

Failure codes for outdoor unit				
In the first two digits, 01 stands for system 1. / 02 stands for system 2.				
Type	Code	Failure	Unit working status	Possible reasons and solutions
Protection	01(02) P1	Main line current protection	Comprssor stops	Input current too high or too low, or system works in over-load condition. Unit recovers automatically after 5 minutes when it happened the first time. If same failure happened 3 times in a certain period of time, unit stops until repowered. Check unit input current. Check whether fan motor and water pump is working OK; whether condensor is blocked; whether water temperature too high, and whether water inlet&outlet temperature has too big difference (should no bigger than 8℃)
	01(02) P2	Compressor phase current protection	Comprssor stops	Compressor input current too high or too low, or system works in over-load condition. Check compressor input current. Check whether fan motor and water pump is working OK; whether condensor is blocked; whether water temperature too high, and whether water inlet&outlet temperature has too big difference (should no bigger than 8℃)
	01(02) P3	IPM module protection	Comprssor stops	Compressor drive failure. Check whether cable is broken or loosen. Check whether compressor driver PCB or compressor is broken.
	01(02) P4	Compressor oil return protection	Compressor speed up	if unit has been continuously working in low speed for certain period or time, unit starts this protection to suck compressor oil back into compressor. This is a normal protection and doesn't need any treatment.
	01(02) P5	Compressor shut down due to high/low pressure switch open caused by abnormal high/low pressure	Comprssor stops	If system pressure is too high or too low, it activates this protection. Unit recovers automatically after 5 minutes when it happened the first time. If same failure happened 3 times in a certain
	01(02) P6	Compressor speed down due to abnormal high pressure detected by condensing pressure sensor	Comprssor stops	This protection happens when system pressure is higher than the set compressor speed-down pressure point. If after slow down the compressor speed but pressure still higher than the protection point, compressor stops. Check whether water temperature set value is too high; whether system water flow rate too small; whether EEV works normally; whether air circulates fluently in cooling mode; whether water inlet&outlet temperature has too big difference (should no bigger than 8℃)
	01(02) P7	Compressor preheating	Standard function, doesn't need any treatment.	This is a normal protection and doesn't need any treatment. When compressor did not work for long time and ambient temperature is low, compressor crankcase heater work for 30 min and stops.
	01(02) P8	Compressor discharge temp. too high protection	Comprssor stops	Check whether water temperature set value is too high, especially when ambient temperature is low; whether water flow rate too small; whether system is lacking of enough refrigerant.
	01(02) P9	Outdoor evaporator coil temp. sensor protection	Comprssor stops	This is a protection caused by outdoor coil temperature too high. Check whether air circulates fluently in outdoor unit, air flow is too small, ambient temperature is too high.
	01(02) Pa	AC over high/low voltage protection	Comprssor stops	Unit input voltage too high or too low. Check the voltage of unit power supply if it's higher than 264V or lower than 180V.
	01(02) Pb	Compressor shut down due to too high/low ambient temperature	Comprssor stops	Ambient temperature is too high or too low for unit to work.
	01(02) Pc	Compressor speed limit due to too high/low ambient temperature	Compressor speed down	This is a normal protection and doesn't need any treatment.
	01(02) Pd	Preserved	Preserved	Preserved
	01(02) F1	Outdoor ambient temp. sensor failure	Comprssor stops	Check whether ambient temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	01(02) F2	Outdoor evaporator coil temp. sensor failure	Comprssor stops	Check whether outdoor coil temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	01(02) F3	Compressor discharge temp. sensor failure	Comprssor stops	Check whether compressor discharge temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	01(02) F4	Outdoor Suction temp. sensor failure	Comprssor stops	Check whether outdoor suction temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	01(02) F5	Evaporating pressure sensor failure	Comprssor stops	Check whether evaporating temperature sensor is open, short-circuit or broken. Replace it if necessary.
	01(02) F6	Condensing pressure sensor failure	Comprssor stops	Check whether condensing temperature sensor is open, short-circuit or broken. Replace it if necessary.
	01(02) F7	High/low pressure switch failure	Comprssor stops	If pressure switch is in open position when unit is in standby statue, or 2 minutes after compressor stops, unit gives this failure. Check whether high or low pressure switch is broken or not well connected.
	01(02) F8	Preserved	Preserved	Preserved

Failure	01(02) F9	DC fan failure (one)	Comprssor speed down	Speed of DC fan or one of the DC fan (for dual fan system) can't reach the required value or no feedback signal. Please check whether the PCB or fan motor is broken. Or Check if fan motor connect to a wrong port in PCB.
	01(02) Fa	DC fan failure (two)	Comprssor stops	Speed of both DC fans (for dual fan system) can't reach the required value or no feedback signal. Please check whether the PCB or fan motor is broken.
	01(02) Fb	System evaporating pressure too low	Comprssor stops	If system too low pressure protection detected by evaporating pressure sensor happened 3 times in a certain period of time, it gives this failure code and unit can't be restarted until repowered. Check whether system has not enough refrigerant or leakage inside(more likely it is not enough refrigerant that caused this abnormal evaporating pressure); whether fan motor and water pump is working OK; whether condensor is blocked; whether EEV whether EEV works normally; whether water temperature too low, and whether water inlet&outlet temperature has too big difference in cooling(should no bigger than 8℃).
	01(02) Fc	System condensing pressure too high	Comprssor stops	If system too high pressure protection detected by condensing pressure sensor happened 3 times in a certain period of time, it gives this failure code and unit can't be restarted until repowered. Check whether water flow rate is not enough (more likely it is not enough water flow rate that caused system build up too high pressure); whether fan motor and water pump is working OK; whether condensor is blocked; whether EEV works normally; whether water temperature too high, and whether water inlet&outlet temperature has too big difference (should no bigger than 8℃)
System failure	01(02) E1	Communication between opeartion panel and indoor PCB or outdoor PCB failure	Comprssor stops	Communication failure between operation panel and the indoor or outdoor PCB. Check the cable connection in between. Check whether the last three switches on outdoor power PCB are set to 001; whether last three switches on indoor PCB are set to 000.Check if indoor or outdoor PCB is broken. Indoor PCB is master, wired controller and outdoor PCB are slaver. Unit recovers when communication recovers.
	01(02) E2	Outdoor power PCB and driver PCB communication failure	Comprssor stops	Check the communication cable between outdoor power PCB and driver PCB. Check whether outdoor power PCB or driver PCB is broken. Replace it.
	01(02) E3	Compressor phase current failure (open/short circuit)	Comprssor stops	Check whether the power cable to compressor is broken or short-circuit.
	01(02) E4	Compressor phase current overload (over current)	Comprssor stops	Check if outdoor drive PCB is broken, replace it, Check if the compressor is broken, replace it, Check if the wiring to compressor is not connected well..
	01(02) E5	Compressor driver failure	Comprssor stops	Check whether compressor drive PCB is broken, or cable to compressor is wrong connected, or compressor is broken.
	01(02) E6	Module VDC over high/low voltage failure	Comprssor stops	Input voltage too high or too low. Check if outdoor drive PCB is broken, replace it.
	01(02) E7	AC current failure	Comprssor stops	Check the current to outdoor unit, and compare it with the unit current shown on the operation panel. If the difference is not big, check whether thesystem has enough refrigerant (more likely it is not enough refrigerant that caused this abnormal low current). If the difference is big, outdoor power PCB is broken. Please replace it with a new one;Detect if the current detecting wiring pass through current transformer.
	01(02) E8	EEPROM failure	Comprssor stops	Cut the unit power and short-circuit JP404 port on outdoor power PCB, repower the unit, cut power again and cancel the short-circuit on JP404 port. If still not OK, replace the outdoor power PCB.

Indoor Unit Failure Codes				
In the first two digits, 00				
Type	Code	Failure	Unit working statue	Possible reasons and solutions
	00 E1	Ambient temp. sensor failure	1.Cooling operation is limited. 2.Cooling and heating auto-switch is not available. 3.Unit will use compressor discharge temperature as reference for anti-freezing protection. 4. Bivalent function is not available.	Check whether ambient temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.

Failure	00 E2	Sanitary hot water temp. sensor failure	Sanitary hot water mode is not available.	Check whether sanitary hot water temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	00 E3	Heating water temp. sensor failure	Heating mode is not available.	Check whether heating water temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	00 E4	Cooling water temp. sensor failure	Cooling mode is not available.	Check whether cooling water temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	00 E5	Unit water outlet temp. sensor failure	Unit stops	Check whether unit water outlet temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	00 E6	Unit water inlet temp. sensor failure	Unit stops	Check whether unit water inlet temperature sensor is open, short-circuit or value drifts too much. Replace it if necessary.
	00 E7	System 2 indoor coil temp. sensor failure	System 2 stops	Check whether indoor coil temperature sensor of system 2 is open, short-circuit or value drifts too much. Replace it if necessary.
	00 E8	System 1 indoor coil temp. sensor failure	System 1 stops	For dual compressor system: check whether indoor coil temperature sensor of system 1 is open, short-circuit or value drifts too much. Replace it if necessary. For single compressor system: check dip-switch number ****. It should be in OFF position.
	00 E9	Preserved	Preserved	Preserved
	00 Ea	Indoor EEPROM failure	Unit keep on working	Reset EEPROM setting. If still not OK, replace the indoor PCB. Reset EEPROM: Press "reset" button on indoor PCB, unit will reset EEPROM automatically. After done, LED light for indicating the statue of relay "YL" will be powered. Repower the unit.
	00 Eb	Water flow switch failure	Compressor stops	Water flow switch failed to work. Check whether flow switch is broken or not well connected. Check whether there has a external circulation pump circulates the water through heat pump unit when unit circulation pump is OFF.
	00 Ec	Too small water flow rate failure	Compressor stops	System water flow rate is less than minimum allowable flow rate. Check the water system, especially the filter; check the working statue of water pump.
	00 P1	System 1 communication protection	System 1 stops	Communication data lost too much. Check whether communication cable is correctly connected; check whether communication cable is longer than 30M; whether there has a source of the disturbance nearby the unit. Check whether the last three switches on outdoor power PCB of system 1 are set to 000. Unit recovers when communication recovers.
	00 P2	System 2 communication protection	System 2 stops	Communication data lost too much. Check whether communication cable is correctly connected; check whether communication cable is longer than 30M; whether there has a source of the disturbance nearby the unit. Check whether the last three switches on outdoor power PCB of system 2 are set to 001. Unit recovers when communication recovers.
	00 P3	Operation panel communication protection	Warning but unit keeps on working	Communication data lost too much. Check whether communication cable is correctly connected; check whether communication cable is longer than 30M; whether there has a source of the disturbance nearby the unit. Unit recovers when communication recovers.
	00 P4	Master unit communication protection	Unit stops	This failure happens when a external master unit is used to control the heat pump unit via Modbus. Communication data lost too much. Check whether communication cable is correctly connected; check whether communication cable is longer than 30M; whether there has a source of the disturbance nearby the unit. Unit recovers when communication recovers.
	00 P5	System 2 indoor anti-freezing protection in cooling	Compressor of system 2 speed down or stop	1.Check whether set temperature for cooling is too low; whether system has too small water flow rate; check water system especially the filter.2.Check whether system has not enough refrigerant inside by measuring the evaporating pressure. 3.Check whether ambient temperature is lower than 15℃.
	00 P6	System 1 indoor anti-freezing protection in cooling	Compressor of system 1 speed down or stop	1.Check whether set temperature for cooling is too low; whether system has too small water flow rate; check water system especially the filter.2.Check whether system has not enough refrigerant inside by measuring the evaporating pressure. 3.Check whether ambient temperature is lower than 15℃.
	00 P7	Too small water flow rate protection	Unit will restart after 3 minutes	System water flow rate is less than minimum allowable flow rate. If the same protection happens over 3 times in certain period of time, unit will not restart and show "too small water flow rate failure". Check the water system, especially the filter; check the working statue of water pump.
	00 P8	Water outlet Temp. too low protection in cooling	Compressor stops	Compressor stops if water outlet is lower than 5℃ in cooling mode. Check whether temperature sensor Tc is OK and well connected; whether set water temperature too low; whether system flow rate too small.
	00 P9	Water outlet Temp. too high protection in heating/hot water	Compressor stops	Compressor stops if water outlet is higher than 57℃ in heating or hot water mode. Check whether temperature sensor Tc and Tw is OK and well connected; whether set water temperature too high; whether system flow rate too small.

	00 Pa	System 2 Water inlet Temp. too low protection in heating/hot water	Compressor of system 2 stops and auxiliary heater starts	Compressor stops and auxiliary heater works if water inlet temperature is too low°C in heating and hot water mode. Compressor restarts when this temperature raise up. This is a protection for protecting the safety of the compressor, as too low water temperature in heating or hot water mode may kill the compressor.
	00 Pb	System 1 Water inlet Temp. too low protection in heating/hot water	Compressor of system 1 stops and auxiliary heater starts	Compressor stops and auxiliary heater works if water inlet temperature is too low°C in heating and hot water mode. Compressor restarts when this temperature raise up. This is a protection for protecting the safety of the compressor, as too low water temperature in heating or hot water mode may kill the compressor.

	Failure code for wired controller			
	In the first two digits, 00			
Type	Code	Failure	Unit working statue	Possible reasons and solutions
	03 P3	Wired controler communication protection	All System stops	Communication data lost too much. Check whether communication cable is correctly connected; whether there has a source of the disturbance nearby the unit. Unit recovers when communication recovers.