

User Manual

-- HSDC160K-ODA1 --



Contents

Preface	2
Safety Instruction	2
1.Product Overview	4
1.1 Product Introduction	错误! 未定义书签。
1.2 Schematic Diagram	4
1.4 Performance and Characteristics	6
1.5 Working Environment	7
1.6 Product Naming	7
1.7 LED Indicator	7
2.Installation Instruction	8
2.1 Product Installation	8
2.2 Power-on Checking	12
3.Operation Instruction	13
3.1 Start Charging	14
3.2 Stop Charging	15
3.3 Charger Setting	15
4.Trouble Shooting	16
5.Disposal	17

Preface

Thank you for your support on our products, our company focus on new energy field of electric vehicle charging, dedicated to provide customers with excellent charging product and complete solutions. **Our chargers** have the characteristics of advanced function, steady performance, wide application range and strong practicability, winning a good reputation in the industry.

Before any operation, please read the user manual carefully to understand the correct use of the product. After reading, please keep the user manual for future review.



Warning



The input and output voltages of this product are dangerous high voltage, which can endanger human life safety. Please strictly observe all warnings and operating instructions on the product and in the manual. Unauthorized and non-professional service personnel should not remove the cover of this product..

Safety Instruction

1. Keep the explosive or flammable materials, chemicals, vapors and other hazard objects away from the charger.
2. Keep the charging connectors clean and dry. If dirty, please wipe with clean dry cloth. Touching the connectors is strictly forbidden when power is on.
3. Do not use the charger in case the product has defects, crack, abrasion, bare leakage and so on. Please contact the working staff in case of above conditions.

4. Do not attempt to disassemble, repair, and refit the charger. If necessary, please contact the working staff. Improper operation will result in product damage, electric leakage, etc.
5. In case any abnormal condition happens, please press the emergency stop button immediately, cut off all input and output power supply.
6. Please make charging cautiously in raining or lighting weather.
7. The children should not get close to or use the charger to avoid being hurt.
8. During the charging, the EV is not allowed to drive. Charging only when the EV stops still. For Hybrid car, charging only when switching the engine off.

1.Product Overview

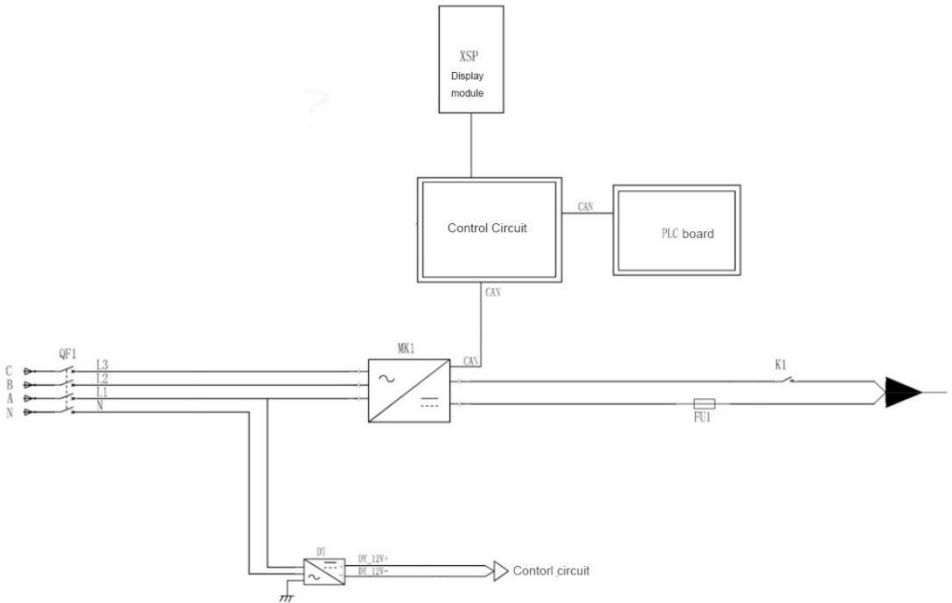
• Product Introduction

The 160KW DC charger is used for electric vehicle's fast charging, composed of a 7-inch touch screen, 2 CCS2 charging guns and four 40KW charging modules. **It's easy for operation by RFID card. The RFID card is an function to start and stop the charging so as to prevent the theft of electricity by others.** The LED indicator on the front panel helps you understand what is happening with the charger by indicating different colors.

Using well-known brand 40KW power module, Flexible distribution of charging power, the charger design is highly integrated and compact, with protection grade up to IP54, the excellent capacity of water and rust proof, assuring the safe outdoor operation and maintenance. Designed according to Electric Vehicle Charging System Standard EN/IEC 61851-1-2019 and EN/IEC 61851-23:2014.



1.2 Schematic Diagram



1.3 Specification Parameter

Specificatio	Model	HSDC160K-OA1
Input Parameters	Input Grid System	3L+N+PE
	Input Voltage	380Vac±20%
	Frequency	50/60Hz
Output Parameters	Output Voltage	200~1000Vdc
	Output Current	Max. 250A
	Output Power	160kW
Structure Design	Housing Material	Galvanized steel
	Charging Outlet	Two charging guns (CCS2)
	Cable Length	5M
	Startup Mode	Swiping card
	User Interface	LED indicators, LCD screen
	LCD	7inches, 800*480 resolution

	Interface Language	English/Chinese
	LED Indicator	POWER
		CHARGE A/CHARGE B
		STATUS
	Installation Method	Floor-stand
	Emergency Stop	Yes
Auxiliary Power	12Vdc	
Communicat	Charger v.s. EV	PLC (DIN 70121:2014-12)
Safety Design	MTBF	100,000 hours
	Multiple Protection	Over/under voltage protection, overload protection, short circuit protection, over/under temperature protection, surge protection,

1.4 Performance and Characteristics

Performance:

- 1) LED Indicator: Different light color indicate different working status of the charger.
- 2) LCD Screen: Real-time display the charger status and charging data.
- 3) Emergency Stop Button: In case of emergent issues happen, press the button to cut off charging output for safety.

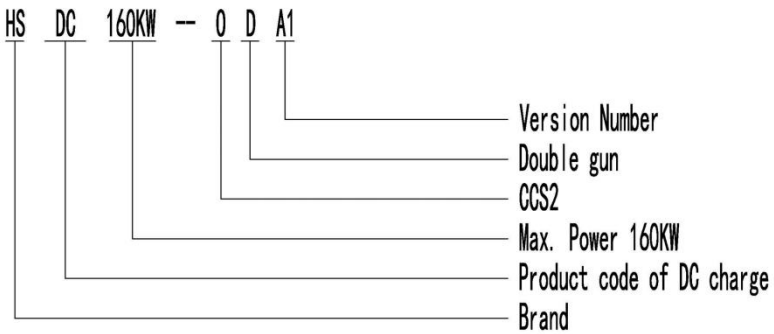
Characteristics:

- 4) Dust & Water Proof: IP54 protection grade, workable under severe conditions, no need of extra shelter.
- 5) First-line brand Power Module: With three First-line brand 40KW State Grid three unified power module inside, the charger is highly integrated and compact.
- 6) All Direction Protection: Protections from over voltage, under voltage, over load, reverse connection, short circuit, current leakage and over temperature to ensure the product working safely and avoid accidents effectively.
- 7) **Strong compatibility: compatible with most European standard electric vehicles on the market.**
- 8) **Flexible charging pile: Flexible distribution of charging power.**

1.5 Working Environment

- 1) Altitude: ≤ 2000 meters
- 2) Temperature: $-30^{\circ}\text{C} \sim 50^{\circ}\text{C}$
- 3) Humidity: 5%~95%
- 4) Indoor/Outdoor use
- 5) Fan cooling for ventilation
- 6) Keep the charger away from flammable or explosive materials.

1.6 Product Naming



1.7 LED Indicator

There are 4 LED indicators on the charger interface, which are “Power”, “Fault”, “Charge A” and “Charge B”.

State	Description	LED Status
Standby	Power-on, but no gun plug-in or Gun plug-in, but not start charging yet	Power: Green light normally on
A Gun in charging	A Gun plug-in, and start charging	Charge A: Blue light normally on
B Gun in charging	B Gun plug-in, and start charging	Charge B: Blue light normally on
Fault	Error happens	Fault: red light normally on

2.Installation Instruction

2.1 Product Installation

2.1.1 Package Verification






Unpack to check and verify following items after receiving the charger:



- Visual inspection on external appearance. In case there is any broken or damage, notify the seller immediately.
- Check accessory type and quantity. If there is quantity in short or type inconformity, make the record in time and contact the seller at once.

Accessory List	Quantity
M1 Card	5 pcs
Recharge machine	1 pcs
Certificate	1 pcs
Expansion bolt M10x100 (X)	4 pcs
Factory inspection report	1 pcs

2.1.2 Installation Preparation

➤ Tools

Tool Name	Photo	Function
Cross Screwdriver (PH2x150mm, PH3x250mm)		Tight the screws
Insulated Spanner		Tight the bolts and nuts
Insulated Torque Wrench		Tight the bolts
Combination Wrench		Tight the bolts
Hydraulic Clamp		Clamp OT terminals

Diagonal Pliers		Cut cables
Percussion Drill		Drill screw holes

➤ Cables & Materials

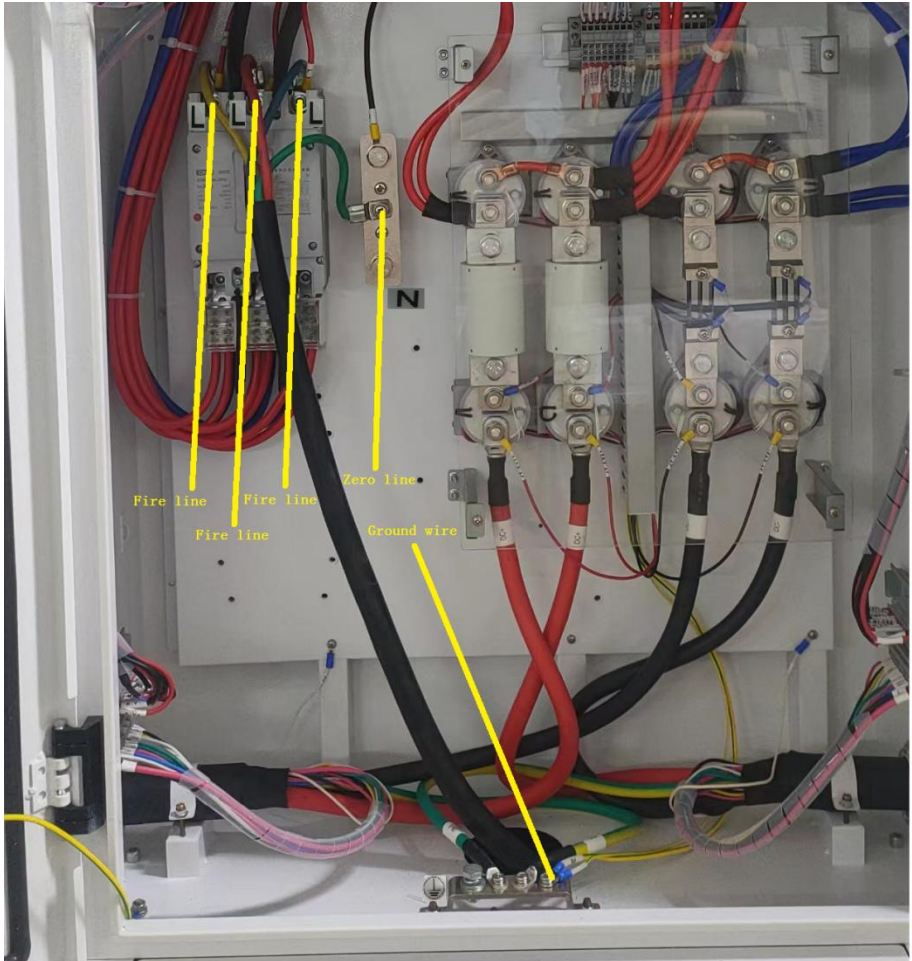
Name	Specification	Quantity
Power supply cable	3*120+2*70 3-phase power supply cable	Depend on actual requirement
Insulated tape	0.15mm*18mm, 0~600V, 0°C~80°C	Depend on actual requirement
Cable tie	4*200mm	Depend on actual requirement

2.1.3 Installation Process

➤ Installation Notice

- Electrical product should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by the manufacturer for any consequences arising out of the installation of this product.
- A qualified person is one who has skills and knowledge related to the construction, installation and operation of electrical product and who has received safety training to recognize and avoid the hazards involved.
- All applicable local, regional, and national regulations must be respected when installing, repairing, and maintaining this product.

➤ Connect Cables



The power supply cables go through the input cable inlet at the charger's bottom, and connect to the corresponding L, L, L, N and PE terminals inside the charger. Please note that L, L, L, N correspond to R, S, T, N phases. **The line of fire is not in phase order.**

2.2 Power-on Checking

- Check before Power-on

Please check the followings before any operation:

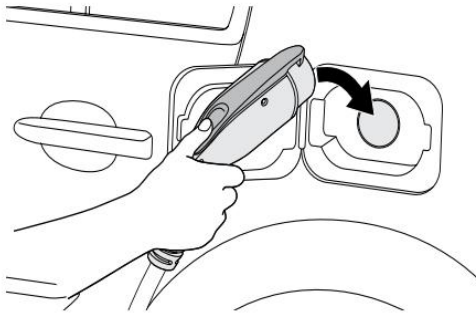
- 1** The charger' s location is easy for operation and repairing.
- 2** Double confirm the charger is installed properly.
- 3** AC input' s current leakage protection switch is reasonable.
- 4** No other stuff or component left on the top of the charger.

- **Power-on Charger**

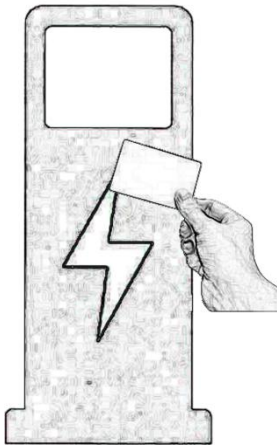
- 1) Make sure all checking is done according to the above items.
- 2) Turn on the current leakage protection switch of AC input.
- 3) Power-on the charger and the LED indicator of POWER should be in solid green.

2. Operation Instruction

Step 1: plug in



Step 2: read the card



3.1 Start Charging

3.1.1 After power-on, The screen shows as Figure 1 and Figure 2 interface.

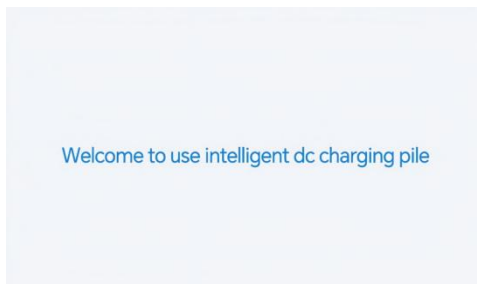


Figure 1 Welcome screen

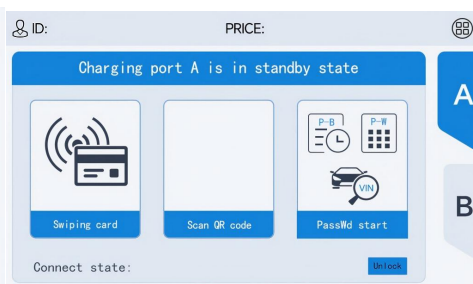


Figure 2 standby screen

3.1.2 Park EV near to the charger, and plug the charging gun into the EV. After plug-in, please check the gun is correctly and tightly connected. When the screen shows the connection status as Car connected(Figure 3 shows), Swipe the card in the swipe area with the M1 card. At this time, the screen shown as Figure 4 interface.

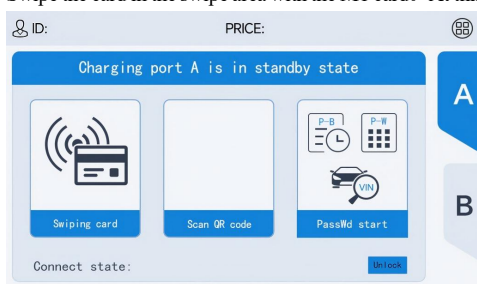


Figure 3 Car connected screen

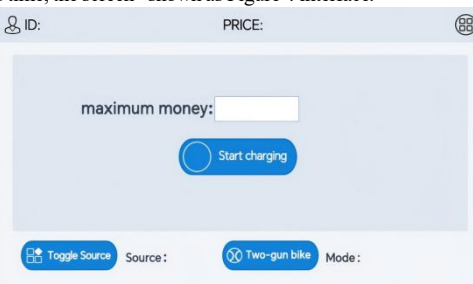


Figure 4 Mode selection screen

3.1.3 You can ignore this step. If it is an old GB standard car (generally before the end of 2017), and it is confirmed that the BMS power supply on the car is 24VDC, it is required Touch the lower-left corner of the Figure 4 interface and select the 24VDC power supply. If it is a new GB standard car (generally at the end of 2017 Later), It is generally a 12VDC BMS power supply, and the system defaults to a 12VDC BMS power supply, so if it is a new GB standard car, you can ignore this step.

3.1.4 After select the power supply mode and wait a few seconds(Figure 5 shows), the charger will start charging the EV. The charger screen will display Charging status and the running information, such as charged time, voltage, current and power.(Figure 6 shows)

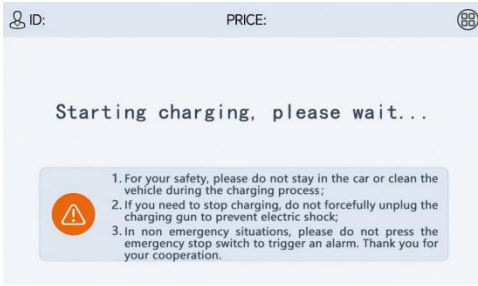


Figure 5 waiting screen

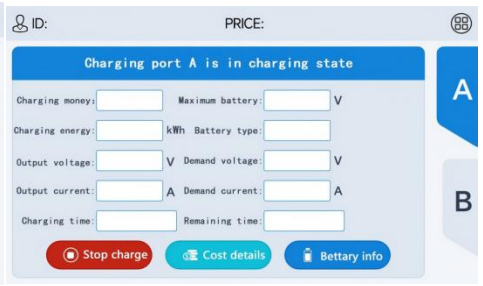


Figure 6 charging screen

3.2 Stop Charging

When the EV is fully charged, the charging will automatic stop and the screen will display End status(Figure 7 shows,Figure 8 shows). Then the user also needs to swipe the card to complete the settlement, otherwise the M1 card is easily locked. When the EV is not fully charged,the user also can swipe the card to stop charge. After swiping the card, the screen will display settlement interface.(Figure 7 and Figure 8 interface). After completing the settlement , the user can pull the gun out and drive away.

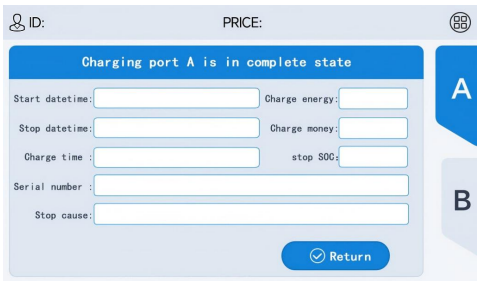


Figure 7 Settlement interface 1

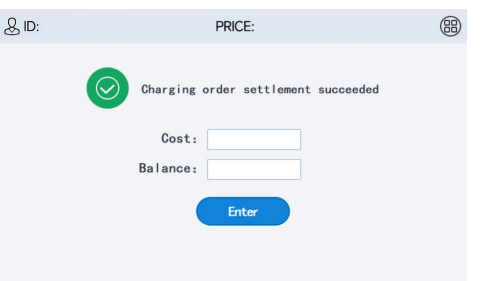


Figure 8 Settlement interface 2

Note:

1. In non-emergency situations, can not stop charge with the emergency stop button or directly cut off the total dead switch, This easily damage the device.
2. It is strictly forbidden to pull out the gun during charging, otherwise it will burn the charging tip , and even burn the operator.
3. Even if it is fully charged, swipe the card again to complete the checkout. otherwise the M1 card is easily locked.

3.3 Charger Setting

There is a touch screen on the charger interface, which are used to set relative parameters such as: current limit, module current etc.

4. Trouble Shooting

No	Problems	Solutions
1	Input over voltage	1. Check the input voltage from the backend.
		2. If the voltage is over 456Vac for a short time, wait till the power grid recovers to normal voltage range.
2	Input lower voltage	1. Check the input voltage from the backend.
		2. If the voltage is under 304Vac for a short time, wait till the power grid recovers to normal voltage range.
3	Input over frequency	1. Check the input voltage frequency from the backend.
		2. If the frequency exceeds 63Hz for a short time, wait till power grid recover to normal voltage range.
4	Input lower frequency	1. Check the input voltage frequency from the backend.
		2. If the frequency is lower than 47Hz for short time, wait till power grid recover to normal voltage range.
5	Over temperature	Check the surrounding conditions of chargers installed whether there is heating device nearby. Make sure environmental temperature is under 60°C.
6	Output over-voltage	Check whether the output voltage is within parameters setting range. If not, please check whether the output voltage/current is too high, or the parameters setting is reasonable.
7	Grounding fault	Check whether the grounding connection cables are connected correctly.
8	Emergency stop	Check whether the emergency stop has been pressed, then correct the error and recover the emergency stop button.
9	Charging cable connection abnormal	Check if charging cable connection is correct and firm.

Note: if the above problems cannot be solved, please contact the manufacturer.

5. Disposal

The packaging materials are environmentally friendly and can be recycled. Put the packaging in applicable containers to recycle it. Do not dispose this product with the household waste. It shall be handed over to the applicable collection point for the recycling of electrical and electronic product. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.