





### **Indoor Unit**

MODELS:

FXA24C32AH FXA36C32AH FXA48C32AH FXA60C32AH Thank you for choosing our product.
Please read this Service Manual carefully before operation and retain it for future reference.

To download an electric version of this manual visit https://greecomfort.com/system-documentation/

### **Foreword**

Thank you for choosing Gree air conditioners. In order to correctly install and use our units, and for the satisfactory operation effect, please read this manual carefully.

This manual specifies safe operation requirements from perspectives of product introduction, control, troubleshooting and maintenance, as well as basic principles and implementation methods. Professional operators must abide by relevant national (local) safety requirements and technical specifications set forth in this manual during operations; otherwise, the air conditioning system may fail or be damaged, and personnel safety accident may also occur.

# **Safety Notice**

Refrigerant Safety Group A2L R32	Appliance filled with flammable magas R32.
	Before using the air conditioner, please first read the instruction manual.
1	Before installing the air conditioner, please first read the instruction manual.
	Before repairing the air conditioner, please first read the technical service manual.

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### **Safety Notice on Maintenance**



### **PROHIBITED:**

- (1) Do not pierce or burn.
- (2) Please note that refrigerant may be odorless.
- (3) The appliance shall be stored in a room without continuously operating ignition sources (For example: open flames, an operating gas appliance or an operating electric heater).
- (4) Using unsuitable parts or tools may lead to electric shock or fire hazard.
- (5) If refrigerant leaks during maintenance, please ventilate the room immediately. Heavy leakage may lead to breathing difficulty, severe injury or death.
- (6) Disconnect power before disassembling the appliance for maintenance.
- (7) The appliance should be maintained and cared by authorized technical personnel with necessary qualifications.



#### **WARNING:**

- (1) If the working place is more than 2m's high, please wear a safety helmet, gloves and a safety belt.
- (2) Never mix any other substances except the specified refrigerant into the refrigerant circuit.
- (3) When re-locating the appliance, check whether the new location is strong enough to withstand the weight of the appliance.
- (4) If there is refrigerant leak, please fix the leak before charging in the refrigerant. After refrigerant is charged, check for refrigerant leaks. If you cannot spot the leak, stop the maintenance work. Please evacuate the system and close the service valve to prevent refrigerant leaking into the room.
- (5) Prepare suitable tools and protectors.
- (6) If you need to carry out maintenance or check the electric circuit without cutting off the power, please be careful not to touch the electrical parts.



#### NOTICE:

- (1) If the appliance is maintained at a humid place, it should be grounded to avoid electric shock.
- (2) Never repair the unit with wet hands. Operating the unit with wet hands may lead to electric shock.
- (3) If the unit is not correctly grounded, please check and fix it.
- (4) Before cleaning the unit, please disconnect power to prevent the inner fan from starting up and running at high speed; Otherwise, personal injury may occur.
- (5) Measure the insulation resistance after maintenance. The resistance must be 1M or higher. Bad insulation may lead to electric shock.

- (6) Welding and cutting work must be done in a well-ventilated place.
- (7) Gas appliances, heaters and other fire sources should be kept away from the installation and maintenance site.
- (8) Maintenance should be done according to suggestions of the manufacturer.
- (9) Maintenance should be done only after the refrigerant is completely reclaimed from the unit.

# OBSERVED:

- (1) After the maintenance work is done, check the drainage of indoor unit.
- (2) Do not tilt the unit, otherwise, water may spill out from the unit and make the floor and furniture wet.
- (3) Disassembly of the unit, handling of the refrigerant, oil and accessories should all be done according to applicable local rules and regulations.

# Safety Notice on Operation

# PROHIBITED:

- (1) Never try to modify the unit, otherwise, it may cause electric shock, overheat or fire hazard.
- (2) If the power cord or conducting wires are scratched, please replace them.
- (3) Never use connected or extended power cord or share the power socket with other appliances.
- (4) Prepare a specialized power circuit for the appliance.



#### **WARNING:**

- (1) If the power plug is dirty, please clean it before inserting it to the power socket. If the power plug is loose, please tighten it up.
- (2) Do not damage the power cord. A damaged or refitted power cord may lead to electric shock or fire hazard.
- (3) Check frequently whether the appliance is in good condition.



#### NOTICE:

- (1) After changing the batteries of control, please discard them to avoid being swallowed by children.
- (2) When the unit is working, do not remove the fan cover.
- (3) Do not use organic solvents to wipe the controller operating panel.
- (4) Before cleaning the unit, cut off the power supply.

# **1 Product Introduction**

### 1.1 Lists of Units

Model		Cooling Capacity (Btu/h)	Product Code	Appearance
A-Coil	FXA24C32AH	23000	EM220N0270	
A-Coil	FXA36C32AH	34000	EM220N0200	
A-Coil	FXA48C32AH	48000	EM220N0230	
A-Coil	FXA60C32AH	52000	EM220N0240	

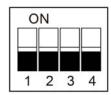
**NOTE:** 1 Ton =12000Btu/h = 3.517kW

### **1.2 Electrical Parameters**

Model	Power Supply	
Model	V/Ph/Hz	
FXA24C32AH		
FXA36C32AH	24\/ /4Db/60U=	
FXA48C32AH	24V~/1Ph/60Hz	
FXA60C32AH		

# 2 Functions

Through the 4 dip switches (SA1) on the main control board. related functions of the unit can be set.



DIP switch position	Function description
1	0: 24V connection.
l l	1: RS485 communication connection (Default).
	0: The operation of the furnace gas valve switch is not affected by the air outlet temperature of the unit.
2	1: The operation of the furnace gas valve switch is affected by the air outlet temperature of the unit.
	Default is 1, please do not adjust arbitrarily.
	0: In the 24V connection mode, the unit has evaporator anti-freezing control.
3	1: In the 24V connection mode, the unit does not have evaporator anti-freezing control.
	Default is 1, please do not adjust arbitrarily.
	0: 24K or 48K
4	1: 36K or 60K
	Capacity dip switch, has been set before leaving the factory, please do not adjust arbitrarily.

**NOTE:** "0" means dip switch to "ON", "1" means dip switch to number. "■" means the DIP switch position.

# 2.1 Set Communication Mode

Communication Mode	24V Connection	RS485 Communication Connection
Dip Switches	ON 1 2 3 4	ON 1 2 3 4

**NOTE:** "■" means the DIP switch position.

# 2.2 Set Air Outlet Temperature Sensor Function

Air Outlet Temperature Sensor Function	Not Affected	Affected
Dip Switches	ON 1 2 3 4	ON 1 2 3 4

**NOTE:** "■" means the DIP switch position.

### 2.3 Set Unit Freeze Protection Function

Unit Freeze Protection Function	YES	NO
Dip Switches	ON 1 2 3 4	ON 1 2 3 4

**NOTE:** "■" means the DIP switch position.

### 2.4 Set Capacity Dip Switch

Model	GCAC24F/NhA GCAC36F/NhA		GCAC4	
Capacity	24K	36K	48K	60K
Dip Switches	ON 1 2 3 4	ON 1 2 3 4	ON 1 2 3 4	ON 1 2 3 4

**NOTE:** "■" means the DIP switch position.

#### 2.5 Thermostat Functions

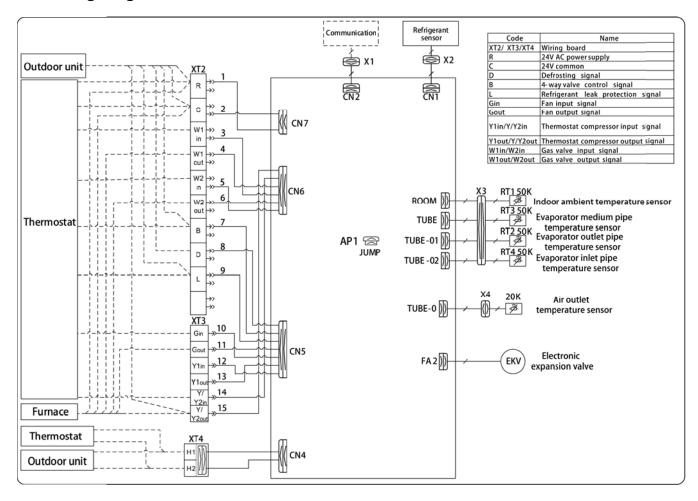
Thermostat model: WK-010WC1. Please refer to the thermostat instruction manual for all functions.

# 3 Troubleshooting

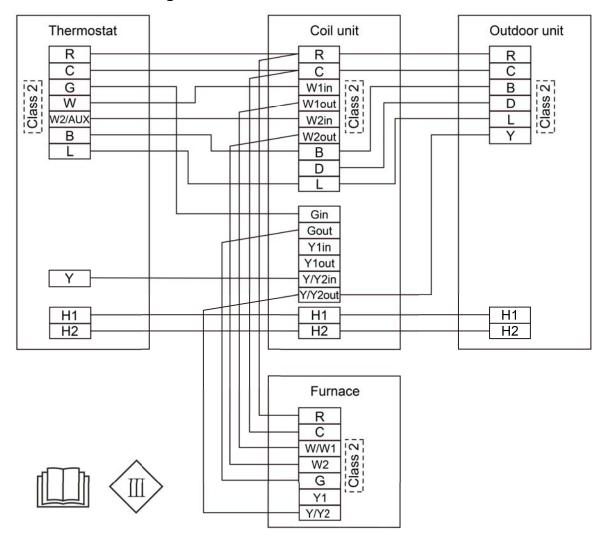
### 3.1 Wiring Diagrams

The following electric diagram is for reference only. Please refer to diagram sticked on the unit as the latest version.

#### 3.1.1 Wiring Diagrams of A-COILS



#### 3.1.2 External Electrical Wiring



#### NOTES:

R means 24V AC power supply from the furnace.

C means 24V common from the furnace.

B which is energized under the heating mode means 4-way valve control signal.

D means defrosting signal.

G means fan signal.

Gin means fan signal from the thermostat.

Gout means fan signal to the furnace.

Y1/Y/Y2 means compressor control signal from the thermostat or to the furnace and the outdoor unit.

Y1in/Y/Y2in means compressor control signal from the thermostat.

Y1out/Y/Y2out means compressor control signal to the furnace and the outdoor unit.

W/W1/W2/AUX means the gas valve control signal.

W1in/W2in means the gas valve control signal from the thermostat.

W1out/W2out means the gas valve control signal to the furnace.

L means refrigerant leakage protection signal.

H1/H2 means RS485 communication. When the dip switch is set to RS485 communication, the corresponding terminals of the coil unit and outdoor unit must be connected.

**NOTE:** The power of the coil unit is supplied by the furnace at 24V. It must meet CLASS 2 power requirements.

**NOTE:** For cooling only unit, there is no need to connect the B and D terminals.

NOTE: When outdoor defrosts, D of outdoor unit will send 24V signal.

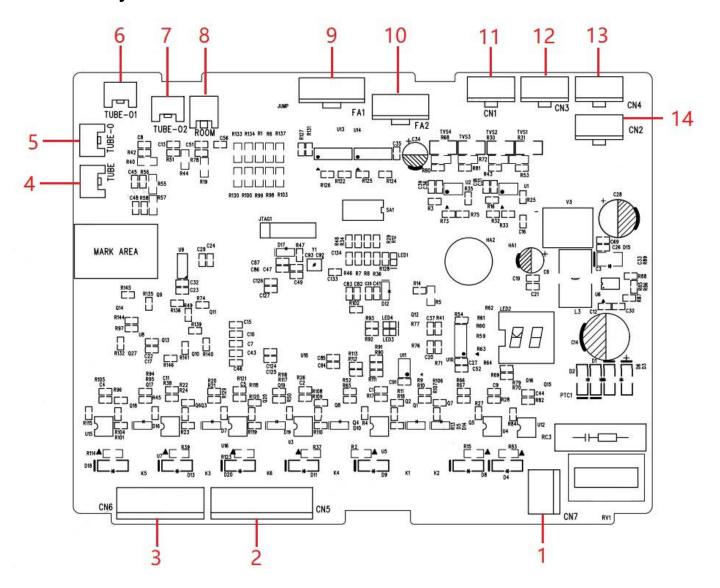
**NOTE:** For 1-stage AC or HP, there is no Y1 terminal on the outdoor unit, so the relevant wiring does not need to be connected.

**NOTE:** For 1-stage furnace, the Y1 terminal on the outdoor unit does not need to be connected.

**NOTE:** L must be connected and connected to the outdoor unit.

**NOTE:** Breaker must be incorporated in the fixed wiring in accordance with the wiring rules.

### 3.2 PCB Layout



No.	Printing	Interface
1	CN7	24V AC power input
		D Defrosting signal detection
		B Four-way valve opening signal detection
		L Refrigerant leakage protection signal
2	CN5	Gout Fan signal to the furnace.
		Gin Fan signal from the thermostat
		Y1out Compressor control signal(Y1) to the furnace and the outdoor unit.
		Y1in Compressor control signal(Y1) from the thermostat.
		Y2out Compressor control signal(Y/Y2) to the furnace and the outdoor unit.
		Y2in Compressor control signal(Y/Y2) from the thermostat.
3	CN6	W1out The gas valve control signal(W1) to the furnace.
3	CINO	W1in The gas valve control signal(W1) from the thermostat.
		W2out The gas valve control signal(W2) to the furnace.
		W2in The gas valve control signal(W2) from the thermostat.
4	TUBE	Evaporator medium pipe temperature sensor interface
5	TUBE-0	Air outlet temperature sensor interface
6	TUBE-01	Evaporator outlet pipe temperature sensor interface
7	TUBE-02	Evaporator inlet pipe temperature sensor interface
8	ROOM	Indoor ambient temperature sensor interface
9	FA1	Electronic expansion valve interface
10	FA2	Electronic expansion valve interface
11	CN1	Interface of refrigerant leakage sensor
12	CN3	Interface of refrigerant leakage sensor
13	CN4	Line controller communication interface, internal and external machine communication interface
14	CN2	Pocket wizard communication power supply interface

**NOTE:** The "JUMP" indicates the interface for a jumper cap; the "SA1" indicate DIP switch.

# 3.3 Error Code

No.	Code	Error or status
1	EA	Indoor unit refrigerant leakage protection.
2	FE	Refrigerant sensor error or refrigerant sensor communication error.
3	E6	Indoor unit and outdoor unit communication error.
4	Cl	Indoor Jumper cap failure.
5	C1	Indoor ambient temperature sensor error.
6	C2	Indoor pipe temperature sensor error.
7	FJ	Indoor air outlet temperature sensor error.
8	CA	Evaporator inlet pipe temperature sensor error.
9	Cb	Evaporator outlet pipe temperature sensor error.
10	E8	Indoor unit overheat protection.

No.	Code	Error or status
11	E2	Evaporator freeze prevention protection.
12	C0	Indoor unit and thermostat communication error.

If malfunction occurs during operation, LCD temperature display zone will show the failure information.

If several malfunctions occur at the same time, their corresponding error codes will be shown in turn. When malfunction occurs, please shut off the unit and send for professional personnel to repair.

### 3.4 Troubleshooting

#### 3.4.1 "EA" Indoor Unit Refrigerant Leakage Protection

#### Fault diagnosis:

The unit is equipped with a refrigerant sensor. When the sensor detects refrigerant leak, the mainboard displays error code "EA", and emits an alarm sound. The unit will require the fan to be forced on, and the outdoor unit and gas valve of the furnace to be turned off.

#### Possible causes:

The piping system has a refrigerant leak. It could be the piping, or it could be the heat exchanger.

#### **Troubleshooting:**

Find the leak on the unit, complete the leak repair, and re-evacuate and recharge the refrigerant.

#### 3.4.2 "FE" Refrigerant Sensor Error or Refrigerant Sensor Communication Error

#### Fault diagnosis:

The unit is equipped with a refrigerant sensor. The sensor has a lifetime of 15 years. At the end of lifetime or when the sensor fault, the mainboard or wired controller displays error code "FE", and emits an alarm sound.

And the fan of the indoor unit will be forced to open, stop the outdoor unit.

#### Possible causes:

Refrigerant sensor life has ended or sensor error, or the sensor communication cable is not properly connected.

#### **Troubleshooting:**

Check the sensor wiring. If it cannot be resolved, replace with a new sensor.

#### 3.4.3 "E6" Indoor Unit and Outdoor Unit Communication Error

**Error display:** IDU mainboard display E6.

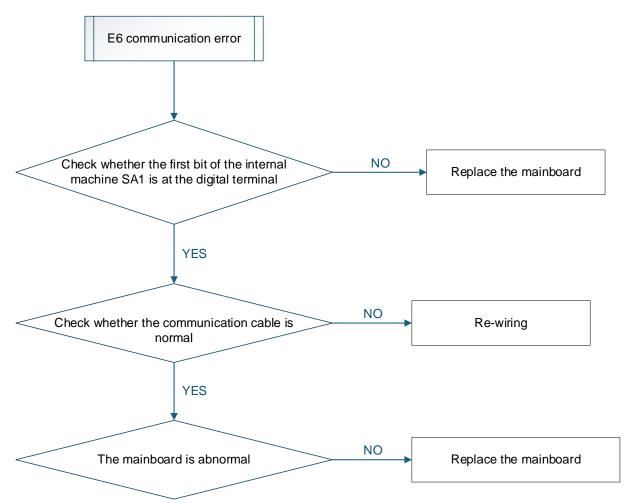
#### Error judgment condition and method:

In the RS485 communication mode for indoor and outdoor units. If no communication between ODU and IDU in continuously 60s, this error will be reported.

#### Possible reason:

- ■Communication wire is connected improperly or loose.
- ■Communication wire is cut off.
- ■Communication wire is in poor connection.
- ■Controller is abnormal.
- ■Internal and external machine dialing error.
- ■Setting parameter error, communication method is not set to RS485.

#### **Troubleshooting:**



### 3.4.4 "CJ" IDU Jumper Cap Error

Error display: IDU mainboard will display CJ.

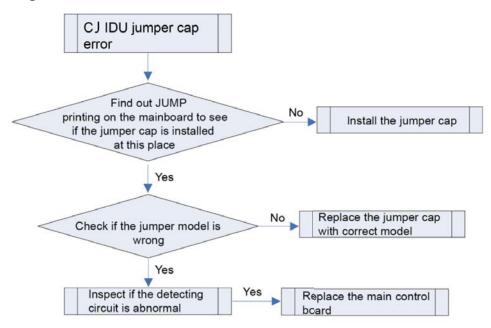
#### Error judgment condition and method:

If jumper cap model doesn't match with mainboard, this error will be reported.

#### Possible reason:

- ■Jumper cap is not installed.
- ■Jumper cap model is wrong.
- ■Detecting circuit is abnormal.

#### **Troubleshooting:**



#### 3.4.5 Temperature Sensor Error

"C1" Indoor ambient temperature sensor error

"C2" Indoor pipe temperature sensor error

"FJ" Evaporator air outlet temperature sensor error

"CA" Evaporator inlet pipe temperature sensor error

"Cb" Evaporator outlet pipe temperature sensor error

Error display: IDU mainboard will display C1, C2, FJ, CA, Cb.

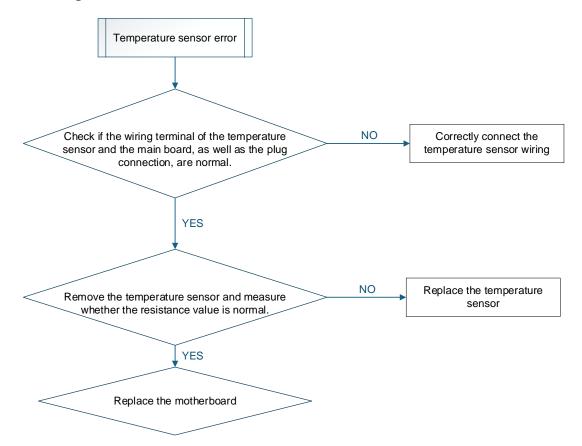
#### Error judgment condition and method:

Sample the AD value of temperature sensor through temperature sensor detecting circuit and judge the range of AD value, If the sampling AD value exceeds upper limit and lower limit in 5 seconds continuously, report the error.

#### Possible reason:

- ■Poor contact between temperature sensor and terminal in mainboard interface.
- ■Temperature sensor is abnormal.
- ■Detecting circuit is abnormal.

#### **Troubleshooting:**



#### 3.4.6 "E8" Indoor Unit Overheat Protection

Error display: IDU mainboard display E8.

#### Error judgment condition and method:

When the mainboard detects that any temperature sensor exceeds the threshold, the fan output port will be powered, and the gas valve output port will lose power. The warning is cleared only when all temperature sensors detect a temperature below another threshold.

#### Possible reason:

- ■When the furnace is turned on, Insufficient circulation air volume.
- ■IDU motor is blocked.

#### 3.4.7 "E2" Evaporator Freeze Prevention Protection

Error display: IDU mainboard display E2.

#### Error judgment condition and method:

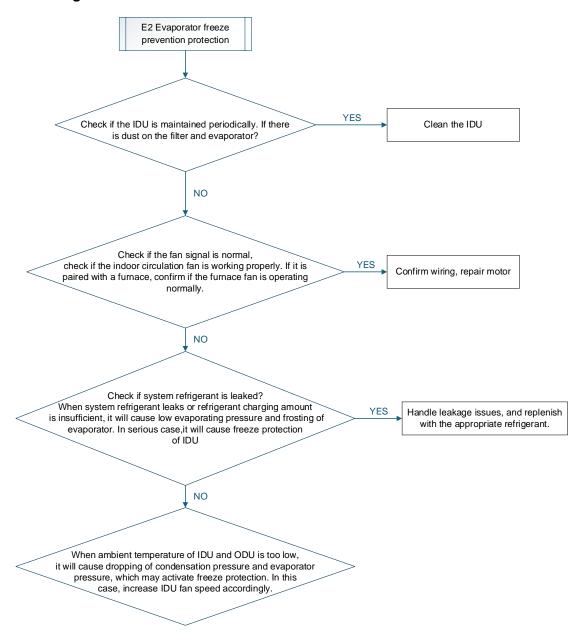
In the 24V communication mode, when the 3rd position of the SA1 switch is set to 0, the IDU determines this protection. In RS485 communication mode, the ODU determines this protection.

Check IDU evaporator pipe temperature. When evaporator pipe temperature is too low, freeze protection will be activated to prevent freezing damage of evaporator.

#### Possible reason:

- ■IDU filter and evaporator are dirty.
- ■IDU air circulation volume is too small, or the external fan is faulty.
- ■Refrigerant amount is insufficient.
- ■Ambient temperature of IDU and ODU is too low.

#### **Troubleshooting:**



#### 3.4.8 "C0" Indoor Unit and Thermostat Communication Error

Error display: IDU mainboard display C0.

#### Error judgment condition and method:

IDU and the thermostat have established a connection in RS485 communication mode, but no data from the thermostat has been received for a period of time.

For this series of units, it is not recommended to use RS485 connection with the thermostat.

#### Possible reason:

- ■The communication line between the IDU and the thermostat is disconnected.
- ■IDU mainboard or thermostat abnormal.

#### **Troubleshooting:**

Adjust the indoor unit and thermostat to 24V communication mode.

# 3.5 Failures Not Caused by Errors

(1) If your air conditioner fails to function normally, please first check the following items before maintenance:

Problem	Cause	Corrective Measure
	If you turn off the unit and then immediately turn it on, in order to protect the compressor and avoid system overload, compressor will delay running for 3min.	Please wait for a while.
	Wire connection is wrong.	Connect wires according to the wiring diagram.
The air conditioner can't run.	Fuse or circuit breaker is broken.	Replace the fuse or switch on the circuit breaker.
	Power failure.	Restart after power is resumed.
	Power plug is loose.	Re-insert the power plug.
	Thermostat has low battery.	Replace the batteries.
	Air inlet and outlet of the units have been blocked.	Clear the obstacles and keep the room for the units well ventilated.
	Improper temperature setting	Reset a proper temperature.
	Fan speed is too low.	Reset a proper fan speed.
	Air flow direction is not right.	Change the direction of air louvers.
Bad cooling or heating effect.	Doors or windows are open.	Close them.
	Exposed under direct sunshine.	Put on curtains or louvers in front of the windows.
	Too many heat sources in the room.	Remove unnecessary heat sources.
	Filter is blocked or dirty.	Send for a professional to clean the filter.
	Air inlets or outlets of the units are blocked.	Clear away obstacles that are blocking the air inlets and outlets of the units.

#### (2) The following situations are not operation failures.

Problem	Time of Occurrence	Cause
Mist comes from the air conditioner.	During operation.	If the unit is running under high humidity, the wet air in the room will be quickly cooled down.
The air conditioner generates	System switches to heating mode after defrosting.	Defrosting process will generate some water, which will turn to water vapor.
some noise.	The air conditioner is buzzing at the beginning of operation.	Thermostat will be buzzing when it starts working. The noise will become weak 1min later.
	When the unit is turned on, it purrs.	When the system is just started, the refrigerant is not stable. About 30s later, the purr of the unit becomes low.
	About 20s after the unit first enables the heating mode or there is refrigerant brushing sound when defrosting under heating.	It's the sound of 4-way valve switching direction. The sound will disappear after the valve changes its direction.
Dust comes from the air	There is hissing sound when the unit is started or stopped and a slight hissing sound during and after operation.	It's the sound of gaseous refrigerant that stops flowing and the sound of drainage system.
conditioner.	There is a sound of crunching during and after operation.	Because of temperature change, front panel and other components may be swelled up and cause abrasion sound.
	There is a hissing sound when the unit is turned on or suddenly stopped during operation or after defrosting.	Because refrigerant suddenly stops flowing or changes the flow direction.
	The unit starts operation after being unused for a long time.	Dust inside the units come out together with the air.
The air conditioner generates some smell.	During operation.	The room smell or the smell of cigarette comes out through the units.



# NOTICE:

Check the above items and adopt the corresponding corrective measures. If the air conditioner continues to function poorly, please stop the air conditioner immediately and contact Gree's authorized local service center. Ask our professional service staff to check and repair the unit.

# 4 Maintenance

# 4.1 Removal of IDU Major Components

Adjust the position of the electrical box				
Step	Picture	Work Instruction		
Remove the electrical box cover plate.		<ul> <li>Remove the screws of the electrical box cover plate.</li> <li>Remove the cover plate.</li> </ul>		
2. Remove the electrical box.		<ul> <li>Loosen the internal wiring</li> <li>Remove the screws from the electrical box cover.</li> <li>Remove the electrical box.</li> </ul>		
3. Adjust the position of the electrical box.	Move to the left:  Move to the right:	<ul> <li>Move the appliance box to the left or right as needed.</li> <li>Secure the screws</li> </ul>		

Adjust the position of the electrical box			
Step	Picture	Work Instruction	
4. Adjustment completed.	Move to the left:  Move to the right:	<ul> <li>Reorganize internal wiring.</li> <li>Cover the electrical box cover plate.</li> </ul>	

Disassembly and Assembly of the Evaporator and Change the position of the secondary drain pan			
Step	Picture	Work instruction	
1. Remove the side panel assembly with the electrical box (cover assembly 2).		<ul> <li>Loosen screws round the upper panel with a screwdriver.</li> <li>Remove the panel from unit.</li> <li>Note: Loosen the internal wiring before removing the upper cover plate.</li> </ul>	
Remove the left panel     (cover assembly 1).		<ul> <li>Loosen screws round the panel with a screwdriver.</li> <li>Remove the panel from unit.</li> </ul>	

Disassembly and Assembly of the Evaporator and Change the position of the secondary drain pan			
Step	Picture	Work instruction	
Remove the air discharge frame assembly.		<ul> <li>Loosen screws round the panel with a screwdriver.</li> <li>Remove the panel from unit.</li> </ul>	
4. Remove the mounting plate of the drain pan.		<ul> <li>Loosen screws round the plate with a screwdriver.</li> <li>Remove the mounting plate of the drain pan from unit.</li> </ul>	
5. Remove the drain pan bracket		<ul> <li>Loosen screws round the bracket with a screwdriver.</li> <li>Remove the bracket from unit.</li> </ul>	
Move the evaporator     components and drain     pan		<ul> <li>Remove the primary drain pan mounting frame.</li> <li>Move the evaporator components and drain pan.</li> </ul>	

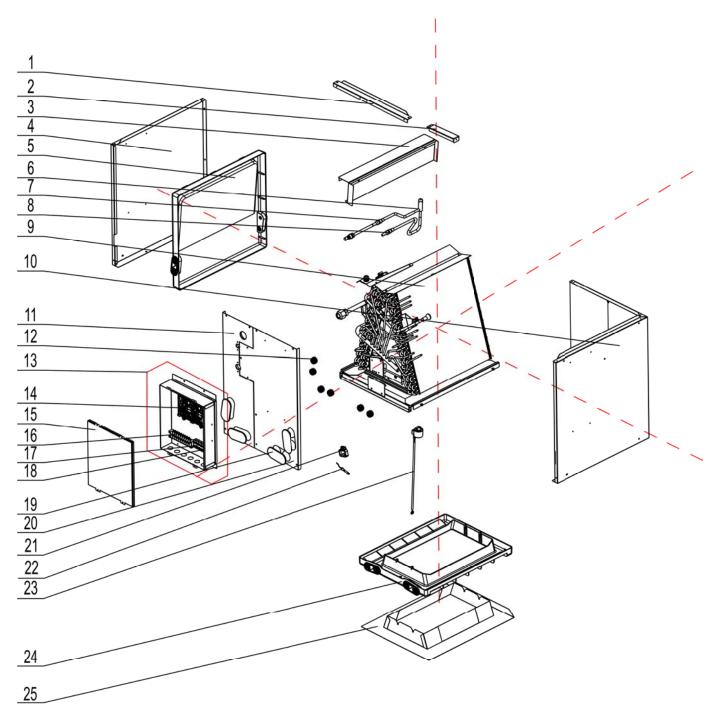
Disassembly and Assembly of the Evaporator and Change the position of the secondary drain pan			
Step	Picture	Work instruction	
7. Remove drain pan.		<ul> <li>Remove the secondary drain pan.</li> <li>Remove the evaporator away from the primary drain pan.</li> </ul>	
Change the position of the refrigerant sensor.		<ul> <li>Loosen the bolt that secures the refrigerant sensor.</li> <li>Move the refrigerant sensor from the left to the right (no need for fastening the bolt).</li> </ul>	
9. Change the position of the secondary drain pan.		<ul> <li>Install the secondary drain pan on the other side of the primary drain pan.</li> <li>Reinstall the evaporator on the primary drain pan.</li> <li>Refer to the previous disassembly steps to gradually restore.</li> <li>Note: After change the position of the secondary drain pan, the unit is suitable for counter flow installation.</li> </ul>	

Disassembly and Assembly of the Evaporator and Change the position of the secondary drain pan			
Step	Picture	Work instruction	
10. Reinstall all parts.		Refer to the disassembly steps and reassemble all the necessary parts.  Note: After change the position of the secondary drain pan, the unit is suitable for counter flow installation.	
11. Rotate the unit to the right.		<ul> <li>Rotate the unit to the right.</li> <li>Note: Ensure that the secondary drain pan is at the bottom. After change the position of the secondary drain pan, the unit is suitable for counter flow installation.</li> </ul>	

In the downward flow installation method, adjust the positions of the air inlet temperature sensor and the air outlet temperature sensor.			
Step	Picture	Work instruction	
1. Remove the side panel assembly with the electrical box (cover assembly 2).		<ul> <li>Loosen screws round the upper panel with a screwdriver.</li> <li>Remove the panel from unit.</li> <li>Note: Loosen the internal wiring before removing the upper cover plate.</li> </ul>	
2. Replace the temperature sensor.	Temperature sensor	Effect after installation.	
3. Reinstall all parts.		Refer to the disassembly steps and reassemble all the necessary parts.  Note: When the unit is switched to the downward air mode, the air inlet temperature sensor should be inserted accurately, otherwise it will affect the reliability of the unit and even damage the unit.	

# 4.2 Explosive View and Lists of Parts

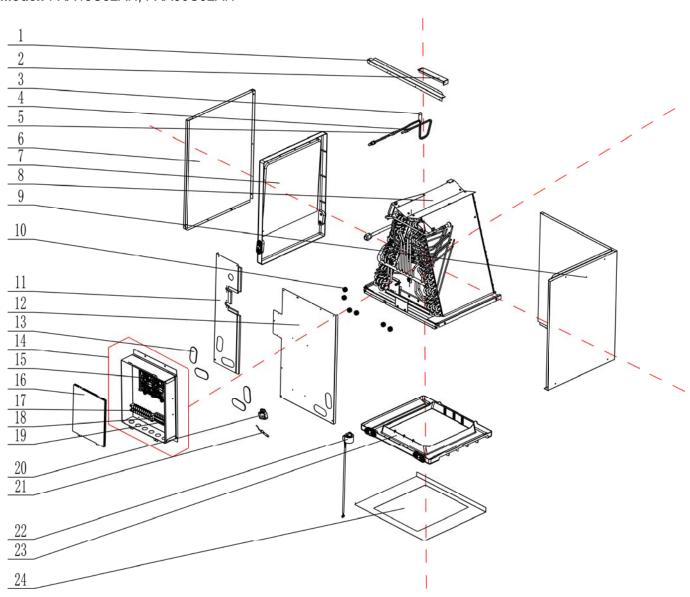
Model: FXA24C32AH, FXA36C32AH



No.	Name of Part	Part Code	Quantity
1	Air Outlet Frame Sub-Assy	000117060025	1
2	Retaining Plate (Water Level Switch)	012066061673	1
3	Retaining Plate Sub-Assy	017032060490P01	1
4	Left Side Plate Sub-Assy	017037060460	1
5	Water Tray	2690220000202	1
6	Electronic Expansion Valve	072009060085	1
7	Strainer	0721200102	1
8	Strainer	0721200102	1
9	Evaporator Assy	011001063554P	1
10	Rear Side Plate Sub-Assy	017051060224P	1

No.	Name of Part	Part Code	Quantity
11	Cover Plate Sub-Assy	011657060739P	1
12	Choke Plug	76718209	6
13	Electric Box Assy	100002084113	1
14	Main Board	300002064486	1
15	Electric Box Cover	012020061402P	1
16	Terminal Board	42200006020702	1
17	Terminal Board	42200006010601	1
18	Terminal Board	42200006005602	1
19	Plastic Cover	2690220902	4
20	Cover Plate Sub-Assy	011657060732P	1
21	Gas Sensor	34002406001501	1
22	Sensor Sub-Assy	390002060740	1
23	Electric Expand Valve Fitting	4304413269	1
24	Water Tray	2690220000102	1
25	Retaining Plate Sub-Assy	017032060859	1

# Model: FXA48C32AH, FXA60C32AH



No.	Name of Part	Part Code	Quantity
1	Air Outlet Frame	012138060070P01	1
2	Supporter	012060095227	1
3	Electronic Expansion Valve	072009060084	1
4	Strainer	0721200102	1
5	Strainer	0721200102	1
6	Left Side Plate Sub-Assy	017037060461	1
7	Water Tray	2690220502	1
8	Evaporator Assy	011001063831P	1
9	Rear Side Plate Sub-Assy	017051060225	1
10	Choke Plug	76718209	6
11	Cover Plate Sub-Assy	011657060738	1
12	Cover Plate Sub-Assy	011657060733	1
13	Plastic Cover	2690220902	4
14	Electric Box Assy	100002084113	1
15	Main Board	300002064486	1
16	Electric Box Cover	012020061402P	1
17	Terminal Board	42200006020702	1
18	Terminal Board	42200006010601	1
19	Terminal Board	42200006005602	1
20	Gas Sensor	34002406001501	1
21	Sensor Sub-Assy	390002060740	1
22	Electric Expand Valve Fitting	4304413269	1
23	Water Tray	2690220602	1
24	Retaining Plate Sub-Assy	017032060858	1
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# **Appendices**

# 1 Resistance/Temperature Lists of Temperature Sensors

# 1.1 20kΩ Temperature Sensor

Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)
-30	361.8	13	34.57	56	5.726	99	1.386
-29	339.8	14	32.98	57	5.519	100	1.346
-28	319.2	15	31.47	58	5.32	101	1.307
-27	300	16	30.04	59	5.13	102	1.269
-26	282.2	17	28.68	60	4.948	103	1.233
-25	265.5	18	27.39	61	4.773	104	1.198
-24	249.9	19	26.17	62	4.605	105	1.164
-23	235.3	20	25.01	63	4.443	106	1.131
-22	221.6	21	23.9	64	4.289	107	1.099
-21	208.9	22	22.85	65	4.14	108	1.069
-20	196.9	23	21.85	66	3.998	109	1.039
-19	181.4	24	20.9	67	3.861	110	1.01
-18	171.4	25	20	68	3.729	111	0.9825
-17	162.1	26	19.14	69	3.603	112	0.9556
-16	153.3	27	18.32	70	3.481	113	0.9295
-15	145	28	17.55	71	3.364	114	0.9043
-14	137.2	29	16.8	72	3.252	115	0.8799
-13	129.9	30	16.1	73	3.144	116	0.8562
-12	123	31	15.43	74	3.04	117	0.8333
-11	116.5	32	14.79	75	2.94	118	0.8111
-10	110.3	33	14.18	76	2.844	119	0.7895
-9	104.6	34	13.59	77	2.752	120	0.7687
-8	99.13	35	13.04	78	2.663	121	0.7485
-7	94	36	12.51	79	2.577	122	0.7289
-6	89.17	37	12	80	2.495	123	0.7099
-5	84.61	38	11.52	81	2.415	124	0.6915
-4	80.31	39	11.06	82	2.339	125	0.6736
-3	76.24	40	10.62	83	2.265	126	0.6563
-2	72.41	41	10.2	84	2.194	127	0.6395
-1	68.79	42	9.803	85	2.125	128	0.6232
0	65.37	43	9.42	86	2.059	129	0.6074
1	62.13	44	9.054	87	1.996	130	0.5921
2	59.08	45	8.705	88	1.934	131	0.5772
3	56.19	46	8.37	89	1.875	132	0.5627
4	53.46	47	8.051	90	1.818	133	0.5487
5	50.87	48	7.745	91	1.763	134	0.5351
6	48.42	49	7.453	92	1.71	135	0.5219
7	46.11	50	7.173	93	1.658	136	0.509
8	43.92	51	6.905	94	1.609	137	0.4966
9	41.84	52	6.648	95	1.561	138	0.4845
10	39.87	53	6.403	96	1.515	_	_
11	38.01	54	6.167	97	1.47	_	_
12	36.24	55	5.942	98	1.427	_	_

# 1.2 $50k\Omega$ Temperature Sensor

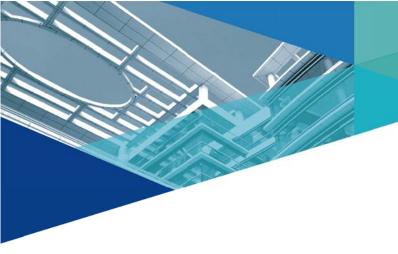
Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)
-20	486.55	24	51.408	68	9.1655	112	2.3654
-19	458.4	25	49.191	69	8.9542	113	2.3021
-18	432.1	26	47.082	70	8.5551	114	2.2409
-17	407.51	27	45.074	71	5.9676	115	2.1816
-16	384.51	28	43.163	72	7.9913	116	2.1242
-15	362.99	29	41.313	73	7.7257	117	2.0686
-14	342.83	30	39.61	74	7.4702	118	2.0148
-13	323.94	31	37.958	75	7.2245	119	1.9626
-12	306.23	32	36.384	76	6.9882	120	1.9123
-11	289.61	33	34.883	77	6.7608	121	1.8652
-10	274.02	34	33.453	78	6.542	122	1.8158
-9	259.37	35	32.088	79	6.3315	123	1.7698
-8	245.61	36	30.787	80	6.1288	124	1.7253
-7	232.67	37	29.544	81	5.9336	125	1.6821
-6	220.5	38	28.359	82	5.7457	126	1.6402
-5	209.05	39	27.227	83	5.5647	127	1.5996
-4	195.97	40	26.147	84	5.3903	128	1.5602
-3	188.12	41	25.114	85	5.2223	129	1.522
-2	178.65	42	24.128	86	5.0605	130	1.485
-1	169.68	43	23.186	87	4.9044	131	1.449
0	161.02	44	22.286	88	4.7541	132	1.4141
1	153	45	21.425	89	4.6091	133	1.3803
2	145.42	46	20.601	90	4.4693	134	1.3474
3	135.96	47	19.814	91	4.3345	135	1.3155
4	131.5	48	19.061	92	4.2044	136	1.2846
5	126.17	49	18.34	93	4.0789	137	1.2545
6	119.08	50	17.651	94	3.9579	138	1.2233
7	113.37	51	16.99	95	3.841	139	1.1969
8	107.96	52	16.358	96	3.7283	140	1.1694
9	102.85	53	15.753	97	3.6194	141	1.1476
10	98.006	54	15.173	98	3.5143	142	1.1166
11	93.42	55	14.618	99	3.4128	143	1.0913
12	89.075	56	14.085	100	3.3147	144	1.0667
13	84.956	57	13.575	101	3.22	145	1.0429
14	81.052	58	13.086	102	3.1285	146	1.0197
15	77.349	59	12.617	103	3.0401	147	0.9971
16	73.896	60	12.368	104	2.9547	148	0.9752
17	70.503	61	11.736	105	2.8721	149	0.9538
18	67.338	62	11.322	106	2.7922	150	0.9331
19	64.333	63	10.925	107	2.715	_	_
20	61.478	64	10.544	108	2.6404	_	_
21	58.766	65	10.178	109	2.5682	_	_
22	56.189	66	9.8269	110	2.4983	_	_
23	53.738	67	9.4896	111	2.4308	_	_

# 2 Temperature/Pressure List of Refrigerant

Temperature	Pressure	Temperature	Pressure	Temperature	Pressure
(°C)	(kPa)	(°C)	(kPa)	(°C)	(kPa)
-30	273	0	813	30	1928
-29	285	1	839	31	1978
-28	297	2	866	32	2029
-27	309	3	894	33	2082
-26	322	4	922	34	2135
-25	335	5	951	35	2190
-24	348	6	981	36	2245
-23	362	7	1012	37	2302
-22	376	8	1043	38	2360
-21	391	9	1074	39	2419
-20	406	10	1107	40	2479
-19	421	11	1140	41	2539
-18	437	12	1174	42	2602
-17	454	13	1209	43	2665
-16	471	14	1244	44	2729
-15	488	15	1281	45	2795
-14	506	16	1318	46	2862
-13	524	17	1356	47	2930
-12	543	18	1395	48	2999
-11	563	19	1434	49	3070
-10	586	20	1475	50	3141
-9	603	21	1475	51	3215
-8	624	22	1516	52	3289
-7	646	23	1558	53	3365
-6	668	24	1601	54	3442
-5	691	25	1645	55	3520
-4	714	26	1690	56	3600
-3	738	27	1735	57	3681
-2	762	28	1782	58	3764
-1	787	29	1830	59	3848

# **3 Operation Tools**

The following tools will be used: 1) Liquid-level gauge; 2) Screwdriver; 3) Electric driven rotary hammer; 4) Drill; 5) Pipe expander; 6) Torque wrench; 7) Open-end wrench; 8) Pipe cutter; 9) Leak detector; 10) Vacuum pump; 11) Pressure gauge; 12) Universal meter; 13) Hexagon wrench; 14) Tapeline.





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