restore, it is believed that the water pump is at fault and all loads are shut off and fail to restore automatically.
E1	Compressor High Pressure Protection	High voltage switch	When high voltage protection is detected for continuous 3 seconds, all loads are shut off (except for the four way valve), all buttons and remote control signals except for power-on or power-off are shielded and fail to restore automatically, the unit should be powered off and on, or failure should be removed after power supply is restored.
E2	Indoor Frost-Proof Protection	Evaporator of indoor unit Thermal bulb	When the unit has been running for refrigeration or dehumidification for a period of time and evaporator thermal bulb is detected to be lower than -2℃, the unit will report a fault and stops the compressor and the outdoor unit. The unit will begin to operate after temperature is ≥10℃ and the compressor keeps outage for 3 minutes.
E3	Compressor Low Pressure Protection	Low voltage switch	When the unit is started or at standby (detection will begin 3 minutes after the compressor is started up) and detected breakdown of the low voltage switch for continuous 30 seconds, a fault is reported. The unit can be restored automatically after the first 2 reported faults within 30 minutes. The third reported fault and so on can not be restored automatically.
E4	Compressor Exhaust High Temperature Protection	Discharge thermal bulb	After the compressor is started, if discharge temperature is detected to be more than or equal to 130 degree for continuous 30 seconds, E4 will be displayed, all loads (except for the four way valve) will be shut off, the compressor will stop for 3 minutes and the complete system will restore after discharge temperature is lower than 90 degree. If such fault is reported for successive three times, the protection can not be restored itself.
E5	Compressor Overheat	Compressor	After the compressor is started, if the overload switch of the compressor is detected to shut off, the fault is reported. All loads (except for the four way valve) are shut off, the fault is displayed, and the compressor will stop for 3 minutes. If the fault is removed, the compressor can be restarted to run. If successive three compressor overload protection faults are detected within

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
			30 minutes, the unit can not be restored itself and the buzzer will give out an alarm. Push the ON/OFF button to shut off the unit. And then push ON/OFF button again, if high voltage protection disappears, operation will restore, or otherwise, the fault is displayed.
E6	Communications Failure	Communication	When outdoor unit is energized and fails to receive data of indoor unit within 30 seconds, an indoor unit communication fault is reported. The compressor and the outdoor unit will be shut off, and the four way valve will be stopped 2 minutes after the compressor outage in heating state. If indoor unit fails to receive information of outdoor unit, a communication fault is reported. The indoor unit is shut off and an indicator is twinkling. If the display board fails to receive information of outdoor unit, a communication fault is determined and displayed and the unit does not actuate. After communication becomes normal, the system can restore to the previous running state itself.
E8	Indoor Fan Protection	Indoor unit	If fan overload protection is detected for continuous 3 seconds, relevant compressor and fan shall be shut off immediately and a fault code E8 is displayed, and at the same time, the buzzer gives out an alarm. Push the ON/OFF key, if the fault disappears, clear the fault display and push the ON/OFF key for restarting the system.
E9	Full Water Protection	Liquid level switch	Water full is detected for continuous 8 seconds after the system is powered on, the water full protection is initiated and the indicator is twinkling (or E9 is displayed). Under refrigeration and dehumidification mode, the outdoor fan and the compressor are shut off and the indoor fan stops after 1 minute delay; under heating mode, he outdoor fan and the compressor are shut off, the four way valve keeps at the previous status, and the indoor fan stops after 1 minute delay; under air supply mode, the load of indoor unit remains.
F0	Failure of Indoor Room Sensor at Air Intake	Indoor environment Thermal bulb	Open-circuit or short-circuit of the indoor environment thermal bulb is detected for continuous 5 seconds, indoor environment temperature will be set compulsively at 24 degree, the system does not take any measure, and only the indicator is twinkling or fault code F0 is displayed. After the fault is removed, the system can restore operation by itself. Under air supply mode, only the

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
			fault is displayed and the indoor fan is running normally. The fault display disappears when the fault is removed.
F1	Failure of Evaporator Temp. Sensor	Indoor evaporator thermal bulb	Open-circuit or short-circuit of evaporator thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F1 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed.
F2	Failure of Condenser Temp. Sensor	Outdoor condenser thermal bulb	Open-circuit or short-circuit of condenser thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F2 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed. For other types of refrigeration machines except for air duct machine, condenser thermal bulb is not detected.
F3	Failure of Outdoor Ambient Sensor	Outdoor environment thermal bulb	Open-circuit or short-circuit of outdoor environment thermal bulb is detected for continuous 5 seconds, under refrigeration and dehumidification mode, the system will be shut off; and under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F3 is displayed. The system can restore by itself and display fault elimination after the fault is removed. Under air supply mode, only the fault is displayed and the indoor unit is running normally. The fault display disappears when the fault is removed.
F4	Failure of Exhaust Temp. Sensor	Discharge thermal bulb	After the compressor is started, open-circuit of discharge thermal bulb is detected for continuous 5 seconds. Under refrigeration and dehumidification mode, all loads will be shut off. Under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F4 is displayed. And the buzzer gives out an alarm. After the fault is removed, the system will restore by itself and clear the fault code.

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
			If discharge thermal bulb is short circuited, under refrigeration and dehumidification mode, all loads will be shut off. Under heating mode, all loads except for the four way valve are shut off. The indicator is twinkling or fault code F4 is displayed. And the buzzer gives out an alarm. After the fault is removed, the system will restore by itself and clear the fault code.
F5	Failure of Indoor Room Sensor at Wire Controller	Line controller	Open-circuit or short-circuit of line controller thermal bulb is detected for continuous 5 seconds, indoor environment temperature will be set compulsively at 24 degree, the system does not take any measure, and only the indicator is twinkling or fault code F0 is displayed. After the fault is removed, the system can restore operation by itself. Under air supply mode, only the fault is displayed and the indoor fan is running normally. The fault display disappears when the fault is removed.

MAINTENANCE

1.TROUBLE TABLE

1.1 Remote Controller Display Malfunction and Description

Malfunction Code	Trouble Case	Origin of Trouble Signal	Measure
E1	Actuation of High pressure switch	High pressure switch	Abnormality is detected when the contact of the high pressure switch opens for 3 sec. The system will be shut down. All buttons are deactivated except the on/off. This fault cannot be recovered automatically.
E2	Indoor anti-freezing Protection	Evaporator temperature thermistor of indoor unit	When cooling and dehumidifying have been running for a period of time, if it is detected that the temperature of the evaporator temperature sensor is lower than the protective set point temperature, then an alarm will be given and the compressor and outdoor unit fan motor will stop; if it is detected that the temperature goes up beyond the protective set point temperature and the compressor has been stopped for three minutes, then the unit will resume running.
E3	Actuation of low pressure switch	Low pressure switch	When the unit is running or on standby (the compressor has been operated for more than 3mins), the low pressure switch opens for more than 30sec and the screen will display malfunction code.
E4	Abnormal discharge temperature	Discharge temperature thermistor	After the startup of compressor, the discharge temperature is higher than 130°C for more than 30sec, malfunction code (E4) will be displayed on the screen and the system will be shut down. After stopping the compressor for 3 mins, if the discharge temperature thermistor detects that the discharge temperature is lower than 90°C for more than 5 sec, the compressor will re-start. After retry for three times, the malfunction can not be corrected and can not be cancelled automatically.

E5	Compressor overheat	Compressor	After the startup of the compressor, if the overload switch opens for more than 3 sec, the malfunction of the overheat for the compressor will be displayed on the screen. After the compressor has been stopped for 3 mins, if the malfunction has been recovered, the compressor will re-start. When overheat activates 3 times within 30mins, the malfunction of overheat will be determined according to the retry 3 times. The reset for the malfunction of overheat is manual reset. Therefore, the malfunction of overheat cannot be recovered automatically. Press ON/OFF button to recover.
E6	Malfunction of communications	Communication	Check the communication state between the indoor unit PCB and outdoor unit PCB by micro-computer. Abnormality is detected when the correct communication is not conducted in 30se. When the malfunction of communication occurs, the system will be shut down and LED on the remote controller will blink and the screen will display the malfunction code (E6).The reset for the communication failure is automatic reset.
E9	Malfunction of drain water level	Liquid water level	When a liquid water level switch opens for more than 8 seconds, it means a malfunction occurs to the drain water level. In this case, the LED on the remote controller will blink and the malfunction code (E9) will be displayed on the screen. Beside, the reset for the water level protection can only be done manually.
F0	Malfunction of indoor room temperature thermistor at air intake	Indoor room thermistor	Malfunction of indoor room temperature thermistor at air intake is detected when a short circuit or an open circuit in the indoor room temperature thermistor for more than 5 sec. The indoor room temperature value will be set at 24°C forcibly. The reset for the malfunction of indoor room temperature thermistor is automatic. If the malfunction of indoor room temperature thermistor will be reset in air supply mode, the malfunction code (F0) will disappear on the screen and the indoor unit fan will run normally.

F1	Malfunction of evaporator temperature thermistor	Evaporator temperature thermistor	Malfunction of evaporator temperature thermistor is detected when there is a short circuit or an open circuit in the evaporator temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F1). The reset for the malfunction of evaporator temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F1). However, the indoor unit fan will run normally in this case.
F2	Malfunction of condenser temperature thermistor	Condenser temperature thermistor	Malfunction of condenser temperature thermistor is detected when there is a short circuit or an open circuit in the condenser temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F2).The reset for the malfunction of condenser temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F2). However, the indoor unit fan will run normally in this case.
F3	Malfunction of outdoor ambient temperature thermistor	Outdoor ambient temperature thermistor	Malfunction outdoor ambient temperature thermistor is detected when there is a short circuit or an open circuit in the outdoor ambient temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F3). The reset for the malfunction of condenser temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F3). However, the indoor unit fan will run normally in this case.
F4	Malfunction of discharge temperature thermistor	Discharge temperature thermistor	Malfunction is detected when there is a short circuit or an open circuit in the discharge temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F4). The reset for the malfunction of discharge temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F4). However, the indoor unit fan will run normally in this case.

F5	Malfunction of Indoor Room temperature thermistor at Wired Remote Controller	Indoor room temperature thermistor	Malfunction is detected when there is a short circuit or an open circuit in the indoor room temperature thermistor for more than 5 sec. The system will be shut down in cooling operation and dehumidifying operation. The screen will display the malfunction code (F5). The reset for the malfunction of discharge temperature thermistor is automatic. In air supply mode, the screen will display the malfunction code (F5). However, the indoor unit fan will run normally in this case.

1.2 Cassette Type Indoor Unit's Error Indicating：

LED	**No error**	**Flash times every two seconds**	**Error description**
yellow: Timing indicating lamp	It goes on as per the set time, And it flashes when the temperature sensor error occurs	once	the indoor ambient temperature sensor error
		twice	the evaporator temperature sensor error
		three times	the condenser temperature senor error
		four times	the outdoor ambient temperature senor error
		five times	the discharge air temperature sensor error
green ： Compressor indicating lamp	It goes on/off as the compressor is turned on/off. And it flashes when defrosting or the compressor error occurs	twice	Defrosting
		three times	high pressure protection
		four times	the low pressure protection
		five times	Overload protection
		six times	Discharge high temperature protection
red ： Running indicating lamp	It goes on/off as the unit is turned on/off, And it flashes when the indoor unit error occurs	once	Malfunction of communications
		twice	the water overflow protection
		three times	the anti-freezing error
		four times	Anti-high temperature protection

MAINTENANCE

1 TROUBLE TABLE

Table1 Fault Display on Indoor Wired controller:

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
E0	Water Pump Malfunction	Water pump	If the water-full protection cannot be recovered after 2 hours, it is believed that the water pump is failed, in which case all the loads will be switched off and cannot be recovered automatically.
E1	High Pressure Protection of Compressor	High-pressure Switch	When high pressure protection is detected for 3 seconds successively, all the loads (except the heating 4-way valve) will be switched off, in which case all the keys and remote control signals except ON/OFF function will be disabled and cannot be recovered automatically. To eliminate the fault, it is needed to switch off and on the machine or recover from power failure.
E2	Indoor Anti-frozen Protetion	Indoor evaporator sensor	If detecting that the evaporator sensor is lower than -2□ after the unit has been running for a period of time under cooling or dry mode, the unit will report this fault, in which case the compressor and outdoor fan will be stopped. The unit will not run until this temperature is ≥10℃and the compressor is stopped for 3 minutes.
E3	Low Pressure Protection of Compressor	Low-pressure Switch	If it is detected within 30 seconds successively that the low-pressure switch is cut off under ON or standby state (If the compressor is started, the detection will start 3 minutes after the compressor has run), the unit will report this fault. For the first two faults within 30 minutes, the unit can be recovered automatically. If over three times, the unit cannot be recovered automatically.
E4	Air Discharge High-temperature Protection of Compressor	Exhaust Overtemperature Protection	After the compressor is started, if it is detected within 30 seconds successively that the exhaust temperature is 130℃or higher, E4 will be displayed, in which case all the loads (except the 4-way valve of heating) will be stopped. The complete unit can only be recovered until the compressor has stopped for 3 minutes and the exhaust temperature is lower than 90□. For this protection occurs three times, the complete unit cannot be recovered automatically.
E5	Overload Proection of Compressor	Compressor	After the unit is energized, if it is detected within 3 seconds successively that the compressor overload switch is cut off, it will be deemed compressor overload protection. In this case, all the loads will be stopped (except the 4-way valve of heating) and E5 will be displayed. If the fault is eliminated, the compressor will be restarted after 3 minutes. If three compressor overload protections

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
			are detected successively in 30 minutes from the first detection to the occurrence of fault, the compressor cannot be recovered automatically and the buzzer will alarm. You shall need to press ON/Off to stop the unit and clear the sound alarm before pressing ON/OFF again. The unit will be restarted if the high pressure protection disappears; otherwise the fault code will be displayed.
E6	Communications Failure	Communication between indoor and outdoor mainboard	If the outdoor unit does not receive data from indoor unit for 30 seconds successively once energized, this indicates indoor communication failure. In this case, the compressor and outdoor fan will be stopped. Under heating mode, the 4-way valve will be stopped if the compressor has been stopped for 2 minutes. If the indoor unit does not receive message from outdoor unit for 1 minute, this indicates communication failure. In this case, the indoor unit will be stopped and the indicator will blink. If the display board does not receive message from outdoor unit in 1 minute, it can be judged that it is communication failure, in which case the fault will be displayed and the machine will not function. After the communication is resumed to normal, the system will run as per the working mode before. This can recover automatically.
E8	Indoor Fan Protection	Indoor fan	If indoor fan overload protection is detected for 3 seconds successively, the compressor and fan will be immediately stopped and the fault code E8 will be displayed, while the buzzer will alarm. Press ON/OFF key. After the fault disappears, the fault display will be cleared. Then, press ON/OFF key to restart the machine.
E9	Full Water Protection	Liquid level switch	If “full water” is detected for 8 seconds successively once energized, the system will enter into full water protection and the indicator will blink (or display E9): Under cooling and dry mode, the outdoor fan and compressor will be stopped, while the indoor fan will be stopped after 1 minute. Under heating mode, the outdoor fan and compressor will be stopped, the 4-way valve will maintain its original state, and the indoor unit will be stopped after 1 minute. Under fan mode, the indoor loads will not be stopped.
F0	Malfunction Of Indoor Environment Sensor at Return air	Indoor room sensor	If the indoor sensor is detected of open circuit or short circuit for 5 seconds successively, the indoor room temperature will forcibly set to 24□. In this case, the system will not perform any treatment, only the indicator will blink or display the fault code. The system can automatically resume after the failure is eliminated. Under fan mode, only the fault will be displayed, but the indoor unit will run

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
	Vent		normally. The fault disappears after it is eliminated.
F1	Evaporator Temp. Sensor Malfunction	Outdoor evaporator sensor	If the evaporator sensor is detected of open circuit or short circuit for 5 seconds successively: When under cooling and dry mode, the system will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F1. After the fault is eliminated, the system can automatically resume to operation and clear the fault display. Under fan mode, only the fault will be displayed, and the indoor unit will run normally. The fault disappears after it is eliminated.
F2	Condenser Temp. Sensor Malfunction	Outdoor condenser sensor	If the condenser sensor is detected of open circuit or short circuit for 5 seconds successively: When under cooling and dry mode, the system will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F2. After the fault is eliminated, the system can automatically resume to operation and clear the fault display. Under fan mode, only the fault will be displayed, and the indoor unit will run normally. The fault disappears after it is eliminated. For cooling-only unit, the other units except the duct type will not detect the condenser sensor fault.
F3	Outdoor Environment Sensor Malfunction	Outdoor environment sensor	If the outdoor environment sensor is detected of open circuit or short circuit for 5 seconds successively: When under cooling and dry mode, the system will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F3. After the fault is eliminated, the system can automatically resume to operation and clear the fault display. Under fan mode, only the fault will be displayed, and the indoor unit will run normally. The fault disappears after it is eliminated.
F4	Malfunction of Exhaust Temp. Sensor	Exhaust temperature sensor	If the outdoor temperature sensor is detected of open circuit for 5 seconds successively after the compressor is started: When under cooling and dry mode, all the loads will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F4 and the buzzer will alarm. After the fault is eliminated, the system can automatically resume to operation and clear the fault code. If the outdoor temperature sensor is detected of short circuit:

Trouble Code	Trouble Name	Origin of Trouble Signal	Control Description
			When under cooling and dry mode, all the loads will be stopped. When under heating mode, all of the loads except the 4-way valve will be stopped, while the indicator will blink or display the fault code F4 and the buzzer will alarm. After the fault is eliminated, the system can automatically resume to operation and clear the fault code.
F5	Malfunction Of Indoor Environment Sensor at Wire Controller	Wired controller	If the wired controller is detected of open circuit or short circuit for 5 seconds successively, the indoor room temperature will forcibly set to 24□. In this case, the system will not perform any treatment, only the indicator will blink or display the fault code. The system can automatically resume to operation after the failure is eliminated. Under fan mode, only the fault will be displayed, but the indoor unit will run normally. The fault disappears after it is eliminated.
FF	All of The Terminal Air Valve Colsed	System	The air valve on end will be fully closed.
CC	Wire Controller Invalid (not failure)	wire controller	the units is remotely monitored or controlled by centralized controller and the wire controller's functions are invalidated (not failure)
EE	Keys Locked (not failure)	wire controller	keys on wire controller are locked (not failure)

Table2 Mainboard LED Display Codes for Outdoor Unit:

Items	Mainboard LED Display Codes for Outdoor Unit						Display
	LED6	LED5	LED4	LED3	LED2	LED1	
DC busbar overvoltage protection	Bright	Blink	Bright	Bright	Bright	Bright	E5
Radiating fin overheat protection	Bright	Blink	Bright	Bright	Bright	Blink	E5
Current sensor fault	Bright	Blink	Bright	Bright	Blink	Bright	E5
Radiator sensor fault	Bright	Blink	Bright	Blink	Bright	Bright	E5
Compressor current protection	Bright	Blink	Bright	Blink	Bright	Blink	E5
DC busbar undervoltage protection	Bright	Blink	Bright	Blink	Blink	Bright	E5
Compressor startup failure	Bright	Blink	Dark	Bright	Bright	Bright	E5

PFC abnormal	Bright	Blink	Dark	Bright	Bright	Dark	E5
Compressor clogged	Bright	Blink	Dark	Bright	Bright	Blink	E5
IPM module reset	Bright	Blink	Dark	Bright	Dark	Bright	E5
The compressor motor in loss of synchronization	Bright	Blink	Dark	Bright	Dark	Dark	E5
Driver board in open phase	Bright	Blink	Dark	Bright	Dark	Blink	E5
Fault from variable frequency drive to main control communication	Bright	Bright	Dark	Dark	Dark	Blink	E5
IPM module protection	Bright	Blink	Blink	Bright	Bright	Bright	E5
Compressor overspeed	Bright	Blink	Blink	Bright	Bright	Dark	E5
Sensor connection protection	Bright	Blink	Blink	Bright	Bright	Blink	E5
Temperature drift protection	Bright	Blink	Blink	Bright	Dark	Bright	E5
AC contactor protection	Bright	Blink	Blink	Bright	Dark	Dark	E5
AC current protection (input side)	Bright	Blink	Bright	Blink	Bright	Dark	E5
Driver board environment temperature sensor error	Bright	Blink	Bright	Blink	Dark	Bright	E5
High-pressure protection	Bright	Blink	Dark	Dark	Dark	Blink	E1
Low-pressure protection	Bright	Blink	Dark	Dark	Blink	Dark	E3
Exhaust protection	Bright	Blink	Dark	Dark	Blink	Blink	E4
Compressor overload protection	Bright	Blink	Dark	Blink	Dark	Dark	E5
Communication error(between indoor / outdoor unit and wired controller)	Bright	Blink	Dark	Blink	Blink	Dark	E6
Outdoor environment temperature sensor error	Bright	Blink	Blink	Dark	Dark	Dark	F3
Indoor coil middle temperature sensor error	Bright	Blink	Blink	Dark	Blink	Dark	F2
Variable-frequency exhaust temperature sensor error	Bright	Blink	Blink	Blink	Dark	Blink	F4
Defrost (non-malfunction)	Bright	Blink	Dark	Blink	Blink	Blink	Defrost
Oil return (non-malfunction)	Bright	Blink	Blink	Blink	Bright	Blink	No display
Mismatch of indoor unit model	Bright	Blink	Dark	Blink	Bright	Blink	No display

Note: No indicator LED6 for GUHD09NK3AO, GUHD12NK3AO or GUHD18NK3AO.

Table 3 Driver Board Fault Display Codes for 3-phase Unit, only applicable to GUHD36NM3AO, GUHD42NM3AO, GUHD48NM3AO and GUHD60NM3AO

Item	**Driver Board LED Display for 3-phase Unit**			**Display**
	LED1 (red)	LED2 (yellow)	LED3 (green)	
11 Normal Mode	Blink	Dark	Dark	E5
IPM module protection	Blink	Dark	Blink	E5
High-pressure protection	Blink	Blink	Dark	E5
Compressor current protection	Blink	Blink	Blink	E5
Fault from variable frequency drive to main control communication	Dark	Blink	Blink	E5
Loss-of-synchronization protection	Blink	Bright	Bright	E5
Current sensor fault	Blink	Blink	Bright	E5
Sensor connection protection	Bright	Bright	Blink	E5
Radiator overtemperature protection	Bright	Blink	Bright	E5
Radiator temperature sensor error	Dark	Blink	Bright	E5
Mode error	Bright	Dark	Blink	E5

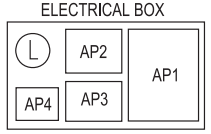
جداول عیب یابی دستگاههای مدل مولتی اسپلیت

FREE MATCH

Model: GWHD(24)NK3CO

Meanings of malfunction indicator for outdoor -unit main board(AP1) and drive board(AP3)

LED-D101(red)	Name of malfunction	LED-D102(yellow)	Name of malfunction	LED-D103(green)	Name of malfunction
flash-1 time	Compressor runs	flash-1 time	Frequency drop for exhaust protection	flash-1 time	Frequency limit for exhaust protection
flash-2 times	Stop for compressor high-pressure protection	flash-2 times	Frequency drop for cooling overload	flash-2 times	Frequency limit for cooling overload
flash-3 times	Stop for exhaust protection	flash-3 times	Frequency drop for over current protection	flash-3 times	Frequency limit for over current protection
flash-4 times	Stop for communication malfunction(including indoor unit and SIPM)	flash-4 times	Frequency drop for phase current protection	flash-4 times	Frequency limit for phase current protection
flash-5 times	Stop for IPM module protection	flash-5 times	Frequency drop for heating unit B high temperature protection	flash-5 times	Frequency limit for heating unit A high temperature protection
flash-6 times	Stop for over current protection	flash-6 times	Frequency drop for heating unit B high temperature protection	flash-6 times	Frequency limit for heating unit B high temperature protection
flash-7 times	Stop for cooling overload	flash-7 times	Frequency drop for heating unit C high temperature protection	flash-7 times	Frequency limit for heating unit C high temperature protection
flash-8 times	Stop for high temperature protection of each indoor unit simultaneously	flash-9 times	Defrost	flash-9 times	Oil return
flash-9 times	Stop for anti-freezing protection of each indoor unit simultaneously				
flash-10 times	Stop for outdoor unit sensor malfunction or sensor malfunction of each indoor unit simultaneously				
flash-11 times	Stop for compressor overload protection				
flash-12 times	Stop for compressor low-pressure protection(prepared)				
flash-13 times	Stop for phase current protection				
flash-14 times	Stop for incorrect read of E2PROM				
flash-15 times	Short circuit of DC power supply				
LED-D104(red)	Name of malfunction	LED-D105(yellow)	Name of malfunction	LED-D106(green)	Name of malfunction
flash-1 time	Outdoor ambient sensor malfunction	flash-1 time	Unit A communication malfunction(not available to receive correct data from A in 3 min.)	flash-1 time	Unit B communication malfunction(not available to receive correct data from B in 3 min.)
flash-2 times	Outdoor tube sensor malfunction				
flash-3 times	Outdoor exhaust sensor malfunction	flash-2 times	Unit A indoor middle sensor malfunction	flash-2 times	Unit B indoor middle sensor malfunction
flash-4 times	Communication with drive board malfunction (not available to receive correct data in 10s)	flash-3 times	Unit A indoor outlet pipe sensor malfunction	flash-3 times	Unit B indoor outlet pipe sensor malfunction
		flash-4 times	Unit A indoor inlet pipe sensor malfunction	flash-4 times	Unit B indoor inlet pipe sensor malfunction
		flash-5 times	Unit A indoor ambient sensor malfunction	flash-5 times	Unit B indoor ambient sensor malfunction
		flash-6 times	Mode conflict of Unit A	flash-6 times	Mode conflict of Unit B
LED-D107(red)	Name of malfunction	flash-7 times	Unit A anti-freezing protection	flash-7 times	Unit B anti-freezing protection
flash-1 time	Unit C communication malfunction(not available to receive correct data from C in 3 min.)	flash-8 times	Unit A high temperature protectrion	flash-8 times	Unit B high temperature protectrion
flash-2 times	Unit C indoor middle sensor malfunction	LED-D109(green)	Name of malfunction	LED1(red)	Name of malfunction
flash-3 times	Unit C indoor outlet pipe sensor malfunction	flash-1 time	Flash once after receiving correct communication data	flash-1 time	Compressor normally runs
flash-4 times	Unit C indoor inlet pipe sensor malfunction			flash-2 times	Stop for abnormity
flash-5 times	Unit C indoor ambient sensor malfunction			flash-3 times	IPM protection
flash-6 times	Mode conflict of Unit C	LED2(green)	Name of malfunction	flash-4 times	Demagnetization protection
flash-7 times	Unit C anti-freezing protection	flash-1 time	Communication failure(not available to receive date in 10s)	flash-5 times	PFC protection
flash-8 times	Unit C high temperature protection	flash-2 times	Normal communication	flash-6 times	Startup for 5 successive times
				flash-7 times	Startup failure
				flash-8 times	DC bus volt. is under 350V during startup of compressor
				flash-9 times	DC bus volt. is above 420V
				flash-10 times	IPM over heat protection
				flash-11 times	DC bus volt. is under 320V during running
				flash-12 times	IPM temperature detects short or open circuit of resistance

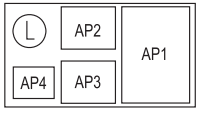


AP1:Main Board;
AP2:PFC Module;
AP3:Drive Board;
AP4:Power Module;

Note:D101-D109,LED1 and LED2 are all indicators for malfunction, in which D101-D109 are on main board AP1,and LED1 and LED2 are on drive board AP3.

Model: GWHD(28)NK3AO

Meanings of malfunction indicator for outdoor -unit main board(AP1) and drive board(AP3)

LED-D101(red)	Name of malfunction	LED-D102(yellow)	Name of malfunction	LED-D103(green)	Name of malfunction
flash-1 time	Compressor runs	flash-1 time	Frequency drop for exhaust protection	flash-1 time	Frequency limit for exhaust protection
flash-2 times	Stop for compressor high-pressure protection	flash-2 times	Frequency drop for cooling overload	flash-2 times	Frequency limit for cooling overload
flash-3 times	Stop for exhaust protection	flash-3 times	Frequency drop for over current protection	flash-3 times	Frequency limit for over current protection
flash-4 times	Stop for communication malfunction(including indoor unit and SIPM)	flash-4 times	Frequency drop for phase current protection	flash-4 times	Frequency limit for phase current protection
flash-5 times	Stop for IPM module protection	flash-5 times	Frequency drop for heating unit A high temperature protection	flash-5 times	Frequency limit for heating unit A high temperature protection
flash-6 times	Stop for over current protection	flash-6 times	Frequency drop for heating unit B high temperature protection	flash-6 times	Frequency limit for heating unit B high temperature protection
flash-7 times	Stop for cooling overload	flash-7 times	Frequency drop for heating unit C high temperature protection	flash-7 times	Frequency limit for heating unit C high temperature protection
flash-8 times	Stop for high temperature protection of each indoor unit simultaneously	flash-8 times	Frequency drop for heating unit D high temperature protection	flash-8 times	Frequency limit for heating unit D high temperature protection
flash-9 times	Stop for anti-freezing protection of each indoor unit simultaneously	flash-9 times	Defrost	flash-9 times	Oil return
flash-10 times	Stop for outdoor unit sensor malfunction or sensor malfunction of each indoor unit simultaneously				
flash-11 times	Stop for compressor overload protection				
flash-12 times	Stop for compressor low-pressure protection(prepared)				
flash-13 times	Stop for phase current protection	LED-D105(yellow)	Name of malfunction	LED-D106(green)	Name of malfunction
flash-14 times	Stop for incorrect read of E2PROM	flash-1 time	Unit A communication malfunction(not available to receive correct data from A in 3 min.)	flash-1 time	Unit B communication malfunction(not available to receive correct data from B in 3 min.)
flash-15 times	Short circuit of DC power supply				
		flash-2 times	Unit A indoor middle sensor malfunction	flash-2 times	Unit B indoor middle sensor malfunction
LED-D104(red)	Name of malfunction	flash-3 times	Unit A indoor outlet pipe sensor malfunction	flash-3 times	Unit B indoor outlet pipe sensor malfunction
flash-1 time	Outdoor ambient sensor malfunction	flash-4 times	Unit A indoor inlet pipe sensor malfunction	flash-4 times	Unit B indoor inlet pipe sensor malfunction
flash-2 times	Outdoor tube sensor malfunction	flash-5 times	Unit A indoor ambient sensor malfunction	flash-5 times	Unit B indoor ambient sensor malfunction
flash-3 times	Outdoor exhaust sensor malfunction	flash-6 times	Mode conflict of Unit A	flash-6 times	Mode conflict of Unit B
flash-4 times	Communication with drive board malfunction (not available to receive correct data in 10s)	flash-7 times	Unit A anti-freezing protection	flash-7 times	Unit B anti-freezing protection
		flash-8 times	Unit A high temperature protectrion	flash-8 times	Unit B high temperature protectrion
LED-D107(red)	Name of malfunction	LED-D108(yellow)	Name of malfunction	LED-D109(green)	Name of malfunction
flash-1 time	Unit C communication malfunction(not available to receive correct data from C in 3 min.)	flash-1 time	Unit D communication malfunction(not available to receive correct data from D in 3 min.)	flash-1 time	Flash once after receiving correct communication data
flash-2 times	Unit C indoor middle sensor malfunction	flash-2 times	Unit D indoor middle sensor malfunction	LED1(red)	Name of malfunction
flash-3 times	Unit C indoor outlet pipe sensor malfunction	flash-3 times	Unit D indoor outlet pipe sensor malfunction	flash-1 time	Compressor normally runs
flash-4 times	Unit C indoor inlet pipe sensor malfunction	flash-4 times	Unit D indoor inlet pipe sensor malfunction	flash-2 times	Stop for abnormity
flash-5 times	Unit C indoor ambient sensor malfunction	flash-5 times	Unit D indoor ambient sensor malfunction	flash-3 times	IPM protection
flash-6 times	Mode conflict of Unit C	flash-6 times	Mode conflict of Unit D	flash-4 times	Demagnetization protection
flash-7 times	Unit C anti-freezing protection	flash-7 times	Unit D anti-freezing protection	flash-5 times	PFC protection
flash-8 times	Unit C high temperature protection	flash-8 times	Unit D high temperature protection	flash-6 times	Startup for 5 successive times
ELECTRICAL BOX  AP1:Main Board; AP2:PFC Module; AP3:Drive Board; AP4:Power Module;				flash-7 times	Startup failure
				flash-8 times	DC bus volt. is under 350V during startup of compressor
		LED2(green)	Name of malfunction	flash-9 times	DC bus volt. is above 420V
		flash-1 time	Communication failure(not available to receive date in 10s)	flash-10 times	IPM over heat protection
		flash-2 times	Normal communication	flash-11 times	DC bus volt. is under 320V during running
				flash-12 times	IPM temperature detects short or open circuit of resistance

Note:D101-D109,LED1 and LED2 are all indicators for malfunction, in which D101-D109 are on main board AP1,and LED1 and LED2 are on drive board AP3.

Malfunction Name	Dual-8 display	Operation Lamp	Cooling Lamp	Solution
Mode Conflict	E7	Blink 7 times		Set the same mode for indoor unit of error code to the other running indoor unit.
Open circuit and short circuit for indoor ambient temperature sensor	F1		Blink once	Replace the related malfunction temperature sensor
Open circuit and short circuit for indoor middle evaporator temperature sensor	F2		Blink twice	
Open circuit and short circuit for indoor outlet evaporator temperature sensor	b7		Blink 22 times	
Open circuit and short circuit for indoor inlet evaporator temperature sensor	b5		Blink 19 times	

8.3 Malfunction Code

Malfunction Name	Dual-8 display	Operation Lamp	Heating lamp	Cooling lamp
Abnormal system	H4		Blink 4 times	
Compressor overload protection	H3		Blink 3 times	
Modular protection	H5		Blink 5 times	
High-pressure	E1	Blink once		
Discharge temperature protection	E4	Blink 4 times		
Low-voltage over-current protection	E5	Blink 5 times		
Mode conflict	E7	Blink 7 times		
Communication malfunction	E6	Blink 6 times		
Defrost or heating oil-return	H1		Blink once	
Open circuit and short circuit for indoor ambient temperature sensor	F1			Blink once
Open circuit and short circuit for indoor middle evaporator temperature sensor	F2			Blink twice
Open circuit and short circuit for indoor outlet evaporator temperature sensor	b7			Blink 22 times
Open circuit and short circuit for indoor inlet evaporator temperature sensor	b5			Blink 19 times
Open circuit and short circuit for outdoor ambient temperature sensor	F3			Blink third
Open circuit and short circuit for outdoor condenser temperature sensor	F4			Blink 18 times
Open circuit and short circuit for outdoor discharge temperature sensor	F5			Blink 5 times
Fail startup	H7		Blink 7 times	
PFC malfunction	HC		Blink 6 times	
Demagnetizing protection of compressor	HE		Blink 14 times	
Anti-high temperature protection of system	E8	Blink 8 times		
All the malfunctions need adjust by remote controller, and it is displayed when pressing lamp button 6 time continuously in 3S, and exit test automatically in 5min (invalid under auto mode) or will exit if press lamp button 6 time continuously in 3S.				
Stop when the anti-freeze protection	E2	Blink twice		
Cooling overload down frequency	F6			Blink 6 times
Unit over-current down frequency	F8			Blink 8 times
Compressor discharge down frequency	F9			Blink 9 times
The AC voltage of unit decreases down frequency	E0	Blink 10 times		
Heating anti-high temperature down frequency	H0		Blink 10 times	
Anti- cold air protection	E9	Blink 9 times		
Cooling oil-return	F7			Blink 7 times

4 Displayer

4．1 Basic display

（1）After powered on, the figure will be displayed, then only Power/running indicator turn on.

（2）When using remote conroller to open the unit, it will turn on, at the same time to display current setting running modes. Cool mode:run and cool lights are green; Heat mode: run and heat lights are green;Dry mode:run and dry lights are green Fan mode:run and fan lights are green; Auto mode: run\auto and actual run lights are green; is green

Note: Panel 2 models don't have fan light and auto mode light.Under the fan mode run light is green.Under the auto mode run lightand actual run mode light are green.

If you turn off light key, then all display will be turned off(it's available under the unit is off)

(4) After set up the SLEEP function, the displayer will keep original displaying status that is Sleep function will not affect the light on and Off.

4．2 Dual 8 display

The nixie tube will display current setting temperature that the setting temperature range is 16-30℃. In Auto mode, the Cool and Fan will display 25℃, in Heat will display 20℃, cooling only controller only display 25℃. Display indoor temperature, the temperature setting range is 0℃ to 60℃ .

4．3 Fan speed display

Fan speed signal is divided into 3 parts dynamic circularly display, the three parts are two section, four section and six full display, there into the two section is still displayed. When remote control the super high speed, the fan speed figure blinks quickly; when remote control low fan speed, the figure blinks slowly; When remote control the middle fan it will display speed is between the high speed and low speed; When remote control the auto speed, the figure blinks depends on the inner fan motor actual running speed. If indoor unit stops running that will blink with the lowest speed display.

Note: Export unit with panel 2 haven't this fan speed display.

4．4 Indoor unit malfunction display

Malfunction	Dual 8 display	Running light	Heating light	Cooling light
System abnormal (anti-high temp, unit will stop, cooling overload)	H4		Blink 4 times	
Compressor overload protection	H3		Blink 3 times	
Modes protection	H5		Blink 5 times	
High pressure protection	E1	Blink once		
Anti-freeze protection unit will stop	E2	Blink twice		
Air exhaust tempeature protection	E4	Blink 4 times		
Low voltage overcurrent protection	E5	Blink 5 times		
Modes confliction	E7	Blink 7 times		
Communication malfunction	E6	Blink 6 times		
Defrost or heating oil return	H1		Blink once	
Indoor ambient temp sensor opened, short circuit	F1			Blink once
Any of indoor evaporator sensor opened, short circuit	F2			Blink twice
Outdoor ambient sensor opened, short circuit	F3			Blink 3 times
Outdoor condensor sensor opened, short circuit	F4			Blink 4 times
Outdoor air exhaust sensor opened, short circuit	F5			Blink 5 times
Start up failure	H7		Blink 7 times	
PFC malfunction	HC		Blink 6 times	
Compressor demagnetization protection	HE		Blink 14 times	
The following malfunction need to use remote control for transfer, within 3s continuously press SLEEP button for 6 times will display, 5min will automatically quit detection status (invalid in Auto mode) or within 3s continuously press SLEEP button for 6 times will quit.				
Over current frequency decline	F6			Blink 6 times
Whole unit over current frequncy decline	F8			Blink 8 times
Compressor air exhuast frequncy decline	F9			Blink 9 times
Whole unit AC current voltage decline frequency decline	E0	Blink 10 times		
Heating anti-high temperature frequency decline	H0		Blink 10 times	
Anti-cool wind protection	E9	Blink 9 times		
Cooling oil return	F7			Blink 7 times

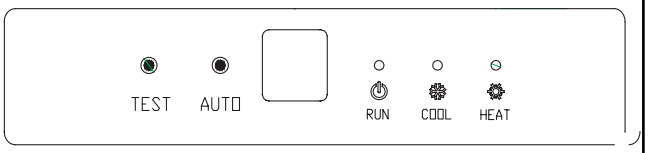
Note: If several malfunction exist synchronously, the malfunction code will display circularly. Indicator will blink 0.5s and extinguish 0.5s. Defrosting. oil reutrn procedure, and quit within 3mins, will not detect indoor unit all sensor malfunction.

3.8 Memory Function

1.What can be memorized includes: mode(auto.cool,dry,fan.heat),swing, setting temperature, preset fan speed and so on.
2.If the unit is running before re-energization,the indoor unit will send signal of sta to outdoor unit in 3-min. delay.
3.After re-energization, the unit will run under the state befor power failure. .
4.If indoor unit does not connect wire controller and TIMER function is not set at the last remote control command,the system after power failure will memorize the the last remote control command and it runs at the running mode set at last time.If TIMER function is set at the last remote control command,the system after power failure will automatically cancel TIMER. It should be reset.
5. If the system is connected with wire controller.It will run according to wire contoroller's command before power failure and after re-energization.

3.9 Indoor Indicators

1.Communication indicator of indoor mainboard
When indoor unit communicates with outdoor unit or with wire controller, Communication indicator flashes for once.



2. Indicators of indoor light board
Under normal operation, red indicator (running indicator), yellow indicator (heating indicator) and green indicator (cooling indicaor) will show according to corresponding running state.Malfunction is shown priorly and many malfunctions are shown in cycle.
Note:1) Once malfunction occurs,it will be shown.
2). Malfucntion indicator flashes once every 0.5s.The show interval beween two malfucntions is 3s.

No.	Malfunction	Red indicator (running)	Yellow indicator Heating	Green indicator Cooling
1	System high pressure protection	Flash once		
2	Anti-freezing protection	Flash twice		
3	System low pressure protection	Flash 3 times		
4	Exhaust protection	Flash 4 times		
5	Low pressure overcurrent protection	Flash 5 times		
6	Communication malfunction	Flash 6 times		
7	Mode conflict	Flash 7 times		
8	Jumper cap malfunction	Flash 15 times		
9	Defrosting/heating oil return		Flash once	
10	Compressor overload protection		Flash 3 times	
11	System abnormality (for overload cooling,detect outdoor tube temp and for heating ,detect indoor tube temp		Flash 4 times	
12	Module protection		Flash 5 times	
13	PFC protection		Flash 6 times	
14	Compressor desynchronizing error including degaussing error		Flash 7 times	
15	Water-full protection		Flash 8 times	
16	Short and open circuit of indoor ambient temp sensor			Flash once
17	Short and open circuit of evaporator (including outlet/inlet/mid tube temp)			Flash twice
18	Short and open circuit of outdoor ambient temp sensor			Flash 3 times
19	Short and open circuit of outdoor condenser temp sensor			Flash 4 times
20	Short and open circuit of exhaust temp sensor			Flash 5 times
21	E2 is wrong read by reserved outdoor unit			Flash 11 times
22	Ambient temp sensor malfucntion of wire controller	When this temp sensor is used,indoor ambient temp sensor malfuction is shown. (green indicator flashes once)		

FREE MATCH
INDOOR - WIRED REMOTE CONTROL

The Codes of Failure Definitions are as Follows:

Fault code	Meaning	Wire controller
1	Compressor high pressure protection unit stop	E1
2	Indoor unit anti-freezing protection	E2
3	Low-pressure protection unit stop	E3
4	Air exhaust protection unit stop	E4
5	Over current protection unit stop	E5
6	Communication malfunction unit stop	E6
7	Unit modes conflict	E3
8	Jumper malfunction	E3
9	Defrosting /Heating oil return	defrost
10	Compressor overload protection unit stop	E5
11	System Unit malfunction	F2
12	IPM modular protection unit stop	E5
13	PFC protection unit stop	E5
14	Compressor malfunction	E9
15	Water spill protection	E9
16	Indoor ambient temp. sensor malfunction	F0
17	Indoor pipe temp. sensor malfunction	F1
18	Outdoor ambient temp. sensor malfunction	F3
19	Outdoor pipe temp. sensor malfunction	F2
20	Outdoor air exhaust temp. sensor malfunction	F4
21	E2 PROM Error	E3
22	Wire controller ambient temp. sensor malfunction	F5

Fault code	Meaning	Wire controller
1	Compressor high pressure protection unit stop	E1
2	Indoor unit anti-freezing protection	E2
3	Low-pressure protection unit stop	E3
4	Air exhaust protection unit stop	E4
5	Over current protection unit stop	E5
6	Communication malfunction unit stop	E6
7	Unit modes conflict	E3
8	Jumper malfunction	E3
9	Defrosting /Heating oil return	defrost
10	Compressor overload protection unit stop	E5
11	System Unit malfunction	F2
12	IPM modular protection unit stop	E5
13	PFC protection unit stop	E5
14	Compressor malfunction	E9
15	Water spill protection	E9
16	Indoor ambient temp. sensor malfunction	F0
17	Indoor pipe temp. sensor malfunction	F1
18	Outdoor ambient temp. sensor malfunction	F3
19	Outdoor pipe temp. sensor malfunction	F2
20	Outdoor air exhaust temp. sensor malfunction	F4
21	E2 PROM Error	E3
22	Wire controller ambient temp. sensor malfunction	F5

3.7 Communication Malfunction

Communication malfunction occurs, if the unit can not receivie correct signal for 3 minutes continuously.Under AUTO HEAT or HEAT mode, the unit runs with blowing residual heat.Under other mode, indoor fan keeps its original operating state. If signal from wire controller can not be received for 1min continuously, communication malfunction with wire controller occurs.

3.8 Memory Function

1.What can be memorized includes: mode(auto.cool,dry,fan.heat),swing, setting temperature, preset fan speed and so on.
2.If the unit is running before re-energization,the indoor unit will send signal of state to outdoor unit in 3-min. delay.
3.After re-energization, the unit will run under the state befor power failure.
4.If indoor unit does not connect wire controller and TIMER function is not set at the last remote control command,the system after power failure will memorize the the last remote control command and it runs at the running mode set at last time.If TIMER function is set at the last remote control command,the system after power failure will automatically cancel TIMER. It should be reset.
5. If the system is connected with manual controller.It will run according to wire contoroller's command before power failure and after re-energization.

3.9 Indoor Indicators

1.Communication indicator of indoor mainboard
When indoor unit communicates with outdoor unit or with wire controller, Communication indicator flashes for once.
2. Indicators of indoor light board
Under normal operation, red indicator (running indicator), yellow indicator (heating indicator) and green indicator (cooling indicaor) will show according to corresponding running state.Malfunction is shown priorly and many malfunctions are shown in cycle.
Note:1) Once malfunction occurs,it will be shown.
2). Malfucntion indicator flashes once every 0.5s.The show interval beween two malfucntions is 3s.

Serial number	Meaning	LED(red)	LED (yellow)	LED (green)	LED (88)
1	Compressor high pressure protection unit stop	Blink once			E1
2	Indoor unit anti-freezing protection	Twice			E2
3	Low-pressure protection unit stop	Three times			E3
4	Air exhaust protection unit stop	Four times			E4
5	Over current protection unit stop	Five times			E5
6	Communication malfunction unit stop	Six times			E6
7	Unit modes conflict	Seven times			E7
8	Jumper malfunction	fifteen times			C5
9	Defrosting /Heating oil return		Blink once		H1
10	Compressor overload protection unit stop		Three times		H3
11	System Unit malfunction		Four times		H4
12	IPM modular protection unit stop		Five times		H5
13	PFC protection unit stop		Six times		HC
14	Compressor malfunction		Seven times		H7
15	Water spill protection		Eight times		H8
16	indoor ambient temp. sensor malfunction			Blink once	F1
17	indoor pipe temp. sensor malfunction			Twice	F2
18	Outdoor ambient temp. sensor malfunction			Three times	F3
19	Outdoor pipe temp. sensor malfunction			Four times	F4
20	Outdoor air exhaust temp. sensor malfunction			Five times	F5
21	E2 PROM Error			Eleven times	HA
22	Wire controller ambient temp. sensor malfunction			Blink once	

When the unit is running operated by wire controller

The Codes of Failure Definitions are as Follows:		
Fault code	Meaning	Wire controller
1	Compressor high pressure protection unit stop	E1
2	Indoor unit anti-freezing protection	E2
3	Low-pressure protection unit stop	E3
4	Air exhaust protection unit stop	E4
5	Over current protection unit stop	E5
6	Communication malfunction unit stop	E6
7	Unit modes conflict	E3
8	Jumper malfunction	E3
9	Defrosting /Heating oil return	defrost
10	Compressor overload protection unit stop	E5
11	System Unit malfunction	F2
12	IPM modular protection unit stop	E5
13	PFC protection unit stop	E5
14	Compressor malfunction	E9
15	Water spill protection	E9
16	Indoor ambient temp. sensor malfunction	F0
17	Indoor pipe temp. sensor malfunction	F1
18	Outdoor ambient temp. sensor malfunction	F3
19	Outdoor pipe temp. sensor malfunction	F2
20	Outdoor air exhaust temp. sensor malfunction	F4
21	E2 PROM Error	E3
22	Wire controller ambient temp. sensor malfunction	F5

جداول عیب یابی
دستگاههای کولر پنجره ای

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9. Troubleshooting

9.1 Malfunction Code Table

Malfunction Name	Dual 8 Code Display	Indicator Lamp Display	Results and Solution
Ambient temperature sensor is open and short circuit	F1	Cooling indicator lamp is 3s off blinks once	Pipe temperature sensor is bad connecting to controller, please re-insert or replace a ne pipe temperature sensor
Pipe temperature sensor is open and short circuit	F2	Cooling indicator lamp is 3s off blinks twice	Pipe temperature sensor is bad connecting to controller, please re-insert or replace a ne pipe temperature sensor

9.2 Malfunction Analysis

Malfunction 1: There is no action after the AC is energized, the buzzer will not give out a beep.

Solution: Please check the power cord of AC or replace controller.

Malfunction 1: The dual-8 nixie tube of display board displays “F1”, cooling indicator lamp is 3s off and blinks once.

Solution: Ambient temperature sensor is bad connecting to controller, please re-insert or replace a new ambient temperature sensor.

Malfunction 3: The dual-8 nixie tube of display board displays “F2”, cooling indicator lamp is 3s off and blinks twice.

Solution: Pipe temperature sensor is bad connecting to controller, please re-insert or replace a new pipe temperature sensor.

جداول عیب یابی دستگاههای موبایل (پورتابل)

C'MATIC

9. Troubleshooting

9.1 Con rm below 2 points before any failures occurred

(1) Confirm power supply is OK
Check the plug of power line is normal energized and work.

(2) Confirm power voltage
Make sure the voltage is between normal range, if exceed the range, the unit may abnormally runs.AC 115+/-10%

9.2 Error Code

Please see the blow failure contents and repair methods w hen the unit is energized or the error code occurred during the unit runs.

No.	Malfunction Name	Display Method of Indoor Unit				A/C Status	Possible Causes
		Error Code	Indicator lamp (During blinking, ON for 0.5S and OFF for 0.5 S)				
			Operation Lamp	COOL Lamp	HEAT Lamp		
1	Indoor ambient temperature sensor is open/ short- circuited	F1		OFF 3S and blinks once		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads （such as compressor, outdoor fan, 4-way valve） stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor ambient temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to trip-over of the parts on controller; 3.Indoor ambient temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
2	Indoor evaporator temperature sensor is open/ short-circuited	F2		OFF 3S and blinks twice		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, except indoor fan operates, other loads stop operation; During heating operation, the complete unit stops operation.	1. The wiring terminal between indoor evaporator temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Indoor evaporator temperature sensor is damaged (Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.

3	Outdoor condenser temperature sensor is open/ short-circuited	F4		OFF 3S and blinks 4 times		The unit will stop operation as it reaches the temperature point. During cooling and drying operation, compressor stops and indoor fan operates; During heating operation, the complete unit stops operation.	1. The wiring terminal between outdoor condenser temperature sensor and controller is loosened or poorly contacted; 2. There's short circuit due to the trip-over of the parts on controller; 3.Outdoor condenser temperature sensor is damaged（Please check it by referring to the resistance table for temperature sensor) 4. Main board is broken.
4	Overcurrent protection	E5	OFF 3S and blinks 5 times (inverter unit); running indicator blinks (non-inverter floor standing unit); As for other types of units, please refer to the detailed function equirement.			During cooling and drying operation, compressor and outdoor fan stop while indoor fan operates. During heating operation, all loads stop.	1. Unstable supply voltage. Normal fluctuation shall be within 10% of the rated voltage on the nameplate. 2. Supply voltage is too low and load is too high. 3. Measure the current of live wire on main board. If the current isn't higher than the overcurrent protection value, please check the controller. 4. The indoor and outdoor heat exchangers are too dirty, or the air inlet and air outlet are blocked. 5. The fan motor is not running. Abnormal fan speed: fan speed is too low or the fan doesn't run 6. The compressor is not running normally. There is abnormal sound, oil leakage or the temperature of the shell is too high, etc. 7. There's blockage in the system （filth blockage, ice plug, greasy blockage, Y-valve hasn't been opened completely）
5	Over-blow protection	H8			Over-blow indicator lamp goes out 3S blinks 8 times		Refer to th e indication of instruction to discharge the water of chassis.

TROUBLE SHOOTING

If the malfunction occur , please check the following before maintenance:

Troubles	Possible Causes	Solutions
The air conditioner doesn't start.	The power supply is not connected well. The power plug is not inserted tightly. There is the malfunction of power plug or socket. The fuse is broken.	1. Insert the power plug tightly. 2. Ask for the electrician to replace the power plug or socket. 3. Ask for the electrician to replace the fuse.
Although it was set the COOL mode, there is no cool wind.	1. The room temp is lower than the set temp. 2. The evaporator frosts.	1. This is the normal phenomenon. 2. Unit is running in defrosting operation, it will come back to run in original operation after defrosting.
Although it was set the DRY mode, there is no cool wind.	1. The evaporator frosts.	1. Unit is running in defrosting operation, it will come back to run in original operation after defrosting.
The LED displays"E5".	1. The power supply is unstable. 2. The malfunction occurs.	To cut off power supply, after 10 minutes turn on the unit, if the "E5" still displays, please inform the maintenance man to maintain.
The LED displays "H8".	The water tank gets full.	1. To pour out the water of the tank (please see the fig of P7) 2. If the malfunction still exists, please inform the maintenance man to maintain.
The LED displays "F1".	Ambient temperature sensor disable or release.	Please inform the maintenance man to maintain.
The LED displays "F2".	Indoor tube sensor disable or release.	
The LED displays "F4".	Outdoor tube sensor disable or release.	