Teison


# Teison DC Split

TS-EDH240-1040

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# Product overview

## Group Charger


CE IP 55 IK 10

OCPP 1.6 J-son WIFI 4G

# Product overview

## Charging Terminal


# Overall features

## Multiple standard charging port combinations to choose from

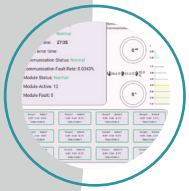
CCS2、CCS1、CHAdeMO and GB/T can be combined and customized.

## Diverse power range

Multiple power options are available, ranging from 240 kW to 1040 kW with customizability.

## Dynamic power module management

Dynamically optimized power module management that adapts to maximum efficiency output in various power output states.



## Intelligent operation

It can not only operate on our platform but also connect with various OCPP platforms.

## Backend monitoring

The status of the charging station can be monitored in the background.

## Multiple model module combinations

Multiple model module options, supporting one drag multiple customization solutions.

# Parameter Instructions

| Split Type DC Charger | | | | |
|---|---|---|---|---|
| Model | TS-EDH1040 | TS-EDH960 | TS-EDH880 | TS-EDH800 |
| Output power | 1040kW | 960kW | 880kW | 800kW |
| Output voltage | 200-1000V | | | |
| Input voltage | 400V±10%(Three phase five wire) | | | |
| Input current | 3*1580A | 3*1459A | 3*1337A | 3*1216A |
| Working frequency | 50/60Hz | | | |
| Output efficiency | ≥94%（More than half of the load） | | | |
| Power factor | ≥0.99 | | | |
| Standby wear and tear | ≤0.1% | | | |
| Output voltage stabilization accuracy | ≤±0.5% | | | |
| Output stable current accuracy | ≤±1% | | | |
| Harmonic current | ≤4% | | | |
| Noise | ≤65dB | | | |
| **Air Cooled Terminal Parameters (dual-connectors)** | | | | |
| Input voltage | 200-1000V | | | |
| Input current | 0-400A | | | |
| Output voltage | 200-1000V | | | |
| Output current | 0-400A | | | |
| **Liquid Cooled Terminal Parameters (single-connector)** | | | | |
| Input voltage | 200-1000V | | | |
| Input current | 0-500A | | | |
| Output voltage | 200-1000V | | | |
| Output current | 0-500A | | | |
| **Mechanical Performance** | | | | |
| Shell material | Galvanized steel sheet | | | |
| Cooling method | Air cooled/liquid cooled | | | |
| **Human-computer Interaction** | | | | |
| Display Size | 10" | | | |
| Display screen material | LCD | | | |
| Brightness | 450cd/m² | | | |
| Resolving power | 800*1280 | | | |
| **Network Connections** | | | | |
| Network connections | WiFi、 Ethernet, 4G | | | |
| OCPP | OCPP1.6J | | | |

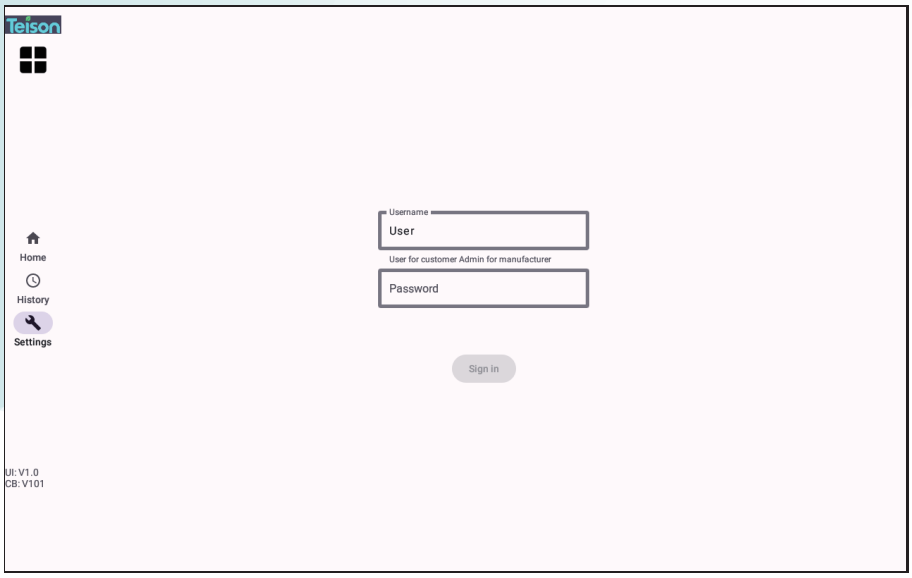
| Split Type DC Charger | | | | |
|---|---|---|---|---|
| Model | TS-EDH720 | TS-EDH680 | TS-EDH600 | TS-EDH520 |
| Output power | 720kW | 680kW | 600kW | 520kW |
| Output voltage | 200-1000V | | | |
| Input voltage | 400V±10%(Three phase five wire) | | | |
| Input current | 3*1152A | 3*1034A | 3*912A | 3*790A |
| Working frequency | 50/60Hz | | | |
| Output efficiency | ≥94%（More than half of the load） | | | |
| Power factor | ≥0.99 | | | |
| Standby wear and tear | ≤0.1% | | | |
| Output voltage stabilization accuracy | ≤±0.5% | | | |
| Output stable current accuracy | ≤±1% | | | |
| Harmonic current | ≤4% | | | |
| Noise | ≤65dB | | | |
| **Air Cooled Terminal Parameters (dual-connectors)** | | | | |
| Input voltage | 200-1000V | | | |
| Input current | 0-400A | | | |
| Output voltage | 200-1000V | | | |
| Output current | 0-400A | | | |
| **Liquid Cooled Terminal Parameters (single-connector)** | | | | |
| Input voltage | 200-1000V | | | |
| Input current | 0-500A | | | |
| Output voltage | 200-1000V | | | |
| Output current | 0-500A | | | |
| **Mechanical Performance** | | | | |
| Shell material | Galvanized steel sheet | | | |
| Cooling method | Air cooled/liquid cooled | | | |
| **Human-computer Interaction** | | | | |
| Display Size | 10" | | | |
| Display screen material | LCD | | | |
| Brightness | 450cd/m² | | | |
| Resolving power | 800*1280 | | | |
| **Network Connections** | | | | |
| Network connections | WiFi、 Ethernet, 4G | | | |
| OCPP | OCPP1.6J | | | |

| Split Type DC Charger | | | | |
|---|---|---|---|---|
| Model | TS-EDH480 | TS-EDH400 | TS-EDH320 | TS-EDH240 |
| Output power | 480kW | 400kW | 320kW | 240kW |
| Output voltage | 200-1000V | | | |
| Input voltage | 400V±10%(Three phase five wire) | | | |
| Input current | 3*730A | 3*608A | 3*487A | 3*345A |
| Working frequency | 50/60Hz | | | |
| Output efficiency | ≥94%（More than half of the load） | | | |
| Power factor | ≥0.99 | | | |
| Standby wear and tear | ≤0.1% | | | |
| Output voltage stabilization accuracy | ≤±0.5% | | | |
| Output stable current accuracy | ≤±1% | | | |
| Harmonic current | ≤4% | | | |
| Noise | ≤65dB | | | |
| **Air Cooled Terminal Parameters (dual-connectors)** | | | | |
| Input voltage | 200-1000V | | | |
| Input current | 0-400A | | | |
| Output voltage | 200-1000V | | | |
| Output current | 0-400A | | | |
| **Liquid Cooled Terminal Parameters (single-connector)** | | | | |
| Input voltage | 200-1000V | | | |
| Input current | 0-500A | | | |
| Output voltage | 200-1000V | | | |
| Output current | 0-500A | | | |
| **Mechanical Performance** | | | | |
| Shell material | Galvanized steel sheet | | | |
| Cooling method | Air cooled/liquid cooled | | | |
| **Human-computer Interaction** | | | | |
| Display Size | 10" | | | |
| Display screen material | LCD | | | |
| Brightness | 450cd/m² | | | |
| Resolving power | 800*1280 | | | |
| **Network Connections** | | | | |
| Network connections | WiFi、 Ethernet, 4G | | | |
| OCPP | OCPP1.6J | | | |

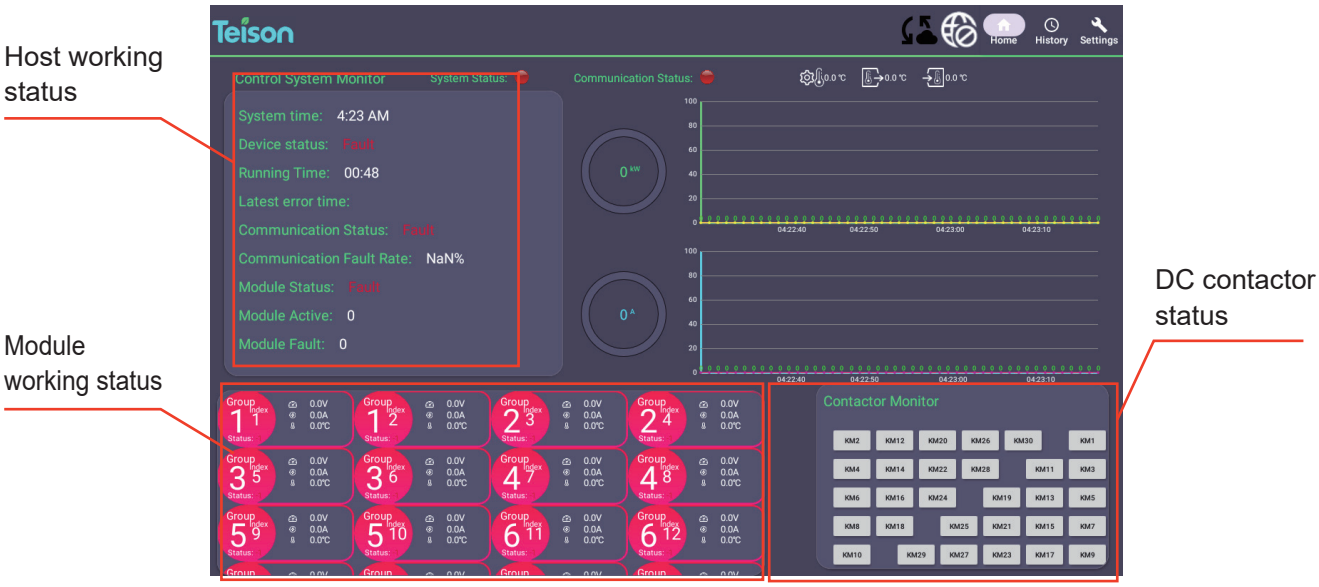
# Operating Instruction

## Group Charger Interface

1. Log in using username and password.

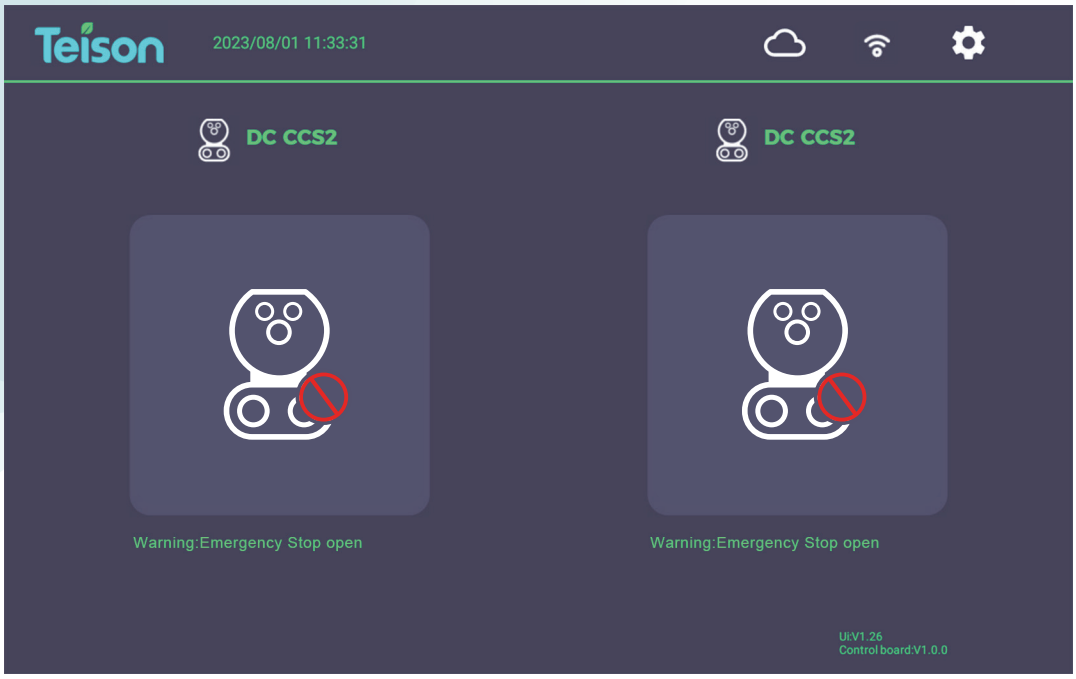



2. The interface of the group charger is displayed as follows

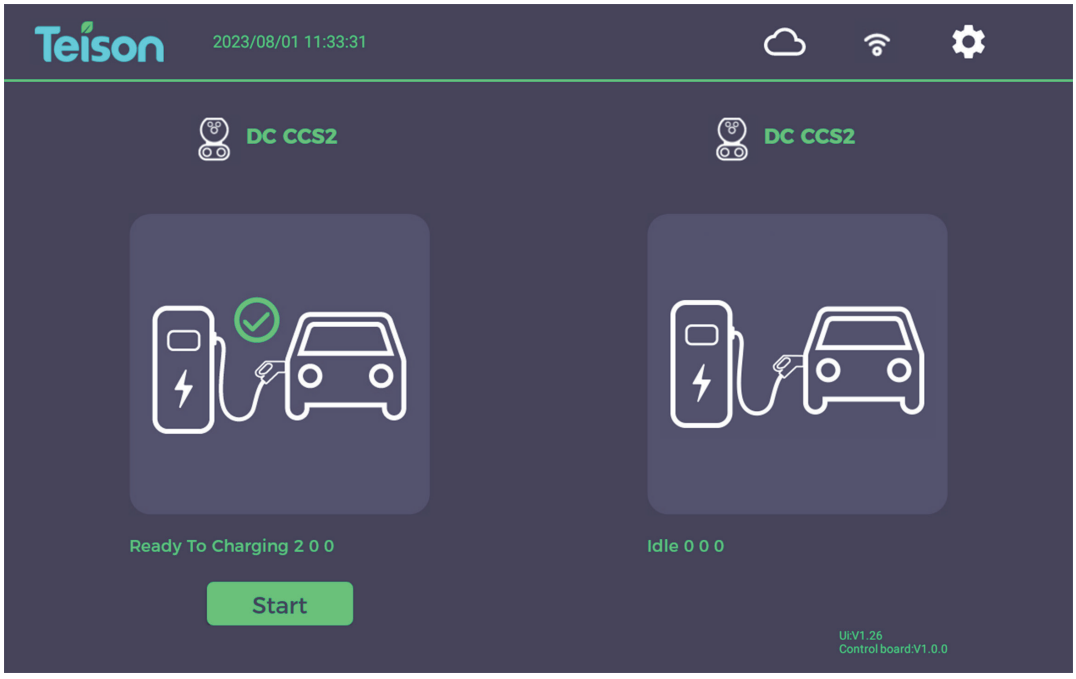


# Charging Terminal Operating Procedure

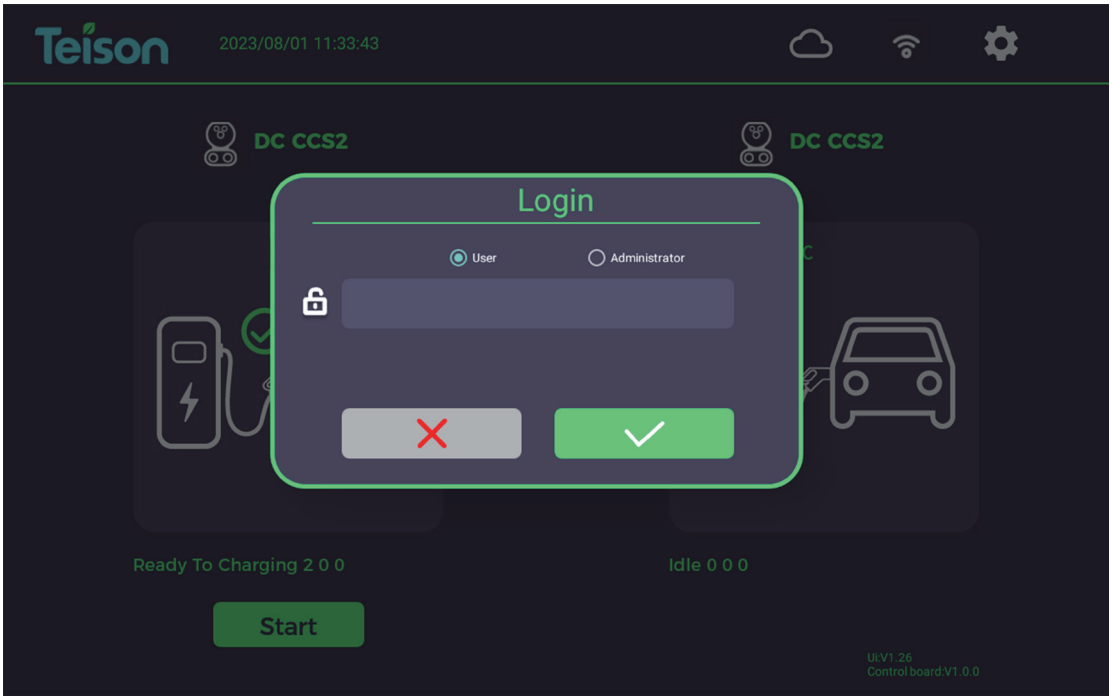
1. After powering on, please check if the communication is normal and whether pressing the emergency stop button displays as follows. If the emergency stop status is not shown, it indicates a communication abnormality between the screen and the main control board. Please contact technical support for assistance.




2. By default, the charging mode is set to anonymous charging, as shown in the following image, where the 'Start Charging' button will be displayed directly.



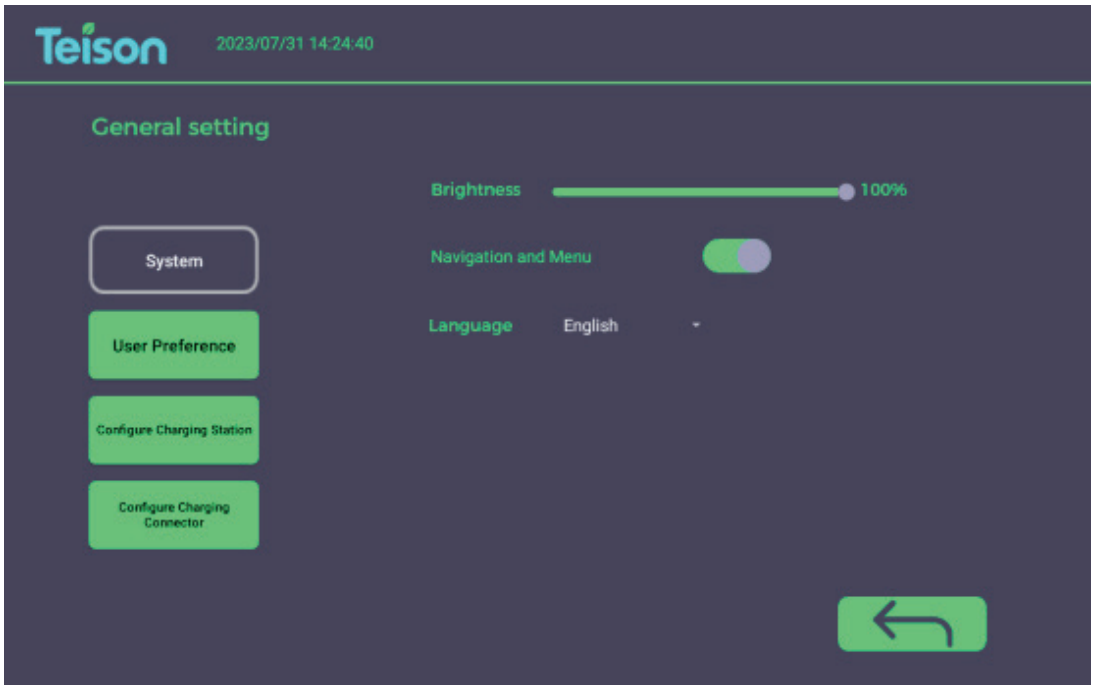
3. To change the charging mode, you need to access the settings interface. The user password for the settings interface is initially set to 'No Password'.



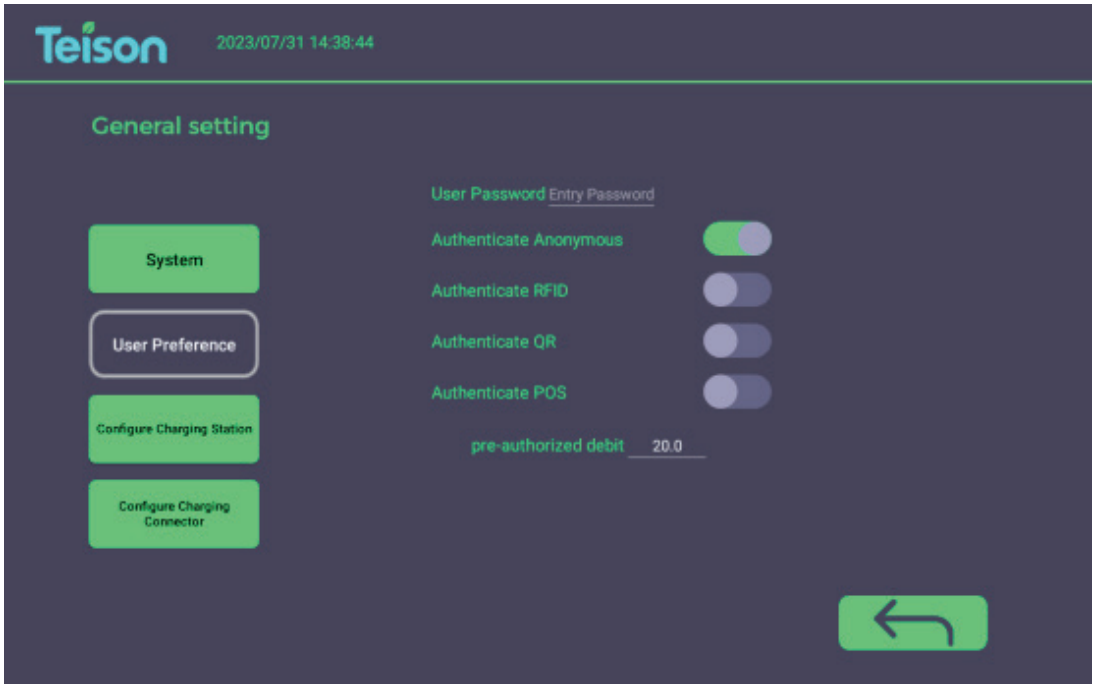

4. The settings accessible to the user include General Settings, Network Settings, OCPP Settings, Device Information, and Records.

5. General Settings are divided into System Settings, User Preferences, Charging Station Configuration, and Charging connector Configuration.

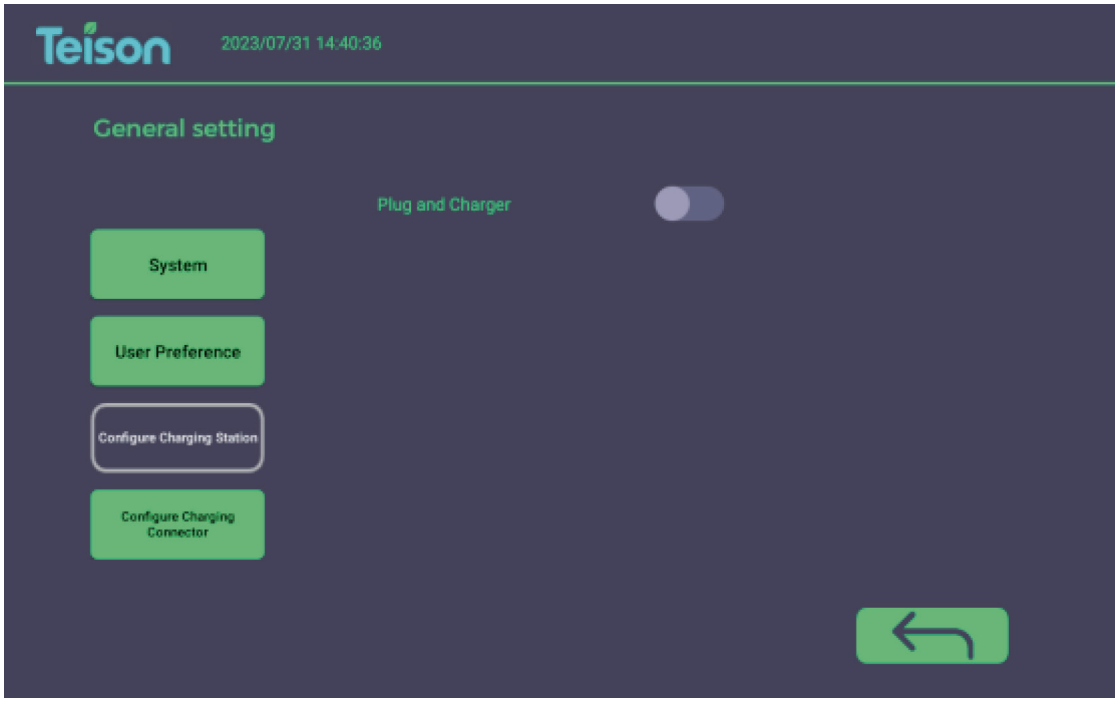
- System Settings include Brightness Adjustment, Full-Screen Display, and Language Configuration, as shown in the following image.



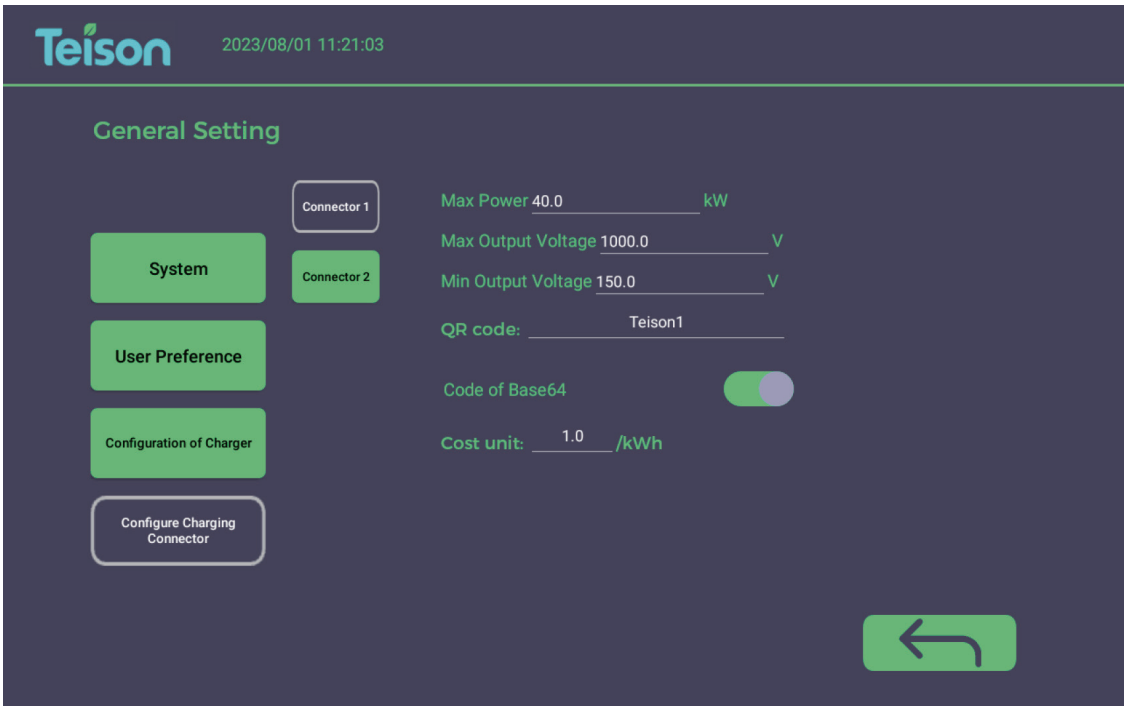

- User Preferences include Password Settings and four charging modes (where POS Machine is a non-standard option). When Anonymous Charging is enabled, the other charging modes become unavailable. Models that support POS Machine will have the POS Machine Authentication option. When using the POS Machine, it requires pre-authorized debit with a specified amount.



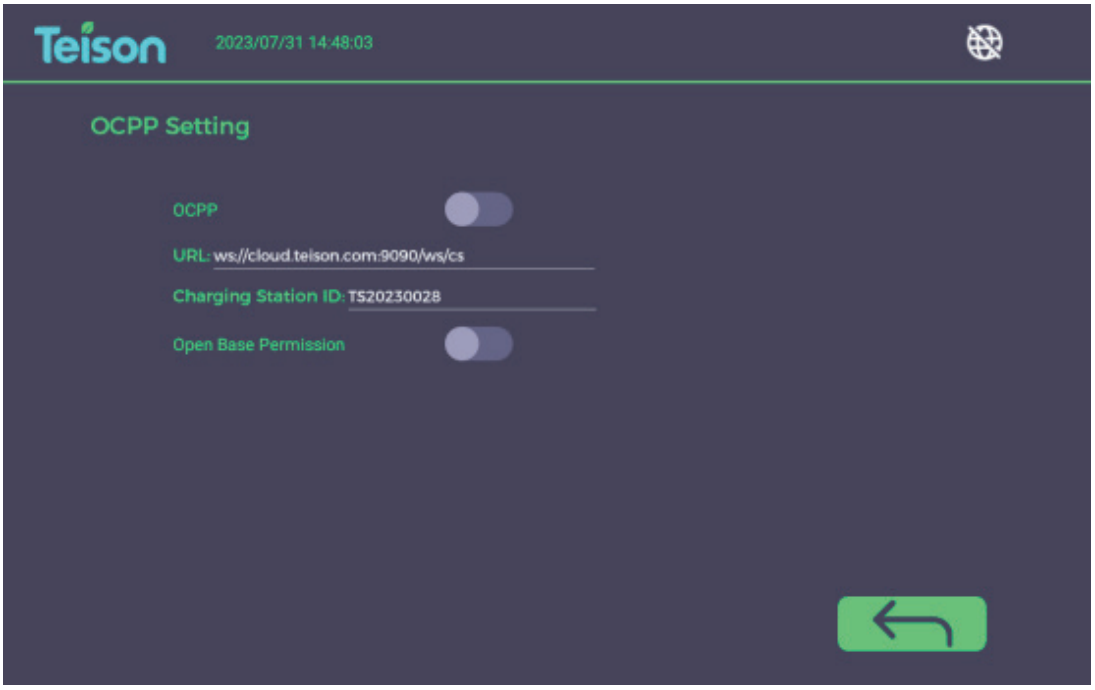
- Charging Station Configuration includes Plug-and-Charge.




- Charging connector Configuration allows you to set the maximum power, maximum voltage, minimum voltage, QR code, whether to enable Base64 encoding for QR code, and the billing price per kWh.



6. OCPP Settings include OCPP Start Button, OCPP Platform ID, Charging Station ID, and whether to enable Basic Authentication.




After completing the settings, click the OCPP Start Button. Return to the main interface to check whether there is a cloud icon displayed.

7. Device Information allows you to view the current software version of the device.

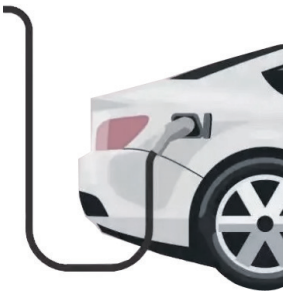

8. Record Information allows you to view charging information and logs (which may require contacting technical support or obtaining them through OCPP). Deleting records will remove all charging history.

# Charging Mode and Method

## RFID prepaid charging mode

1. Confirm that the device is in normal standby mode as shown below.

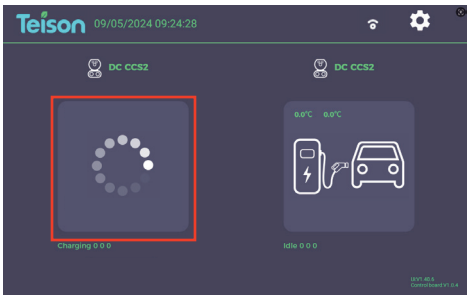

2. Insert the charging gun into the vehicle.



3. Click the start button on the display screen, and the screen will show a swipe signal. Once this interface appears, place the card at the card reader.



4. The display screen shows the connection status, waiting for the device to connect successfully before starting charging.



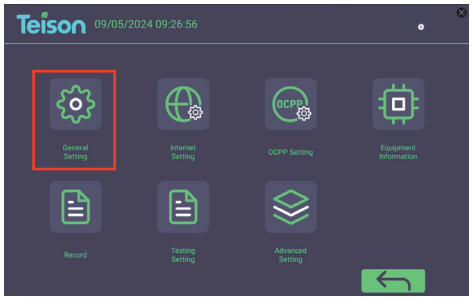

## Unverified startup charging

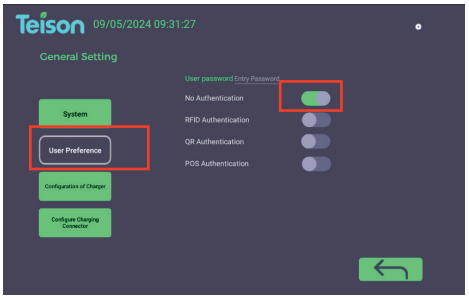
1. Ensure that the device has enabled the unauthenticated mode. Setting steps:

① Click the setting button in the upper right corner to enter the setting interface in user mode;

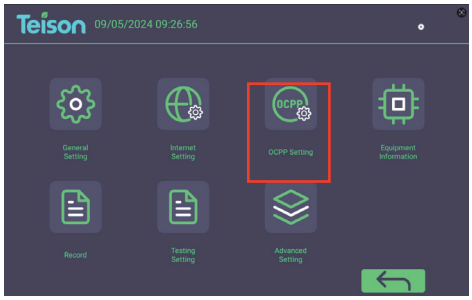


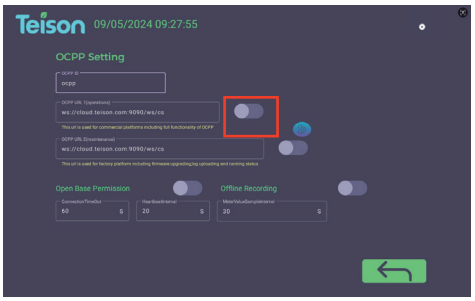
② Click on General Setting; ③ Click on User Preference and then select No Authentication.



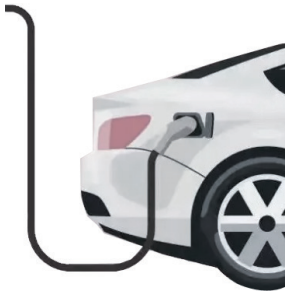




2. Return to the settings interface, click on OCPP Setting, and close the OCPP URL button.

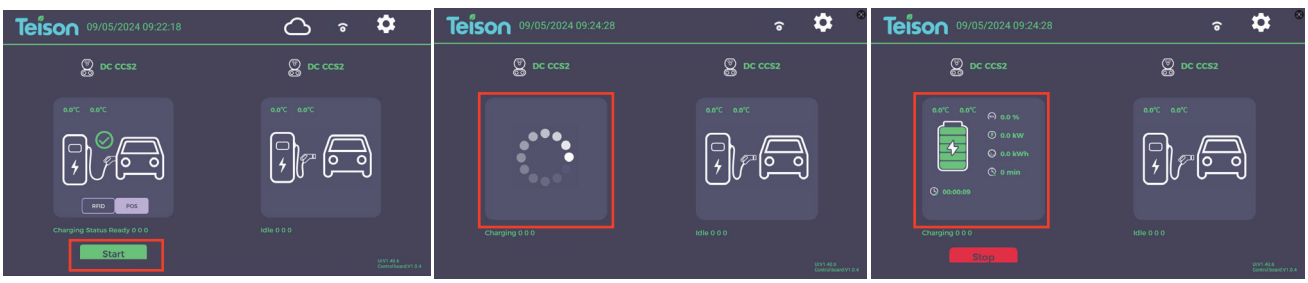



3. After completing the settings, return to the main interface.
4. Insert the charging gun into the vehicle.

5. Click the start button on the display screen and wait for the device to connect to the vehicle. Once the connection is successful, charging can begin



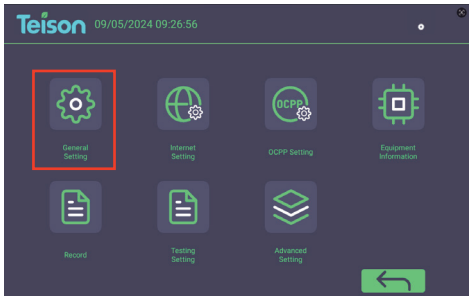
## Scan the code on the app to start charging

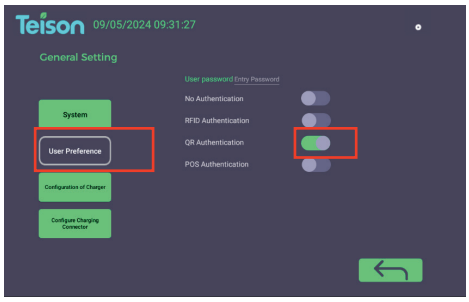
1. Ensure that the device has enabled the unauthenticated mode. Setting steps:

① Click the setting button in the upper right corner to enter the setting interface in user mode;

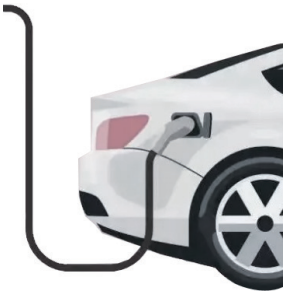


② Click on General Setting; ③ Click on User Preference and then select QR Authentication.



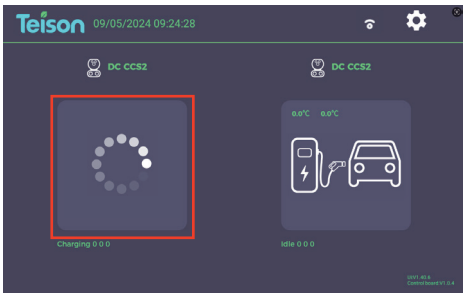

2. After completing the settings, return to the main interface.
3. Insert the charging gun into the vehicle.

4. Click the start button on the display screen.
5. Open the My Teison app and enable the scanning function



6. After scanning the code successfully, wait for the device to connect.
   Once the connection is successful, you can start charging




# Installation instructions

## 1. Scope

This manual is specifically for Teison DC model products. Before using the product, please read this manual carefully and ensure that the installation and operation are carried out according to the instructions. Please keep the installation instructions in a safe place for maintenance or reference during operation.

## 2. Installation preparation

### 2.1. Installation environment

- This charging station is an outdoor electric vehicle charging station that meets the IP55 protection level and is suitable for installation in dry and less dusty environments.
- The foundation must ensure the stability and safety of the charging station installation position.
- Please ensure that the operating temperature is within the range of -30℃ to +50℃ to ensure that the charging station operates in an optimal state.
- When the charging station is installed in an open-air environment, in order to better improve user experience and satisfaction, it is recommended to arrange a rain-shielding roof above the device to prevent rain from directly falling on the device and facilitate user operation.
- The charging station installation environment should be well-ventilated and away from water sources, heat sources, and flammable and explosive materials. Avoid installing the charging station in an environment with direct sunlight, dust, volatile gas, corrosive substances and excessive salt content.

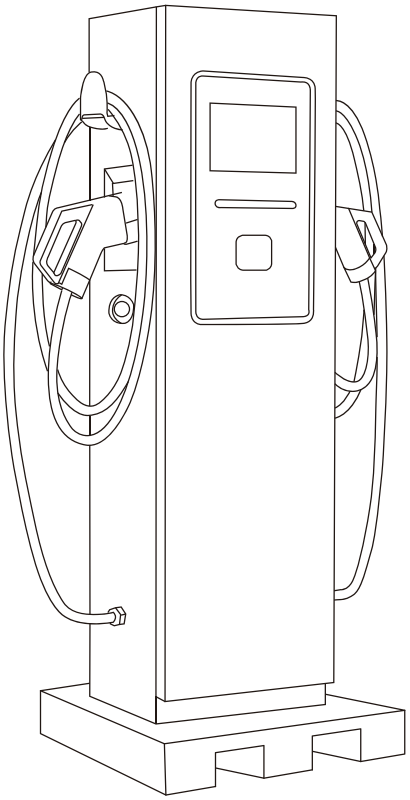
### 2.2. Installation spacing

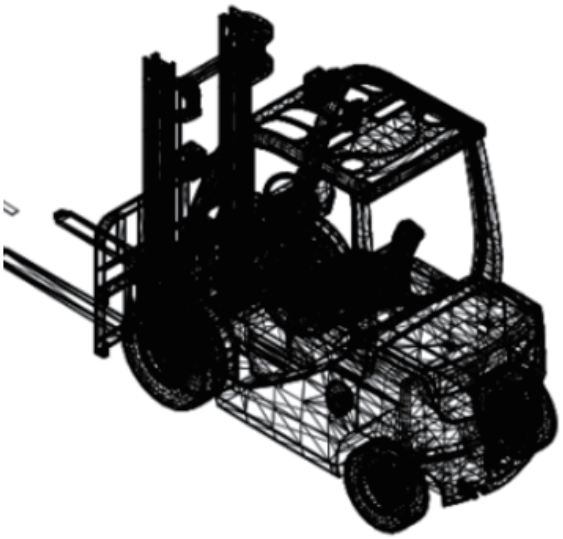
- The foundation must have a certain bearing capacity to support the weight of the charging station and sufficient space to place the charging station.
  Please place the charging station in a reasonable position on the foundation according to the size of the charging station.

- If the site conditions permit, it is recommended to leave more space between the machine and the surrounding device or walls for heat dissipation and maintenance to ensure the stable and efficient operation of the charging station.

# 3. Handling method

- The charging station can be handled with a forklift. When forking the machine, the center of gravity of the machine should be at the center of the two forks, and the handling process should be kept slow and steady.
- When forking the machine, the center of gravity of the machine should be at the center of the two forks, and the handling process should be kept slow and steady.
- When lifting the equipment with a forklift, please ensure the stability of the fork and keep the left and right balance.
- During the moving process, Please keep the charging station vertical and should not be put down or lifted suddenly.

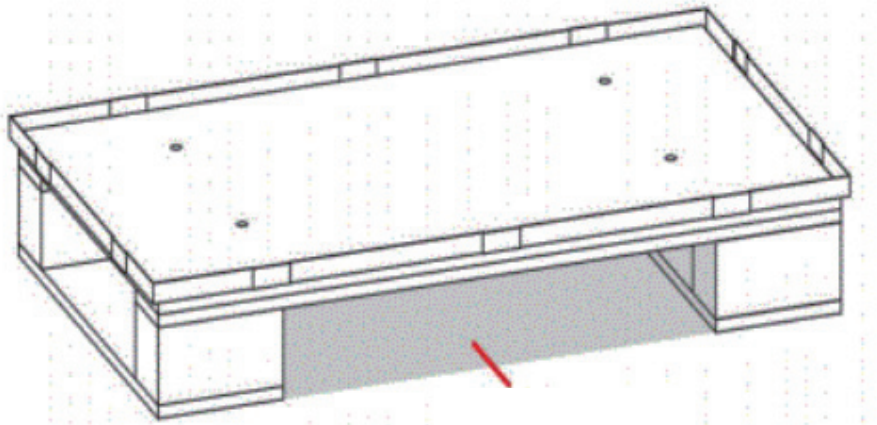




# 4. Unboxing

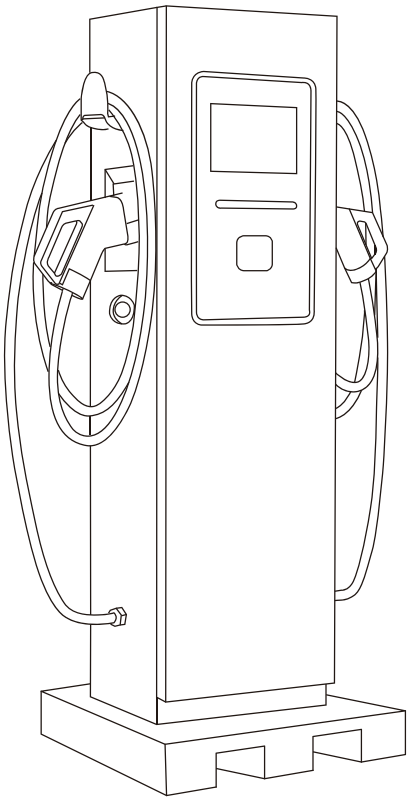
**Step 1:** Check if the appearance of the device packaging is intact and if there is any transportation damage. If there is any damage, please notify the carrier immediately.

**Step 2:** Transport the device to the designated location. To prevent the device from tipping over during transportation, when using an electric forklift or a manual forklift for transportation, insert it from the front of the wooden pallet, as shown in the figure below.



Forklift wall insertion position

**Step 3:** Remove the outer packaging, take out the foam pad and plastic bag, and extract the optional accessories and accompanying materials.



**Step 4:** Check equipment integrity.

- Inspect the appearance of the machine and check for any transport damage. If any damage is found, please notify the carrier immediately.
- Check the model and completeness of the random accessories against the packing list. If any accessory is found to be missing or the model is incorrect, please make a record on-site in a timely manner and contact the company or local office immediately.

**Step 5:** After confirming that the equipment is intact, remove the anti-collision plastic protective film on the equipment.

# 5. Installation steps

In order to facilitate the installation and maintenance of the cables. the cementbase needs to reserve corresponding grooves, as shown in the figure below

**Step 1:** Select the planned installation site according to the DC chargers size andnstallation distance required between chargers

**Step 2:** According to the installation hole size, use a percussion drill to drill 4 holeswith a diameter of 14mm and a depth of 100mm on the cement base, as shown below:

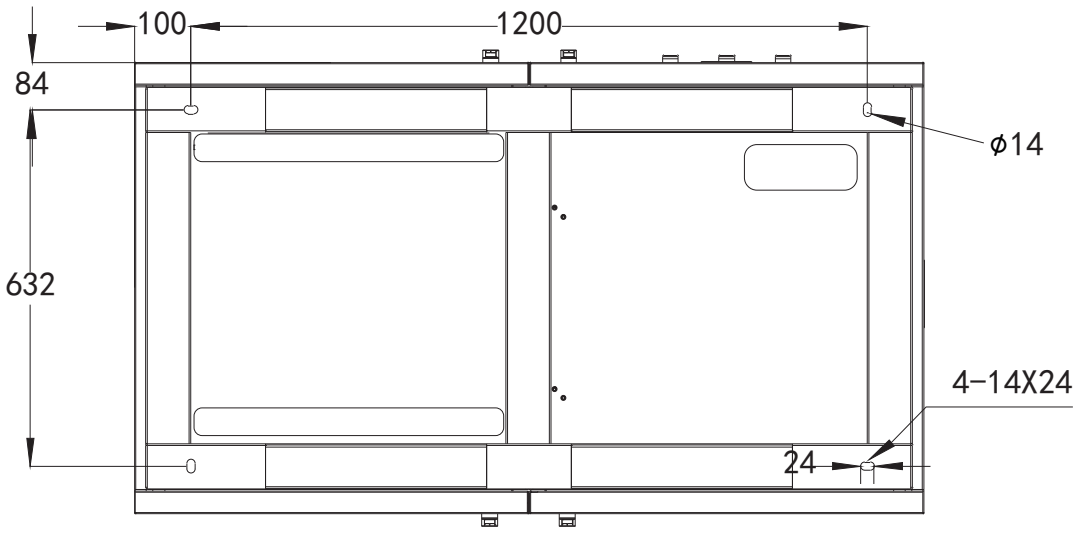



Figure 1: Group Charger Installation dimension
(Size of cement base :1400mm*800mm*200mm)

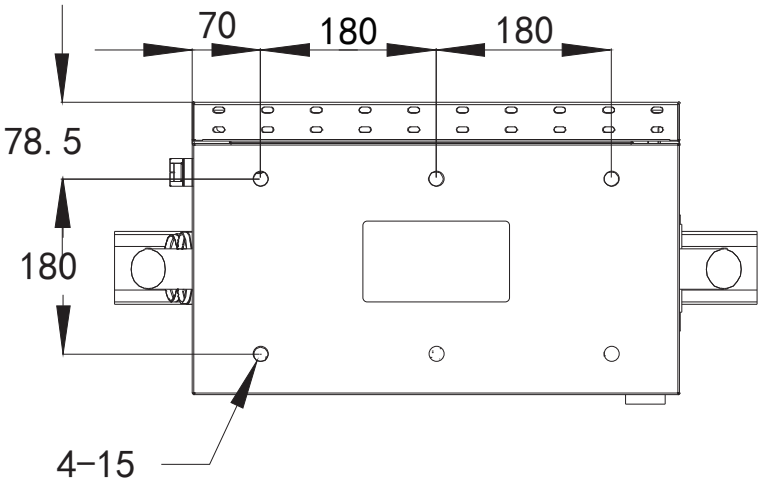
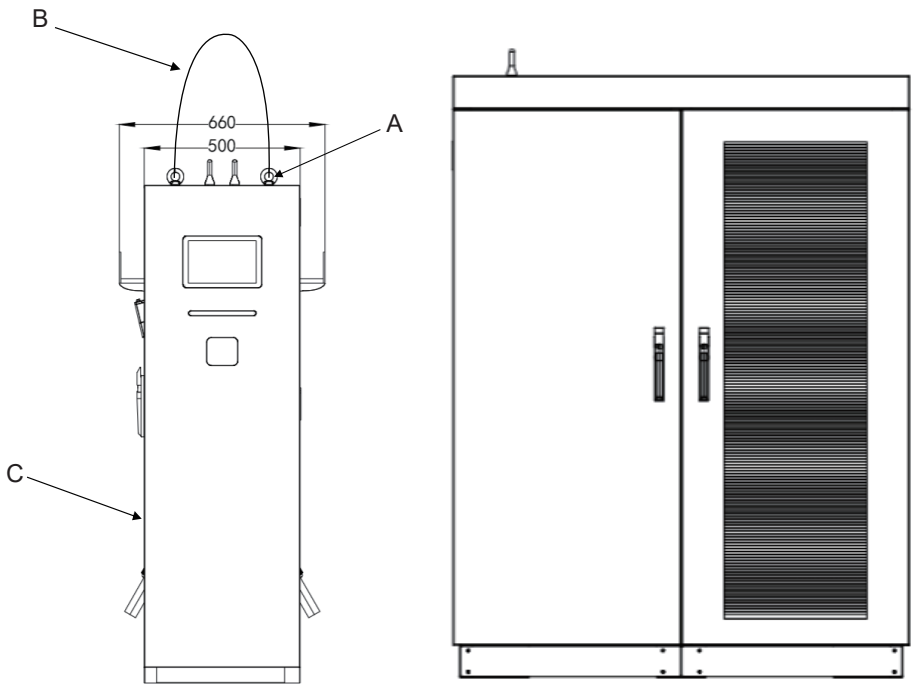



Figure 2： Charging Terminal Installation dimension
(Size of cement base :500mm*300mm*200mm)

**Step 3:** Drive 4PCS M14*80 expansion bolts into the cement base.

**Step 4:** Use a forklift to move the DC charger from the wooden bracket to the ground, align the mounting holes of the DC charger with the expansion bolts on base, put on 0-12 flat pads and spring pads, then lock. (In order to prevent the charger from falling over, the forklift arm must be inserted from the front or back of the charger when move it to the cement base . During the movement, the tilt angle should not be too large to avoid the slipping. Do not put down or lift suddenly).

**Step 5:** Hoisting, use hole bolts or eye bolts to tighten and fix the bolt holes at the four corners on the top of charger; the lifting rings are firmly connected with the lifting equipment, and a balanced connection is required; carefully lift the charger to the installation position;




A Rotating eye bolts or lifting ring bolts
B Lifting equipment
C Charger

**Step 6:** Connect the corresponding incoming cables to complete the installation.

# 6. Electrical Connection

## 6.1 Selection of Incoming Line

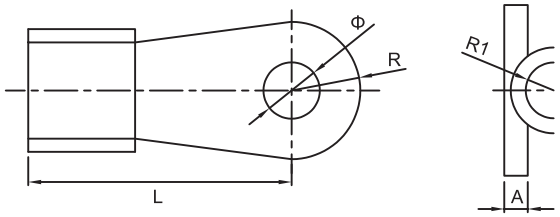
Group Charger Main cable specification:

| Power of group charger | Cross section area |
|---|---|
| 240KW | wdz-yjv22-0.6/1kv-3×120mm² + 2×150mm² |
| 300KW | wdz-yjv22-0.6/1kv-3×150mm² + 2×150mm² |
| 360KW | 2*（WDZ-YJV22-0.6/1kV-3*185mm²+2*95mm²） |
| 400KW | 2*（WDZ-YJV22-0.6/1kV-3*185mm²+2*95mm²） |
| 480KW | 2*（WDZ-YJV22-0.6/1kV-3*240mm²+2*120mm²） |
| 600KW | 2*（WDZ-YJV22-0.6/1kV-3*300mm²+2*150mm²） |
| 720KW | 2*（WDZ-YJV22-0.6/1kV-3*400mm²+2*240mm²） |
| 1000KW | 2*（WDZ-YJV22-0.6/1kV-3*500mm²+2*240mm²） |

## 6.2. Connector Selection

There are two modes of copper terminal connectors, OT and DT.

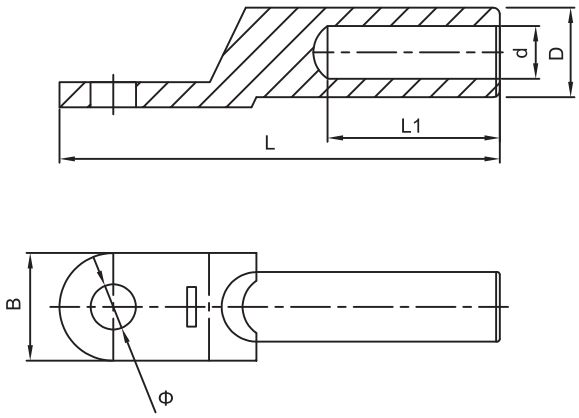
- If it is a flexible cable, it is recommended to use the OT series of wire noses, also known as open wire noses. We recommend using the OT-200A for our electric vehicle charging station. The following figure shows more OT types.




| Catalog No. | Dimensiongs(mm) | | | | | |
|---|---|---|---|---|---|---|
| | Φ | H | L | R | R1 | A |
| OT-10A | 5.2 | 6 | 14.5 | 4.6 | 2 | 0.8 |
| OT-20A | 6.2 | 7 | 17 | 5.5 | 2.5 | 1 |
| OT-30A | 6.2 | 8.2 | 19 | 5.8 | 3.2 | 1.2 |
| OT-40A | 6.2 | 9 | 19.5 | 6.2 | 3.5 | 1.2 |
| OT-50A | 6.2 | 9 | 23 | 6.5 | 3.5 | 1.2 |
| OT-60A | 8.2 | 10 | 24 | 7 | 4 | 1.4 |
| OT-80A | 8.2 | 11 | 25 | 8 | 4.5 | 1.5 |
| OT-100A | 8.2 | 12 | 29 | 8.5 | 5 | 1.5 |
| OT-150A | 10.2 | 12 | 31 | 9 | 5.5 | 1.6 |
| OT-200A | 10.2 | 14 | 33 | 10 | 6 | 1.7 |
| OT-250A | 10.2 | 15.5 | 36 | 10.5 | 6.5 | 2 |
| OT-300A | 12.2 | 16 | 40 | 11.5 | 7 | 2 |
| OT-400A | 14.2 | 18 | 43 | 13 | 8 | 2.2 |
| OT-500A | 14.2 | 20 | 46 | 14.5 | 8.5 | 2.4 |
| OT-600A | 16.2 | 22 | 50.5 | 16 | 10.5 | 2.8 |
| OT-800A | 18.2 | 26 | 61 | 17.5 | 12.5 | 3.2 |
| OT-1000A | 18.2 | 33 | 66 | 20.5 | 15.5 | 3.8 |

Figure 1-1 OT copper terminal connector

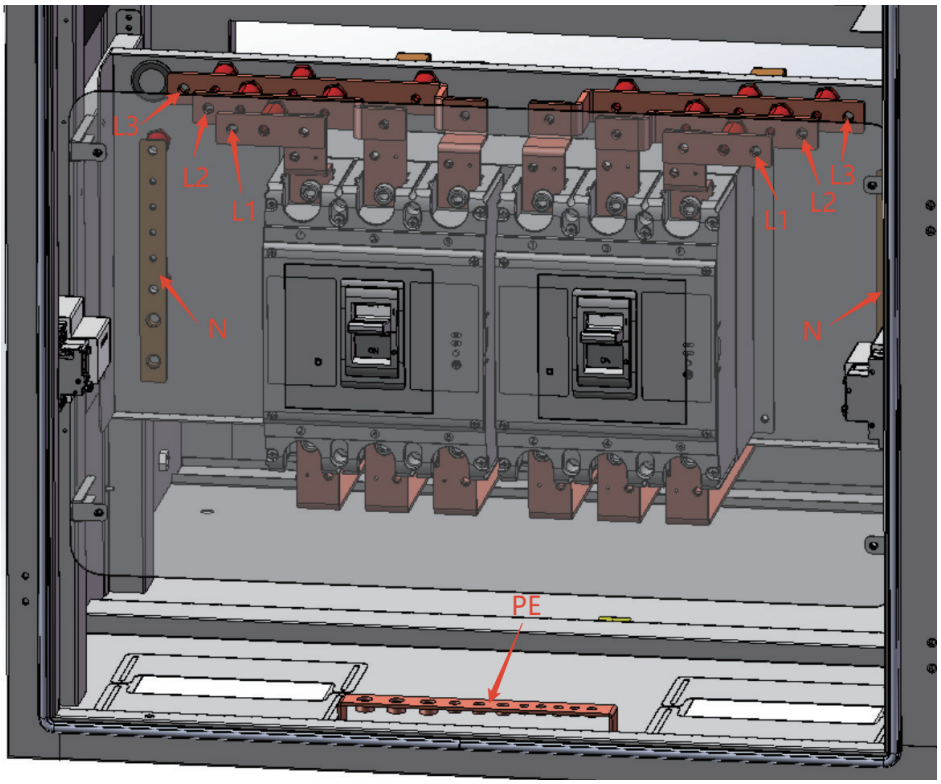
- If it is a hard cable, the cable connector used is the DT model, which is a tubular cable connector. This model is marked by the square of the wire, and the size of the wire nose is selected according to the cross-sectional area of the wire. For example, the wire nose model of a 70mm2 cable should be DT-70. The following figure shows more DT types.



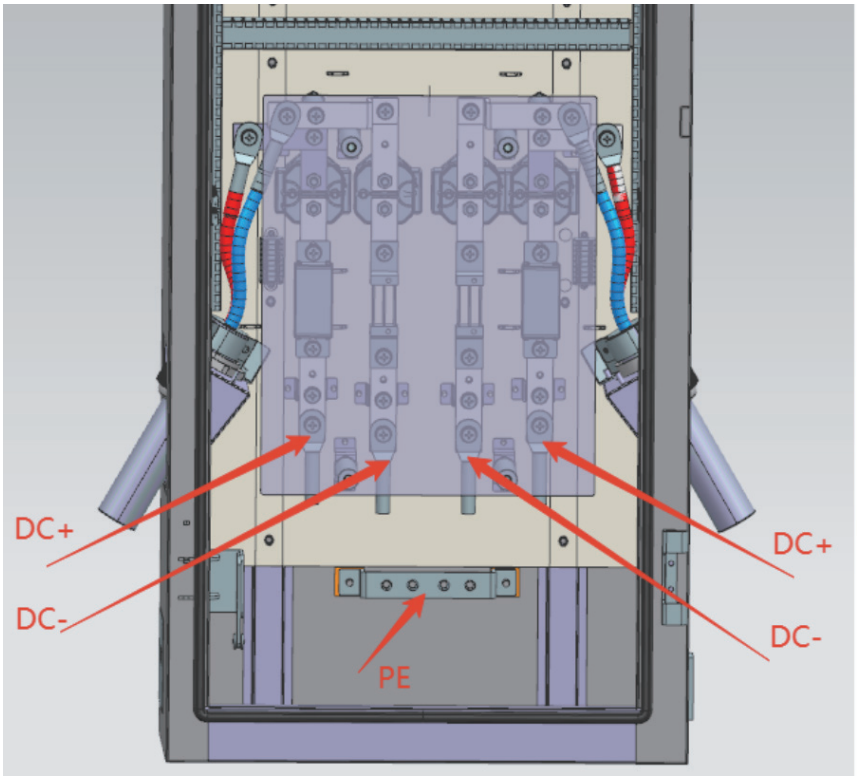

| Catalog No. | Dimensiongs(mm) | | | | | |
|---|---|---|---|---|---|---|
| | Φ | D | d | L | L1 | B |
| DT-10 | 8.5 | 9 | 5.3 | 62 | 28 | 16 |
| DT-16 | 8.5 | 10 | 6.5 | 68 | 30 | 16 |
| DT-25 | 8.5 | 11 | 7 | 70 | 33 | 18 |
| DT-35 | 10.5 | 12 | 8.58 | 80 | 36 | 20.5 |
| DT-50 | 10.5 | 14 | 9.5 | 85 | 38 | 23 |
| DT-70 | 12.5 | 16 | 11.5 | 95 | 43 | 26 |
| DT-95 | 12.5 | 18 | 13.5 | 104 | 46 | 28 |
| DT-120 | 14.5 | 20 | 15 | 112 | 49 | 30 |
| DT-150 | 14.5 | 22 | 16.5 | 120 | 51 | 34 |
| DT-185 | 16.5 | 25 | 18.5 | 125 | 55 | 37 |
| DT-240 | 16.5 | 27 | 21 | 136 | 60 | 40 |

**Figure 1-2 DT copper terminal connector**

## 6.3. Electrical Connection




Split Type DC Charger Wiring diagram




Terminal Wiring diagram


# Teison Profile

Teison Energy Technology Co., Ltd. is a high-tech enterprise specializing in new energy products. With an industry-leading research and development team and advanced automotive charging technology, we provide solutions for energy management, load balancing, commercial operations, data transmission, remote upgrades, and maintenance management in various application scenarios. Our aim is to offer users intelligent and integrated solutions.

Teison products comply with international standards and include portable charging series, home smart charging series, and high-power fast-charging and ultra-fast DC charging series for commercial operations. They are certified with OCPP 1.6J certification by the OCA Alliance, and have obtained CE, CB, WEEE, UKCA, TR25, and AZE certifications from TUV Rheinland in Germany, as well as the State Grid 16949 certification.

As a smart charging expert, Teison products are sold globally and has established distribution points in over 50 countries.Teison prioritizes safety and ensures product quality as a crucial guarantee for safety. We strive to create aesthetically pleasing, high-quality, and safety-friendly charging solutions for users. Let us together enjoy the wonderful life created by Teison technology.

# Factory history

**2018**

Teison brand established，committed to creating the most reliable charging solution for global customers.

**2019**

1. Built R&D team
2. Developed LVD+EMC TUV-certified OCPP full-featured charging station

**2020**

1. Established a new 4000m² production facility
2. Developed full-featured OCPP for AC series
3. Awarded national-level high-tech enterprise

**2021**

1. Developed 20-40kW OCPP DC charging station
2. Developed 60kW-480kW integrated DC charging station
3. Achieved top new energy export status in Yangzhou

**2022**

1. Expanded production facility to 8800m²
2. Developed a flexible separate power module and dispenser solution, along with high-power liquid-cooled charging stations
3. Ranked among the top 10 most popular Chinese charging station brands globally

**2023**

1. Continuous upgrading of DC charging station (POS, advertising display, cable management).
2. Attainment of OCPP OCA certification.
3. Full-scale entry into the Southeast Asian and South American markets.
4. Commencement of overseas subsidiary establishment.