

M3W EN-series

AC EV Charging Station

User Manual



DOC ID: UM211402.B1

NOTE:

- ✓ ***THIS USER MANUAL DESCRIBES THE INSTALLATION, USE AND MAINTENANCE OF M3W EN-SERIES AC EV CHARGING STATION. THIS MANUAL IS INTENDED FOR INSTALLATION AND MAINTENANCE PERSONNEL.***
- ✓ ***FAILURE TO READ THIS MANUAL CAREFULLY BEFORE INSTALLATION, MAINTENANCE AND OPERATION MAY LEAD TO IMPROPER OPERATION.***
- ✓ ***FAILURE TO FOLLOW THE SAFETY NOTES MAY LEAD TO A DANGER OF DEATH, INJURY AND DAMAGE TO THE DEVICE, SUPPLIER CANNOT ACCEPT ANY LIABILITY FOR CLAIMS RESULTING FROM THIS.***

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1. ABBREVIATIONS

S/N	Abbreviations	Description
1	IEC	International Electrotechnical Commission
2	EV	Electrical Vehicle, this can be BEV (battery EV) or PHEV (plug-in hybrid EV)
3	EVSE	Electric Vehicle Supply Equipment [IEC61851-1]
4	kW	Kilo Watt (unit of Power)
5	A	Ampere (unit of Current)
6	V	Volt (unit of Voltage)
7	Hz	Hertz (unit of Frequency)
8	LCD	Liquid Crystal Display
9	LED	Light-emitting Diode
10	RFID	Radio Frequency Identification
11	CMS	Central Management System, <i>Manages EVSE and has the information for authorizing users for using its EVSE.</i>
12	OCPP	Open Charge Point Protocol <i>A standard open protocol for communication between EVSE and a Central System and is designed to accommodate any type of charging technique. (www.openchargealliance.org)</i>
13	IP	Ingress Protection
14	PE	Protective Earthing
15	HMI	Human-Machine Interface
16	RCCB	Residual Current Circuit Breaker
17	MCB	Miniature Circuit Breaker
19	MCCB	Moulded Case Circuit Breaker

2. SAFETY NOTES

2.1. Safety signs

The following warning signs, mandatory signs and information signs are used in the user manual, on and in the M3W EV Charging station:

2.1.1. Warning Signs



CAUTION: Warning of electrical hazards.

This sign is intended to alert the user that severe personal injury or substantial property damage can result if the device is not operated as requested.



ATTENTION: Warning of a danger spot or dangerous situation.

This sign is intended to alert the user that minor personal injury or material damage can result, if the device is not operated as requested.



CAUTION: Warning of electromagnetic field.



CAUTION: Warning of combustion.

2.1.2. Prohibiting signs



No access for unauthorized persons



No access for persons wearing pacemakers

2.1.3. Mandatory signs



Use protective footwear



Must wear a safety helmet

2.2. Environment



EV Charging station should be installed on the incombustible such as metal; otherwise, hazardous fire may result.



EV Charging station should not be installed in the area that contains explosive gas; otherwise, hazardous blast may result.



Leave no inflammable or explosive substances near the EV Charging station; otherwise, hazardous blast may result.



EV Charging station should be installed in a place with no conductive dust and insulation-destructive gas or vapor.



EV Charging station should be installed in a place with no violent vibration and impact; for good ventilation, mount the charging station vertically.



The installation foundation shall be higher than the ground level, and drainage ditch shall be set around the EV Charging station, otherwise the equipment may be damaged.

2.3. Installation



Safety protection must be done when installing the EV Charging station.



Installation and wiring should be done by personnel with professional qualification, otherwise, hazardous electric shock may result.



Make sure input power supply is entirely disconnected before wiring; otherwise, hazardous electric shock may result.



Earth terminal of the EV Charging station must be grounded securely; otherwise, hazardous electric shock may result.



The lead nose of the charging station must be securely attached or there is a risk of damaging the equipment.



Leave no metals such as bolts, gaskets into the inside of the EV Charging station; otherwise, hazardous blast and fire may result.



Main loop terminal of the EV Charging station should be firmly connected with the wiring ends; otherwise, damage to property may result.



Bare parts of wiring ends of electrical cables must be wrapped with insulating tape; otherwise, hazardous fire and property loss may result.

2.4. Operating



Strictly forbidden for minors or persons of restricted capacity to approach the charging station to avoid injury.



Forced charging is strictly forbidden when the electric vehicle or charging station fails.



At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press the red "emergency stop" button of the charging station, and immediately stay away from the charging station. And then contact the supplier.



It is strictly prohibited to use the charging station when the charging adapter or charging cables are defective, cracked, worn, broken or the charging cables is exposed. If you find any, please contact the supplier in time.



EV can only be charged with the engine off and stationary.



Do not charge in rainy and thunderous weather.

2.5. Maintenance



Personnel must always use protective footwear when maintenance work.



Accessory replacement must be done by qualified personnel, thrums or metals are prohibited to be left in the controller; otherwise, hazardous blast and fire may result.



After replacing main PCBA, parameters must be adjusted and matched before operation; otherwise, property loss may result.



It is recommended that routine safety inspection visits to charging station be conducted at least once a week.



Keep the charging connector clean and dry and wipe with a clean, dry cloth if soiled.

3. STANDARDS

3.1. Reference standard

The M3W EN-series AC EV charging station is designed according to IEC standards. The standards of this series of products include:

- **IEC 61851-1:2017**, *Electric vehicle conductive charging system - Part 1: General requirements*
- **IEC 62196-2:2016**, *Plugs, socket-outlets, vehicle connectors and vehicle inlets – Conductive charging of electric vehicles – Part 2: Dimensional compatibility and interchangeability requirements for a.c. pin and contact-tube accessories*

3.2. Charging mode

- According to **IEC 61851-1(3.1.9; 6.2.3)**

Mode 3 is a method for the connection of an EV to an AC EV supply equipment permanently connected to an AC supply network, with a control pilot function that extends from the AC EV supply equipment to the EV. EV supply equipment intended for Mode 3 charging shall provide a protective earthing conductor to the EV socket-outlet and / or to the vehicle connector.

- The M3W EN-series product is an EVSE that conforms to the Mode 3.

3.3. Charging connection

- According to **IEC 61851-1(3.1.12)**, the M3W EN-series product is an EVSE that conforms to the CASE C connection (shown as Fig. 3-1).

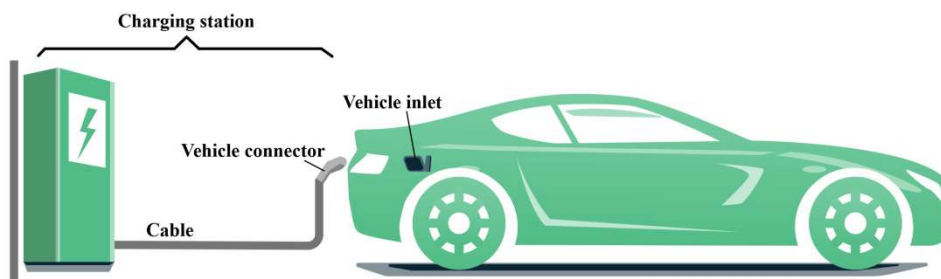


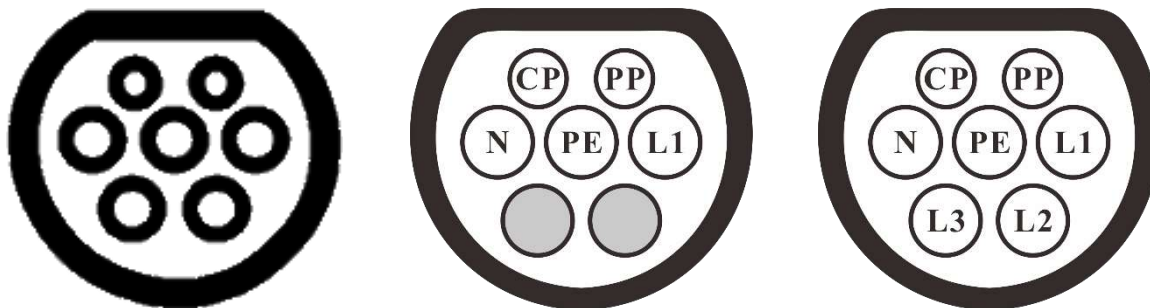
Fig. 3-1 Schematic diagram of CASE C connection

3.4. Charging connector

- The charging connector of M3W EN-series products meet **IEC 62196-2**, type 2 (Schematic

diagram shown as Fig. 3-2).

- The charging object of M3W EN-series products are the electric vehicle with type 2 charging socket (Vehicle inlet) described in **IEC 62196-2**.



(a) type 2 socket

(b) 1-phase type 2 plug

(c) 3-phase type 2 plug

Fig. 3-2 Schematic diagram of Type 2 charging socket and plug

4. PRODUCT INFORMATION

4.1. General

Welcome to use the M3W EN-series AC EV Charging station produced by our company. The Shape & Dimensions of M3W EN-series AC EV charging station shown as Fig. 4-1.

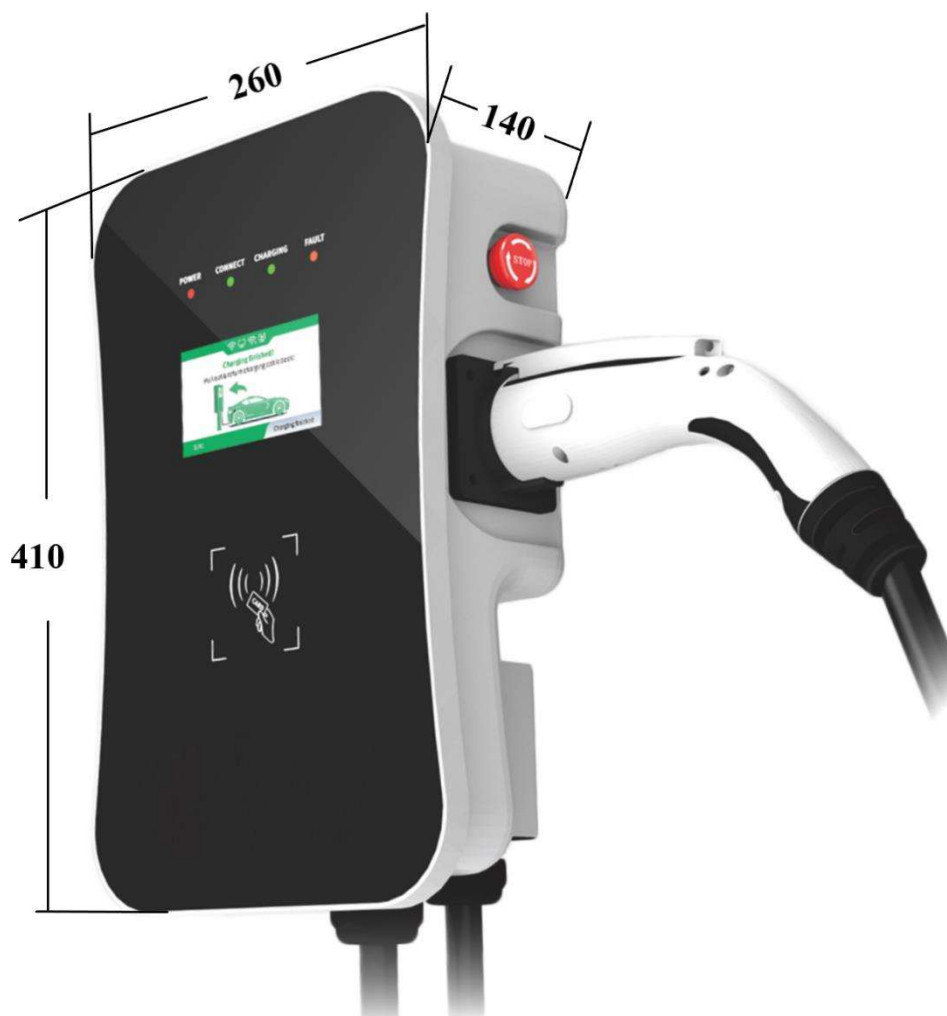


Fig. 4-1 The Shape & Dimensions of M3W

- ✓ M3W3 EN-series AC EV charging station provides a friendly HMI, with the corresponding control, metering and communication functions, belongs to the special AC power supply device for EV.
- ✓ It is widely used in all kinds of household electric vehicle charging, as well as various charging stations, parking lots, community garages and public electric vehicle charging places.

4.2. Block diagram

The block diagram of M3W EN-series product is shown as Fig. 4-2.

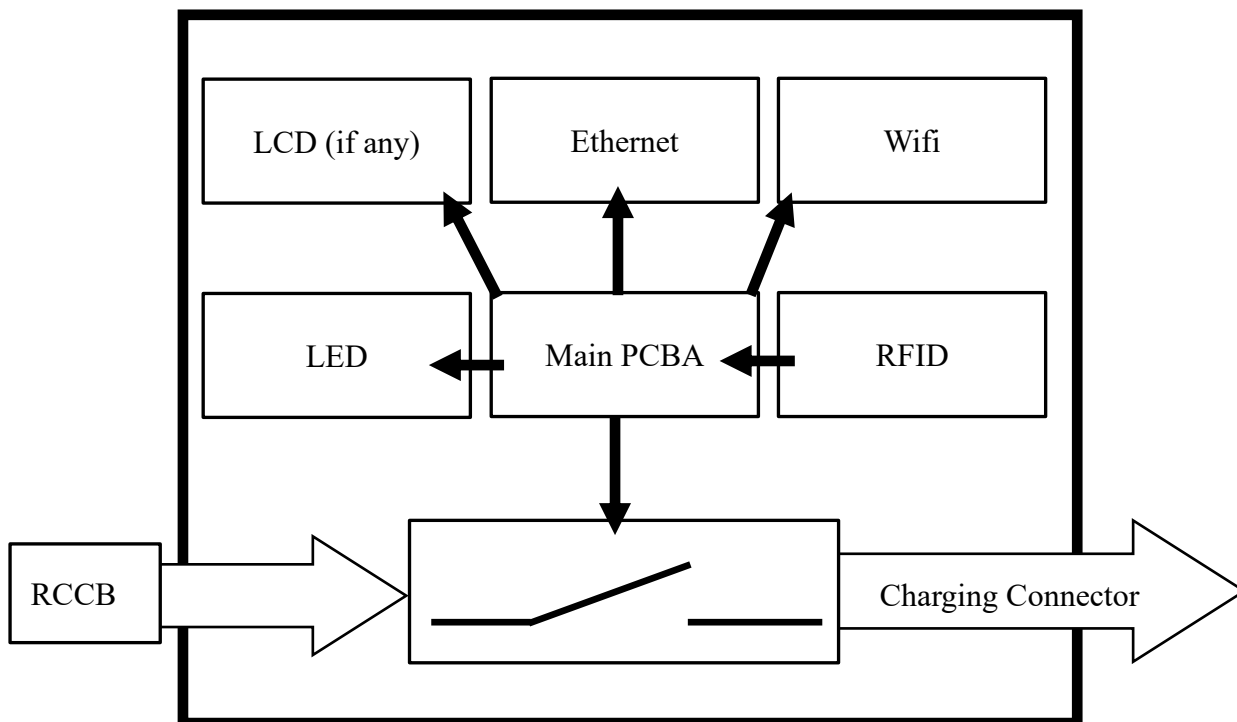


Fig. 4-2 Block diagram of M3W AC EV Charging station

4.3. Product series

4.3.1. Model definition

<u>M3W</u>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<u>EN</u>	
				EN: product meet IEC standards
				Maximum output rated current 16: 16A; 32: 32A
				Phase number: 1: 1-phase; 3: 3-phase
				M3W: Wallbox shell code

The specific products of M3W EN-series products include as below.

4.3.2. 1-phase products (with 1-phase type 2 plug, see Fig 3-3(b))

Model Number	M3W116EN	M3W132EN
Rated Maximum Power	3.5kW (@230V, 1-phase)	7kW (@230V, 1-phase)
Rated Maximum Current	16A	32A
MCB inside	YES (NDB1C-63C40, 3-Pole) *	YES (NDB1C-63C40, 3-Pole) *
Input cable conductor recommended size	3×4mm ² , copper	3×6mm ² , copper

*Note: The tripping time of MCB $\leq 10\text{ms}$ (@1500A short-circuit current).

4.3.3. 3-phase products (with 3-phase type 2 plug, see Fig 3-3(c))

Model Number	M3W316EN	M3W332EN
Rated Maximum Power	11kW (@400V, 3-phase)	22kW (@400V, 3-phase)
Rated Maximum Current	16A	32A
MCB inside	YES (NDB1C-63C40, 3-Pole) *	YES (NDB1C-63C40, 3-Pole) *
Input cable conductor recommended size	5×4mm ² , copper	5×6mm ² , copper

*Note: The tripping time of MCB $\leq 10\text{ms}$ (@1500A short-circuit current).

4.4. Technical specifications**4.4.1. Electrical parameters**

		M3W1	M3W3
1	Input Voltage	1-phase AC, 230V±10%	3-phase AC, 400V±10%
2	Rated frequency	50/60Hz	50/60Hz
3	Branch breaker	Dedicated circuit	Dedicated circuit
4	Input circuit terminal	L1/ N/ PE	L1/ L2/ L3/ N/ PE

4.4.2. Functional description

1	Charging mode	Mode 3
2	Charging control	Local: “Plug-and-charge” or “swipe card-controlled”; Remote: smart phone APP control (Operators build own APP).
3	Display screen	Optional, 4.3-inch LCD screen (display charging current, voltage, energy, charging time, state & fault information, etc.)
4	Indicator lights	4 LED lights (indicate 4 status include power, connect, charging and fault)
5	Communication interface	Ethernet (RJ-45 interface), WiFi (2.4GHz), RS-485 (Internal debug interface)
6	Communication protocol	OCPP 1.6
7	Safety protection	Emergency stop button, Surge protection, over temperature, over/under voltage, over current, ground protection

4.4.3. Mechanical parameters

1	Mounting	Wall-mounted
2	Charging connector	IEC 62196-2, Type 2
3	Charging cable length	5m (Standard configuration)
4	Dimension (H×W×D)	410mm × 260mm × 140mm (as shown in Fig. 3-1)
5	Net Weight	M3W1: ≤ 8kg; M3W3: ≤ 10kg
6	Color & Material	Front panel: Black, Tempered Glass
		Back cover: Gray, Metal Plate
7	Enclosure rated	IP54

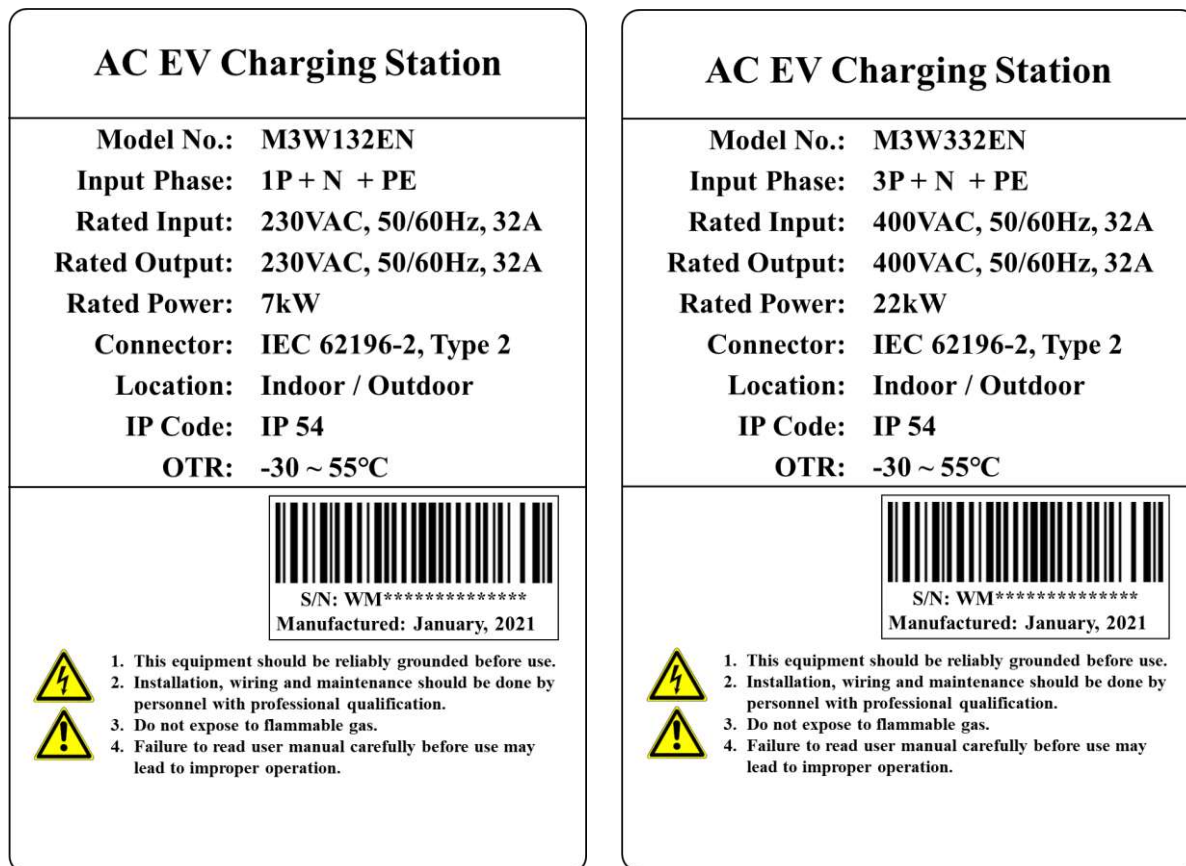
4.4.4. Ambient conditions

1	Altitude	≤ 2000m
2	Storage temperature	-40 ~ 75°C
3	Operating temperature	-30 ~ 55°C
4	Relative humidity	≤ 95%RH, No water droplet condensation
5	Vibration	< 0.5G, No acute vibration and impaction

6	Installation location	Indoor or outdoor, good ventilation, no flammable, explosive gases
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4.5. Nameplate

On the wallbox shell, there is a nameplate identifying the model and specification of the charging station, the content is shown as Fig. 4-3.



(a) M3W1 product

(b) M3W3 product

Fig. 4-3 Nameplate of charging station

5. INSTALLATION INSTRUCTIONS

5.1. Transport or movement

When transporting or moving, please pay attention to the following points to ensure product safety:

- a) This product is electrical equipment. It should be handled with care to avoid violent vibration and impact.
- b) The front panel of the product is a glass panel, which cannot be used as a stressed part for handling.
- c) The back cover of the product is a sheet metal part, which should be well protected to avoid impact.
- d) The charging station shall not be transported by dragging the charging connector and its charging cable.

5.2. Unpacking

5.2.1. Packing list

In the package, there is a packing list, which includes:

- ✓ 1 charging station(M3W wallbox),
- ✓ 2 RFID cards,
- ✓ 1 set of wall-mounting accessories (including screws),
- ✓ 1 user manual
- ✓ 1 quality certificate.

5.2.2. Inspection & confirm

When unpacking, please carefully confirm the following points:

- a) Whether the accessories are missing according to the packing list.
- b) Whether there is any damage during transportation. If any damage or missing parts are found, please do not start the machine and inform the supplier.
- c) Whether the model and specification of the machine's nameplate are consistent with the order requirements.

Note:

Please keep the packing box and packing materials 1 month for future handling.

If any omission or inconsistency is found, please contact the supplier as soon as possible.

5.3. Installation preparation

5.3.1. Safety notes for installation

Refer to 2.3 for more safety notes.



Installation and wiring should be done by personnel with professional qualification, otherwise, hazardous electric shock may result.



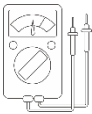
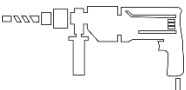



Make sure input power supply is entirely disconnected before wiring; otherwise, hazardous electric shock may result.

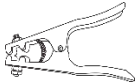



Operator must always notice safe protection such as wear protective footwear, wear goggles, otherwise it may be personal injury.

5.3.2. Tools for installation

Prepare the following tools at least before installing the M3W EN-series AC EV charging station.

Sr No.	Tools' Name	Schematic Picture	Main Uses
1	Multimeter		Check the electrical connection and measure the voltage
2	Electric Impact drill		Drill fixing holes in the wall
3	Wrench		Fastening bolt
4	Diagonal pliers		Cut the cable
5	Wire stripper		Peeling cables

6	Crimping pliers		Pressed cable terminal
7	Cross screwdriver		Fastening screw

5.3.3. Ambient

- a) Refer to 2.2 for more safety notes.
- b) Refer to 4.4.4 for more ambient conditions.
- c) It is suggested that the charging station should be installed in a place with good ventilation, no direct sunlight and shelter from wind and rain.
- d) In order to ensure good ventilation condition, you should mount the charging station vertically and leave enough space.
- e) Mounted the M3W EN-series product on the wall is shown in Fig. 5-1.

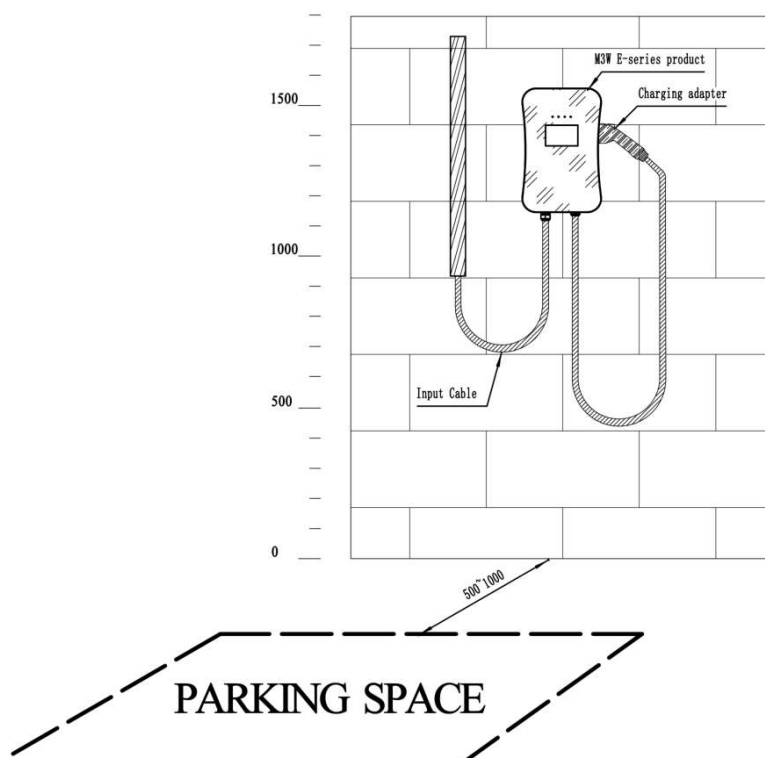


Fig. 5-1 Mounted the M3W EN-series product on the wall

- f) If you purchase products with floor mounted accessories, the installation effect is similar to that of wall mounted product.

5.4. Installation Steps

5.4.1. Step 1: Install the attachment

As the below figure, drill 4 mounting holes of 10mm diameter and 50mm depth at the appropriate height, spaced 130mm×70mm apart, and secure the mounting accessories to the wall with the expansion screw which contain in package.

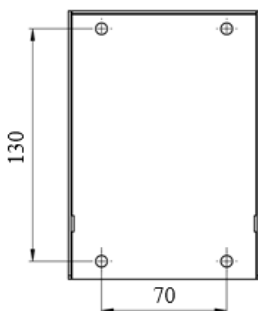
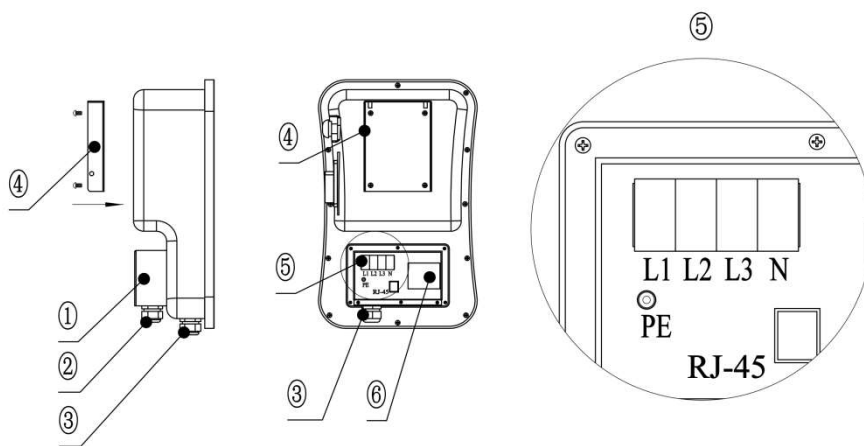


Fig. 5-2 Install the attachment

5.4.2. Step 2: Wiring

- a) Secure mounting Accessories(④) to the Charging station;
- b) Remove the cover of Input Terminal Box(①);
- c) Pass the input cable through the Input Cable Interface (②), connect the power cable to the Input Terminal (⑤);
- d) Reset the cover of input terminal box(①).



- ①: Input Terminal Box;
- ②: Input Cable Interface;
- ③: Charging adapter interface;
- ④: Accessories;
- ⑤: Input Terminal (L1/ L2/L3/N/PE/RJ-45);
- ⑥: MCB(if any).

Fig. 5-3 Wiring

It is recommended to use flame retardant rubber copper core cable as the input cable, pass the cable through the input interface of the charging station, then fix the Neutral wire, Live wires (L1/L2/L3) and PE wire to the corresponding terminals, and finally fix the cable.

If the CMS is to be connected through the network cable, put the network cable through the Charging adapter interface (③), then crimp the RJ-45 head, and then insert it into the network cable interface.

5.4.3. Step 3:

Follow the arrow, and hold the wallbox Accessories(④) on the attachment.

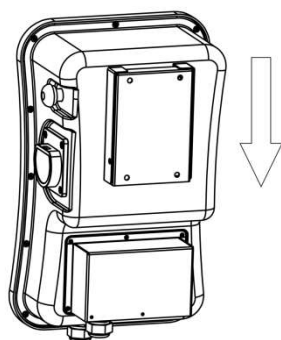


Fig. 5-4 Hang the wallbox on the attachment

5.4.4. Step 4:

Tighten the set screws on the left and right ends to fixed the wallbox.

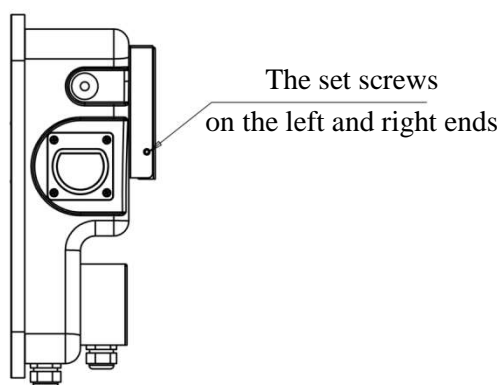


Fig. 5-5 Fixed the wallbox

6. OPERATION

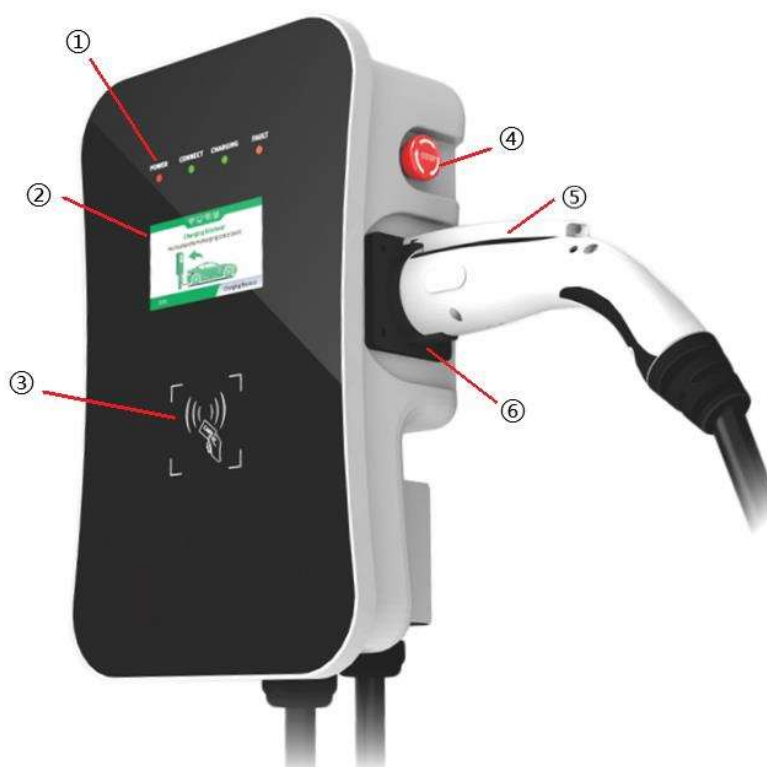
6.1. Power on

After the charging station is installed and confirmed to be correct, switched on the RCCB, and "POWER" indicator light is on, and the charging station enters the standby state.

6.2. Human-machine interface

6.2.1. HMI information

As shown in Fig. 6-1, the M3W EN-series product is configured with multiple human-machine interfaces.



- | | | | |
|---|----------------|---|---------------------------------|
| ① | LED indicators | ④ | Emergency stop button |
| ② | LCD | ⑤ | Charging connector |
| ③ | RFID reader | ⑥ | Empty charging connector socket |

Fig. 6-1 HMI of M3W EN-series product

6.2.2. LED indicators

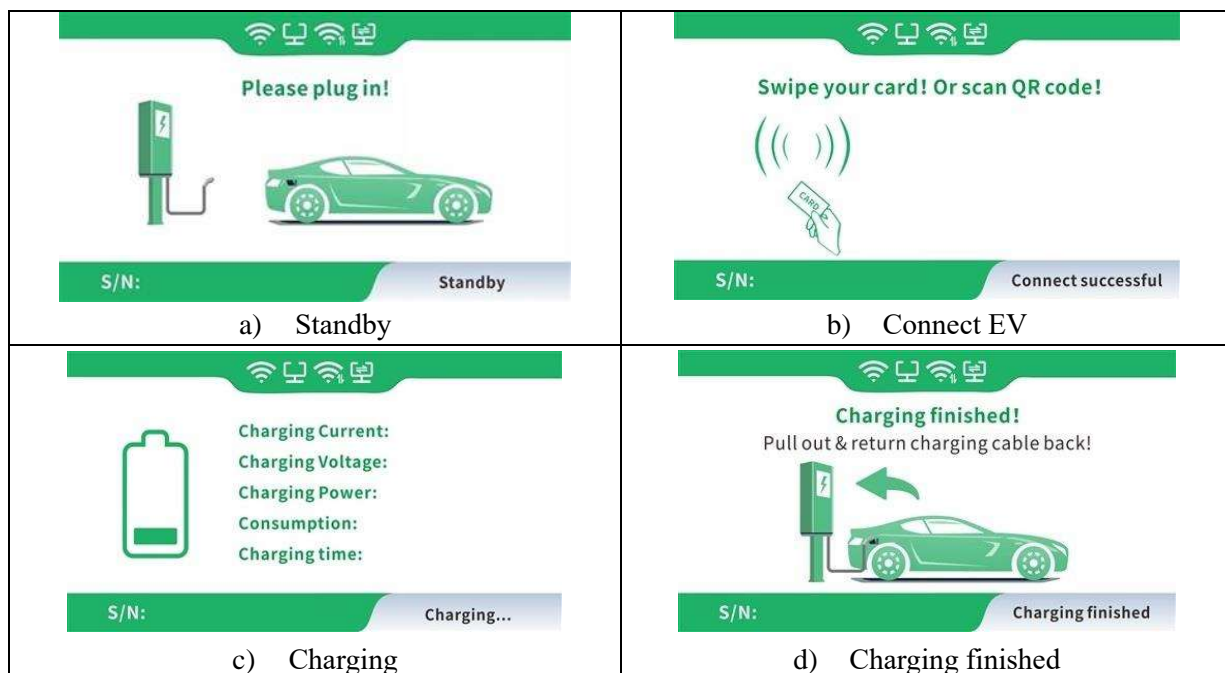
The LED indicators on the panel are used to indicate the status of the charging station and the various combinations of indicators are described as below.

No.	Power	Connect	Charging	Fault	Connotation
	GREEN	GREEN	RED	YELLOW	
1	ON	OFF	OFF	OFF	Standby State
2	OFF	ON	OFF	OFF	Charging adapter is properly connected to the vehicle
3	OFF	Twinkle	OFF	OFF	Starting
4	OFF	OFF	Twinkle	OFF	Charging
5	OFF	OFF	OFF	Alternately Twinkle	Fault. Get the fault code by the cycle flashing of the fault indicator.

In any state, the Power indicator is twinkle, indicating that the charging station is connected to the CMS through the network.

6.2.3. LCD (if any)

The LCD with M3W configuration is a 4.3-inch screen, which is mainly used to display various status information of the charging station, shown as Fig. 6-2.



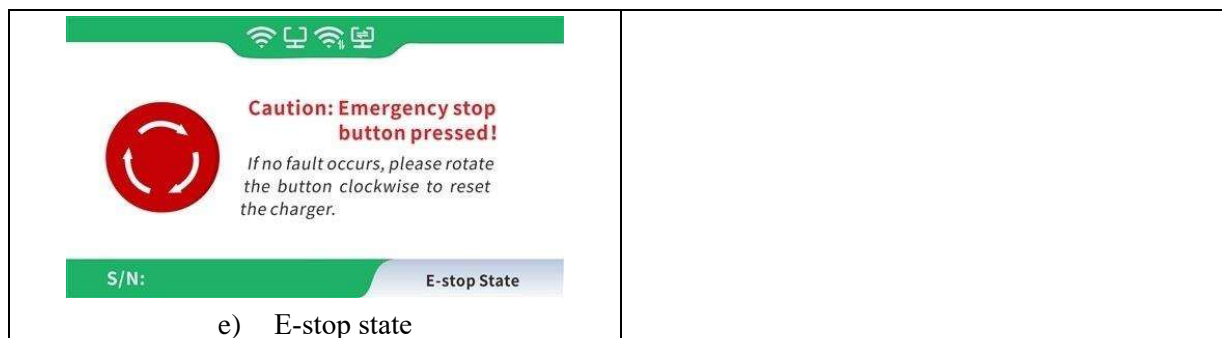


Fig. 6-2 LCD display

6.2.4. RFID reader

In general, M3W is equipped with RFID card reader as standard, and the charging process can be started and stopped by using the RFID card configured with the host. The special customized card swiping function is not separately described here.

6.2.5. Emergency stop button

This button is used to stop charging in case of emergency.

At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press this button, and immediately stay away from the charging station. And then contact the supplier.

6.2.6. Charging connector & empty socket

M3W EN-series AC EV charging station config a type 2 charging connector.

When the charging station is in standby state, please plug the charging connector in the empty socket in order to protect the charging connector.

6.3. Configure WiFi network

- a) Prepare a WiFi router operating at 2.4GHz and an Android or iPhone smart phone. Make sure the charging station and smart phone are in the WiFi coverage area.
- b) Turn on the WiFi router to ensure that the router can connect to the Internet normally.
- c) Turn on the WiFi of the smart phone, connect the smart phone to the router through WiFi and ensure that the phone can access the Internet through the router.
- d) Install the "esptouch" APP on your smart phone.

Note:

✓ **esptouch for iOS download link:**

<https://apps.apple.com/cn/app/espressif-esptouch/id1071176700>;

✓ **esptouch for Android download link:**

<https://github.com/EspressifApp/EsptouchForAndroid/releases/download/v1.1.1/esptouch.apk>



(for iOS)



(for Android)

-
- e) Open the esptouch APP, enter the password for the WiFi network name (shown as Fig. 6-4), and keep the phone in the esptouch APP, do not exit.



Fig. 6-4 APP interface

- f) Press and rotate to reset the emergency stop button 3 times in a row until the four indicator lights turn on in a cycle according to the running lamp mode. At the same time, the LCD (if any) screen will switch to the WiFi configuration page (shown as Fig. 6-5).

Click the "CONFIRM" button (shown as Fig. 4-1) of the APP on the smart phone.

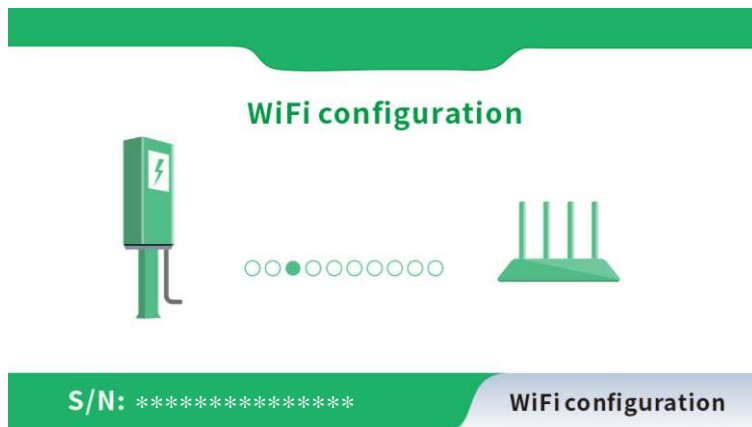


Fig. 6-5 The WiFi configuration page

- g) When all indicator lights start to flash at the frequency of 1Hz, it indicates that the WiFi configuration of charging station is completed. At the same time, the LCD screen will display "Successful" and the WiFi SSID name and password.



Fig. 6-6 The WiFi configuration success page

- h) Reset the emergency stop button.

6.4. Start charging

- a) Park the electric car into place, turn off the engine, and put the car under braking.
- b) Pick off the charging adapter and is shown as Fig. 6-7.
- c) Plug the charging adapter into the AC charging socket of the electric vehicle and the “Connect” light of the charging station will be lit.

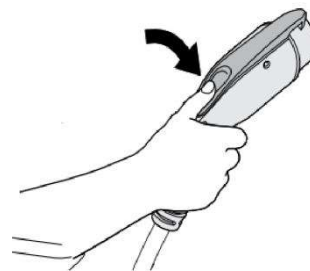


Fig.6-7 Pick off the charging connector

- d) For “plug-and-charge” charging station, it will automatically enter the charging process; for “swipe card-controlled” charging station, it needs to swipe card to start; for APP-controlled charging station, it needs to operate mobile phone to start.
- e) When the “Charging” light begins to flash, the pile will enter the charging state.

6.5. Normally stop charging

- a) There are two normal stoppages for “plug-and-charge” charging station: first, automatic stoppage with full charge, and second, manual stoppage.
- b) Operation of manual stoppage: press the unlock button of the remote key of the electric vehicle, the vehicle will stop charging (requires the support of the electric car), if the charging is not stopped, press the button of the adapter again (as shown in Figure 4-5), the charging station “Charging” indicator will go off, and the charging will stop automatically.
- c) Pull the adapter out of the vehicle to complete charging process. If you can't pull out the adapter, usually because the vehicle is locked, press the unlock button of the vehicle key and the adapter can be pulled out.

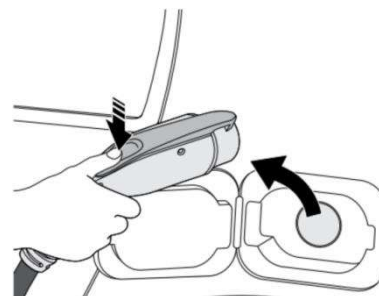


Fig. 6-8 pull adapter out the vehicle

Note:

- ✓ *For “swipe card-controlled” charging station, please start and stop charging by swiping your card.*
 - ✓ *For “APP-controlled” charging station please start and stop charging through your APP.*
-

6.6. Abnormally stop charging

- a) Emergency stop: At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press the red "Emergency Stop" button of the charging station to stop the charging process.
- b) Forced fault stop: A fault stop initiated by the onboard charger of vehicle.
- c) Automatic fault stop: A fault stop initiated by the charging station.

7. FAULT HANDLING AND MAINTENANCE

7.1. Fault Handling

The charging station is automatically protected in the event of the fault. The fault information and handling methods are as follows.

Fault information	Fault	Handling Method
Both the LED indicator lights and screen (if any) are not on	—	<ul style="list-style-type: none"> ※ Check whether the branch breaker is tripped, and close the breaker after troubleshooting; ※ Check whether the connection is correct, if the cable comes off, should be properly connected to tighten the cable; ※ Check if the branch fuse is fused, and replace it after troubleshooting.
Fault light flash slowly once and fast once.	CP voltage anomaly	Fault code 11: Check that the adapter is properly connected to the electric vehicle, pull and plug the adapter and try charging again.
Fault light flash slowly once and fast twice	Emergency stop	Fault code 12: The E-stop button is pressed, after troubleshooting, rotary the button and reset it, the fault state will exit.
Fault light flash slowly once and fast 3 times	Input a under voltage	Fault code 13: Check that the input cable is reliably connected, that the parent grid is properly connected, and that the grid voltage is abnormal.
Fault light flash slowly once and fast 4 times	Input over voltage	Fault code 14: Check whether the input cable is connected correctly; Whether the grid voltage is abnormal.
Fault light flash slowly once and fast 5 times	Over-temperature protection	Fault code 15: Check whether the charging station is covered or installed in a high temperature environment.

Fault light flash slowly once and fast 6 times	Metering fault	Fault code 16: Power off and restart the device.
Fault light flash slowly once and fast 7 times	Leakage protection	Fault code 17: Check whether the charging adapter and its cable are damaged or wet. Recover after pulling out the adapter.
Fault light flash slowly once and fast 8 times	Output shortage	Fault code 18: Check whether the charging adapter and its cables are damaged or wet.
Fault light flash slowly once and fast 9 times	Output over current	Fault code 19: Check whether the charging adapter is correctly connected to the car, and check whether the on-board charger is normal
Fault light flash slowly twice and fast once	Electric vehicle response timeout	Fault code 21: Make sure that the charging adapter is properly connected to the car, pull out and retry, or the car is full charge.
Fault light flash slowly twice and fast twice	No diode at EV end	Fault code 22: This EV does not meet the IEC standards and cannot be charged
Fault light flash slowly twice and fast three times	Relay sticking	Fault code 23: The device is damaged and needs to be returned to the factory for repair
Fault light flash slowly twice and fast four times	Leakage detection circuit fault	Fault code 24: The device is damaged and needs to be returned to the factory for repair
Fault light flash slowly twice and fast five times	Earth fault	Fault code 25: Charging station is not grounded; input power cable needs to be checked

7.2. Maintenance

To ensure the long-term stable operation of the equipment, please maintain the equipment regularly (usually every month) according to the operating environment.

- a) The equipment is maintained by professionals.
- b) Check whether the equipment is well grounded and safe.
- c) Check whether there are potential safety hazards around the charging pile, such as whether there are high temperature, corrosion or inflammable and explosive articles close to the charging station.
- d) Check whether the join point of the input terminal is in good contact and whether there is any abnormality. Check whether other terminal points are loose.

WARRANTY AGREEMENT

1. The scope of warranty refers to the product itself.
2. The warranty period is 12 months. During the warranty period, the company will repair the product free of charge in case of failure or damage (determined by the company's technical personnel) under normal use.
3. The starting time of warranty period is the date of product manufacture.
4. Even in the warranty period, a certain maintenance fee will be charged in case of the following situations.
 - ① Equipment failure caused by not following the user's manual.
 - ② Equipment damage caused by fire, flood, abnormal voltage, etc.
 - ③ Equipment damage caused by using the product for abnormal functions.
 - ④ Equipment damage caused by foreign matter entering.
 - ⑤ Equipment damage caused by other human external factors.
5. The service fee shall be calculated according to the actual cost. If there is another contract, the contract shall prevail.
6. Please be sure to keep this card and show it to the maintenance personnel during the warranty period.
7. If you have any questions, please contact the agent or our company directly.

After sales service center

Any change without prior notice!