

MODULAR SCROLL CHILLER



TRUST AIR CONDITIONING EQUIPMENT CO.
Prepared By: Engineering & R & D Department.

Troubleshooting

1.1 Failure & Protection Codes of the Module

25/30/35 Module

No,	Code	Trouble
1	E0	Water flow detection error (The third time)
2	E1	Power phase sequence error
3	E2	Communication error
4	E3	Total water outlet temperature sensor error
5	E4	Outlet water temperature sensor in Shell and tube exchanger error
6	E5	Pipe temperature sensor in condenser A error
7	E6	Pipe temperature sensor in condenser B error
8	E7	Outdoor ambient temperature sensor error
9	E8	System A is air discharge temperature sensor in digital compressor error
10	E9	Water flow detection error (The first and second times)
11	EA	Main unit detect that auxiliary unit's quantity have decreased
12	EB	Freeze-proof temperature sensor 1 in shell and tube exchanger error
13	EC	Wire control did not found out any on-line module unit
14	ED	Wire control and module unit communication error
15	Ed	1-hour consecutive 4-times PE protection
16	EE	Wire control and computer communication error
17	EF	Inlet water temperature sensor error
18	P0	High pressure or air discharge temperature protection error in system A
19	P1	Low pressure protection system A
20	P2	High pressure or air discharge temperature protection in system B
21	P3	Low pressure protection System B
22	P4	Current protection in system A
23	P5	Current protection in system B
24	P6	Condenser high pressure protection in system A
25	P7	Condenser high pressure protection in system B
26	P8	System A is air discharge temperature sensor in digital compressor
27	Pb	System freeze-proof protection
28	PE	Low-temperature protection of double-pipe heat exchanger
29	F1	EEPROM failure
30	F2	Failure of reduction of wired controller number at parallel connection of multiple wired controller (reserved) parallel connection of multiple wired controller

55/60/65 Module

No,	Code	Trouble
1	E0	Water flow detection error (The third time)
2	E1	Power phase sequence error
3	E2	Communication error
4	E3	Total water outlet temperature sensor error
5	E4	Outlet water temperature sensor in Shell and tube exchanger error
6	E5	Pipe temperature sensor in condenser A error
7	E6	Pipe temperature sensor in condenser B error
8	E7	Outdoor ambient temperature sensor error
9	E8	System A is air discharge temperature sensor in digital compressor error
10	E9	Water flow detection error (The first and second times)
11	EA	Main unit detect that auxiliary unit's quantity have decreased
12	EB	Freeze-proof temperature sensor 1 in shell and tube exchanger error
13	EC	Wire control did not found out any on-line module unit
14	ED	Wire control and module unit communication error
15	Ed	1-hour consecutive 4-times PE protection
16	EE	Wire control and computer communication error
17	EF	Inlet water temperature sensor error
18	P0	High pressure or air discharge temperature protection error in system A
19	P1	Low pressure protection system A
20	P2	High pressure or air discharge temperature protection in system B
21	P3	Low pressure protection System B
22	P4	Current protection in system A
23	P5	Current protection in system B
24	P6	Condenser high pressure protection in system A
25	P7	Condenser high pressure protection in system B
26	P8	System A is air discharge temperature sensor in digital compressor
27	P9	Protection of outlet and inlet water temperature difference
28	PA	Starting protection of low-temp cooling
29	Pb	System freeze-proof protection
30	PC	(Reserved failure code)
31	PE	Low-temperature protection of shell-and-tube heat exchanger
32	F1	EEPROM failure
33	F2	Failure of reduction of wired controller number at parallel connection of multiple wired controller (reserved) parallel connection of multiple wired controller

1.2 Troubles and Solutions

Troubles	Possible reasons	Solutions
Over high air discharge pressure (Cooling operation)	Air or other non-condensing gas still in the system	Discharge gas from refrigerant charging inlet. Re-vacuum the system if necessary.
	Fins in the condenser are dirty or foreign substance blocking fins	Clean condenser fins
	Insufficient chilling air volume or condenser fan error	Check and repair the condenser fan, recover the normal operation
	Excessive high air suction pressure	See "Excessive high air suction pressure"
	Excessive refrigerant charging volume	Discharge the excessive refrigerant
	Over high ambient temperature	Check ambient temperature
Over low air discharge pressure (Cooling operation)	Surrounding Temp. is lower	Measure the surrounding Temp
	Refrigerant leak or insufficient	Leak-hunting or recharging
	Low suction pressure	Refer to the "low suction pressure"
Over high air suction pressure (Cooling operation)	Refrigerant over-charged	Discharge the additional refrigerant
	High Temp. of the inlet chilled-water	Check the heat insulation of water pipeline
Over low air suction pressure (Cooling operation)	Insufficient water flow	Measure the Temp difference between inlet and outlet water, adjust the water flow
	Low Temp. of inlet chilled-water	Check installation
	Refrigerant leak or insufficient	Leak-hunting or recharging
	Scaling in the evaporator	Descaling
Over high air discharge pressure (Heating operation)	Insufficient water flow	Check temperature difference at water inlet and outlet, and adjust the water flow volume
	Air or other non-condensing gas still in the system	Discharge gas from refrigerant charging inlet. Re-vacuum the system if necessary
	Scaling in water side of heat exchanger	Descaling
	Over high temperature in chilling water inlet	Check water temperature
	Excessive high air suction pressure	See "Excessive high air suction pressure"
Over low air discharge pressure (Heating operation)	Over low temperature of chilling water	Check chilling water temperature
	Refrigerant leakage or insufficient refrigerant volume	Test leakage or charge sufficient refrigerant to the system
	Excessive low air suction pressure	See "Excessive low air suction pressure"
Over high air suction pressure (Heating operation)	Over heat air in the side of air heat exchanger	Check ambient temperature around it
	Excessive refrigerant charging volume	Discharge the excessive refrigerant
Over low air suction pressure (Heating operation)	Insufficient refrigerant charging volume	Charge sufficient refrigerant to the system
	Insufficient air flow volume	Check fan rotating direction
	Air loop short-circuit	Reason about remove air short-circuit
	Insufficient frost-removal operation	Error comes out from 4-way valve or thermal resistor. Replace a new one if necessary
Compressor stops because of freeze-proof protection (Cooling operation)	Insufficient chilling water flow volume	Error comes from pump or flow-type water volume control. Check and repair or replace a new one.
	Gas still in water loop	Discharge air
	Thermal resistor error	Upon error have been confirmed, please replace a new one
Compressor stops because of Hi-pressure protection	Over high air expelling pressure	See "Over high air expelling pressure"
	Hi-pressure switch error	Upon error have been confirmed, please replace a new one
Compressor stops because of motor Overload.	Over high air expelling pressure and air suction pressure	See "Over high air expelling pressure" and "Over high air suction pressure"
	Hi-voltage or Lo-voltage, signal phase or phase unbalance	Confirm voltage not higher or lower than the rated voltage 20V
	Short circuit comes out from motor or connecting interface	Confirm resistors at motor are connected corresponding to terminals
	Overload assembly error	Replace a new one

Troubles	Possible reasons	Solutions
Compressor stops because of integrate temperature sensor or air discharge temperature protection.	Over high or over low voltage	Confirm voltage not higher or lower than the rated voltage 20V
	Over high air expelling pressure or excessive low air suction pressure	See “Over high air expelling pressure” and “excessive low air suction pressure ”
	Component error	Check the integrated temperature sensor after motor is cool down
Compressor stops because of Lo.-pressure protection	Filter in front (or rear) of expanding valve is blocked	Replace a new filter
	Lo-voltage switch error	If the switch is defective, please replace a new one
	Excessive low air suction pressure	See “Excessive low air suction pressure”
Abnormal noise gives out form compressor	Liquid refrigerant flows into compressor from evaporator result in liquid slugging.	Adjust refrigerant charge volume
	Aging of compressor	Replace a new compressor
Compressor can't start	Over current relay trip up, fuse burnt out	Replace damaged assembly
	Control circuit without power though	Check the wiring of control system
	Hi-voltage or lo-voltage protection	Reference to mention in above the parts of air suction and discharge pressure error
	Coils in contactor are burnt out	Replace damaged assembly
	Wrong connection of phase sequence	Re-connect and adjust the any 2 wires among 3 phases
	Water system error and flow type volume controller short connection	Check water system
	Error signal delivered from wire controller	Find out the error type and carry out the corresponding measure to settle
Air side heat exchanger excessive frost	4-way valve or thermal resistor error	Check the running state. Replace a new one if necessary
	Air loop short-circuit	Settle the short-circuit of air discharge
With noise	Fixing screws at panel are loosen	Fix up all assemblies



Air Conditioning Systems

Cooling & Heating

TRUST AIR-CONDITIONING EQUIPMENT CO.

Shiraz office: 8 th floor, Alvand Blog., Dostan St.,
Moaliabad Ave., SHIRAZ, IRAN., Post code: 71877-14446

Tel.: +98-71-36341070

Fax.: +98-71-36341094

Tehran office: No. 19- koohe nour St.- Motahhari St.-

TEHRAN, IRAN., Post code: 15876-73111

Tel.: +98-21-89389

Fax.: +98-21-88541903

Ahwaz office: No. 309- Kaveh St.- AHWAZ, IRAN., Post code: 61939-47911

Tel.: +98-61-32230647-8

Fax.: +98-61-32230647

E-mail: info@trustacs.com

Web site: <http://www.trustacs.com>

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برترین نام و نشان های تجاری ایران

