AX
80A EV AC Charger
Minimum Order: 30 Units

ELECTRUM

CHARGE FAST
Add up to 110km of range per hour.

QR CODE
QR code authentication for public charging.

RFID ACCESS
Fast and secure access with local or network chargers.

Charger Specifications

Network Comm. Standard	OCPP 1.6J / 2.0.1
Charger Level	Level 2
Power Delivery	19.2kW (240Vac*80A)
Output Current Range	0A, 6-80A
Input Rating	200-240V / Single Phase
AC Input Connection	L1/L2/GND
Circuit Breaker	100A
Operating Temperature	-30°C to 50°C+
Connector Type	J1772
LCD Screen	5"
Number of Connector	1
Cable Length	5 M
Dimensions (WxDxH)	295mm x 158mm x 505mm
Weight	<11kg (24lbs) With Cable

Network Specifications

Wifi Frequency Band	2.4 GHz
Wifi Authentication	WPA, WPA2, PSK
QR Code Activation	Yes
App Authentication	N/A
Static Load Balancing	Yes
Dynamic Load Balancing	Local Offline
IP Level	Nema Type 4
Certification	cULus, CTEP, Energy Star
Wireless Certification	FCC/IC

With it's modern and sleek design, the AX is perfect for residential and commercial EV charging. The AX offers Level 2 charging that delivers up to 80 amps of power (110 kilometers of range per hour).

The AX supports RFID card for user authentication and charger management, and with the built-in 5" LCD screen, users have the option to QR Code for verification.

QUESTIONS?

contact@electrumcharging.com

www.electrumcharging.com

1 866 898 3873 (EVSE)

9. Installation Instructions
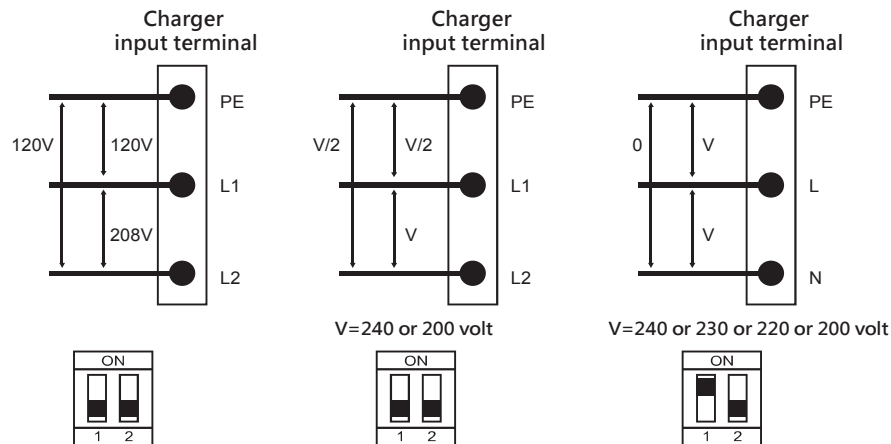
9.1 Safety Requirements

- Read this user manual thoroughly and make sure to review all local building and electrical codes before installing the AC charger. A qualified technician should install the AC charger according to the user manual and local safety regulations.

- Use appropriate protection when connecting to the main power distribution cable.

- Type B, C or D breaker with a rating current of 60Amp should be installed in the upstream AC distribution box.

- Disconnect switch for each ungrounded conductor of AC input shall be provided by others in accordance with the National Electric Code, ANSI/ NFPA 70.

- Verify that the Wall Connector is properly grounded. The ground connection must be bonded in the upstream power supply for proper operation. Check all physical connections, including the wire box terminals, electrical panel(s), and wire box. In residential power supplies, check the bond between ground and neutral at the main panel. If connected to a step- down transformer, contact the transformer's manufacturer for direction on how to bond the ground connection.

A Dip switch

B Rotary switch

15
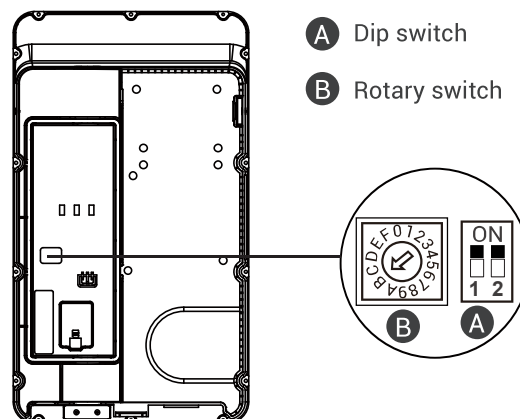
9.2 Power Grid Connection and Grounding Type

- This AC charger supports different power grid connections and grounding types. You can configure through the setting dip switch. Setting methods are shown below.

- Before setting the dip switch, make sure the input power is turned OFF.

- Use a non-conductive object to set the dip switch.

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	Switch 1 (Power Grid Type)	Switch 2 (Grounding System)
ON	LN	IT
OFF	LL	TT-TN

Charger input terminal

120V 120V PE

208V L1

L2

Charger input terminal

V/2 V/2 PE

V L1

L2

V=240 or 200 volt

Charger input terminal

0 V PE

V L

V N

V=240 or 230 or 220 or 200 volt

ON 1 2

ON 1 2

ON 1 2

*Note 1: The default value in North America and Japan is (LL / TT-TN).

*Note 2: The default value for other regions is (LN / TT-TN).

*Note 3: If it is not the above standard grid type, please contact our technical staff for assistance and confirmation.

Maximum Output Current

This AC charger can support different maximum output current through the setting rotary switch. Setting methods are shown below

- Before setting the rotary switch, make sure the input power is turned OFF.

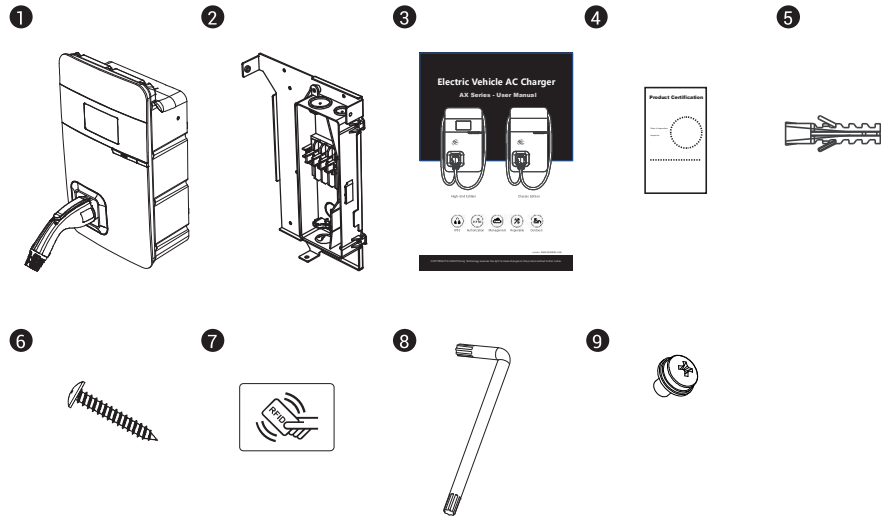- Use a non-conductive object to set the rotary switch.
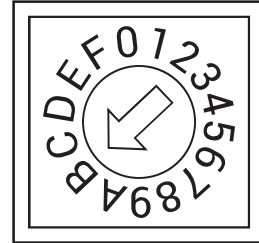
Switch Setting Number	0	1	2	3	4	5	6	7
Maximum Output Current	Test Mode	6A	8A	10A	13A	16A	20A	25A

Switch Setting Number	8	9	A	B[*1]	C	D	E	F
Maximum Output Current	30A	32A	40A	48A	Invalid Setting	Invalid Setting	Invalid Setting	Slave Mode

* Note 1: The default is 48A.

17

9.3 Packing List

No.	Product Name	Quantity	Note
1	AC Charger (With Charging Cable)	1	
2	Wall-Mount Bracket & Inlet Box	1	
3	User Manual	1	
4	Product Certification	1	
5	Expansion Screw	4	
6	M5 Self-Tapping Screws	4	
7	RFID Card	2	
8	Torx/T30 L-Wrench	1	
9	M5 Screw	5	

9.4 Tools and Materials Required

Tools required before installing the charger onto the Wall-Mount Bracket are:

- Wire stripper
- Crimpers for ring terminals
- Phillips screwdriver for M4 – M6 1-3/8 inch or 34 mm drill bit
- Voltmeter or digital multimeter (for measuring AC voltage at the installation site)
- The inserting cable should meet the best waterproof performance requirements. It is recommended to use a 3 core / 6AWG or 14mm² cable (XLPE-90°C, THHN-90°C, or equivalent) to pull the cable from the distribution box. The maximum outer diameter of the cable should be 16mm–23mm.
- Level ruler
- Pencil or marker
- Machine drill
- Ring terminal (recommend type 14-5) for 6 AWG wire, and fixed by M5 slotted head screw.
- It is recommended to use 1-inch liquidtight flexible metal conduit compliant with NEMA 4 class
- Slotted head screwdriver for M5

9.5 Wall-Mount Bracket Installation Requirements

Before installing the wall-mount bracket, you should confirm that the loading capacity of the wall can reach a weight of 40 kg. When installing on a cement wall, you can use the included expansion screw to install the bracket and use a cement drill to drill holes on the cement wall (Ø8mm) following the hole spacing in accordance with 3.2.

When installing on a wooden wall, you can directly use the included M5 self-tapping screws to install the wall-mount bracket and use the wall-mount backplane to lock and install on the wall directly.

9.6 AX Installation Requirements

- To select the best location and position to install the wall-mount unit, you should first determine the parking position of the vehicle to ensure the charging connector can be easily inserted into the vehicle charging inlet.
- The wall-mount unit should be located:
- In a well-ventilated area. Avoid installing in closed boxes or near to exothermic chargers.
- 1.2 meters or 4 feet above the floor.
- 250mm (10inches) from any obstacles to allow cables to loop around the wires and to allow related maintenance.
- If in an enclosed garage, on the side of vehicle charging inlet.

9.7 Installation Steps

Warning for Wi-Fi and 4G versions:

Due to different congenital environments, it is recommended to first conduct Wi-Fi and 4G module network signal tests before finalizing your settings. It is recommended that the RSSI (Received Signal Strength Indication) value should be higher than -65dBm. If it is lower than this value, it may result in a weak Wi-Fi or 4G connection or disconnection due to external interference in the area.

STEP 1

**Installation of the wall-mounted metal plate**

Take out the wall-mounted metal plate and locate all the installation holes. Use as a template to mark on the wall with a pencil or any tool, and insert 4 sets of expansion bolts (M5X40mm) into the wall, as shown in the figure. Install the wall-mounted metal plate on the cement wall.
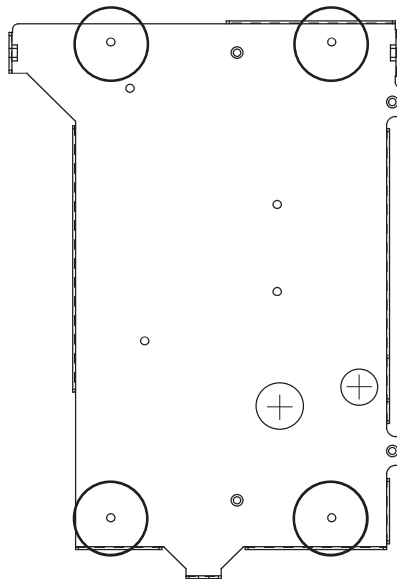
## STEP 2

Installation of the wire box

First, remove the waterproof cover at the inlet end marked as "AC In". Then, install the accessory "1-inch liquidtight flexible metal conduit" at the inlet of the power cord, and attach the wire box to the wall-mounted metal plate with screws.
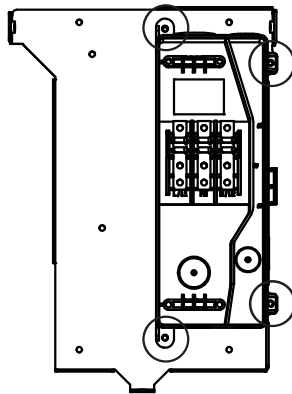
STEP 3

Installation of the AC power cord

The cross-sectional area of the three power cords should be AWG 6 or 14mm2. The power cords should be fully crimped and connected with ring terminals. The ring terminals should be attached to the wire box with M5 screws, with a tightening torque of 40kg-cm. Please refer to label on the wire box for the correct positions, where the positions are L1/L, GND/PE, and L2/N, respectively, from the left to the right.

L/L1 G/PE N/L2
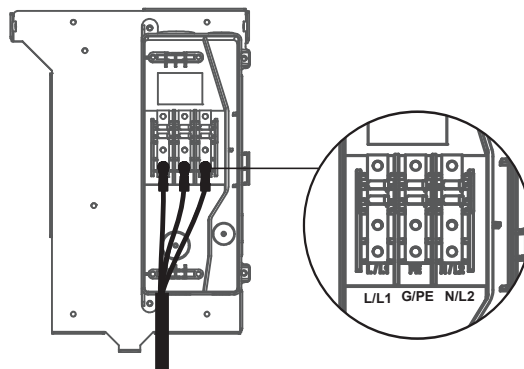
STEP 4

**Installation and setting of the network cable**

Remove the waterproof plug from the Internet interface at the bottom left of the wire box. Feed the network cable into the wire box through the network cable entrance. Once the network cable is in, insert the RJ45 connector into the connection port on the back of the charger.
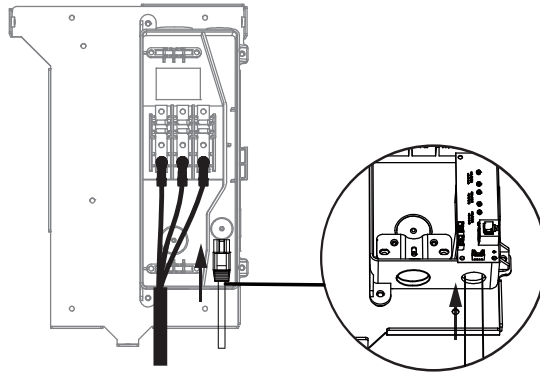
STEP 5

**Setting of the power supply type and grounding type**

There are different settings depending on the LAN and the country where the machine is installed. Please refer to Section 9.2 "Power Grid Connection and Grounding Type" for details.
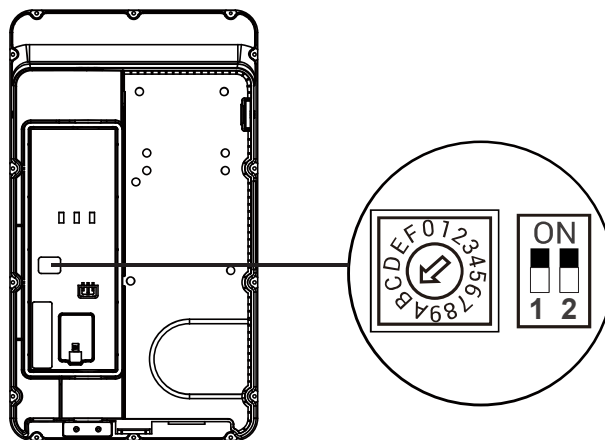
STEP 6

Installation of the SIM card (only available for 4G models)

Attention: Please confirm that the SIM card password has been removed prior to installation, as the charger post does not support SIM cards with passwords.
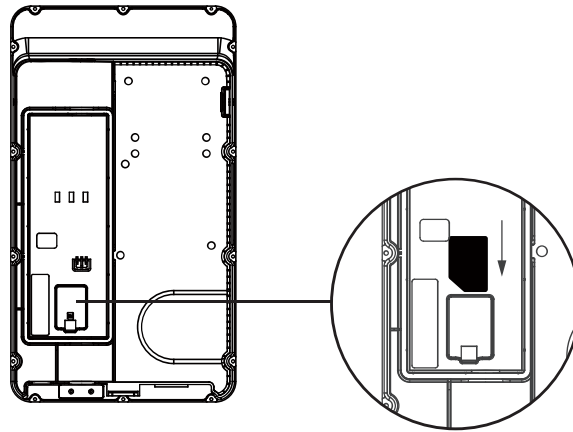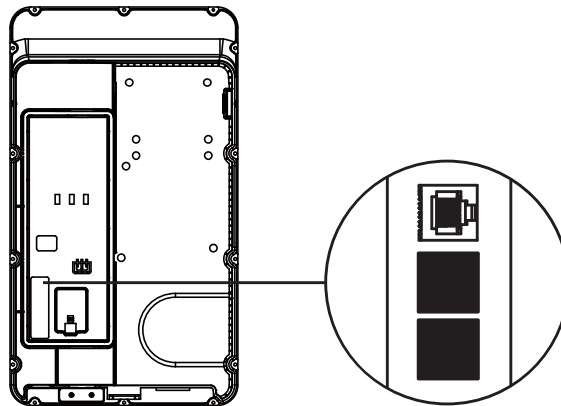

## STEP 7

Installation of the charger

First, connect the network cable to the charger.

NOTE! The network cable needs to be connected to the correct socket.

Next, move the charger equipment in a horizontal direction, so that the AC connector of the equipment can be inserted into the conductive spring plate of the wire box. Meanwhile, apply pressure to the equipment, so that the three screw holes of the equipment align with the three holes of the wall-mounted metal plate.
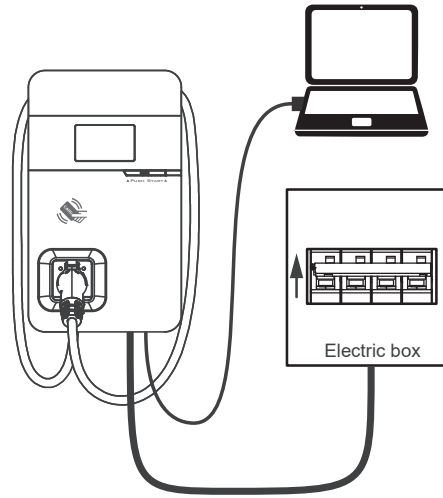
Finally, tighten with the M6 plum screws in the order left - right - bottom, with a tightening torque of 30 kg-cm.
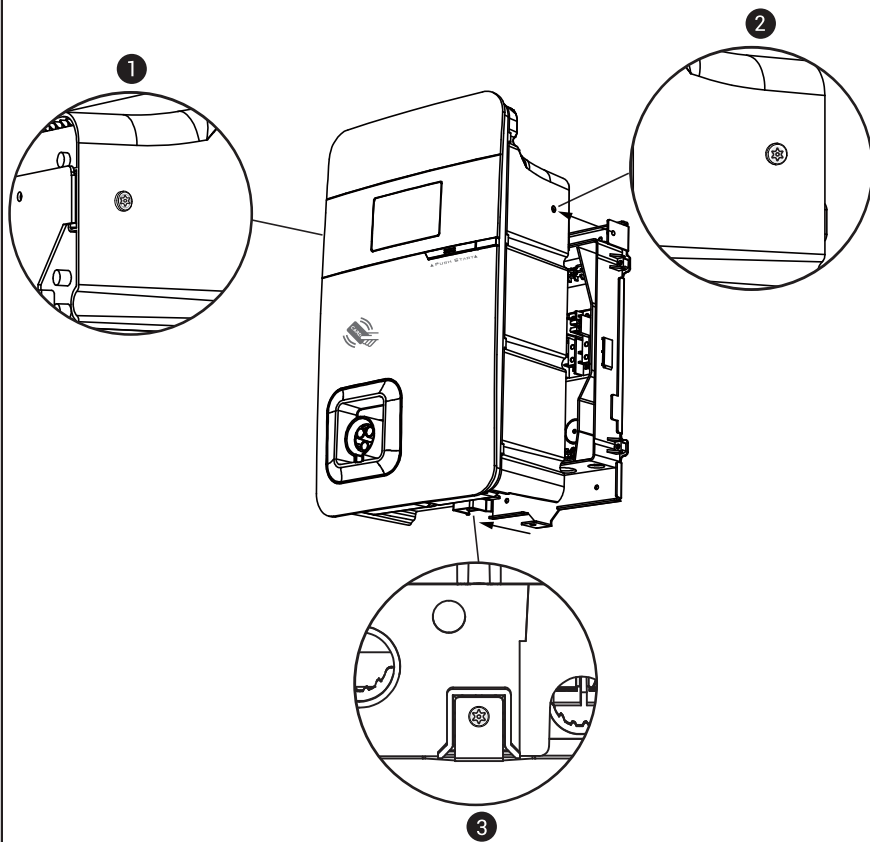
STEP 8

Power on the machine for setting of the charger

For setting instructions, please refer to Section 10.1–10.4 "Charger Standard Setting instructions"

Electric box

STEP 9

Power off and unplug the connection

Power off the machine and remove the network cable once setting is completed (For those who are in a wired network environment, please go straight to Step 10)

Electric box
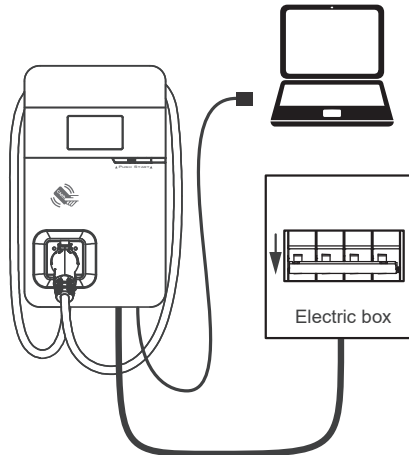
Remove the three screws on the charger in the order bottom - right - left. Pull the network cable out of the wire box , then remove the network cable. Install the waterproof plug, then re-install the charger and wire box.
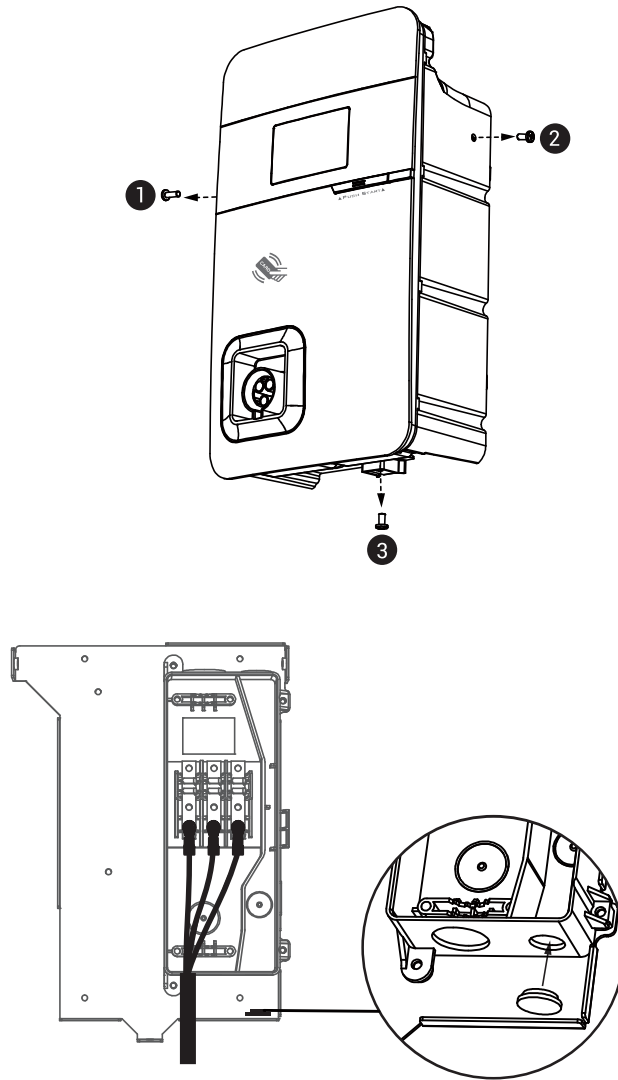
Let the three screw holes of the equipment align with the three holes of the wall-mounted metal plate, then tighten with the M6 plum screws in the order left - right - bottom, with a tightening torque of 30 kg-cm.
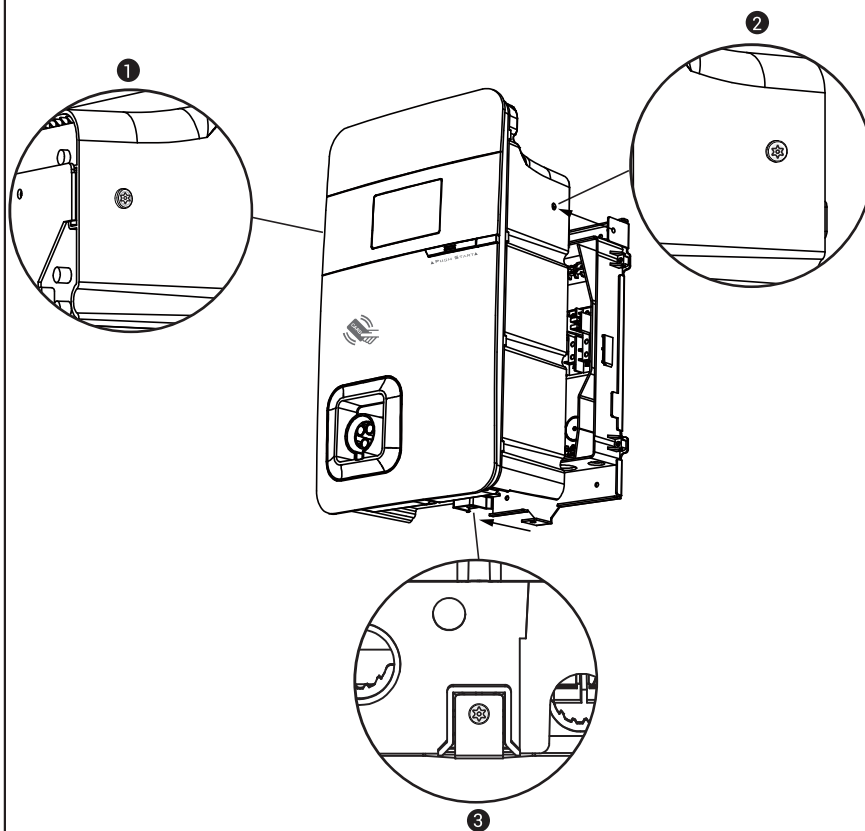
STEP 10

Installation of charging gun wiring

Wrap the charging gun wire around the equipment (about two turns), so that the charging gun wire will not hang down to the ground. Once the wrapping is done, insert the charging gun head into the hole of the charging gun base on the front panel of the machine to complete the installation of the equipment.