



EVD-20S 20kW  
DC charging equipment user manual

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## I. Product description



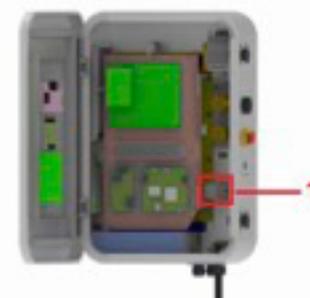
1. Air intake HMI(opt);
2. HMI(opt);
3. RFID reader(opt);
4. Charging connector holders;
5. LED indicators

6. Mounting bracket ;
7. WIFI/4G antenna ;
8. Emergency Stop button;
9. Start or stop button

### Explanation of LED indicators behaviors:

- Blue - Standby(The charging equipment can only be used when the blue light lit);
- Red Steady on/Flashing - Fault;
- Green Steady on - Charging in process;
- Green Flashing - Establishing communication;
- Yellow Flashing - System initializing.

### Internal view and terminal definition



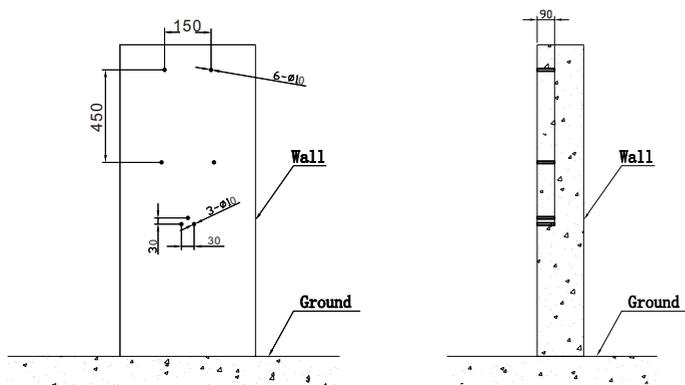
- 1.AC input terminal block. Terminal definition is (① L1;② L2;③ L3;④ PE) from right to left;

## II. Packaging list

No.	Items	Qty	Remark
1	Mode charging equipment	1	
2	User manual	1	
3	Certificate of quality	1	
4	Mounting bracket	1	Already installed on the rear side of the charging equipment
5	Cable hooker	1	
6	Hex head expansion bolt, M8*80/304 stainless steel	7	

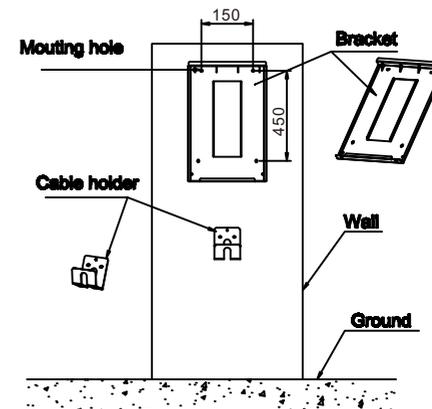
## III. Installation and wiring

1. Firstly, according to the specific installation height requirement of the user, determine the installation height of the charging equipment and the installation height of the cable hooker. According to the dimensions in the following drawings, drill 4 holes for bracket mounting and 3 holes for cable hooker mounting on the wall. Take out the expansion bolts in the packing accessory bag, hammer the expansion bolts into the holes. Remove the nuts and washers for later use.



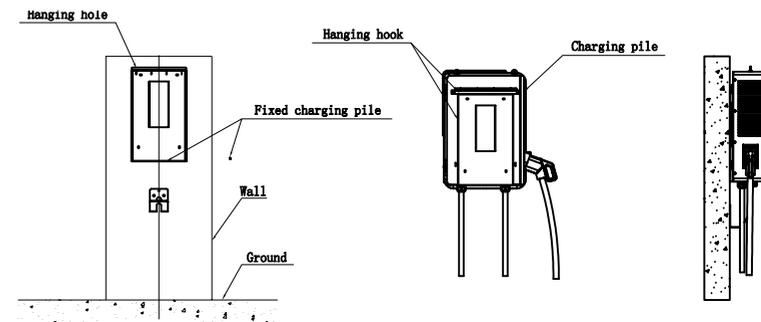
Drill holes on the wall

2. Loosen the 2 screws at the bottom of the charging equipment that fixes the mounting bracket, keep them properly for later use. Place the mounting bracket onto the bolts just installed and screw the nuts and washers. Take out the cable hooker and fix it using the same procedure.



Mount the bracket and cable holder

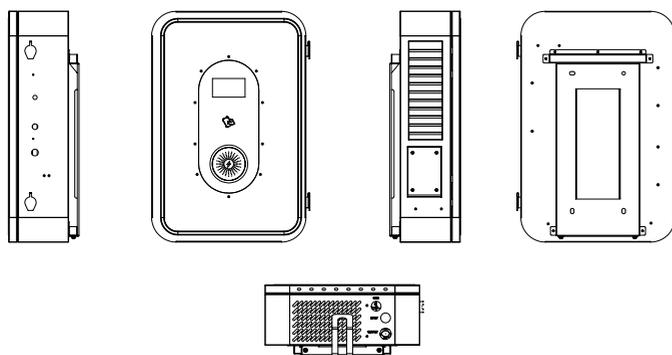
3. After the mounting bracket and cable hooker is fixed, place the charging equipment onto the mounting bracket, with the outward bent part inserted to the slot on the rear side of the charging equipment. Lock the charging equipment onto the bracket at the bottom using the 2 screws. The installation is done.



Insert the hanging hooks of the charging pile into the hanging holes and install in place

4. Now prepare for wiring. Use 3 power cables and 1 PE cable, it is suggested to use a 4-core cable (with PE included) for the convenience of using the water-proof cable gland. The live wires shall be at least 6mm<sup>2</sup>, PE shall be greater than 6mm<sup>2</sup>. Open the 2 locks at the right, connect the AC input cables into the corresponding terminals through the cable gland on the bottom right side and fasten them (Refer to the Internal view and terminal definition part for wire connection). Connect the network cable through the hole in front of the AC input cable gland to the RJ45 socket and fasten the water-proof gland. Close and lock the upper cover after checking internal wiring and breaker position. The wiring is then finished.

	L1	L2	L3	PE
Terminal				
Wire	≥6mm <sup>2</sup> ≥AWG9	≥6mm <sup>2</sup> ≥AWG9	≥6mm <sup>2</sup> ≥AWG9	≥6mm <sup>2</sup> ≥AWG9



### Notice

1. Only professional personnel can do the wiring, connect the AC input wires in correct phase order according to the markings on the terminal block.
2. The PE terminal shall be connected to the Earth firmly and reliably!
3. Turn off the upstream breaker in the distribution panel before repairing or maintaining.
4. Please do not disassemble the unit unless authorized!

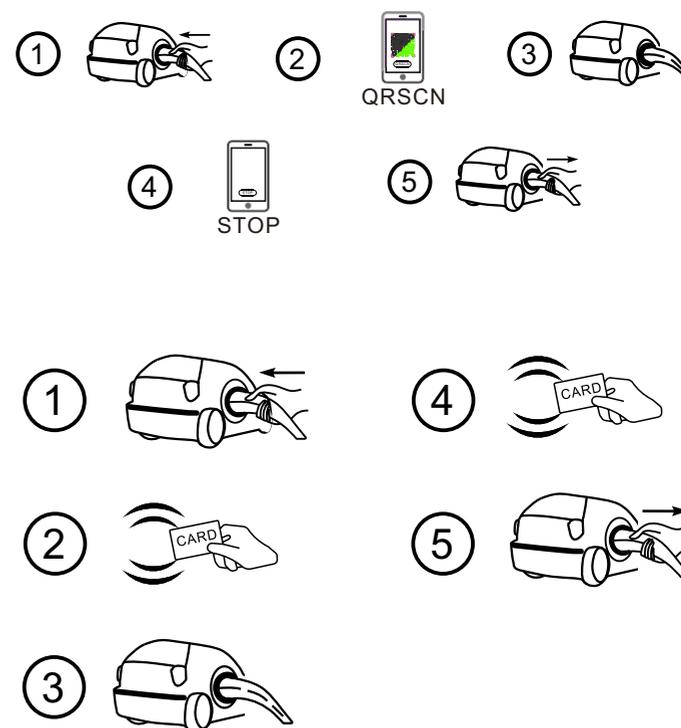
## IV. Operation instruction and LCD introduction

### 4.1 Charging mode and operation

#### APP/RFID mode:

Initiate or cease charging by scanning QR code using APP or by swiping RFID card.

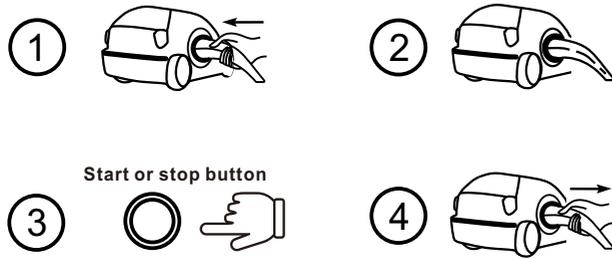
You can also use APP for reservation and payment provided that the back-office server supports such function;



APP/RFID mode operation process flow

**Plug&Charge :**

If you want to start/stop the charging,after EV plugged in press the start/stop icon on the right side of the charger.



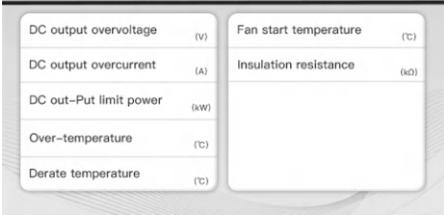
Plug&Charge mode operation process flow

**4.2 LCD interface introduction**

The charging equipment is equipped with a 4.3 inch industrial-grade resistor type panel. The display content is as below,

	<p>When powered up, the charging equipment will show this display.</p>
	<p>Charging information, which will show the status of the charging equipment, such as standby, charging, fault, etc.</p>

	<p>Customer card account number and balance</p>
	<p>Charging information page, to check real-time charging parameters.</p>
	<p>System parameters page.</p>
	<p>Network parameters page, used to set network related parameters of back-office server and the charging equipment.</p>

	<p>Protection parameters page of DC output, used to set limit value of voltage, current, power, temperature, etc.</p>
	<p>Fault record page, user can check history fault record here.</p>

### 4.3 Appendix: Fault code

No.	Fault description
1	Emergency stop is pressed!
2	Over temperature fault!
3	Power module communication fault!
4	Meter communication fault!
5	DC output overvoltage fault!
6	DC output overcurrent fault!
7	Waiting for BMS communication timeout!
8	Insulation detection timeout!
9	Insulation detection fault!
10	Battery voltage reverse fault!
11	DC+ Contactor sticking fault!
12	DC- Contactor sticking fault!
13	Plug line disconnection fault!
14	Plug head connection over temperature fault!
15	AC Input Overvoltage!
16	AC Input Undervoltage!
17	BMS communication fault!
18	
19	
20	

## V. Specification

Model	EVD-20S
Dimension(mm)	840*565*410(W*D*H)
Weight(kg)	50kg
Display	LCD(opt)
Casing material	Stainless steel&acrylic sheet
AC input	
Grid connection	400V, 3 phase 4 wires
Voltage	AC 320~485V
Current	32A
Frequency	47~63Hz
DC output	
Plug type	CCS
Voltage	DC150~1000V
Current	0-50A
Voltage-stabilizing accuracy	±0.5%
Current-stabilizing accuracy	≤±1%
Power factor	≥0.98
Efficiency	≥94%

IP degreeel	Ip54
Working environment	-25 ~+50 , derate since 50
Relative humidity	5%-95%
Altitude	2000m, derate for higher than 2000m
Cooling method	Forced air cooling
Remote monitoring	Ethernet/WIFI/4G/485
Payment	APP/RFID(opt)
Standby power	25W
Standards	IEC-62196-1;IEC-62196-3;
Mounting	Wall or Pole
Certificate	CE
Metering accuracy	0.5
Protection features	
Over /Under voltage t of AC output	YES
Over voltage of DC output	YES
Over temperature protection	Derate since 55 ; Stop at 75
Short circuit protection	Yes
Emergency stop protection	Yes
Lightning protection	Type II

## 6.3 Contact

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