

FLOOR STANDING TYPE SPLIT UNIT



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

Troubleshooting

TRUST R410A T3

**Top-discharge Split Type Series 50Hz
Technical Manual**

توجه:

**شرکت تراست حق تغییر مشخصات دستگاه‌ها را در جهت بهبود و ارتقای
کیفیت برای خود محفوظ می‌دارد.**

1. Trouble shooting

1.1 Phenomena not attributable to faults of air conditioner

- ✧ The system does not run.
 - After pressing the **ON/OFF** button, the system does not run immediately.
 - If the **Run** indicator is on, it indicates the air conditioner runs in the normal status.
 - It does not run immediately because the safety device in the system is active to prevent overload.
 - Three minutes later, the air conditioner compressor will run automatically.
 - If the **Run** indicator and the **Defrost/Preheat** indicator are on, it indicates the heating mode is selected. At the beginning after startup, since the compressor does not run, the temperature of the indoor unit is too low.

- ✧ The indoor unit gives out white aerosol.
 - This phenomenon may occur when the indoor relative humidity is too high and the unit runs in the cooling mode.
 - The indoor unit is installed in a place where there is much oil mist or dust. If the internal stain of the indoor unit is heavy, the temperature in the room will be distributed unevenly. In the case, the interior of the indoor unit must be cleaned. The cleaning units must be performed by professional maintainers.
 - This phenomenon may also occur when the air conditioner shifts from defrosting operation to heating operation. That is because the moist generated by defrosting is expelled as steam.

- ✧ Noise of air conditioner
 - When the air conditioner runs in the cooling, dry or heating mode automatically, grave continuous sizzles may occur. That is the sounds of refrigerant flowing between the indoor unit and the outdoor unit. The sizzles may be heard shortly after the unit stops running or when the unit runs in the defrost mode. That is the sound raised because the refrigerant stops flowing or changes to the volume of flow.

- Squeak may occur when the air conditioner starts or stops running. That is the sound raised because the plastic assemblies inflate or deflate when the temperature changes.

- ✧ Dust is blown out of the indoor unit.
When the air conditioner resumes service after a long period out of service, the dust in the indoor unit will be blown out.

- ✧ The indoor unit gives out smell.
The indoor unit absorbs the smell of the room, furniture or smoking, and gives it out when running.

- ✧ Shift from cooling mode to air supply mode.
 - In order to prevent frosting of the indoor heat exchanger, the air conditioner shifts to air supply mode automatically, and resumes to cooling mode in a short time.
 - When the room temperature decreases to the set temperature, the air conditioner will shut down the compressor automatically, and shifts to the air supply status. After the room temperature rises, the compressor will restart. The action of the compressor in the heating mode is the contrary.

1.2 Faults of air conditioner and cause

- ✧ If any of the following exceptions occur, operation of the air conditioner will be immediately stopped. Turn off the power switch, and check it.
 - The **Run** indicator blinks quickly (2 blinks per second.). After turning off the power switch and then turning it on again, that indicator still blinks quickly. The receiving function of the remote controller fails, or the start and shutdown operation is abnormal.
 - The fuse blows out frequently, or the circuit breaker protection occurs frequently.
 - Foreign substance or moist enters the air conditioner or other exceptions occur.

- ✧ If the air conditioner fails but does not meet the foregoing phenomena obviously, check the system in the following procedure:

Symptom	Possible causes	Way of handing
The system does not run.	Power supply fails.	Operate it after power supply resumes and connect the power supply properly.
	The power switch is not connected.	
	The fuse blows out or the circuit breaker acts.	Replace the fuse or check whether electric leakage occurs.
	The remote controller or wired controller fails.	Check the remote controller or wired controller.

Symptom	Possible causes	Way of handing
The heating effect is poor.	The outdoor environment temperature is lower than -7°C.	Use a heating device. The unit cannot operate normally.
	The door or window is not closed tightly.	Close door and window tightly.
	The refrigerant is leaked or replenishment is deficient.	Detect leak, and fill the refrigerant of a correct quantity.

Symptom	Possible causes	Way of handing
The air conditioner sends air out but cannot provide cool air at all.	The setting temperature is improper.	The setting temperature is lower than the room's during the cooling status or higher during the heating status.
	3-minutes protection of the compressor.	Waiting for 3 minutes.

Symptom	Possible causes	Way of handing
The cooling effect is poor.	The condenser or evaporator is too dirty.	Clean the heat-exchanger.
	The filter is blocked.	Clean the filter.
	The intake orifice or exhaust orifice of the indoor and outdoor unit is blocked.	Remove foreign matters to keep well ventilated.
	The door or window is opened.	Close all the windows and doors.
	Directly exposed to sunlight.	Obstruct sunlight by curtains or jalousie.
	Too many heat sources.	Reduce heat sources.
	Too high outdoor environment temperature.	It is normal, and the cooling effect of the air conditioner is deteriorated.
	The refrigerant is leaked or the replenishment is deficient.	Detect leak, and fill the refrigerant of a correct quantity.

Symptom	Possible causes	Way of handing
The cooling effect is poor.	The refrigerant is excessive or deficient.	Detect leak, and fill the refrigerant of a correct quantity.
	Air or non-condensable gas exists in the refrigerant loop.	Make a vacuum again and fill the refrigerant.
	The compressor fails.	Repair or replace the compressor.
	The voltage is too high or too low.	Install a voltage regulator.
	The refrigerant loop is obstructed.	Locate the causes and replace the part.

1.3 Faults of remote controller and cause

- ◇ The shift function cannot be set.

Symptom	Check item	Cause
The wind speed cannot be shifted.	Check whether the mode marked the screen of controller is AUTO .	When the auto mode is selected, the indoor fan speed will be in automatically running and cannot be adjusted.
	Check whether the mode marked on the controller screen is DRY .	When the dry mode is selected, the indoor unit will set fan speed automatically. The speed can selectable only in cooling, heating and fan mode.

- ◇ The transmitting symbol does not blink.

Symptom	Check item	Cause
Pressing ON/OFF button, the remote controller signal cannot be transmitted.	Check whether the batteries of remote controller are low.	When the batteries are exhausted, the signals cannot be transmitted.

- ◇ The temperature indicator does not light up.

Symptom	Check item	Cause
The temperature indicator does not light up.	Check whether the mode marked on the screen is FAN .	In the fan mode, the temperature cannot be set.

✧ The display disappears.

Symptom	Check item	Cause
After a while the ON/OFF display disappears.	Check whether the time set on the timer has expired.	The air conditioner stops running because the set time has expired.
After a while the TIMING ON display disappears.	Check whether the time set on the time has expired.	When it comes to the set time of starting operation of the air conditioner, the air conditioner will start running automatically, and the corresponding display will disappear.

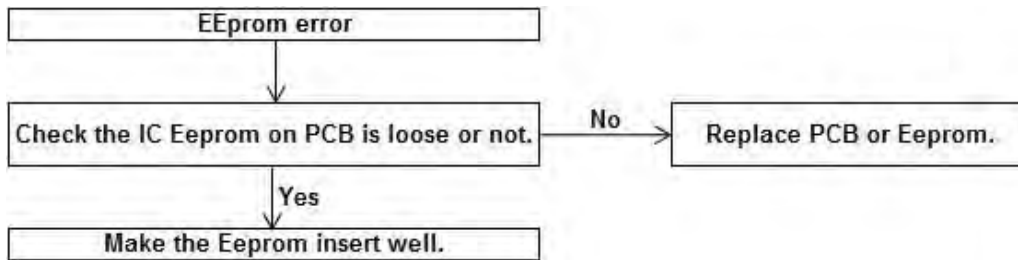
✧ No sound of receiving signal.

Symptom	Check item	Cause
Pressing the ON/OFF button, the air conditioner does not raise the receiving tone.	When the ON/OFF button is pressed, check whether the signal transmitting part of the remote controller is aligned with the receiving part of the indoor unit.	Align the signal transmitting part of the remote controller with the receiving part of the indoor unit. Then press the ON/OFF button repeatedly.
	Check whether the power switch of the air conditioner is connected properly.	The air conditioner cannot receive the signals of the remote controller, because it is shut down.
The buttons of the remote controller do not work.	Check whether the lock icon is in the screen of the remote controller.	Lock the buttons.

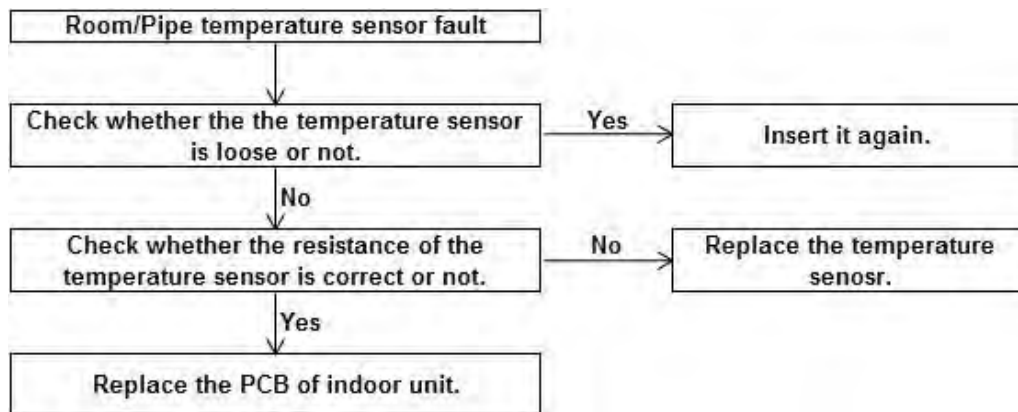
11.4 Floor-standing type indoor unit malfunction and protection codes

Display content	Fault or protection meaning
E0	EEprom error
E1	T1, room temperature sensor, fault of open circuit, short circuit.
E2	T2, pipe temperature sensor, fault of open circuit, short circuit.
P1	Under cooling mode, T2 is on low temperature protection.
P2	Under heating mode, T2 is on high temperature protection.

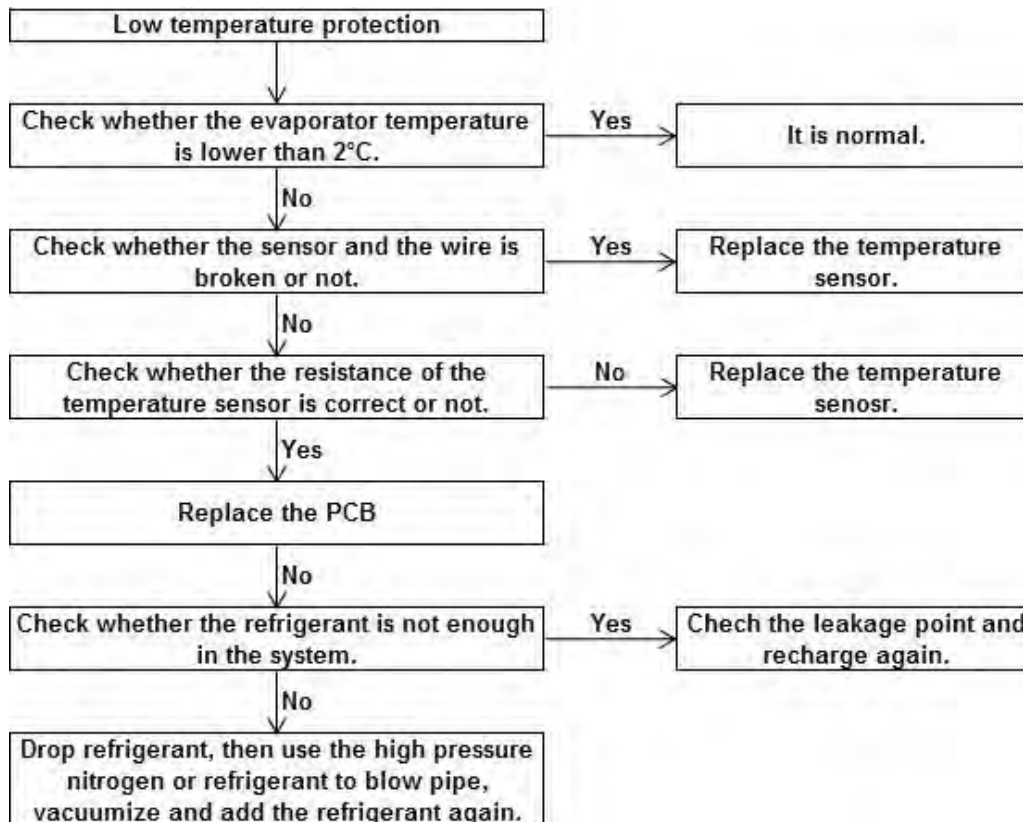
E0



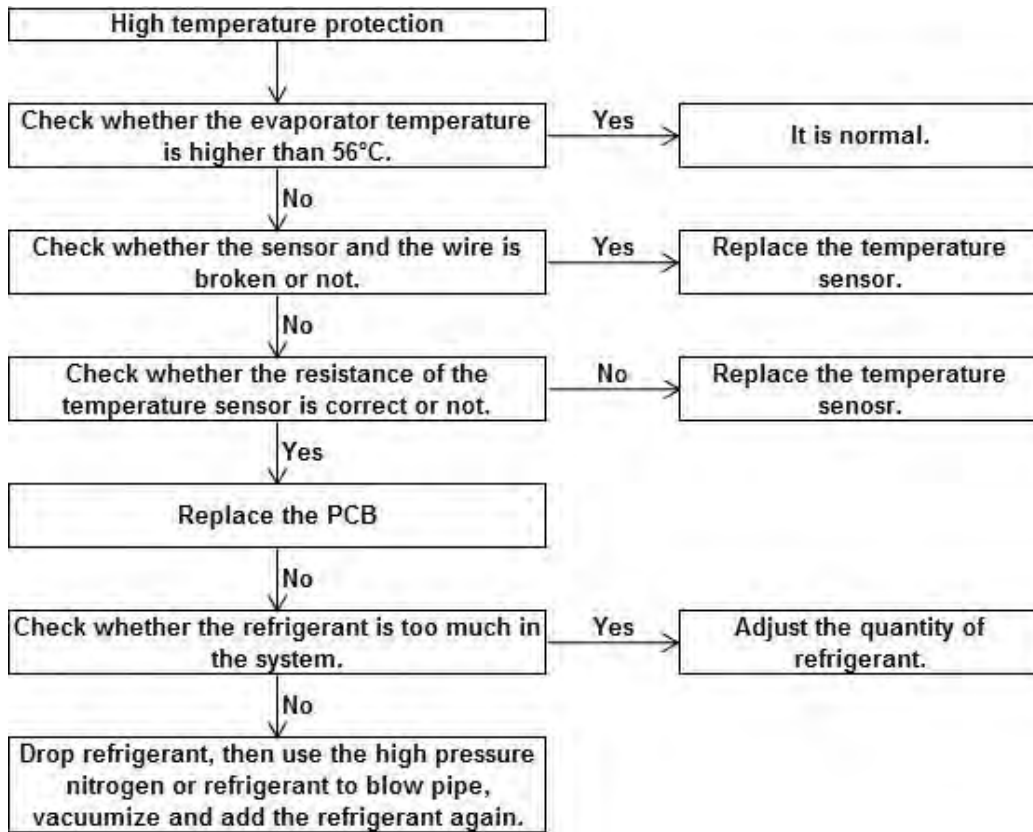
E1, E2



P1



P2



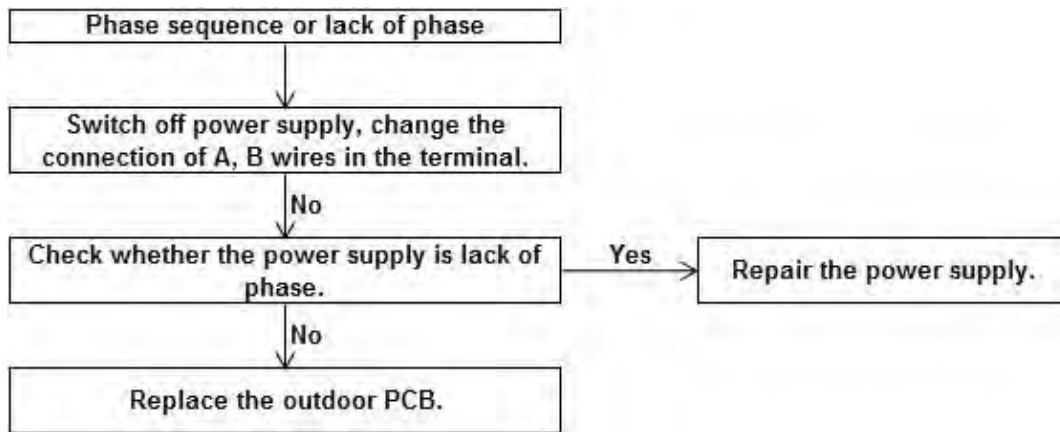
11.5 Outdoor unit malfunction and protection codes

Type	LED1	LED2
Phase sequence protection	◆	●★
Communication failure	◆	●●★
Outdoor condenser temp. sensor error	◆	●●●★
Outdoor ambient temp. sensor error	◆	●●●●★
Protection of low pressure	◇	●★
Protection of high pressure	◇	●●★
Protection of over-current	◇	●●●★
Protection of condenser hi-temp.	◇	●●●●★

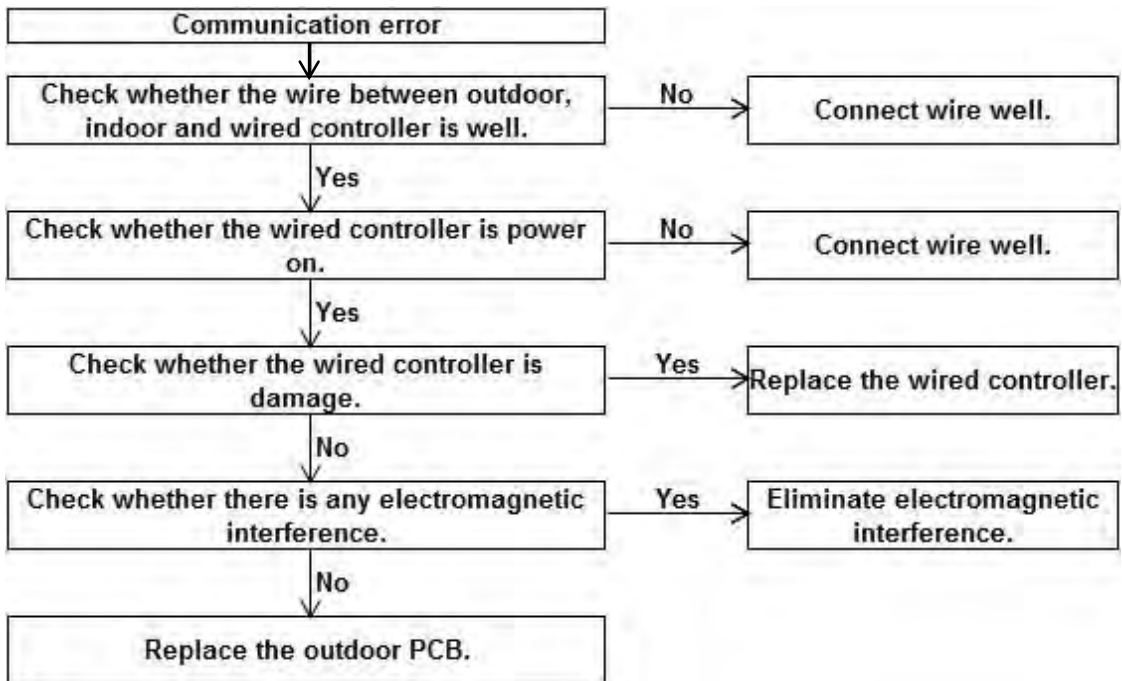
Note:

- ☆: Light for 1 second, extinguish for 1 second;
- ◆: Light;
- ◇: Extinguish;
- : Light for 0.4 second, extinguish for 0.4 second;
- ★: Light for 2 second, extinguish for 2 second.

Phase sequence or lack of phase

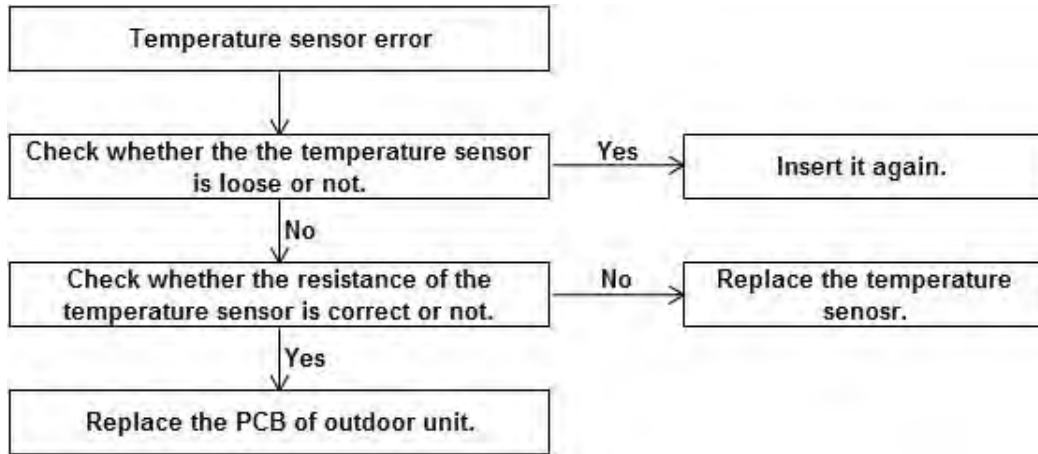


Communication error

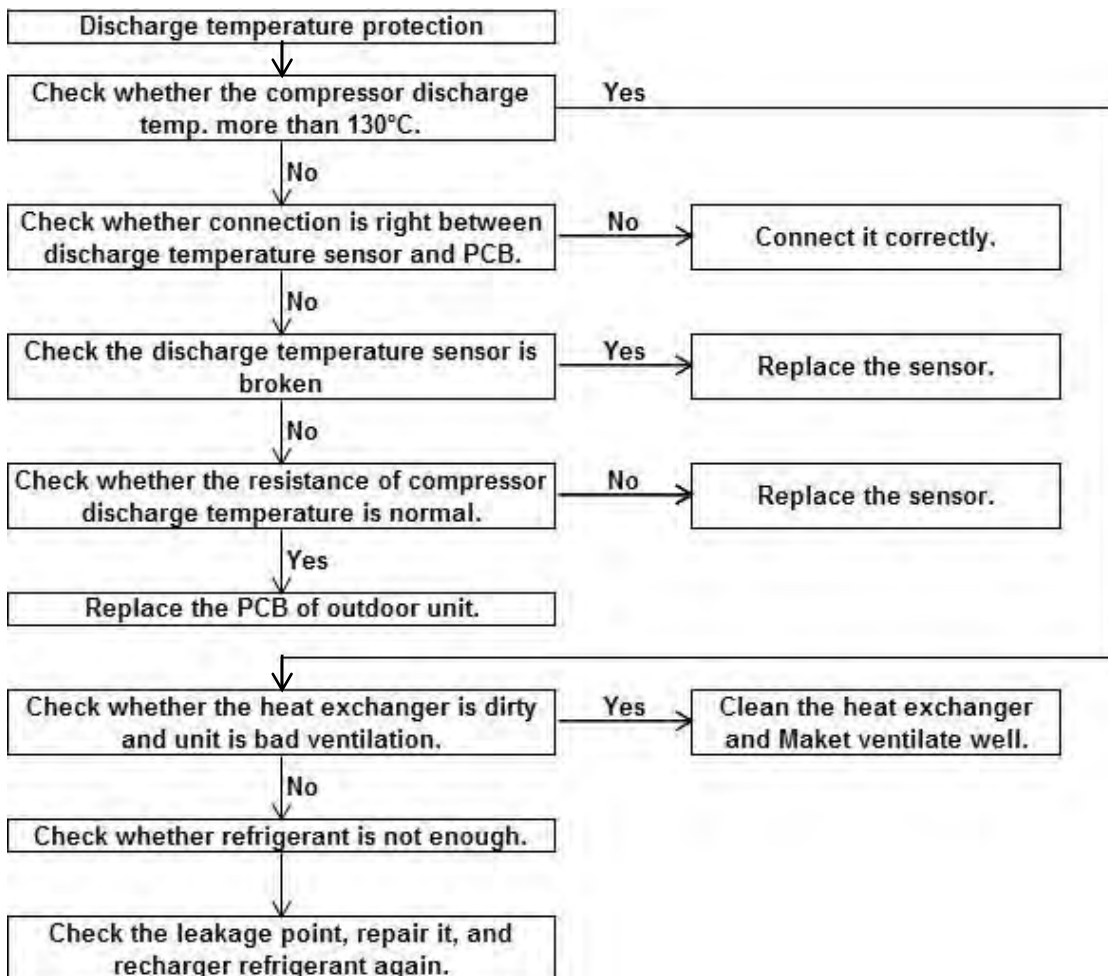


Condenser temperature sensor error

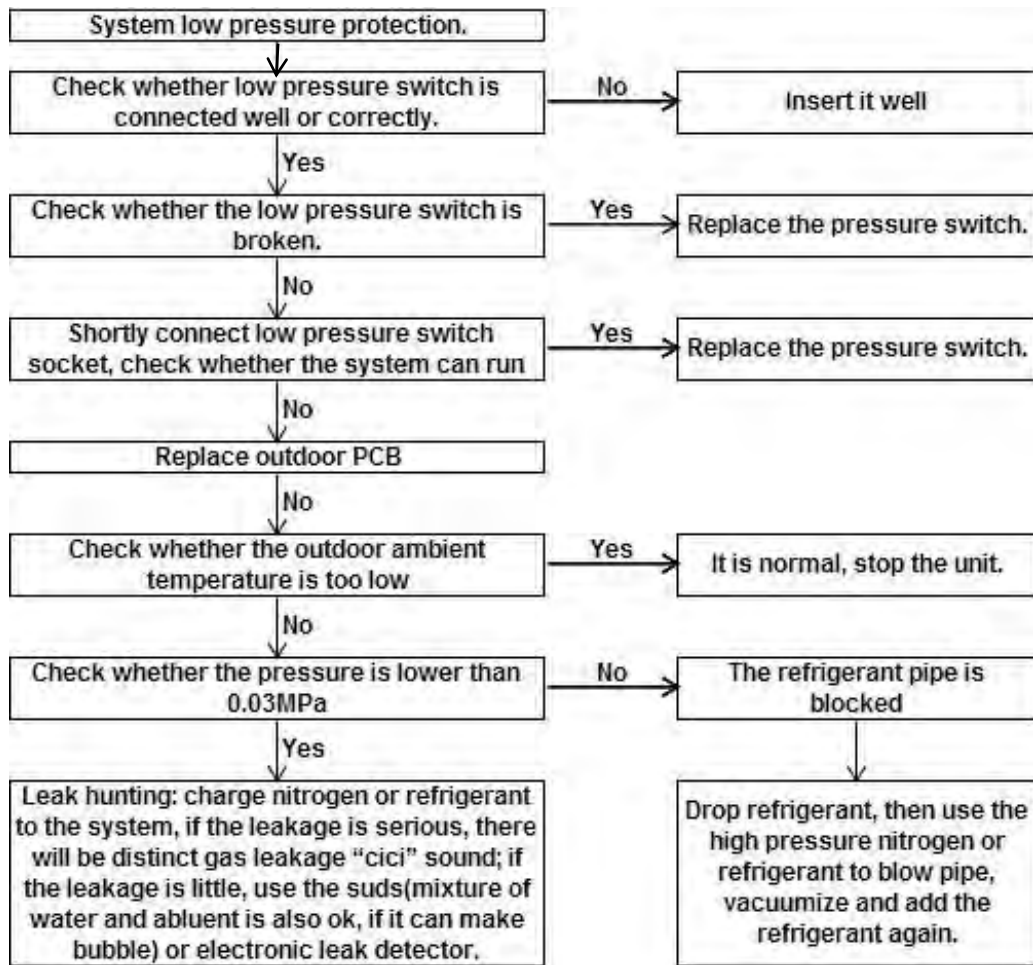
Ambient temperature sensor error



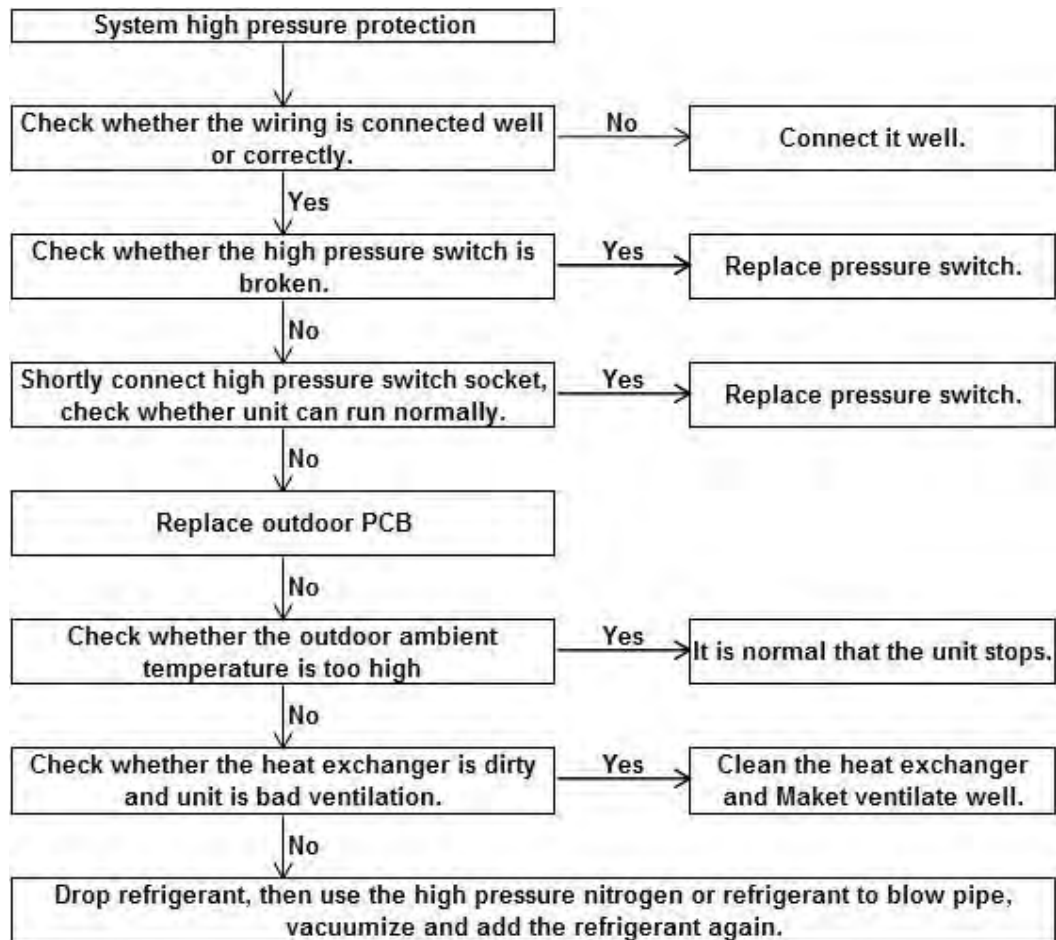
Hi-temperature protection of compressor discharger



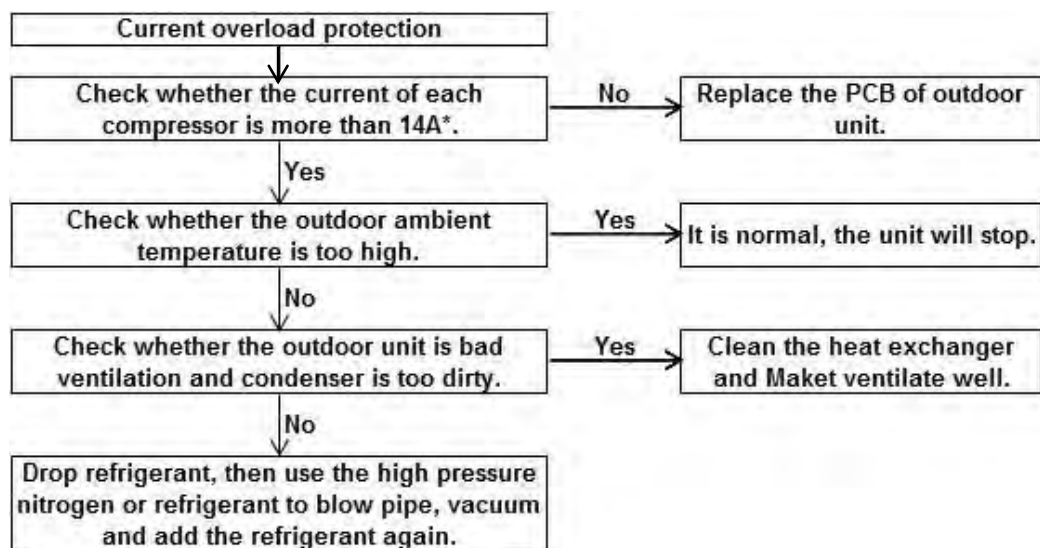
System low pressure protection



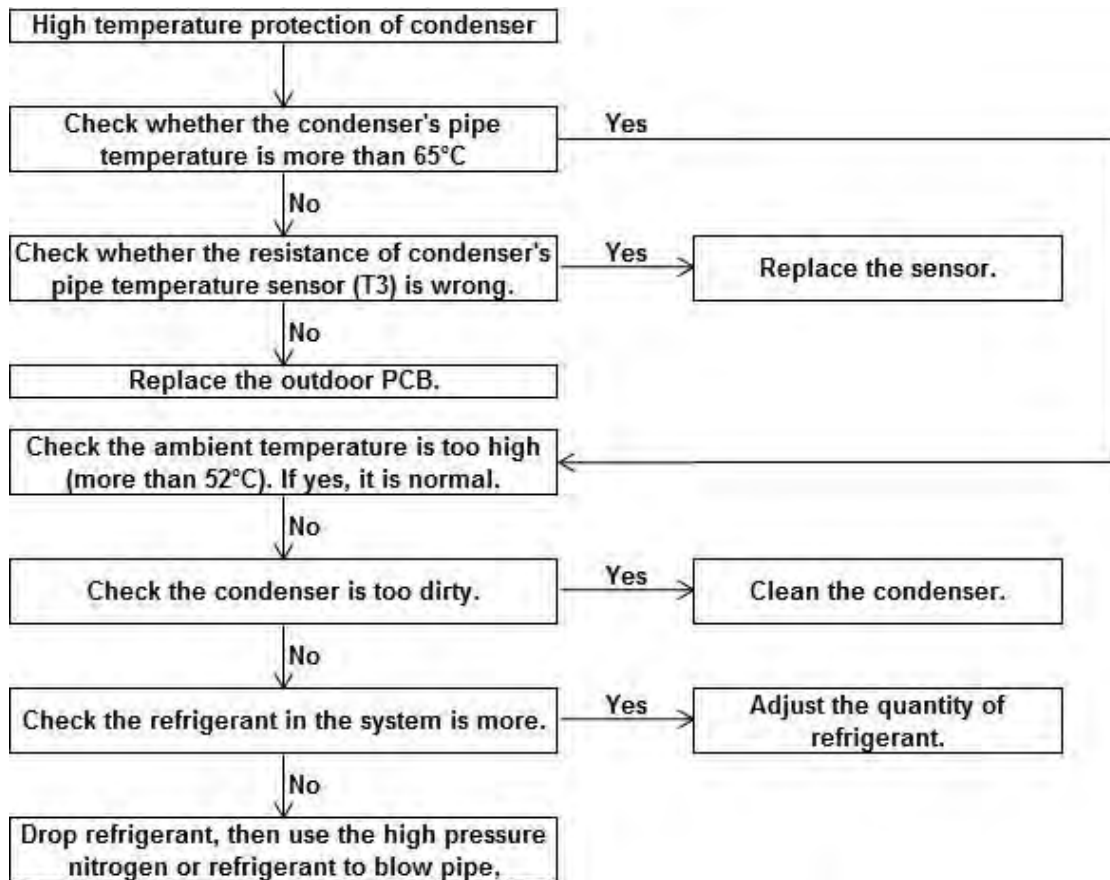
System high pressure protection



Current overload protection



High temperature protection of condenser



2. Maintenance

- ◇ Operation required before leaving the unit idle for a long period.
 - Let the air conditioner run in the fan mode for about half a day, and let its interior be fully dry.
 - Switch off the power by the button in remote controller, and then cut off the power supply.
 - When the main power switch is turned on, a certain extent of electric power is consumed even if the air conditioner does not run. Turning off the main power switch can save energy.
 - Remove the batteries out of the remote controller.
 - After the air conditioner has been in service for several seasons, foreign substance accumulates inside the unit to an extent dependent on the working conditions. Therefore, shut down the air conditioner through the **ON/OFF** button of the controller,

and then cut off the power supply.

✧ Startup after a long period out of service.

Check the following issues:

Check whether the air inlet or outlet of the indoor unit and outdoor unit is blocked.

Remove foreign substance if any.

Check whether the ground wire is connected properly.

Check whether the condensate water is discharged normally.

Check whether the insulation work of refrigerant circuit and ventilating duct is on sound status.

Check whether the installing seat is corroded or rusted.

✧ Startup

- Connect the indoor unit 12 hours after connect the outdoor unit to power supply.
- Switch on the power control of remote controller or wired controller, and then startup the air conditioning.

✧ Maintenance and upkeep of outdoor unit

- The edge of some sheet metal assemblies and the fin of the condenser are very sharp. Incorrect operation may cause harm. Be cautious when cleaning them up.
- Check the air inlet and outlet of the outdoor unit periodically to see whether they are blocked by stain or lampblack.

2.1 Maintenance of duct type indoor unit

- ✧ Only the professionals can perform repair. Before maintain the unit, turn off the main power switch.
- ✧ Do not use water or air with a temperature higher than 50C to clean the panel.
- ✧ Check and maintain the ventilating slot once every half years, wash and maintain with corresponding disinfection shall process once.
- ✧ Every two years are recommended. The filter can expel dust and other particles in the air. If it is blocked, the effect of the air conditioner will be degraded. Therefore, clean it every another two weeks if the air conditioner already has been used for a long period. If the indoor unit is installed in a place with heavy dust, clean the filter more often.

- ✧ If the stain is heavy and difficult to clean, replace the filter.
- ✧ Do not replace the power cable without permission. If the power cable is damaged, specialized power cable must be used as substitute.

2.2 Maintenance of floor-standing type indoor unit

- ✧ Before performing operation for the electric connectors or cleansing the filter, turn off the main power switch.
- ✧ Do not use water or air with a temperature higher than 50°C to clean the filter or panel.
- ✧ Check and maintain the ventilating slot once every half years, wash and maintain with corresponding disinfection shall process once.
- ✧ Every two year are recommended. The filter can expel dust and other particles in the air. If it is blocked, the effect of air conditioner will be degraded. Therefore, clean it every another two weeks if air conditioner is used for a long period.
- ✧ If the indoor unit is installed in a place with heavy dust, clean the filter more often.
- ✧ If the stain is heavy and difficult to clean, replace the filter.
- ✧ Do not replace the power cable without permission. If the power cable is damaged, specialized power cable must be used as substitute. No repair the air conditioner without permission.



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برند برتر در اولین جشنواره بین المللی
برترین نام و نشان های تجاری ایران

