SUPERWAY
ENJOY YOUR RUNNING

CHARGING PILE

USER MANUAL

V2.4.7

(Application:60kw~180kw pile)

In order to protect and respect intellectual property rights, no companies or individuals shall provide information in this manual to the third party without any authorization.

To ensure the accuracy, the manual has been carefully reviewed. If any errors found while using, any comments will be welcomed.

This manual is for general purpose, the information in it may be different from the actual customized product, and the difference may refer to the technical agreement. We apologize for any inconvenience caused.

ZHENGZHOU SUPERWAY AUTO TECHNOLOGY CO., LTD. reserves the right to improve product technologies and interpret this manual. Product technologies and this manual are subject to changes without prior notice and relevant technical agreements shall prevail.

Contents

Safety Statements

Safety Identifiers / Safety Warning / Responsibility Statement

Safety Statements

Safety Identifiers

	**WARNING** Identifies a hazard that could result in severe injury or death
	**DANGER** **Hazardous voltage** Identifies a hazard that could result in severe injury or death through electrocution.
	**Hot Caution** Identifies high temperature areas or areas where the temperature of parts is high, great care must betaken to prevent burns
	Content suggestions or precautions
	The positive pole of the output voltage (current)
	The negative pole of the output voltage (current)
	Earthing protection connection point
	Input power zero line
	Input power supply A phase
	Input power supply B phase
	Input power supply C phase

Safety Statements

Safety Warning

The chargers supplied are in full compliance with international safety standards and have obtained the CE and TR25 certifications issued by TUV. The safety of the charger is not only affected by the quality of the equipment itself, but also need correct operation. The following risks maybe caused due to non-standard operation in the use process:

- **short circuit or fire caused leads to serious damage of the charger;**
- **the operator or the third party shocked or burned, personal safety endangered;**
- **other property damaged or destructed.**

In order to avoid unnecessary safety accidents, the following safety precautions should be strictly observed in the process of installation, commissioning, overhaul and maintenance.

- **The above activities must be completed by professional technical personnel, activities without authorization is not allowed;**
- **Professional technical personnel shall be trained, qualified and authorized by the company;**
- **Read this manual carefully and master the safety matters related to operation;**
- **This manual only provides rules and instructions for the use and operation. Others unmentioned, please follow the industry standards and local laws and regulations.**

Warning	If the instructions in this manual are not followed, the stability of the charger maybe affected
	For safety reasons, only qualified and trained electricians could be allowed to install the chargers
	The installation process must be performed by qualified installers and electricians in accordance with current regulations in the locality
	Special attention shall be paid due to equipment big size and heavy weight: •Lifting equipment, forklift trucks and other reliable handling equipment should be used to handle the goods •Do not turn over, dump or collide the charger during handling process
	If emergency situation occurred: •Press the emergency stop button immediately and contact the charging station operation and maintenance personnel immediately •Take necessary emergency measures according to the actual emergency situation

Safety Statements

Safety Warning

 **Warning**	**If the charging connector is found broken or the charging cable is damaged:** •Please do not use it and immediately inform the operation and maintenance personnel of the charging station
	If the charger is hit by vehicle, encountered bad weather or flood situation, please check: •Whether there is smoke or flames inside or outside the charger or near it •Whether the charger has been soaked in water or any trace of soaking in liquid •Whether the charger is deformed or damaged, If any of the above conditions occur, please stop charging immediately and contact the operation and maintenance personnel of the charging station
	Charge connector electronic lock During charging process, the plug will be locked in the socket of the vehicle. It is forbidden to pull out the plug while charger in charging process. Forced pulling of the plug may destroy the locking mechanism and the plug, even electric shock might be occur.
 **High voltage Danger**	•Charger runs with high voltage which may cause damage to human body •Even after all the switches in the charger are disconnected, the charger's incoming terminals and copper bars remain dangerously high voltage
	•In the process of installation, overhaul and maintenance, make sure that the main switch in the external distribution room and all switches in the charger are disconnected •Test the output terminal of the charger with a multimeter before operation to ensure that no residue current left •Only professional after sales engineers and technicians are allowed to debug the charger •When the door of the charger cabinet is open and the dangerous power terminal is exposed, safety isolation measures should be taken around the charger to fully warn of the high voltage danger, and non-professionals should not approach it

Safety Statements

Safety Warning

	•It is not recommended to debug the charger at night. If necessary, it should be equipped with another light source. Pay attention to the danger of high voltage •Wiring sequences: first ground wire (PE), then middle line (N), last phase line (A, B, C) •Make sure the cabinet door is locked again when the after-sale service personnel and technician temporarily leave
 **Caution**	•The outlet temperature of the charger is high, so pay attention to the high temperature warning and avoid direct touch to scald
① **Plug insertion and extraction**	•Pay attention to the operation method of inserting and extracting the plug. Handle it gently and make sure not fall off or crash the plug to avoid the plug being damaged. •After charging process completed, extract the plug carefully and replace it back to fix socket.

Safety Statements

Responsibility Statement

★ Customer responsibility

Customers and onsite operators

- The charging station shall be operated under the premise that all protective measures and fire fighting facilities are complete
- All protection facilities shall be installed correctly and maintained regularly to ensure long-term safety and effectiveness
- The emergency plan for the management of the charging station shall be prepared to deal with it quickly in case of emergency to prevent the situation from expanding
- Prepare the installation of the charger according to the requirements of this manual
- During the installation of the charger, ensure that the installation location of the charger has sufficient space for installation and post-maintenance
- Experienced general installation coordinator and site construction safety personnel need to be assigned during installation process
- During later operation, the experienced station maintenance personnel shall be assigned to take charge of the safe operation of the charging station in later period
- Any change without our permission and authorization may affect the customer's operation authorization, and may also affect the quality guarantee of the charger

Safety Statements

Responsibility Statement

★ Disclaimer

The charger should be used normally under certain conditions. Our company will not be liable for any accident or damage caused by any of the following circumstances.

- Chargers damaged due to human factors or use of chargers under abnormal working conditions
- Faults and damages caused by failure to use according to the instructions or not in accordance with the specified environment caused by the fault and damage
- Damages caused by improper transportation after normal delivery
- Components wears and tears, cracking, cabinet color fading and other normal conditions during the use of chargers
- Products that do not belong to our company (such as fake goods)
- Damages or losses caused by improper activities as disassemble, repair or refit the charger without authorization or permission of the company
- Charger damages caused by force majeure: Flood, fire, lightning strike, strong wind, earthquake, abnormal grid voltage, etc
- Any loss caused by customer's own factors, such as: Customer transformer damages or cable burning caused by improper selection of charger
- Damages caused by use of charger beyond its service life
- If it exceeds the time limit agreed by both parties, our company shall not undertake the maintenance responsibility, but free technical support and paid maintenance could be supplied

Product Overview

Product Model / Product Parameters / Product Features / Product Description

Product Overview

Product Mode

Manufacturer Code
SW： Superway

DC Standards:
E: Europe
G: GB
J: Japan
U: The USA
K: Korea

Rated DC Power
Example:
30：30kW
60：60kW
90：90kW
120：120kW
150：150kW
180：180kW
…

AC Standards:
E: Europe
G: GB
J: Japan
U: The USA
K: Korea

Rated AC Power
Example:
7：7kW
22：22kW
43：43kW
…

Standards
QT： Three Phase AC Plug
QS： Single Phase AC Plug
ZT： Three Phase AC Socket
ZS： Single Phase AC Socket

Connectors Number
A： Double Connector
B： Single Connector
C： Four Connector
D： Three Connector

Design Version
1： 1st generation
2： 2nd generation
3： 3rd generation
…

Product Overview

Product Parameters

No.	Item	DC：30kW/60kW/90kW/120kW/150kW/180kW + AC：7kW/22kW/43kW		
1	Normative references	EN IEC 61851-1:2019 , IEC 61851-1:2017 , EN 61851-1:2011 , IEC 61851-21-2-2021 , EN 61851-23:2014 , IEC 61851-23:2014 , EN 61851-24:2014 , IEC 61851-24-2014 ,IEC 62196-1:2014 , IEC 62196-3:2014 , DIN SPEC70121:2014 , DIN SPEC70122:2018 , TR 25:2016 , EN IEC 61000-6-2:2019 , EN IEC 61000-6-4:2019,GB/T 18487.1-2015, GB/T 18487.2-2017, GB/T 27930-2015,GB/T 20234.1-2015,GB/T 20234.1-2015, GB/T20234.2-2015,GB/T20234.3-2015, CHAdeMO-1.0, SAEJ1772-2010		
2	Working temperature	-30℃~+55℃		
3	Working humidity	relative humidity 5%～95%		
4	Storage temperature	-40℃~+70℃		
5	Altitude	≤2500m (Derated when altitude higher than 2500m)		
6	IP class	IP55		
7	Input mode	Three-phase five-wire system 3P+N+PE		
8	Input voltage	400VAC ±15%,50Hz/60H±5Hz		
9	Output voltage	DC part: 150～1000VDC(CCS1/CCS2/GB), 150～500VDC(CHAdeMO) Power module constant power range: 300～1000VDC		
		AC part: 230VAC(7kW, L+N+PE) , 400VAC(22kW/43kW, 3P+N+PE)		
10	Output current	DC plug Rated Current	CCS1	0~200A
			CCS2/GB	0~250A
			CHAdeMO	0~125A
		AC plug Rated Current	7kW	32A, L+N+PE
			22kW	32A, 3P+N+PE
			43kW	63A, 3P+N+PE
		Maximum DC Current 0--100A/200A/300A/400A/500A		
11	Harmonics current（THD）	≤5%（Level A equipment）		
12	Power factor	≈0.99（full load）		

Product Overview

Product Parameters

13	Efficiency	≈96%（Peak value）
14	Voltage error	≤±0.5%
15	Current error	≤±1%（Output DC current≥30A）；≤±0.3A（Output DC current＜30A）
16	Stabilized voltage precision	≤±0.5%
17	Stabilized current precision	≤±1%
18	Ripple factor	Xrms≤±0.5%；Xpp≤±1%
19	Standby power consumption	≤N×50W（N：stands for plug numbers）
20	Cable length	Standard 5m（Other demand could be customized）
21	Noise	Level 2 (55～80dB)
22	Installation	Outdoor installation supported, rain shelter recommended to be used together
23	Weight	⩽707kg
24	Dimension	750mm(L)×630mm(W)×1800mm(H)

Product Overview

Product Features

Multi - standard optional, strong compatibility

- Free combination of charging systems. Optional: DC+DC, DC+AC, DC+DC+AC.
- Provide a variety of charging standards free combination, national standards, European standards, American standards and Japanese standards can be matched, one device to meet a variety of needs.

Safety Protection

- Basic protection functions of emergency stop, over and under voltage and phase loss protection, door access protection, etc.
- With leakage, anti-lightning, surge, input and output overcurrent, short circuit, anti-reverse current and other hardware protection functions.
- With pre-charging protection, soft start protection, real time monitoring of circuit and remote diagnosing management.
- With insulation protection monitoring, output circuit adhesion diagnosis, abnormal battery voltage detection, battery reverse connection diagnosis and other safety protection functions.
- With intelligent temperature control system, charger with inlet and outlet temperature warning and protection function, charging plug temperature warning and protection function, the whole charger with intelligent temperature derating protection mechanism.
- Improved charging protection function and mechanism, aims to protect personnel safety and prevent vehicle overcharging to ensure safe operation.

Stable and Reliable

- Material selection: International famous brand electrical components to ensure the system efficient and stable operation.
- Manufacturing process: Charger cabinet is made of G60 corrosion resistant galvanized steel plate, the surface is protected by multi-layer organic coating, and the PCB circuit board is protected by three protection processes: anti-moisture, anti-mildew and anti-salt fog, so as to ensure the normal and stable operation of the charging function in the outdoor humid and salt fog environment.
- Design concept: Fully independent design of hardware and software used, from PCB circuit board to system structure, from embedded software to cloud platform, the system has a high degree of consistency, compatibility, scalability and stability. Labyrinth design adopted in air duct help to prevent water and dust from entering effectively, IP protection feature improved.

Product Overview

Product Features

- Electrical performance is superior to the industry level, with high voltage accuracy, high current accuracy, low ripple, THD, standby power consumption, etc.

Strong Compatibility

- Compliance with IEC, EN and TR 25 standards, with certification issued by professional testing authorities.
- flexible choices of Intelligent compatible Ethernet access, 2G/3G/4G wireless communication network access.

Smart Internet of Things (SIOT)

- The charger achieves smart IoT based on OCPP protocol and cloud platform, and monitors many parameters in realtime
- Remote diagnosis and upgrade service could be supplied. The charger is allowed to find and locate the actual problems onsite in time and provide corresponding solutions to help the operation center achieve remote service
- With remote dealing function of software upgrading, charging message acquiring, charging controlling, rate issuing, parameter setting, fault information sending, and other various problems in the actual operation process of end users
- The fault information of the charger is monitored in real time, recorded and uploaded to the fault monitoring and management system of the cloud platform. The fault is statistically analyzed, and sent to after-sales maintenance personnel in real time to realize efficient and safe operation

Human-machine Interaction (HMI)

- High - light, anti - direct - ray touch screen display, conform with ergonomics and easy operation
- Friendly HMI interface with all the charging information in each charging phase displayed with words and prompts
- Multiple languages are supported, users could choose easily by manual setting

Charging Function

- Charging control pilot meets IEC 61851 requirements, and demand voltage and current be responded quickly and accurately according to vehicle BMS requirements in normal charging

Product Overview

Product Features

process

- Multiple start up charging methods supported: charging by IC card, charging by button on the screen, plug and charge
- Intelligent power distribution on the cloud platform supported aims to dynamically adjust and distribute power on a single charger or whole charging station in realtime

Metering Function

- Metering Function: Accuracy level of the meter is 1.0, meets MID certification requirements
- Meter conforms to: IEC 62052-11 , IEC 62053-21

Payment Function

Charger provides charging time and electricity quantity information to the operation back-office platform, and the operation back-office platform centrally controls the charging strategy and supports the settlement by RFID card.

RFID Card Management System

Well improved RFID card making and issuing system, with asynchronous settlement function aims to provide users with efficient operation management.

Charging Record Saving Function among Power failure

When met sudden power loss situation, charger could locally save charging and fault records then upload to the back-office platform.

Dehumidification Function

Upon completion of each charging process, charger cooling system would intelligently delay shut down to ensure a fully cooling and dehumidify the charger, aims to avoid condensation phenomenon, and ensure good insulation and electrical safety.

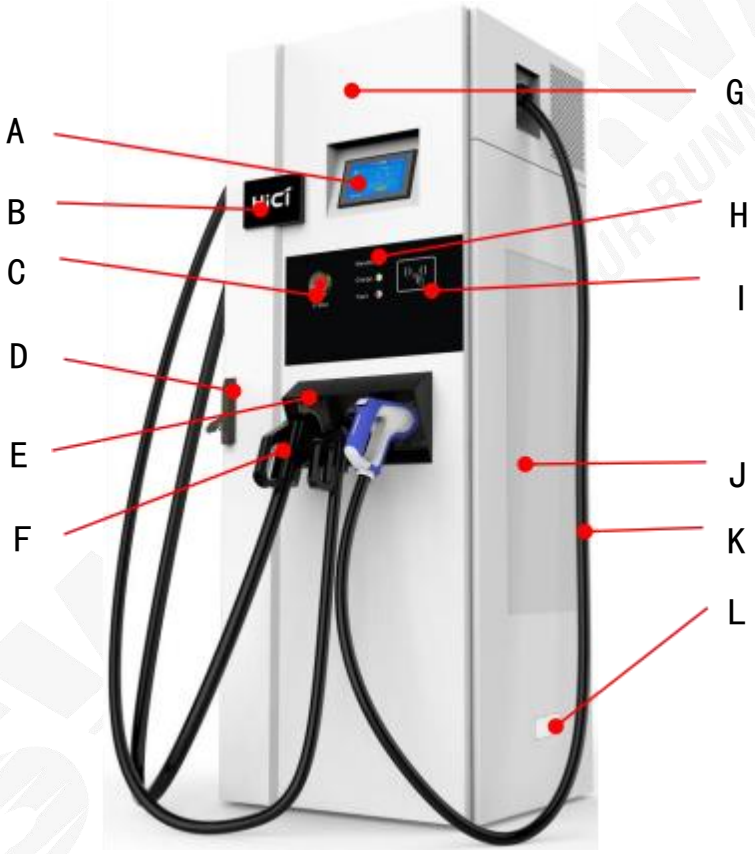
Heating Function (Optional)

Considering that the response speed of the screen may slow down and the display may drag under the extreme low temperature environment, the user can consider whether to install heating equipment according to the average temperature in winter in the area where the charger is used, so as to ensure a better interactive experience.

Product Overview

Product Description

External Structure

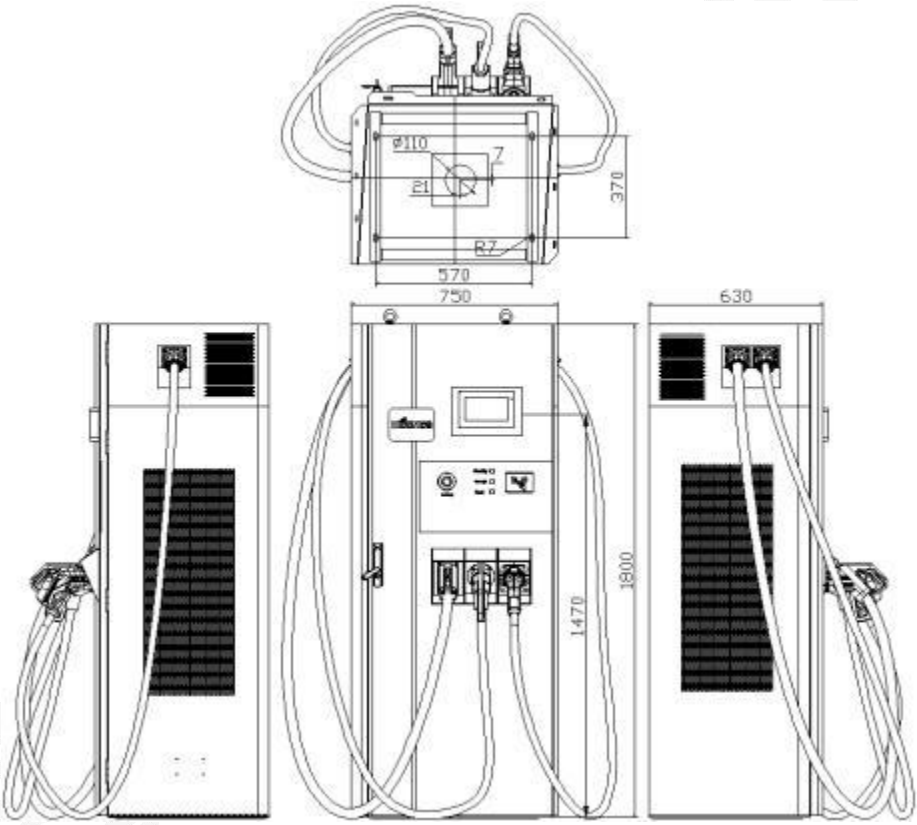


A. Touch screen display	B. Logo board	C. Emergency button	D. Lock
E. Plug socket	F. Charging connector	G. Front door	H. LED Light
I. Card swiping area	J. Air outlet	K. Cable	L. Nameplate

Product Overview

Product Description

Dimension

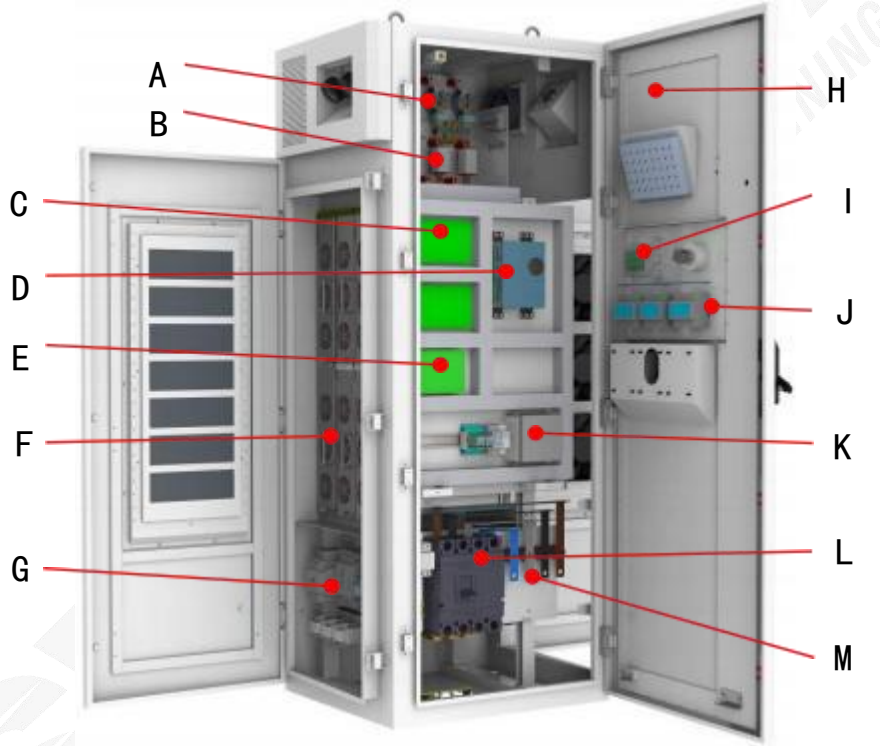


Charger Dimension Parameters（Unit：mm）		
Length（L）	Width（W）	Height（H）
750	630	1800

Product Overview

Product Description

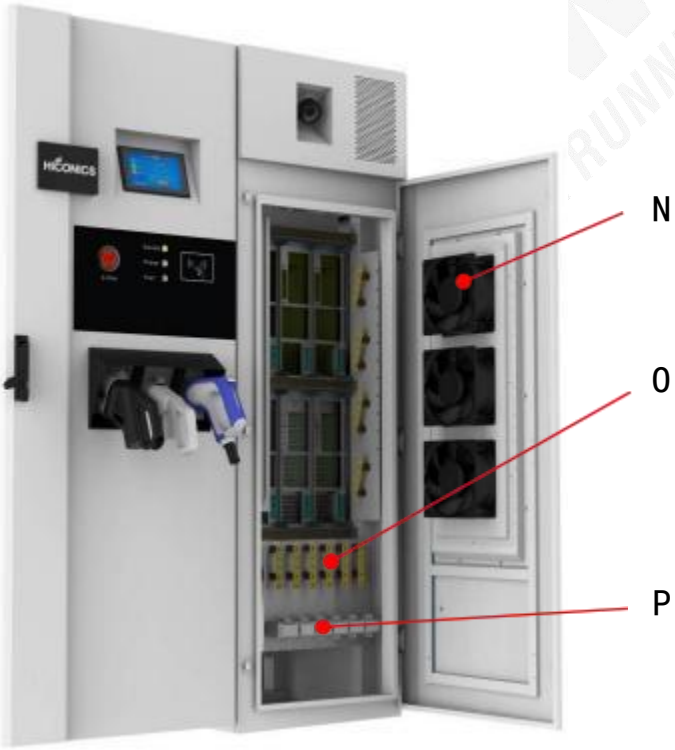
Internal Structure



A. Output contactor	B. Fuse	C. DC Controller	D. TCU
E. AC Controller	F. Power module	G. AC charger component	H. Billing Unit
I. Card reader	J. Meter	K. Power switch	L. MCCB
M. Main input contactor			
Note: Due to charger version updating, there might be difference between picture and real charger. Please consult the manufacturer if necessary.			

Product Overview

Product Description



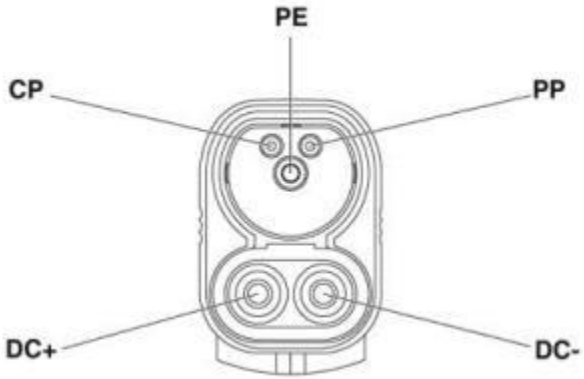
N. Cooling fan	O. Copper bar	P. Hall sensor	
Note: Due to charger version updating, there might be difference between picture and real charger. Please consult the manufacturer if necessary.			

Product Overview

Product Description

CCS2 Plug Pin Definition

The output DC vehicle connector plug pin number/identification and function definition are shown below.



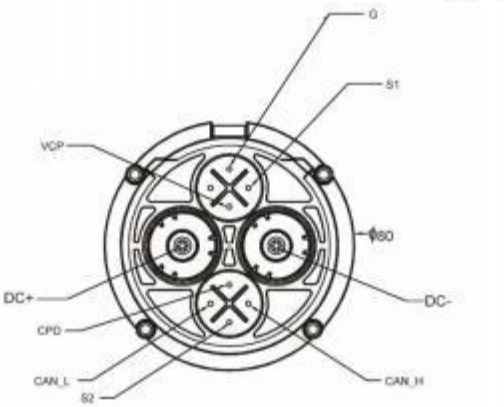
Pin No./Identification	Rated Voltage and Rated Current	Function Definition
1——DC+	1000V 80A/125A/200A	DC power supply +, connected with DC power supply + and battery positive pole
2——DC-	1000V 80A/125A/200A	DC power supply -, connected with DC power supply - and battery negative pole
3——PE	-	Earth (PE), connected with power supply equipment and vehicle power platform
4——CP	0～30V 2A	Charging communication CP, communication wire that connect with off-board charger and EV vehicles
5——PP	0～30V 2A	Charging Connecting Confirmation

Product Overview

Product Description

CHAdeMO Plug Pin Definition

The output DC vehicle connector plug pin number/identification and function definition are shown below.



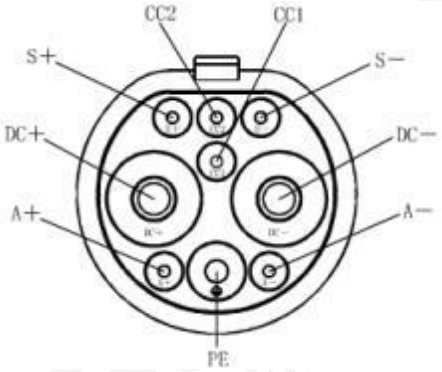
Pin No./Identification	Function Definition
1-G	Setting line
2-S1	Charging start stop 1
3	/
4-VCP	Charging permission static
5-DC-	Power supply(-)
6-DC+	Power supply(+)
7-CPD	Connector connection confirmation
8-CAN-H	CAN-H
9-CAN-L	CAN-L
10-S2	Charging start stop 2

Product Overview

Product Description

GB/T DC Plug Pin Definition

The output DC vehicle connector plug pin number/identification and function definition are shown below.



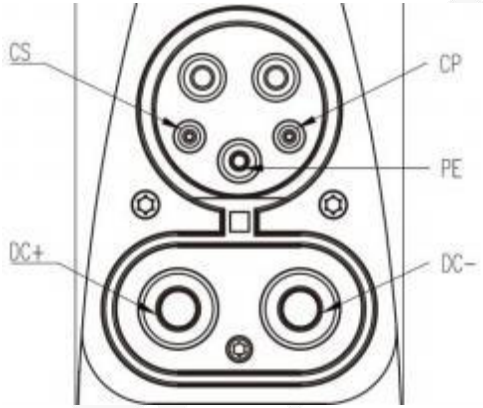
Pin No./Identification	Rated Voltage and Rated Current	Function Definition
1——DC+	750V/1000V 80A/125A/200A/250A	DC power supply positive
2——DC-	750V/1000V 80A/125A/200A/250A	DC power supply negative
3——PE	-	Protect ground (PE)
4——S+	0 ~ 30V 2A	Charging communication CAN-H
5——S-	0 ~ 30V 2A	Charging communication CAN-L
6——CC1	0 ~ 30V 2A	Charging connection confirmation
7——CC2	0 ~ 30V 2A	Charging connection confirmation
8——A+	0 ~ 30V 2A	Low voltage auxiliary power supply positive.
9——A-	0 ~ 30V 2A	Low voltage auxiliary power supply negative.

Product Overview

Product Description

CCS1 Plug Pin Definition

The output DC vehicle connector plug or socket pin number/identification and function definition are shown below.



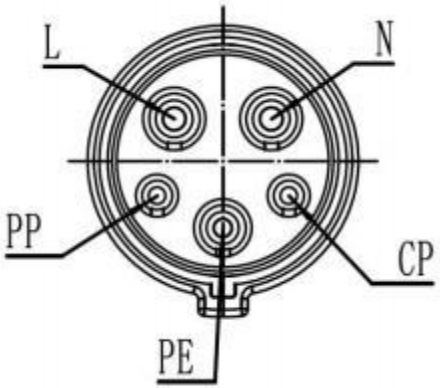
Pin No./Identification	Rated Voltage and Rated Current	Function Definition
1——DC+	1000V 80A/125A/200A	DC power supply +, connected with DC power supply + and battery positive pole
2——DC-	1000V 80A/125A/200A	DC power supply -, connected with DC power supply - and battery negative pole
3——PE	-	Earth (PE), connected with power supply equipment and vehicle power platform
4——CP	0～30V 2A	Charging communication CP, communication wire that connect with off-board charger and EV vehicles
5——CS	0～30V 2A	Charging Connecting Confirmation proximity detection

Product Overview

Product Description

Type 1 AC Plug Pin Definition

The output AC vehicle connector plug pin number/identification and function definition are shown below.



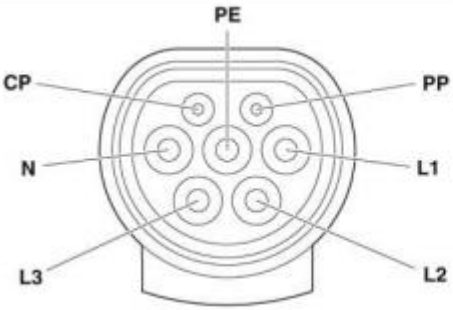
Pin No./Identification	Rated Voltage and Rated Current	Function Definition
1——L1	240V 10A/16A/32A	AC power supply (single phase)
2——N	240V 10A/16A/32A	Null line (single phase)
3——PE	-	Earth (PE), connected with power supply equipment and vehicle power platform
4——PP	0～30V 2A	Charging Connecting Confirmation
5——CP	0～30V 2A	Charging communication CP, communication wire that connect with off-board charger and EV vehicles

Product Overview

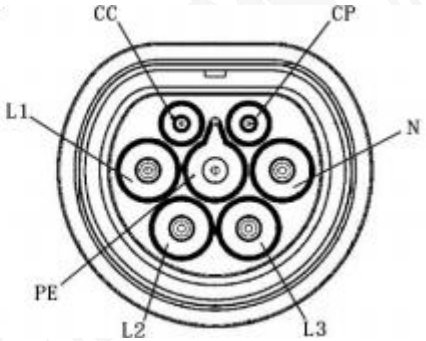
Product Description

Type 2 AC Plug/Socket Pin Definition

The output AC vehicle connector plug pin number/identification and function definition are shown below.



Plug



Socket

AC Vehicle Connector Plug or Socket Pin Number/identification and Function Definition

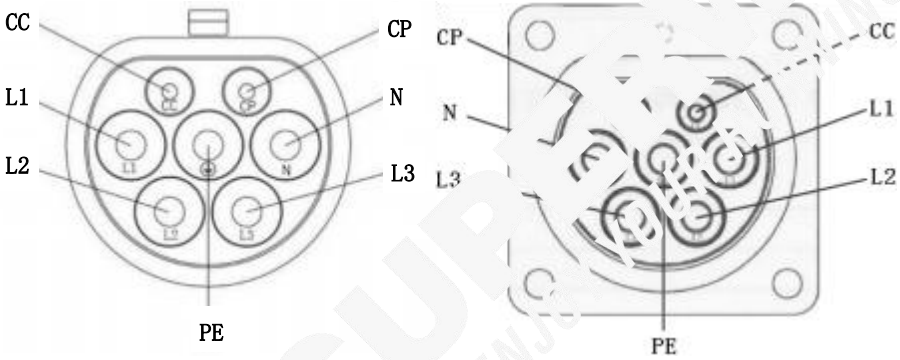
Pin No./Identification	Rated Voltage and Rated Current	Function Definition
1——L1	250V 10A/16A/32A	AC power supply(single phase)
2——L2	480V 16A/32A/63A	AC power supply(three phase)
3——L3	480V 16A/32A/63A	AC power supply(three phase)
4——N	250V 10A/16A/32A	Neutral line(single phase)
	480V 16A/32A/63A	Neutral line(three phase)
5——PE	-	Earth (PE) , connected with power supply equipment earthing and vehicle power platform
6——CC	0～30V 2A	Charging connecting confirmation
7——CP	0～30V 2A	Control pilot

Product Overview

Product Description

GB/TAC Plug/ Socket Pin Definition

The output AC vehicle connector plug or socket pin number/identification and function definition are shown below.



Plug Socket

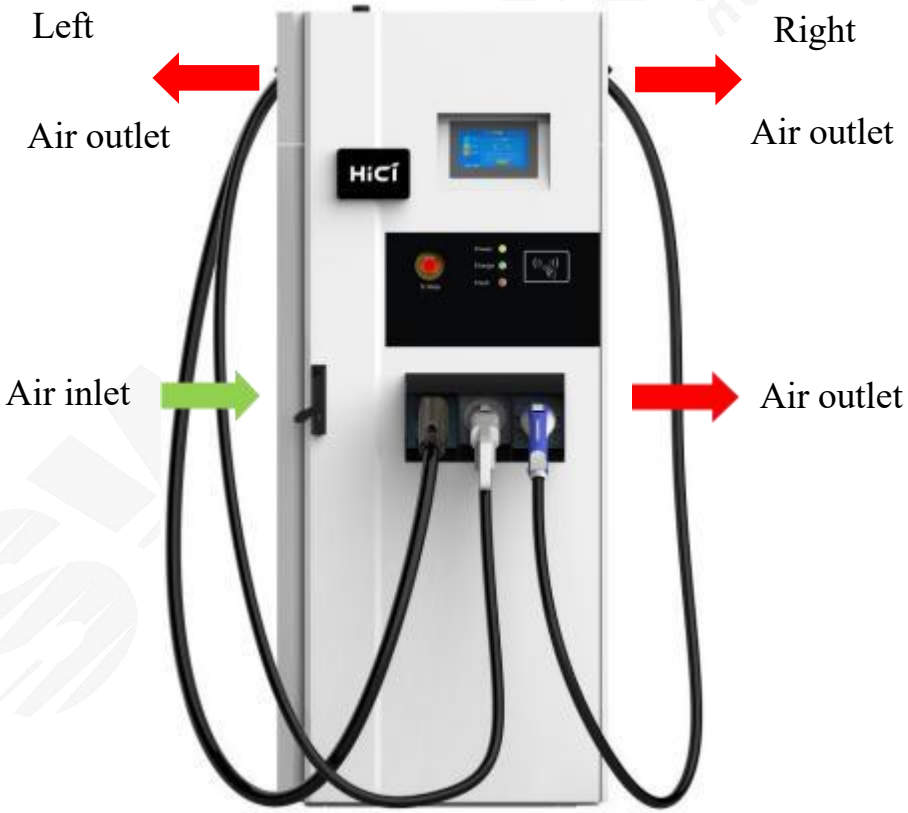
Pin No./Identification	Rated Voltage and Rated Current	Function Definition
1——L1	250V 10A/16A/32A	AC power supply (single phase)
2——L2	480V 16A/32A/63A	AC power supply (three-phase)
3——L3	480V 16A/32A/63A	AC power supply (three-phase)
4——N	250V 10A/16A/32A	Null line (single phase)
	480V 16A/32A/63A	Null line (three-phase)
5——PE	-	Earth (PE), connected with power supply equipment and vehicle power platform
6——CC	0～30V 2A	Charging Connecting Confirmation
7——CP	0～30V 2A	Charging communication CP, communication wire that connect with off-board charger and EV vehicles

Product Overview

Product Description

Chargers Ventilation Requirements

When the charger in charging process, about 4% energy will convert into heat. So, it is necessary to ensure the air where the charger installed flowable and continuous also the main air inlet and outlet paths shall not be blocked. Therefore, enough space shall be left around the charger before installation. Meanwhile, the charger should not be placed in a closed space with no flow air. The position of charger air inlet and outlet are shown as follows:



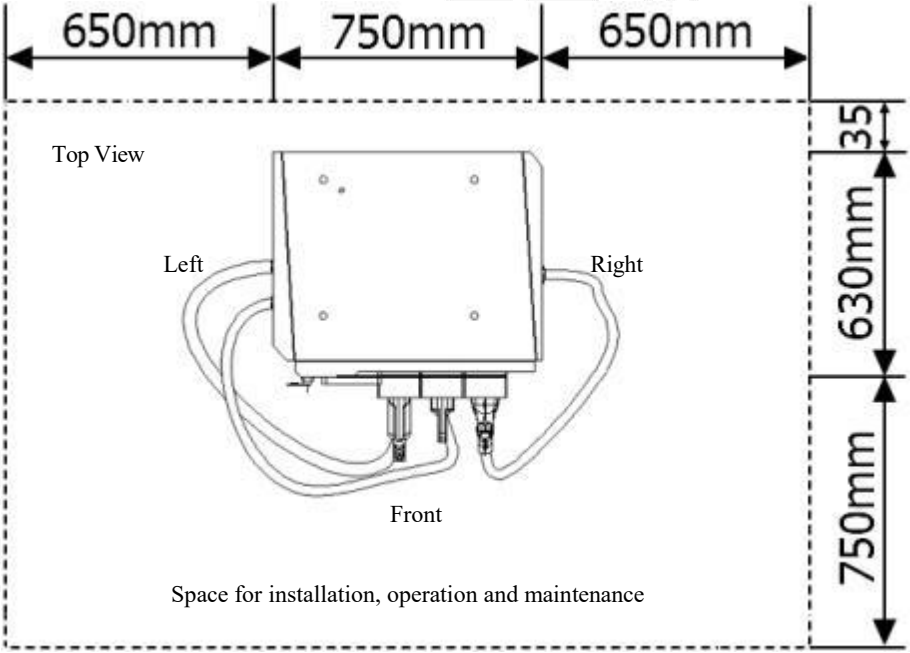
Product Overview

Product Description

Installation Space Requirements

In order to ensure safe and reliable operation and convenient maintenance, sufficient installation space should be reserved during the installation of the charger.

- Space in front door≥750mm, make sure the front door could be open freely and relevant maintenance could be operated.
- Space in left side≥650mm, make sure enough space left for inserting and extracting the plug and air outlet flow smoothly.
- Space in right side≥650mm, make sure enough space left for inserting and extracting the plug and air inlet flow smoothly.



Product Overview

Product Description

Network Connection Requirements

The charger has been integrated with 2G/3G/4G wireless communication modules and supports different communication operators. Customers shall prepare proper SIM card in accordance with the local carrier's policy for networking services. It is necessary to confirm that the signal strength of the wireless communication network is stable enough when selecting the site for the installation of the charger. Otherwise, customer shall contact local communication operator to install signal amplifier.

If there is no local 2G/3G/4G communication signal, standard wired network connection can be used.

The wired connection must meet the following requirements：

- RJ45 Ethernet
  - Network cable type： CAT.5
  - The distance between charger and router is suggested to be less than 100m. If the distance is longer than 100m, customer needs to customize the engineering plan.
- Minimum bandwidth value needed:
  - Uplink rate： 128 kbps
  - Downstream rate： 4 Mbps
- Connection stability needed： 99.9%

Installation Instructions

Construction Preparation / Charger Foundation / Installation Preparation
Installation Steps / Commissioning Steps

Installation Instructions

Construction Preparation

About Basic Construction

The following conditions need to be obtained before the basic construction:

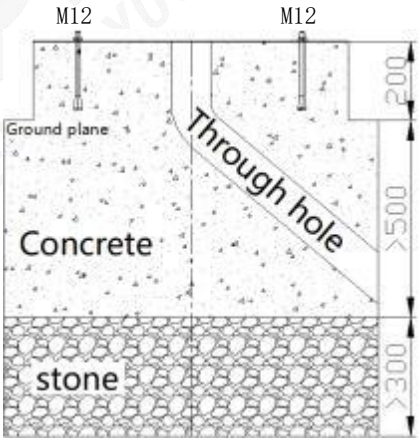
- All the engineering preparations are in ready:
- All necessary land permits have been obtained
- The power grid can be connected in

Inlet Mode of Charger

The power cables need to get inside the charger from bottom.

Installation Foundation Requirements

When the charger is installed indoors or in high and dry places, customer may choose to install charger without foundation according to onsite situation. But must be firstly ensure the ground is flat enough, the deviation shall be kept within ±1.5mm for every square meter. The ground at the installation location must be hardened concrete ground with strength grade not less than C30.



When the charger is installed outdoors and in low-lying places prone to water accumulation, cement or channel steel foundation shall be installed. The height of cement foundation shall be 200mm higher than the ground, the height below the ground shall be no less than 500mm, and no less than 300mm gravels shall be embedded below the cement foundation. 4 pieces of M12 stainless steel bolts shall be embedded on the mounting surface, and the thread of the bolts shall be kept within 30±3mm above the ground. The expansion bolts can also be driven in from the mounting surface according to the bitmap of the charger mounting hole after the foundation is completed.

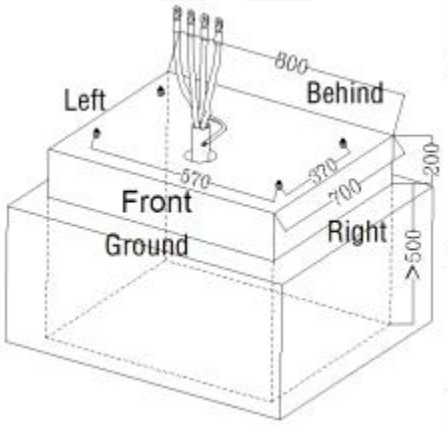
The cement foundation shall be pre-embedded with cable entry pipe, and enough space shall be reserved according to the actual used cable by the charger.

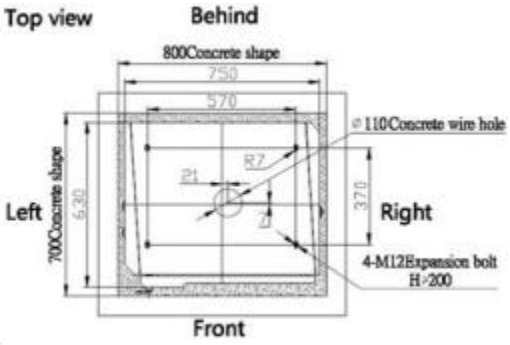
Installation Instructions

Charger Foundation

The cement foundation shall be designed according to actual situation onsite. The following instructions for general situation could be referred to:

- First confirm the installation place, then dig a square hole with dimension of 800mm(L)× 700mm(W)×800mm(H)
- In order to ensure that the cable can enter from the pre-embedded line pipe, the diameter of the embedded pile should be no less than 110mm (according to the actual situation).
- No less than 300mm high gravels shall be embedded in the square hole.
- Make the cement foundation as shown in the figure below. The underground part of the foundation shall be no less than 500mm, and the aboveground part shall be no less than 200mm to reduce the risk of being flooded.
- 4 pieces of M12 stainless steel bolts shall be pre-embedded during the foundation making process, and the thread of the bolts shall be kept 30±3mm above the ground
- The length of the cable reserved in the foundation is 1m. When install the charger, cable shall be cut and wired with proper length according to the actual situation.
- After the cable or network cable (if wired network used) connection completed, the wire inlet hole shall be blocked with fireproof mud to prevent rodents, insects and other small animals from entering inside the charger.
- The cement foundation shall be filled with gravels.





Installation Instructions

Charger Foundation

Bolts installation method for drill holes (4-M12 expansion bolts):

- Mark on the cement foundation surface according to the center position of 4-12mm hole of the charger fixing hole.
- Make a deep hole with a drill in accordance with the specified aperture. Please drill the hole with proper diameter and depth according to the length of fixing bolt.
- Please remove the drilling powder and clean all around.
- Drill the expansion bolt into the concrete foundation.

Installation Instructions

Charger Foundation

Cable Requirements

Cable Type: Three-phase Five-wire mode (3P+N+PE)

The current of molded case circuit breaker and the cross-sectional area of the input copper cable recommended shall be no less than the following table:

DC Power	AC Power	Input Voltage	Max. Input Current	Circuit Breaker Recommended	Cable Specification Recommended (Copper core cable)
30kW	/	400V± 15%	55A	63A	YJV22-0.6/1kV-3*16mm²+2*10mm²
	7kW/22kW		87A	100A	YJV22-0.6/1kV-3*25mm²+2*16mm²
	43kW		118A	125A	YJV22-0.6/1kV-3*25mm²+2*16mm²
60kW	/		110A	125A	YJV22-0.6/1kV-3*25mm²+2*16mm²
	7kW/22kW		142A	160A	YJV22-0.6/1kV-3*50mm²+2*25mm²
	43kW		173A	250A	YJV22-0.6/1kV-3*70mm²+2*35mm²
90kW	/		165A	250A	YJV22-0.6/1kV-3*70mm²+2*35mm²
	7kW/22kW		197A		YJV22-0.6/1kV-3*70mm²+2*35mm²
	43kW		228A		YJV22-0.6/1kV-3*95mm²+2*50mm²
120kW	/		219A	250A	YJV22-0.6/1kV-3*95mm²+2*50mm²
	7kW/22kW		251A	315A	YJV22-0.6/1kV-3*120mm²+2*70mm²
	43kW		282A		YJV22-0.6/1kV-3*120mm²+2*70mm²
150kW	/		274A	315A	YJV22-0.6/1kV-3*120mm²+2*70mm²
	7kW/22kW		301A		YJV22-0.6/1kV-3*150mm²+2*95mm²
	43kW		337A	350A	YJV22-0.6/1kV-3*150mm²+2*95mm²
180kW	/		328A	350A	YJV22-0.6/1kV-3*150mm²+2*95mm²
	7kW/22kW		360A	400A	YJV22-0.6/1kV-3*185mm²+2*120mm²
	43kW		391A		YJV22-0.6/1kV-3*185mm²+2*120mm²

Installation Instructions

Charger Foundation

Circuit breakers and cables shall comply with relevant national and local standards.

In order to ensure the safety of different on-site electricity, the recommended specifications of MCCB and cable is relatively larger. Customer could choose proper type according to the on-site situation.

The models of circuit breakers and cables recommended in the above table are for reference only.

Molded Case Circuit Breaker (MCCB) Requirements

Each power distribution input line of charger shall be equipped with an independent molded case circuit breaker. When the circuit breaker needs leakage protection function, 4P model MCCB needs to be chose. 3P model MCCB could be chose if leakage protection no need. MCCB models for different chargers choose could refer to the above table information.

Installation Instructions

Installation Preparation

Charger Loading, Transportation and Uploading Requirements

- Chargers are large outdoor electrical cabinets, generally the weight is more than 200kg, so special attention needs to be paid during products loading, transportation and uploading process.
- For lifting or moving equipment, special load-bearing forklift, crane, manual hydraulic forklift and other load-bearing and transfer devices shall be used, and more than 2 professional staffs shall be arranged to operate.
- The charger must not be dumped down in long distance transportation.
- Please keep the charger in standing position and make sure charger must not be dumped down or be hit by external products.
- During transportation process, relevant protective measures such as gloves, work clothes, hard hats, etc need to be taken. Charger shall be kept steady and shall walk carefully to prevent sliding or tripping.
- Please place the charger with care and do not hit it violently to prevent damage.

Products On-site Inspection

- After getting the products, confirm if any damage on the package
- Visual inspection to ensure the appearance of the product without collision, scratch, crack, dent, rust, damage, paint peeling and other abnormal conditions
- Check whether the charger nameplate information is correct
- According to the packing list, check whether the spare parts and the documents with the goods are complete (refer to the shipping list), and keep the spare parts and documents properly
- Check whether there is crush, rust, damages, terminal connection too loose and other abnormal conditions of the charging connector.
- Check whether the touch screen display, charging socket and cable holder is damaged or loose and other abnormal conditions

If there is any abnormal situation, please inform the carrier immediately, and take photos for evidence. Customer can firstly agree to receive the product with note on the receiving sheet. Meanwhile, customer shall contact the manufacturer's sales or after-sales personnel to discuss dealing process

Installation Instructions

Installation Preparation

Onsite Confirmation

• Confirm that onsite altitude, location coordinates, temperature, humidity, ventilation, load-bearing, installation location and maintainable space, power supply and other conditions meet the requirements of the charger

• Confirm whether the signal strength of the wireless network in the field is good and stable (the signal strength shall be greater than -85dBm, or the signal strength more than 50% checked with mobile phone)

• Make sure the construction work is ready, and the power grid has been connected and could be used anytime

• If the infrastructure has not been completed for installation, the charger shall be recommended to be installed after the completion of the construction to prevent damage to the equipment caused by the surrounding construction materials

• Storage: the charger shall be stored in the packing box, with warehouse environment temperature - 40 ℃ ~ 70 ℃, relative humidity 5% ~ 95%. No harmful gas, flammable, explosive and corrosive chemicals shall be allowed in the warehouse. There shall be no strong mechanical shock, impact and strong magnetic field, and charger shall be away from getting wet, insolated, condensated or frosted. The packing box shall be at least 20cm height from the ground and at least 50cm from the wall, heat source, window or air inlet places. The storage period with proper storage condition is generally 1 year. If exceed 1 year storage requirement, charger needs to be re-inspected before installation.

Warning

• Since the installation of the charger is kind of complicated and dangerous, it shall be installed in accordance with the requirements of this manual by professional and technical personnel with relevant qualification certification (with electrician certificate)

• Personal protection measures such as protective gloves and safety helmet shall be worn during installation process

• During installation, all switches should be ensured in disconnection state, and professional tools (multimeter) should be used to confirm there is no danger current left. Charger has no input or output power, and the internal charge of the equipment shall be empties out before operation and installation

• Each charger shall use an independent protection switch. The connection between the charger and the power grid shall be connected by a special terminal. The charger shall be well grounded, and the phase line shall be connected to the zero line

Installation Instructions

Installation Preparation

Installation Tools

Tools Needed

Name	Function	Quantity
Multimeter	Measure circuit connection and disconnection as well as and voltage	1
Electric drill and drill bit (φ16)	Drill holes	1
Tapeline	For measurement	1
Gradienter	Measure the foundation levelness	1
Cross screwdriver / straight screwdriver	Fasten bolts	1 piece for each
Cutter knife	Help to deal with the charger package	1
Scissors	Help to deal with the charger package	1
Pincer pliers	Help to deal with the charger package	1
Spanner wrench	Fasten bolt and unwrap the pack	1
No. 19 wrench	Fasten bolt	1
Hammer	Unwrap the pack	1
Cable stripping pliers	Help to deal with the cables	1
Terminal press pliers	Help to deal with the pressing of terminals	1
Cable cutting nippers	Help to cut cables	1
Forklift/ Crane	Help to move chargers	1
Insulation tape	Use in the wire connection part	1
Protective equipments as gloves and helmet	Ensure the safety of operator	1

Note: All the tools need to be prepared by customers.

Installation Instructions

Installation Preparation

During Installation and Maintenance Process

- Live operation is strictly prohibited
- Unauthorized dismantling is strictly prohibited
- Must ensure the safety while operating
- When connecting the input power line, the following sequence needs to be abide by: PE earthing wire-Zero Line-phase line
- All operations shall strictly comply with relevant safety standards

After Installation and Maintenance Process

- Carry out acceptance, testing, repair and maintenance according to installation and maintenance requirements
- Organize and collect the tools used on site, restore the equipment and ensure the complete restoration
- Lock the door, power on the charger for trial operation first, check the charger is in safe and normal operation

Installation Instructions

Installation Steps

Product Acceptance

All the export chargers are packaged in plywood packages. Chargers shall be delivered designated places according to the contract terms signed. The customer shall be responsible for the onsite charger acceptance process, manpower and equipment for unloading and handling should be prepared at the receiving site in advance.

Packing Unwrapping process

Proper tools for unwrapping the package shall be prepared according to the packaging type of the goods received. For plywood case type package, usually all the buckles on the frame need to be dealt with hammer or pincer pliers in turn from top roof to four sides. Please pay attention to personal safety while unwrapping the package.

Installation Instructions

Installation Steps

- After the package been unwrapped, first open the front door of the charger to check if there is any abnormal situation as wire line terminals dropped or loose.
- After internal checking, close the door again.

Installation Instructions

Installation Steps

Charger Ready

To transfer the charger to a pre-made concrete foundation, follow these two steps:

• Step 1: Use a liftable forklift to transport the charger, and the forklift uses a 2-3 ton forklift

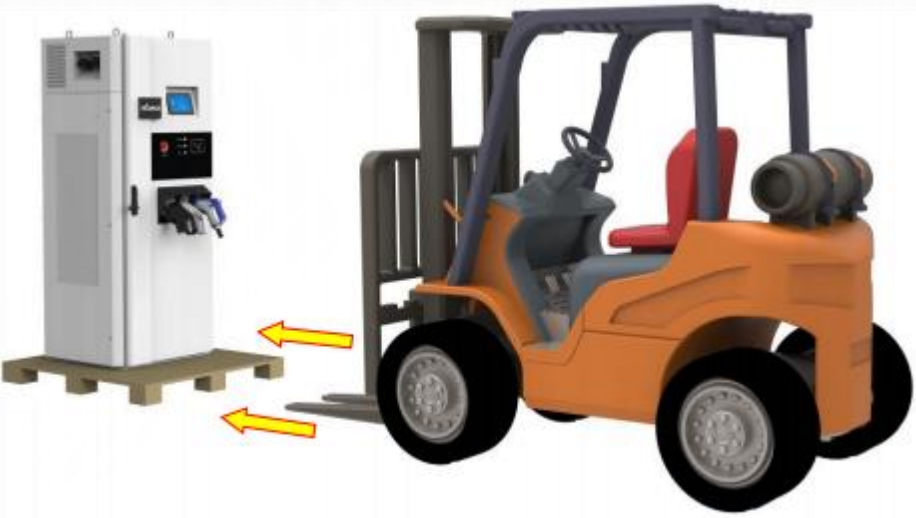
• Step 2: Transfer the charger to the mounting position by hoisting, suitable for equipment with top rings.

Step 1： Move the charger

• Adjust the width of the double fork center distance of the forklift, and carefully insert it from the reserved space of the pallet base.

• Move the charger carefully onto the installation place.

• Remove the 4 pieces of bolts which is holding the charger and the pallet with proper wrench.



Warning

Damages caused by onsite movement to the charger has not included inside the warranty range.

Installation Instructions

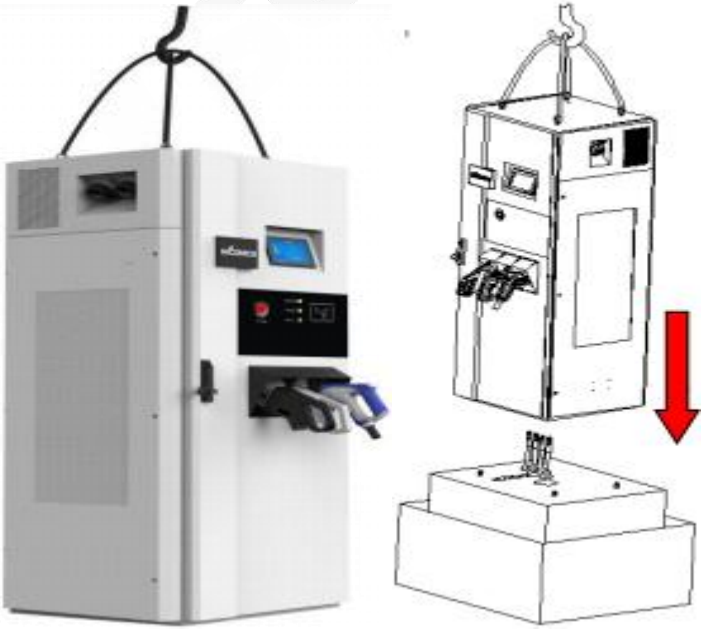
Installation Steps

Step 2: Mount the charger by hoisting

- Securely attach lifting equipment (slings/steel cables of sufficient strength) to the eyebolts on the top of the charger. Ensure that the rings are evenly stressed.
- Carefully uplift the charger for about 0.5m on top of the installation cement foundation with lifting equipment. Manually pull the input power cable through the plastic tower-shaped seal ring below the charger. Than put the charger down carefully and ensure that the cabinet holes are aligned with the bolt holes.
- Remove lifting equipment when in place.

Preparation Works

- Tools: No. 19 wrench (fix M12 Hexagonal nuts) , cross screwdriver.



Installation Instructions

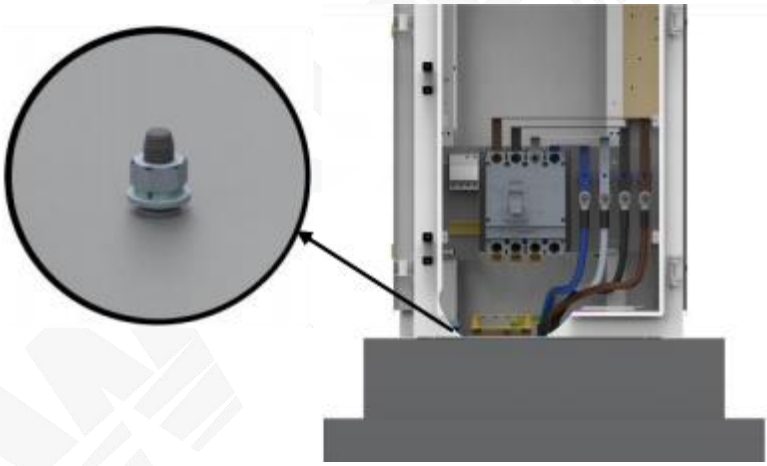
Installation Steps

Charger Fixation

4-M12 nut

4-M12 Spring washer

4-M12 flat washer



- M12 flat washer, M12 spring washer and M12 nut shall be put in the fixed four corners in sequence.
- Fasten the 4 pieces of nuts with No. 19 wrench and make sure that the spring washer needs to be fully pressed.

Installation Instructions

Installation Steps

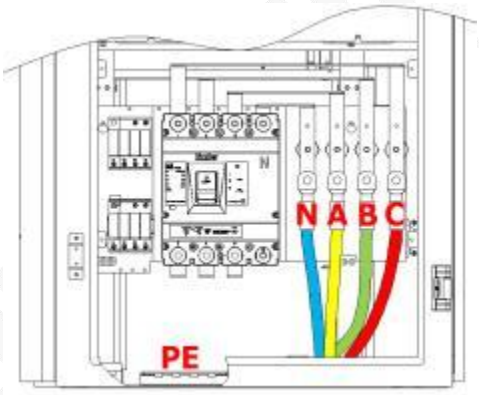
Connecting Cable

• Tools: Cable cutting nippers, OT terminals, Terminal press pliers

Connect PE and N Line

• Strip PE line and N line from the cable with appropriate length, long enough to be connected to the corresponding copper bar, the ground wire PE shall be a little bit longer.

• Strip the insulation cover of the PE line and N line for 20mm with cable stripping pliers, then choose proper OT terminal and crimp the terminals to the line end.



Style 1

• First connect PE line then N line.

• Connect the N line terminal onto the terminal post, then tighten the screw to ensure the spring washer fully pressed.

Danger

Ensure that the main circuit switch and auxiliary circuit switch of the charger are in the disconnected state. Double check voltage with multimeter to to make sure there is no voltage on the wires and system.

Attention

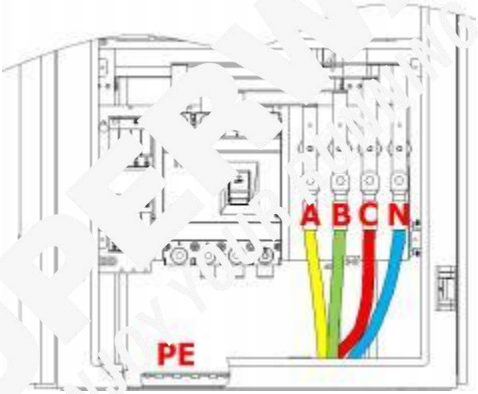
For safety consideration: The PE line is recommended to be left a little bit longer than the normal phase wire to ensure that the PE ground wire can remain connected for the maximum and longest time if the charger is accidentally collided.

Installation Instructions

Installation Steps

Connect Phase Line (A, B, C)

- Strip 3 phase lines from the cable with appropriate length, long enough to be connected to the corresponding copper bar.
- Strip the insulation cover of the 3 phase lines for 20mm with cable stripping pliers, then choose proper OT terminal and crimp the terminals to the line end.
- Loosen the acrylic insulation protective cover (model with protective cover) with cross screwdriver and then remove it.
- Remove nuts and screws of phase line terminal post.
- Connect 3 phase line onto the terminal post in sequence of A (yellow), B (green) and C (red) from left to right.



Style 2

- Tighten the screw to ensure the spring washer fully pressed.
- Install the insulating cover.
- After the cable is well connected, cable installation status shall be double checked to ensure the power incoming and outgoing lines inside the charging equipment neatly and fixed reliably, insulation cover without any damage.

Danger

When the charger is not put into use, please keep the main circuit switch and auxiliary circuit switch of the charger disconnected. Before putting into use, please contact our service department at least one week in advance to make an appointment for equipment debugging.

Notice

Different types of circuit breakers have slightly different cable connection methods. Refer to the above two methods.

Installation Instructions

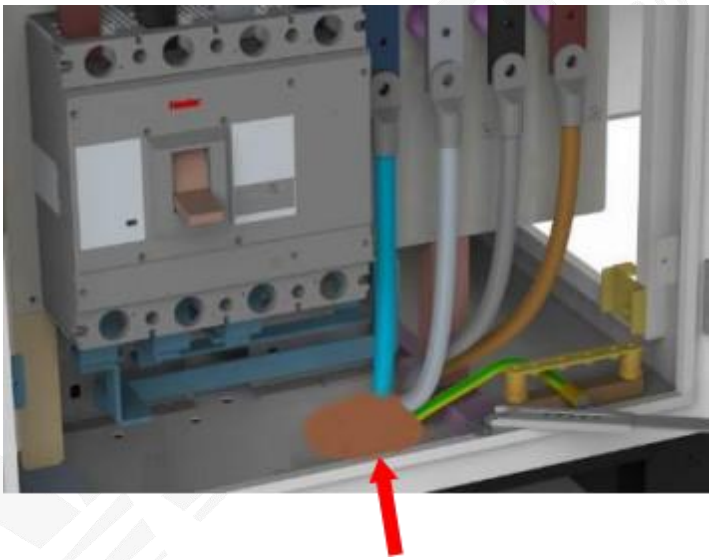
Installation Steps

Seal Cable Inlet Hole

• Tools: Fireproofing mud

• Check the sealing situation of the inlet and outlet hole of the charger. All the inlet and outlet hole of the removable door cover or shell without the help of special tools should be well sealed without obvious cracks visible to the naked eye.

• Seal the cable inlet hole with fireproofing mud.



Sealing with fireproofing mud

① **Notice**

Incoming hole must Be Sealed by anti-blocking mud. Otherwise, Condensation may occurred inside the charger. Charger damages caused by improper operation will not be. included in the warranty terms.

Fireproofing mud needs to be prepared by the customer and sealed in the construction stage.

If it is not performed as required, the charging pile may enter foreign bodies or components may be damp. Any liability arising from this shall be borne by the operator.

Installation Instructions

Installation Steps

Connection of the Ethernet

Notice

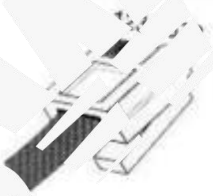
Ethernet shall be adopted when 3G/4G signal cannot meet actual use (signal is bad or no signal could be reached) .Ethernet could also be adopted if customer requires using wire line connection.
If Ethernet needs to be used, please make sure to wire line have been pre-laid.

Preparation:

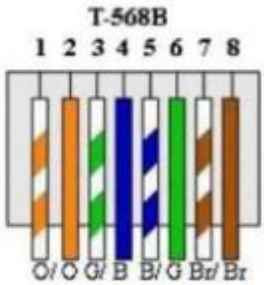
Tools: Wire line pliers, RJ45 interface joints

Connecting Operation:

- Cut the wire line to proper length, which is enough to be connected with the billing unit WLAN interface.
- Press the RJ45 interface joints with the wire line. The sequence is as follows. Parallel connection method shall be adopted in both sides.



RJ-45 Joint



- Connect RJ45 interface joint with the billing unit Ethernet interface

Installation Instructions

Commissioning Steps

Installation and commissioning is the last stage before the charger begins normal operation. The purpose is to check the safety and performance of the charging system to ensure the operation of subsequent security and stability.

The personnel responsible for the installation and commissioning works must be SUPERWAY after-sales service engineer, or a senior electrician (with professional electrician's certificate) operation onsite under the remote guidance of SUPERWAY engineers.

The end user needs to prepare and confirm the following conditions prior to the commissioning work:

- All the preparations, constructions and connection works mentioned previously have been completed.
- The input power connection works have been completed and the charger can be powered on anytime.
- At least one professional technician needs to be onsite for all operations with remote guidance.
- If no 3G/4G signal onsite, Ethernet shall be ready for use.
- Prepare an EV vehicle with same charging standard as the charger for onsite charging test.
- Arrange operator representatives to have onsite operating training.

During onsite commissioning process, systematical security performance and relevant charger functions will be tested. Detailed testing items shall be subject to onsite commissioning sheet supplied by manufacturer.

Only qualified charger with successful onsite commissioning test could be put into operation.

Warning

After successful onsite test, the charger is not allowed to remove. The warranty period will be invalid automatically if charger was removed without formal written notification received.

If the well installed charger needs to change to other place, please inform after sale service personnel firstly.

Please make sure that the charger is powered off during checking process.

Operation Instructions

System Start / Charging Operation / Back Office Operation

Operation Instructions

System Start

First Start

Please do not start the charger before the installation and on-site acceptance test is completed.

Normal Start

The main breaker and the control circuit breaker in the charger as well as customer's distribution cabinet circuit breaker shall be powered on. The charger will be energized, then enter the boot process, and the charger starting up process has finished when standby light is on.

When charger in standby state, main circuit is disconnected, power module without power supply, so standby power consumption is low. Therefore, when charger in normal operation state, the power supply needs not be disconnected.

Warning

- Please do not touch the plug PIN in case of electric shock.
- Please stop using of the charger if the plug was found liquid inside in case of electric short.
- Please ensure the connector safety and make sure that no residues inside the plug or the socket.
- Please make sure that the plug is in dry state before use. If water is found inside the plug, please power off the charger and then dry it before use.

Operation Instructions

Charging Operation

If the screen display is checked in normal working without fault reported, and the appearance as well as surrounding environment is normal, the charging pile can be used for charging.

If fault information is reported in screen, please stop the operation and contact professional technician for help.

Charging Mode Setting Method

Users could choose different charging mode according to actual need. (RFID or mobile APP is optional)

Click "System" on left bottom of home page, enter name and password. Name: USER, Password: 4567

Click "Confirm" to enter the function set page.
Click "Function" enter in the next page

Different start mode could be chosen by clicking drop-down box. Totally 11 different charging mode could be chosen by different combinations.

Notice

Dynamic password shall be needed if customer want to change start mode, which will be supplied by the manufacturer. Therefore, in order to avoid unnecessary operation of charger, we suggest a fully discussion with the manufacturer before the order.

Operation Instructions

Charging Operation

Charging Connector Connection

Please read the connection steps sticked near to the charger socket and then insert the plug into the EV vehicle socket accordingly. When successfully connected, display will show “plugged” and related connector state will show “Preparing”, shown as follows:

Start Mode Selection

Start by pressing button: Choose state as “preparing” connector and then press “Start” to enter the charging mode selection page, shown as follows:

Start by swiping card: Choose state as “preparing” connector and then press “go” to enter the charging mode selection page. Four different charging modes could be chosen as follows:

Operation Instructions

Charging Operation

Four Charging Modes:

- Automatic: By this mode, the charger will communicate with on-board BMS and the BMS will control the charging speed and charging time.
- Reservation: By this mode, start time and duration period shall be set manually. When reached pre-reserved time, charger will start charging automatically. After duration time achieved, charger will stop itself. If reservation time is earlier than current time, the charger will default to start charging tomorrow at the reserved time. If duration time set as "0", then vehicle BMS will control the charging till fully charged.

- Ration: By this mode, charging capacity shall be set manually. When the pre-set power capacity reached, the charger will stop charging automatically.
- SOC: By this mode, SOC value shall be set manually. When pre-set SOC reached, the charger will stop charging automatically. If the pre-set SOC value is even lower than current actual SOC value, the charger will stop charging immediately.

Operation Instructions

Charging Operation

Start charging operation

After the completion set of charging mode parameters, click “Confirm” to keep the set mode. If start by swiping card mode selected, the page will jump to swiping card prompt page and user should put RFID card on the card swiping area of the charger for about 2-3 seconds, hear the “di” sound to move the card. Then the charger will start charging process.

If start by pressing button mode selected, the charger will start charging process after user click “confirm” on the display.

Charging Preparation Period

Before successful charging process, the charger will have a preparing period for about 30-60 seconds for handshake, authorization as well as detection check. Please be patient to wait.

Operation Instructions

Charging Operation

Charging Period

After successful communication, charger will enter formal charging period. A real time dynamic charging will be output according to actual need of vehicle BMS. Regular charging parameters will be shown on screen. During charging period, if user did not operate to stop charging, charger will fully charge the vehicle automatically and then enter settlement step after stop charging process.

Stop Charging

If charging process need to be stopped ahead, user could swipe the RFID card (if start by swiping card was chosen as start mode) or click “Stop” to over the charging, then the charger will stop charging and jump to settlement page immediately. If another charging process need to be started, then the plug needs to be pulled out and wait until the screen back to home page before inserting the plug back again.

In normal situation, it is forbidden to stop the charging process by pressing the Emergency stop. The emergency stop could be used when meet urgent situation.

When charging process is finished, user shall wait for some seconds until the electronic lock in ready to unlock state before pulling out the plug.

Charger will enter into energy saving standby state about 2 minutes after charging process is completed in order to save power (input contactor disconnected for energy saving purpose).

Operation Instructions

Charging Operation

Plug Disconnection

Please be noted not to pull out plug immediately after charging process is finished. User should wait for some seconds until the vehicle side electronic lock is in unlock state and then pull out the plug to ensure safety.

Charging Connector back in Position

Charging cable and connector needs to be put back in position after charging process is finished. The charging cable shall be hanged on the ear hook to prevent pedestrians from being tripped and avoid being rolled by vehicles caused cable damages. The plug needs to be inserted into the charger socket to prevent water or residues getting inside the plug pin.

Please put the cable away correctly. After charging to keep the plug inserted into the charger socket in parallel and without extraction power from any direction.

Operation Instructions

Charging Operation

- After the plug is inserted into the charger socket with the self-locking structure, it needs to press the unlock button on the charger socket again to take out the plug normally, forced to pull the plug will cause structural damage to the charger socket.
- Please take good care of the charger connector and keep it in good condition due to its limited-service life.
- Be noted that connector damages caused by human violence and illegal operation are not within the scope of our maintenance.
- All financial losses shall be borne by the operator in case of personal injury caused by improper, dangerous and violent operation.
- Irregular use of operating the plug violently, twisting or dragging the cable illegally is strictly prohibited and damages caused by the above behavior shall be borne by the illegal operator.
- The operator shall be responsible for the personal and property damage caused by the continued use of the charger when the plug is obviously found immersed by water.
- Minors under the age of 16 are not allowed to operate this equipment. Any liability arising from this shall be borne by the operator.

Notice

High voltage and current is being transmitted while charging. Do not draw out the plug directly which charging is going on. Otherwise, it may cause damage to the charger or serious casualties. User shall operate on the screen or APP to stop the charger.

During the charging process, the surface of the charger may get hot. Do not cover the inlet and outlet vents of the charger.

Do not clean the vehicle during charging.

Personnel are not allowed to work in the car during charging.

Do not clean the charger during the charging process.

Operation Instructions

Charging Operation

Emergency Stop

When emergency occurred, press down the red "emergency stop button" and the system will cut off the output power immediately.

Please press down the emergency stop button immediately when the following situation occurs:

- The charger has abnormal noise, obvious discharge, or short circuit, etc.;
- The charger gives off unusual smell such as burning;
- Fire or explosion around the charger poses a threat to the equipment;
- Charger or vehicle fail to stop charging normally when fault occurs;
- Personal casualty like Electric shock accident occurred.

When the "emergency stop button" is pressed down, the fault light of the charger will keep on, and a pop-up box in the middle of the screen will indicate the emergency stop fault. When the "emergency stop button" is pressed down, the charger cannot be charged. Do not use "emergency stop button" during normal charging.

Emergency stop recovery: when the emergency situation is solved, please turn the emergency stop button clockwise, and the charger will return to the charging state after the button released.

Operation Instructions

Back Office Platform Operation

Platform Operation

If the SIM card is assembled in advance, the charger can be connected to the preset cloud platform (default as manufacturer OCPP platform) after charger powered on, which can realize remote management, diagnosis, configuration, maintenance, upgrade and other functions.

Connection with Customer Platform

All series of chargers of our company are supported to be connected to the existing operating platform of customers. Please contact related sales or service engineers for connection things.

Connection with Customer Platform

According to the IP address provided by the customer and related information of the charger, the manufacturer service engineers will connect the customer platform before delivery. (The connection is based on the previous platform interconnection or direct platform connection with our company and the acceptance is passed.)

Keep the charger in standby state:

Click “System” and enter name and password. Name: USER, Password: 4567
Click “Confirm” enter the next step

Click “Comm. parameter” and enter communication parameter setting page

Click “Server set” and check the information listed. Change the endpoint URL to customer supplied one

Click “Network” and network parameter could be set accordingly. Two options of mobile network and ethernet could be chosen. If mobile network is chosen, then APN information needs to consult local operator firstly and then set with right information.

After the platform is successfully connected, customer can log in the platform and monitor the realtime state of charger.

Operation Instructions

Back Office Platform Operation

RFID Card System

Before order, customers could choose to purchase manufacturer supplied "charging card management system" to do card charging, issuing and selling things.

If the charger is for private use, customer could choose "super charging card" provided by the manufacturer to manage the charger or use the button start mode when ordering in the early stage.

Maintenance Instructions

Routine Maintenance / Overhaul Maintenance / Remote Maintenance

Maintenance Instructions

Routine Maintenance

Continuous daily maintenance can help to keep the charger safe and stable. Keep periodic maintenance will reduce charger failure rate, prolong service life, and bring maximum benefit during life cycle of the charger. Therefore, daily maintenance according to the requirements in the following table is necessary.

NO.	Item	Interval time
1	Charger surface and connector	Every 15 days
2	Clean and change of dust filter	Clean for every 2 months, change for every 6 months
3	Dust cleaning of charger inner components and surface of power module	Every 3 months
4	Bolts and screws tightness of key components as well as full check of internal and external charger	Every 6 months
5	RCD device test	Every 6 months

1. Charger Surface and Connector Cleaning

The external surface of the charger is sprayed with powder and organic treatment, which requires continuous maintenance to keep a good appearance

The surface of the charging plug should be wiped, and the foreign matter in the plug PIN should be cleaned in time to prevent the accumulation of foreign matter which leads to unreliable charging connection

- Tools needed: dust-free cloth, cleanser, tweezers
- Stop all charging processes and pull out the charging plug from the vehicle socket
- Cut off the input power supply and make sure the charger is disconnected state
- Clean the dust and residues on the charger surface with wet dust-free cloth
- Detergent with PH 6-8 will allowed to use only when stain is found hard to be clean up. Then water needs to be used for a second cleaning after detergent used.
- Clean the dust and residues on the charger plug with wet dust-free cloth and clean the foreign residues inside the plug PIN with tweezers.

Notice

Stop charging process and power off the power supply;

Please do not use high pressure water gun to clean the charger surface and internal part;
Please do not use corrosive solvents, or abrasives for the cleaning

Maintenance Instructions

Routine Maintenance

2. Clean and change of dust filter

Dust filter element are installed at the inlet and outlet of the charger to prevent large dust particles from entering the charger and causing damage to electronic components. Therefore, customers should clean the dust filter element at least once every two months and replace a new one every six months.

- Tools needed: cross screwdriver, water
- Stop all charging processes and pull out the charging plug from the vehicle socket
- Cut off the input power supply and make sure the charger is disconnected state
- Remove the damper on the air inlet and air outlet of the charger
- Clean the dust and foreign residues on the dust filter element (First clap the filter to remove most of the dust and then wash it with water) or change a new filter directly.
- Install the cleaned or new dust filter element and install the dampers.

Remove Steps of Inlet/Outlet Dust Filter:

（1）Open the air inlet and outlet doors.

（2）Use a screwdriver to remove the two screws on the top bezel.

（3）Takeout the dust filter after removing the baffle. The internal dust filter can be cleaned or replaced according to actual situation. Clean the dust filter in each grille of the charger in turn.

（4）After cleaning the dust filter, put it back in place and reinstall the baffle, making sure the screws are tight.

Inlet door:

Maintenance Instructions

Routine Maintenance

Outlet door:

Notice

If the charger is operated without air dust filter, or the air dust filter is not replaced on time, excessive dust will damage the charger and the resulting fault caused by is not included in the scope of the warranty.

Please avoid to clean or replace dust filter in a windy or rainy day, or the charger will be damaged by rain getting inside.

Maintenance Instructions

Routine Maintenance

3. Dust cleaning of charger inner components and surface of power module

The internal power module needs to be cleaned periodically to prevent damage to electronic components caused by dust accumulation. Customer is advised to clean the dust inside the charging module and the surface of internal components at least once every 3 months.

- Tools needed: air compressor/air blower (air pressure no larger than 0.5MPa), hair brush, dust-free cloth, dust proof mask.
- Stop all charging processes and pull out the charging plug from the vehicle socket.
- Cut off the input power supply and make sure the charger is disconnected state.
- Open the left door,loosen the screws of the power module and pull out all the modules.
- Wear the dust proof mask to save your health before cleaning.
- The position with thick ash inside the charger should be cleaned with a brush and cleaned with a dust-free cloth.
- Keep blowing the inlet and outlet of the power module with the air compressor/blower until no dust is blown out.
- Use the air compressor/blower to other locations in the charger for blowing and cleaning. The main cleaning position includes but not limited to the following mentioned area: input circuit breaker, lightning arrester, input contactor, copper bar surface, screen, control board, switching power supply, output copper bar and line, heat dissipation fan, etc.

Notice

Please avoid to expose the charger in the windy or rainy day, or the charger will be damaged by rain getting inside.

Maintenance Instructions

Routine Maintenance

4. Bolts and Screws Tightness and Other Checks

In order to ensure the long-term stable and safe operation of the charger, customer is suggested to check and tighten the screws and bolts in key components (primary circuit loop) and a comprehensive inspection of the internal and external of the charger every six months.

- Tools needed: fasten tools like cross screwdriver, small straight screwdriver, monkey spanner
- Stop all charging processes and pull out the charging plug from the vehicle socket.
- Cut off the input power supply and make sure the charger is disconnected state.
- Open the cabinet door and check the screws on the copper bar of the primary input main loop cable and the output cables and copper bar in turn. Tighten the screws that are found loose.
- Make a comprehensive inspection of other positions in the charger, including: all cable terminals, PCB fixing screws, PCB wiring terminals, screen fixing screws, card reader fixing screws, lightning arrester grounding screws, all terminals around the meter, wiring bar, etc.

Notice

Please avoid to expose the charger in the windy or rainy day, or the charger will be damaged by rain getting inside.

Maintenance Instructions

Routine Maintenance

5. RCD Device test

Leakage protection device is a very important safety protection device, customer is suggested to do a test every six months.

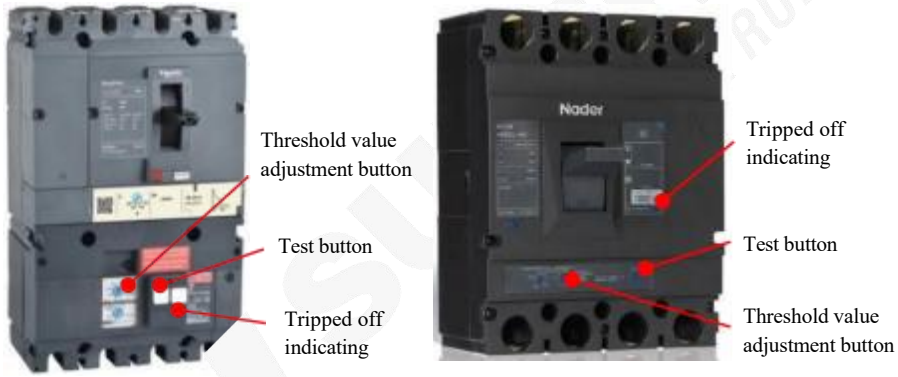
• Stop all charging processes and pull out the charging plug from the vehicle socket.

• Do not test the leakage protection device while in charging process.

• Press the “test” button of the leakage protection device, shown as follows:

-- Good: the “tripping indicator” instruction of the device jumped up and main handler tripped downwards and showing “OFF”.

-- Damaged: No indicating information pumped when press the “test” button. Please be noted not to use the charger again before leakage device is repaired or replaced. And please contact the after-sale service personnel or local agent for help.



Leakage Protection Device Recovery:

Manual recovery is required after testing the leakage device or after the trip of the leakage protection device due to abnormal conditions during the normal charging process.

• Power can be restored by resetting the "Trip Indicator" button (by pressing down) and resetting the handle (first facing down and then up).

Notice

Please avoid to expose the charger in the windy or rainy day, or the charger will be damaged by rain getting inside.

Maintenance Instructions

Overhaul Maintenance / Remote Maintenance

Overhaul Maintenance

- When charger runs normally, only daily maintenance will be needed without repair and maintenance.
- If the operation is abnormal, please refer to troubleshooting and contact our after-sales service personnel or local agent for in time help.

Remote Maintenance

SUPERWAY chargers have OCPP function and could support to connect with the cloud platform, which can monitor all kinds of charging conditions (including real-time charging parameters, historical charging records, real-time anomalies, etc.) through the platform in real time. It can provide perfect remote diagnosis, remote service, remote upgrade and other services, and can find and locate various problems in the actual operation process through the platform, aims to help the operation center to realize various remote services, solve the problems of end-users, and realize the real sense of unattended operation.

SUPERWAY self-developed cloud platform can also identify the operation status of the station through big data, and provide accurate data analysis based on the data, so as to solve various problems of operation for customers.

- Real-time cloud platform monitoring, if abnormal occurred, the platform can send SMS message to the local operation and maintenance personnel
- If the operation and maintenance personnel find any abnormal, please contact related after-sales service personnel or local suppliers for remote assistance or onsite handling.
- The manufacturer service engineers can query the fault information and run logs of the charger, and implement remote maintenance actions such as remote management, diagnosis, configuration, and upgrade.

Fault Treatment

Fault Recognition / Fault Solution

Fault Treatment

Fault Recognition

The charger installed in public places may cause different faults due to various reasons and factors.

Faults caused by improper use

- Emergency stop being pressed down
- Violent extraction of the charging plug
- Improper insertion of the charging plug

Faults caused by Man-made Damages

- The charging plug is cracked, crushed or soaked in water
- The charging cable is crushed by the vehicle wheel
- The charging cable is pulled, twisted and broken by external forces
- The charger is crashed by vehicle or heavy object
- The charger door is abnormally forced open
- Air duct is blocked
- Other parts of the charger are deliberately damaged

Note: Faults caused by man-made damages is not included in the warranty service range

Faults caused by Natural Disaster

- Earthquake
- Flood
- Lightning
- Fire

Note: Faults caused by natural disasters is not included in the warranty service range

Common faults of charger

- Please refer to “Fault treatment method” below

Fault Treatment

Fault Solution

When faults were found in the charger, customer is suggested to take the following measures to solve the simple fault. If the fault cannot be solved, please contact related after-sales service personnel or local suppliers for help in time.

Common Faults Treatment Method

NO.	Fault Type	Possible Reason	Solution
1	The display screen is black and cannot wake up by touch the screen, and the standby light is off	Input power is off	Check whether the power distribution cabinet trips and all switches in the charger tripped. And check whether the input voltage of the charger is normal and whether there is leakage. If the fault is normal, you can try to power off and restart. If the fault still persists, please contact our after-sales personnel.
2	Touch screen fails in operate and cannot show information	Touch screen cannot operate or display communication cable is loose	Check the screen communication cable and try to restart the charger. If the fault is still not solved, please contact our after-sales personnel.
3	Touch screen is lighted and could show information but cannot operate	Touch screen is damaged	Try to restart the charger, if the fault is still not solved, please contact our after-sales personnel.
4	Charger plug cannot be pulled out after the charging completed	Vehicle side electronic lock is unlocked	Vehicle need to be reset
5	**Other faults caused charging failure**	**Different reasons for different situation**	**Please contact the after-sales service personnel for online guidance or onsite help, the fault code could be checked through the following method to inform the after-sales personnel.**

Fault Treatment

Fault Solution

If problems cannot be solved, please contact the after-sales service personnel or local suppliers.
Fault code checking method:

- Click “System” and enter next page. Name: USER, Password: 4567
- Click “Confirm” enter system set page;
- Click “Fault record” enter fault record page and all fault records could be found there.

Please keep a record of the current fault record through taking photos and give the information to the engineer for further analysis.

Service Support

After-sale Service / Purchase Tips

Service Support

After-sale Service

Under the conditions of compliance with the storage, installation, use and operation rules, the warranty period shall be the term agreed in the contract. During the warranty period, if the equipment cannot operate normally due to product quality problem, manufacturer shall be responsible for free debugging, maintenance or replacement of parts for the buyer or user.

Manufacturer promises to provide the service of the whole life cycle of the equipment and supply maintenance service with paying according to the customer's request beyond the warranty period. The specific cost and other conditions shall be discussed separately.

After the warranty period, the company is willing to provide the owners with spare parts, accessories, special tools, consumable materials, and can respond to the installation, construction and maintenance services with paying.

Tel：400-187-0667

Website：www.superway-parts.com

Email：info@superautoway.com

Service Support

Purchase Tips

Please visit the company website for appropriate charger types needed. The network address： https://www.superway-parts.com

ZHENGZHOU SUPERWAY AUTO TECHNOLOGY CO., LTD.

Add: No.9-1 Liudong Rd (450008), Zhengzhou, China
Web Site: www.superautoway.com
Technical Support: technical@superautoway.com
E-mail: info@superautoway.com