



# Electric Vehicle AC Charging Station 11kW 22kW Instruction Manual



Please read this manual carefully before using the product, thank you for using the charging station of this series!

Email: dobrateh@tuta.io





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#### **Chapter 1 Product Overview**

The arrival of the large-scale industrialization of electric vehicle charging stations has opened a new era in the era of new energy and energy saving. To adapt to the development and demand of the country's new energy electric vehicle charging stations, our company took the lead in developing a series of new products supporting electric vehicle charging stations. This AC charging station is based on the relevant requirements of IEC 61851-1: 2017 " Electric vehicle conductive charging system - Part 1: General requirements" and ICE 62196-2: 2016 " Plugs, socket-outlets, vehicle connectors and vehicle inlets - Conductive charging of electric vehicles - Part 2: Dimensional compatibility and interchangeability requirements for a. c. pin and contact-tube accessories", and refer to "Electric Vehicle Charging Facilities Part of the function of "Typical Design" is designed. Design according to the functions of: EN IEC 62196-1:2022, EN IEC 62196-2:2022, EN IEC 61851-1:2019, EN IEC 61851-2:2021, EN IEC 61000-6-1:2019, EN IEC 61000-6-3:2021, EN IEC 61000-3-2:2019+A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021; TÜV (DIN SPEC 70121/12.14, DIN SPEC 70122/11.18).

#### **Chapter 2 Scope of Application**

The AC charging station provides AC 50HZ, rated voltage 380V AC power supply for charging electric vehicles with on-board chargers, and is mainly suitable for the following places:

- Large, medium and small electric vehicle charging stations;
- Various public places with parking spaces for electric vehicles, such as urban residential quarters, shopping plazas, and power business premises;
- High-speed service area, station and wharf and other transportation hub areas;
- Real estate and project construction acceptance needs.

#### **Chapter 3 Working Environments**

- The ambient air temperature during operation: -35°C~+55°C, and the 24h daily average temperature is ≤35°C; (the temperature that is too high or too low will affect the life of the product);
- The average relative humidity is less than or equal to 90% (25°C), and there is no condensation on the surface:
- Air pressure: 80kpa~110kpa;
- Installation vertical inclination: ≤5%;
- The experimental level of vibration and shock in the use site is less than or equal to level I;
- The induction intensity of external magnetic field in any direction is less than or equal to 1.55mT;
- Housing material: UV resistant thermoplastic, flame retardant grade UL94 V-0;
- The place of use must not have explosive dangerous medium, the surrounding medium does not contain harmful gas and conductive medium that corrode metal and destroy insulation, and it is not allowed to be full of water vapor and more serious mold and bacteria;
- The place of use should be protected from direct sunlight. When installing outdoors, it is recommended to add shading facilities to the charging station to prolong the service life of the equipment.

NOTE: When users have special requirements, they can negotiate with our company.

#### **Chapter 4 Features**

- Provide two installation methods: wall-mounted and floor- standed;
- AC380VAC input is adopted; the main control board adopts a single-chip microcomputer with an embedded operating system, and the charging mode is instant charging;

The shape adopts sheet metal structure.





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# **Chapter 5 Product Parameters Charging Station Parameter Table**

| Product Name                |   | AC Charging Station (Metal Type)  |                                   |
|-----------------------------|---|---|-----------------------------------|
|                             |   | Home and C  | Commercial Use                    |
| Model                       |   | AF-AC-011-B-A-O-1/2/3/4/5/6-<br>JS-P  | AF-AC-022-B-A-O-1/2/3/4/5/6-JS-P  |
| Specifications              | Rated Power                                   | 11kW  | 22kW                              |
|                             | Installation                                  | Wall-mounted  | d / Floor-Standing                |
|                             | Route   | Bottom in and bottom out  |                                   |
|                             | Equipment Size                                | 500*350*130 (mm)  |                                   |
| Charging Device             | Weight  | 16 kgs  |                                   |
|                             | Cable Length                                  | 5 m   |                                   |
|                             | Input Voltage                                 | AC380V±15%  |                                   |
|                             | Input Frequency                               | 50.   | /60 Hz                            |
|                             | Metering Accuracy                             | 1.0   | ) Level                           |
|                             | Output Current                                | Type: 16A/3P  | Type: 32A/3P                      |
|                             | Current Limit Protection Value                | ≥′  | 110%                              |
|                             | Metering Accuracy                             | 1.0 Level   |                                   |
| Electrical Indicators       | RCD   | Type A 30mA + 6mA DC  |                                   |
|                             | DLB   | Support   |                                   |
|                             | НМІ   | 5-inch LCD screen+LED indicator bar   |                                   |
|                             | Charging Mode                                 | Automatic full charge/ Fixed energy/ Fixed amount/ Fixed time   |                                   |
|                             | Charging Method                               | NFC (Swipe to charge), scan (   | QR code to charge, App (optional) |
| Functional Design           | Authentication Methods and<br>Payment Methods | Free Charge, RFID, App, NFC, Plug & Charge (ISO 15188) and Auto<br>Charge (DIN 70121)   |                                   |
| Functional Design           | Network Interface                             | Ethernet, 4G, RS485, Wi-Fi (option)   |                                   |
|                             | EVSE To EV                                    | Control point, ISO 15188, DIN 70121   |                                   |
| Protocol                    | EVSE To Backend                               | OCPP1.6J  |                                   |
|                             | Security Function                             | Charging gun temperature detection, over-voltage protection, unde voltage protection, overload protection, short circuit protection, grounding protection, over-temperature protection, lightning protection, emergency stop protection, leakage protection |                                   |
| Safety Design               | Executive Standard                            | EN IEC 62196-1:2022, EN IEC 62196-2:2022, EN IEC 61851-1:2019, EN IEC 61851-21-2:2021, EN IEC 61000-6-1:2019, EN IEC 61000-6-3:2021, EN IEC 61000-3-2:2019+A1:2021, EN 61000-3-3:2013+A1:2019+A2:2021; TÜV (DIN SPEC 70121/12.14, DIN SPEC 70122/11.18)     |                                   |
|                             | Operating Temperature                         | -35°0   | C~+55°C                           |
|                             | Working Humidity                              | 5%∼95% non-   | -condensing cream                 |
|                             | Working Altitude                              | <2000m  |                                   |
|                             | Protection Class                              | IP54  |                                   |
| Environmental<br>Indicators | Cooling Method                                | Natural air cooling   |                                   |
| เกษเปลเปร                   | Noise Control                                 | ≤40dB   |                                   |
|                             | MTBF  | 17520 hours   |                                   |





#### **Chapter 6 Installation Method And Drawing Of Equipment**

#### 6.1 Dimensions Of The Equipment

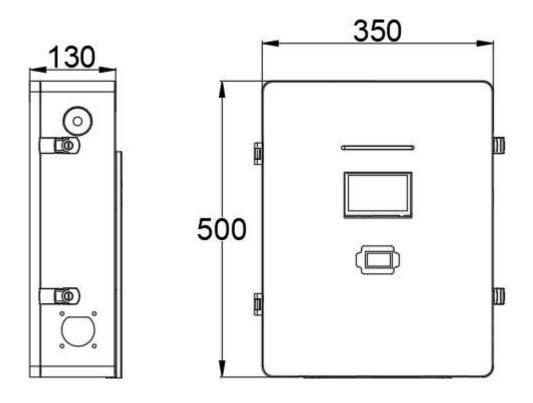


Figure 6-1 Dimensions of Wall-Mounting Equipment

#### 6.2. Installation Of Equipment

#### 6.2.1. Packing List

Check the packing box for the following items before installation (subject to the packing list)

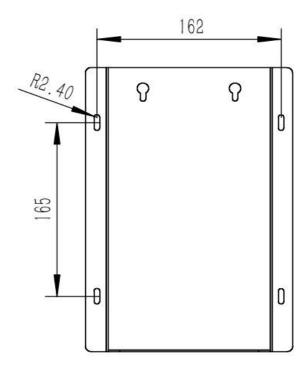
- Wall mounted AC charging Station (1 set)
- 2. Installation manual (1 set)
- 3. Certificate of quality (1 piece)
- 4. Install expansion screws (1 pieces)
- 5. Key (2 pieces)

#### 6.2.2. Installation Environment Requirements

- 1. This series of AC charging stations meet the IP54 protection level.
- 2. Please ensure the ambient temperature is between: -35°C to +55°C

#### 6.2.3. Installation Method

1. This series of AC charging stations can be wall-mounted and column-mounted according to requirements. Installation dimensions, as shown in Figure 6-2:

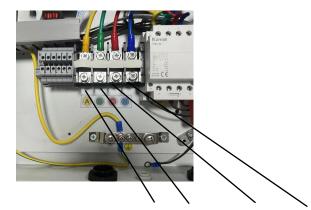


4 pieces M4 expansion screws for wall mounting (holes with a diameter of 6)

Figure 6-2 Wall-Mounted Installation Method

#### 6.3. Cable Access

Connect the AC charging station input cable to the main box wiring board;



The ground wire is externally connected to the ground bar Input: A-phase B-phase C-phase N- phase (incoming cable diameter 6mm²)

Figure 6-3 Wiring Diagram





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#### **Chapter 7 Operation Instructions**

#### 7.1 Indicator Status Description

| No. |             | State         | Led Color | Indicator Dynamics |
|-----|-------------|---------------|-----------|--------------------|
| 1   | Preparing   |               | Yellow    | On                 |
| 2   | Aviollable  | Connected     | Blue      | On                 |
|     | Available   | Not connected | Blue      | Blink              |
| 3   | Charging    |               | Green     | On                 |
| 4   | Finished    |               | Green     | On                 |
| 5   | Faulted     |               | Red       | Fast Blink         |
| 6   | Unavailable |               | Blue      | On                 |
| 7   | Reserved    |               | White     | On                 |

#### 7.2 Dynamic Load Management (DLB)

Function description: Dynamic load balancing constantly monitors changes in your home's energy use and automatically allocates available capacity to your charging station. In response to changes in electricity load, it instantly adjusts the power output for charging an EV. As a result, you'll never exceed your home's maximum power consumption.

Installation operation: Install the open and close transformer in L line of the household accessory box; The current limiting condition can be set on the WEB. The available current of the self-reset condition is greater than 1A to trigger the adjustment. The default action time is 60S (configurable).

| MANAGEMENT WEB |                      |                     |
|----------------|----------------------|---------------------|
| Information    | Value Property       |                     |
| Property       | GridLimitFuseCurrent |                     |
| Thread         | 60                   |                     |
| Follower       | Set                  |                     |
| Logger         |                      |                     |
| Certificate    | Change Username      | Change Password     |
| System         | Input new username   | Input new password  |
| Configuration  | Repeat new username  | Repeat new password |
| Network        | Change               | Cha                 |
|                |                      |                     |

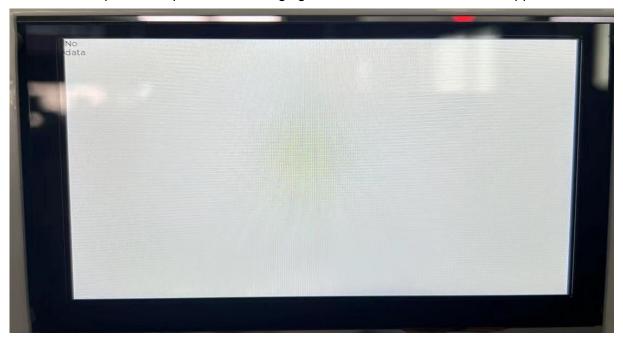
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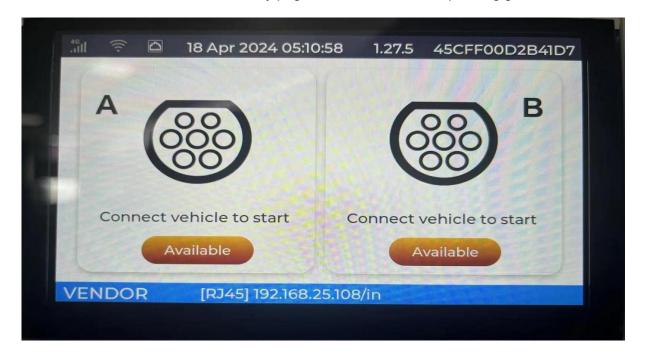
## 7.3 Operating Instructions

(If your product is home using type, please skip this section and use the product directly)

1. Connect the power to open the car charging station, and the boot interface appears on the screen



2. Wait or a while and enter the standby page and select the corresponding gun





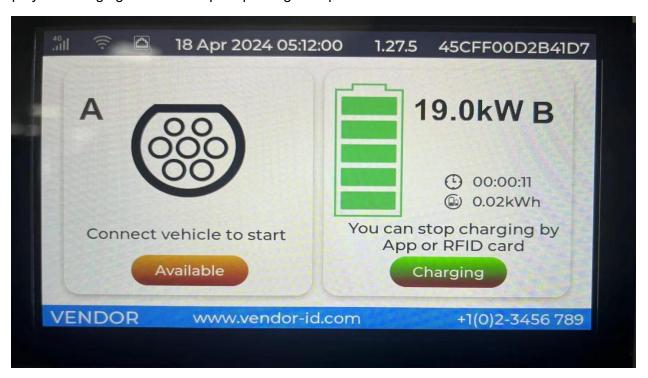


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3. After the gun is connected to the electric vehicle, the card interface appears, and the charge is opened in the induction area. Please swipe the card in the induction area to start charging



4. Wait for the server to respond after swiping the card. After swiping the card to start charging, screen displays the charging amount, current voltage and current, end the charging card again, display the charging amount and prompt the gun to pull back



Charging Interface

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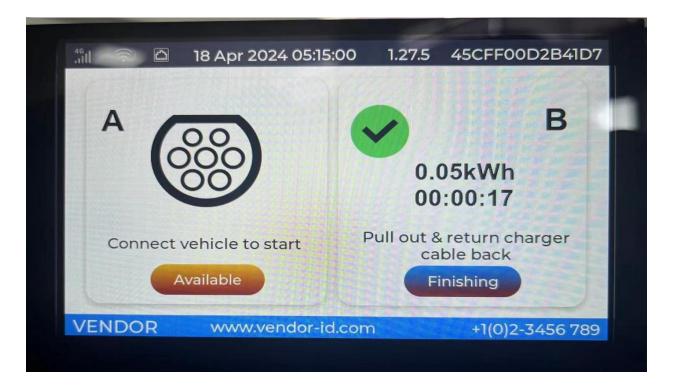




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**End Interface** 

#### **Chapter 8 Storage and Transportation**

#### 8.1 Storage and Transportation of Equipment

Corresponding fastening measures should be taken during transportation to avoid strong vibration and bumps from damaging the outer packaging of the equipment. After arrival, check whether there is any damage. If there is any damage in transportation, it should be resolved through consultation with the transporter and our company. Immediately after opening the box, check whether the contents in the box match the packing list.

The packaged equipment should be stored in a room with a relative humidity of ≤80% and an ambient air temperature of -10°C~+40°C. The storage place should be dry, clean and well ventilated, and can prevent the intrusion of various harmful gases. It is strictly forbidden to store it in the same place with the corrosive items.

Note: Non-professionals are strictly prohibited from disassembling equipment components.

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# **Chapter 9 Common Faults of Charging Station and Solutions**

| Serial No. | Common Malfunctions   | Method Of Exclusion  |
|------------|---|--|
| 1          | When the gun is inserted, the interface does not show the connection or the information of "Please start charging by swiping your card" | Please check whether the charging gun is reliably connected to the vehicle and whether the gun lock is locked.   |
| 2          | Swiping the card to start charging, after a while, it stops by itself   | Generally, it is a communication problem, so when you finish swiping the card, record it yourself and try again with a different gun. If it happens repeatedly, report it to the manufacturer in time.                   |
| 3          | Locking phenomenon  | At the end of charging, remember to swipe the card for settlement. If the card is locked, please swipe the card at the machine that was charged last time, and you can unlock it after the last charging fee is settled. |
| 4          | Jumping gun phenomenon  | When swiping the card, confirm that the IC card balance is sufficient. If the balance is insufficient during the charging process, the charging will be automatically terminated.  |
| 5          | After charging, the gun is locked and cannot be pulled out  | Restart the charging process and wait for the gun to jump after<br>the power is off. If this method is still unplugged, immediately<br>contact the manufacturer for maintenance.   |
| 6          | Start charging, the ammeter does not display the working current  | Please check whether the phase line and neutral line of the electric energy meter are connected reversely or wrongly.  |
| 7          | After power on, the display does not light up   | If the indicator light is on and the display is not on, replace the display.   |
| 8          | Not grounded  | Under normal grounding conditions: 1. When the gun is not inserted, the auxiliary voltage 12V lights up blue; 2. When the gun is inserted, the auxiliary voltage 6V lights up green.                                     |





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#### **Chapter 10 Maintenance Of Charging Station**

#### 10.1 Maintenance

Shade light and rainproof measures should be taken for the charging Station. It is recommended to install a rain shed outdoors.

Regularly check whether all the bolts in the charging Station are tight, whether the connecting wire is loose, and the connection is not firm. Check whether there is a short circuit.

Pay attention to lightning protection and ensure the effective shielding and reliable grounding of the charging Station.

When in use, try to control the output voltage and current of the charging Station within the nominal range to ensure that the charging Station works with maximum efficiency.

When the body is out of use, the charging output should be stopped first, and then the cable should be wound and returned to its original position.

Note: During the transportation of the charging Station, pack the charging Station firmly and mark the direction of loading and unloading. It is forbidden to store and transport the charging Station upside down; corresponding tightening measures must be taken to avoid strong vibration and bumps from damaging the outer packaging of the device.

Note: non-professional personnel are strictly prohibited from installing the Live EV charger.

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#### **Chapter 11 Warranty Card**

#### **Warranty Regulations**

- 1. The warranty period of this product is 2 year
- 2. During the warranty period, the faults (as determined by the official staff of the company) arising from normal use according to the instructions for use will be repaired free of charge.
- 3. Except for the following problems, charging equipment can enjoy the above related warranty terms:
- 3.1 Not able to provide this guarantee and valid proof of purchase;
- 3.2 Exceeding the warranty period specified by the manufacturer;
- 3.3 If there is no warranty certificate and valid invoice, or the content on the warranty certificate does not match the physical identification of the repaired product or is altered;
- 3.4 Failure to comply with the requirements of the product instruction manual for use, maintenance, and customs declaration resulting in damage;
- 3.5 Damage or malfunction caused by foreign matter entering;
- 3.6 Failure caused by products not manufactured by the company;
- 3.7 Repairers disassembled causing damage;
- 3.8 Damage caused by force majeure (such as lightning, excessive voltage, earthquake, fire, flood and other natural disasters);
- 3.9 Failure and damage caused by other unavoidable external factors;
- 3.10 Improper use causes damage caused by water or other solutions in the equipment;
- 3.11 Use a power supply other than specified, damage caused by voltage.
- 4. The Company shall not be liable for any occasional or indirect damages, whether in contract, civil negligence, or otherwise, for any warranty of any express or implied nature of the above, including marketability, reasonableness and adaptability to a particular application, etc.

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# **For Customer**

| Product name:         | Serial number:                            |
|-----------------------|---|
| Product type:         |   |
| Date of manufacture:  | (Subject to commissioning and acceptance) |
| Stamp of Manufacturer | :   |
| Customer name:        | Tel:                                      |
| Customer signature: _ |   |
| Customer ADD:         |   |
| 1. Warranty content:  | After-sales service:                      |
| Customer signature: _ |   |
| 2. Warranty content:  | After-sales service:                      |
| Customer signature: _ |   |
| 3. Warranty content:  | After-sales service:                      |
|                       | Customer signature:                       |





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### **Certificate Of Quality**

EV AC Charging Station

Product Name:

|                            | Model No:   |
|----------------------------|---|
|                            | Inspectors:   |
|                            | Date of Production:   |
|                            | WENZHOU ANFU ELECTRICAL CO., LTD.   |
|                            |   |
|                            | the equipment are carried out by DOBRATEH, d.o.o. under the U ANFU ELECTRICAL CO., LTD. |
| (date)                     | ·   |
| Specialist responsible for | assembly and control  |