

MOBILE DC FAST CHARGER

USER MANUAL



V 1.0.4

AFAX
POWER

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SYMBOL

SYMBOL	MEANING
	<p>"WARNING" sign: indicates danger</p> <p>Pay attention to the operating procedures, practices, or improper execution that may result in personal injury;</p> <p>Only after the indicated conditions are fully understood and met can a "warning" mark be placed operation.</p>
	<p>"Caution" sign: indicates danger</p> <p>Pay attention to the operating procedures or incorrect use that may cause damage or damage to the product.</p> <p>Only place a "Caution" mark after fully understanding and meeting the indicated conditions.</p> <p>operation.</p>
	<p>"Tips" mark: Indicates usage tips or useful information</p> <p>Tips and useful information are labeled "Tips." It does not include</p> <p>Contains information warning of dangerous or harmful functions.</p>
	<p>"Non-recyclable" mark: located on the product, instruction manual or packaging</p> <p>Indicates that electrical and electronic equipment and their accessories should be disposed of separately from ordinary household waste.</p> <p>When scrapped, it should be treated as industrial waste, otherwise it may cause accidents.</p>

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1. IMPORTANT INFORMATION

1.1 SAFETY WARNING

SYMBOL	MEANING
	<p>Failure to comply with the safety instructions may result in life-threatening danger, injury and damage to the equipment; any resulting claims are rejected.</p> <ul style="list-style-type: none">- Electrical hazards <p>Only trained, qualified and authorized electrical professionals are responsible for installation.</p> <p>The first commissioning and maintenance of the charger should comply with existing standards and installation regulations.</p> <p>Instructions.</p> <ul style="list-style-type: none">- Electrical hazards / fire hazards <p>The charger socket or charging gun (including charging cable) must be checked regularly for damage and the housing must be checked for damage.</p> <p>If the charger is damaged, it must be turned off and replaced immediately.</p> <p>Do not perform repairs or replacements on the charger without authorization. Only the manufacturer can do so.</p> <p>Do not modify or remodel the charger without authorization.</p> <p>Do not remove safety symbols, warnings, nameplates, signs or pipeline markings.</p> <p>During the first installation, make sure to disconnect the power supply before connecting the external power supply to the charger input. Do not connect the line with power on.</p> <p>When connecting the electric vehicle to the electric vehicle power supply, do not use any extension cables.</p> <p>Only connect the electric vehicle or its charging equipment. Do not connect other loads (electric tools, etc.). Please hold the plug when pulling out the charging gun, and do not pull the cable.</p> <p>Do not bend, squeeze or roll the charging gun to cause mechanical damage.</p> <p>Do not let the contact surface of the device come into contact with heat, dirt or water.</p> <p>Some vehicles may produce toxic or explosive gases in the indoor area during charging, and must be equipped with an external ventilation system.</p> <p>When using a charger to charge an electric vehicle, please read the relevant tips and instructions of the vehicle carefully.</p> <p>Avoid the charger from falling from a high place or being impacted by strong</p>

mechanical force, otherwise it may damage the electrical safety of the equipment and cause safety hazards.

It is strictly forbidden to use it in an environment with flammable materials or explosive gases, otherwise there is a risk of explosion.

Do not let conductive objects such as metal foreign objects fall into the charger, otherwise an accident may occur.

The PE end of the charger must be reliably grounded, otherwise electric shock or fire accidents may occur.

Failure to comply with the safety instructions may result in life-threatening danger, injury and damage to the equipment; any resulting claims are rejected.

1.2 PRECAUTION ON USING

- ◆ The wall-mounted DC charger is a DC charger that can charge pure electric or hybrid vehicles in indoor and outdoor areas.
- ◆ When installing and connecting the charger, comply with national regulations.
- ◆ The intended use of the equipment includes observance in all cases of the environmental conditions established for the equipment.
- ◆ Equipment is developed, produced, inspected and filed in accordance with relevant safety standards. Therefore, if the instructions for the intended use and the technical safety tips are followed, the product will not cause damage to property or endanger human health under normal circumstances.
- ◆ The instructions contained in this manual must be strictly followed, otherwise safety hazards may occur or safety devices may fail. Although the relevant safety instructions are described in this manual, the safety and accident prevention regulations for the respective application must be observed.

2. SPECIFICATION

2.1 PARAMETERS

Parameters	
Input Voltage	260 ~ 530Vac; 380Vac (type)
Input Frequency	45 ~ 65HZ; 50/60HZ (type)
Power Factor	≥0.99 (Rated voltage input, load above 50%)
Output Power	30KW / 40KW
Output Voltage	150-1000V
Max. Output Current	<100A (30KW) / 133.3A (40KW)
Efficiency	≥95.5%
Safety indicators	
Insulation resistance	20MΩ (type)
Dielectric strength	< 1mA, 3.6kVdc@1min
Leakage current	3.5mA (type)
Ground resistance	0.1Ω (type) ; (35A@1min)
EMC characteristics	
Conducted Emissions (CE)	ClassA
Radiated Emissions (RE)	Class A
Harmonic current	≤5%@output power above half load
surge	Severe Level 3
EFT	Input and output: 4kV; signal: 1kV
ESD	8kV/15kV
Conducted immunity	3Vrms, 0.15 ~ 80MHz
Radiated immunity	10V/m, 80 MHz ~ 2GHz
Voltage drop	Severe Level 3

Parameters	
Operating Temperature	
range of working temperature	-40 ~ 70°C; 25°C (type); intelligent derating when case temperature exceeds 70°C
Working humidity range	20 ~ 95RH%; 25RH% (type); no condensation
Altitude	2000 m; above 2000 meters, the temperature decreases by 1°C for every 100 meters of altitude increase.
Atmospheric pressure	70 ~ 106KPa
Heat dissipation method	Forced air cooling
Storage environment	
Storage temperature range	-40 ~ 85°C; 25°C (type)
Storage humidity range	5 ~ 95RH%; 25RH% (type) ; No condensation
Function	
Display parameters	Charging voltage, charging current, charging power, SOC,
Version function	Swipe Card / APP Control / Support platform by OCPP
Dimension	
Body Dimension (H*L*W)	48x66x16cm
Weight	40kg (30KW) / 45kg (40KW)
Connector Length	5m
Installation	
Portable (Protection: IP54)	

2.2 PRODUCT FUNCTIONS

- 1) Equipped with swipe card to start and stop charging, equipped with rechargeable IC Card.
- 2) Scheduled charging function can charge regularly according to user needs, and it will automatically end when fully charged.
- 3) The electricity price setting function can set electricity prices in four time periods to meet charging needs in different time periods.
- 4) Charging records and expense records for up to two months can be queried
- 5) Equipped with a display screen that displays SOC information in real time and estimates the full time
- 6) Equipped with overload protection, short circuit protection, reverse connection protection, insulation detection, discharge, leakage protection, emergency stop button and other functions
- 7) Convenient charging, plug and play

2.3 TECHNICAL FEATURES

- The appearance design is simpler, the product is lighter and thinner, suitable for a variety of environments, portable and mobile, and more convenient to choose.
- A high-voltage contactor is added inside. Before successfully shaking hands with the BMS, the charger does not output DC power, which is safer.
- Equipped with dual battery protection mechanism, it will automatically stop when the battery is full.
- Using DSP control technology, it is highly intelligent, small in size, light in weight, higher in reliability, more stable in operation and longer in life.
- Intelligent charging process control and complete charging process monitoring and protection, fool-like operation, convenient charging;
- Ultra-wide input voltage range AC260V-AC530V, with full range DC output voltage of DC150-1000V. Adjustable voltage and current output to meet different types of BMS battery management system charging requirements;
- Constant power output, faster charging;

- The AC input adopts active power factor correction technology, the input power factor is as high as 0.99, and the harmonic distortion is as low as $\leq 5\%$;
- Good electromagnetic compatibility characteristics, can work normally in complex environments and will not affect the normal operation of peripheral equipment;
- Complete AC and DC input and output over- and under-voltage protection, output over-current, short circuit, over-temperature and other protection functions;
- Intelligent air cooling system and intelligent fan speed regulation extend the service life of the fan. Strictly select components from well-known brands to ensure quality;
- The input and output are fully isolated, which meets the system requirements for DC power supply and ground and AC input and output to be completely floating.;
- Output anti-backflow device. The output end is equipped with a device that prevents the battery pack from charging the output filter capacitor of the charger, and prevents the output end of the charger from experiencing a large instantaneous current when the battery pack is connected.;
- Strong compatibility: suitable for all models that comply with the new and old national standards for electric vehicles.
- High protection level: waterproof level up to IP54, can be used outdoors.

3. USAGE OF CHARGER

3.1 APPEARANCE OF CHARGER



Figure 3-1 Appearance of Portable DC Fast Charger



For DC Charging Connector:

Wrap the cable if not charging, Avoid pull and swing the cable;

During charging, ensure the connector is tightly connected with the socket on the vehicle side;

3.2 START & STOP CHARGING

- 1) Insert the gun: Reliably connect the charging gun to the vehicle charging interface and ensure it is locked.
- 2) Start by swiping card/scanning code: Use the IC card that comes with the device and swipe the card at the card swiping silk screen. Or use APP to start charging.
- 3) Start charging: The green light is on, the yellow charging indicator light flashes, and charging starts.
- 4) End charging: Swipe the card again to end charging. Or click on the phone to stop charging. Unplug the charging gun and store it away, and the charging process is completed.

P.S.: After swiping the card to start charging, do not cut off the power directly or press the emergency stop switch to stop charging under normal circumstances, as this will lock the charging card. After the charging card is locked, you must swipe the card again on the original charging pile to settle. The card can be released only after the settlement is successful.



- Never use force to remove a mechanically locked connector from its socket.
 - During the charging process, the electronic lock of the charging gun can be unlocked only by swiping the card to stop charging. Due to a power outage from the power grid, the electromagnetic lock will automatically unlock.
-

4. TROUBLESHOOTING

When the charger fails, the indicator light will display accordingly. Some failures will cause the charger to stop output. Possible faults and solutions are shown below:

FAULTS	SOLUTIONS
The power indicator light (green) does not light up	<ol style="list-style-type: none"><li data-bbox="508 336 959 361">1. Make sure the AC 380VAC input is normal.<li data-bbox="508 375 959 433">2. If you are sure that the AC input is normal, please ask the manufacturer for help.
Fault indicator light (red) is on	<ol style="list-style-type: none"><li data-bbox="508 516 933 575">1. Restart the charger after pulling out the gun.<li data-bbox="508 589 902 614">2. Please ask the manufacturer for help.
Fault indicator light (red) flashes for 1S	<ol style="list-style-type: none"><li data-bbox="508 647 933 706">1. Restart the charger after pulling out the gun.<li data-bbox="508 720 902 745">2. Please ask the manufacturer for help.
The charging indicator light (yellow) does not light up after the gun is inserted.	<ol style="list-style-type: none"><li data-bbox="508 797 933 856">1. Restart the charger after pulling out the gun.<li data-bbox="508 870 912 895">2. Make sure the vehicle is fully charged.<li data-bbox="508 910 902 934">3. Please ask the manufacturer for help.

5. MAINTAINENCE

5.1 Power Distribution System

The AC input of the charger is led from the power grid distribution box, and the power should be turned off before connection. The steps for turning power on and off are as follows:

1. Check whether the power supply voltage is normal.
2. Closing: First close the main switch of the distribution box, and then close the branch circuit switches in sequence.
3. Pull the switch: first pull the branch circuit switch, then pull the main switch of the distribution box. In case of emergency, the main gate will be opened directly.

5.2 Cable system

Regularly check the input and output cables of the charger:

- Weekly routine inspection: Check whether the cable is overheated or damaged.
- Monthly routine inspection: Check whether the cable is heated or damaged, whether it is stressed by external pulling force, and whether it is firmly fixed.
- Annual routine inspection: Check whether the connection between the cable and the switch is tight, whether the grounding is reliable, whether the cable is overheated or damaged, whether the insulation resistance of the cable meets the regulations, whether the sealing measures for the cable entering the charger are intact, and whether the holes are tightly sealed.

5.3 Circuit Components

The following inspections should be performed by professional maintenance personnel:

- Weekly inspection: Check whether the mechanical lock buckle of the charging gun is damaged and whether the connection is abnormal.
- Routine inspections every quarter: Check whether there is sparking or burning at the connection point of the charging gun wire core. If any abnormalities are found, replace the parts in time.
- Annual routine inspection: Use a brush or vacuum cleaner to remove dust from the box. When cleaning, be careful not to blow dust into components, causing short circuits. Conduct a comprehensive inspection of all components in the box and replace abnormal components in a timely manner.

5.4 Equipment Appearance

- Conduct monthly inspections to see if there are any stains on the appearance of the charger, and clean the overall casing of the charger;
- Check whether the sheet metal of the electrical cabinet is deformed or rusted, and whether the paint is damaged. Perform touch-up paint and anti-rust treatment in a timely manner to modify the appearance.

6. UNPACKING & STORAGE

6.1 Packing List

No.	Item	Unit	Quantity(in Default)
A	DC Fast Charger	PCS	1
B	Connector with Cable	PCS	1
C	User Manual	PCS	1
D	Key of Charger Lock	PCS	4
E	Swipe Card	PCS	2



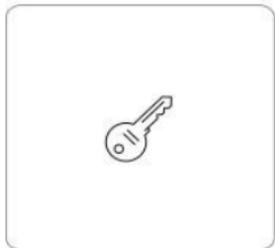
A



B



C



D



E

6.2 Storage

Proper storage is required if the charger is not to be installed immediately.

- Store the charger in the original packing case with the desiccant inside.
- The storage temperature must be always between -40°C and $+85^{\circ}\text{C}$, and the storage relative humidity must be always between 5% and 95%, non-condensing.
- In case of stacking storage, the number of stacking layers should never exceed the limit marked on the outer side of the packing case.
- The packing case should be upright.

7 INSTALLATION REQUIREMENT

7.1 Usage Environment

The charger should not be used close to dangerous locations such as water pipes, gas pipes, steam pipes, etc.

- The location of use should be convenient for power connection, and the wiring length should be shortened when laying the line to reduce the cable resistance energy consumption.
- Portable DC fast charger should not be used in areas with accumulated water or outdoors in heavy rain. They should be placed vertically and on a flat surface to prevent them from tipping over or tilting. They should not be placed in places with severe vibration or high temperatures.
- Ensure that the ground wire is reliably connected to the ground wire of the power supply system nearby. (Note: A. This grounding wire is strictly prohibited from being connected to any circuit breaker, such as fuses, air switches, knife switches, transfer switches, etc.; B. The grounding wire must use a copper plate with a large enough area.

7.2 Power Supply Requirements

The power supply mode of the DC charger is AC three-phase 380 power supply. Enter the electrical requirements:

- AC working voltage: $AC380V \pm 15\%$
- AC operating frequency: $50HZ \pm 10\%$

7.3 Normal Operating Environment Requirements

- Working environment temperature: $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$
- Relative humidity: 5% ~ 95%
- Installation vertical inclination: $\leq 5\%$
- Installation and operation altitude: ≤ 2000 meters
- The place of use is free from strong vibrations and impacts, and there is no strong electromagnetic interference

7.4 Wiring Requirements

30KW recommended cable applicable model: 5-wire YJV $3*(10-16)\text{mm}^2 + 2*4\text{mm}^2$

Maximum allowable operating temperature of conductive core: 85°C

Ambient temperature: $-40^{\circ}\text{C} \sim 50^{\circ}\text{C}$

7.5 Product Usage

1) Select a suitable distribution box.

The user should judge whether the distance between the distribution box and the charger is sufficient and whether the power of the distribution box is sufficient according to the product instructions and actual on-site conditions.



- The incoming line of the distribution box is a three-phase four-wire system, and a capacity of no less than 20 KW can be reserved for charging equipment (corresponding capacities should be reserved for other power levels).
 - The door lock of the distribution box is normal and there is a warning sign. The grounding of the distribution box meets the requirements.
-

3) Connect the AC input cable of the charger to the distribution box. Requirements are as follows:

- The incoming line terminal is required to be three-phase and five-wire and the wire diameter must match the model.
- The distribution box should have leakage protection function.
- The neutral position must not be connected incorrectly.
- The ground wire is connected to the ground copper bar.
- This step should be completed by an electrician. Do not perform live wiring.

4) Cable Connection inside the DC Fast Charger

- Power Output Cable (Connector) - Insert into hole Number 2 (See figure below)
- Power Input Cable - Insert into hole number 1 (See figure below)



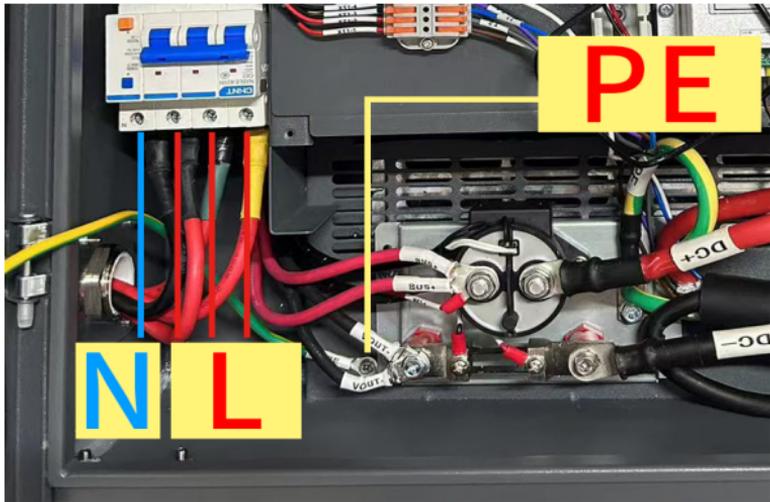
Diagram of the bottom of charger

Power Output Cable (Connector) - Hole Number 2

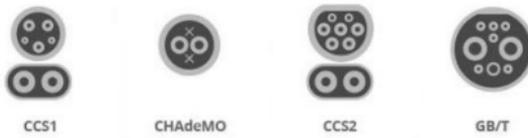
Power Input Cable - Hole Number 1

For Power Input Cable (Totally 5 Wires):

- Power Input Cable - Insert 3 Live Wires (3L) + 1 Neutral Wire (N) into circuit breaker. (See figure below)
- 1 PE Wire can connect to the earthing of output power cable or case cover.

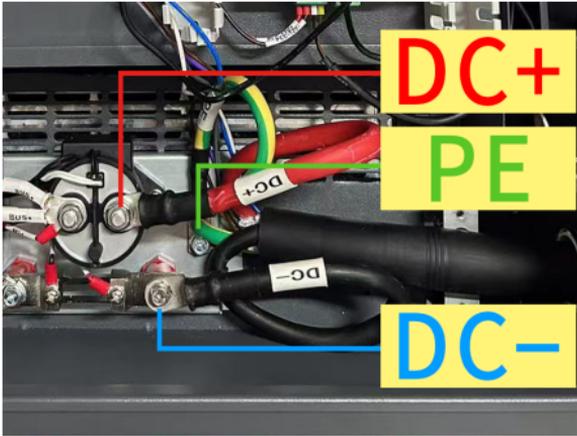


For Power Output Cable (Connector):



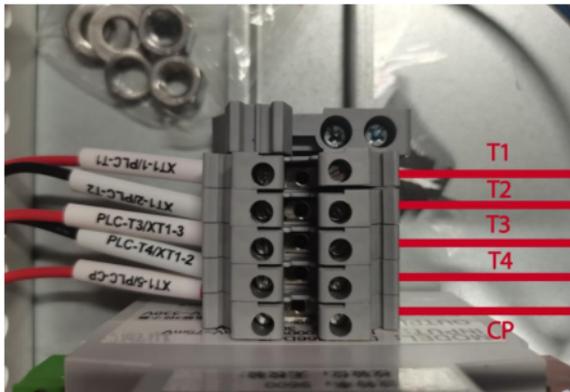
CCS2 Connector (Totally 8 Wires Connected)

- Connect 1 DC+ Wire on contactor (See figure A below)
- Connect 1 DC- Wire on copper board (See figure A below)
- Connect 1 PE Wire on screws as earthing (See figure A below)



(Figure A)

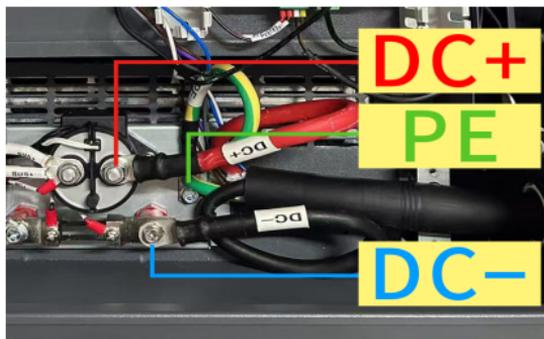
- Connect 1 T1, 1 T2, 1 T3, 1 T4 & CP Wire on Terminals (See figure B below)
- PP Wire can be disconnected



(Figure B)

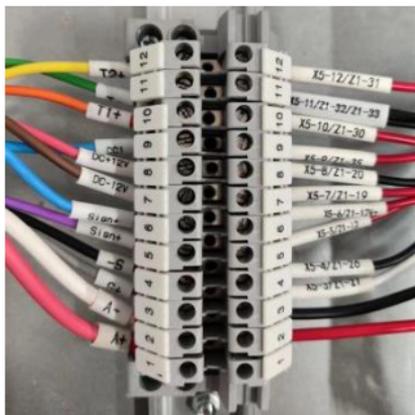
GB/T Connector (Totally 15 Wires Connected)

- Connect 1 DC+ Wire on contactor (See figure C below)
- Connect 1 DC- Wire on copper board (See figure C below)
- Connect 1 PE Wire on screws as earthing (See figure C below)



(Figure C)

- Connect A+, A-, S+, S-, Sign+, Sign-, DC-12V, DC+12V, CC1, T1+, T1, T2+ Wire on Terminals (See figure D & Table 1 below)



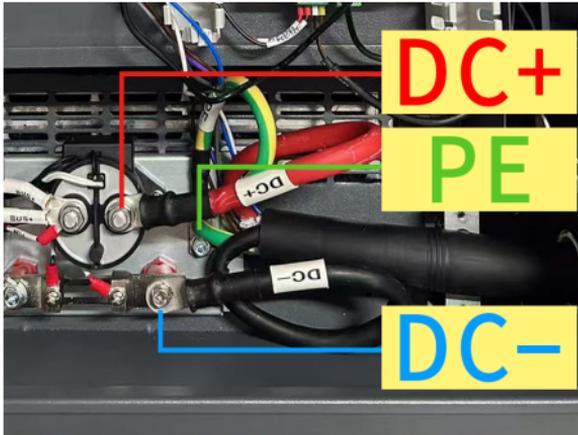
(Figure D)

Terminal No.	Wire
1	A+
2	A-
3	S+
4	S-
5	Sign+
6	Sign-
7	DC-12V
8	DC+12V
9	CC1
10	T1+
11	T-
12	T2+

(Table 1)

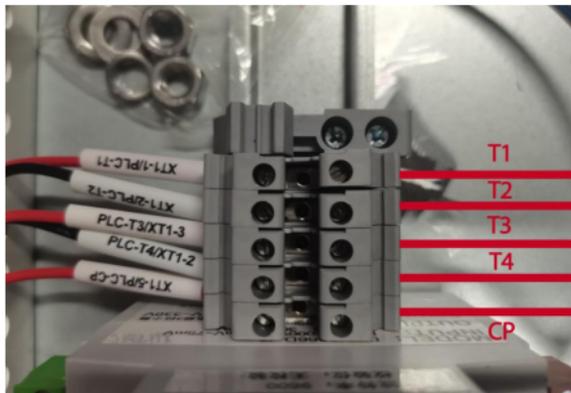
CCS1 Connector (Totally 8 Wires Connected)

- Connect 1 DC+ Wire on contactor (See figure E below)
- Connect 1 DC- Wire on copper board (See figure E below)
- Connect 1 PE Wire on screws as earthing (See figure E below)



(Figure E)

- Connect 1 T1, 1 T2, 1 T3, 1 T4 & CP Wire on Terminals (See figure F below)
- CS Wire can be disconnected



(Figure F)

7.6 Post-installation inspection

- After completing the above steps, you should confirm the following points:
- Confirm that the leakage protection circuit breaker is installed firmly and is not loose.
- Confirm that the live wire and ground wire are connected correctly, there are no misconnections, and the box is grounded.
- The ground wire on the loop should be no less than 4 square meters.
- Confirm that the distribution box door can be closed and locked normally. When the charging equipment is not in use, the distribution box door should be locked. There should be safety warning signs on the door of the distribution box.
- The leakage protection circuit breaker is closed if and only when the charging device is enabled

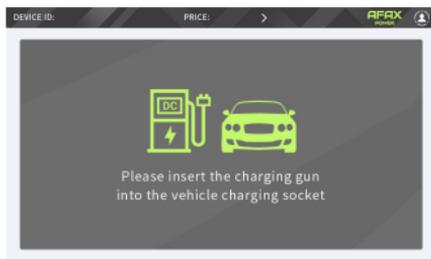
8 DISPLAY OPERATION & FAULT INTERPRETATION

8.1 Display Operation

Standby Status: Wait for starting Charging by Swipe Card / VIN Code / Phone



Connection with the vehicles: Insert the connector to the socket on vehicle side.

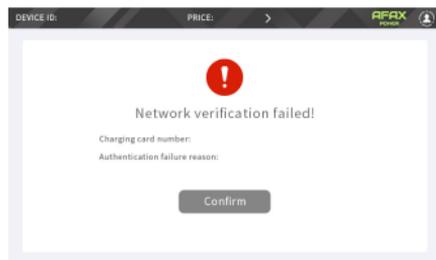


Swipe Card:

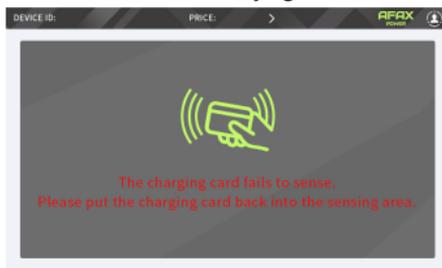
After swiping card successfully, the authentication will be in progress



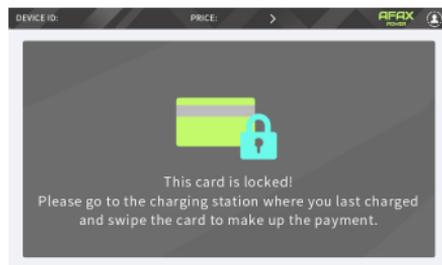
If the authentication is failed



If the swipe card fail, it will show and we can try again.

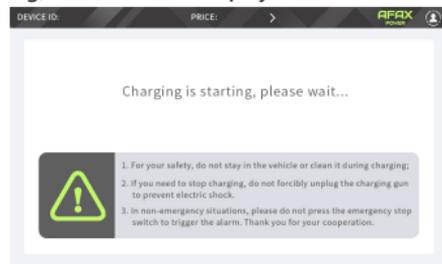


If the card is locked, it will show and we need to check the card.

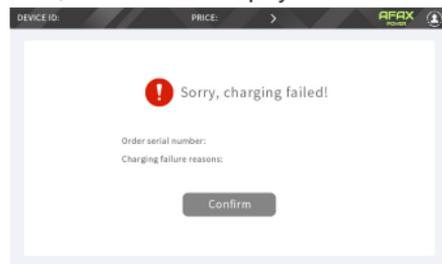


Start Charging:

If the charging is starting, it will show on display.



If the charging fails to start, it will show on display.

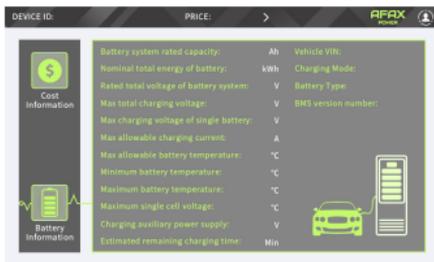


Information

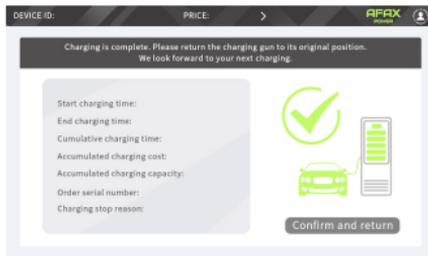
Charging Status: There will be showing on Charging power, current, voltage, charging time duration and other information during charging.



Battery Information: You can check more information about the energy storage of vehicles and charging capability of charger.



Charging Completed: After charging is completed, user can return the charging connector to its original position.



Historical Charging Record: We can read the historical charging record in display.

Historical charging record

Charging gun: Starting SOC value:

Startup method: End SOC value:

Account Balance: Start charging time:

Accumulated charging: End charging time:

Accumulated expenses: Cumulative charging time:

Vehicle VIN number: Stop reason:

Card/User Number:

Transaction serial number:

Back Go to the Strip Strip Up Strip Down

Total Cost Information

All rate information

Time	Start time	End Time	Charging costs	Service Fee	Total cost
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					

Charging Cost Information

Charging fee details

Time	Start time	End Time	Electricity	Cost	Service Fee
01					
02					
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					

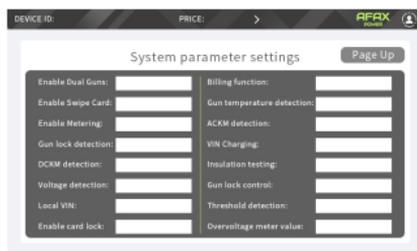
Setting:

Charging Rate and Time Setting

Charging rate setting

Time	Start time	Charging costs	Service Fee	Total cost
01	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
02	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
03	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
04	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
05	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
06	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
07	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
08	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
09	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

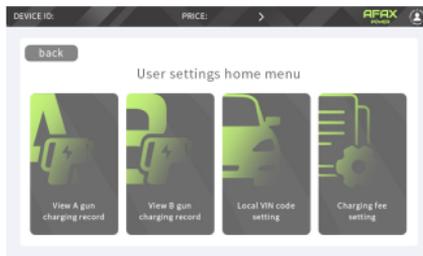
System Parameter Setting (Factory Setting)



User Setting



Home menu of setting



8.2 PASSWORD

For Setting: Press Upper-Left Corner --> Device ID --> Password: 888999 --> Setting

For Reading Record: Press Upper-Right Corner --> AFAX POWER --> Password: 888888 --> Reading Record



9 CONTACT INFORMATION

In case of questions about this product, please contact us.

We need the following information to provide you the best assistance:

- Model of the device
- Serial number of the device
- Photos or videos of the problem
- Brief description of the problem

For detailed contact information, please visit:

<https://www.afaxpower.com/contact>

Email: afaxpower@gmail.com

Whatsapp/Wechat/Phone: +86-19867754003

AFAX POWER TECHNOLOGY CO. LTD.



WWW.AFAXPOWER.COM