



## DC 60-240KW

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SAM-EDC60AA  
SAM-EDC90AA  
SAM-EDC120AA

SAM-EDC150AA  
SAM-EDC180AA  
SAM-EDC240AA



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# Product overview



- CE
- IP 55
- IK 10
- RFID
- OCPP 1.6 J-son
- WIFI
- 4G

# Overall features



## Multiple standard charging port combinations to choose from

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



## Diverse power range

Multiple power options are available, ranging from 30 KW to 480 KW with customizability.



## High voltage output

The maximum output voltage can reach 1000V, meeting the needs of the vast majority of electric vehicles on the market.



## 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.



## Load balancing

More effective connection to the load system.

# Parameter Instructions

Specification				
Model	SAM-EDC60AA SAM-EDC60AA/AC43	SAM-EDC90AA SAM-EDC90AA/AC43	SAM-EDC120AA SAM-EDC120AA/AC43	
Electrical Properties				
AC Input	Input Rating	AC400V(±15%) 3ph		
	AC Input Connection	3P+N+PE		
	Rate Input Current	3Φ100A	3Φ150A	3Φ200A
	Frequency	50/60Hz		
	Power Factor	≥0.99		
	Efficiency	≥95%		
DC Output	Output Voltage Range	200V-1000V		
	Max.Output Current(system)	200A	300A	400A
	Max.Output Current(connector)	150A	200A	200A
	Max.Output Power	DC60kW	DC90kW	DC120kW
	Voltage Accuracy	≤±0.5%		
	Current Accuracy	≤±1%		
User Interface & Control				
Display	10.1" touch screen			
Screen Material	LCD			
Push Buttons	Operation buttons / Emergency buttons			
User Authentication	RFID,OCPP,QR code,Password,Application			
Support language	English (Other languages available upon request)			
Communication				
External	Ethernet,WIFI			
Internal	CAN,RS485,RS232			
Environmental				
Operating Temperature	-30℃ ~ +50℃			
Humidity	<95% relative humidity, non-condensing			
Altitude	≤2000m(6000 feet)			
Mechanical				
Ingress protection	IP55			
Enclosure Protection	IK10			
Cooling	Air forced			
Installation Method	Floor mounted			
Protection				
Protection	Over current, Under voltage, Over voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault			
Regulation				
Certificate	CE			
Standard	EN IEC-61851-1:2019; EN61851-23:2014; EN 61851-24:2014; EN IEC 61851-21-2:2021			
Optional Config				
Network Gateway	4G			
Payment Method	POS Machine			

Specification				
Model	SAM-EDC150AA SAM-EDC150AA/AC43	SAM-EDC180AA SAM-EDC180AA/AC43	SAM-EDC240AA SAM-EDC240AA/AC43	
Electrical Properties				
AC Input	Input Rating	AC400V(±15%) 3ph		
	AC Input Connection	3P+N+PE		
	Rate Input Current	3Φ250A	3Φ300A	3Φ400A
	Frequency	50/60Hz		
	Power Factor	≥0.99		
	Efficiency	≥95%		
DC Output	Output Voltage Range	200V-1000V		
	Max.Output Current(system)	500A	600A	800A
	Max.Output Current(connector)	200A	200A	250A
	Max.Output Power	DC150kW	DC180kW	DC240kW
	Voltage Accuracy	±0.5%		
	Current Accuracy	±1%		
User Interface & Control				
Display	10.1" touch screen			
Screen Material	LCD			
Push Buttons	Operation buttons / Emergency buttons			
User Authentication	RFID,OCPP,QR code>Password,Application			
Support language	English (Other languages available upon request)			
Communication				
External	Ethernet,WIFI			
Internal	CAN,RS485,RS232			
Environmental				
Operating Temperature	-30 C ~ +50 C			
Humidity	<95% relative humidity, non-condensing			
Altitude	≤2000m(6000 feet)			
Mechanical				
Ingress protection	IP55			
Enclosure Protection	IK10			
Cooling	Air forced			
Installation Method	Floor mounted			
Protection				
Protection	Over current, Under voltage, Over voltage, Residual current, Surge protection, Short circuit, Over temperature, Ground fault			
Regulation				
Certificate	CE			
Standard	EN IEC-61851-1:2019; EN61851-23:2014; EN 61851-24:2014; EN IEC 61851-21-2:2021			
Optional Config				
Network Gateway	4G			
Payment Method	POS Machine			

# Operating Instructions

## Instruction

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 RFID mode, as shown in the following figure. Click the "Start Charging" button to display the card swiping interface, which can only be activated by swiping the card. (Before starting card swiping, the charging station needs to be connected to the Samobi platform.)



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, language configuration, time zone setting, and screen restart. As shown in the following figure.



- User preferences include password settings and four charging modes (with POS machines being a non-standard option). After enabling anonymous charging, other charging modes will not be available. Models that support POS machines will have POS machine authentication options. When using a POS machine, it is necessary to authorize a debit of a specified amount in advance. The LED strip setting function is only available on models with customized strip functions. This option is not displayed on regular models.



- The charging station configuration includes "advertising playback" and "plug and charge" functions (plug and charge function is a customized function).



- A. The "advertisement playback" function requires:
  - (1) . Activate the local playback button
  - (2) . Import the video that needs to be played
  - (3) . Set the playback path
  - (4) . Set the idle time to start playing
- B. Plug and play is a custom feature that regular products do not support. (Need to upgrade the main control board program implementation)

- 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: charging station ID number, UL1 OCPP platform connection address, UL2 OCPP platform connection address, basic identity verification, and offline recording function.



A. Cloud platform connection supports dual platform simultaneous connection. UL1 has functions such as remote control of charging stations, access to charging logs, charging data, charging status, and remote firmware upgrades; UL2 only supports remote firmware upgrade, access to charging logs, and access to charging status. (UL2 connection platform function, UL1 platform must be turned on to work)

B. After completing the settings, click the OCPP Start Button. Return to the main interface to check whether there is a cloud icon displayed. If UL1 and UL2 are successfully connected, two clouds will appear



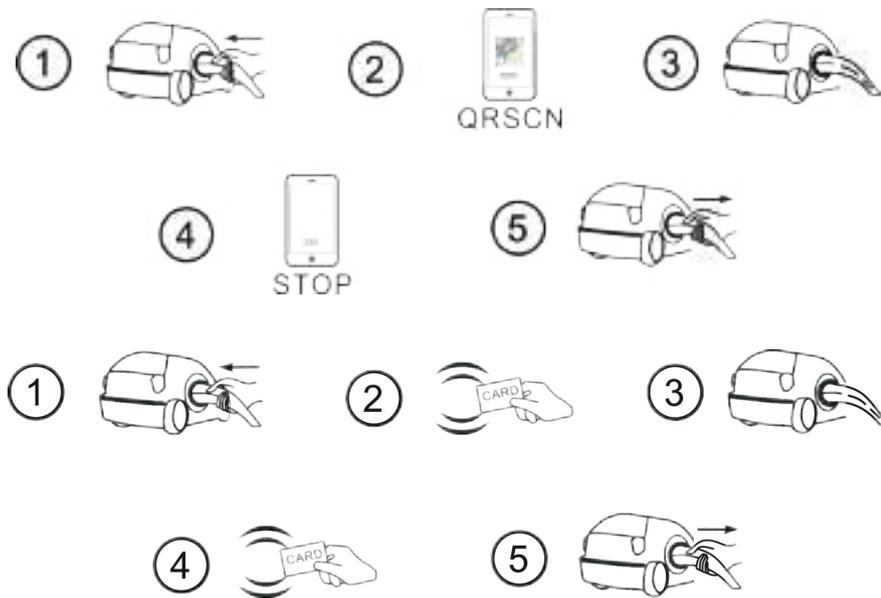
7. Device information: Display Android UI firmware version, OCPP protocol version, main control board version, and local firmware upgrade.





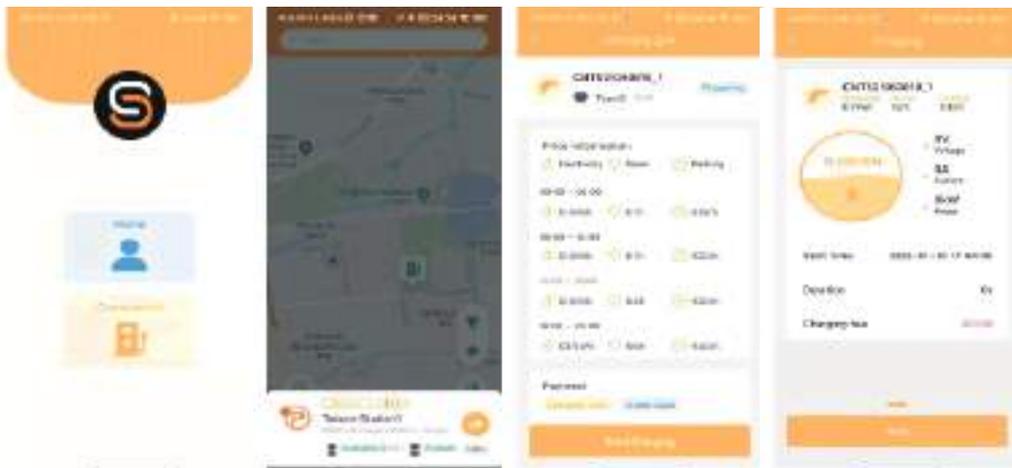
# Charging Mode and Method

APP/RFID Mode: support QR code scanning and RFID prepaid charging mode



APP/RFID Mode Operation Diagram

SAMOBI APP operation diagram shown as below:



# Installation instructions

## 1. Scope

This manual is specifically for Samobi 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  $-30^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  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

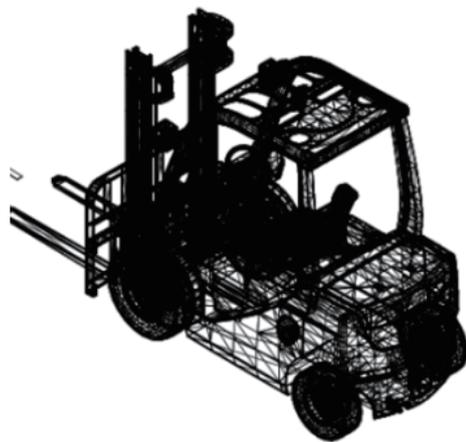
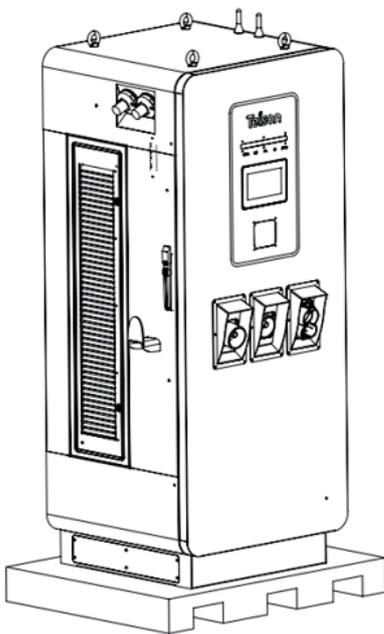
- The foundation must have a certain bearing capacity to support the weight of the charging station and sufficient space to place the charging station.

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

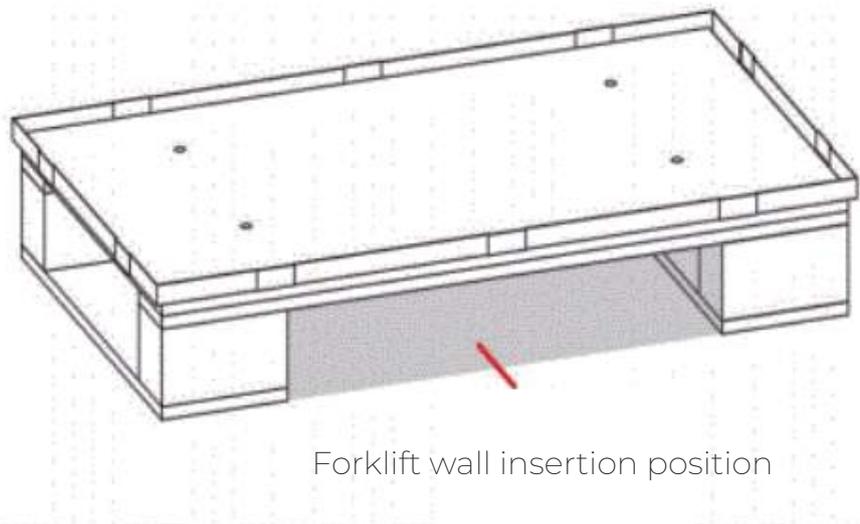
- The charging station can be handled with a forklift. When forking the machine, the center of gravity of the machine should be at the center of the two forks, and the handling process should be kept slow and steady.
- When forking the machine, the center of gravity of the machine should be at the center 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.



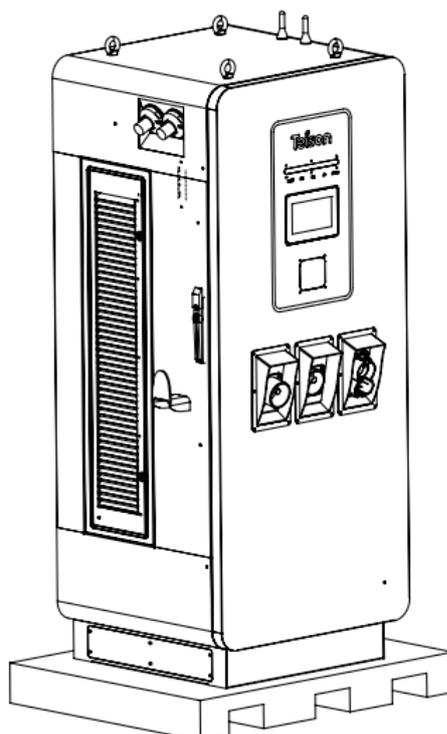
## 4. Unboxing

**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.



**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 cement base needs to reserve corresponding grooves, as shown in the figure below

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

**Step 2:** According to the installation hole size, use a percussion drill to drill 4 holes with a diameter of 18mm and a depth of 100mm on the cement base, as shown below (Size of cement base 1000mm\*1000mm\*200mm)

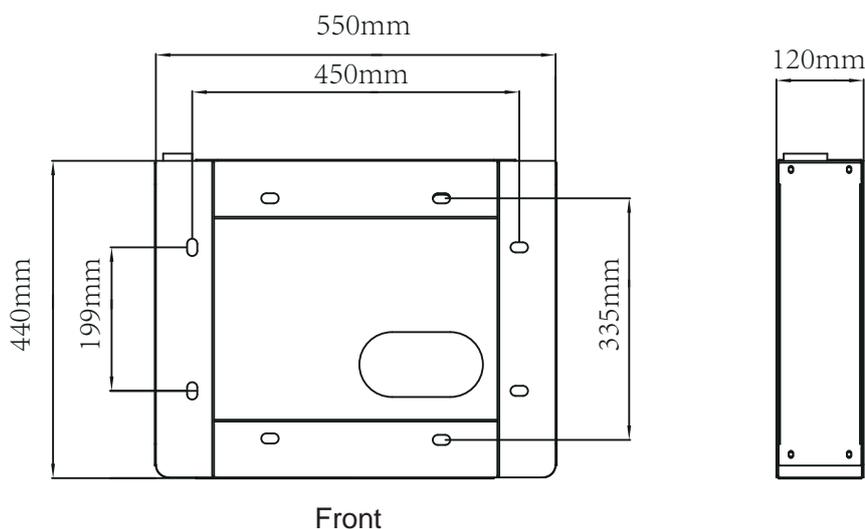


Figure 1: 60kw Installation dimension

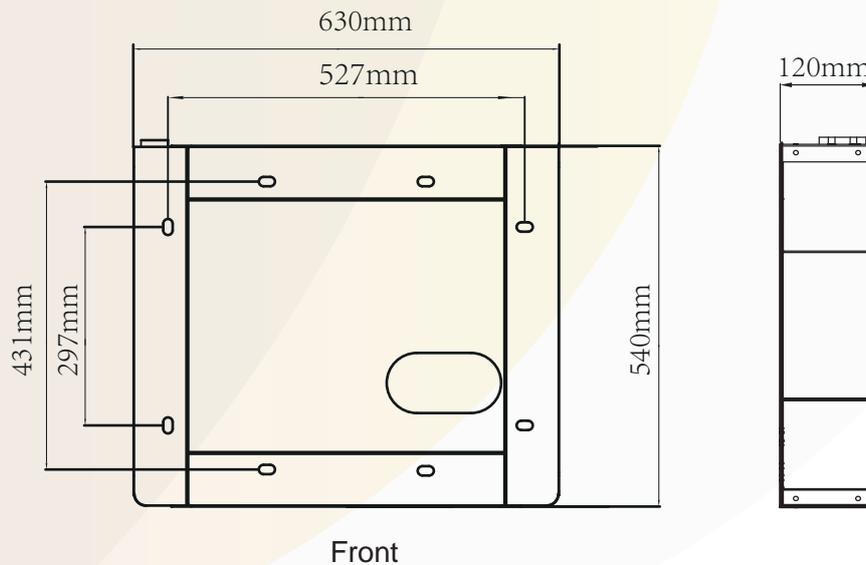


Figure 2: 90-240kw Installation dimension

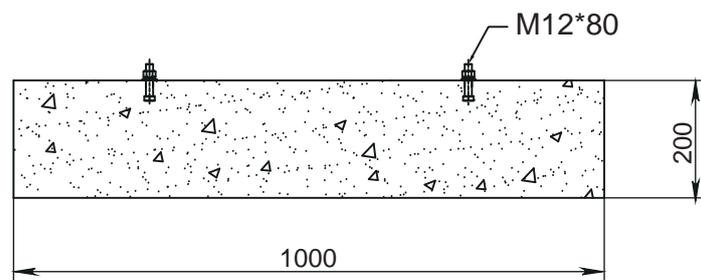
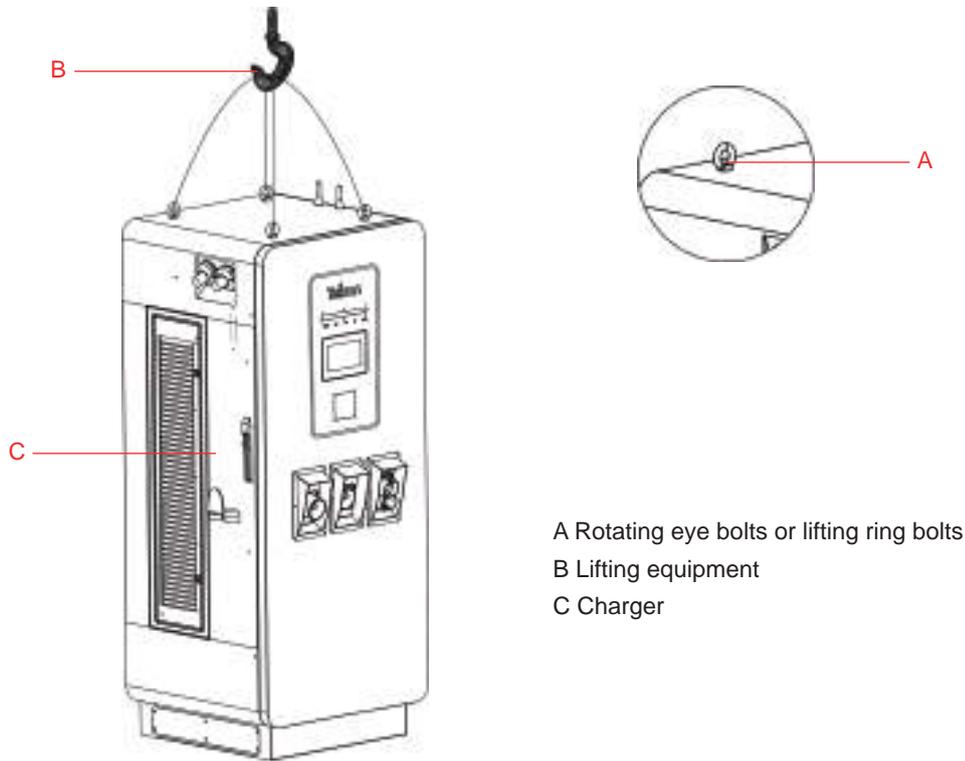


Figure 3: Size of cement base

**Step 3:** Drive 4PCS M12\*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;



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

## 6. Electrical Connection

### 6.1 Selection of Incoming Line

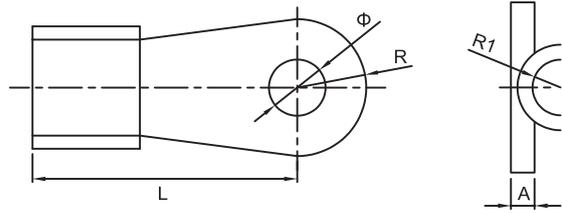
Common selection of incoming line:

Power of charger (NO AC)	Cross section area	Power of charger (AC 22kW)	Cross section area
60KW	wdz-yjv22-0.6/1kv-3x35mm <sup>2</sup> + 2x25mm <sup>2</sup>	60KW	wdz-yjv22-0.6/1kv-3x35mm <sup>2</sup> + 2x25mm <sup>2</sup>
90KW	wdz-yjv22-0.6/1kv-3x50mm <sup>2</sup> + 2x35mm <sup>2</sup>	90KW	wdz-yjv22-0.6/1kv-3x70mm <sup>2</sup> + 2x50mm <sup>2</sup>
120KW	wdz-yjv22-0.6/1kv-3x70mm <sup>2</sup> + 2x50mm <sup>2</sup>	120KW	wdz-yjv22-0.6/1kv-3x95mm <sup>2</sup> + 2x70mm <sup>2</sup>
150/160KW	wdz-yjv22-0.6/1kv-3x95mm <sup>2</sup> + 2x70mm <sup>2</sup>	150/160KW	wdz-yjv22-0.6/1kv-3x120mm <sup>2</sup> + 2x90mm <sup>2</sup>
180KW	wdz-yjv22-0.6/1kv-3x120mm <sup>2</sup> +2x90mm <sup>2</sup>	180KW	wdz-yjv22-0.6/1kv-3x150mm <sup>2</sup> +2x120mm <sup>2</sup>
200KW	wdz-yjv22-0.6/1kv-3x150mm <sup>2</sup> +2x120mm <sup>2</sup>	200KW	wdz-yjv22-0.6/1kv-3x185mm <sup>2</sup> +2x150mm <sup>2</sup>
240KW	wdz-yjv22-0.6/1kv-3x185mm <sup>2</sup> +2x150mm <sup>2</sup>	240KW	wdz-yjv22-0.6/1kv-3x240mm <sup>2</sup> +2x185mm <sup>2</sup>

### 6.2. Connector Selection

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

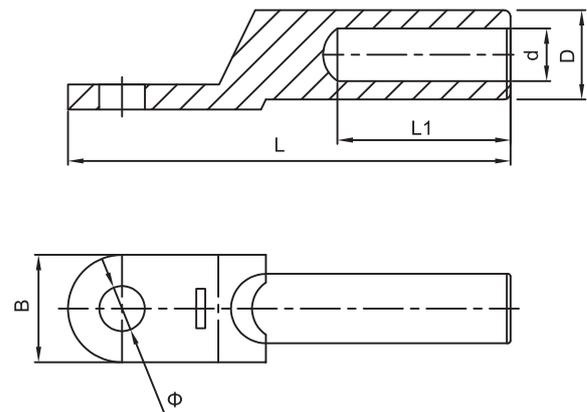
- If it is a flexible cable, it is recommended to use the OT series of wire noses, also known as open wire noses. We recommend using the OT-200A for our electric vehicle charging station. The following figure shows more OT types.



Catalog No.	Dimensions(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 70mm<sup>2</sup> cable should be DT-70. The following figure shows more DT types.

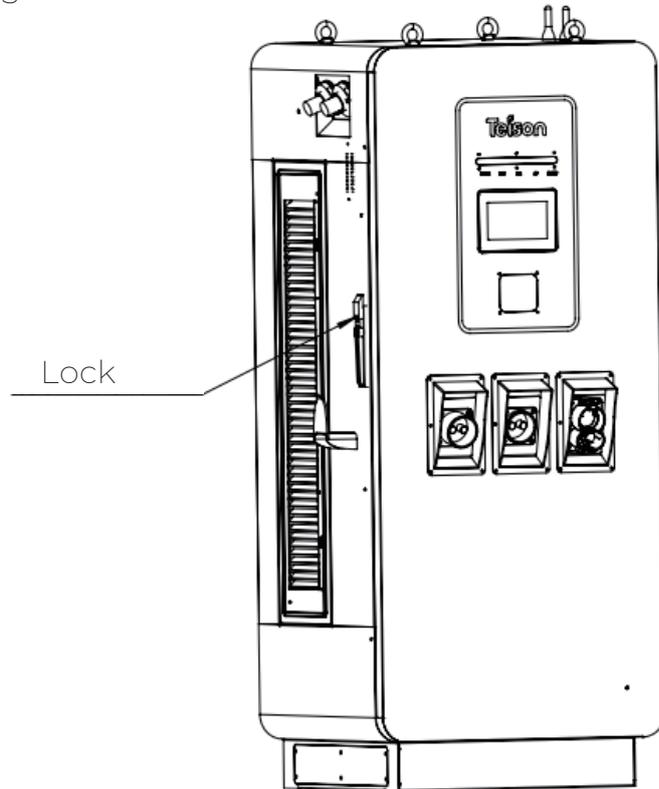


Catalog No.	Dimensions(mm)					
	Φ	D	d	L	L1	B
DT-10	8.5	9	5.3	62	28	16
DT-16	8.5	10	6.5	68	30	16
DT-25	8.5	11	7	70	33	18
DT-35	10.5	12	8.58	80	36	20.5
DT-50	10.5	14	9.5	85	38	23
DT-70	12.5	16	11.5	95	43	26
DT-95	12.5	18	13.5	104	46	28
DT-120	14.5	20	15	112	49	30
DT-150	14.5	22	16.5	120	51	34
DT-185	16.5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

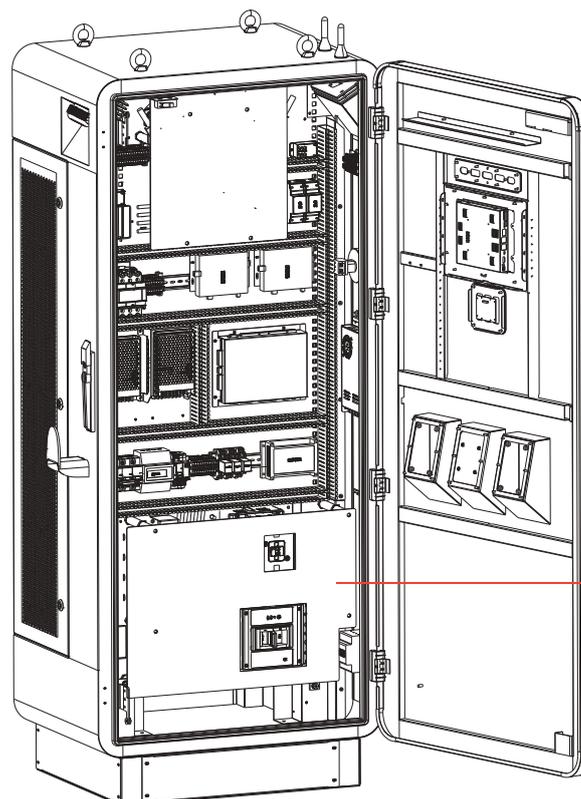
Figure 1-2 DT copper terminal connector

## 6.3. Wiring Steps

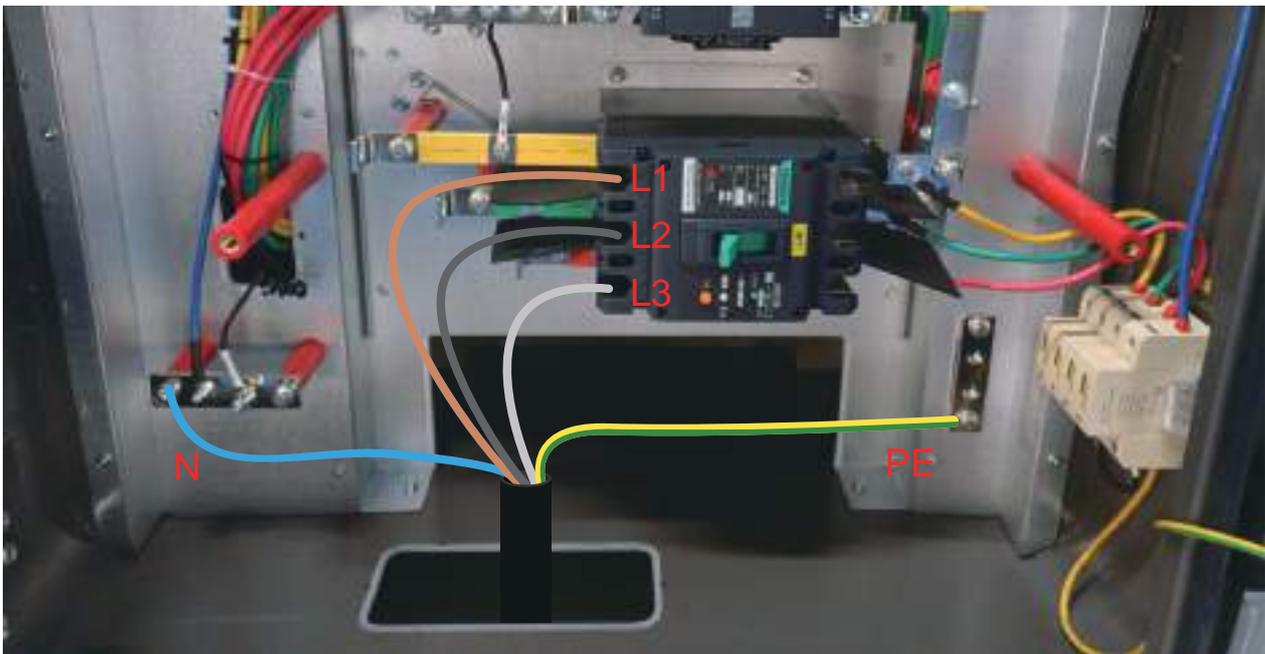
**Step 1:** Use the key to unlock the charging station door lock, the lock position is shown in the following figure.



**Step 2:** Open the charging station door panel and thread the mains input cable out of the trench, and connect them respectively to the L1/L2/L3/N phase below the AC circuit breaker. The wiring diagram is shown in the following figure.



Remove the acrylic protective plate before wiring



**Step 4:** Pull the ground wire out of the incoming cable trench and connect it to the grounding copper busbar. The position of the grounding copper busbar is shown in the following figure. Make sure that the ground wire is connected to the ground wire in the area, and ensure good grounding, and ensure that all ground wires and grounding devices are reliably grounded to avoid electrification of the cabinet shell.

**Step 5:** After the wiring is completed and all the connections are confirmed to be correct, seal the cable gap with fire-proof mud.

**Step 6:** After the installation of the charging station is completed, the protective film of the touch screen can be torn off if necessary.