Operation Manual

60 - 180kW
Intelligent Electric Vehicle Charging



Please comply with all warnings and operating instructions in this manual strictly. Save this manual properly and read carefully the following instructions before installing the unit. Do not operate this unit before reading through all safety information and operating instructions carefully.

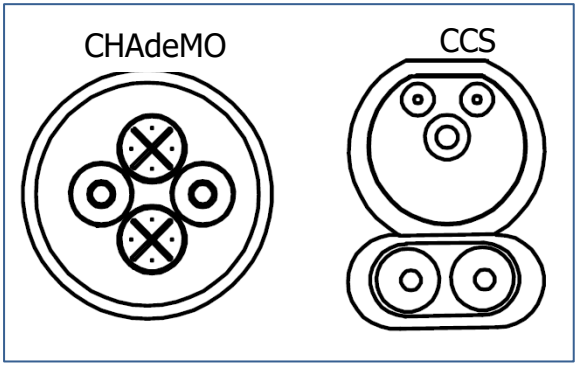
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1. Introduction

It will only take maximum 30 minutes to fully charge one car up to 95% capacity through charging plug with DC EV charging station. It provide green power solution and high performance for a smart city.

This EV charger is designed with intelligent distribution power system to satisfy diverse application demands. The maximum power is 120kW and compatible to different BMS systems. This EV charger is equipped with CHAdeMO and CCS connectors at the same time to meet different local regulations.



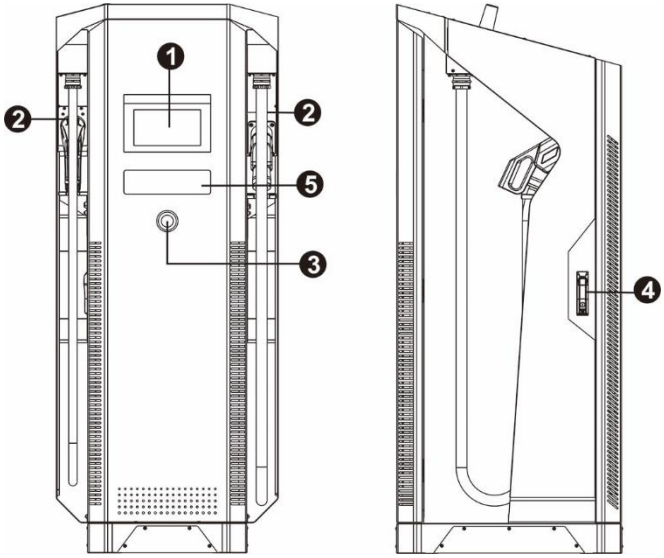
The suitable applications:

- Highway service
- Parking lot
- The shopping mall
- Commercial fleet
- Residential area

3. Product Overview

This DC EV charger is equipped with two charging plugs. The maximum output power is 120kW with 94% efficiency. To facilitate operation, this EV charger is equipped with 7" industrial grade touch screen and embedded RFID card reader with standard Ethernet connectivity. We also offers optional 3G/4G selections.

2.1 Outlook



1. Operation touch screen
2. Charging plug
3. Emergency power off button
4. Door lock
5. Operation indicators

2.2 Technical Specifications

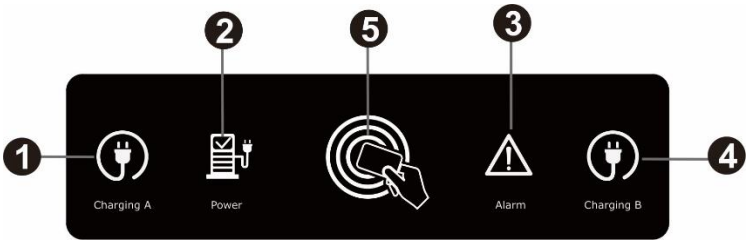
MODEL		60kW	90kW	120kW	180kW
Charging Type		DC fast charging			
Outlet Options		C: CCS2 cable, A: CCS1 cable, J:CHAdeMO cable, G: GBT cable			
AC Input Power		93 A, 64 kVA	139 A, 96 kVA	185 A, 128 kVA	278 A, 192 kVA
Input Voltage Range		400 VAC or 380 VAC ± 10%			
Input Frequency		50 Hz or 60 Hz			
DC Output Power Rating		60 kW	90 kW	120 kW	180 kW
DC Output Voltage		200-750 Vdc (ready) 200-1000 Vdc (coming soon)			
Number of EV Served		Up to 2 (CC, AA, JC, JJ ,GG models) Up to 1 (C, A, G models)			
Cable Length		5 m default, optional 6.0 m/ 7.0 m			
Maximum Current	CCS Cables	150 A	150 A, Optional: 200A	200 A	200 A, Optional: 300 A
	CHAdeMO Cables	125 A	125 A	125 A, Optional: 200 A	125 A, Optional: 200 A
	GBT Cables	150 A	150 A	250 A	250 A
Electro-Magnetic Compatibility		Class A according to EN 61000-6-3:2007			
Network Type		TN-S, TN-C, TN-C-S, TT (required external RCD)			
Connector Type		3P + N + PE			
Protection		Overcurrent, overvoltage, undervoltage, integrated surge protection, grounding fault including DC leakage protection, door opening protection			
Overvoltage Category		Type II			
Power Factor (Full Load)		> 0.99			
THDi		< 5%			
Efficiency		94% (peak)			95% (peak)
Standby Power		< 35W			
Short Circuit Current		10 kA			
Pre-charge Current		< 1 A			
Inrush Current		< 100 A			
Leakage Current		0.8 mA			
Energy Metering		Standard: Meter for DC outlet, Optional: AC inlet			
Cellular Communication		GSM, 4G, LTE			
USER INTERFACE					
Connectivity		Internet access vi a 4G/3G/Ethernet (RJ45)			
User Authentication		RFID, QR code			
User Interface		7” LCD high-contrast touchscreen			

Communication Protocols	Proprietary and OCPP 1.6J			
RFID Reader	ISO/IEC 14443 A/B Mifare RFID reader			
Emergency Button	Yes			
Language System	English, Chinese			
GENERAL CHARACTERISTICS				
Protection Rating	IP54 and IK10 (cabinet) / IK8 (touchscreen)			
Housing Material	SGCC, Optional: SUS430			
Operating Altitude	Up to 2000m			
Operating Temperature	-35 °C to 55 °C			
Storage Temperature	-40 °C to 70 °C			
Humidity	< 95%, non-condensing			
Mounting	Free-standing cabinet			
Dimensions (D x W x H) mm	750 x 740 x 1830			
Weight (kgs)	295	335	355	395
COMPLIANCE STANDARDS				
Charging System	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000, GBT18487, GBT20234			
Communication to the EV	DIN 70121, ISO/IEC 15118 ed 1, CHAdeMO 1.2, GBT27930, GBT 34657			

4. Operation

3.1 Indicators

In the front panel of the charger, there is operation indication area to display the charger status.



1. Power LED for charging plug A (charging plug on the left side)
   When hanging on charging plug A, this power LED (green) will light on.
   When charging plug A is in charging, this power LED (green) will flash.
2. Power LED for this charging station
   When this charger is powered on, this power LED (yellow) will light on.
   When this charger is off, this power LED will fade out.
3. Fault LED:
   When any fault or error occurs on the charger, this fault LED (red) will light on.
   At this time, this charger will stop operation for safety consideration.
4. Power LED for charging plug B (charging plug on the right side)
   When hanging on charging plug B, this power LED (green) will light on.
   When charging plug B is in charging, this power LED (green) will flash.
5. NFC sensing area
   No indication for this icon. To start or stop charging, please put NFC card nearby this area.

3.2 EPO operation

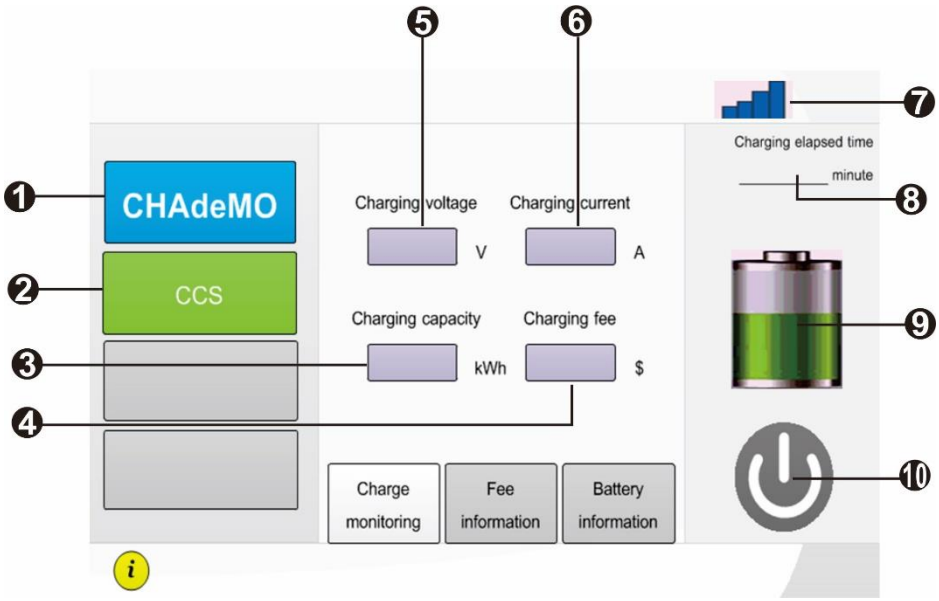
When any of the following situation occurs, please press EPO button (3 in product overview) to stop this charger.

- Fire alarm, electric shock or leakage occurs on this charger
- Internal fault, can't stop charging, internal wiring problem occurs on this charger
- Water enters inside of cabinet or abnormal buzzer alarm is activated
- It's necessary to move charger location

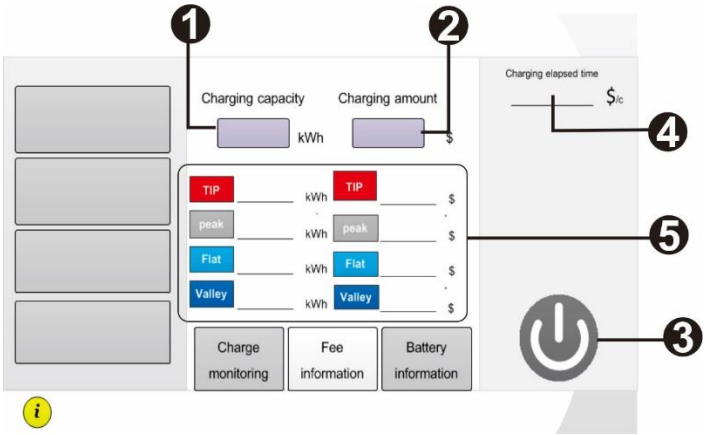
NOTE: When pressing this EPO button, this charger will stop charging and fault indicator will light on. If pressing this button by mistake, simply rotate this button to the right to recover this action.

5. Charging Process

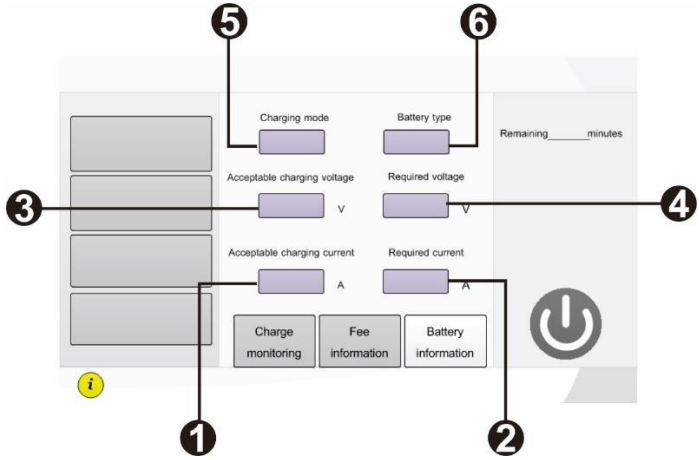
4.1 Touch screen operation description



1. Status information for charging plug A: click to access data for charging plug A
2. Status information for charging plug B: click to access data for charging plug B
3. Charging capacity
4. Charging fee
5. Charging voltage
6. Charging current
7. Network status
8. Charging elapsed time
9. Charging capacity of the charged vehicle
10. Stop button



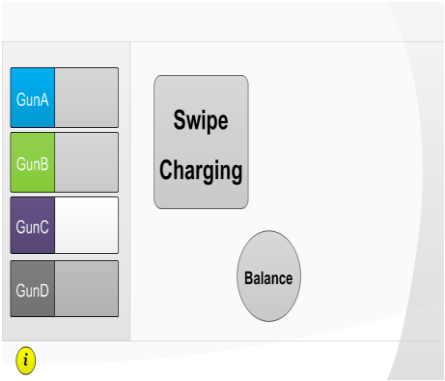
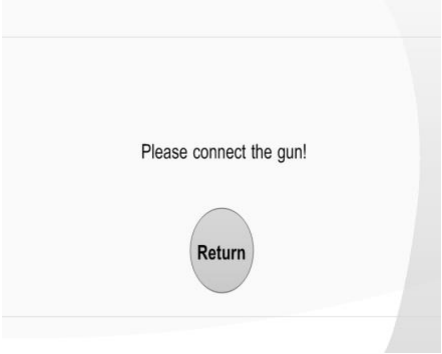
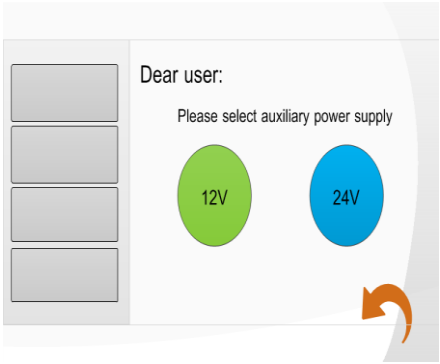
1. Current charging capacity
2. Current charging amount
3. Stop button
4. Current charging price
5. Charging price board based on TOU (time-of-use) price period

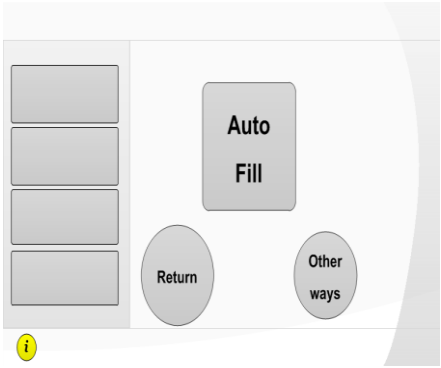
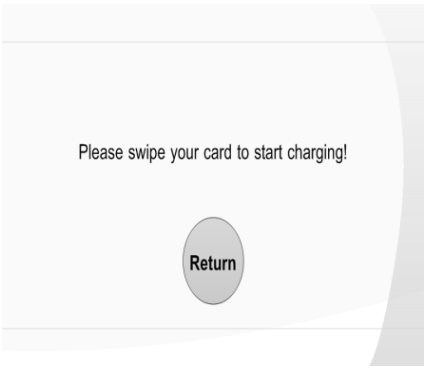
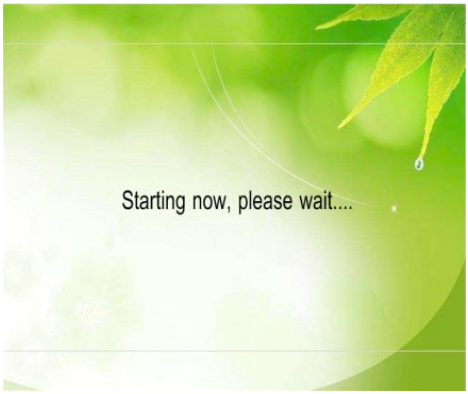


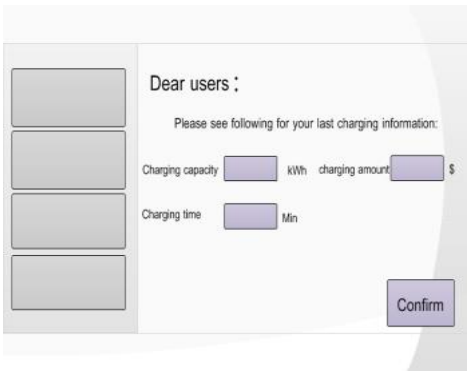
Current operation data for charging vehicle

1. Current charging mode
2. Battery type
3. Acceptable charging voltage
4. Required voltage
5. Acceptable charging current
6. Required current

4.2 Swipe charging process

Step 1: When your vehicle is connected with EV charger, it will pop up charging screen in LCD panel.	
If this connection is not well, it will pop up a warning message to remind of connection well.	
Step 2: Please select auxiliary power voltage, 12 or 24V.	

Step 3: Select charging method, auto fill or other ways. Other ways include charging by time, charging by specific price and charging by demanded capacity.	
Step 4: After selecting charging method, please swipe your card by closing to NFC sensing area.	
After authentication is complete, this charger will start charging.	

Step 6: When the vehicle is charging, you can see charging data in LCD screen by touching screen.	
Step 7: After charging is complete, it will pop up a message to ask for swiping card again to finish charging. Please swipe your card by closing NFC sensing area.	
Step 8: It will show charging capacity, charging mount and charging time as final screen. After charging, please put charging plug back to original position.	

During charging period, if it's necessary to stop charging, simply touch "Power" icon on the right bottom corner.

5. Troubleshooting

1. This EV charger is equipped various safety detection functions. Once any dangerous situation is triggered, it's not allowed to charge anymore and all in-process charging will be stopped.
2. Safety detection items include temperature detection for charging plug, surge protection detection, liquid ingress protection, network status detection, door lock detection and emergent power off detection. If any above situation is detected, the charger will stop working and turn into fault mode. The charger can not work until faults are removed or clear.
3. Internal battery fault of charging vehicle will cause to stop charging. If there is dramatically voltage fluctuation, it's necessary to stop charging. Otherwise, it will cause damage on EV charger, vehicle and humans.
4. If anything above can't be solved, please contact our service personnel.

6. Maintenance and Safety Instruction

6.1 Maintenance

In order to ensure the continuous and normal operation of the charger, regular maintenance is required.

1. Regularly check if the cabinet structure is loose and sliding.
2. Check if the connecting wire is worn and the charging connector is connected firmly.
3. Regularly check if any internal components is damage, loose or burned out.
4. Regularly check if AC incoming line and ground wire are firmly connected.
5. Check if filer is blocked once a month.
6. Check if the fan is stopped or blocked once a month.
7. Check the ash accumulation in the cabinet once a month and clean it in time to ensure the heat dissipation.
8. Please be sure to keep the cabinet door closed and locked when nobody is on duty.

6.2 Safety Instruction

The following danger symbols indicate potential dangerous situations. If you see them, please stay away from the paste position of this sign. If you do not avoid them, it may cause equipment damage, data loss, equipment performance degradation, and even death or other serious personal injury.





Please observe the following safety precautions to prevent personal and property damage.

- When the product is running, it should pay attention to ventilation, heat dissipation and keep the environment clean. Avoid installation in places with frequent occurrence of storm, rainstorm, lightning and other severe weather. During installation, if any abnormal phenomena such as cracking, loose gate lock, water leakage are showing up, all operations shall be stopped immediately and professionals shall be informed in time to deal with them.
- Do not put inflammable, explosive or combustible materials, chemicals, combustible steam and other dangerous goods near the charge pile.
- Please keep the charging plugs clean and dry. If there is any dirt, please wipe it with a cleaning cadre. It is strictly prohibited to touch the charging core with hands when it is electrified.
- It is strictly prohibited to use the charge pile when the charge plugs or charging

cable is defective, cracked, worn, and the charge plugs line is exposed. If any, please contact the staff in time.

- In case of rain and thunder, please use electricity carefully. It is better to stop charging.
- Do not attempt to dismantle, repair or refit the charge pile. If there is a need for maintenance or refitting, please contact the staff. Improper operation may cause damage, water leakage, electric leakage, etc.
- It is forbidden to plug and unplug the plug head during the charging process to ensure the safety of life and vehicle during the charging process.
- It is strictly prohibited to continue to use this product for charging in case of failure.
- If any leakage or insulation failure occurs during the operation of the product, please press the emergency power off button immediately.