



EV CHARGING STATION

MCS-50Pro



INSTALLATION MANUAL

MCS-50Pro

INSTALLATION MANUAL

CONTENTS

<u>TOPIC</u>	<u>Page</u>
Important Safety Instructions	1
Contents Overview	5
Installation Specifications	6
Installation	7
Use & LED Indicator	16
Fault & Troubleshooting	18
Dimensions	20
Technical Parameters	21
Disposal	22
FCC Rules	22

1 .Important Safety Instructions

Save These Instructions

1.1 Safety Information

Before installing, operating or repairing the equipment, please read this safety information carefully, and please check and become familiar with the equipment.



- Electrical hazard!

The charging station must be installed, commissioned and repaired by a properly trained, qualified and authorized electrician who has full responsibility for compliance with current standards and installation regulations.

- Please note that vehicle or national regulations may require additional overvoltage protection. For details, please check your local connection and installation standards for reference.
- Before testing the equipment, please check that all the screws and terminals are firmly connected. The terminal cover shall not be opened without supervision. Before leaving the charging station, fix the terminal cover.
- Do not make any unauthorized modification or adjustment to the charging station.
- Repair or replacement of charging station is only to be completed by the manufacturer or trained person.
- Do not remove any identifiers, such as safety signs, warning instructions, nameplates, labels, or cable marks.
- Charging Station not equipped with power switch. The residual current action circuit breaker and the building insulation circuit breaker should be used as a power isolation device.
- Remove the charging cable from the connector through the plug handle, do not pull the cable.
- Be sure that the charging cable is not mechanically damaged (kinked, stuck, or crushed). Keep away from heat sources, dirt, or water in the contact area.
- Do not use this product if the power cord or EV cable is worn, intermediately insulated or any other signs of damage.
- Do not use this product if the housing or EV connector is

broken, cracked, opened, or shows any other signs of damage.

- Do not leave when using the device if children are nearby.
- Do not stick objects into the EV connector.
- Do not use high pressure water (hose, pressure washer, etc.) to



clean the charging station! Be sure that the charging station is not damaged by improper handling (housing cover, internal parts, etc.).

- For charging station installed outdoors, do not open the wiring cover in rain or snow.
- The installation area must be flat and shall not distort the housing (enclosure), and the screw torque shall be used at the required value.

Touching the electronic components may cause damage. Before touching the module, discharge by touching a metal ground object. Failure to operate with safety instructions may cause personal injuries and equipment damage. The equipment manufacturer is not liable for any claims arising therefrom.

1.2 Device Use

The charging station is used to charge electric vehicles or plug-in hybrids for both indoor and outdoor use. Do not use the charging station to connect to any other equipment, such as power tools. The charging station shall be mounted on the walls or cylinders. Installation of the charging station must comply to relevant local specifications and requirements.

The use of the equipment for set purposes shall meet the environmental conditions set at the time of development.

The development, production, testing, and documentation of the charging station shall be based on the relevant safety standards. If being operated in accordance with instruction and specified purpose, this product will not cause any danger to personal health and property under normal circumstances.

The equipment must be grounded. If a problem occurs, grounding helps

to reduce the risk of electric shock. The equipment is connected to the grounded metal permanent wire wiring system, or the equipment ground conductor must run with the circuit conductor and be connected to the equipment ground terminal or lead on the product.

Please carefully follow the instructions outlined in this manual.

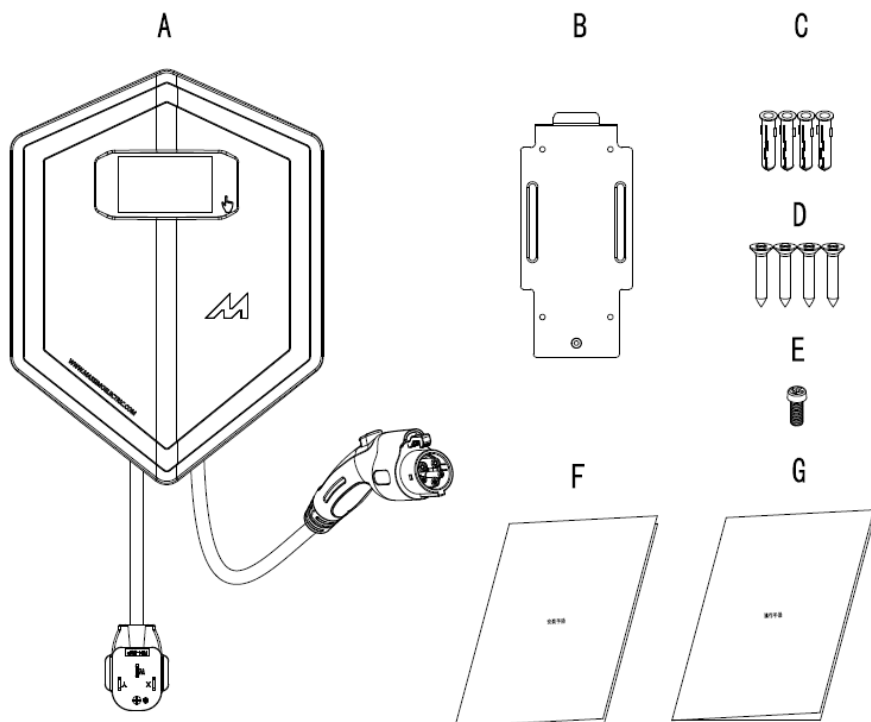
Otherwise, a potential hazard may occur or the safety equipment may become inoperable. In addition to the safety information described in this manual, please review specific equipment specified in the Safety and Accident Prevention Code.

1.3 About this manual

This manual is designed for trained personnel. Such personnel specifically refer to those who have been trained by relevant standards, acquired relevant skills, experience and knowledge, also can conduct assigned operations and identify potential dangers.

Please read the operation manual for operation information and instructions for the device.

1.4 Packaging and accessories



A. Charging station

B. Back plate

C. Wall anchor (4)

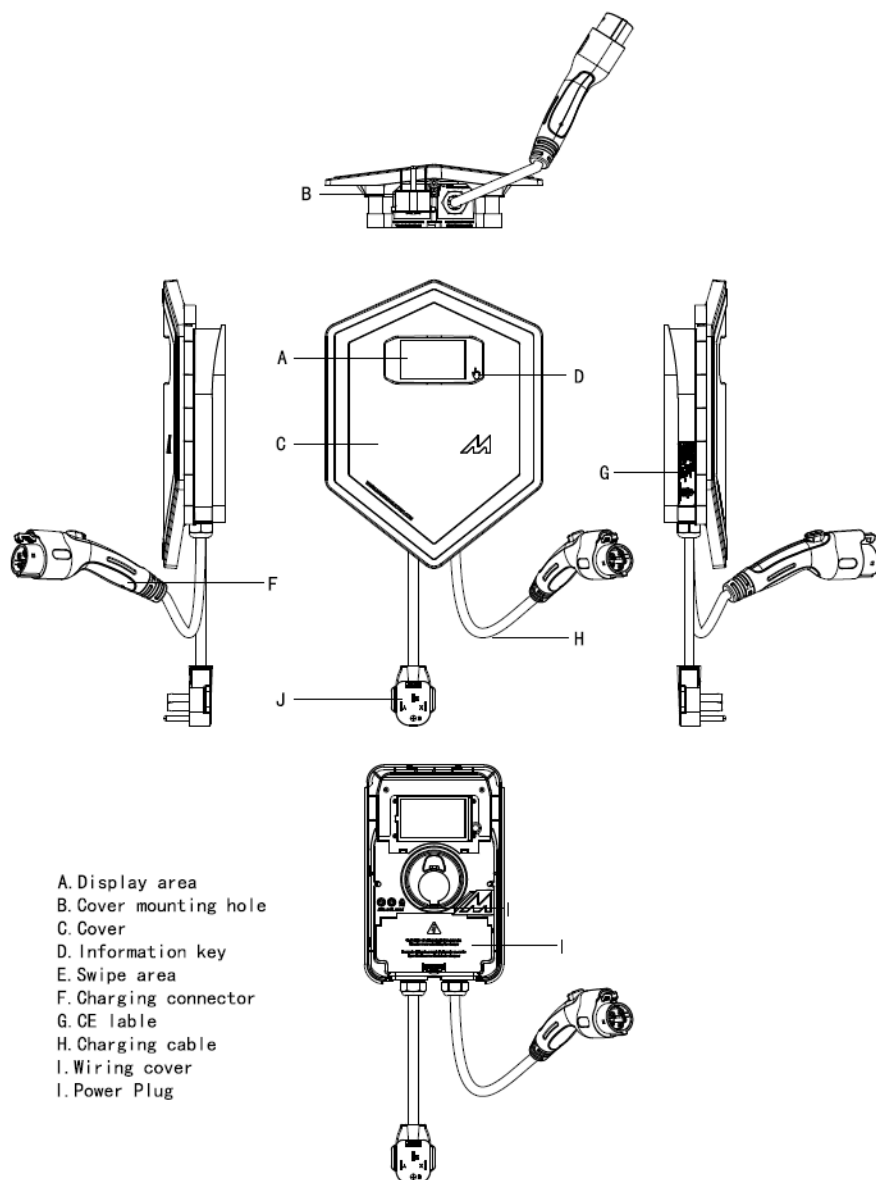
D. Self tapping screw(4)

E. Screw(1)

F. Installation manual

G. Operation manual

2.Contents Overview



3. Installation Specifications

3.1 General Criteria for Installation

The charging station can be used either indoors or outdoors. Therefore, it is necessary to ensure that the installation site meets the required conditions and certain protective measures are taken.

- Refer to local electrical installation regulations, fire prevention regulations, accident prevention regulations, and on-site rescue routes.
- Do not install charging station at:
 - Escape or rescue route.
 - Areas with potential explosion hazards (EX environment).
 - Environment that causes charging station to contact ammonia. (e.g. restrooms)
 - Environment where the charging station may be damaged by falling objects (such as hanging ladders or tools).
 - Location in which the charging cable may be a trip hazard for pedestrians.
 - Location that may cause the charging station to be subject to high pressure water (e. g., manual car wash system, high pressure washer, or garden hose nearby).
 - Installation surface cannot withstand mechanical stress.
- Wherever possible, Install charging station in areas protected from direct rainfall to avoid damage from weather, ice and hail.
- Wherever possible, Install in areas protected from direct sunlight to avoid reduced charging current or interruption of charging process due to high temperature.
- Follow the approved environmental conditions, as described in the "Technical parameter" section.
- Ensure compliance with national and international installation standards and specifications.

3.2 Electrical Connection Instruction

The default current for the charging station is 50A.

Ensure that the maximum current is set using the APP to accommodate the installed circuit breaker. Please see details in the Current Setting Up section.

Select the power supply cable

Only use 90°C Copper Core Cable 6AWG / 50A, 8AWG / 32A, 11AWG / 16A. It must be permanently connected to the existing building facilities.

Wiring terminal is rated to 105°C and accepts a maximum of 16 mm² (6 AWG) wire.

Power isolation device

The charging station does not have a power switch. The current action circuit breakers and / or power supply cable circuit breakers can be used as power isolation devices(not recommend using a GFCI breaker , CCID protection is included in the device). When selecting the circuit breaker, the temperature climb of the control room should also be considered, combined with the required charging rating and the capacity of the power supply cable.

4. Installation

4.1. Installation Requirements

- Comply with the local installation specifications.
- Product must be connected to a grounded fixed metal wire wiring system; or the equipment ground conductor must operate with the circuit conductor and connect to the equipment ground terminal or product conductor.
- Environmental adaptation: If the temperature difference between transportation and installation site exceeds 15°C, the charging station must keep unopened for at least two hours.

Immediate opening may cause condensation within the charging station and may cause damage when opening the device. In some cases, damage caused by condensation may not appear immediately after installation

but will be exposed after some time. Ideally, the charging station should be stored on the installation site for several hours before starting the installation. Even if this condition cannot be met, the charging station should not be placed outside or inside the car at low temperature ($<5^{\circ}\text{C}$).

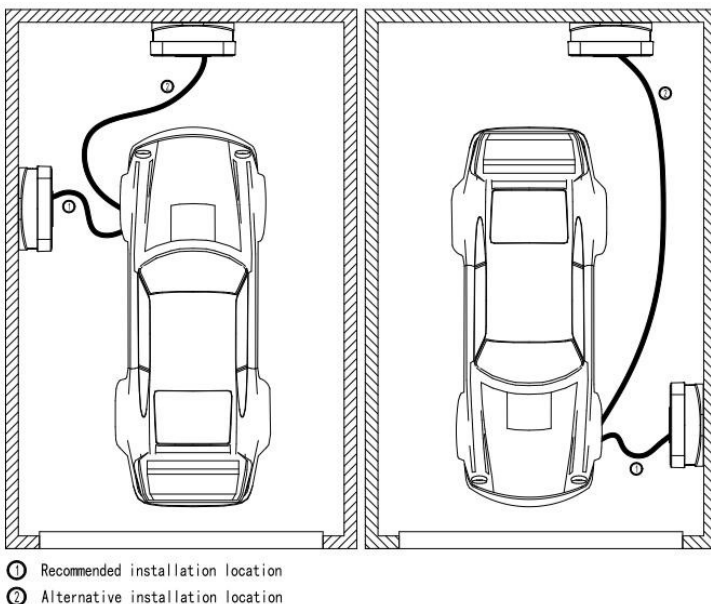
- Ensure there is WIFI signal available. The APP requires a wireless connection to use.

List of tools

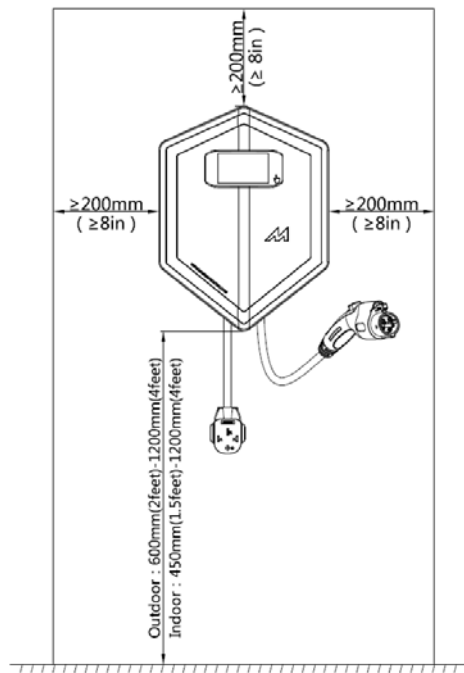
- Electric Drill (Brick wall only)
- Phillips / Cross #2 screwdriver
- Flat Tip #0 screwdriver
- Marking pen or pencil

4.2 Recommended Installation Location

Before installing, check the site for mounting location and electrical capacity. Ensure a strong WIFI signal is available.

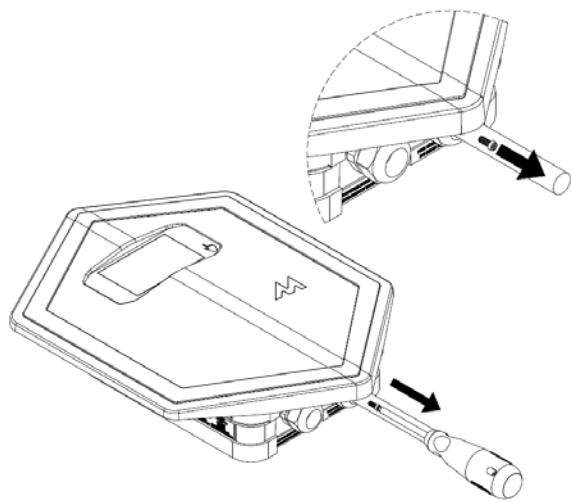


4.3 Distance requirements

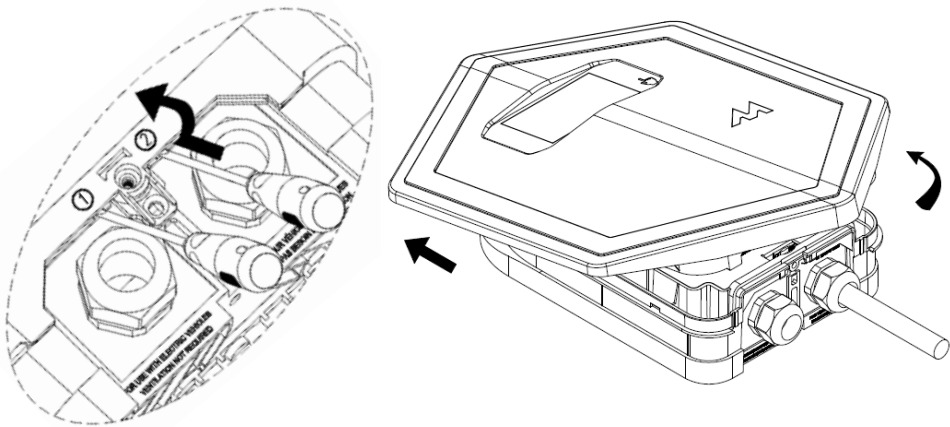


4.4 Install Charging Station

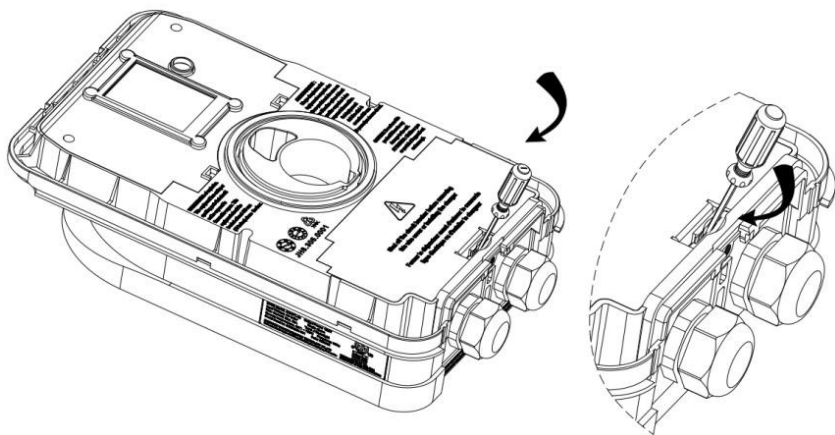
4.4.1 Remove Cover Screw



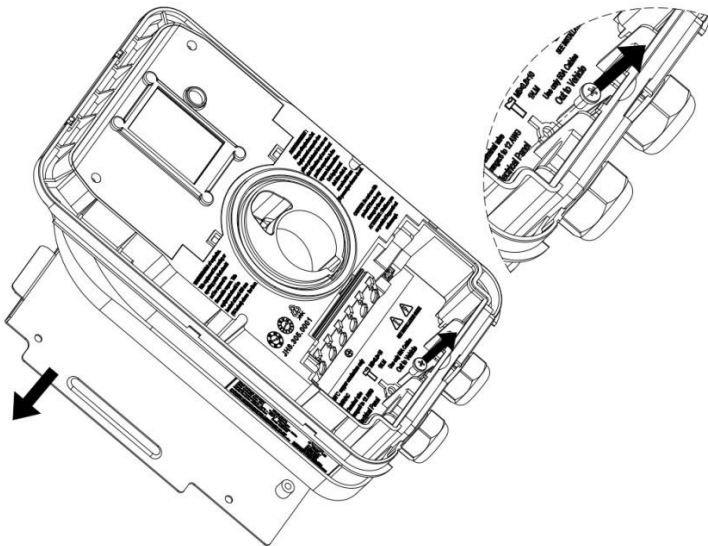
4.4.2 Remove Cover



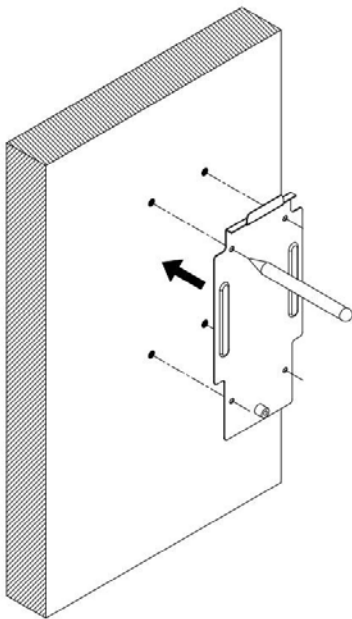
4.4.3 Remove Wiring Cover



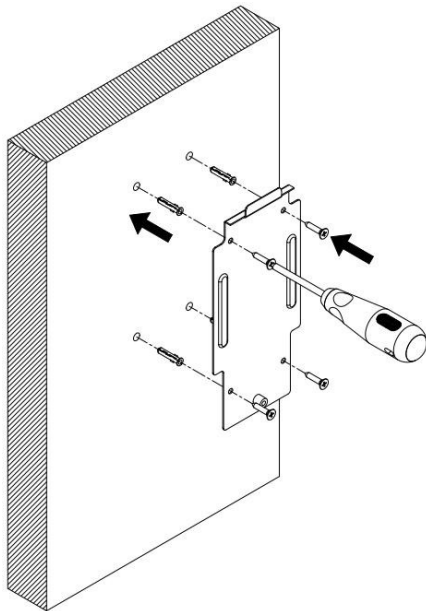
4.4.4 Unscrew Wall Back Plate Screw and remove Plate



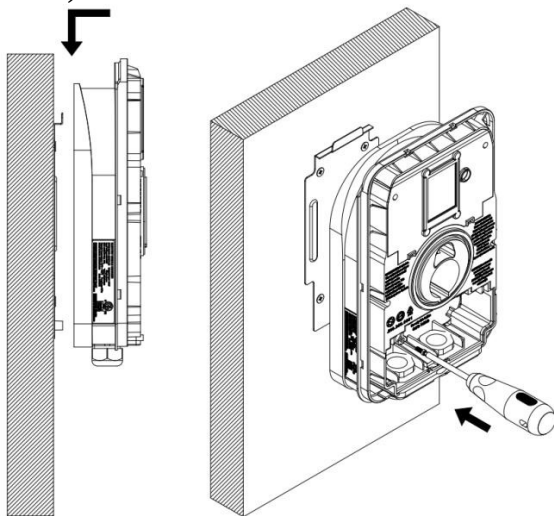
4.4.5 Mark Installation Location using Wall Back Plate



4.4.6 Install 4 wall anchors in marked locations, and secure the wall backplane to the wall



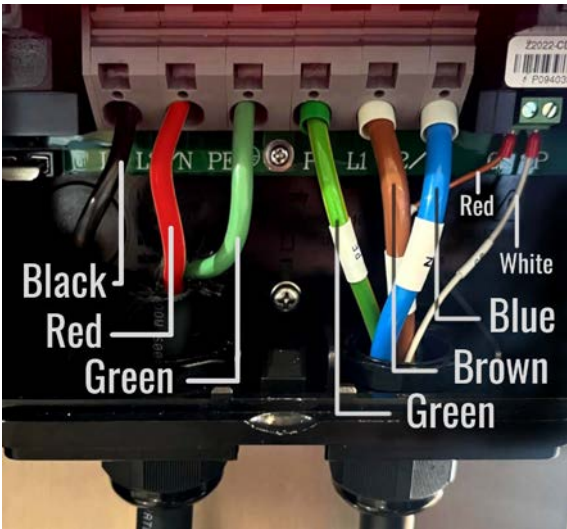
4.4.7 Place and secure the charging pile body to the wall back plate (screw torque 1Nm)



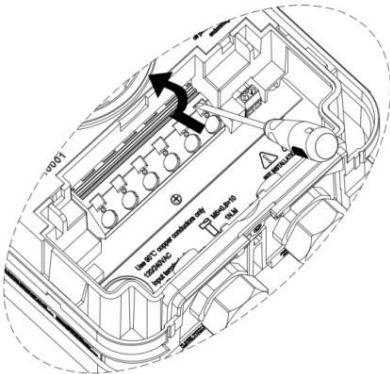
4.4.8 This step is not required without replacing the cable.

Connect the charging cable, connect to the main power cable (pay attention to the wiring sequence and its corresponding position), and then tighten the sealing joint.

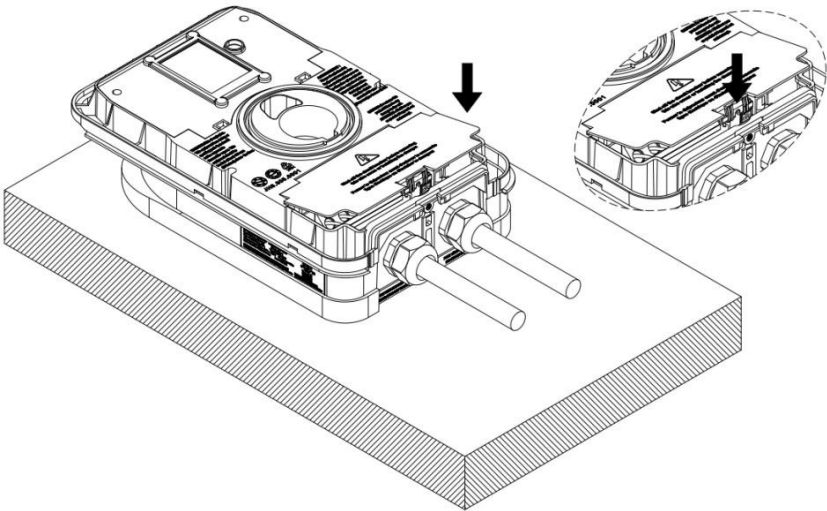
4.4.8.1 Wiring diagram



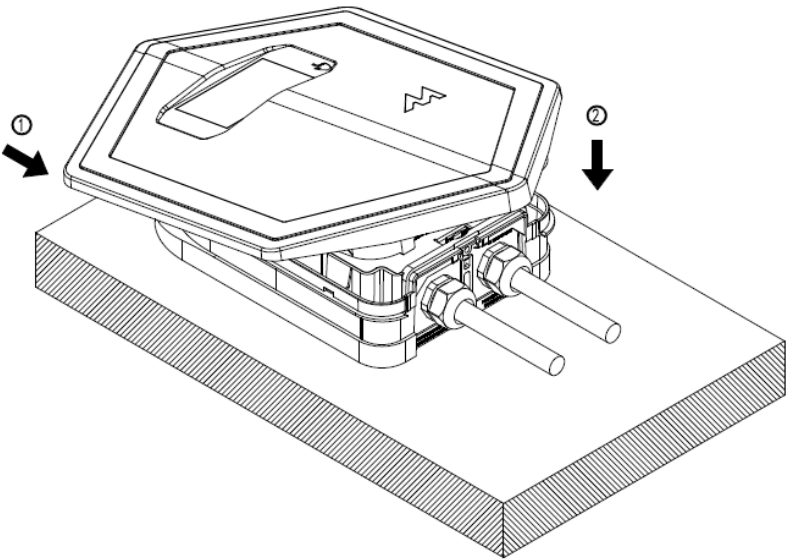
4.8.2 Operation diagram



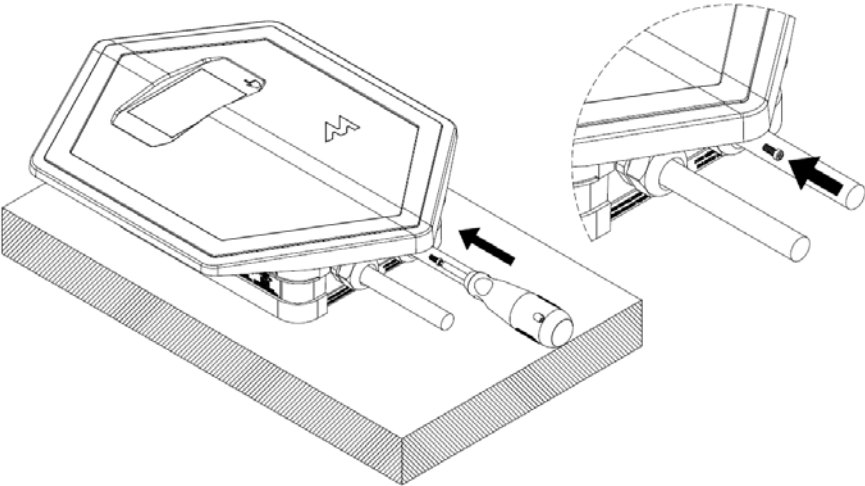
4.4.9 Install Wiring cover



4.4.10 Install cover



4.4.11 Tighten the cover screws (torque 0.8Nm)



5. Use

5.1. Power On

When the device is powered on, the system enters self-test, and the status indicator will display yellow. The status indicator then turns blue, indicating that the device is ready to charge.

5.2 Begin Charging

There are two charging modes: plug and play charge and APP launched mode. In the plug and play charge mode (default setting), connect the vehicle and the charging connector to begin the charging process. The screen displays "charging", and the LED status indicator is blue.

5.3 End Charging

The vehicle completes charging, and the LED status indicator remains green. When the connection is unplugged, LED status indicator will remain blue.

6 . LED Status Indicator Lamp Information

LED Lamp	State
Black	The pile is not connected to the power supply
Yellow Light 1s Flash	Power system initialization
Blue Light On	The vehicle is not connected
Yellow Light On	Vehicle already connected, waiting to be charged
Blue Light Flashes	Vehicle Charging
Green Light On	Charge Complete
Yellow Light Flashes	Automatic capacity reduction or charging at high-temperature
Red	Fault

Display Screen Information

The LCD screen shows the relevant electrical parameters and charging time. The status / fault bar indicates the working process and fault type (if present).

The LCD screen will enter Screensaver mode automatically. Wake the Status Screen by tapping the information button. 

7.Fault

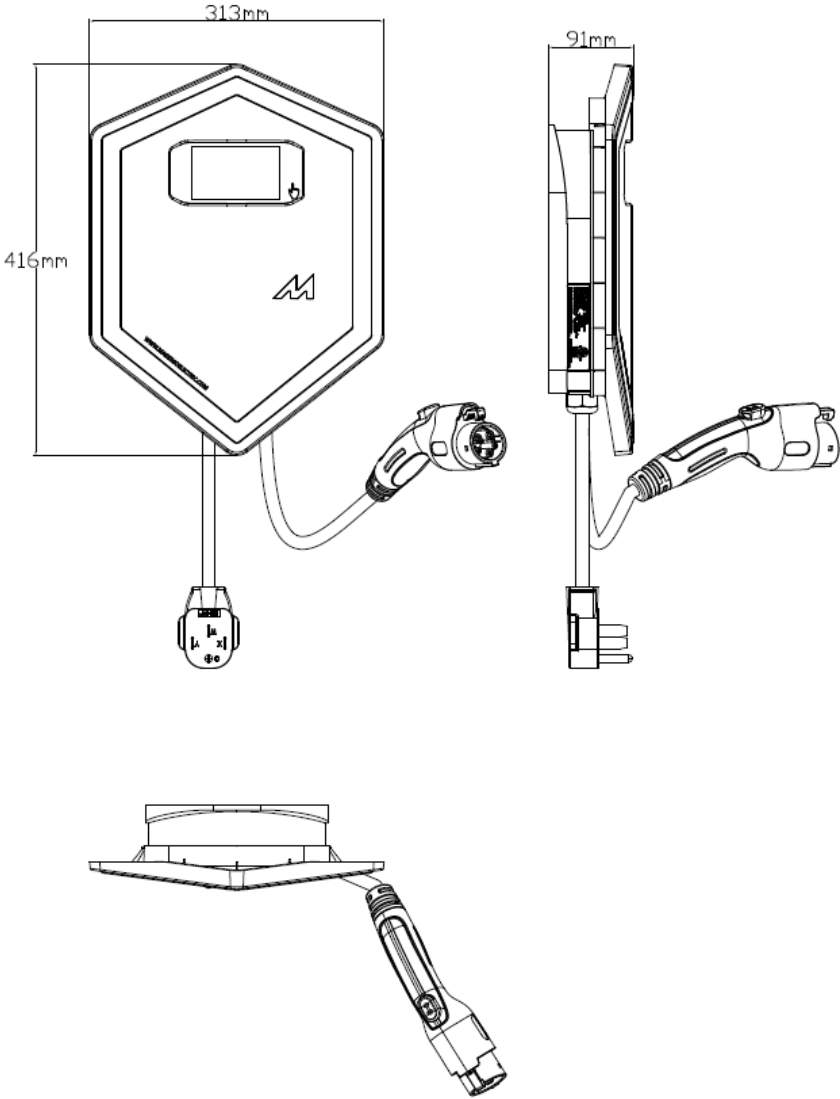
7.1 Troubleshooting

Fault Situation	Fault Type
Status indicator light is not on (white)	1. Power supply is disconnected--Ensure circuit breaker in the power distribution cabinet is in ON state.
	2. Equipment failure--Contact customer support.
Charging cannot start (yellow or green light)	1. The charging plug is not correctly inserted into vehicle. Remove and Re-Connect.
	2. Vehicle has been set to reserve charging-check vehicle.
	3. Vehicle does not need to charge or vehicle fault- -Check vehicle.
Charging time Extended	1. Vehicle's Reserve charging function activated.
	2. Due to the high temperature of the charging station, the capacity is reduced. Check Current value displayed on the screen.
	3. The maximum current setting limits the charging current. Check Current value displayed on the screen.
Red LED Indicator	If the charging station fails, refer to the failure information provided on the display screen.
	Disconnect the charging plug, shut off the power supply (disconnect circuit breaker in power distribution cabinet), and then turn on power supply (close the circuit breaker). If the problem still exists, contact customer support..

7.2 Possible Causes of the Failure

The display screen information	State
Overcurrent	Overcurrent protection. Charge again after 15m interval. If overcurrent protection occurs three times, end charging and contact customer support.
Overvoltage	Overvoltage protection. Resume charging when voltage normalized.
Undervoltage	Undervoltage protection. Resume charging when voltage normalized.
Contactor Err	Contactor status failure. Contact customer support.
Overtemperature	Over-temperature protection. Resume charging after temperature normalized.
CCID leakage	CCID leakage protection. Remove charging cable and plug back in to recharge.
Ground fault	Ground-fault protection. Charge after grounding properly.
Short circuit Err	Short circuit protection. Contact customer support.
Control Pilot Err	Control pilot failure. Abnormal draw during charging.

8.Dimensions



9 .Technical Parameter

Description	Value	Parameter
Electrical parameters	Input Rated Value	120/240VAC, Single-phase, 60Hz
	Input Wiring	Fire wire, zero wire and ground wire, together with the junction box Type O type terminal connection
	Output Rating	120/240VAC, Single-phase, 60Hz
	Rated Current	16A , 32A , 40A , 50A (available by APP setting, default 50A)
	Incoming Line	Above 194 °F Copper Core Cable, 6AWG / 50A, 8AWG / 32A, 11AWG / 16A
	Standby active power consumption	5W
	Internal residual current detection	CCID20
	Electrical protection	Overvoltage, undervoltage, overcurrent, short circuit, grounding fault, overheat protection, surge protection
	Overvoltage category	Level II
	Cold load recovery	After power failure, delay for 15 seconds before charging recovery
	Display	2.8 inch color dot matrix screen + LED ring lamp belt
	Charge Connection	SAE J1772 type 1
Interface	Communication	WIFI/ 4G
	Working Temperature	-22°F ~+122°F over 140°F for capacity reduction
	Storage temperature	-40°F ~+176°F
	humidity	95% (No condensation)
Ambient Condition	height	3km
	cooling-down method	natural cooling
	levels of protection	Type 4;IK08
	charging cable	23ft
Size Parameter	Dimensions (width x height x depth) mm	313*416*91mm, excluding charging cable
	Weight (lb)	5.29, without charging cable and accessories

10. Disposal

After the equipment is reasonably suspended please submit it to the service department in accordance with the current waste disposal regulations

11. FCC Rules

This device complies with Part 15 of the FCC Rules / Industry Canada licence-exempt

RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

MPE Requirements

To satisfy FCC / IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.



<http://www.massimoelectric.com>