

# SONEIL SPARK

## DC Fast Charging Station



## User Manual

UM18200-2:2023



## IMPORTANT SAFETY INSTRUCTIONS

**WARNING-** When using electric products, basic precautions should always be followed, including the following. This manual contains important instructions for Models IDC1204, IDC1505, IDC1806 and IDC2408 that shall be followed during installation, operation, and maintenance of the unit.

1. Read all the instructions before using this product.
2. This device should be supervised when used around children.
3. Do not put fingers into the electric vehicle connector.
4. Do not use this product if the flexible power cord or EV cable is frayed, has broken insulation, or any other signs of damage.
5. Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
6. Indicate the ambient temperature rating, -30°C to 50°C.

## CONSIGNES DE SÉCURITÉ IMPORTANTES

**AVERTISSEMENT-** Lors de l'utilisation de produits électriques, des précautions de base doivent toujours être suivies, y compris les suivantes. Ce manuel contient des instructions importantes pour les modèles IDC1204, IDC1505, IDC1806 et IDC2408 qui doivent être suivies pendant l'installation, l'utilisation et la maintenance de l'unité.

1. Lisez toutes les instructions avant d'utiliser ce produit.
2. Cet appareil doit être surveillé lorsqu'il est utilisé à proximité d'enfants.
3. Ne mettez pas les doigts dans le connecteur du véhicule électrique.
4. N'utilisez pas ce produit si le cordon d'alimentation flexible ou le câble EV est effiloché, a une isolation cassée ou tout autre signe de dommage.
5. N'utilisez pas ce produit si le boîtier ou le connecteur EV est cassé, fissuré, ouvert ou montre toute autre indication de dommage.
6. Indiquez la température ambiante, de -30 ° C à 50 ° C.

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# 1. ABBREVIATIONS

S/N	Abbreviations	Description
1	IEC	International Electrotechnical Commission
2	EV	Electrical Vehicle, this can be BEV (battery EV) or PHEV (plug-in hybrid EV)
3	EVSE	Electric Vehicle Supply Equipment [IEC61851-1]
4	kW	Kilo Watt (unit of Power)
5	A	Ampere (unit of Current)
6	V	Volt (unit of Voltage)
7	Hz	Hertz (unit of Frequency)
8	LCD	Liquid Crystal Display
9	LED	Light-emitting Diode
10	RFID	Radio Frequency Identification
11	CMS	Central Management System <i>Manages EVSE and has the information for authorizing users for using its EVSE.</i>
12	OCPP	Open Charge Point Protocol <i>A standard open protocol for communication between EVSE and a Central System and is designed to accommodate any type of charging technique. (<a href="http://www.openchargealliance.org">www.openchargealliance.org</a>)</i>
13	PE	Protective Earthing
14	HMI	Human-Machine Interface
15	RCMU	Residual Current Monitoring Unit
16	MCB	Miniature Circuit Breaker
17	SPD	Surge Protection Device
18	MCCB	Molded Case Circuit Breaker
19	PF	Power Factor

## 2. SAFETY NOTES

### 2.1. Safety signs used

The following warning signs, mandatory signs and information signs are used in this manual, on and in the DC EV Charger.

Les panneaux d'avertissement, panneaux obligatoires et panneaux d'information suivants sont utilisés dans le manuel d'utilisation, sur et dans la station de charge EV:



#### **CAUTION: Warning of electrical hazards.**

This sign is intended to alert the user that severe personal injury or substantial property damage can result if the device is not operated as requested.

#### **MISE EN GARDE: Avertissement de risques électriques.**

Ce signe est destiné à alerter l'utilisateur que des blessures graves ou des dommages matériels importants peuvent survenir si l'appareil n'est pas utilisé comme demandé.

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#### **ATTENTION: Warning of a danger spot or dangerous situation.**

This sign is intended to alert the user that minor personal injury or material damage can result, if the device is not operated as requested.

#### **ATTENTION: Avertissement d'un point de danger ou d'une situation dangereuse.**

Ce signe est destiné à alerter l'utilisateur que des blessures légères ou des dommages matériels peuvent survenir si l'appareil n'est pas utilisé comme demandé.

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#### **CAUTION: Do not touch by hands in case of ESD.**

Indicates the possible consequences of touching electrostatically sensitive components.

#### **MISE EN GARDE: En cas de décharge électrostatique, ne touchez pas à la main.**

Indique les conséquences possibles du contact avec des composants sensibles à l'électricité statique.

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No access for unauthorized persons.

Pas d'accès pour les personnes non autorisées.

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Use protective footwear.

Utilisez des chaussures de protection.



Must wear a safety helmet.

Doit porter un casque de sécurité.



Indicates important texts, notes, or tips.

Représente un texte, une note ou un indice important.

## 2.2. Installation



Safety protection must be done when installing the EV Charger.

Une protection de sécurité doit être effectuée lors de l'installation de la station de charge EV.



- ▷ Installation must be carried out by personnel with professional qualification, otherwise there is a risk of electric shock.  
L'installation doit être effectuée par du personnel qualifié, faute de quoi il y a un risque d'électrocution.
- ▷ It shall be installed in the place without violent vibration and impact, and placed vertically to facilitate ventilation.  
Il doit être installé à l'endroit sans vibrations et chocs violents, et placé verticalement pour faciliter la ventilation.
- ▷ It shall be installed on noncombustible materials, or there is a risk of fire.  
Il doit être installé sur des matériaux incombustibles, ou il existe un risque d'incendie.
- ▷ Do not drop any foreign objects, especially metal objects, into the inside of the Charger or there is a risk of fire.  
Aucun objet étranger, en particulier un objet métallique, ne doit être placé dans le chargeur sans risque d'incendie.

▷ The lead nose of the Charger must be securely attached or there is a risk of damaging the equipment.

Les fils du chargeur doivent être solidement connectés, faute de quoi le matériel risque d'être endommagé.

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## 2.3. Maintenance

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Personnel must always use protective footwear when maintenance work.

Le personnel doit toujours porter des chaussures de protection lors des travaux de maintenance.

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▷ It is recommended that routine safety inspection visits to Charger be conducted at least once a week.

Il est recommandé que le chargeur fasse l'objet d'un contrôle de sécurité au moins une fois par semaine.

▷ Do not put inflammable, explosive, or combustible materials, chemicals, combustible steam, and other dangerous goods near the Charger, otherwise there is a risk of fire.

Il est interdit de placer des substances dangereuses telles que des matières inflammables, explosives ou inflammables, des produits chimiques, des vapeurs inflammables à proximité des chargeurs, faute de quoi il y a un risque d'incendie.

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▷ Keep the charging adapter clean and dry and wipe with a clean, dry cloth if soiled.

Do not touch the Charger with your hand when charged.

Maintenir l'adaptateur de charge propre et sec, en cas de saleté, et l'essuyer avec une toile sèche propre. Ne touche pas le chargeur avec la main.

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## 2.4. Operation



▷ Strictly forbidden for minors or persons of restricted capacity to approach the Charger to avoid injury.

Il est strictement interdit aux mineurs ou aux personnes dont la capacité de mouvement est limitée d'avoir accès au chargeur pour éviter les blessures.

▷ Forced charging is strictly forbidden when the electric vehicle or Charger fails.

La charge forcée est interdite en cas de panne du véhicule électrique ou du chargeur.



▷ Electric vehicle can only be charged with the engine off and stationary. Do not charge in rainy and thunderous weather.

Le véhicule électrique ne peut être rechargé que si le moteur est éteint et statique. Il ne faut pas recharger les jours de pluie et les orages.

▷ It is strictly prohibited to use the Charger when the charging adapter or charging cables are defective, cracked, worn, broken or the charging cables is exposed. If you find any, please contact the supplier in time.

L'utilisation de chargeur est strictement interdite lorsque l'adaptateur de charge ou le câble de charge présente des défauts, des défauts, des défauts, de l'usure, de la rupture ou de la nudité. En cas de découverte, veuillez contacter le fournisseur en temps voulu.

## 3. STANDARDS COMPLIANCE

### 3.1. Executive standards

The main executive standards of SONEIL SPARK as below:

- GB/T 18487.1, GB/T 20234.1, GB/T 20234.3, GB/T 27930;
- IEC 61851-1, IEC 61851-23, IEC 62196-1, IEC 62196-3;
- SAE J1772, UL2594, UL 2202
- ISO 15118, DIN 70121

### 3.2. Charging interface

- The charging connector of SONEIL SPARK products meet IEC 62196-3, CCS Type 1 plug (with charging cable).

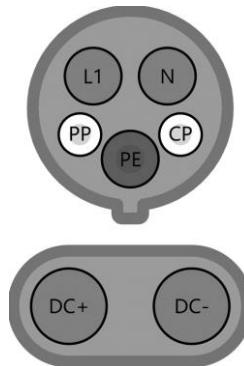


Fig. 3-2 CCS Type1 Plug

Fig. 3-3 Schematic diagram of plug on SONEIL SPARK

## 4. PRODUCT INFORMATION

### 4.1. General

Welcome to use SONEIL SPARK DC Fast Charging station produced by our company.

- The shape & dimensions of SONEIL SPARK DC Fast charging station shown as Fig. 4-1.

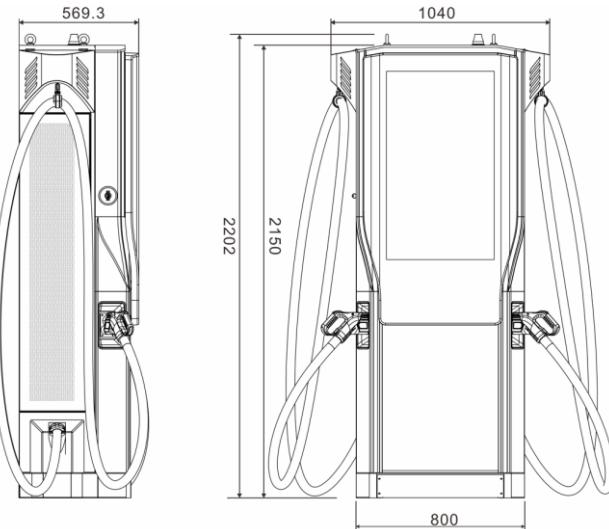


Fig. 4-1 The shape & dimensions of SONEIL SPARK

- The block diagram of SONEIL SPARK DC Fast charging station shown as Fig. 4-2.

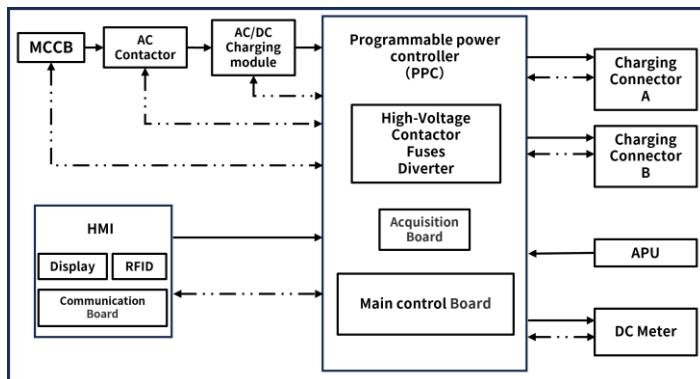


Fig. 4-2 Block diagram of SONEIL SPARK

- It is widely used in all kinds of charging stations, parking lots, community garages and public electric vehicle charging places.

## 4.2. Model number definition

The model number definition of SONEIL SPARK follows the rules as shown in Figure 4-3.

IDC	□□□	□
		Number of charging modules(30kW):
		4: 120kW
		5: 150kW
		6: 180kW
		8: 240kW
		Max Output Power:
		120: 120kW
		150: 150kW
		180: 180kW
		240: 240kW
		IDA: DC FAST Charging Station

Fig. 4-3 Model definition of SONEIL SPARK

## 4.3. Specifications

### 4.3.1. Electrical specifications of SONEIL SPARK series

Model series	SONEIL SPARK
Input Voltage Rating	480VAC $\pm$ 10%, 50/60Hz
Power Wiring	3P+N+PE
DC Voltage Output	150~1000VDC
Connector A/B	CCS1+CCS1 (Meet IEC 62196)
DC Power Output Rating	120~240kW
The Maximum Output Current	250A
PF (Power Factor)	$\geq 0.99$ (Load=100%)
Peak Efficiency	$\geq 95\%$ (Rating voltage input, output: 1000VDC, 50%~100% load current)
Output Mode	Constant power output, constant power range 300 ~ 1000V DC
Electric Energy Measurement Method	Measuring DC Output electric energy, Class 1
Connector Mechanical Operating Life	$\leq 10000$ times, without load

#### 4.3.2. Functional description

Model series	SONEIL SPARK
Charging Mode	Mode 4
Charging Control	Local: “Card-controlled” ; Remote: “OCPP controlled”
Display Screen	10-inch color touchscreen
Indicator Lights	Yes
Network Interface	Ethernet (RJ45)/4G(Optional)/WIFI(Optional)
Communication Protocol	OCPP 1.6J
Safety Protection	Over/under voltage protection, Over Load protection, Over temperature protection, Surge protection, Short Circuit protection, Emergency stop

#### 4.3.3. Ambient conditions

Model series	SONEIL SPARK
Altitude	≤2000m
Storage temperature	-40 ~ 75°C
Operation temperature	-30 ~ 50°C, derating output in 50°C
Relative humidity	≤ 95%RH, non-condensing
Cooling Method	Forced air cooling
Installation location	Outdoor, good ventilation, no flammable, explosive gases

#### 4.3.4. Mechanical parameters

Model series	SONEIL SPARK
Charging cable	5m/7.5m(Optional)
Equipment Weight	< 500kg
Dimension	W×D×H=1040mm × 580mm × 2200mm
Mounting	Floor mounted
Enclosure Material	Metal
Electrical Enclosure	Type 3R



## 5. INSTALLATION

### 5.1. Unpacking

#### 5.1.1. Packing list

Package	Quantity
DC Fast Charging Station	1 pc
User manual	1 pc
Quality certificate	1 pc
RFID Card	2 pcs
Installation suggestion diagram	1 pc
Cabinet keys	2 pcs

- When leaving the factory, the cabinet keys are tied to the top pull ring of the cabinet. Please keep the keys properly after installation.

#### 5.1.2. Inspection & confirm

When unpacking, please carefully confirm the following points:

- Whether the accessories are missing according to the packing list.
- Whether there is any damage during transportation.
- Whether the model and specification of the machine's nameplate are consistent with the order requirements.



▷ If any damage or missing parts are found, please do not start the machine and contact the supplier as soon as possible.

▷ Please keep the wooden box and packing materials 1 month for future handling.



▷ Wooden box is made of Eco-friendly materials.

### 5.2. Prepare

- When transporting or moving the charging station, pay attention to the following points to ensure product safety:



- ▷ This product is electrical equipment. It should be handled with care to avoid violent vibration and impact.
- ▷ The front panel of the product is a glass panel, which cannot be used as a stressed part for handling.

### 5.2.1. Tools for installation

Prepare the following tools at least before installing SONEIL SPARK DC EV charging station.

Sr No.	Tools' Name	Schematic Picture	Main Uses
1	Multimeter		Check the electrical connection and measure the voltage
2	Electric Impact drill		Drill fixing holes in the wall
3	Wrench		Fastening bolt
4	Diagonal plier		Cut the cable
5	Wire stripper		Peeling cables
6	Crimping plier		Pressed cable terminal
7	Cross screwdriver		Fastening screw

### 5.2.2. Installation conditions

Although charging stations are electrical equipment for outdoor use, we still strongly recommend that users:

- Charging station should not be installed in dusty or flammable and explosive places.
- It is feasible to install the charging station in a shaded and ventilated place (especially the air inlet and outlet on the left and right sides of the cabinet) without dense foreign objects, which is more conducive to the low pressure of the charging station. It is recommended that the pile body should meet the operating space of not less than 1 meter;
- Install the charging station on the mixed foundation, the ground of the mixed foundation shall not be less than 200mm; the charger shall be installed vertically on the ground plane, and the pallet in any direction shall not be greater than 5°;
- The junction between the bottom of the cabinet and the foundation must be sealed with fireproof plugging mud for interlayer, rodent-proof, waterproof and moisture-proof;
- Set drainage ditches before and after the charging station to prevent damage to the equipment of the charging station soaked by accumulated water; necessary rainproof and interlayer measures (such as membrane structure canopies) should be taken for the outdoor charging station;
- The protective ground terminal of the charging station can be reliably grounded, and the grounding resistance is less than  $4\Omega$ .

### 5.3. Installation Method

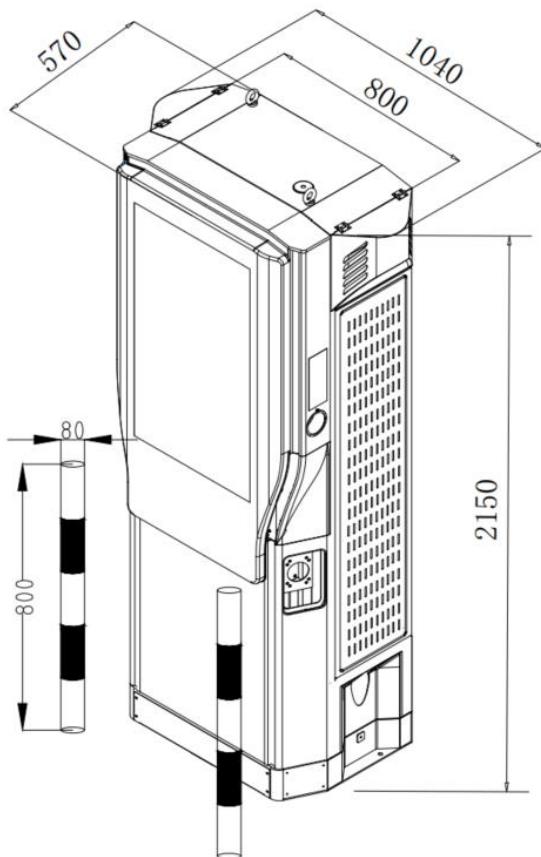


Fig. 5-1 Dimensions of SONEIL SPARK

- In order to ensure the long-term stable operation of the product, it is recommended to avoid installing charging stations in extreme weather as far as possible, especially low or high ambient temperature may affect the installation effect due to thermal expansion and cold contraction.
- It is suggested that the charging station should be installed in a place with good ventilation, no direct sunlight and shelter from wind and rain. In order to ensure good ventilation condition, you should mount the charging station vertically and leave enough space.
- The charging station is front-facing, and the door is opened on the left and right. The left side is the air inlet and the right side is the air outlet. The charging station should be installed in an open

environment to facilitate the normal operation and maintenance of the equipment.

- Before the equipment is installed, the cement foundation should be reinforced according to the structural size provided by the manufacturer. The strength of anti-corrosion concrete for charging station foundation should not be lower than C25, the foundation should be 200mm above the ground, and the underground depth should be 200mm as shown in Fig. 5-2. Do not install directly on the ground without a foundation, otherwise there is a risk of toppling or internal water immersion. It is recommended to set up a drainage ditch nearby to prevent water accumulation.

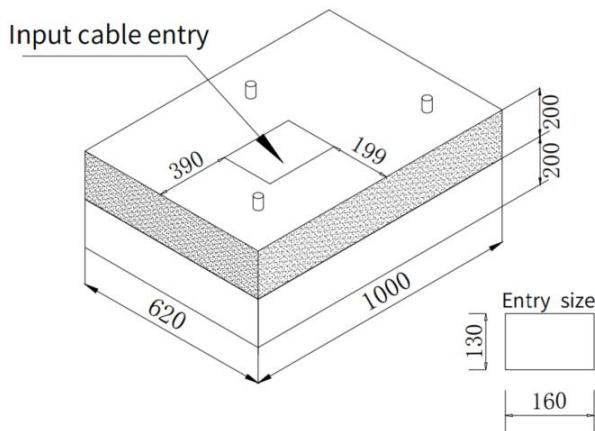


Fig. 5-2 Concrete foundation construction diagram

- The screw frame must be pre-embedded when making the foundation as shown in Fig. 5-3, three M12×100mm bolts must be pre-embedded, and the height exposed to the ground is  $30\pm3$ mm.

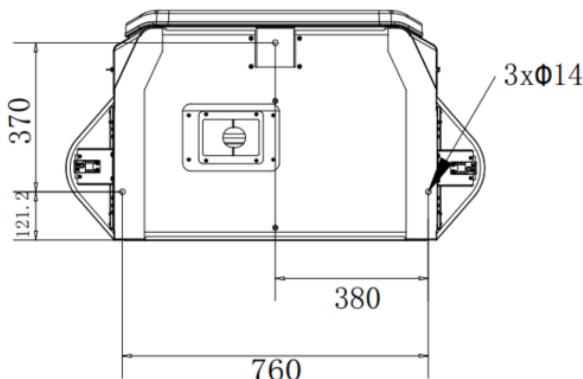


Fig. 5-3 Fixing dimension diagram

- In order to prevent the vehicle from colliding with the charging station by mistake, it is recommended to install an anti-collision pillars at an appropriate position in front of the charging station (the minimum distance between the anti-collision pillars and the charging station is 200mm, which does not hinder the operation of the door switch) as shown in Fig. 5-4. The anti-collision column is pre-buried below the ground with no less than  $\phi 80$  galvanized pipe, the height of the ground is not less than 800mm, the wall thickness is not less than 3mm, and the surface coating is mixed with reflective materials.

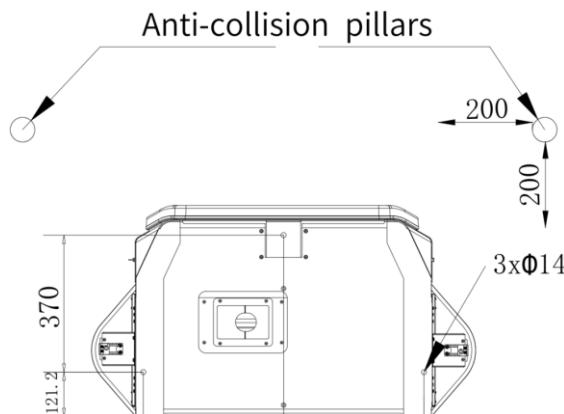


Fig. 5-4 Anti-collision pillars

- Lay the power line, place the hole position of the shelf cabinet on the cement base, and tighten and lock it with bolts.
  - The input cable must comply with UL1277 standards and local laws and regulations;
  - Use 90°C copper conductors only;
  - Refer to the below table to select the appropriate power cables based on different powers.
  - The recommended torque of the screws for tightening the power cables is 4.2 N.m.

No.	Product	Rated Power	Input Terminals	Recommended Wire Current-carrying Capacity
1	IDC1204	120kW		$\geq 190A$
2	IDC1505	150kW		$\geq 238A$
3	IDC1806	180kW	L1/L2/L3/N/PE	$\geq 285A$
4	IDC2408	240kW		$\geq 380A$

- Connect the input cable well, the protective grounding terminal must be reliably grounded as shown in Fig.5-5, set the charging station surge protector circuit breaker to close, and do not allow the power line to be disconnected or scratched.

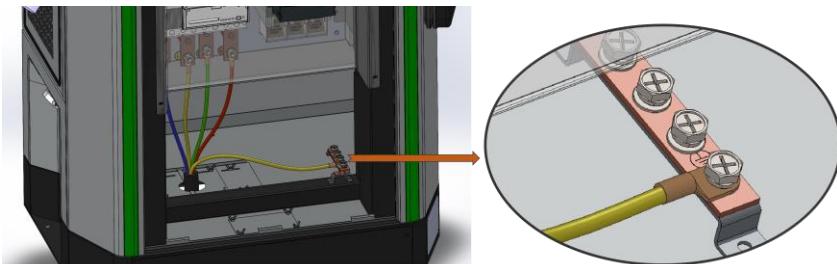


Fig. 5-5 Input cable Wiring

#### 5.4. Installation of Ethernet cable

If you need the Ethernet to connect the CMS, please pass a network cable with RJ-45 header, plug it into the RJ-45 socket on communication board behind the LCD screen as shown in Fig.5-6.

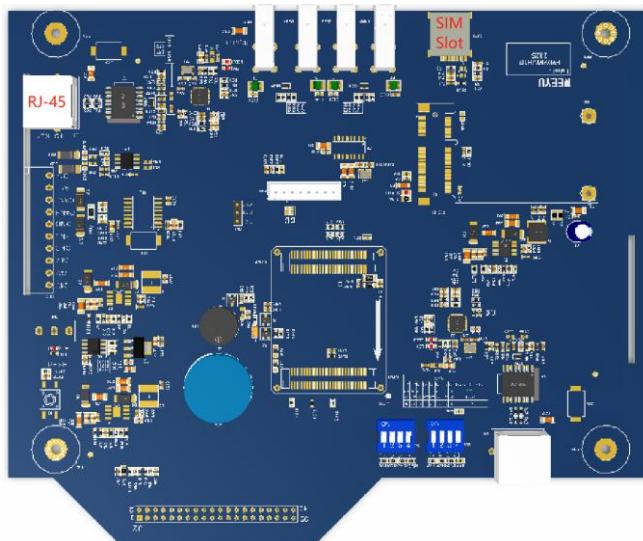


Fig. 5-6 RJ-45 Socket

## 5.5. Installation of 4G SIM card (Optional)

If the DC charging station has 4G function, you can insert the 4G NANO SIM card to the SIM card socket on communication board behind the LCD screen.

The installation steps are as follows:

- Open the cabinet door, open the molded case circuit breaker (MCCB) as shown in Fig.5-7, power off the DC charging station.

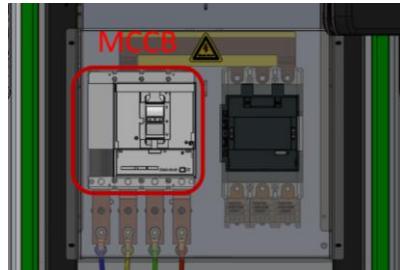


Fig. 5-7 MCCB

- Insert the 4G NANO SIM card to the SIM card slot on the communication board.

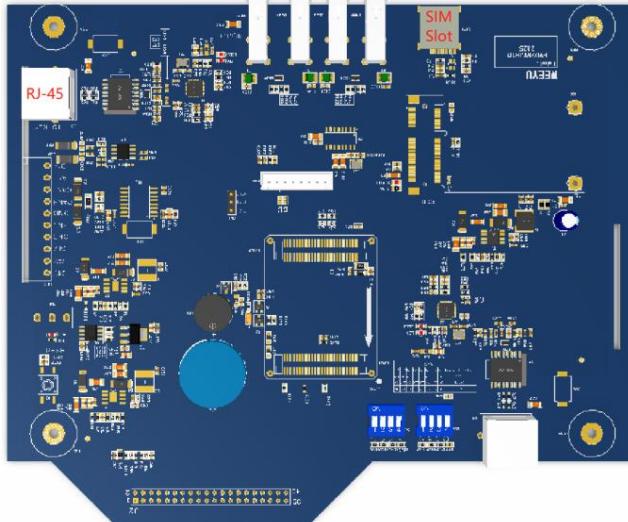


Fig. 5-8 4G SIM card slot

- Close the molded case circuit breaker (MCCB), power on the DC charging station.

## 6. OPERATION

### 6.1. Power on

- a) Before power on, please ensure that the main input power line switch and control power switch in the charging station are in the open state, and the branch circuit breaker of the surge protector is in the closed state.
- b) Power on external input power supply, use appliances to verify that the voltage of each phase is normal before closing the main input power line switch and the control power switch in sequence.
- c) After closing the door of the charging station cabinet, it will start up and enter the standby state, and the power-on is completed.
- d) During use, check the small firing pin or indicating window on the surge protection device (SPD) frequently as shown in Fig.6-1. If the firing pin protrudes or the window turns red, it means that the surge protection device has failed and should be replaced immediately.

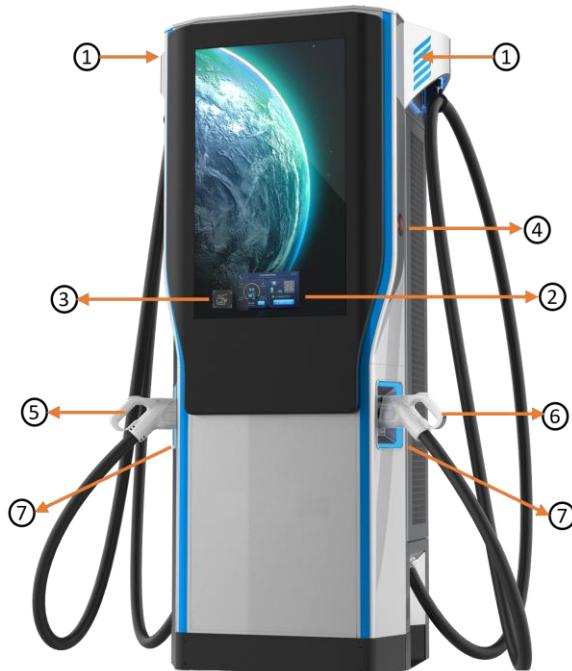


Fig. 6-1 Surge Protection Device

### 6.2. Human-Machine Interface

#### 6.2.1. Overview

As shown in Fig. 6-2, SONEIL SPARK is configured with multiple human-machine interfaces.



①	LED indicators	④	Emergency stop button
②	LCD screen	⑤	Charging connector A
③	RFID reader	⑥	Charging connector B
⑦	Empty connector socket		

Fig. 6-2 HMI of SONEIL SPARK

### 6.2.2. LED indicators

The LED indicators on the panel are used to indicate the status of the charging station.

No.	Indicator Name	Indicator Color	Indicator Status	Connotation
1	Standby	GREEN	ON	Standby status
2	Fault	RED	ON	Fault status
3	Connector A/B	BLUE	— ON Flash	Connected to an EV Charging status

### 6.2.3. LCD screen

SONEIL SPARK config a 10-inch color touchscreen, which is mainly used to display various status information of the charging station, shown as Fig. 6-3.

- Icons or instructions in each display area

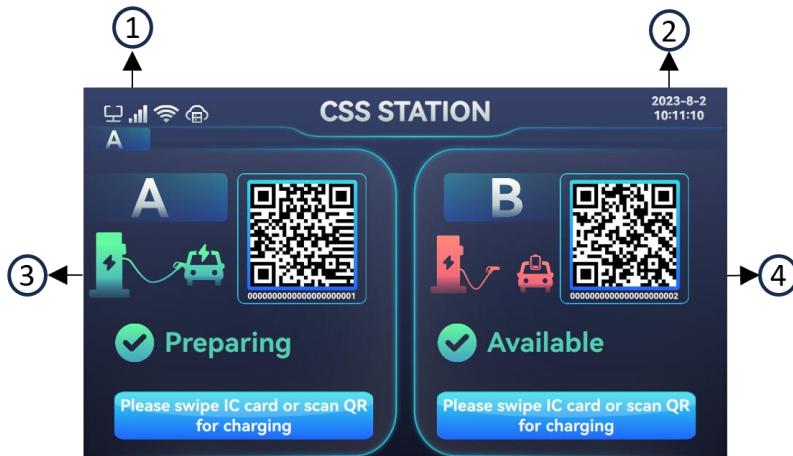


Fig. 6-3 Display of icons and instructions

In Fig. 6-3, there are 4 areas to display icons or instructions, with the specific meanings as follows:

NO.	Icon	Connotation
<b>Area ① Network icon</b>		
1		Connect to network via Ethernet
2		Connect to network via WiFi
3		Connect to network via 4G
4		Connect to OCPP server
<b>Area ② Date and Time</b>		
5	Date and Time	Current date and time
<b>Area ③④ Connector A/B or System Info</b>		
6	Standby	Current state of the charging station
7	Connection	Charging connector A/B is connect to EV
8	Swiping card	Swiping card to start/stop charging
9	Charging	Charging state

10	Charging finished	Finished, please follow the instructions on the screen
11	Abnormal end	Display the reason for the abnormal end
12	System failure	Fault state, please follow the instructions on the screen

Main User Interface

■ Standby status

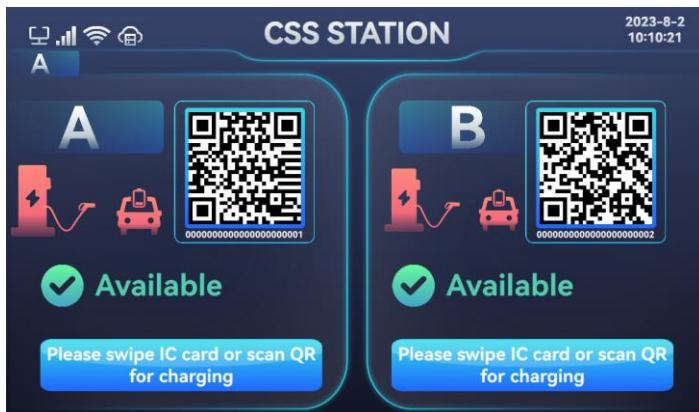


Fig. 6-4 Standby status

■ Connection status

Plug the connector A/B into the EV charging socket.



Fig. 6-5 Connection status

■ Swiping Card status

User can choose swipe the RFID/ IC card or scan QR for charging.



Fig. 6-6 Swiping RFID

- Starting Charging status

After swiping the card successfully, the charging station starts to communicate and detect with the vehicle, and the detection time lasts about 40 seconds



Fig. 6-7 Starting Charging status

- Charging Status

This interface will display the current vehicle demand voltage, current, charging cable temperature and charging station output voltage, current, charging capacity, charging amount, charging time, and current SOC(%) of vehicle.

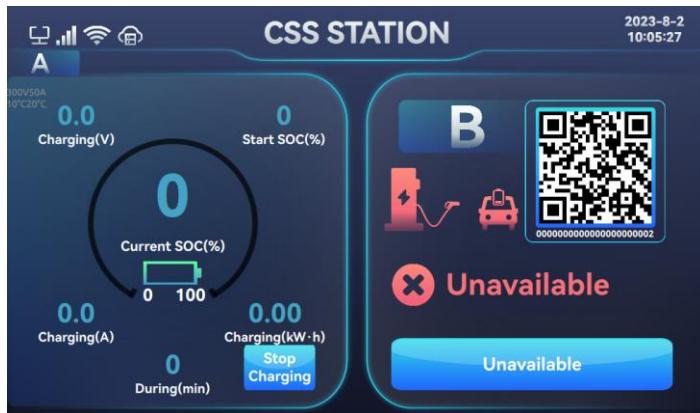


Fig. 6-8 Charging status

■ Stop charging

Click stop charging button to stop as shown in Fig. 6-8, then swipe card to stop charging as shown in Fig. 6-6.

■ Charging end

This interface will display charging consumption, charging amount, charging duration, start and end SOC of EV.



Fig. 6-9 Charging end

■ Abnormal end

If an abnormal situation is detected during the charging process, the charging station will immediately end the charging under the condition of ensuring safety, and display the reason for the abnormal end and the detailed data of this charging.



Fig. 6-10 Abnormal end

■ System failure

When a system failure occurs, the charging station cannot recover by itself, and the failure will always be displayed on the screen until the failure is resolved. If only connector A has a system failure, while connector B is normal, it will not affect the normal charging of connector B at this time.



Fig. 6-11 System failure

#### 6.2.4. RFID reader

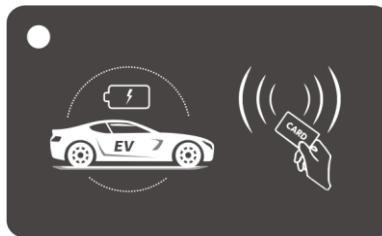


Fig. 6-12 RFID card

In general, SONEIL SPARK is equipped with RFID card reader as standard, and the charging process can be started and stopped by using the RFID card (shown as Fig. 6-13) configured with the host. The special customized card swiping function is not separately described here.

#### 6.2.5. Emergency stop button

This button is used to stop charging in case of emergency. At any time, in case of any emergency, on the premise of ensuring personal safety, please press this button, and immediately stay away from the charging station. And then contact the supplier.

- a) In case of emergency, press the emergency stop switch immediately.
- b) In case of fire, electric shock and other abnormal conditions, please press the emergency stop switch immediately.
- c) When the emergency stop switch is pressed in the charging state, the charging will stop immediately, the AC contactor on the input and output sides will be disconnected, and the fault light will be on.
- d) If the charging station fails, charging cannot be stopped, the internal circuit is short-circuited, etc., please press the emergency stop switch immediately.
- e) When the emergency stop switch is pressed in the non-charging state, the fault light is on, and the LCD screen jumps to the fault interface.
- f) When the crisis is resolved, please turn the emergency stop switch clockwise under the condition of ensuring safety, otherwise the charging cannot continue.

### 6.3. Charging Precautions

- a) If the screen shows a fault or the fault light is on, please do not charge and contact the staff in time;
- b) Please ensure that the account balance is sufficient before starting charging, and charging will be automatically terminated if the balance is insufficient;
- c) When using two charging ports at the same time, you should carefully identify whether you are user A or user B, and operate according to the operation prompts on the interface to avoid charging other vehicles;
- d) When operating, please follow the relevant prompts of the charging equipment, and operate blindly by mistake;
- e) Pay attention to the direction and strength when unplugging and inserting the vehicle plug, and do not use brute force;
- f) Swipe the card to start the device, place the card in the specified area, and remove the card after hearing the "beep" sound from the buzzer, otherwise it may lead to failure to start and charge;
- g) When an emergency occurs, please press the emergency stop switch.
- h) To reduce the risk of fire, replace only with same type and ratings of fuse as shown in Fig. 6-13.

No.	FUSE	Model	Voltage	Current
1	FU1	FNQ-8	AC240	8A
2	FU2	KLM-8	DC24V	8A
3	FU3	KLM-1/2 or KLM-1	DC24V	0.5~1A
4	FU4	KLM-1/2 or KLM-1	DC24V	0.5~1A
5	FU5	KLM-2	DC24V	2A
6	FU6	KLM-2	DC24V	2A

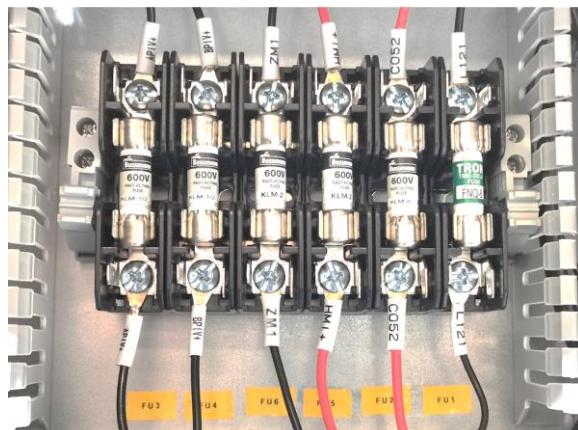


Fig. 6-13 Type and ratings of fuses

- i) There may be high temperature in the heat dissipation vent, to reduce the risk of burns, please do not touch.

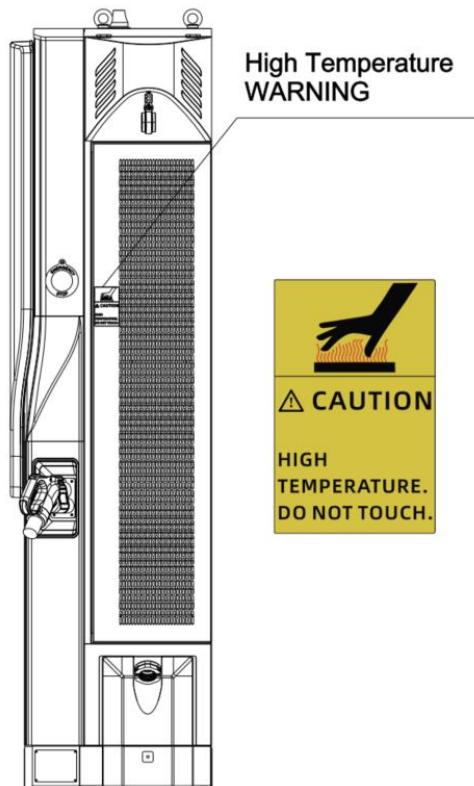


Fig. 6-14 High temperature warning sign

j) There is AC high voltage inside the charging station, renders a risk of electric shock or electric energy - high current level.

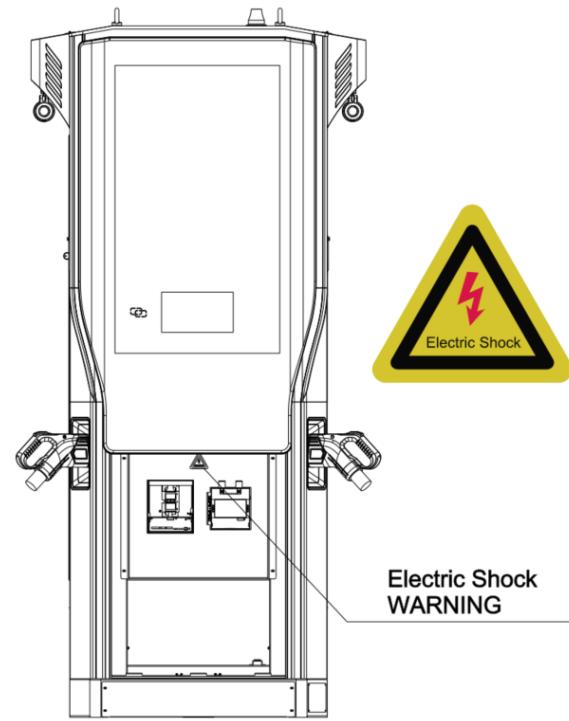


Fig. 6-15 Electric shock notice

#### 6.4. Start Charging

- a) Park your EV into place, turn off, and put the EV under braking.
- b) Pick off the charging connector from empty socket of EV charging station.
- c) Plug the charging connector into the DC charging socket of the EV, and the “Preparing” will display on the LCD screen.
- d) For the mode of “Plug-and-play” charging station, the charging process will start automatically after plug in.
- e) For the mode of “swipe card” or “scan QR code” charging station, follow the instructions on the LCD screen after charging connector plug in, you can start charging process by swipe RFID card or scan QR code.

## 6.5. Normally stop charging

- a) The charging station will automatically stop when the electric vehicle is fully charged.
- b) For the mode of “Plug-and-play” charging station, you can manually stop charging as follow: press the unlock button of the remote key of the EV, the vehicle will stop charging (requires the support of the EV); if the charging does not stop, you may try to unplug the charging connector directly. When “Charging” indicator turns off, the charging process is end.
- c) For the mode of “swipe card” charging station, Click the “stop charging”, swipe your RFID card again, when “Charging” indicator turns off, the charging process is end.
- d) For the mode of “scan QR code” charging station, click the stop button on your APP, the charging will stop.
- e) When the charging is end, please unplug the charging connector and plug back to the empty socket of charging station.

## 6.6. Abnormally stop charging

- a) Emergency stop: At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press the red "Emergency Stop" button of the charging station to stop the charging process.
- b) Forced fault stop: A fault stop initiated by the onboard charger of vehicle.
- c) Automatic fault stop: A fault stop initiated by the charging station.

# 7. Moving and Storage

## 7.1. Moving

To avoid damage to the product, do not have severe vibration, impact or inversion during transportation.

## 7.2. Storage

If the product is not used immediately after purchase, and short-term or long-term storage is required, the device should be stored in a dry, well-ventilated indoor place, ignoring high temperature, humidity, dust, and metal powder environments.

## 8. FAULT HANDLING AND MAINTENANCE

### 8.1. Fault Handling

The charging station is automatically protected in the event of the fault. The fault information and handling methods are as follows.

Fault code	Handling method
Emergency stop	<ul style="list-style-type: none"><li>• The E-stop button has been pressed.</li><li>• After troubleshooting, rotary the button clockwise to reset.</li></ul>
Undervoltage input	<ul style="list-style-type: none"><li>• Check whether the input cable is reliably connected.</li><li>• Check whether the input voltage is abnormal.</li><li>• Check whether the threshold value set on the parameter setting interface is correct.</li></ul>
Oversvoltage input	<ul style="list-style-type: none"><li>• Check whether the input cable is connected correctly.</li><li>• Check whether the input voltage is abnormal.</li><li>• Check whether the threshold value set on the parameter setting interface is correct.</li></ul>
Insulation fault	<ul style="list-style-type: none"><li>• Please check whether the insulation of the DC bus is normal.</li></ul>
Connection fault	<ul style="list-style-type: none"><li>• The charging cable is disconnected.</li><li>• Please check whether the charging cable is connected properly.</li></ul>

### 8.2. Maintenance

To ensure the long-term stable operation of the equipment, please maintain the equipment regularly (usually every month) according to the operating environment.

- a) The equipment is maintained by professionals.
- b) Check whether the equipment is well grounded and safe.
- c) Check whether there are potential safety hazards around the charging pile, such as whether there are high temperature, corrosion or inflammable and explosive articles close to the charging station.
- d) Check whether the join point of the input terminal is in good contact and whether there is any abnormality. Check whether other terminal points are loose.
- e) Clean the dust on the charging module, circuit board, and air duct.

## WARRANTY AGREEMENT

1. The scope of warranty refers to the product itself.
2. The warranty period is 12 months. During the warranty period, the company will repair the product free of charge in case of failure or damage (determined by the company's technical personnel) under normal use.
3. The starting time of warranty period is the date of product manufacture.
4. Even in the warranty period, a certain maintenance fee will be charged in case of the following situations.
  - ① Equipment failure caused by not following the user's manual.
  - ② Equipment damage caused by fire, flood, abnormal voltage, etc.
  - ③ Equipment damage caused by using the product for abnormal functions.
  - ④ Equipment damage caused by foreign matter entering.
  - ⑤ Equipment damage caused by other human external factors.
5. The service fee shall be calculated according to the actual cost. If there is another contract, the contract shall prevail.
6. Please be sure to keep this card and show it to the maintenance personnel during the warranty period.
7. If you have any questions, please contact the agent or our company directly.

**After sales service center**



## FCC Caution

This device complies with Part 15 of the FCC Rules / Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## MPE Requirements

To satisfy FCC / IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l' antenne.

La FCC des États-Unis stipule que cet appareil doit être en tout temps éloigné d' au moins 20 cm des personnes pendant son fonctionnement.

