

Installation and Use Manual of

ELECTRIC VEHICLE AIR CONDITIONING Model HC-1



Before installation and use of this air conditioner, please read this manual carefully.

Contents

1. Main Components of the Air Conditioner	1
11. Functions of Controller	1
III. Technical Data	2
IV. Troubleshooting	2
V. Faults	3
VI. Installation Instructions	4
VII . Maintenance	5
Disclaimer	5

1、Display Panel Operations

- 1.Air volume key: "+" increases the air volume, "-" decreases the air volume, press both keys simultaneously to swing the air on, and press again to turn it off.
- 2.Temperature keys: ▲ to increase the temperature, ▼ to decrease the temperature. Press both keys simultaneously once to display the return air temperature, and then press again to display the evaporator temperature. After 10 seconds, the display will automatically return to the set temperature.
- 3.The mode is a function key: selectable as blowing (single fan on), constant frequency (full power output, 2nd wind), variable frequency (automatic control of variable frequency and wind speed based on the difference between the return air temperature and the set temperature), energy-saving (approximately 1/4 of full power output, 1st wind), and strong (full power, 5th wind). Electric power: 28W, current : 1.2 A, maximum wind speed : 7.6M.

2、Hanging main power supply

- 1、Red "+" input power supply , black "-" input power supply , blue for variable frequency drive signal, yellow for alarm code signal detection , variable frequency drive : DC-12V: output 4V-9V, DC-24V: output 9V-19V, DC-48V: output 4V-9V.

After turning on: When (--) appears after pressing and holding the power on key for ten seconds , press the air volume key "+" to increase the high pressure protection , press the air volume key "-" to decrease the high pressure protection , press the temperature key "▲" to increase the low pressure protection, and press the temperature key "▼" to decrease the low pressure protection . After setting , leave the key and press it for 10 seconds to automatically save and exit the setting function.

I. Main Components of the Air Conditioner

Indoor Unit:



Outdoor Unit:



II. Functions of Internal control panel

4、Bluetooth display panel connection settings

- 1. Within 30 seconds of initial power on: Press the on key and air volume buttons simultaneously to enter the code matching, display the code matching value, and then power on the motherboard. After confirming the code matching, exit the display for 2 seconds to display normal motherboard power voltage, temperature, etc. If the code matching fails, exit the display for 30 seconds to display ErE code.

5、Fault display

Err return air temperature sensing head disconnected/short circuited, ErP evaporator temperature sensing head disconnected/short circuited, ErF motor no feedback signal, ErE not connected to the main control board, ErL low voltage protection, ErH high voltage protection.

III.Technical Data

- 1.The parameters in the table are nominal values in rated condition.They may vary with the working condition.The cooling capacity,power and noise are measured before delivery.
- 2.Below parameters may vary due to product improvement.The parameters on the rating plate shall prevail.
- 3.The lowest standard indoor nominal noise level is the lowest air supply noise.



product name	DC variable frequency scroll compressor		
Rated voltage	DC12V		DC24V
Displacement	20cc/r		
Refrigerant type	R134A		
Lubricating oil type	RL68H (POE) 120ml		
Refrigeration capacity	2200w	2400w	2600w
input power	<650w	<800w	<850w
range of rotation rmp	1000-2800	1000-3000	1000-3200
Over curent protection vahue	70A	100A	50A
Working voltage range	9V-16V	9V-16V	18V-32V
Operating temperature	-10-60degrees celsius		
Installation method	horizontal straight up		

IV.Compressor faults are indicated by the LED fault

The number of red indicator lights flashing at the end of the compressor:

- Flash 1 time-Standby
- Flash 5 times-Compressor case temperature is too high- Lack of refrigerant or dirty condenser
- Flash 6 times-Open circuit of cooling fan-- Bad contact of electromagnetic fan plug
- Flash 7 times -Short circuit of cooling fan-- Short circuit in the motor or short circuit in the connection line
- Flash 9 times-Condensing fan controller failure
- Flash 10times-Condensing fan failure
- Flash 11times -Condensing fan lost contact



LED fault indication

V.Faults

In any of the following situations during the use of the air conditioner,please find out a solution by following the index;if it is a fault,please contact the repair center in time.

Phenomenon	Solution
The refrigeration effect is not good	Select the right mode and set proper temperature and speed
	Check if there is any obstruction at the air inlet and outlet
	Check if the surface of the condenser is too dirty
	Check if it is short of refrigerant,and if the high and low voltage is within the normal range
There is water on the surface of indoor unit	When running in an environment with high humidity,water drops will form at the air outlet and core surface,which is a normal physical phenomenon
The indoor unit displays voltage fault	Check if it is battery low and if the power source is DC24V
	Check if the low voltage protection value is too high
The indoor unit displays sensor faul	Check if the sensor at air inlet/outlet is plugged in correctly
	Check if the display temperature is higher than normal ambient temperature. If it is, change the sensor
The indoor unit displays fan fault	Check if the fan is correctly plugged in.Connect the fan with a separate 24V DC power source. If the fan won't work, change it

The indoor unit displays outdoor unit fault	Check if it is short of refrigerant
	Check if the high and low voltage is within the normal range
	Check if the condenser is too dirty that heat dissipation is adversely affected

VI.Installation Instructions

Before the air conditioner is installed for the first time,check if the accessories are complete and correct.

- 1.Outdoor unit mounting:Select a position for installation and then make at least 6 holes on the driving cab.The set screws shall be Grade 12.9 M8 bolts.There shall be dedicated shock absorber pad between the outdoor unit and the driving cab.
- 2.Indoor unit mounting:It is recommended that the indoor unit is mounted on the right side above the co-driver.First,mount the wood board on the driving cab (self-tapping screws can be used.Screws can be also used to break through the board to fix it onto the bar of the cab.The number of screws used shall be at least four).After the board is fixed,use self-tapping screws to fasten the indoor unit with the board.There are three screw holes on each side of the unit.Just drive the screws in.
- 3.After the indoor and outdoor units are fixed,connect them with pipes and install expansion valve.During installation,pay attention to the cleanliness of the joining part of the valve and connection pipe.See if the sealing ring is damaged and apply a proper amount of refrigerant oil before installation.
- 4.Power cord connection:
 - 1.All the connection lines of the indoor and outdoor units are equipped with dedicated plugs.Just plug them in.
 - 2.Arrange the wiring to avoid any crossover.Use ties to fix wires.
 - 3.During battery connection,do not reverse positive and negative electrodes (the positive electrode is red and negative electrode black).The set screws must be fastened.
 - 4.If the power cord is not long enough,extend it with 10mm² above power cord.The connection position shall be will wrapped for waterproofing.(The total length of the power cord shall not be longer than 5meters)

Note:The power cord of air conditioner must only be connected to the positive and negative terminals of battery.

- 5.System evacuation must be realized by vacuum pumping.
 - 1.Connect the hose and outdoor unit (connect high and low pressure gauge and vacuum pump)
 - 2.Connect the hose and vacuum pump connector
 - 3.Open wide the high and low pressure valves of the pressure gauge
 - 4.Start the vacuum pump for at least 20 minutes to make sure that the air in the system is completely out.Close the high and low pressure valves and wait for ten minutes.Check if the pressure gauge reading has no change,fill in refrigerant.
 - 5.After the refrigerant is filled,start the air conditioner and check if the high and low pressure readings are within the normal range (high pressure:1.2-1.4,low pressure:0.2-0.25).

Select a mode and see if the air conditioner can work normally under all modes.After the air conditioner can run normally,turn it off and wrap the connection pipe with binder.Then apply sealant and install plates to hide the wall holes.
Attention:Refrigerant oil is filled in the air conditioner before delivery.After first installation,do not fill more oil.In case of any refrigerant leakage during the use of the air conditioner,add 80ml refrigerant oil again.The refrigerant oil used must be of high quality.(High quality refrigerant brands like Jinleng,Sanmei and Juhua are used)

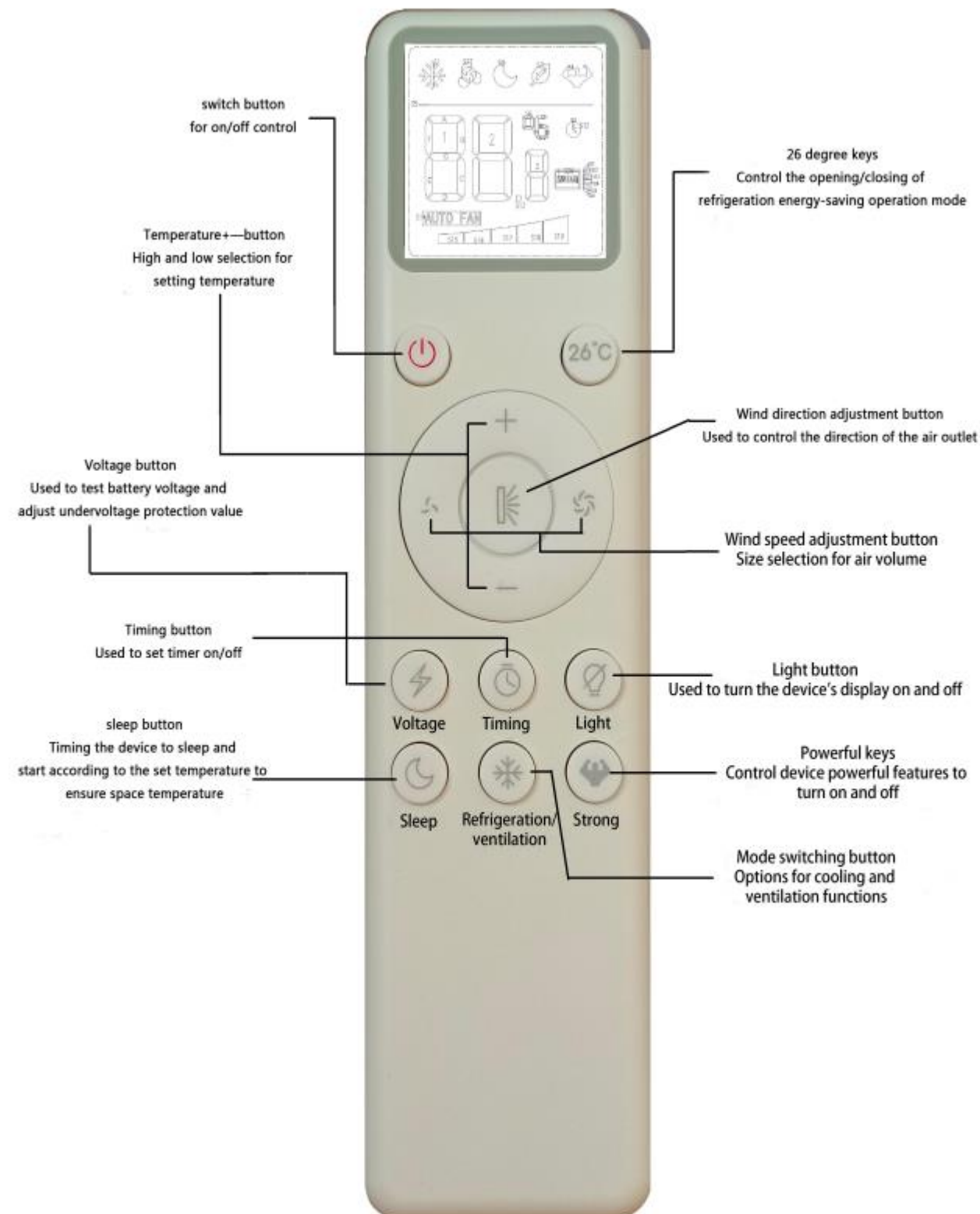
VII.Maintenance

Before cleaning,make sure the air conditioner is turned off,powered off and unplugged.

- 1.Surface cleaning of indoor unit:Wash the cleaning cloth in clean water,dry it and wipe the surface of the unit.The cloth can be dipped in the water solution of neutral cleaner.
 - 2.The core of evaporation tank is too dirty:Remove the indoor unit casing and blow off the dust on the surface with compressed air.
 - 3.Outdoor unit cleaning:Remove the unit casing and clean the condenser with compressed air.Avoid any bump against the condenser.
- Tips:
- We recommend cleaning once every month.If there is much dust where the air conditioner is used,increase the cleaning frequency accordingly.
 - Please make regular cleaning to the air conditioner to make sure it can run normally.
- 4.Long time in idle:Unplug the air conditioner and wrap the outdoor unit to avoid any bump.
 - 5.Use after long time in idle:Clean the unit body,condenser and evaporation unit;check if there is foreign matter at the air inlet/outlet of the indoor and outdoor unit;check if the drain pipe is clear;install batteries to the remote controller;make inspection and power it on.

Disclaimer

- 1.Our company provides video and manual for installation.Users must follow them strictly.If users fail to follow the installation video and manual,they shall be solely responsible for any man-made fault,damage and other accidents,and all the maintenance and material fees incurred.Our company willnot bear any responsibility thereof.
- 2.Users must pay attention to safety issues during installation.They will be solely responsible for any personal safety issue.
- 3.If users make unauthorized air conditional transformation or use non-original parts,which caused damage to the air conditioner and personal injuries,users,rather than our company, shall bear all the responsibilities.
- 4.Users are deemed to agree this disclaimer by purchasing our product.





Part list

photo of accessories	name of accessories
	Indoor unit evaporator box
	Indoor unit condenser
	Indoor unit control panel
	12V scroll compressor
	12V controller
	Outdoor unit condenser
	Condenser fan
	Battery cable
	pipe handle
	Remote control



HC1



Fault type	display	Judgment adjustment
b2	Under voltage	If the supply voltage is detected to be below the set under voltage point,it enters under voltage protection and the digital tube displays b2(enters standby state)
b3	Over pressure	If the supply voltage is detected to be higher than the set over-voltage pointthe over-voltage protection is entered and the digital tube displays b3(enters standby mode)
E-C	Temperature sensor failure	Check the temperature sensor
E-2	Run high current protection	Check whether the line of the compressor controller is loose.If not,replace the controller
E-3	Compressor blocking protection	Check whether the line of the compressor controller is loose.If not,replace the controller
E-4	Under voltage	Use the battery after low voltage charging,or the battery cable is too long and needs to be thickened
E-5	Poor refrigeration protection	If the externa fan turns and the compressor does not work,the controller needs to be replaced.If the fan turns and the compressor works,the refrigerant needs to be added because of the lack of refrigerant
E-6	lectronic fan fault	Replace the electronic fan
E-7	Compressor phase loss	Check whether the line of the compressor controller is loose.If not,replace the controller
H2	Compressor phase loss protection	Check that the compressor motor cable connection is intact.
H3	Controller high temperature protection	1 The controller is not well ventilated 2 Long time high load operation,check the heat dissipation of the external machine

WARRANTY POLICY

COFOR guarantees the equipment sold with the following warranty against manufacturing defects or hidden flaws, excluding damage caused by misuse by the customer, provided that it is installed, used, and operated according to the specifications indicated in the operation and user manuals.

KM9000RMS - 2 years

KM9600RMS - 2 years

EC2400H - 1 year

EL2400H - 1 year

KM1000SP - 2 years

LC-2 - 1 year

HC-1- 2 years

This warranty complies with the provisions of the Federal Consumer Protection Law and applicable regulations.

WARRANTY COVERAGE

The warranty period begins upon delivery of the product to the customer.

COFOR will provide the following warranties:

- Replacement of parts with manufacturing defects

Shipping not included.

WARRANTY EXCLUSIONS

- Use of the product for purposes other than its intended use.
- Improper use or installation of other electrical or mechanical devices in the vicinity of the installation.
- Damage to the product resulting from loading, unloading, transport, or delivery operations not performed by our company.
- Electrical supply outside the equipment's operating range.
- Malfunctions resulting from failure to perform maintenance recommended by COFOR, as specified in the manufacturer's manuals, or if the causes fall within the exclusions of the product warranty.
- Damage caused by acts of god or force majeure.



**Manual of Split Type Vehicle
Electric Air Conditioner**

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