



User Manual

A Series Cabinet Air Conditioner

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Foreword

Note: any operation of this product must be carried out by a professional engineering and technical personnel. This manual mainly describes A series of Cabinet air conditioners use areas, technical parameters, operating instructions

and installation and maintenance of the product.

1. Product introduction

1.1、 Overview

A-series Cabinet air conditioner is specifically designed for communications applications and design of refrigeration products, through two independent and isolated circulating air cooling inside cabinets and disperse heat through the heat exchanger in the Cabinet Cabinet, thus outdoor telecommunications cabinet base station, batteries, wireless outdoor Cabinet Cabinet heat dissipation. For all types of machine Cabinet provides the ideal temperature and humidity environment, together with isolation of the outside environment dust, corrosive gases, extend the life of electrical components, improve machine reliability. Applies to electrical communications, communications equipment, data-processing box, as well as the motor control box.

Note: in the transport, storage and use, must be in strict accordance with the instructions on the packaging to maintain air conditioning vertical.

1.2、 Application scope

Power input: AC: 220VAC $\pm$ 15%/50Hz

Other power input please check the nameplate

Ambient temperature range: -20 °C ~55°C

1.3、 Applied Standard

Table 1 Applicable Standards of products

Standard	Description
GB/T 17626.7-1998	EMC
GB4706.1	Household and similar electrical appliances - Safety
GB4798.1	Environmental conditions - storage
GB4798.2	Environmental conditions - transportation
GB4798.3	Environmental conditions - use
CE	Third-Party certification

2、 Installation and operation

2.1 Unpacking and checking

This product standard use carton packaging, dismantling packaging, the packaging outside the packing belt removed, open the carton cover and the carton out, pay attention to follow the packing list outside the box to inventory accessories.

Note:

- The cabinet air conditioning for the precision equipment, handling must light put, it is forbidden to placed upside down or tilt. After the demolition of outer packing, please check carefully whether the air conditioner appearance damage or grease. If found any damage, together with the bar code number outside the package within one week, please report to the seller.
- If the product is not installed immediately or you need to transfer to other regions, please pack the goods after the check back on the air conditioner.
- In order to protect the environment, we suggest to recycle packaging carton.

2.2 Preparation before the installation

- Before installing or operating this product, please detailed reading the user manual and pay attention to the

mentioned precautions to prevent damage to the personnel or machine,

- Cabinet internal environment equipment, must ensure that air conditioning in and out of the tuyere can not be obstructed, the distance between the tuyere and obstacles at least 20cm, otherwise it will affect the air-conditioning airflow cycle of short-circuit so as to affect the efficiency of the machine
- Before use must confirm the cabinet calorific value does not exceed the air conditioning the usable refrigeration quantity, otherwise may cause the cabinet temperature to be difficult to guarantee, within the specified temperature range, cannot achieve the need effect, simultaneously affects its use effect and the life

2.3 Installation and maintenance tools

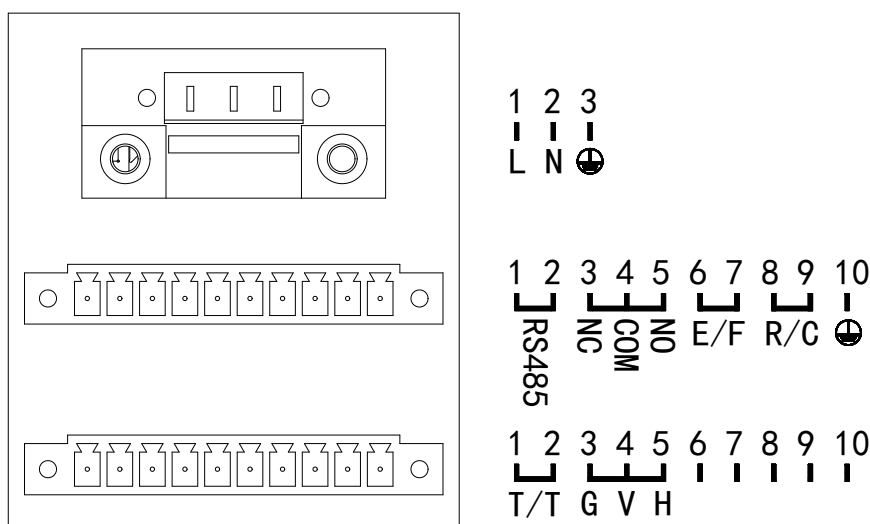
No.	Tool name	Quantity	Remark
01	Phillips screwdriver	1	M6/M5
02	Flathead screwdriver	1	M3
03	Multimeter	1	
04	Strippers	1	
05	Crimping Tool	1	
06	Tape measure	1	

2.4 Installation steps

- Check the power is shut off.
- Fixed air conditioning according to mechanical installation drawings
- Strip the insulation of power supply line and terminal pressure head,
- The wiring in accordance with the electrical wiring diagram,
- Check the power line with a multimeter after wiring is complete

Note: All electrical connections must comply with the national electrical code requirements, must be installed prior to disconnect all power of air conditioner. According to the selection of suitable technical parameters of air conditioner nameplate wire diameter and detecting the running current.

2.5 Electrical wiring diagram



Wiring instructions:

Port	Definition	Port	Definition
1-L	Power in put -L	1-T/T	Temperature probes

2-N	Power in put- N	2-T/T	Temperature probes
3-⊕	Power ground wire	3-G	Humidity Probes-G
1-RS485	RS485_A+/Send Data TXD	4-V	Humidity Probes-V
2-RS485	RS485_B-/Receive Data RXD	5-H	Humidity Probes-H
3-NC	Alarm normally closed terminal	6-	Reserved
4-COM	Alarm Common	7-	Reserved
5-NO	Alarm normally open	8-	Reserved
6-E/F	External fan power input (AC_L/DC_+)	9-	Reserved
7-E/F	External fan power output (AC_L/DC_+)	10-	Reserved
8-R/C	Remote control		
9-R/C	Remote control		
10-⊕	ground wire		

The mechanical and electrical installation is completed, check item to install

- Ensure cabinet air conditioner is securely installed
- Check the electrical installation line to ensure no short-circuit phenomenon
- Check the cabinet air conditioner air outlet, Air inlet, inside and outside the fan place no debris
- Check the power supply on the cabinet air conditioner

3、Operation

3.1 Power operation

When the equipment chassis is air-conditioned, the power cord plugs into a socket that provides enough voltage and current, and the air conditioning is ready to run. Once the air conditioning system power, air conditioning in the boot state, air conditioning into the post status, power on the LCD full display after 2S flashing temperature control Board version number 2 seconds. In turn, internal temperature probe, external temperature probe, internal humidity probe (optional), external humidity probe (optional), internal fan, emergency fan, refrigeration, heating self-test, self-test completed into normal working condition. Air-conditioner operation completely according to the internal temperature control of the Cabinet, the controller through the internal circulating temperature sensor to detect the return air temperature of the cabinet, and set the point of comparison and judgment, control the refrigeration, heating, dehumidification and other work.

3.2 Cooling

Cabinet temperature $\geq$ "refrigeration stop temperature" + "Refrigeration return difference"
turn on refrigeration

Cabinet temperature $\leq$ "refrigeration stop temperature", shut down refrigeration;

3.3 Heating (optional)

Cabinet temperature $\leq$ "heating stop point"-"heating return difference", open heating

Cabinet temperature $\geq$ "Heating stop point", close heating

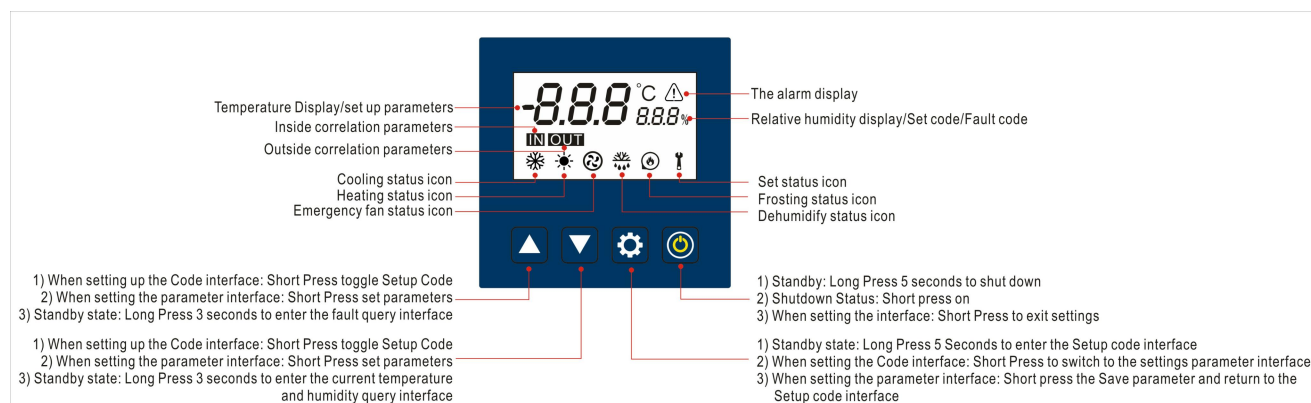
3.4 Dehumidification (optional)

Content	Condition One	Condition Two
Refrigeration	In-Cabinet humidity $\geq$	"Refrigeration stop Temperature"-"Refrigeration

Dehumidification	"humidity setting" + "humidity range "	return difference" < In-cabinet temperature < "refrigeration stop temperature" + "Refrigeration return difference"
Heating Dehumidification		Inside cabinet temperature ≤ "refrigeration stop temperature"-"Refrigeration return difference"
Exit Heating dehumidification	Inside cabinet temperature = "Refrigeration Stop temperature"	
Exit Dehumidification Mode	Humidity ≤ "humidity setting" in cabinet	

3.5 Control Program settings

➤ Interface schematic



➤ User parameter settings

Press and hold the Set key "⚙️" 5 Seconds to enter the "User Settings" page, when the screen appears F01 code, press Raise key "▲" "or" Downward key "▼" to select the setup code. When displaying the status of the code, press the Set key "⚙️", which is displayed as the current working status setting, press Raise key "▲" "or" Downward key "▼" to change the setting value. Press the set key "⚙️" again to complete, press the Power key "🔌" to save the exit or no key operation 60 seconds, return to normal operation status.

Code	Name	Set up	units	Precision	Default v	Significance
F00	Restore user Parameters	0~1	/	/	0	Set to 1 to restore all user parameter settings
F01	Refrigeration Stop temperature	15~50	°C	1	25	Temperature point at which the refrigeration operation stops
F02	Refrigeration back Range	1~20	°C	1	5	Refrigeration back Range
F03	Heating Stop Temperature	-20~F1	°C	1	10	Heating Stop Temperature Point
F04	Heating back Range	1~20	°C	1	5	Heating back Range
F05	High temperature alarm in cabinet	30~70	°C	1	50	Alarm when the temperature ≥ the temperature setting
F06	Low temperature alarm in cabinet	-40~25	°C	1	0	Alarm when the temperature ≤ the temperature setting
F07	Humidity setting	10~99	%RH	1	60	Humidity point which dehumidification operation

						stops
F08	High humidity alarm in cabinet	60~100	%RH	1	90	Setting high humidity alarm point
F09	Low humidity alarm in cabinet	10~50	%RH	1	20	Setting low humidity alarm point
F10	Working mode of emergency fan	0~2			2	0=off, 1= Long Open, 2= Timing
F11	Emergency fan blower interval time	1~24	Hours	/	24	How long the emergency fan interval starts running
F12	Emergency fan Running time	1~60	Minutes	/	5	How long the emergency fan runs and stops running
F13	Analog temperature Point	-20~60	℃	1	0	For debugging, can simulate return air temperature, if set to 0 is displayed as the current detection temperature.
F14	RS485 Mailing Address	1-247	/	/	1	Use of multiple air-conditioning networking units
F15	485 Baud rate	9600 /19200 /38400	bps	/	9600	Select a 485 communication rate
F16	485 parity check	0~2	/	/	2	0 – non parity 1 - odd check 2 -Even check

Note: In order to make the unit run reliably and maximize energy efficiency, please do not change the air conditioning settings at will.

➤ Fault code description

Code	Fault description	Code	Fault description
E01	Temperature probe failure in cabinet	E11	High humidity alarm outside the cabinet
E02	High temperature alarm in cabinet	E12	Low humidity alarm outside the cabinet
E03	Low temperature alarm in cabinet	E13	Compressor High Pressure alarm
E04	Temperature probe failure outside the cabinet	E14	Compressor Low pressure alarm
E05	High temperature alarm outside the cabinet	E15	Refrigeration effective Alarm
E06	Low temperature alarm outside cabinet	E16	System Heat Effective alarm
E07	Humidity probe failure in cabinet	E17	Communication failure
E8	High humidity alarm in cabinet	E18	Internal coil temperature Probe failure
E9	Low humidity alarm in cabinet	E19	Internal coil Low Temperature alarm
E10	Humidity probe failure outside the cabinet		

4. Troubleshooting

Phenomenon	Reason	Check and repair
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Device does not start	Open circuit or short circuit	Check the circuit open or shorted, and repair the total power
	Controller failure	Replace the controller
The inner fan does not start	Terminal loose	Check the fan power terminal is loose
	Power failure	Check the input power supply voltage, whether in the scope of work
	Fan blocked	Check whether there is a foreign body stuck fan
The outer fan does not start	Terminal loose	Check the fan power terminal is loose
	Power failure	Check the input power supply voltage, whether in the scope of work
	Fan blocked	Check whether there is a foreign body stuck fan
	No refrigeration requirements	There is no need for cooling
Fan noise	Fan bearing wear	The replacement fan
	Fan blade friction	Check whether the cable is equal to the fan blade interference
Compressor does not start	A loose connection circuit	Fastening the circuit connector
	Open source	Check the main power switch, and check the display interface display "boot"
	Power failure	Check the power supply voltage, whether in the scope of work
	Compressor motor burned out	Replace the compressor
	No refrigeration requirements	Output state check the temperature in the cabinet display and operation of compressor
	Stop delay	The compressor start delay time interval is 3.5minutes
	Compressor with built-in protection	Check the compressor protector if circuit breaker contacts
	System for high voltage protection	The external environment temperature is too high or outer circulation air insufficient and inspection, check the condenser temperature
Poor cooling effect	Outer circulation air insufficient	Check of the impurity coil or air entrance into

5、Daily maintenance

Cabinet air conditioner running in the outdoor environment is relatively poor, in order to guarantee the normal operation of the air conditioner, please refer to table 3 for air conditioner for regular maintenance.

Warning: all maintenance work must be maintained by qualified professionals, in performing any maintenance, please disconnect the air conditioner power line and signal line, maintenance is done on air

conditioner power and signal lines.

Maintenance tool list:

- The vacuum cleaner or compressed air.
- Soft brush.
- Cross screwdriver.

In order to maintain normal temperature environment cabinet, please regular maintenance.

Maintenance steps:

- Turn off the power.
- Disconnect the power line, disconnect signal line.
- According to the daily maintenance and inspection table.
- Connect power line, signal line.
- Check the line.
- Close the power supply and restore the unit to normal operation.

Table 3 The daily maintenance table

Check the project	Process description	Maintenance period
Air filter	From the air filter, water or compressed air cleaning strainer	3 months
Wiring	Visually check whether there is loose	1 year
Fan failure	The fan,the rotation is smooth,there is abnormal sound	1 year
drain	Visually check the drainage pipe is deformed, dirty block	1 year
Condenser	Check the condenser cleanliness, water or compressed air to clean the condenser	6 months

Statement:

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