



Home Used 7KW EV Charging Station SUN-7KW-EV1



USER MANUAL

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1. FOREWORD

Thank you for your support of this product. The company focuses on the field of new energy electric vehicle charging and is committed to providing customers with excellent charging equipment and complete charging operation solutions.

The electric vehicle charging pile developed by our company has advanced functions, stable performance, wide application range, strong practicability, mature power station construction and operation solutions, and a good reputation in the industry.

This manual describes and explains the application, technical indicators, operation, troubleshooting, installation, power distribution, and precautions for AC charging piles. Please read and understand this manual carefully after opening the box. Keep it for later review. The company reserves the right to modify the instructions and has the right not to be notified otherwise.

2. SAFETY

- Before powering on the equipment, please make sure that the equipment is well-grounded; keep the charging gun head clean and dry. If it is dirty, please wipe it with a clean, dry cloth. Do not touch the charging gun with your hands when charging.
- Before powering on the equipment, please make sure that the input voltage, frequency, circuit breaker or fuse of the device and other conditions have met the specifications;
- All tools should be insulated as necessary to prevent bare metal parts from touching the metal frame, causing a short circuit;
- Do not attempt to disassemble, repair or modify the charging pile. If there is any need for maintenance or modification, please contact the staff. Improper operation may result in equipment damage, water leakage, leakage, etc.
- Ensure that the equipment is running stably, the equipment should be operated in a clean, constant temperature, and constant humidity environment as much as possible, and the operating environment must not contain volatile gases or flammable gases.
- In case of rain and thunder, please charge carefully;
- Strictly follow the instructions during use. Do not allow children to get close to and use the charging pile during charging to avoid injury;
- Charging time exceeds the scheduled time (default 12 hours) to automatically stop charging.
- After charging is completed, be sure to hang the charging gun properly back into the charging gun base.
- Pay special attention to the fact that the charging gun head cannot be placed at random, suspended, or dropped on the ground to avoid a safety accident.

3. PRODUCT INTRODUCTION

3.1. Follow the Standards

Meet European standards: IEC 61851 /IEC 62196 / CE.

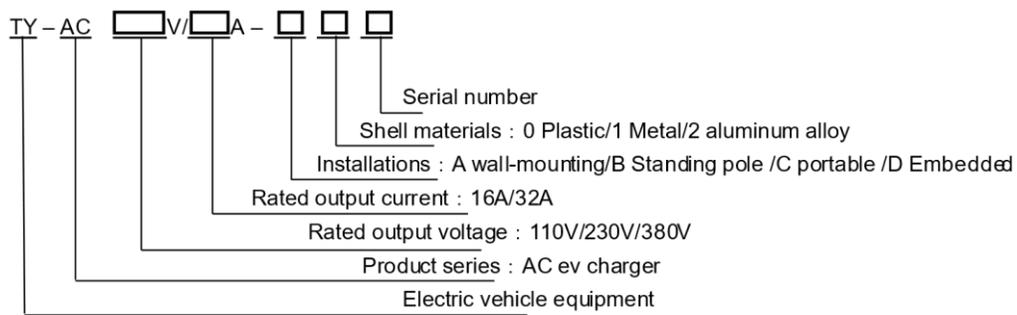
3.2. Application Range

AC charging posts are suitable for providing AC power to electric vehicles with on-board chargers. AC charging piles can be easily and quickly installed in various public, internal, and internal parking spaces of the community. It can also be installed in various large, medium, and small electric vehicle charging stations.

3.3. Main Technical Parameters

	Item	Technology Index	Remarks
Electrical Parameters	Rated input voltage	AC230V ± 20%	Single phase
	Max. power	7KW	
	Rated working current	32A	6/10mm ² wires
	Input frequency	50Hz ± 1Hz	
	Rated output voltage	AC230V ± 20%	Single phase
	Rated output current	32A	6/10mm ² wires
	Standby power	<6W	
Environment Index	Application senses	Indoor/Outdoor	
	Working temperature	-30°C ~ +55°C	
	Working humidity	5% ~ 95% No condensation	
	Working elevation	<2000m	
	Protection grade	IP54	
	Cooling method	Natural cooling	
	MTBF	100,000 hours	
Shell Structure	Material	Plastic	
	Dimensions	211 x 345 x 122mm (L x W x D)	
	Installation methods	Wall-mounting / Standing pole	
	Net. weight	<4kg	
Optional	Activate method	1: Plug in and play 2: ON/OFF by swiping card (3pcs) 3: Offline payment via swiping card	Optional
	Output port	1: Type 2 socket 2: Type 2 gun with 5m cable 3: Type 1 gun with 5m cable	Optional
Security Design	Over/under voltage protection, Overload protection, Short-circuit protection, Current leakage protection, Grounding protection, Over/Under temperature protection, Lighting surge protection.		
Option Parts	Swapping card control, Ethernet, 3G, 4G communication OCCP1.6 (JSON)		Optional

3.4. Name Rules



3.5. Product Functions and Features

The AC charging pile is a new product designed according to customer needs. The product has the characteristics of small size, lightweight, high charging efficiency, small floor space, and stylish appearance.

The charging pile design has various protections, including AC leakage protection, lightning protection, over-current alarm, and protection, Over/under voltage protection, and emergency power-off protection.

The AC charging post has the following features:

- Safe and stable: The wall-mounted/column AC charging pile provides a reliable electrical safety protection function. It can be anti-theft, dust-proof, waterproof, and stable in operation, ensuring reliable long-term operation. Meets the outdoor IP54 protection;
- System integration: The functions of the entire charging pile, such as charging function, man-machine operation, safety protection, and function, are highly integrated. The system is simple in structure, conducive to production, and stable and reliable in operation;
- Easy to operate: friendly man-machine interface, simple and clear, easy to operate;
- Small footprint and convenient installation: the area and space occupied by the entire charging pile are very reasonable, improve space utilization, and facilitate installation and application in areas with tight land ;
- Connection abnormality: It can be judged whether the charging connector is properly connected. When properly connected, the charging interface can output power. When the charging connector is abnormally disconnected, the AC charging post stops outputting immediately to ensure personal safety and charging safety;
- Multiple protection: The charging pile has the functions of output over-voltage, under-voltage and overload protection. When the charging voltage exceeds the overvoltage protection setting or is lower than the under-voltage protection setting, the charging post stops charging to protect the charging device. When the charging current exceeds the fixed value of the load current, the delay 5S sends an alarm signal and automatically cuts off the charging power;
- Charging pile has short circuit and leakage protection function;
- Controller three anti-moisture (anti-moist, anti-mildew, anti-salt fog) protection and rust protection: the printed circuit board, connectors, and other circuits in the pile are protected against moisture, mildew, salt spray, and the charging pile is guaranteed. It can operate normally in a humid, salty environment. The charging pile shell and the exposed iron bracket and parts take double-layer anti-rust measures, and the non-ferrous metal shell also has an anti-oxidation protective film or anti-oxidation treatment;

- Beautiful appearance: the overall design is simple and generous, and the themed mask can be customized. The style is colorful;
- According to special requirements, it can be compatible with new and old standard electric vehicle charging.

3.6. Product Parts Introduction

1) EV Charger with Socket



2) EV Charger with Socket



4. OPERATING INSTRUCTIONS

4.1. Product Installation

4.1.1. Unpacking Inspection

After the AC charging pile arrives, open the package and check the following items:

1. Visually check the appearance and check if the AC charging pile has collision damage during
2. transportation. If there is any damage, please inform the carrier immediately.
3. Check whether the model of the random accessory is complete and correct according to the shipping packing list. If the attachment is missing or the model does not match, the site record should be made in time, and the company's after-sales service should be contacted immediately.

4.1.2. Fixed Installation of Piles

Installation tools: AC charging pile installation accessories, Phillips screwdriver, drilling machine.

Charging pile power supply and communication (network mode) recommended cable specifications are as follows:

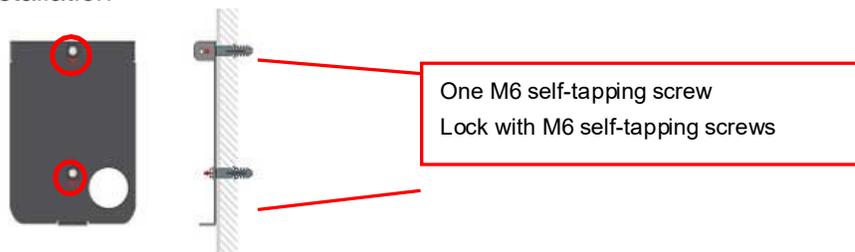
Cable name	Cable Spec.	Length	Remarks
Power supply wire	3 x 10mm ² or 3 x 6mm ²	Refer to actual length	

Installation precautions:

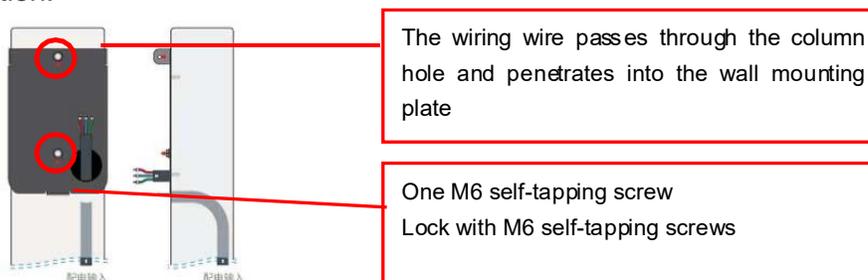
- 1) Before installation, please check the surface of the workpiece for scratches and rust.
- 2) Do not let the sharp object scratch the product and parts during installation, avoid the appearance of scratches caused by the mutual scratching between the parts, and pay attention to the use of tools, pay attention to personal safety.

Installation steps:

1) Wall-mounted installation

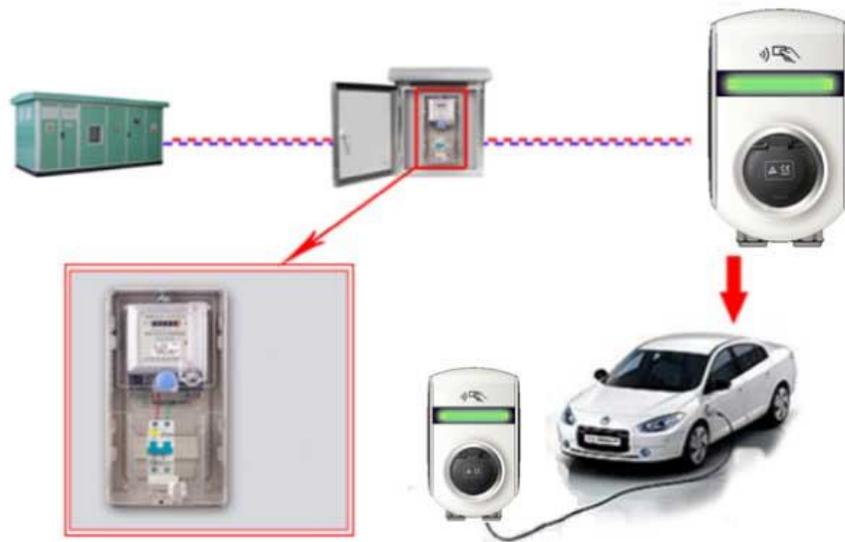


2) Column installation:



4.1.3. Electrical Installation

Mains low-voltage power distribution room Charging pile pre-stage distribution box AC charging pile Electric vehicle.



Charging pile input incoming line connection:

The device must be grounded. The firewire (L) neutral wire (N) must be tested with the test pencil. The electric pen test is lit by the firewire (L), and then the L wire and the N wire are respectively connected to the corresponding terminals!

Safety Warning: In order to ensure safe charging, the user must strictly follow the phase sequence of the incoming terminal when wiring the input. At the same time, the charging pile with a rated current of 32A, the incoming input line is not less than 6 square copper core wire; the charging pile with the rated current is 16A, the incoming input line is not less than 4 square copper core wire. (After wiring is completed, put it back into the lead wire of the column or protect it with a protective cover to prevent accidental exposure.)

The following safety regulations are observed when charging and wiring the charging pile:

No.	Item	Safety rules	Instruction
1	Charging pile preamplifier	The circuit breaker must be installed in the front stage of the charging pile input power supply: Rated current 32A, circuit breaker selection 40A.	The charging pile is effectively isolated from the power grid when there is a safety problem during use.
2	Charging pile incoming line phase sequence	Wire in strict accordance with the phase sequence of Figure A	Ensure charging safety.
3	Charging pile entry line diameter	Rated current 32A, wire diameter not less than 6mm ² .	When charging normally, the cable does not generate heat due to large current.
4	Input power parameter	Make sure the input power parameters match the charging stub.	Ensure charging safety.
5	Charging pile line process	Exposed wiring must be protected by effective measures such as conduits to avoid crushing or scratching the wires.	Protect the line from damage.

6	Measuring with a test pencil	When installing the access line, you must use the test pencil to test the live (L) neutral (N) to the corresponding terminal.	The device comes with a phase sequence detection function to prevent reverse connection and ensure safe use of electricity.
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Note: If you have any questions about the above requirements or use, please contact the equipment manufacturer for confirmation to ensure safe use.

Special reminder: Due to the line loss during power distribution, the distribution distance of the charging pile should be shortened as much as possible. It is recommended that within 50 meters. If the distribution distance is long, the wiring diameter of 1~2 level should be increased to reduce the line loss.

4.2. Device Power On Inspection and Debugging

1) Pre-run check

- a) Before running, please double-check and ensure the following items:
- b) AC pile installation location for easy operation and maintenance
- c) AC pile and accessories are properly connected and installed firmly.
- d) Reasonable selection of AC inlet leakage protection switch.
- e) No external objects or parts left on the top of the AC pile.

2) Power on the device

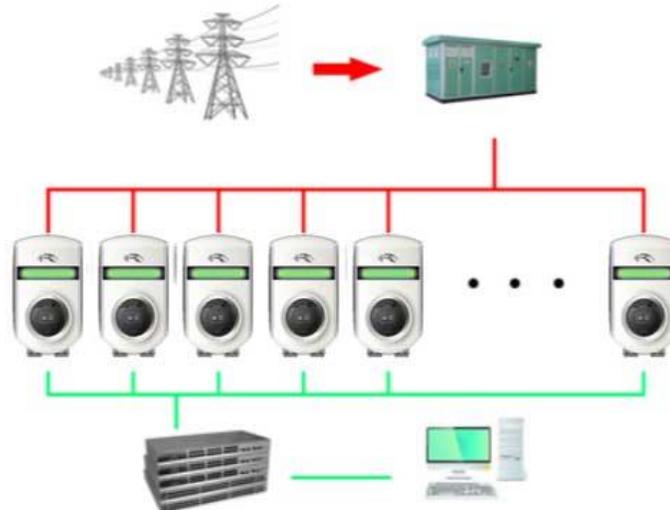
- a) Make sure that the above pre-operation check items meet the requirements.
- b) Close the power supply line leakage protection circuit breaker

3) Powering up the AC pile:

- a) Normal standby: the blue light is always on.
- b) Equipment failure: red light flashes.
- c) Charging: Green light flashes.

4.3. System Setup and Networking

For the standard operating version of the charging pile, initial configuration and networking operations are required. The specific networking structure is as follows:



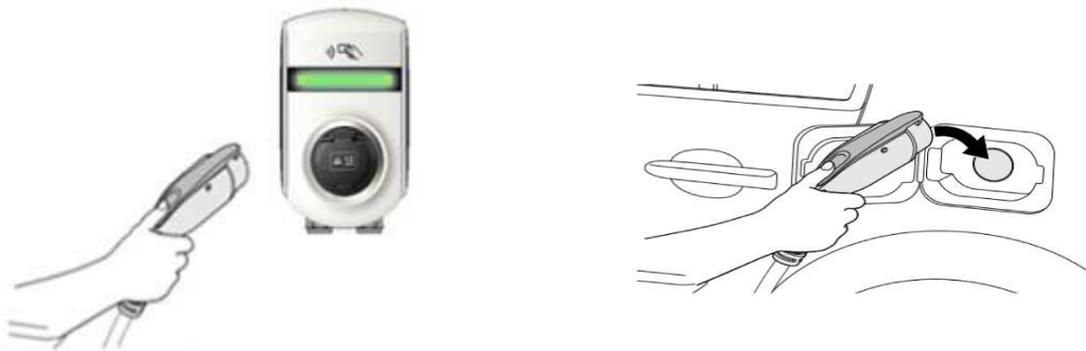
Ethernet version is connected to the switch by standard crystal head (RJ-45), and the main computer is directly connected to the wiring mode. GPRS version uses an antenna to connect 2G/3G/4G network signals and sends data to the cloud platform for connection.

4.4. Charging Operation

4.4.1. Charging Connection

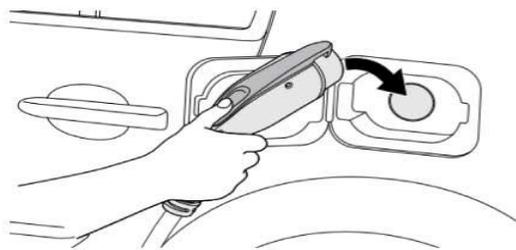
1) EV Charger with Socket

After the electric vehicle owner stops the vehicle on the stack, take out the charging cable. Insert one side into the vehicle's port and insert the other side into the socket of the EV charger. Please check it carefully to ensure it is inserted in place and a reliable connection.



2) EV Charger with Gun

After the electric vehicle owner stops the electric vehicle on the stack, take the charging gun from the pile and insert it into the charging stand of the electric car. Please check carefully whether it is inserted in place to ensure a reliable connection.



4.4.2. Start Charging

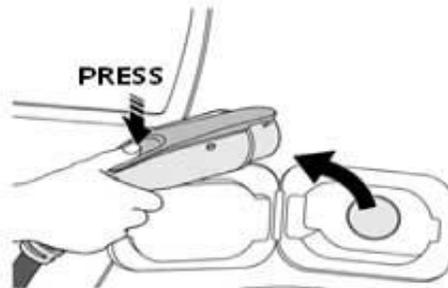
1) Plug and Play

After the electric vehicle owner connected the charging gun correctly, it starts to charge, and the LED flashes a green light.

After the charging is full, the EV charger is automatically cut off, the LED indicator is blue, and the charging gun can be unplugged.

If the user wants to close charging before finish charging, unplug the charging gun, and the LED indicator is blue.

In an emergency situation, press the emergency stop button, the EV charger ends charging, and the LED indicator is red flashing. After releasing the emergency button, rotate and open the button, and the LED indicator is constantly blue.



2) ON/OFF by Swiping Card

After the electric vehicle owner connected the charging gun correctly, use the IC card of EV charge to swipe the card at the card area, the EV charger starts charging, and the LED indicates flashes a green colour. After the charge is full, the EV charger automatically ends charging, the electromagnetic lock is turned on, the LED indicator is blue, and the charging gun can be unplugged.

If you need to end charging before finishing the charging, use the same IC card to stick to the card swipe area of the EV charger and swipe the card again. Charging is ended, and the electromagnetic lock is turned on. The LED indicator turns blue before the charging gun can be unplugged.

In an emergency situation, press the emergency stop button, the EV charger ends charging, the LED indicator flashes a red light. After releasing the emergency, rotate and open the button, and the LED indicator is constantly blue.

3) Offline Payment via Swiping Card

Before charging the electric car, please go to the management office to process the IC card and recharge it to ensure that the IC card balance can meet the charging.

After the vehicle owner is properly connected to the charging gun, use the IC card swiped at the card swipe area of the EV charger to start charging. The LED flashes green light.

After the charge is full, the charging pile automatically cuts off the charging, the LED indicator is blue, the electromagnetic lock is not unlocked, and the charging gun cannot be unplugged. If you need to unplug the charging gun. You need to use the IC card to swipe the card again in the card swipe area, charge the charging fee, open the electromagnetic lock, and then unplug the charging gun.

If you need to end the charging in advance, use the IC card to swipe the card again in the card swipe area, the charging pile ends charging, and the charging fee is settled. At the same time, the electromagnetic lock is turned on, and the LED indicator turns blue to unplug the charging gun.

In an emergency situation, press the emergency stop button, the EV charger ends charging, and the LED indicates red flashing. After releasing the emergency, rotate and open the button, and the LED indicator is constantly blue.

5. PACKAGING, TRANSPORTATION, AND STORAGE

5.1. Packaging

Use a fully enclosed package that is protected from moisture, dust, and mechanical damage.

Technical documents:

- 1) 1 set of charging pile instruction manual
- 2) 1 certificate

5.2. Transportation

During transportation, the product should not be subjected to severe vibration, impact, and inversion.

5.3. Storage

If the product is not used immediately after purchase, it should be stored in a dry, well-ventilated indoor place for short-term or long-term storage. It should not be stored in the rain, moisture, high temperature, or under sunlight.

The equipment operates under normal working conditions and generally does not require special maintenance during its lifetime. Please contact the manufacturer if you have any problems.

6. MALFUNCTION ELIMINATION AND DEALING METHODS

No.	LED indicator	Malfunction description	Dealing Methods
1	The LED light is not on	When the charging pile is installed and debugged, the LED status indicator does not light after turn on the power.	1: Check whether the front distribution box can work normally, and whether the circuit breaker is closed; 2: Confirm that the input line is correctly connected as required; 3: Make sure the Reset Button is pulled down and the circuit breaker is closed.
2	Flashing red light	When the charging pile is installed and debugged, the LED status indicator flashes red after turn on the power	1: Check if the grounding wire is properly connected. Make sure the charging pile is grounded well; 2: Check if the emergency stop switch is open. If the emergency stop switch is pressed. Please unscrew the emergency stop switch.
3	Flashing red light	After the charging pile is installed and debugged well, the LED status indicator flashes red before charging or during charging.	Please check whether the emergency stop switch is pressed. Please unscrew the emergency stop switch.
4	The LED light is not on	After the charging pile is installed and debugged well, the LED status indicator does not light before charging or during charging.	1: Please confirm whether the power supply is normal and ensure normal power supply; 2: Confirm whether the front distribution box is supplying power normally, and the circuit breaker is closed; 3: Make sure the Reset Button is pulled down and the circuit breaker is closed.