MaxiCharger DH480

Installation and Operation Manual

Version 1.4

UL Model

Trademarks

Autel® and MaxiCharger® are trademarks of Autel Digital Power Co., Ltd., registered in China, the United States and other countries. All other marks are trademarks or registered trademarks of their respective holders.

Copyright Information

Disclaimer of Warranties and Limitation of Liabilities

All information, specifications, and illustrations in this manual are based on the latest information available at the time of printing. Autel reserves the right to make changes at any time without notice. While information in this manual has been carefully checked for accuracy, no guarantee is given for the completeness and correctness of the contents, including but not limited to the product specifications, functions, and illustrations.

Autel will not be liable for any direct damages or for any special, incidental, or indirect damages or for any economic consequential damages (including the loss of profits).

For Services and Support (24/7):

Web: www.autelenergy.us

Tel: (844) 765-0150

Email: evsupport@autel.com

Address: 36 Harbor Park Drive, Port Washington, New York, USA

For technical assistance in all other markets, please contact your local distributor.

CONTENTS

1. Using This Manual

This manual describes the installation and use of the MaxiCharger DH480. Prior to installation, read through this manual to become familiar with the instructions of this MaxiCharger to ensure a successful installation and smooth operations.

1.1 Signal Word

DANGER

Indicates an imminently hazardous situation with a high risk level which, if the danger is not avoided, will cause death or serious injury.

WARNING

Indicates a potentially hazardous situation with a moderate risk level which, if the warning is not obeyed, can cause death or serious injury.

CAUTION

Indicates a potentially hazardous situation with a medium risk level which, if the caution is not obeyed, may cause minor or moderate injury or damage to the equipment.

ESD PROTECTION AREA

This symbol indicates certain electronic components that are sensitive to electrostatic discharge and must be protected to prevent damage.

NOTICE

Provides helpful information such as additional explanations, tips, and comments.

1.2 Target Group

This documentation is intended for:

- Owner of the MaxiCharger (see *2.2 Owner Responsibilities*)
- Installation Engineer (see *2.3 Installation Engineer Qualifications*)

1.3 Revision History

Version	Date	Descriptions
Version 1.0	2025.05	Initial version.
Version 1.1	2025.06	Deleted content related to MaxiChargers with Spring CMS; Updated the dimensions of the recommended foundation; Updated the first figure in 5.4.1; Updated content related to one-stop commissioning and configuration synchronization.
Version 1.2	2025.07	Added the case of parallel wiring of AC input cable.
Version 1.3	2025.09	Updated the top view of the MaxiCharger (rear door closed), and the space requirements.
Version 1.4	2025.10	Adapted Foundation Requirements Added the *Table of AC Input Specifications*

1.4 Terminology

Term	Definition
AC	Alternating current
CCS	Combined charging system, a standard charging method for electric vehicles
CCU	Charging control unit, a control unit used to communicate with the BMS (Battery Management System) and control the power delivery to the EV
DC	Direct current

Term	Definition
ECU	Equipment control unit, a control unit used to detect equipment status and control the operation of equipment
EV	Electric vehicle
MCB	Miniature circuit breaker
MCCB	Molded case circuit breaker
OCPP	Open charge point protocol, an open standard for communication with charge stations
RBU	Routing business unit, used for communication control and providing communication function including 5G, Wi-Fi, Bluetooth, and Ethernet
RCD	Residual current device, a device that breaks an electrical circuit when it detects a current leakage
RFID	Radio-frequency identification, a method of charging authentication
SPD	Surge protective device
TCU	Transaction control unit, an intelligent hardware to handle the human-machine interface, metering, transaction, and communication with back office

2. Safety

The safety messages herein cover situations of which Autel is aware. Autel cannot know, evaluate or advise you as to all of the possible hazards. You must be certain that any condition or service procedure encountered does not jeopardize your personal safety.

- Preview the standard operating procedures and ensure that local building and electrical codes are reviewed before installing the MaxiCharger.
- Read the manual before installing or using the MaxiCharger.
- Do not install or use the MaxiCharger if the enclosure is broken, cracked, open, or has any other indication of damage.
- The information provided in this manual in no way exempts the user of responsibility to follow all applicable codes or safety standards.
- This document provides instructions for the MaxiCharger and should not be used for any other product. Before installation or use of this equipment, review this manual carefully and consult a licensed contractor, licensed electrician or trained installation expert to ensure compliance with local building codes and safety standards.

2.1 Safety Warnings

- Ensure there is no voltage on the AC input cables during the complete installation procedure.
- Keep unqualified personnel at a safe distance during installation.
- All electrical wires used in the installation must comply with local rules to meet the rated current and voltage demands.
- Ensure the load capacity of the grid is in accordance with the MaxiCharger.
- Ensure the MaxiCharger is connected to a grounded, metal, permanent wiring system. Otherwise, an equipment-grounding conductor must be run with the circuit conductors and connected to the equipment grounding terminal or lead on the product.
- Ensure the connections to the MaxiCharger comply with all applicable local rules.
- Ensure the wiring inside the MaxiCharger is protected from external factors. The cabinet doors should be opened and closed freely without obstructing the wiring.
- Ensure there is no damage to the gasket that may cause water intrusion.
- Protect the MaxiCharger with safety devices and measures that the local rules specify.
- Installation personnel must have the correct protective equipment such as protective clothing, safety gloves, safety shoes, and safety glasses.

2.2 Owner Responsibilities

The owner runs the MaxiCharger for commercial or business use or has authorized a third party to use it. The owner should protect the user, other employees or third parties when the MaxiCharger is in use. The owner bears the responsibilities as follows:

- Know and obey the local codes and ordinances.
- Ensure all employees and third parties are qualified to operate the MaxiCharger.
- Ensure the MaxiCharger has installed the protective devices.
- Ensure all the protective devices are installed after installation or maintenance.
- Ensure the space around the MaxiCharger is sufficient to carry out installation or maintenance work.
- Ensure there is a plan in place in case of an emergency.
- Ensure there are no safety hazards on the site.
- Have a site operator available who undertakes the safe operation of the MaxiCharger and all the coordination work if the owner takes no part in the work.
- Ensure the installation engineer follows the local codes and ordinances, the installation instructions, as well as the specifications of the MaxiCharger.

2.3 Installation Engineer Qualifications

- Familiar with the equipment and its safe installation procedures.
- Qualified according to local regulations to carry out the installation work.
- Able to follow all the local regulations and this manual to complete the installation of the MaxiCharger.

2.4 Usage Instructions

Do not operate the MaxiCharger and immediately contact the manufacturer if any of the following situation arises:

- Damage on the enclosure, charging cable or connector
- Lightning has struck the MaxiCharger
- Fire or flames at or near the MaxiCharger
- Any sign of water damage on the MaxiCharger

2.5 Usage Environment

The recommended usage environment during the warranty period is as follows:

- Avoid use in marine environments or on land near strong pollution sources, and in environments with only simple shelter. Otherwise, it may easily lead to product corrosion, water ingress and other problems, causing module failure. The resulting functional abnormalities or component damage are not covered by the warranty. Pollution sources refer to areas within the following radius:
  - 0.3 miles (0.5 kilometers) from salt water (e.g. ocean).
  - 1.9 miles (3 kilometers) away from heavy pollution sources such as metallurgy, coal mines, and thermal power plants.
  - 1.2 miles (2 kilometers) away from medium pollution sources such as chemical industry, rubber, electroplating and so on.
  - 1 kilometer away from light pollution sources such as food, leather, and heating boilers.
- Choose carefully considering that the module shell may suffer spot corrosion and the lifespan of the entire machine may be shortened when you use the MaxiCharger in offshore environments. Please consult the related service department for details. The offshore range value is an area within the following radius: 0.3 miles (0.5 kilometers) to 2.3 miles (3.7 kilometers) from salt water (such as the ocean).

2.6 Signs on the MaxiCharger

Symbol	Risk Description
	Hazardous voltage that gives risk of electrocution
	Ground/Earth connection

2.7 Disposal Instructions

Potential hazardous substances of the MaxiCharger can have a negative impact on the environment and human health if the waste is not handled properly. Dispose any waste as needed to protect the environment and promote the reuse and recycling of the materials.

2.8 Cyber Security

NOTICE

This section is applicable to the Ethernet and Wi-Fi connection.

The MaxiCharger can use a network interface for connection and information and data communication. The owner bears the responsibility of a secure connection between the MaxiCharger and the owner's network or any other networks.

Appropriate measures shall be taken by the owner to shield the MaxiCharger, the network, the system, and the interface from any security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information. These measures may include firewall building, authentication methods, data encryption, and anti-virus programs installation, etc.

Autel is not liable for damages and/or losses pertaining to the security breaches described above.

3. General Introduction

This MaxiCharger is designed to charge an electric vehicle (hereinafter called EV). The MaxiCharger provides you with safe, reliable, fast, and smart charging solutions.

Intended Use

This MaxiCharger is intended for the DC charging of EVs. It is intended for both indoor and outdoor use.

- Fleet
- Highway
- Commercial Parking
- Others

NOTICE

- When operating MaxiChargers without CMS and whose charging cables are longer than 23 ft. (7 m), use cable management devices such as cable reels and cable bridges to prevent cable tangling, wear, or tripping.
- The images and illustrations depicted in this manual may differ slightly from the actual product.

DANGER

- The equipment must be operated as described in this manual or other related documents released by Autel. Failure to comply may result in human injury and/or damage to the property.
- Use the equipment only as intended.
- For the connection between the equipment and electric vehicle, no additional cables are required. A charging cord shall not be altered to extend or divide the cable length.
- Adaptors or conversion adapters are not allowed to be used.
- Cord extension sets are not allowed to be used.
- The use of Y-cables or similar devices is not permitted.
- National application guidelines and specifications for MaxiChargers must be taken into account.

ESD PROTECTION AREA

The equipment contains components and assemblies that are susceptible to electrostatic discharge (ESD). Appropriate ESD measures should be taken to protect the electronics during any work on the equipment:

- Wear a grounding bracelet and ground it at one of the potential equalisation points on the MaxiCharger, e.g. on the doors.
- If the gloves are used, they must be ESD compliant.

3.1 Product Overview (Outside)

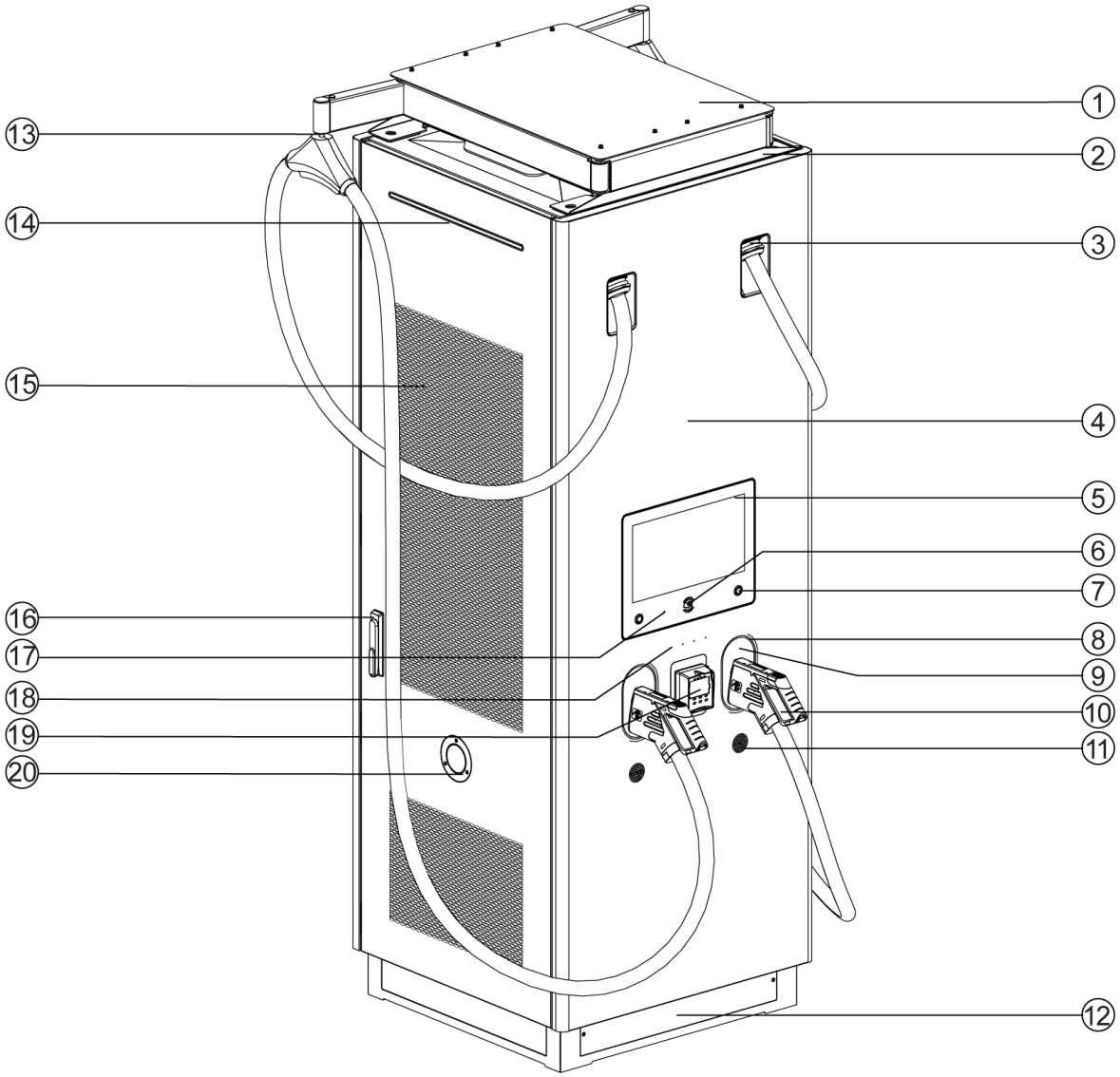


Figure 3-1 Product Overview (Outside)

1. Antenna
2. Main Cabinet
3. Waterproof Cable Fixing Connector
4. Front Door
5. Touchscreen
6. RFID Reader
11. Loudspeaker
12. Base
13. CMS
14. LED Indicator (Refer to *Table 3-1*)
15. Vent
16. Handle Lock

7. Operation Button
8. Holster Indiactor
9. Holster
10. Connector
17. Ambient Light Sensor
18. Microphone
19. POS Device
20. Emergency Stop Button

NOTICE

Autel can deliver the MaxiCharger with different payment terminals. The available options vary depending on the region of the installation. Consult Autel's customer service to obtain more information about the different payment options.

Table 3-1 Indicator Descriptions

Charging Status	Color		Description
	Top Indicator	Holster Indicator	
Standby Mode	Solid Green	Solid Green	A connector is available.
EV Connected	Solid Blue	Solid Blue	An EV is connected to the MaxiCharger.
Charging	Breathing Blue	Breathing Blue	Indicates the charging progress.
Charging Completed	Solid Blue	Solid Blue	An EV is fully charged or has stopped charging. The connector is still connected to the EV.
Reservation	Solid Cyan	Solid Cyan	The MaxiCharger is reserved.
Upgrading	Solid Yellow	Solid Yellow	The MaxiCharger is being upgraded.
Error	Solid Red	Solid Red	An error has occurred.

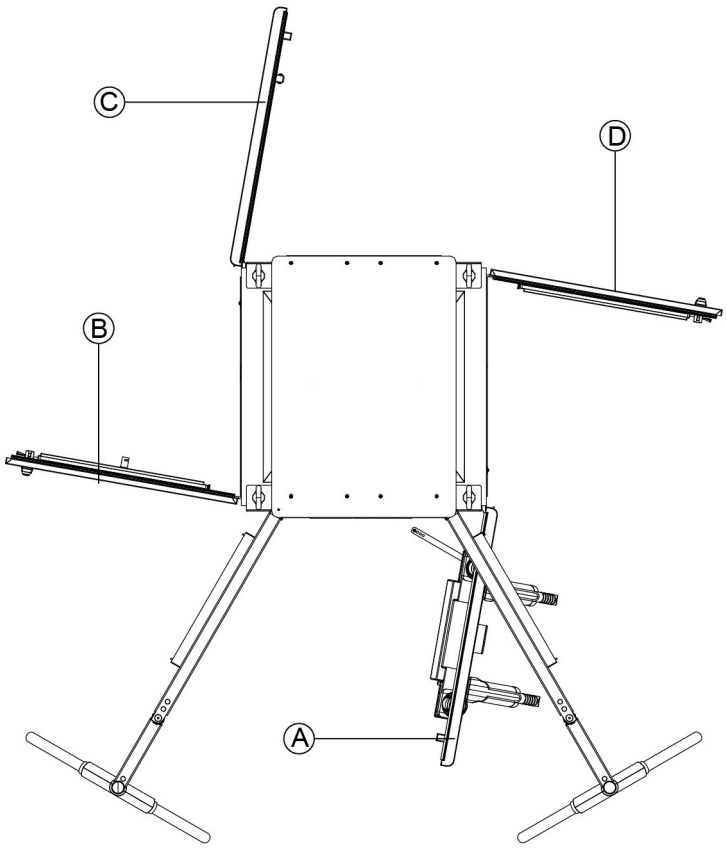
Table 3-2 Description of the Four Doors of the MaxiCharger

No.	Description
A	Front Door

B	Left Door (with the emergency stop button)
C	Rear Door
D	Right Door

WARNING

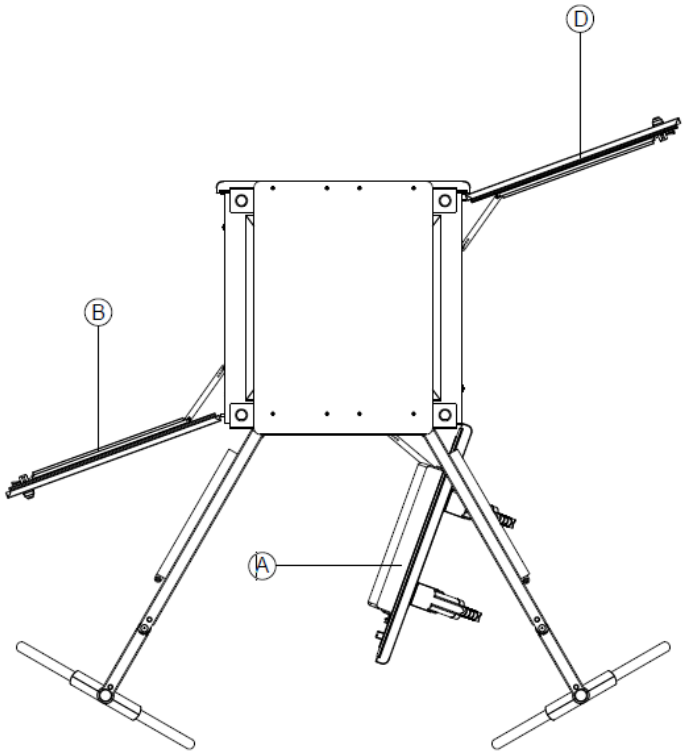
- **Except for installing the equipment and carrying out maintenance work, it is not recommended that you open door A and door C**.
- Ensure all the doors are locked before operating the MaxiCharger.



Top View

Figure 3-2 Four Doors of the MaxiCharger

In the scenes of installation (the rear door face against the wall), there is no need to open the rear side door of the MaxiCharger. Therefore, the top view figure is as below.



Top View

Figure 3-3 Three Doors of the MaxiCharger (Rear Door Closed)

3.2 Product Overview (Inside)

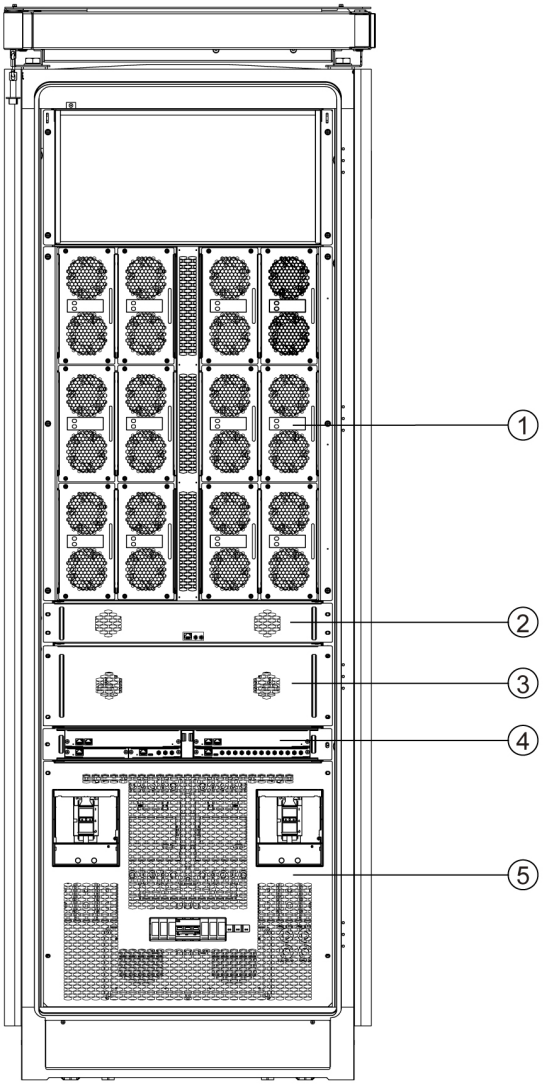
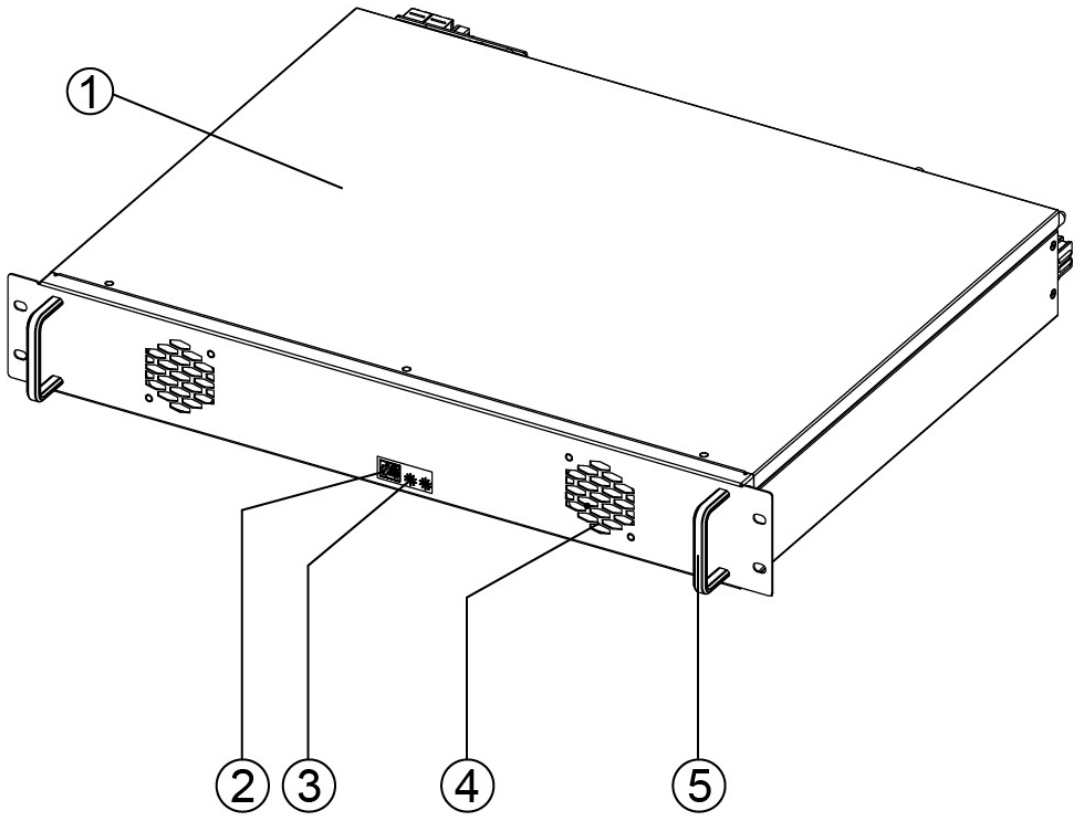


Figure 3-4 Product Overview (Inside)

1. Charging Module
2. Matrix Module
3. DC Output Module
4. Control Module
5. AC Input Unit

3.2.1 Matrix Module



Front View

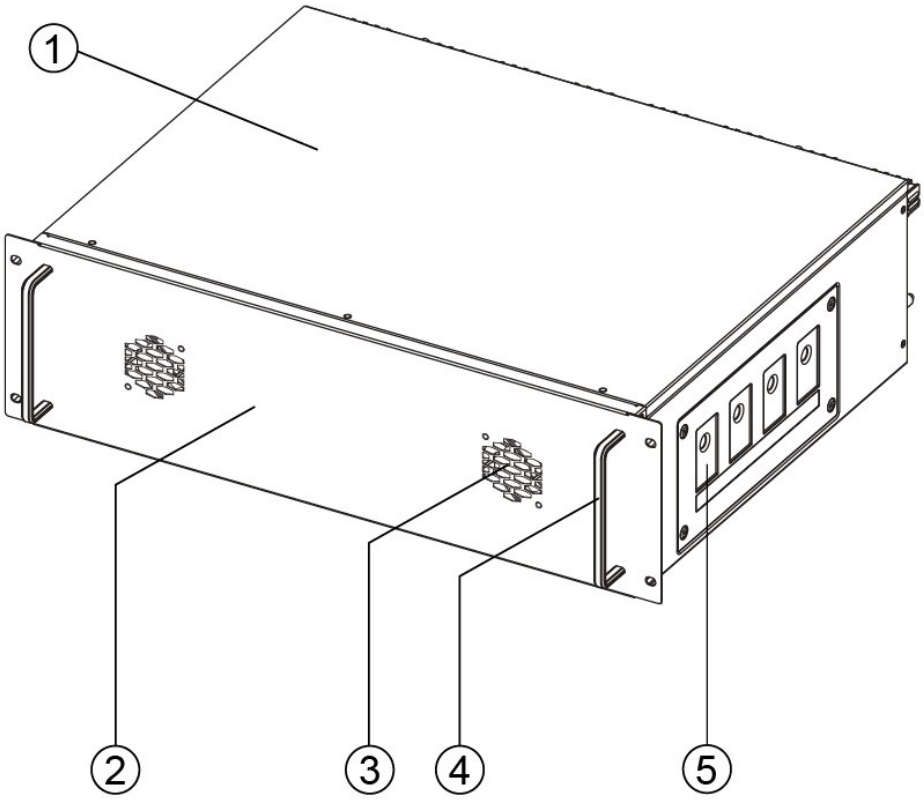
Figure 3-5 Matrix Module

Dimensions (W x D x H): Approx. 22.4 x 19 x 3.4 inches (568 x 483 x 85 mm)

Weight: Approx. 51 lb. (23 kg)

1. Cover
2. Debugging Port
3. DIP Switch
4. Cooling Fan
5. Handle

3.2.2 DC Output Module



Front View

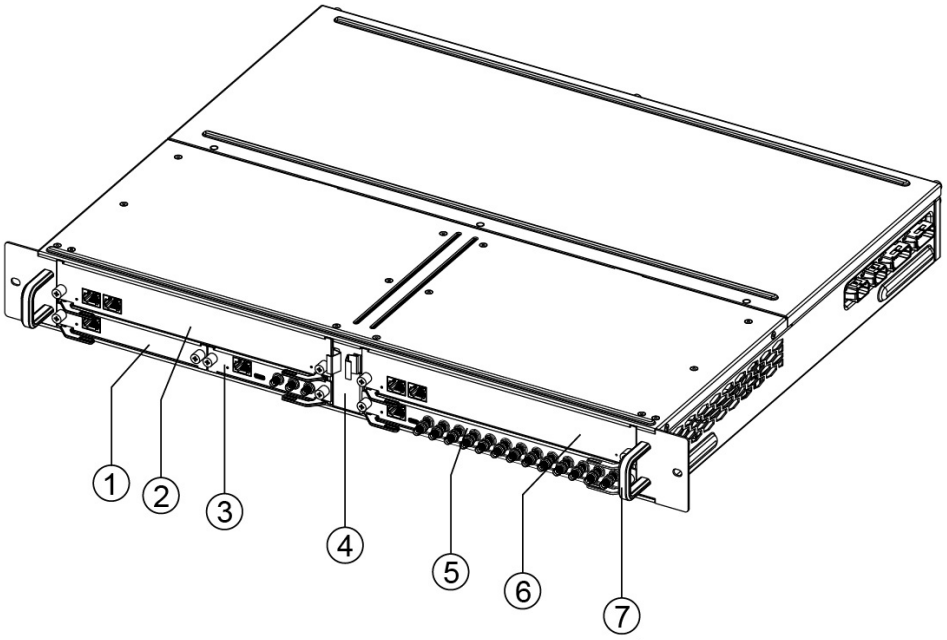
Figure 3-6 DC Output Module (3)

Dimensions (W x D x H): Approx. 22.3 x 19 x 6.8 inches (568 x 486.5 x 172 mm)

Weight: Approx. 65 lb. (29.5 kg)

1. Cover
2. Front Panel
3. Cooling Fan
4. Handle
5. DC Output Connector

3.2.3 Control Module



Front View

Figure 3-7 Control Module

Dimensions (W x D x H): Approx. 22.4 x 18 x 2.8 inches (570 x 457 x 70.6 mm)

Weight: Approx. 26.5 lb. (12 kg)

1. ECU
2. CCU 2
3. TCU
4. Cooling Fan
5. RBU
6. CCU 1
7. Handle

3.2.4 AC Input Unit (Inside)

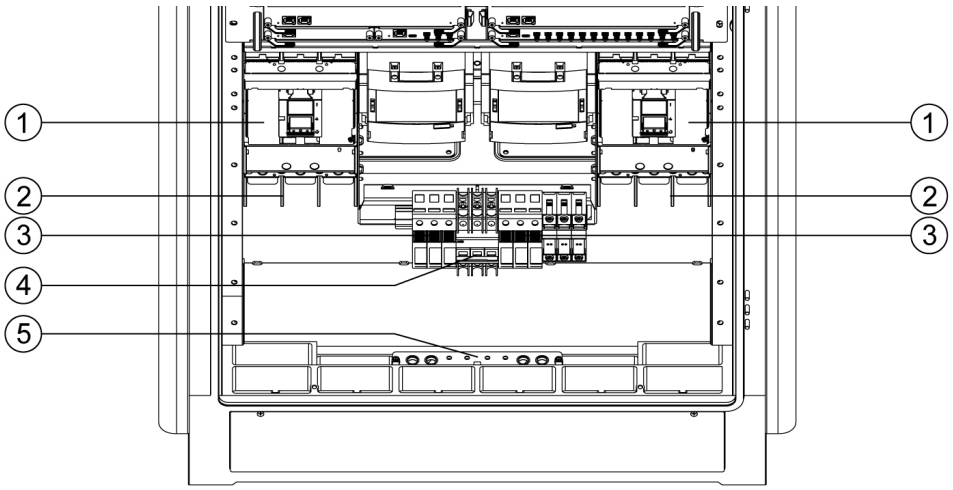
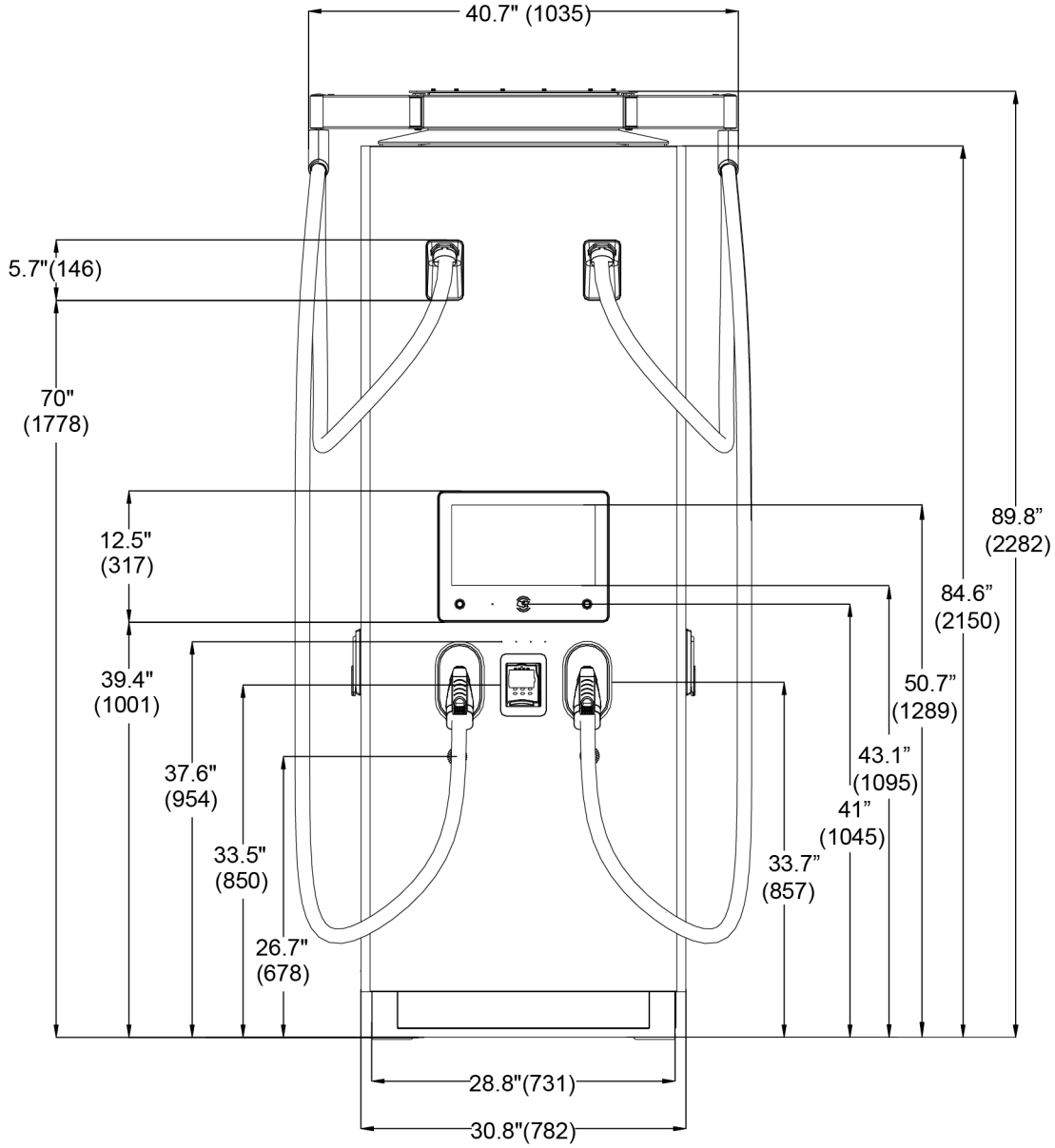


Figure 3-8 AC Input Unit (Inside)

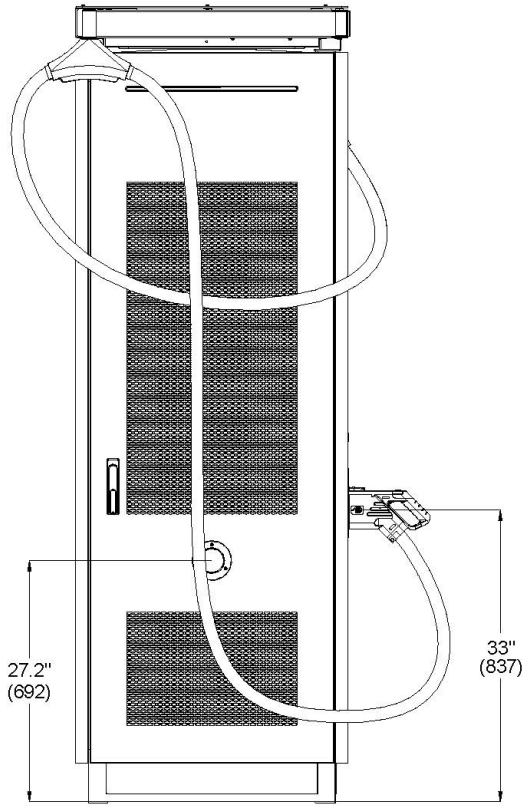
1. MCCB
2. AC Input Connector
3. SPD
4. MCB
5. PE Bus Bar

3.3 Product Dimensions



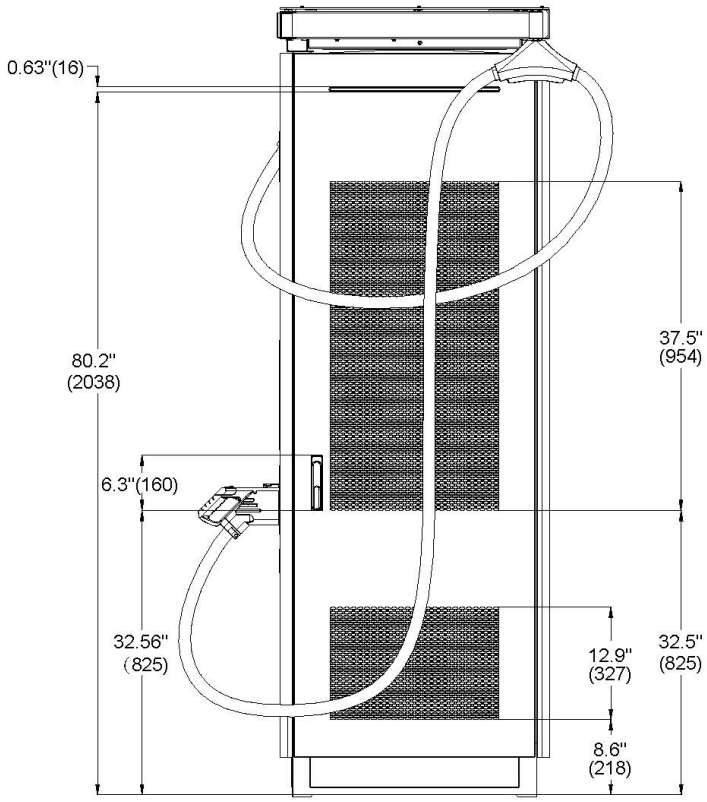
Unit: inch (mm)

Figure 3-9 DH480 Dimensions (Front View)



Unit: inch (mm)

Figure 3-10 DH480 Dimensions (Left Side View)



Unit: inch (mm)

Figure 3-11 DH480 Dimensions (Right Side View)

3.4 Direction of Airflow

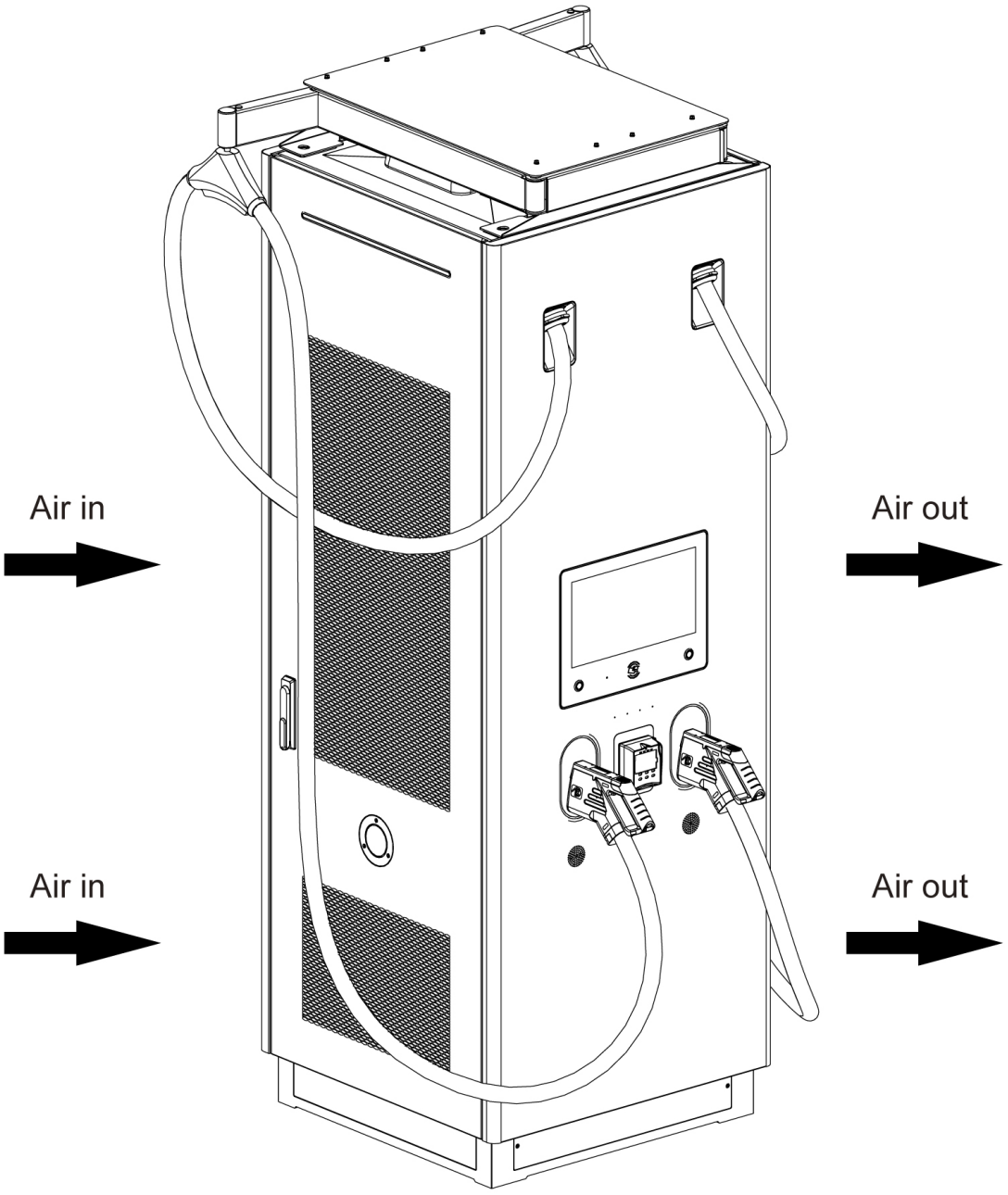


Figure 3-12 Direction of Airflow

3.5 Electrical Diagram

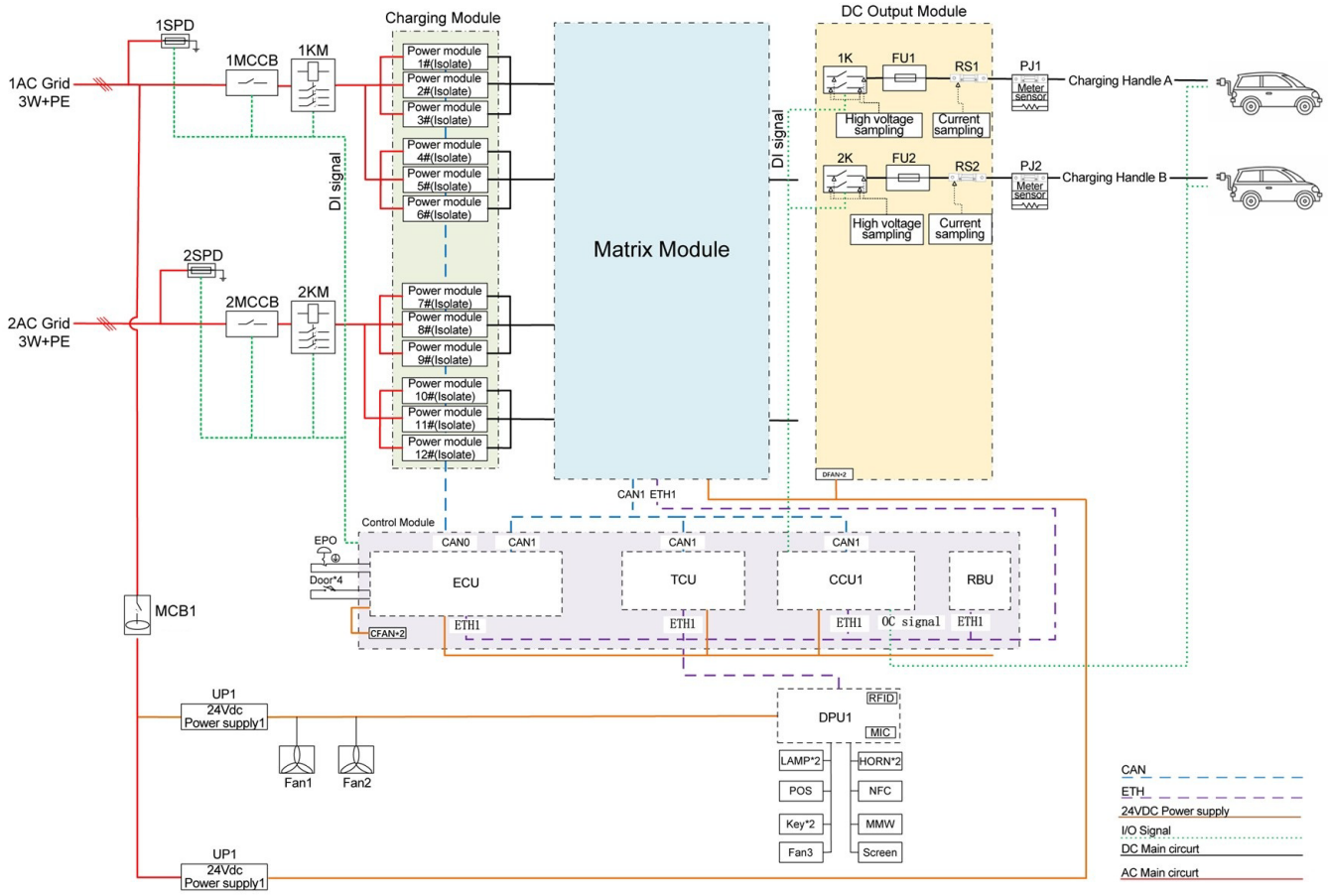


Figure 3-13 Electrical Diagram

4. Preparation

4.1 One-stop Commissioning

➢ Configuration

The commissioning of the MaxiCharger will be completed by the owner or the site operator, the installer, and the commissioning personnel. The steps are as follows.

– The owner or the site operator adds the MaxiCharger, creates the site, configures the MaxiCharger and designates the installation ticket on the Autel Operation and Maintenance Platform (O&M).

– The installer installs the MaxiCharger and conducts an inspection after installation.

– The commissioning personnel synchronizes the configuration to the MaxiCharger using the Autel Config app.

NOTICE

➢ The role of the installer and the commissioning personnel on the Autel Operation and Maintenance Platform (O&M) is **Installer**.

➢ The installation and commissioning of the MaxiCharger can be carried out by different people or by the same person.

---

1. Log in to the Autel Operation and Maintenance Platform (O&M) by inputting the account and the password. The URL of the platform is *https://omcb-us.autel.com*.

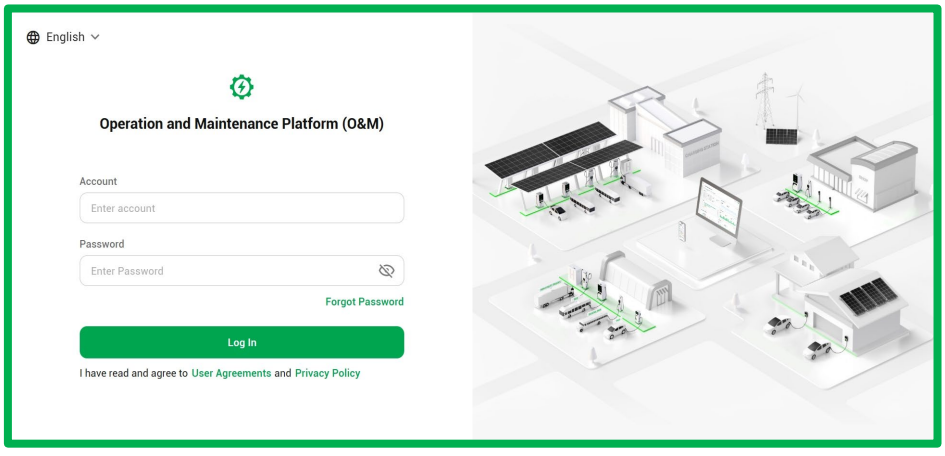


Figure 4-1 Log-in Screen

NOTICE

Autel will assign a merchant account to the customers whose purchase order can be checked in our system. An email with a link to set the password will be sent to the super administrator account created when the merchant account is activated. If you have any questions, contact Autel technical support or your local distributor.

2. Click on the "**person icon**" on the upper left of the screen to enter the User Manager screen.

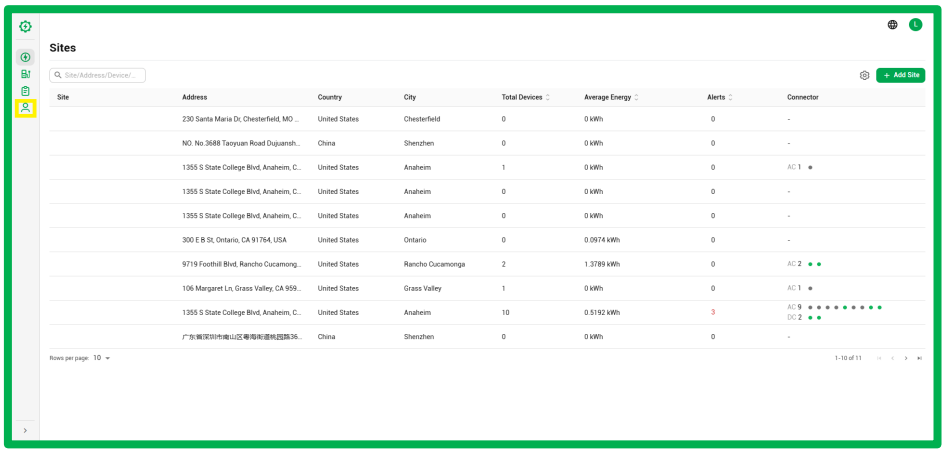


Figure 4-2 Sites Screen (1)

3. On the User Manager screen, click on the "**+ Invite User**" button.

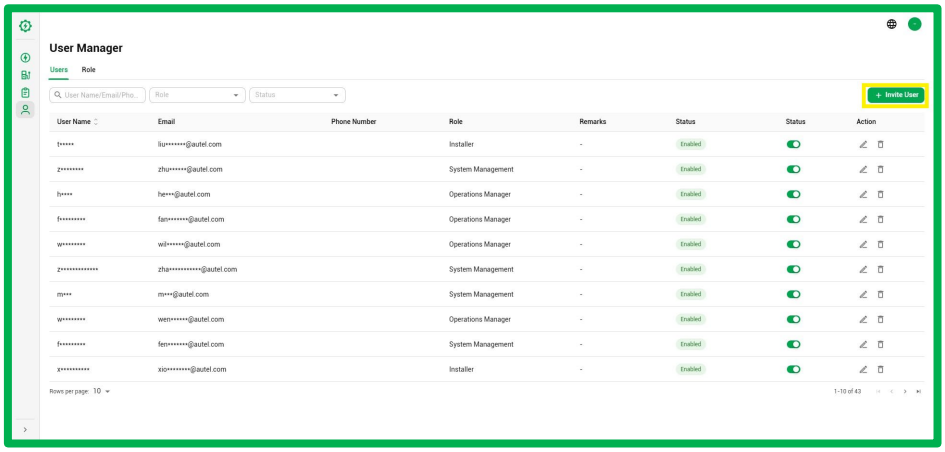


Figure 4-3 User Manager Screen (1)

4. Input the email of the user and select the role. Then click on the **Submit** button to proceed.

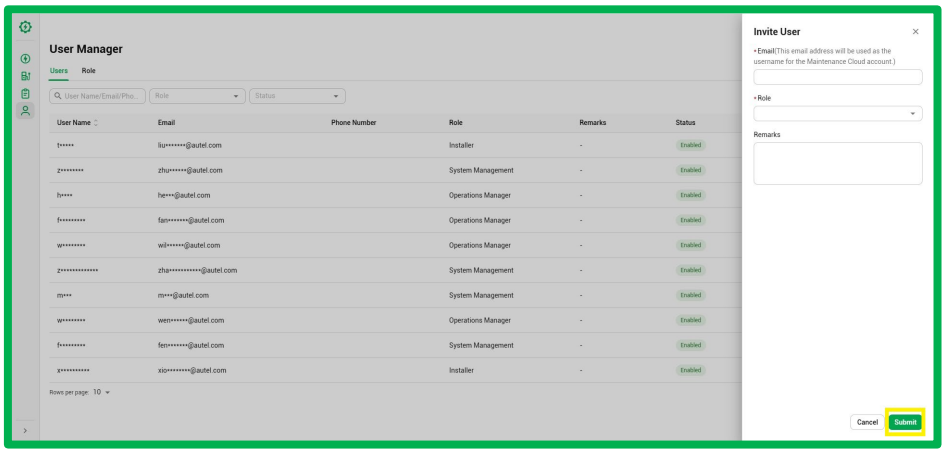


Figure 4-4 Inviting User Screen

NOTICE

- After being invited, the installer will receive an email which offers an access to set the account and the password for logging into the Autel Config app. **The account must be activated for the follow-up operations.**
- If the owner or the site operator does not need to assign any roles for the site, skip **Steps 2** to **4** to proceed.

---

5. Click on the "**MaxiCharger icon**" on the upper left of the screen to enter the Devices screen.

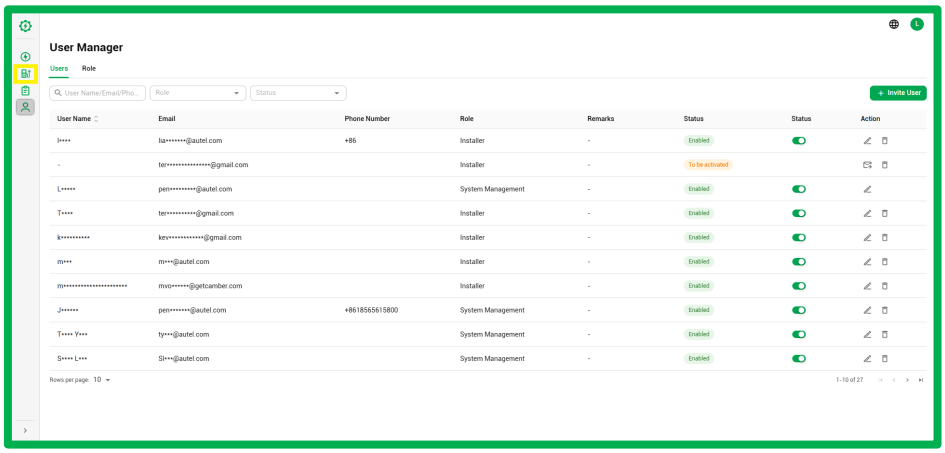


Figure 4-5 User Manager Screen (2)

6. On the Devices screen, click on "**+ Add Device**" on the upper right of the screen.

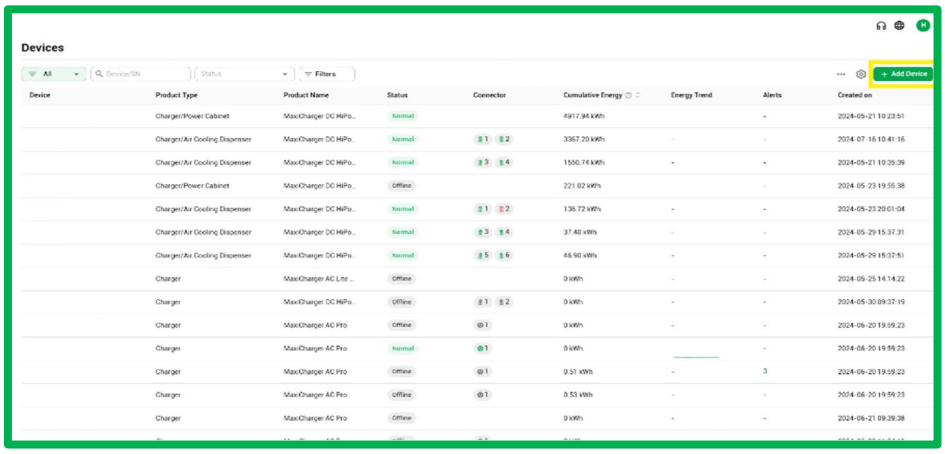


Figure 4-6 Devices Screen

7. Input the SN (serial number) and PIN of the MaxiCharger and then click on the **OK** button to add the MaxiCharger to the Autel Operation and Maintenance Platform (O&M).

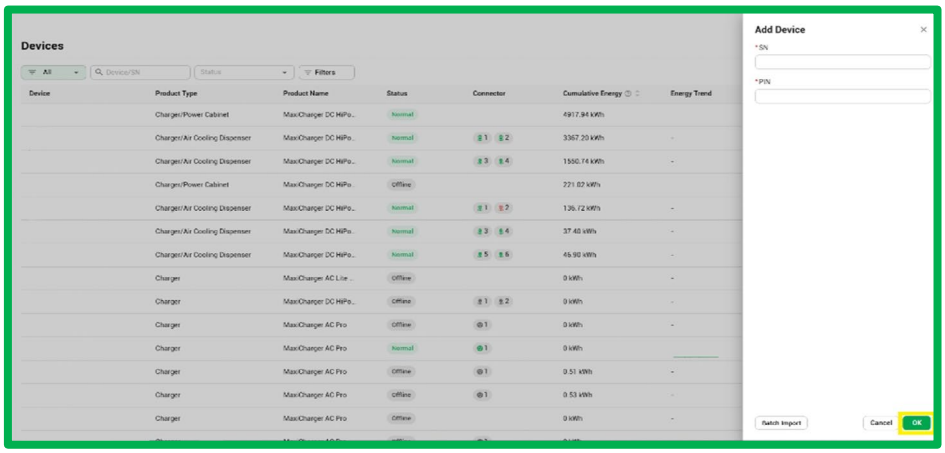


Figure 4-7 Adding Device Screen

NOTICE

Contact Autel technical support to obtain the PIN of the MaxiCharger.

---

8. Click on the "**lightning icon**" on the upper left of the screen to go back to the Sites screen.

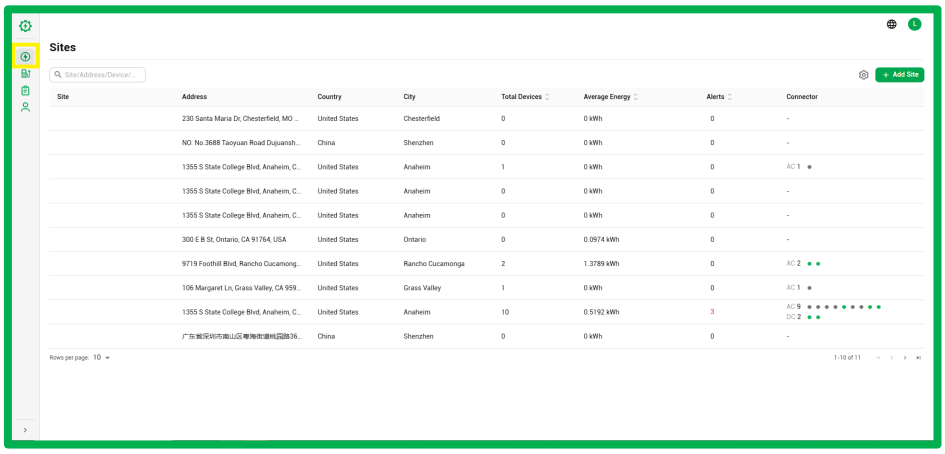


Figure 4-8 Sites Screen (2)

9. Click on the "**+ Add Site**" button on the upper right of the screen. The fields marked with asterisk are mandatory. Then click on the **OK** button to proceed.

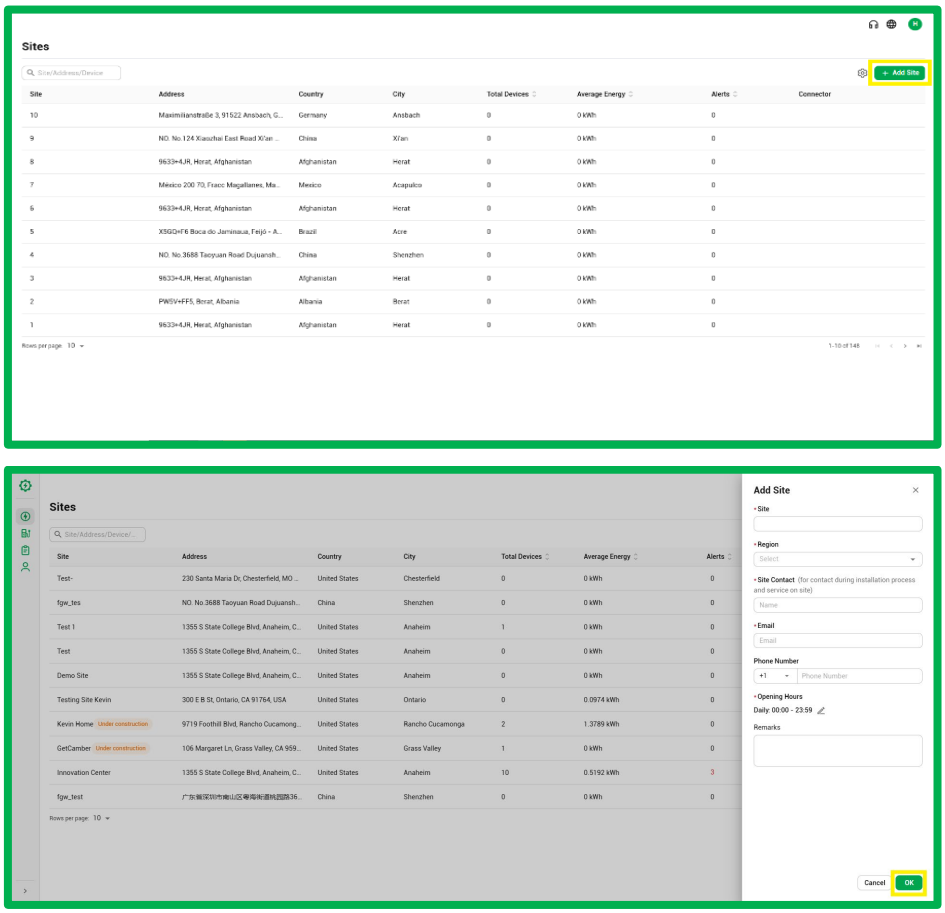


Figure 4-9 Adding Site Screens

NOTICE

With the email left here, you can receive notifications concerning the status of the installation ticket (confirmed or cancelled) and the installation work (started or completed).

10. Click on **Enter Site Creation Guide** to proceed.

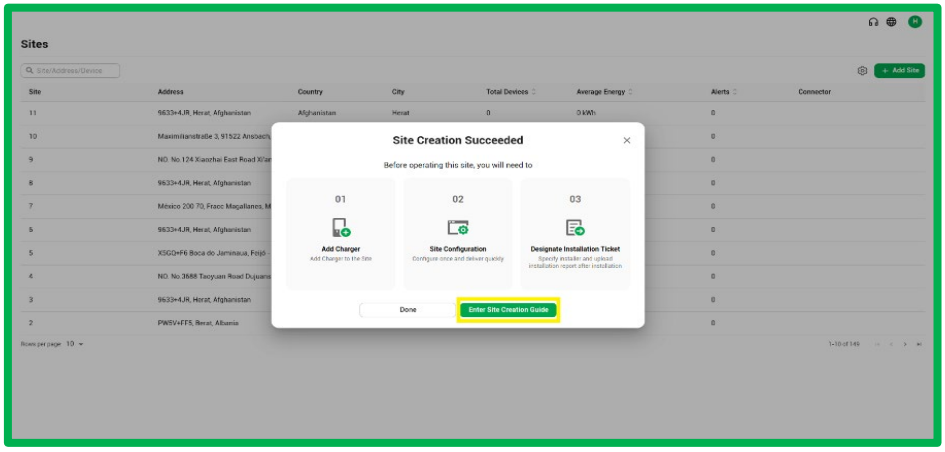


Figure 4-10 Site Creation Succeeded Screen

11. On the Site Creation Guide screen, click the **box** to the left of the SN to select the MaxiCharger as required. Then click on the **Next** button to proceed.

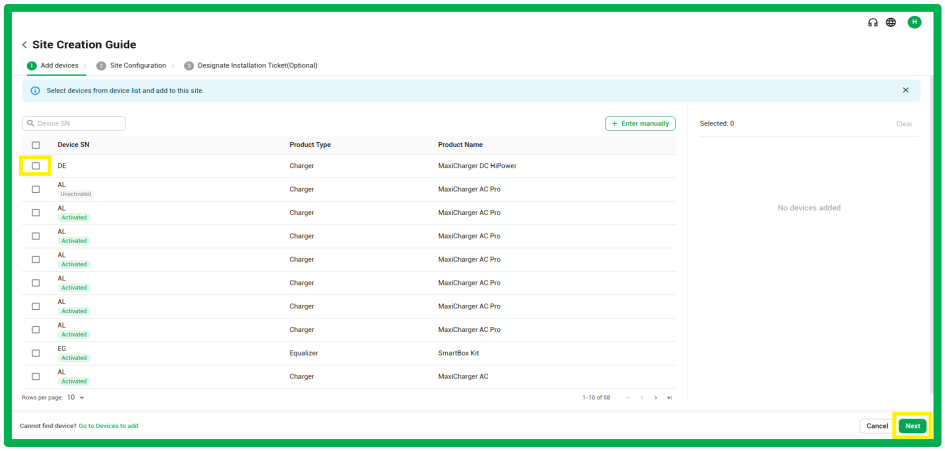


Figure 4-11 Site Creation Guide Screen

12. A prompt will appear. Determine whether to use the existing site configuration.

a) Click on the **No** button to start setting up a new site configuration.

b) Click on **Use And Assign Ticket** to use the existing site configuration. Then skip **Steps 13** to **17** to proceed.

c) Click on the **Yes** button to use the existing site configuration. Then skip **Steps 13** to **17** to continue.

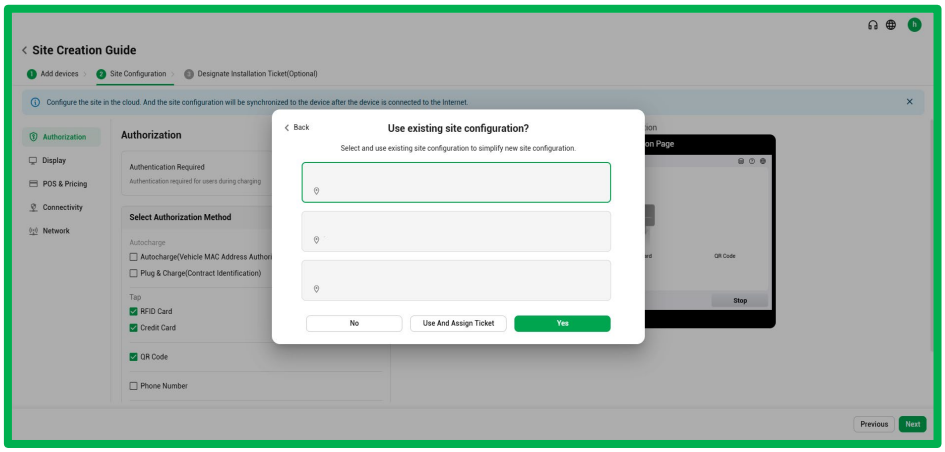


Figure 4-12 Selecting Site Configuration Screen

13. **Authorization Configuration**. Determine whether to enable the authentication function.

a) If the authorization function is not required, insert the connector into the charging port on the EV to start a charge session directly.

b) If the authorization function is required, toggle to enable the Authorization function.

1) Choose any of the following methods to start a charge session by tapping the **box** to the left of it.

- Autocharge
- Plug & Charge
- RFID Card
- Credit Card (optional)
- QR Code on the screen
- Phone Number
- PIN Code

2) Drag and drop the icon of the authorization methods and position them on the screen as required.

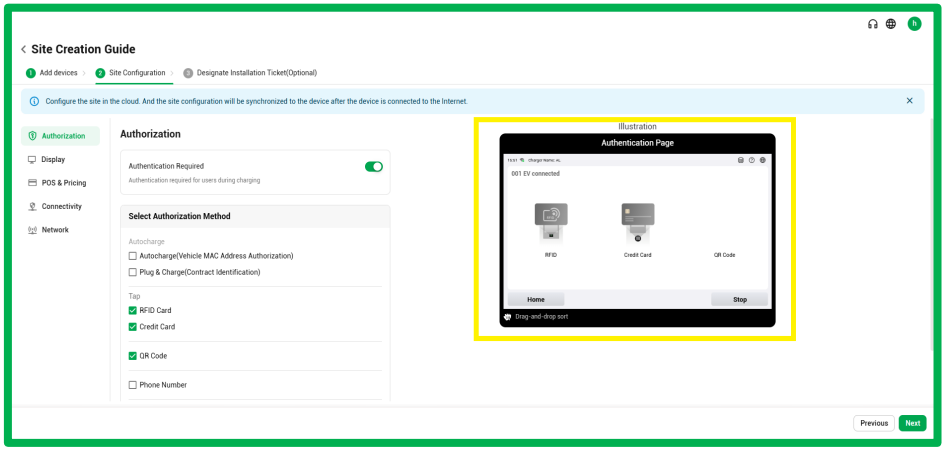


Figure 4-13 Selecting Authorization Methods

3) Add the URL of the items contained in the QR Code for accessing related details of the connector.

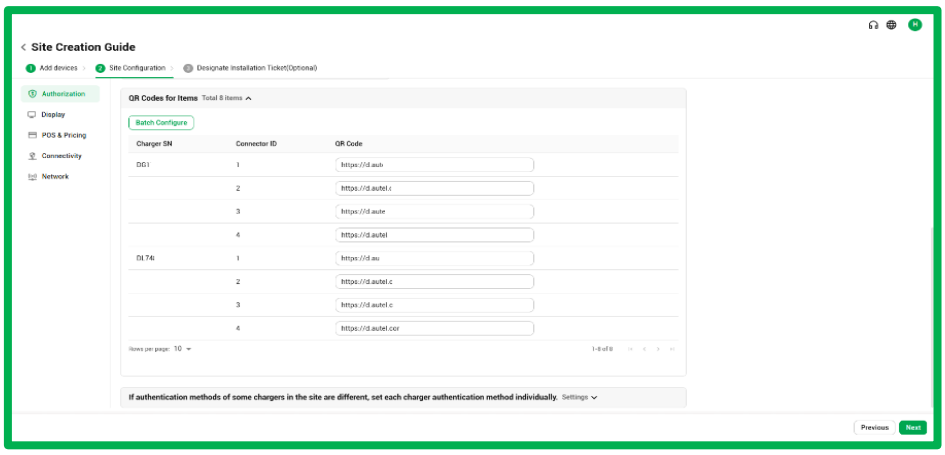


Figure 4-14 Adding the URL Screen

4) If there are more than one MaxiCharger at the site and you want to set the different authentication methods for each MaxiCharger individually, choose the authentication methods as required.

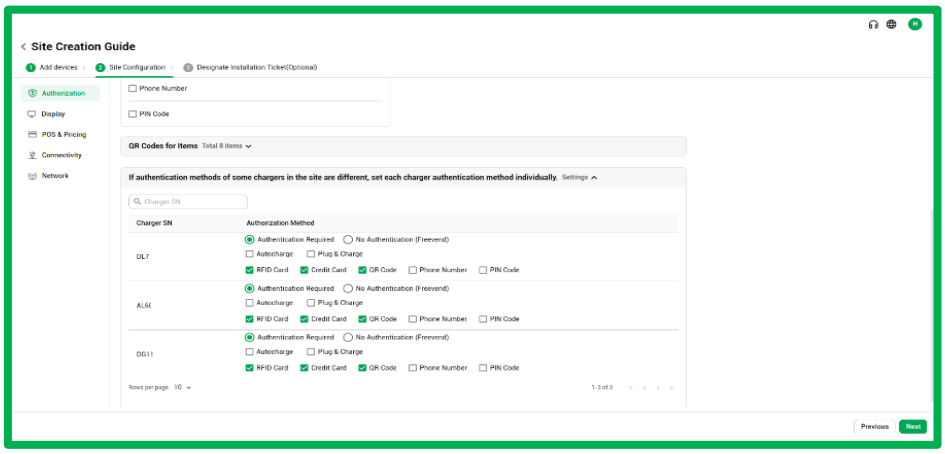


Figure 4-15 Setting the Authentication Method for Each MaxiCharger

NOTICE

For sites with one MaxiCharger, the screen of configuring different authentication methods for different MaxiChargers won't be displayed.

5) Click on the **Next** button to proceed.

14. Display Configuration.

a) Input the customer service hotline and choose where to position it on the standby (Home) screen.

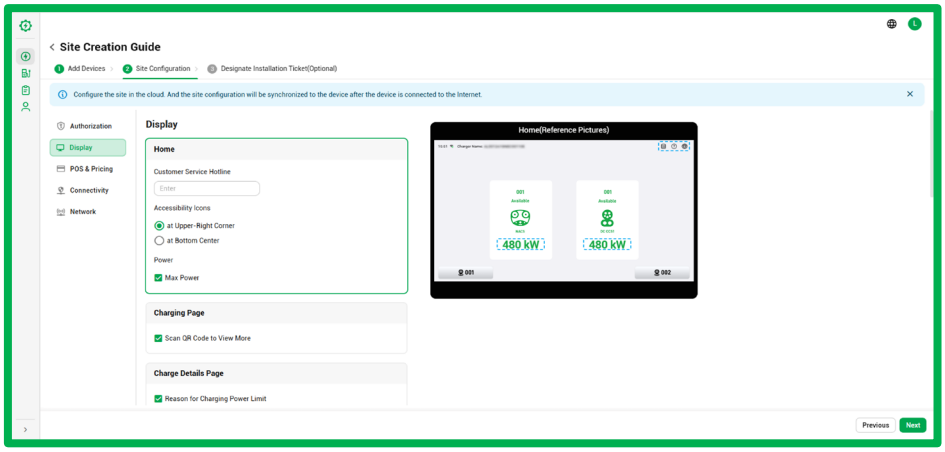


Figure 4-16 Setting the Standby (Home) Screen

b) Choose whether to place the QR Code on the Charging screen for accessing the charging details.

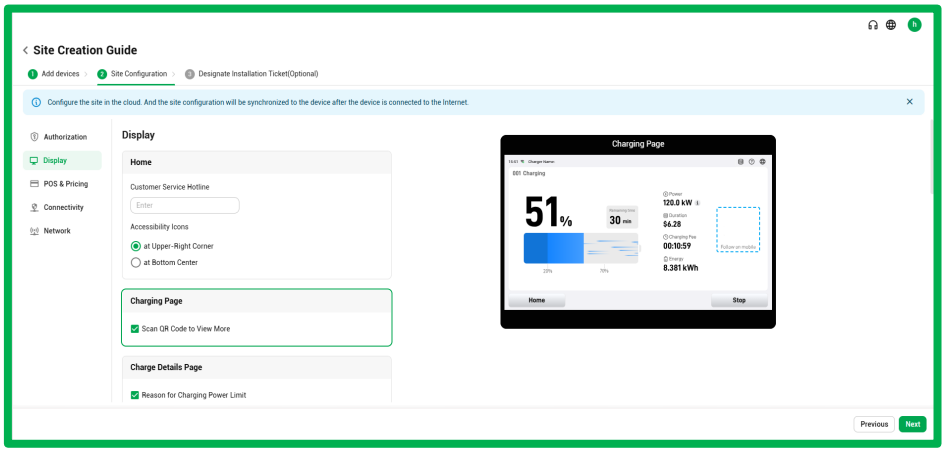


Figure 4-17 Setting the Charging Screen

c) Choose the items you want to display on the Charging Details screen.

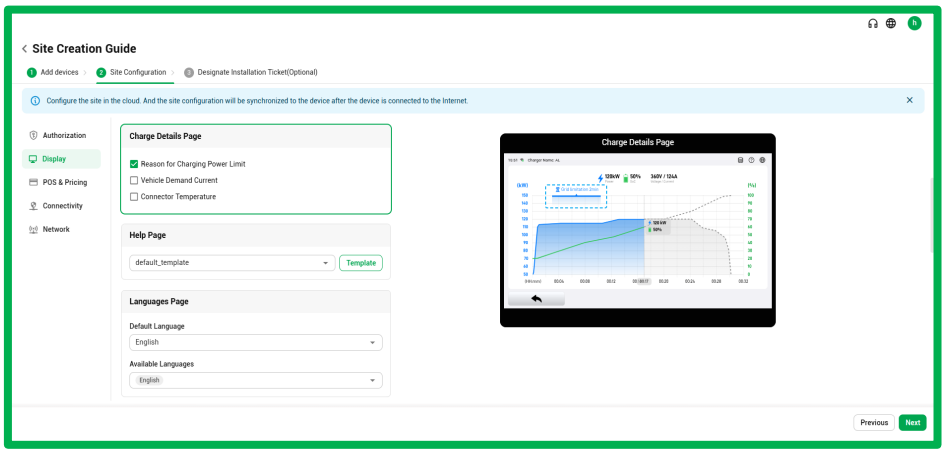


Figure 4-18 Setting the Charging Details Screen

d) Choose the template for the **Help** screen. You can also customize the template as required.

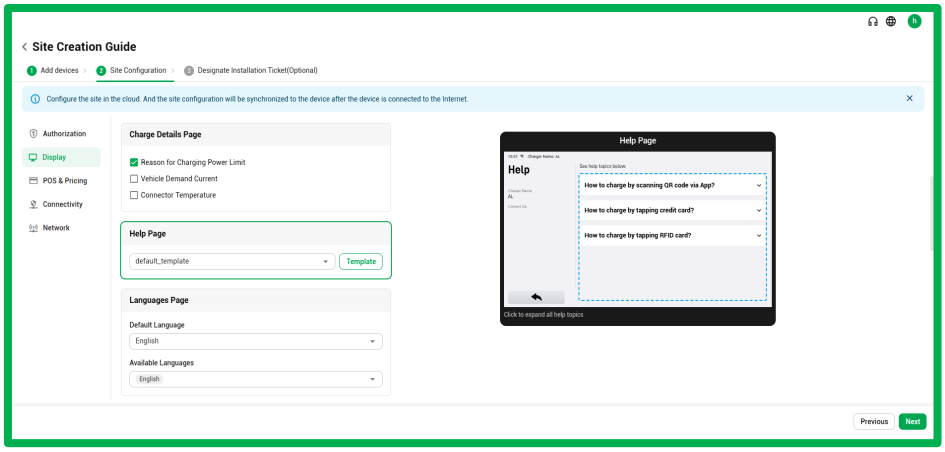


Figure 4-19 Selecting the Template for the Help Screen

e) Set the default language and add available languages for the MaxiCharger.

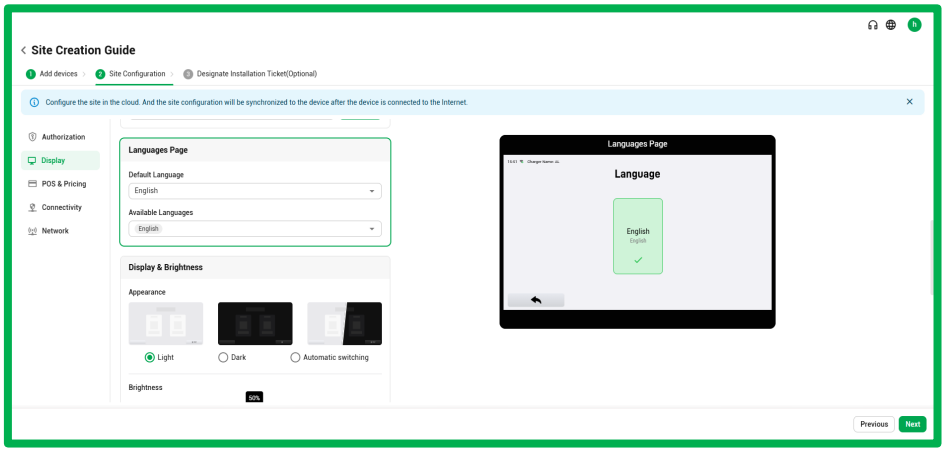


Figure 4-20 Setting the Default Language

f) Select the appearance for the display, set the brightness, and choose whether the MaxiCharger should automatically detect the ambient brightness.

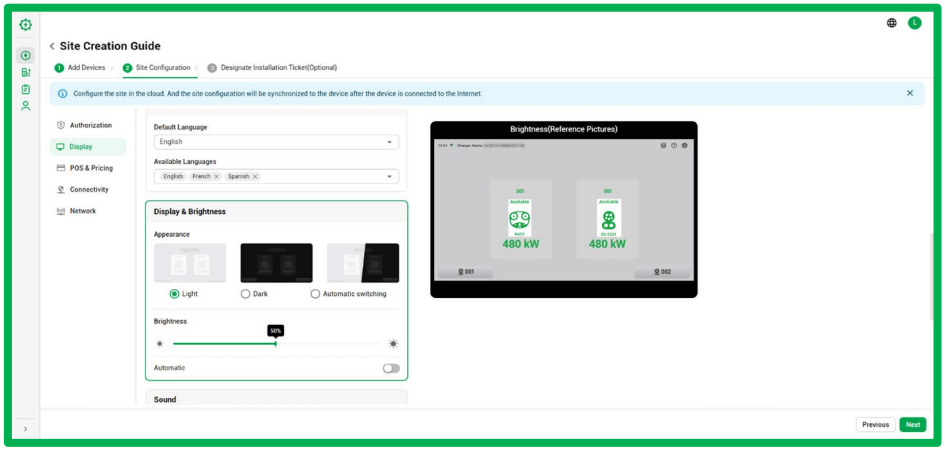


Figure 4-21 Display & Brightness Screen

NOTICE

The brightness can also be adjusted on the MaxiCharger.

g) Choose whether to turn on the charging voice and set the system volume.

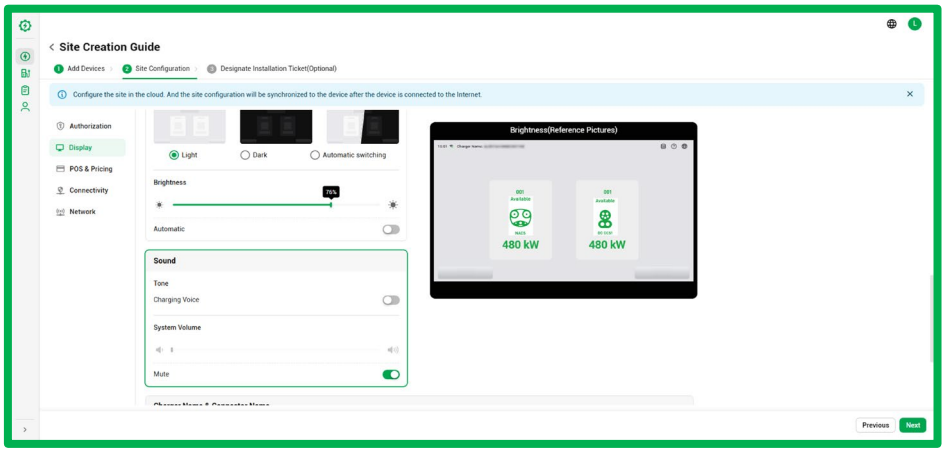


Figure 4-22 Setting the Sound

NOTICE

The volume can also be adjusted on the MaxiCharger.

h) Name the MaxiCharger and the connector.

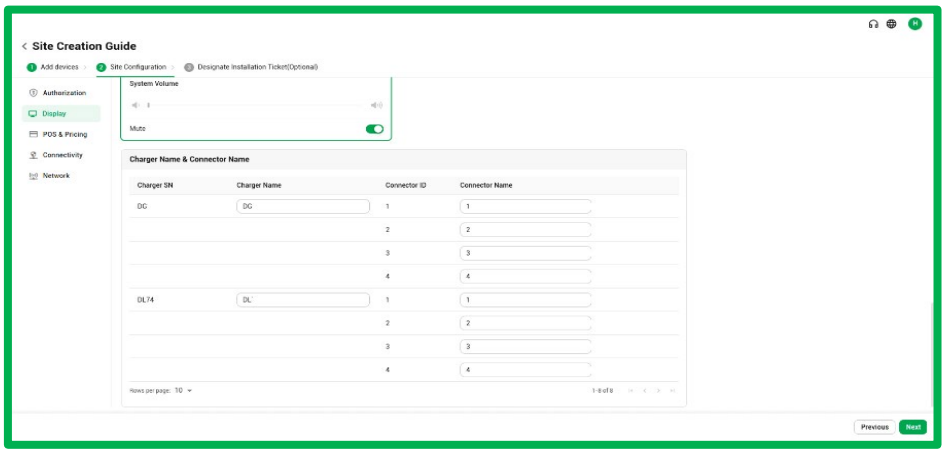


Figure 4-23 Naming the MaxiCharger and the Connector

i) Click on the **Next** button to proceed.

NOTICE

The illustrations on the right of the screens above are only used to demonstrate the pages of these configurations. For real pages, refer to the actual product.

---

15. **POS & Pricing Configuration**. For the Function Mode, you can choose either Local POS or Cloud POS. If you go with Local POS, configuring the pricing rules is needed.

a) Select **Local POS**.

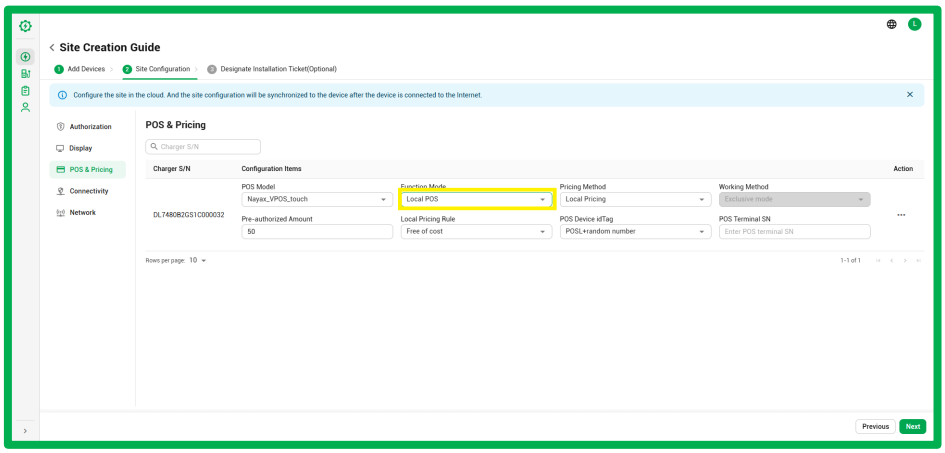


Figure 4-24 POS & Pricing Screen (1)

b) Click **View** to proceed.

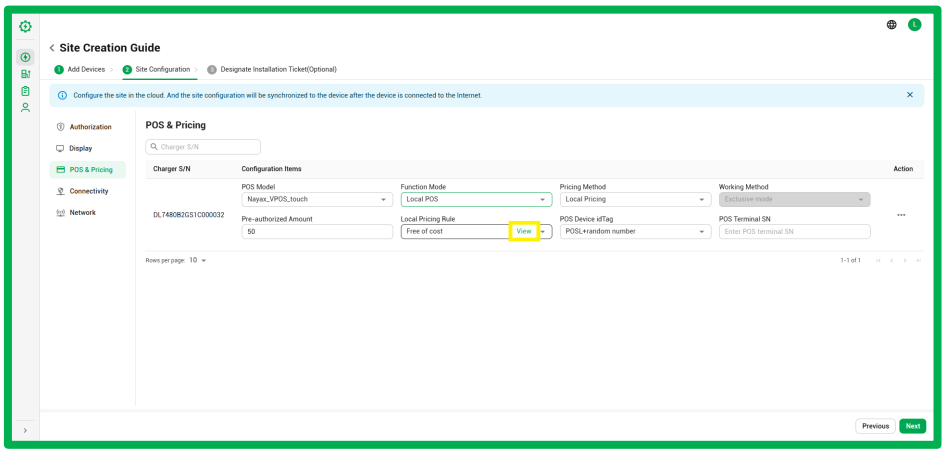


Figure 4-25 POS & Pricing Screen (2)

c) Click **+Add** on the upper right of the screen.

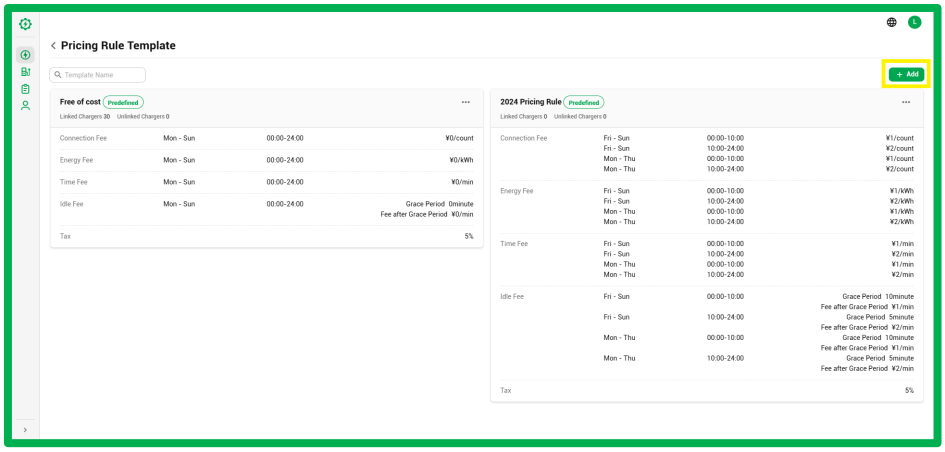


Figure 4-26 Pricing Rule Template Screen

d) Configure the pricing rules according to the on-screen prompts. The fields marked with asterisk are mandatory. Then click **Save** to save the configuration.

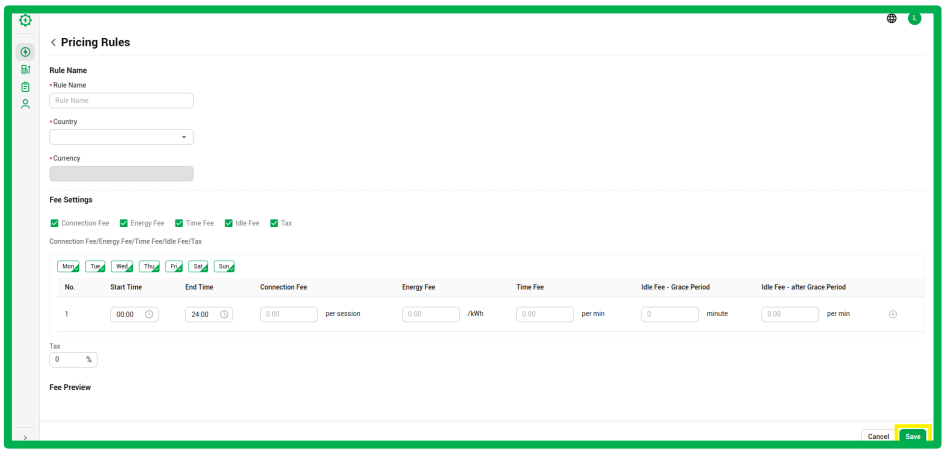


Figure 4-27 Pricing Rules Configuration Screen

16. **Connectivity Configuration**. Choose the OCPP Server for the MaxiCharger and decide whether to set a unique ChargeBox ID and authorization key for each MaxiCharger. Then click on the **Next** button to proceed.

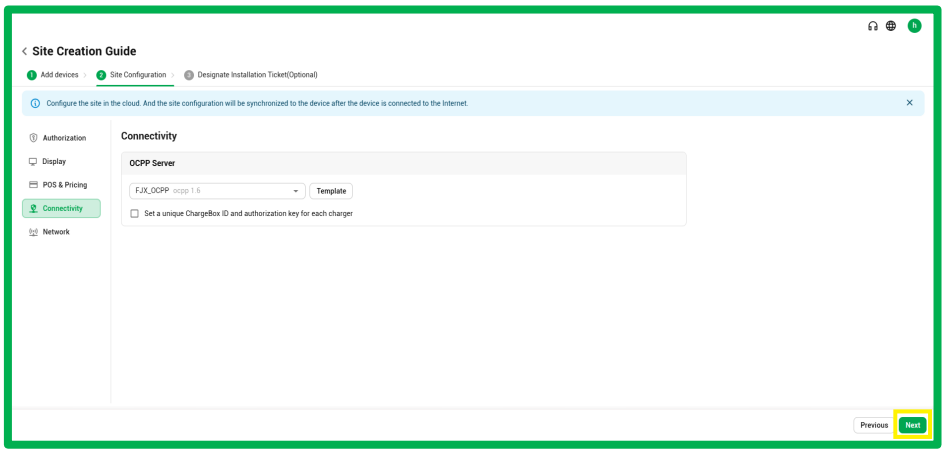


Figure 4-28 Connectivity Configuration Screen (1)

If the OCPP Server you need is not in the list, set the OCPP template for the MaxiCharger:

a) Click on the **Template** button on the screen.

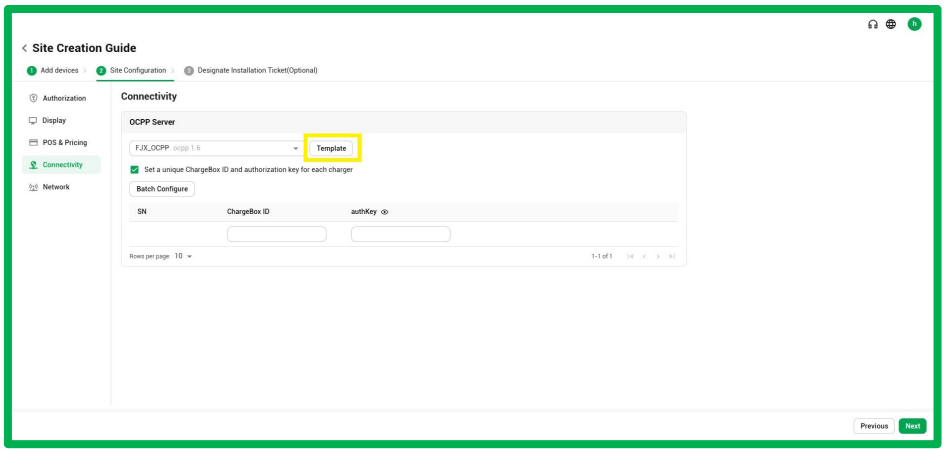


Figure 4-29 Connectivity Configuration Screen (2)

b) Click on the **+ Add** button on the upper right of the screen.

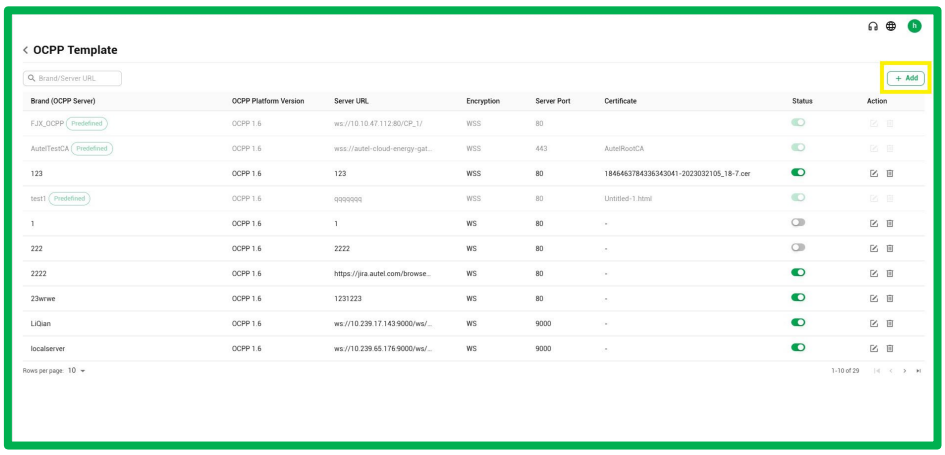


Figure 4-30 OCPP Template Screen (1)

c) Configure the OCPP Server according to the on-screen prompts. Then click on the **OK** button to complete the configuration.

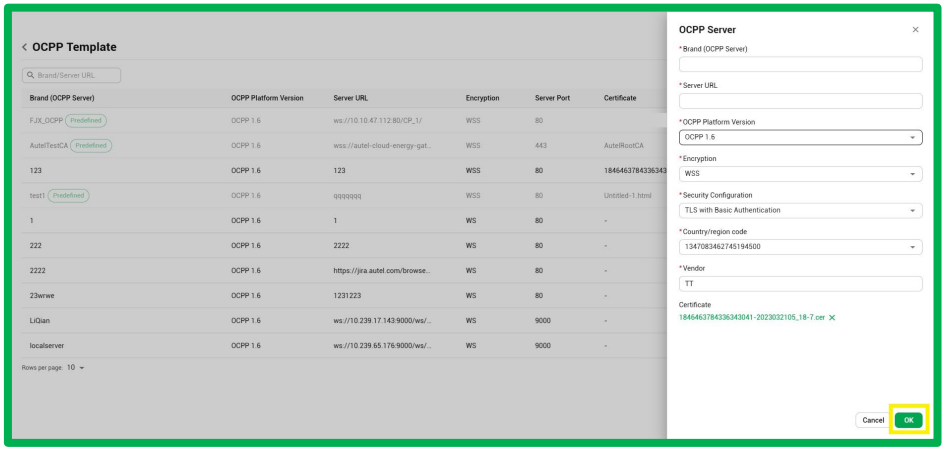


Figure 4-31 OCPP Server Configuration Screen

d) Click on the "**<**" button to go back to the connectivity configuration screen and then click on the **Next** button to proceed.

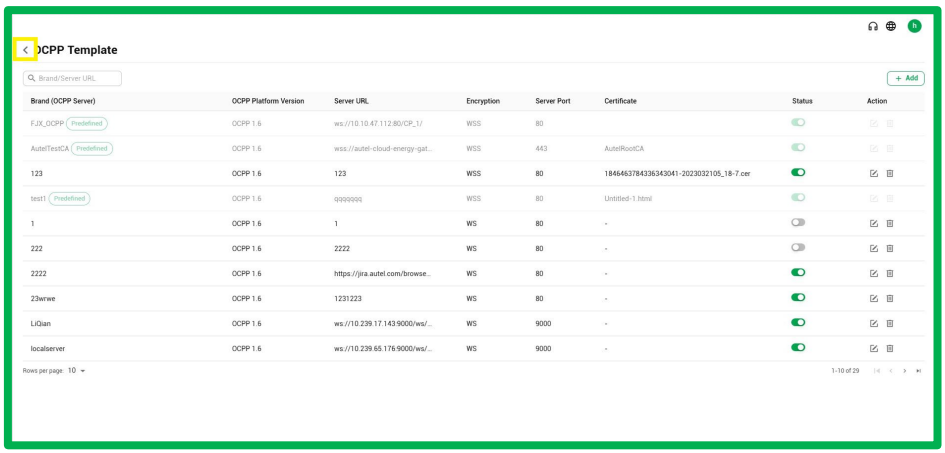


Figure 4-32 OCPP Template Screen (2)

17. **Network Configuration**. The MaxiCharger can be connected to the Internet via Ethernet, cellular network, or Wi-Fi. Choose the desired method for Internet connection.

a) Connect the MaxiCharger to the Internet via cellular network. If the APN of the SIM card used needs to be configured, contact the service provider of the SIM card to obtain the related information of the APN.

1) For Single APN, click on + Add APN and configure the APN according to the on-screen prompts. The fields marked with asterisk are mandatory. Click on **Submit** after finishing the configuration.

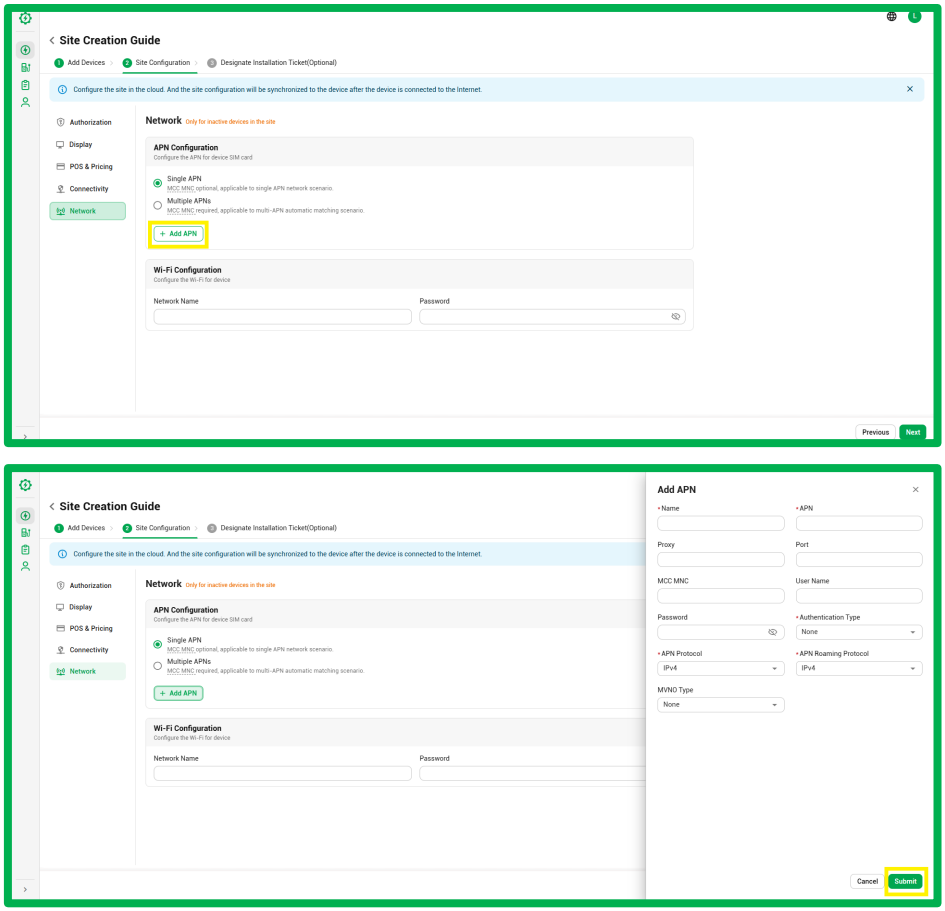


Figure 4-33 Configuring Single APN Screen

2) For Multiple APNs, click on + Add APN and configure the APN according to the on-screen prompts. The fields marked with asterisk are mandatory, **especially the MCC MNC of the SIM card used for connecting the MaxiCharger to the Internet**. Click on Submit after finishing the configuration.

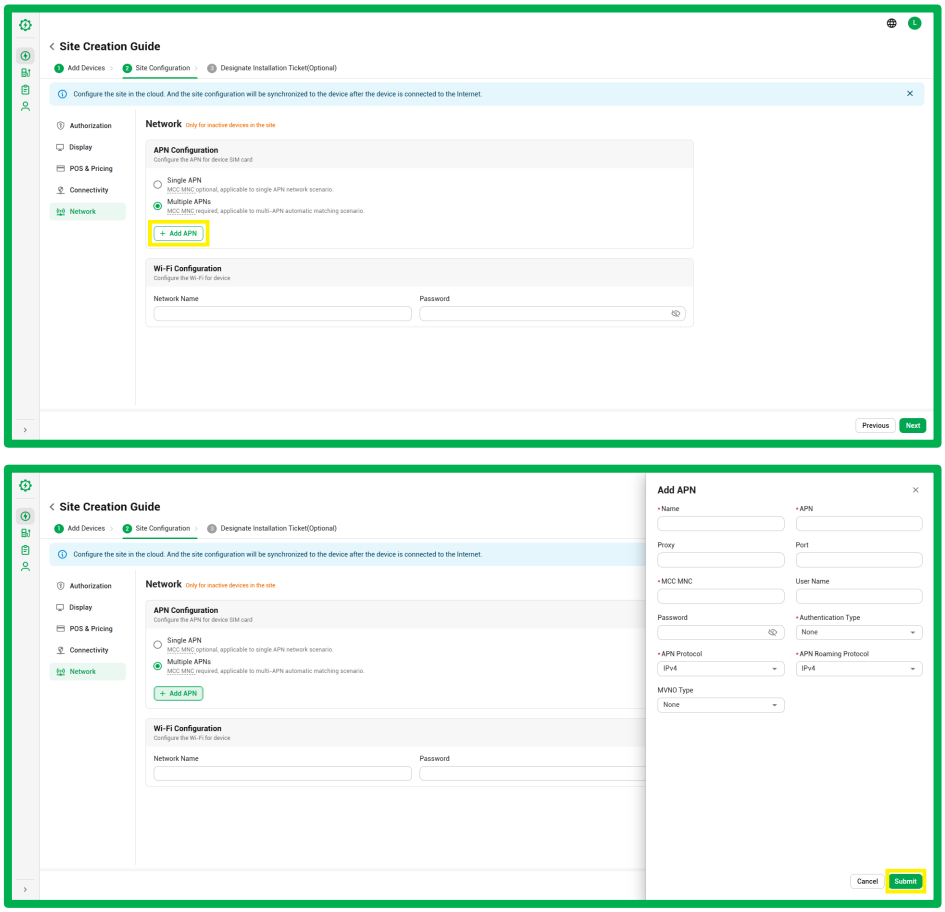


Figure 4-34 Configuring Multiple APNs Screen

b) Configure the Wi-Fi for the MaxiCharger by inputting the network name and its password. Then click on the **Next** button to proceed.

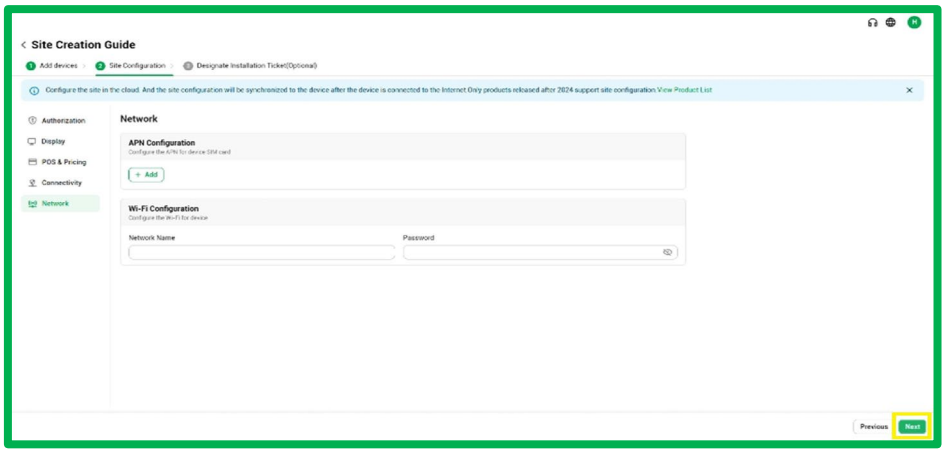


Figure 4-35 Configuring the Wi-Fi Screen

NOTICE

For devices connected to the Internet via Ethernet or cellular network that does not need APN configuration, there is no need to scan the QR code with the Autel Config app to synchronize the configuration. After the devices are powered on and connected to the Internet, the configuration will be automatically synchronized, leading to automatic activation of the devices.

18. Select installation time and installation technician for **Installation Process**, and on-site time and installation technician for **Configuration Activation** as well. The technicians who can be selected are users invited before. Then click on **Save and Create Ticket** to designate the installation ticket.

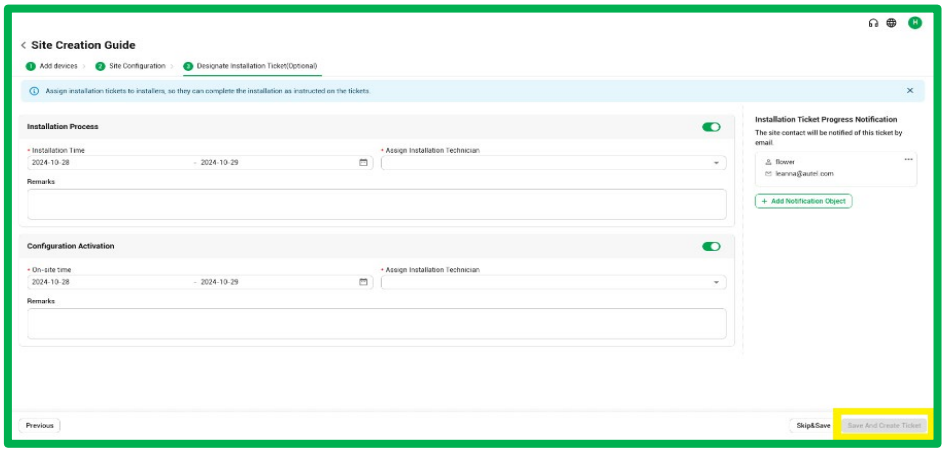


Figure 4-36 Designating Installation Ticket Screen

NOTICE

- Installation Process and Configuration Activation are included in the same installation ticket.
- After the installation is completed, refer to section *6.4* to synchronize the configuration to the MaxiCharger.
- If the site includes both the MaxiCharger DH480 and AC MaxiChargers, the “Load Balancing” function will be displayed on the Autel Operation and Maintenance Platform (O & M).

4.2 Installation Site Design

An installation site design is prerequisite for determining conduit and wiring requirements from the panel to the proposed parking spaces, as well as for measuring cellular signal strength and identifying suitable locations for any necessary cellular signal booster equipment.

CAUTION

Always check local codes or consult an engineer to ensure the site is prepared in accordance with all applicable regulations. Local authorities might not permit a unit to operate if it is not installed to code.

DANGER

The EV charging equipment must be kept at a safe distance from any potential explosive environment.

General installation site design procedure:

1. Select a suitable site. Refer to *4.2.1 Location Requirements* and *4.2.2 Space Requirements.*
2. Prepare the foundation for the cabinet. Refer to *4.2.3 Foundation Requirements.*
3. Complete the electrical design. Refer to *4.2.4 Electrical Design.*
4. Prepare the cables, including the AC input cable, PE cable, Earth cable, and Ethernet cable (if no cellular network is available).
5. Ensure that the cable slack is sufficient to guide the cables into the cabinet.

NOTICE

- Consider the bending space of the cables when installing the equipment near walls. The cables enter the cabinet from the bottom.
- Ensure the maximum opening of the cabinet inlet can sufficiently fit all cables.
- The length of the Ethernet cable should not exceed 328 ft. (100 m).
- The lightning protection design of the installation site must comply with local rules.

4.2.1 Location Requirements

- Ensure the MaxiCharger's installation location can sufficiently reach the parked EV with the chosen charging cable length.
- Take into account the limited reach of a wheelchair user.
- Determine appropriate ground anchoring locations where concrete exists or can be installed (no asphalt surfaces).
- If the equipment is to be installed indoor, contact Autel technical support to verify the location and ensure the air flow is sufficient.
- Consider locations where it is easy to add stations in the future.
- Determine optimum conduit layout to minimize costs of linear conduit among multiple parking spaces. If possible, avoid or minimize trenching requirements.
- Evaluate existing electrical infrastructure to determine if the existing utility service and electrical panel capacity are sufficient. Identify costs for any necessary upgrades and/or a new dedicated electrical panel. A certified electrician or project engineer is highly recommended when it comes to evaluating available capacity and identifying required upgrades.
- If a dedicated EV electrical panel is required, choose a panel location in close proximity to the existing electrical supply.
- Measure cellular signal strength to ensure adequate cellular coverage at the installation site. Cellular repeaters may be required for underground or enclosed parking structures to ensure adequate signal strength.
- Avoid locations under trees where sap, pollen or leaves may fall on the MaxiCharger to decrease the station's maintenance requirements.
- Perpendicular parking stalls are recommended to allow a vehicle to enter front-first or rear-first, accommodating the various charging port locations on different EV's.

NOTICE

While Autel tests the MaxiCharger with a majority of upcoming vehicles, we cannot guarantee the port locations of future vehicles and cannot warrant the configurations proposed will work for all vehicles.

- Choose adjacent parking spaces in an area with adequate lighting.
- Consider how easily drivers can find the stations they need to access.
- Check local requirements for accessibility and pathway width, sometimes called "path of travel", to ensure station placement does not restrict sidewalk use.

4.2.2 Space Requirements

There are two scenes of space requirements:

1. If all the four doors could be opened, the space requirements are as below:

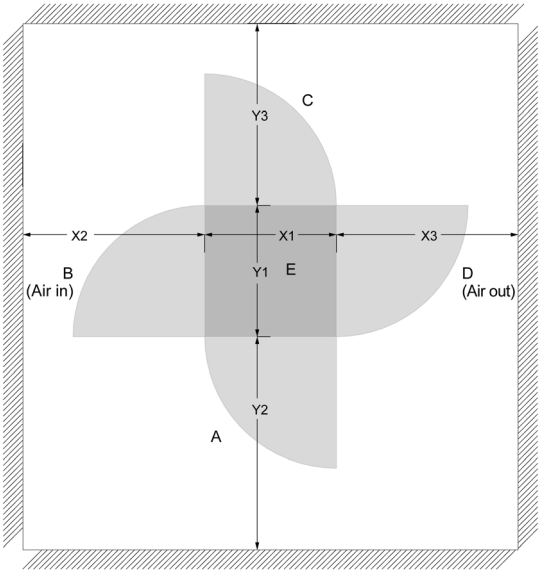


Figure 4-37 Space Requirements

A. Front side of the MaxiCharger

B. Left side of the MaxiCharger

C. Rear side of the MaxiCharger

D. Right side of the MaxiCharger

E. Cabinet

Table 4-1 Space Specifications

Parameter	Specification	
	in	mm
X1	30.8	782
X2	≥78.7(recommended)	≥2000(recommended)
X3	≥78.7(recommended)	≥2000(recommended)
Y1	30.8	782
Y2	51	1300
Y3	39.4	1000

2. In the scenes of installation, there is no need to open the rear side door of the MaxiCharger. The space requirements are as below:

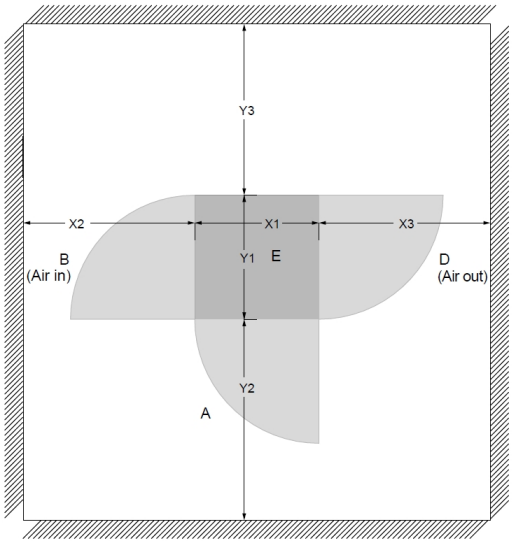


Figure 4-38 Space Requirements

A. Front side of the MaxiCharger

B. Left side of the MaxiCharger

D. Right side of the MaxiCharger

E. Cabinet

Table 4-2 Space Specifications

Parameter	Specification	
	in	mm
X1	30.8	782
X2	≥78.7(recommended)	≥2000(recommended)
X3	≥78.7(recommended)	≥2000(recommended)
Y1	30.8	782
Y2	51	1300
Y3	19.7	500

NOTICE

≥ 78.7in (≥ 2000mm) in the *Table 4-1&Table 4-2* indicates the requirement of Cabinet heat dissipation.

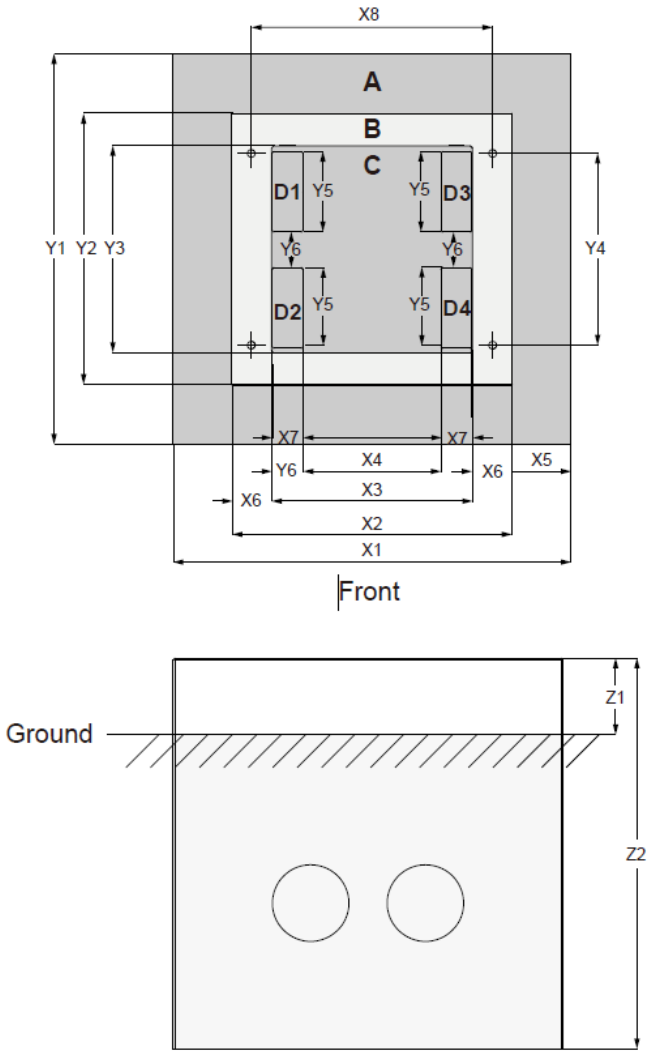
The space requirements for opening the Left side door and Right side door are 38in (970 mm).

If the installation space does not meet the requirements above, contact Autel technical support.

4.2.3 Foundation Requirements

1. Prepare the cable well according to the foundation dimensions below. The recommended foundation dimensions are: 40.9 x 40.2 x 40.2 inches (1040 x 1020 x 1020 mm) (L x W x H).

2. Prepare the cable and the foundation well as recommended below.



A. Foundation **B.** Power Cabinet **C.** Cable Well **D1-D4.** Cable Opening of the Power Cabinet

Figure 4-39 Power Cabinet Foundation

Table 4-3 Power Cabinet Foundation Specifications

Parameter	Specification	
	inch	mm
X1	40.9	1040
X2	28.8	731
X3	20.7	525
X4	14.2	361
X5	6.1	155
X6	4	103
X7	3.1	80
X8	24.8	630
Y1	40.2	1020
Y2	27.9	709
Y3	21.2	540
Y4	19.7	500
Y5	8.3	210
Y6	3.7	93
Z1	0-7.9	0-200
Z2	40.2	1020

Table 4-4 Cable Opening Layout Descriptions

Number	Description
D1, D2	AC input cable for power cabinet
D3, D4	Reserved

NOTICE

- Find the four M16 x 200 expansion bolts from the package and remove the nuts and gaskets from them. Set the nuts and gaskets aside. Then embed the four bolt bodies when pouring the concrete into the foundation. The bolt bodies should be 2.4 inches (60 mm) above the surface.

- Apart from using the dimensions mentioned above, the drilling template in the package can also be used to locate the mounting holes on the MaxiCharger's foundation.
- When placing the foundation into the cable well, the surface of the foundation should be level with the ground. But in low-lying areas, or if the installation area experiences frequent water accumulation, the surface of the foundation should be more than 7.9 inches (200 mm) above the ground.

4.2.4 Electrical Design

The MaxiCharger requires underground wiring. The size of conduit and wire is based on the length of runs from the electrical panel to the installation site. The wiring must be run through the conduit or ducting, or armored cable must be used to comply with local electrical codes. Consult the national and local codes or a service engineer for the quality, grade, and size of the conduit or cable.

When the Type 1 or Type 1 + Type 2 surge protection device is not installed at the service panel and the MaxiCharger, the entire power supply line and the MaxiCharger should not be directly exposed to the lightning protection zone (LPZ0A).

The table below describes the recommended cable length reserved above the surface of the foundation to the cabinet.

Table 4-5 Recommended Cable Length Reserved

No.	Cable Connection	Cable Length
1	AC input cable	20.5 in (520 mm)
2	PE cable	12.6 in (320 mm)
3	Earth Cable	12.6 in (320 mm)
4	Ethernet cable	28.3 in (720 mm)

4.2.4.1 Use of RCD

Ensure the residual current device (RCD) is installed between the upstream supply and the MaxiCharger (**particularly for the TT network, the RCD must be installed**), and the grounding system must comply with NFPA70. The following settings are recommended:

1. Type: A, F or B (the latter two are preferred)
2. Trip threshold: 300 mA
3. Trip delay: 150 ms

4.2.4.2 Grounding Requirements

Ensure that a grounding conductor that complies with NFPA70 is properly grounded to earth at the service equipment.

4.2.4.3 Wiring Requirements

- Refer to *Table 5-1 AC Input Specifications* for recommended wire gauges. For other requirements of the wire gauges, refer to NFPA70.
- Refer to *Chapter 8 Technical Specifications* of the MaxiCharger to ensure that the service wiring at the installation location supports the MaxiCharger power requirements.

4.3 Unpacking

1. Autel recommends that you move the cabinet to the installation site using a forklift and unpack them there. Ensure the forks (**A**) of the forklift truck in the gaps go through the gaps in the side of the pallet.

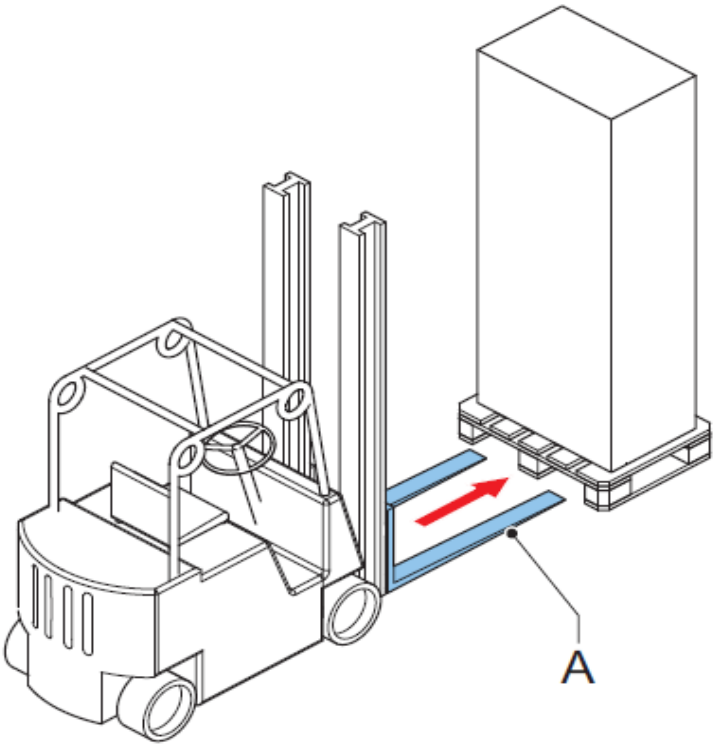


Figure 4-40 Transporting the Cabinet by Forklift

WARNING

Risk of pinching or crushing. Heavy Equipment.

- Ensure that the hoisting equipment or forklift truck can lift the cabinet safely.
- Obey the safety instructions that apply to the hoisting equipment or forklift truck.
- Take into account the dimensions, mass, and center of gravity of the MaxiCharger.

CAUTION

- **DO NOT** drop the cabinet or subject it to strong impact.
- Ensure that there is no dynamic force on the hoisting points.

2. Check the tilt and inversion indicators and Shockwatch.

- Observe the sensors attached to the package for the degree of the tilt or complete overturn. If the sensors demonstrate over **30°** of tilt or total overturn, note on the bill of lading and inspect the product.
- If the Shockwatch displays red, contact Autel customer service and the delivery personnel, and then inspect the product for any damage. Do not accept the delivery until the inspection is completed and no damage is found.

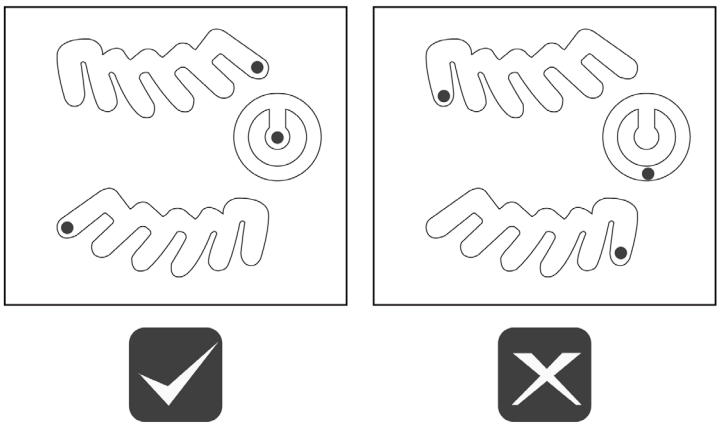


Figure 4-41 Tilt and Inversion Indicators

3. Remove the outside packaging and interior protection materials using appropriate tools.

4. Inspect the MaxiCharger and the parts for installation for damage. If you find damage or that the parts are not consistent with the order, contact your local dealer.

5. Ensure that all parts are delivered according to the order.

4.4 Packing List

NOTICE

The product offers a choice between a 15.6-inch and a 27-inch touchscreen. Please refer to actual product.

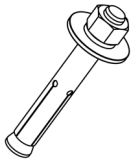
MaxiCharger

1 PC

Expansion Bolt

(M16 x 200)

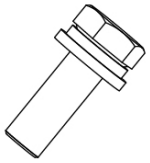
4 PCS



Combination Screw

(M12 x 40)

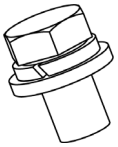
6 PCS



Combination Screw

(M12 x 25)

4 PCS



Flange Nut (M12)

6 PCS

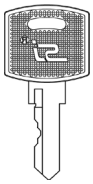
Combination Screw

(M6 x 16)

2 PCS

Cabinet Door Key

4 PCS

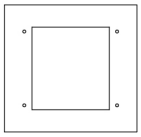


Lifting Eye Bolt (M20)

4 PCS

Drilling Template

1 PC



Jumper

1 PC

TR25 Torx Screwdriver

1 PC

Packing List

1 PC

4.5 Recommended Tools

The following tools are recommended when installing the MaxiCharger.

- Multimeter
- Voltage Tester
- Tape Measure
- Brush
- Cellular Signal Detection Device
- Wire Stripper
- Cable Lug
- Crimping Plier
- Power Drill
- 0.8’’ (20 mm) Drill Bit
- Phillips Screwdriver
- Flathead Screwdriver
- Socket Wrench (M6: 10 mm/M12: 18 mm/M16: 24 mm/M20: 30 mm)
- Fireproof Mortar

NOTICE

- The tools mentioned above are not part of the delivery. Ensure the professional personnel have all the listed tools for installation.
- This tool list does not necessarily include all the tools you may need.

5. Installation

5.1 Before Installing

Prior to installation, check the following:

- The installation site is prepared.
- Appropriate service wiring, circuit protection, and metering are in place at the installation site.
- A grounding conductor that complies with local codes is properly grounded to earth.
- The cellular coverage at the installation site should be consistently strong when you choose to communicate over cellular network for the MaxiCharger. Repeaters are often required when you install the MaxiCharger in an underground environment such as an underground garage or an enclosed parking space.
- There is enough space available around the installation site to accommodate using a forklift or other lifting equipment, to unpack, and to allow people to work around freely.
- All the parts and tools are available.

CAUTION

A supplement surge protection breaker must be installed at the service panel if the installation area experiences frequent thunderstorms.

General Installation Procedure:

1. Install the cabinet. Refer to *5.2 Installing the Cabinet*.
2. Complete the electrical wiring. Refer to *5.3 Electrical Wiring*.
3. Connect the MaxiCharger to the Internet. Refer to *5.4 Connecting to the Internet*.
4. Finish the installation. Refer to *5.5 Finishing Installation*.

5.2 Installing the Cabinet

There are two ways to move the cabinet to the foundation:

- Forklift
- Hoist

5.2.1 To Use the Forklift

WARNING

Ensure all the doors are locked before operating the MaxiCharger.

NOTICE

When moving the equipment to the site using the forklift, **ensure the forks of the forklift go through the gaps of the front and rear bases**.

STEP 1

1. Pull the charging cable hanging on the left to the right and that hanging on the right to the left to stretch out the CMS. Then use the cabinet door key to open the left and right doors.

2. Remove the eight screws (**A**) using the TR25 Torx screwdriver or a Phillips screwdriver to remove the front, rear, left, and right base covers. **Set them aside**.

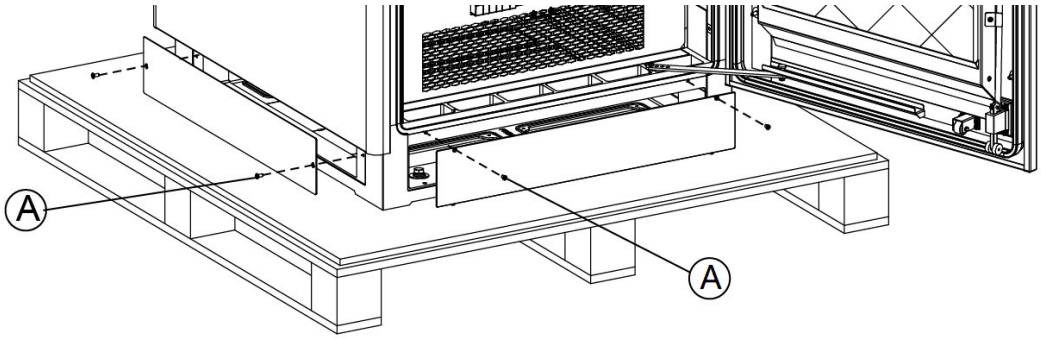


Figure 5-1 Removing the Base Covers

3. Remove the cabinet from the pallet by removing the bolt (**A**), spring washer (**B**), steel gasket (**C**), and nylon gasket (**D**) using an M12 socket wrench.

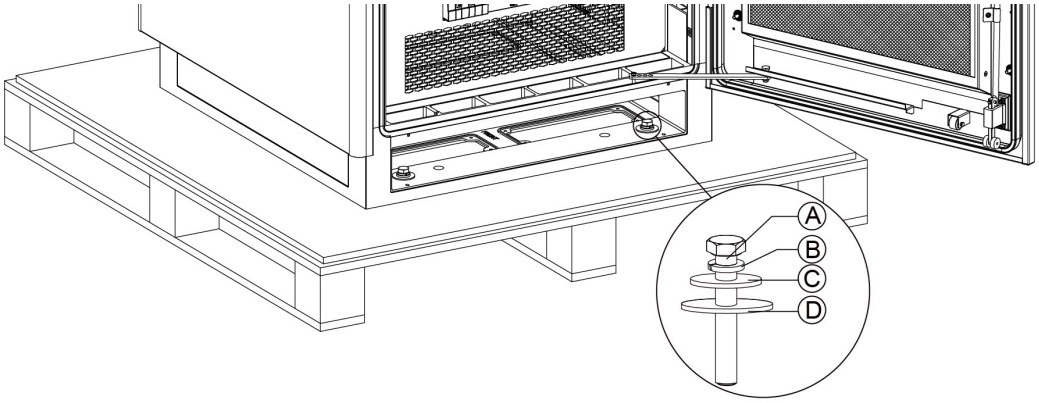


Figure 5-2 Removing from the Pallet

STEP 2

1. Lift the limit linkage with foot to close the left and right doors.

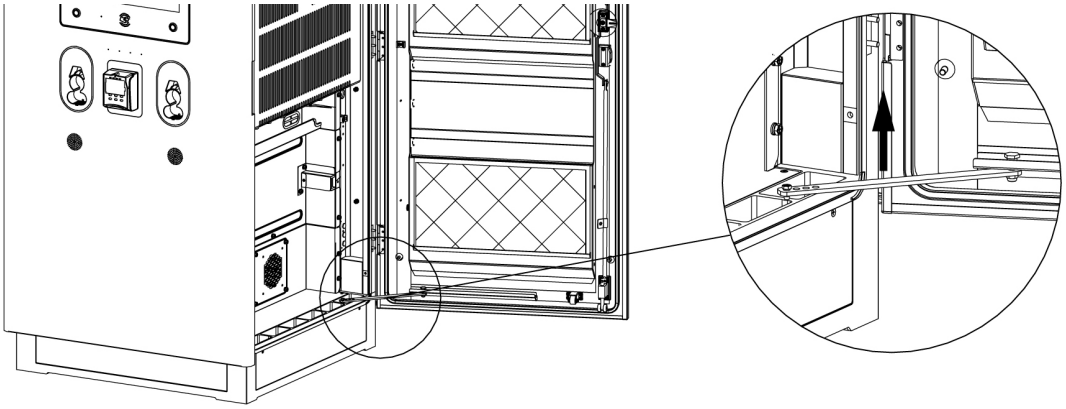


Figure 5-3 Lifting the Limit Linkage

2. Use the forklift to move the cabinet to the site. **Ensure the forks of the forklift go through the gaps of the front and rear bases**.

STEP 3

1. Carefully lower the cabinet approximately 19.7 inches (500 mm) above the foundation, aligning with the four expansion bolts (**A**). Then route the cables through the cable inlet hole.

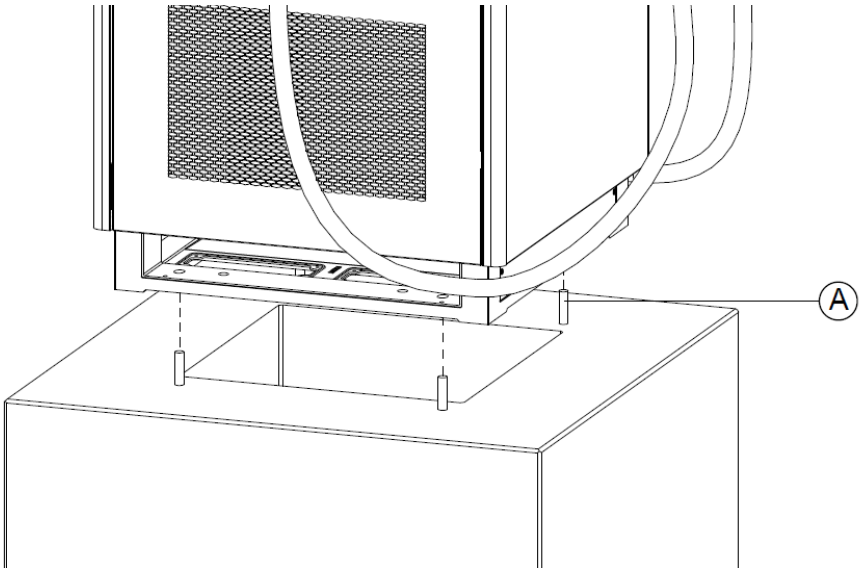


Figure 5-4 Lowering the Cabinet

2. Open the left and right doors. Reinstall the gaskets and nuts removed earlier and tighten them using an M16 socket wrench to secure the cabinet onto the foundation.

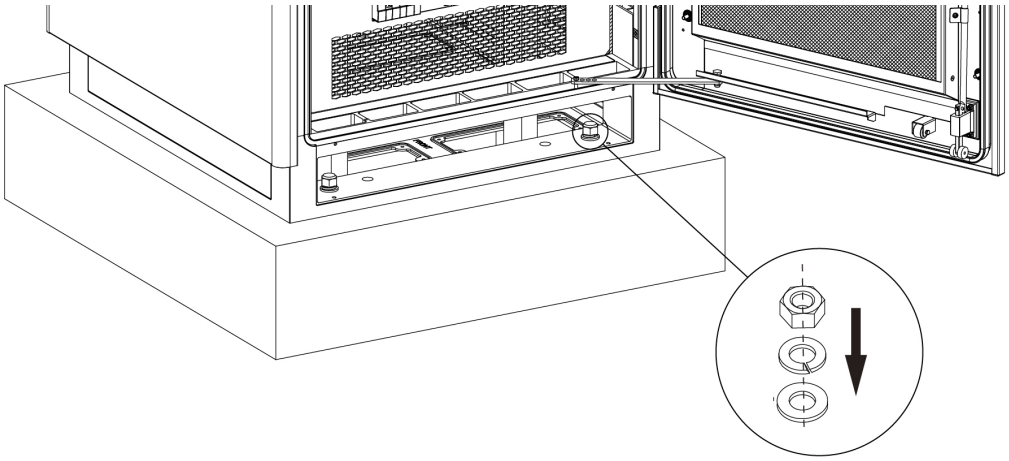


Figure 5-5 Securing the Cabinet onto Foundation

STEP 4

Reinstall the front, rear, left, and right base covers.

5.2.2 To Use the Hoisting Equipment

STEP 1

1. Pull the charging cable hanging on the left to the right and that hanging on the right to the left to stretch out the CMS. Use the cabinet door key to open the left and right doors. Then remove the four screws (**A**) using the TR25 Torx screwdriver or a Phillips screwdriver to remove the left and right base covers. **Set them aside**.

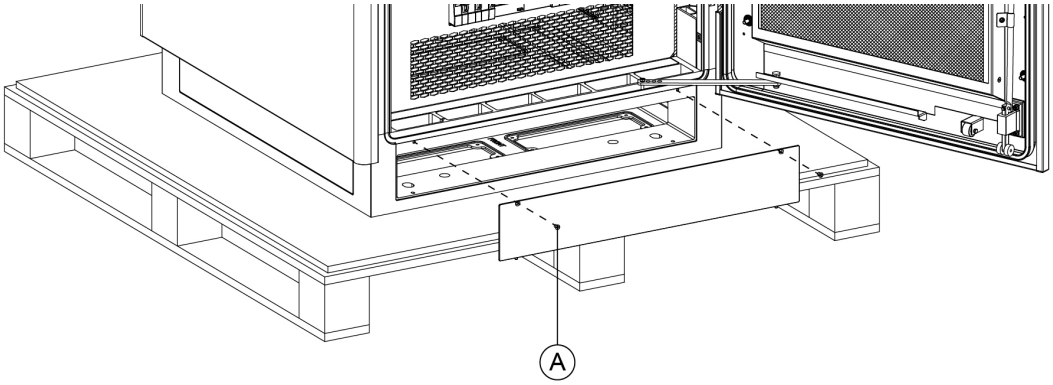


Figure 5-6 Removing the Base Covers

2. Remove the cabinet from the pallet by removing the bolt (**A**), spring washer (**B**), steel gasket (**C**), and nylon gasket (**D**) using an M12 socket wrench.

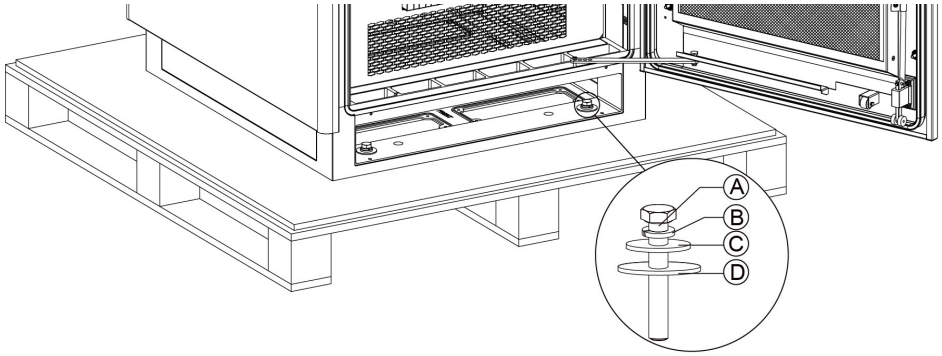


Figure 5-7 Removing from the Pallet

3. Close and lock the left and right doors.

STEP 2

1. On the top of the cabinet, remove one screw using an M20 socket wrench and install one M20 eye bolt by screwing it to the lifting hole at a time. **Do not remove all the screws at once**. Set the screws removed aside.

2. After all the four eye bolts are installed, connect the cables of the hoisting equipment to the eye bolts. Then move the cabinet to the foundation.

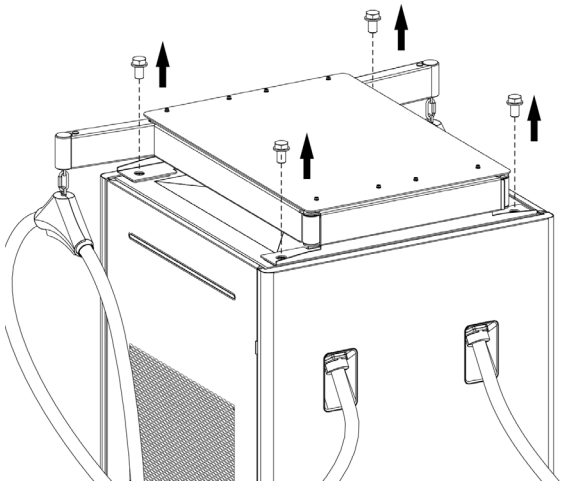


Figure 5-8 Removing the Screws

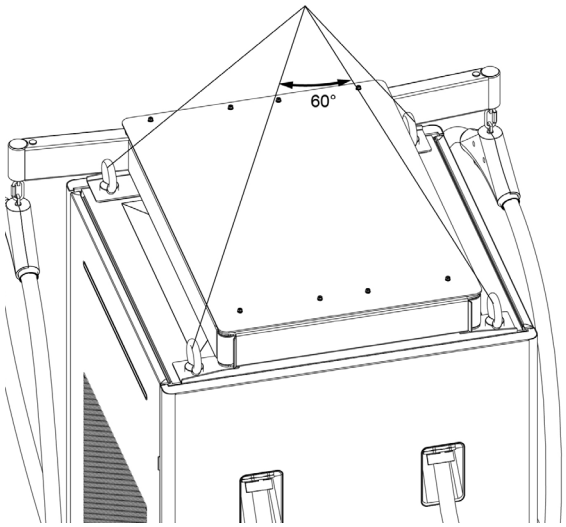


Figure 5-9 Hoisting the Cabinet

WARNING

Risk of pinching or crushing. Heavy Equipment.

- Ensure that the hoisting equipment can lift the cabinet safely.
- Obey the safety instructions that apply to the hoisting equipment.
- Take into account the dimensions, mass, and center of gravity of the equipment.

CAUTION

- **DO NOT** remove all the screws at once, otherwise the CMS may fall off.
- **DO NOT** drop the cabinet or subject it to strong impact.
- Ensure that there is no dynamic force on the hoisting points.

STEP 3

1. Carefully lower the cabinet approximately 19.7 inches (500 mm) above the foundation, aligning with the four expansion bolts (**A**). Then route the cables through the cable inlet hole.

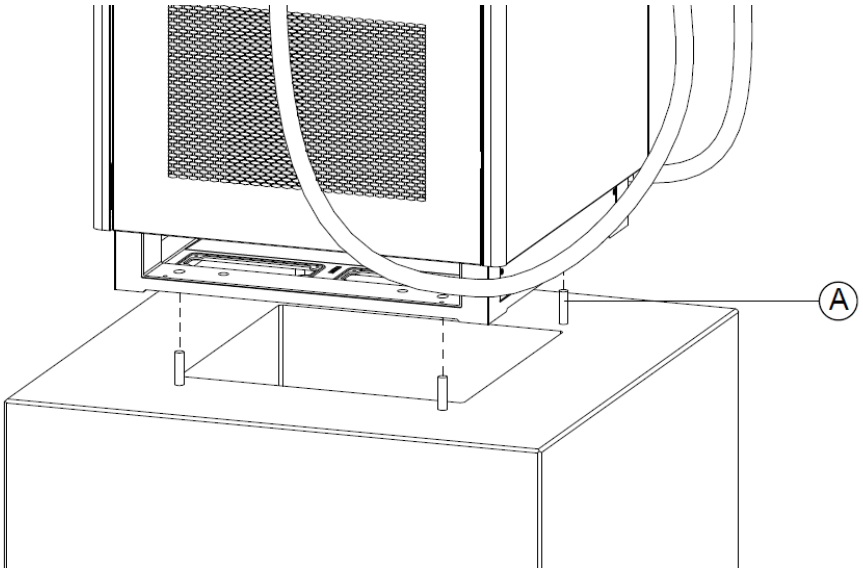


Figure 5-10 Lowering the Cabinet

2. Open the left and right doors. Reinstall the gaskets and nuts removed earlier and tighten them using an M16 socket wrench to secure the cabinet onto the foundation.

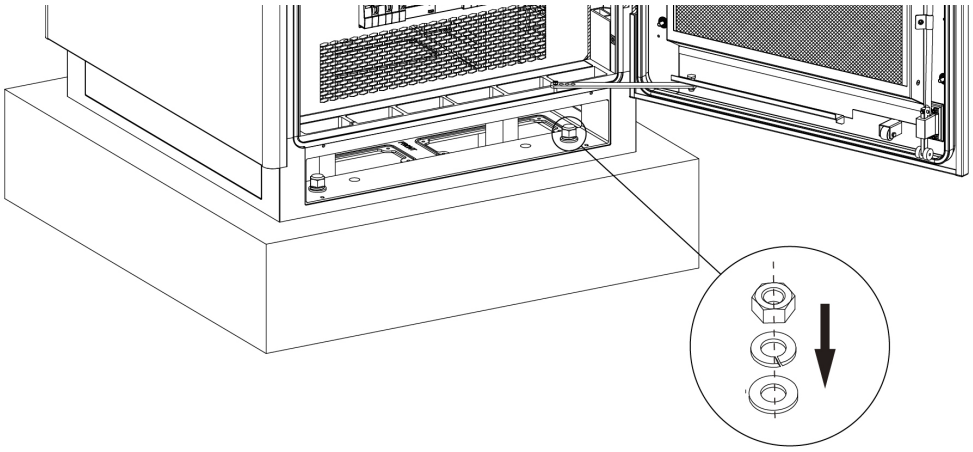


Figure 5-11 Securing the Cabinet onto Foundation

3. Reinstall the left and right base covers.

5.3 Electrical Wiring

DANGER

Hazardous voltage

Ensure that only qualified personnel have access to the door key.

Table 5-1 AC Input Specifications

Parameter		Specification
Wire Shielding (optional)		If the local regulations require shielded wires, connect the wire shielding to the PE bus at both ends of the wire.
Material		XLPE (194 °F) (90 °C) recommended
Recommended Cable Class		Class 2R or 5F or 6F
Recommended Cable Gauge	**Single**	500 kcmil x 3 + 1 AWG x 1, single core, 2 routes
	Parallel	3/0 AWG x 3 x 2 + 1 AWG x 1, single core, 2 routes
Recommended Cable Lug		One-hole lugs (M12) for AC input cable and PE cable
Diameter of the Phase Conductors		Refer to the local regulations.
Diameter of the PE Conductor		Refer to the local regulations.
Surface and Diameter		Based on the current rating of the MaxiCharger and local regulations.
Conductor		Copper
Base the conductor ampacity on a maximum termination temperature of 194 °F (90 °C).		

Table 5-2 Detail AC Input Specifications

Active Power (kW)@Total		120	160	200	240	280	320	360	400	440	480
Number of AC Input Routes		2	2	2	2	2	2	2	2	2	2
Input Power(kVA) @Each Route*		88	88	131	131	174	174	217	217	260	260
Input Power(kVA) @Total		133	176	219	262	305	348	391	434	477	520
Rated Input Current (A) @Each Route*		106	106	158	158	209	209	261	261	313	313
Max Input Current(A) @Each Route*		118	118	175	175	232	232	290	290	347	347
Recommended Upstream Breaker Current(A) @Each Route		160	160	250	250	320	320	400	400	500	500
Recommended Cross-section of Input Cable	**Single**	1 AWG	1 AWG	3/0 AWG	3/0 AWG	250 MCM	250 MCM	350 MCM	350 MCM	500 MCM	500 MCM
	Parallel	2*6 AWG	2*6 AWG	2*3 AWG	2*3 AWG	2*1 AWG	2*1 AWG	2*2/0 AWG	2*2/0 AWG	2*3/0 AWG	2*3/0 AWG

* *The data represents the maximum value of the two AC inputs.*

NOTICE

- Refer to local code for specific design verification. If local laws and regulations have different requirements, the provisions of local laws and regulations shall prevail.
- Use proper cable routing methods (such as underground conduit and cable grooves, etc.) to ensure environment factors are taken into consideration. Cable selection shall be assessed according to NFPA70-2023.
- Component selection must consider environmental derating factors. Upstream & Downstream device coordination for protection shall comply with UL489
- The MaxiCharger can be upgraded to larger power ratings. Take the cable size into consideration at the point of purchase in case that an upgrade is needed in the future.

STEP 1

Remove the four M6 nuts (**A**) using a Phillips screwdriver to remove the cover plate. **Set them aside.**

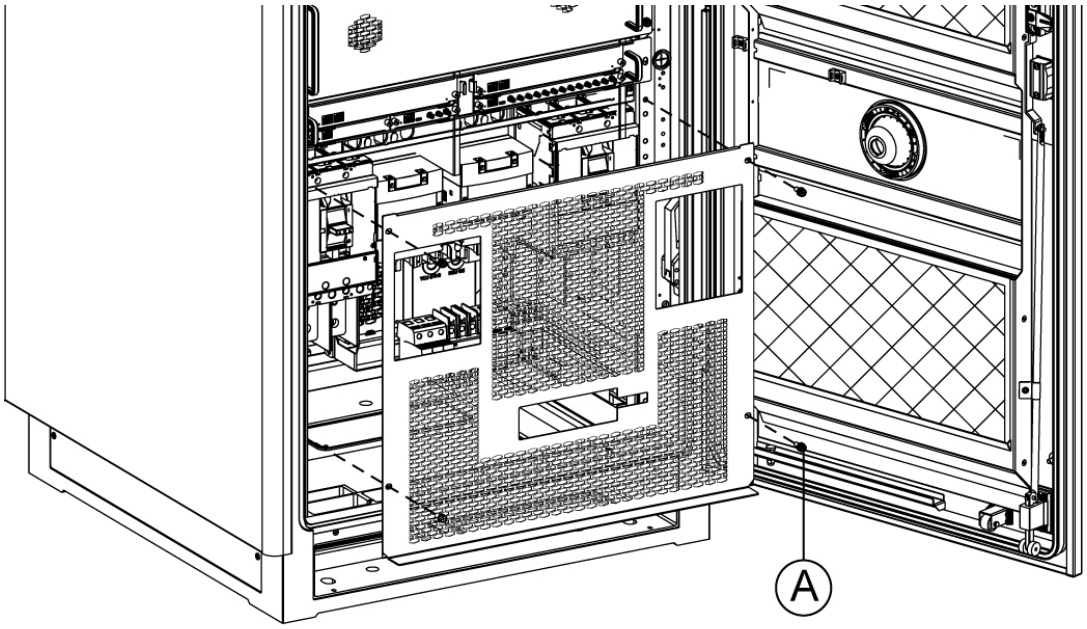


Figure 5-12 Removing the Cover Plate

STEP 2

1. Cut the L1, L2, and L3 wires to the correct length to reach the connectors on the AC terminals.

2. Use the wire stripper to remove appropriate length of the insulation from the end of the wires. Ensure the stripped length is compatible with the cable lugs.

3. Use a crimping plier to attach the cable lugs to the end of the wires.

4. Use the M12 x 40 combination screw (**A**) and M12 flange nut (**B**) to attach the wires to the connectors accordingly and tighten them to 487 ± 44 in-lb (55 ± 5 N·m) using an M12 socket wrench.

5. Follow the steps above to connect the L1, L2, and L3 wires at the other route.

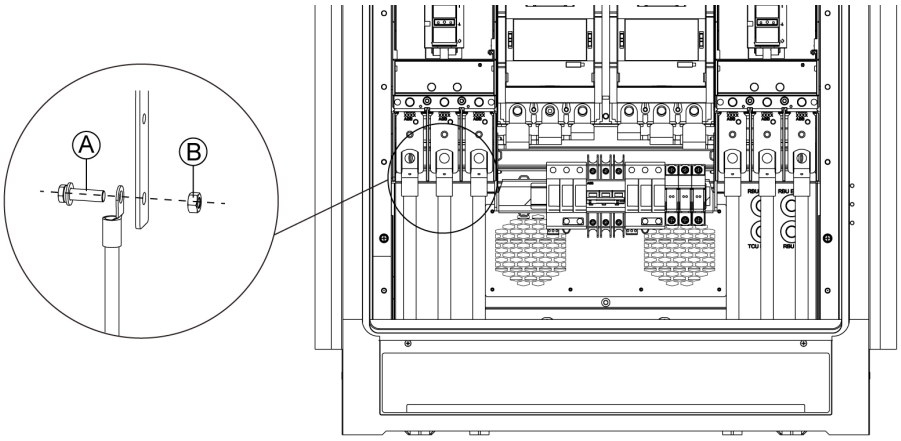


Figure 5-13 Connecting the AC Input Wires (Single Cable)

For parallel wiring, refer to the figure below to finish the wiring at both routes.

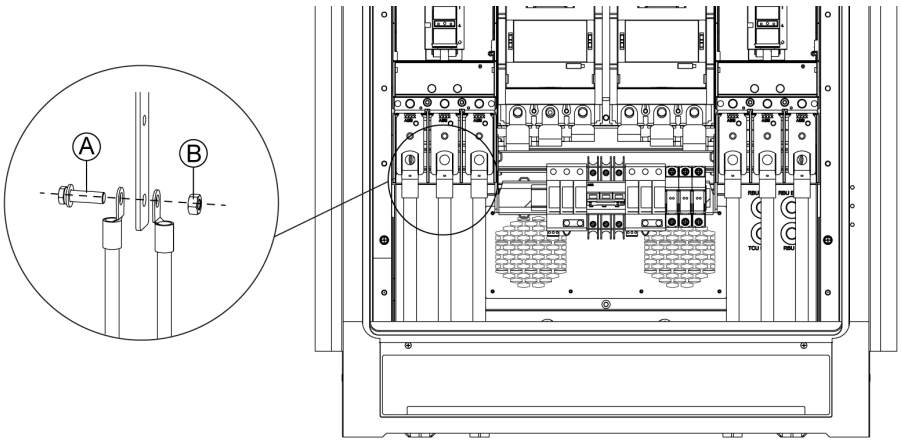


Figure 5-14 Connecting the AC Input Wires (Parallel Cables)

NOTICE

Two M12 socket wrenches are required to complete the connection: one for fixing the combination screw and the other for tightening the flange nut.

STEP 3

1. Cut the PE cable of the power cables to the correct length to reach the cabinet as shown.

2. Use the wire stripper to remove appropriate length of the insulation from the end of the PE cable. Ensure the stripped length is compatible with the cable lug.

3. Use a crimping plier to attach the cable lug to the end of the wire.

4. Use an M12 x 20 combination screw to attach the PE wire to the PE bus bar and tighten them to 487 ± 44 in-lb (55 ± 5 N·m) using an M12 socket wrench.

5. Follow the steps above to connect the other PE cable.

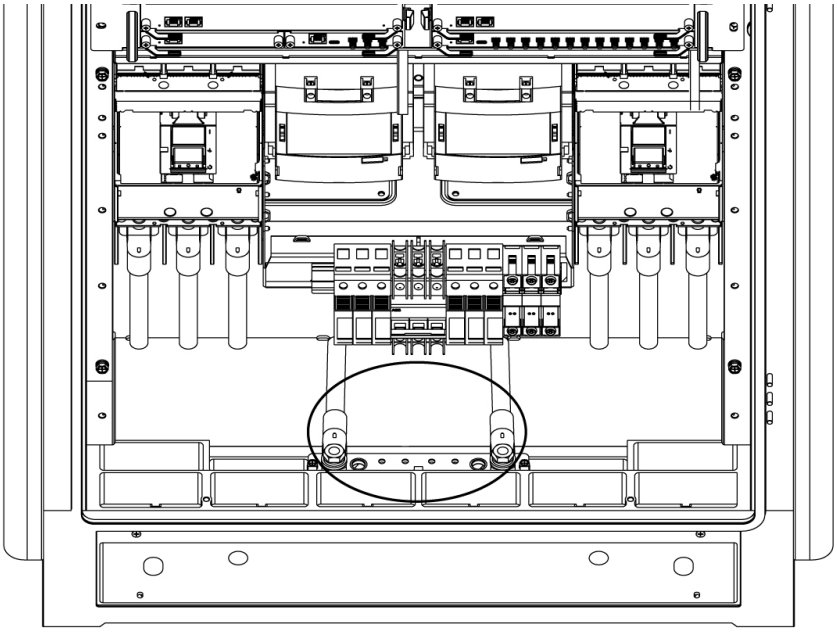


Figure 5-15 Connecting the PE Cable

STEP 4

1. Connect the earth conductor to the PE bus bar using the M6 x 16 screw and tighten it to 58 ± 4.4 in-lb (6.5 ± 0.5 N·m) using an M6 socket wrench.

2. Connect the earth conductor to the earth electrode.

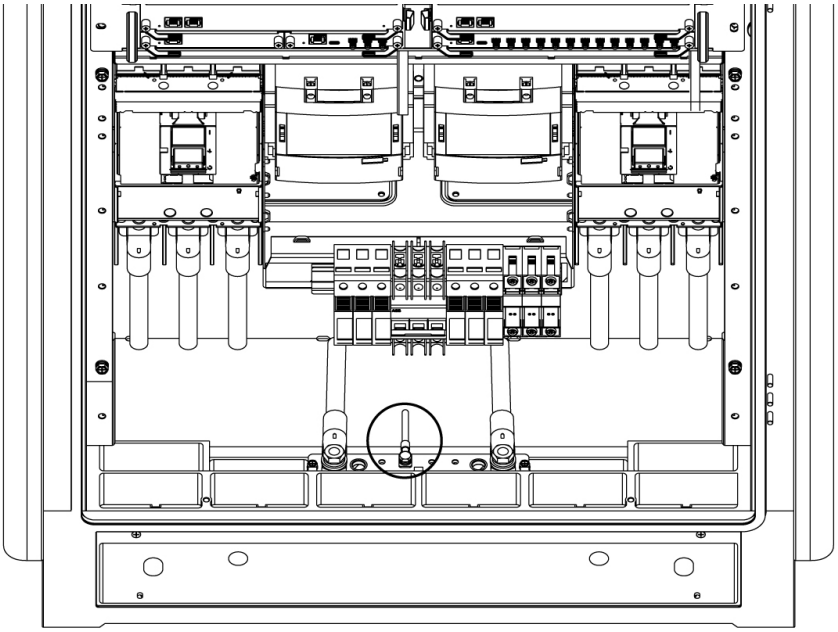


Figure 5-16 Connecting the Enclosure to the Earth

3. Reinstall the cover plate.

5.4 Connecting to the Internet

The MaxiCharger can be connected to the Internet via the Ethernet cable, cellular network or Wi-Fi.

5.4.1 Connecting the Ethernet Cable

1. Inside the right door, unscrew the four screws to remove the cover plate (**B**).

2. Unscrew the five screws to remove the cover plate (**A**).

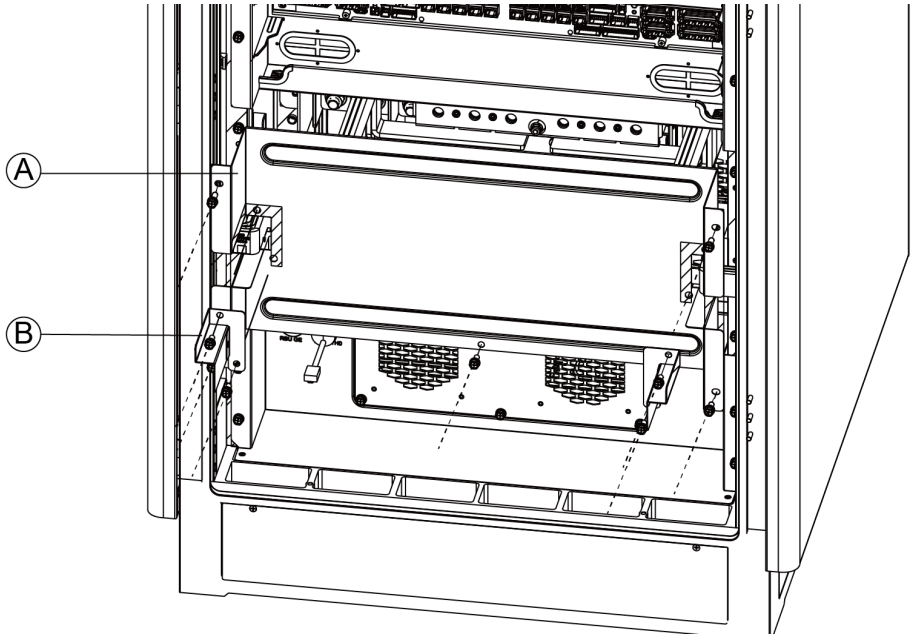


Figure 5-17 Removing the Cover Plate and Air Deflector

3. Plug the Ethernet cable into the **RBU GE** port **inside** the cabinet.

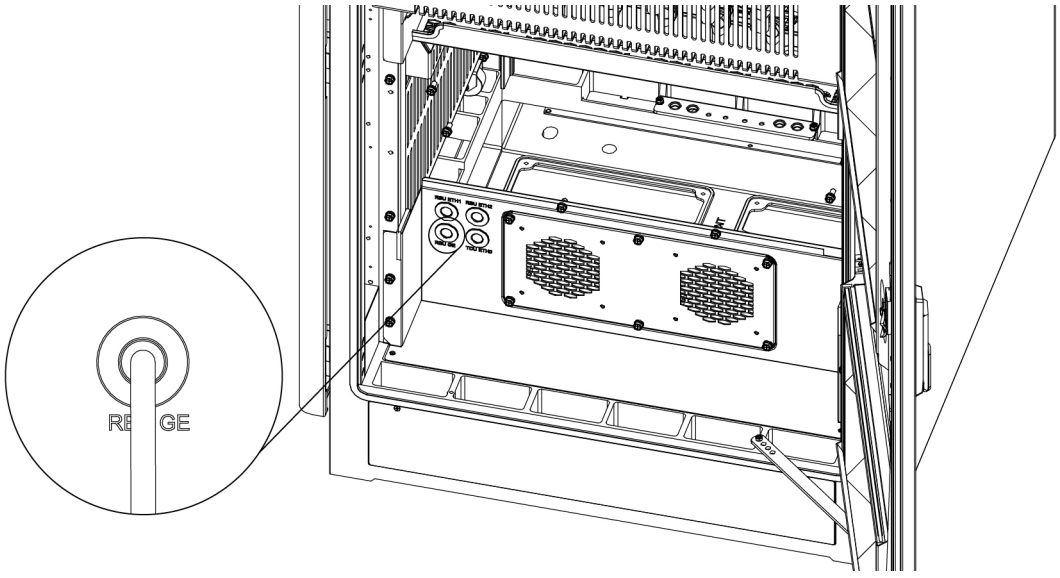


Figure 5-18 Connecting the Ethernet Cable

NOTICE

The Ethernet port is located on the back of the cover plate with fan.

4. Reinstall the cover plates by reinstalling the screws.

5.4.2 Installing the SIM Card

DANGER

Stop the charge session and power off the MaxiCharger before installing the SIM card.

NOTICE

SIM card 1 is used for the maintenance of the MaxiCharger, while SIM card 2 is used for the operation of the MaxiCharger. If the customer only installs one SIM card, insert it into the slot SIM 1.

To install SIM card 1:

1. Locate the **RBU** at the control module.
2. Loosen the two screws (**A**) using a Phillips screwdriver and then pull out the RBU.

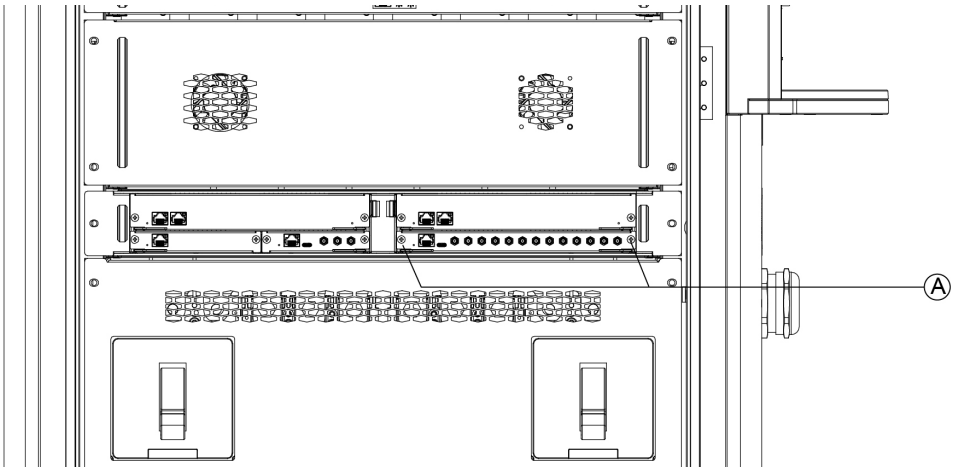


Figure 5-19 Loosening the Screws

3. Slide to open the left SIM card slot cover.

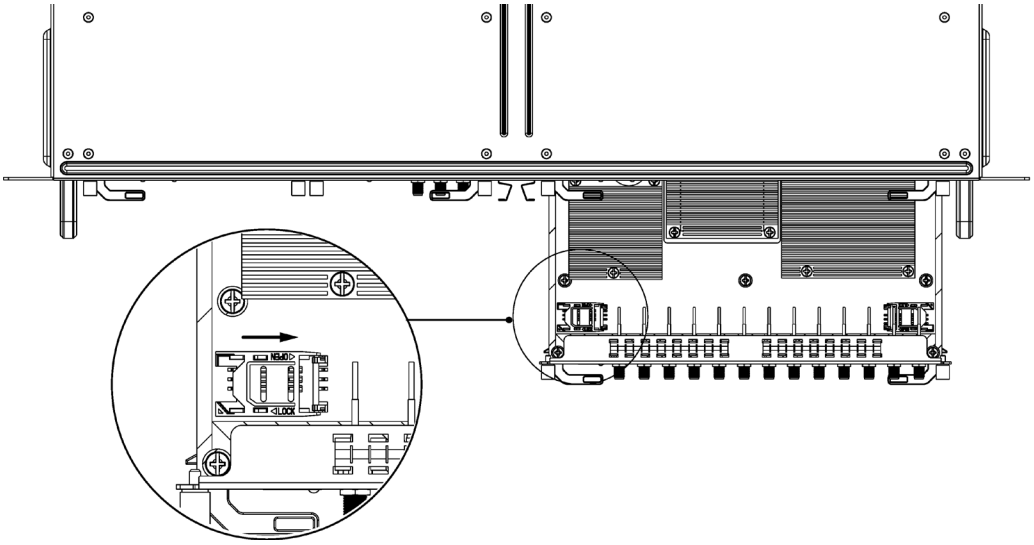


Figure 5-20 Installing the SIM Card

4. Insert the SIM card into the tray. Ensure the card is placed correctly.

5. Close the SIM card slot cover.

6. Push the RBU back in place and tighten the two screws using a Phillips screwdriver.

To install SIM card 2, follow the steps above to install the card into the right card slot of the RBU.

5.5 Finishing Installation

1. Apply fireproof mortar to seal any gaps or clearances.

2. Remove one eye bolt and reinstall one screw at a time, until all the screws are reinstalled into the lifting holes. **Do not remove all the eye bolts at once**.

3. Close the left and right doors and lock them using the cabinet door key. Ensure no debris is left inside.

6. Operation

6.1 Before Use

- Ensure that the MaxiCharger is installed according to the instructions in this manual.
- Ensure the MCCB and MCB stay in the **OFF** position.
- Make an emergency plan that instructs people what to do in case of an emergency.
- Provide instructions on emergency stop and charge session for the user.
- The manufacturer or a trained technician should perform the commissioning work.
- The space around the MaxiCharger shall not be blocked by snow or other objects.
- Ensure that the maintenance work has been carried out on the MaxiCharger.

6.2 Powering Up the MaxiCharger

1. Ensure that the upstream breaker stays in the **OFF** position and locked before powering up the MaxiCharger.

2. Tighten the screws and bolts of key parts and ensure the cabinet is clean inside to prevent the electronic components from being damaged by dust or particles.

3. Use the multimeter to check the resistance between the PE busbar at the upstream distribution cabinet and the PE busbar inside the MaxiCharger, and ensure it complies with NFPA70. Make sure the correct connection between the PE busbar at the upstream distribution cabinet and the PE busbar inside the MaxiCharger.

4. Use the multimeter to check the following voltages, which need to meet the rated voltage demand of the MaxiCharger:

    1) Check the input voltage of the upstream breaker.

    2) Turn on the upstream breaker, and then check the output voltage of the breaker.

    3) Check the voltage of the MCCB in the MaxiCharger.

    4) Check the voltage of the MCB in the MaxiCharger.

5. Turn on the MCCB and MCB of the cabinet.

6. Close the doors of the cabinet. The MaxiCharger is now ready for use.

6.3 Preparing for Commissioning

DANGER

Hazardous voltage

Only a service engineer from the manufacturer is qualified to commission the MaxiCharger.

1. Ensure that the site complies with these requirements:

- The MaxiCharger is installed as instructed in this manual.
- The grid can support the AC input power.
- Internet access, cellular network or Ethernet connection is available.
- EVs compatible with every connector of the MaxiCharger must be available for commissioning work.
- A site operator or owner is present to receive instructions from the service engineer of the manufacturer.

2. Ensure that the information below is available:

- Site name
- Address of the MaxiCharger
- Longitude and latitude of the MaxiCharger. If there are more than one MaxiCharger on one location, the coordinates should be slightly different (at least 0.0001 degree) so that not all the equipment are at the same location on the map.
- Photo of the surroundings of the MaxiCharger
- Specification of the external fuse at the electrical panel
- Date of installation completion
- Contact information of the contact person on site
- Special remarks

6.4 Synchronizing Configuration

6.4.1 Installation

1. Scan the QR code below to download and install the Autel Config app to your mobile device from the Google Play or App Store.

GET IT ON Google Play

Download on the App Store

2. Log in to the Autel Config app by inputting the account and password.

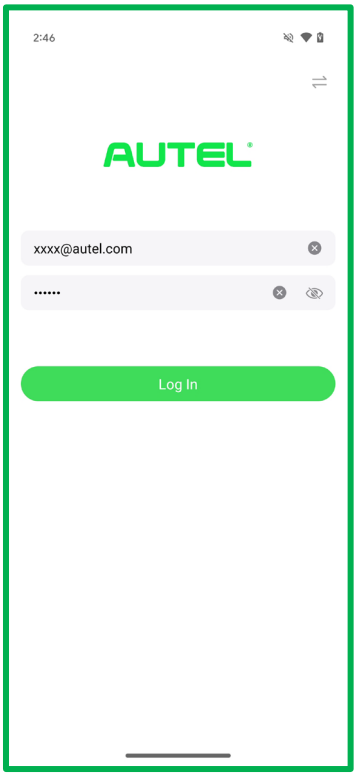
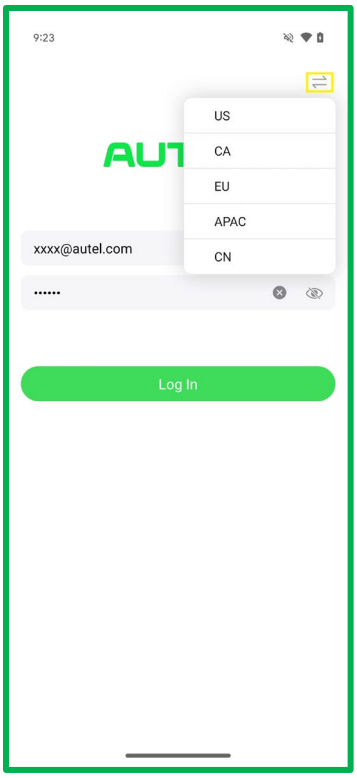


Figure 6-1 Log-in Screen

NOTICE

- Make sure all devices and the Autel Config app are running the latest software versions.
- When the owner or the site operator invites a user as the installer, the user will receive an email with a link where an account for the Autel Config app can be created and the password for the account can be set. Use the account and password created and set via the link here.
- If the installer and the commissioning personnel are two different people, the commissioning personnel can access the account and password for logging in to the Autel Config app in the same way as the installer.
- The figures depicted below may differ slightly from the actual product.

When you log in to the app, the region will be automatically determined. Switch the region manually if needed.



6-2 Switching Region Screen

3. On the Tickets screen, select the **Installation** task to proceed.

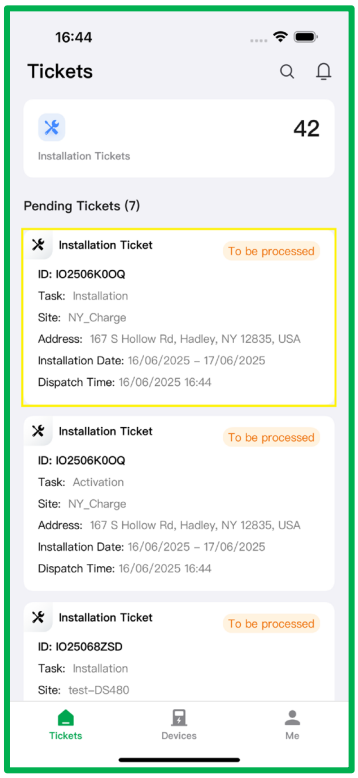


Figure 6-3 Tickets Screen

4. On the Ticket Details screen, click on **Start Processing** to proceed.

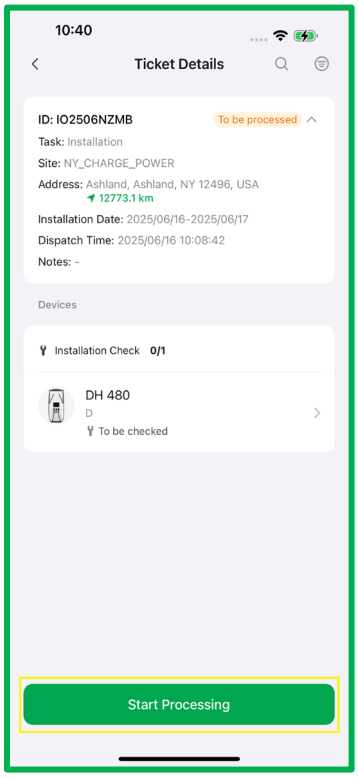


Figure 6-4 Ticket Details Screen

5. On the Installation Check screen, click on **Start Check** to proceed.

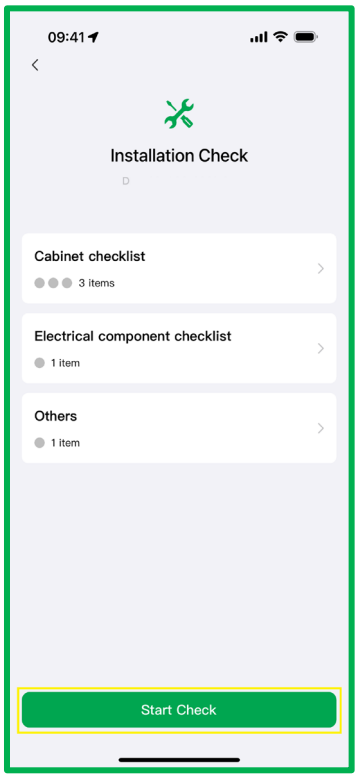


Figure 6-5 Installation Check Screen

6. Check related components with the guidance of the on-screen instructions. After ensuring there is no problem with the components, select **Pass** and upload photos to finish the first check item. Then click on **Next** to start the next check item.

Figure 6-6 Cabinet Checklist Screen

NOTICE

Fields marked with an asterisk are mandatory.

7. After all items are checked, click on **OK** to return to the Installation Check screen. Then click on **Complete** and a prompt will appear. Click on **OK** to proceed.

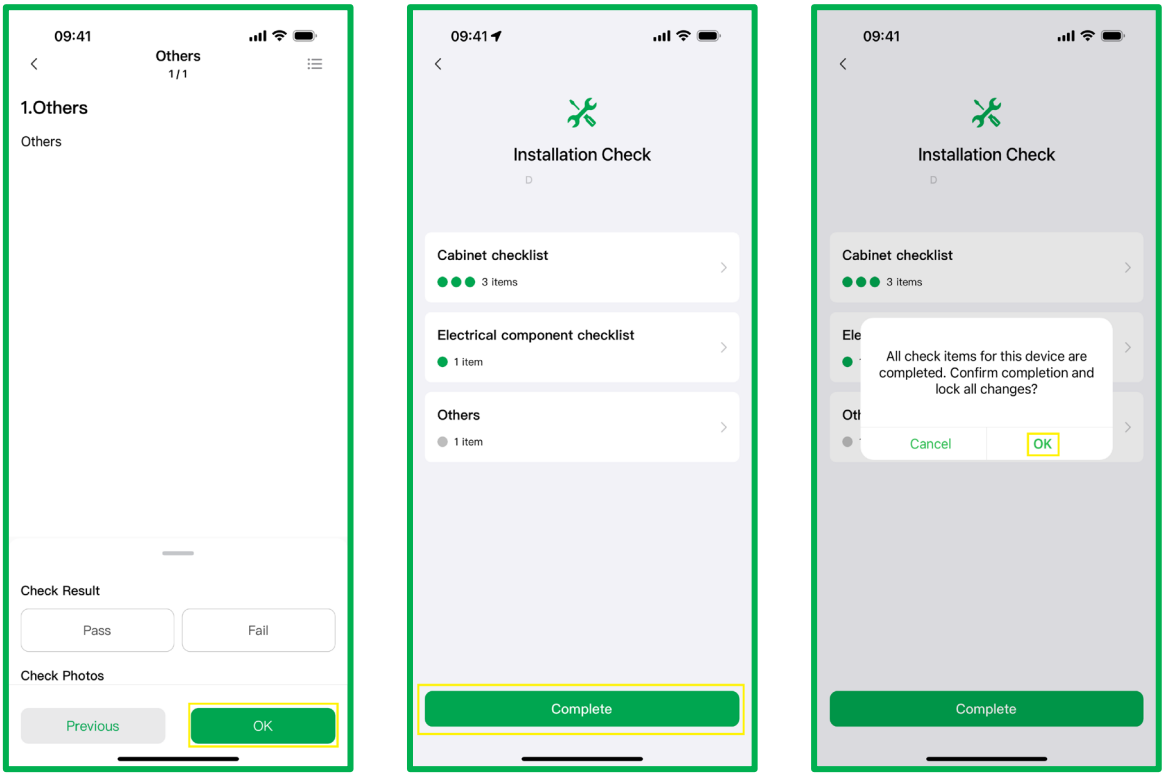


Figure 6-7 Others and Installation Check Screens

8. Tap the < icon on the upper left of the screen to go back to the Ticket Details screen. Then click on **Complete Ticket** to finish the task of Installation.

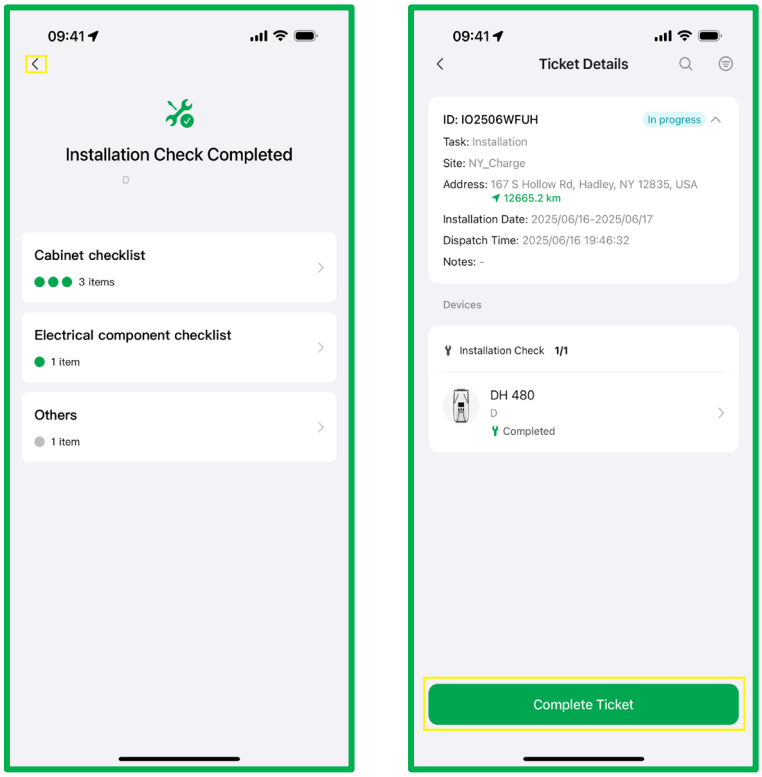


Figure 6-8 Installation Check Completed and Ticket Details Screen

6.4.2 Configuration

1. Download and install the Autel Config app and log in to the app as instructed in **Step 1** and **2** in Section *6.4.1*.

NOTICE

If the **Activation** and **Installation** tasks are done by the same technician, skip **step 1** to proceed.

2. On the Tickets screen, click on the **Activation** task to check the ticket details.

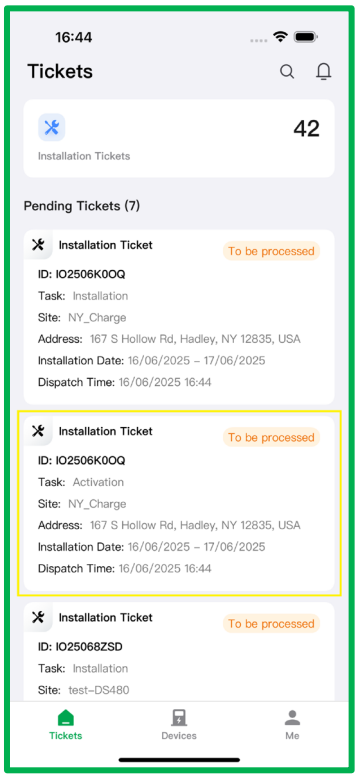


Figure 6-9 Tickets Screen

3. On the Ticket Details screen, click on **Start Processing** to proceed.

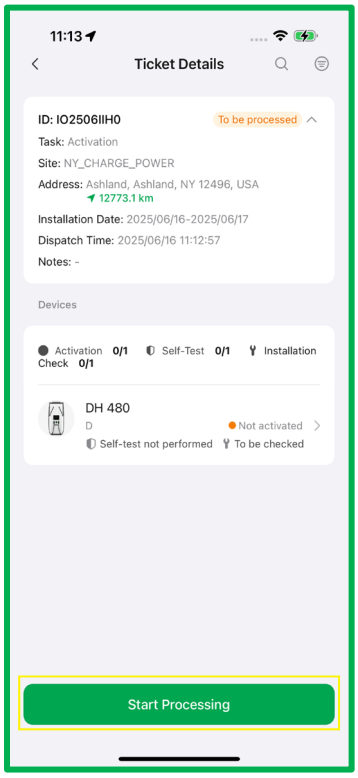


Figure 6-10 Ticket Details Screen

4. Click on the **Scan** button to scan the QR code on the MaxiCharger's screen to synchronize the configuration.

Figure 6-11 Scanning Screen

5. Configure the network for the MaxiCharger.

a) Select **Wi-Fi Configuration** and configure the Wi-Fi by entering the Wi-Fi name and password. Then click on the **Next** button to proceed.

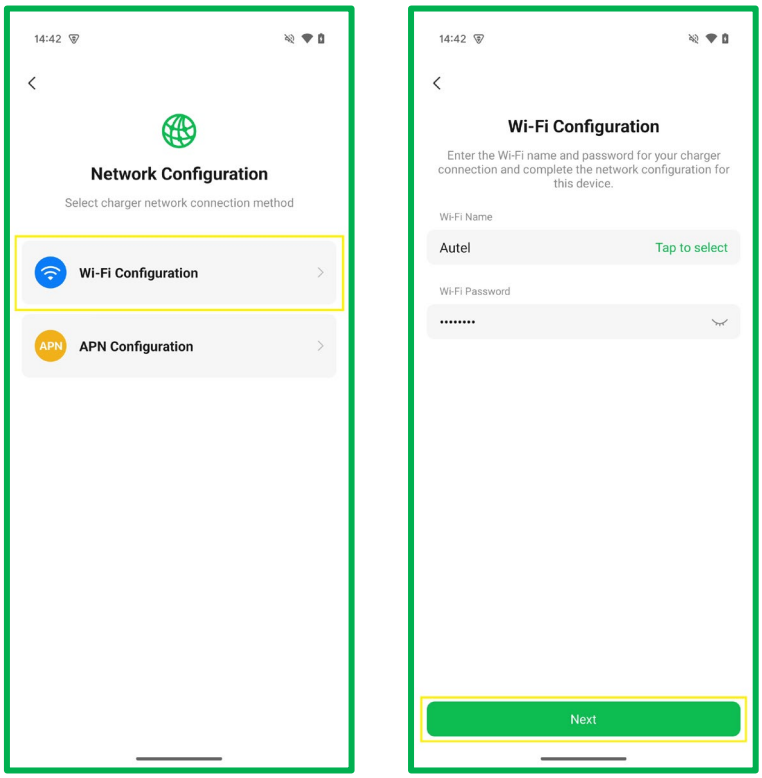


Figure 6-12 Network Configuration and Wi-Fi Configuration Screens

b) Select **APN Configuration** and enable the cellular data switch of one SIM card. Then click on the **Next** button to proceed.

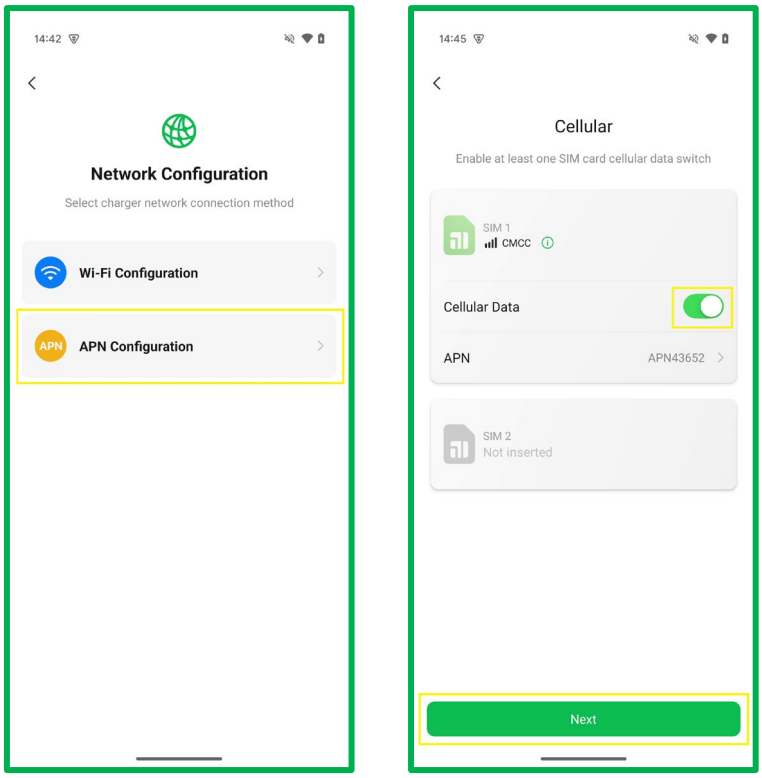


Figure 6-13 Network Configuration and APN Configuration Screens

NOTICE

- If the Wi-Fi or APN has been configured during the site creation and configuration, its name and password will be entered by default. A new Wi-Fi or a new APN can be set manually.
- The number of SIM card varies depending on how many cards are used in the device.

6. Hold your phone near the MaxiCharger to connect to its hotspot.

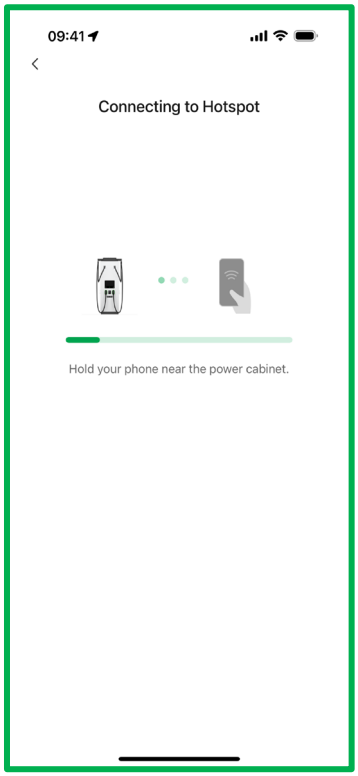


Figure 6-14 Connecting to Hotspot Screen

7. After your phone is connected to the hotspot of the MaxiCharger, the configuration will be synchronized to the MaxiCharger.

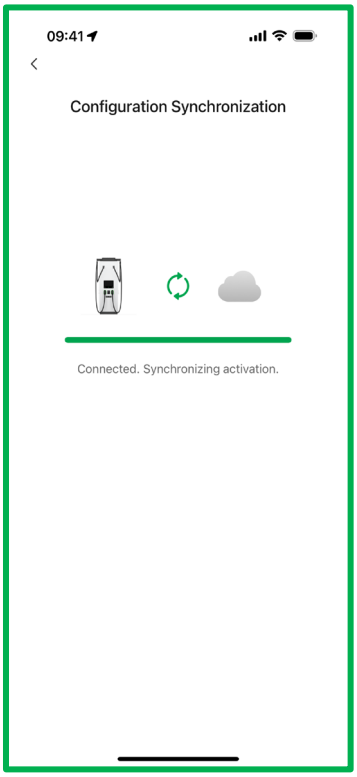


Figure 6-15 Configuration Synchronization Screen

8. After the configuration is synchronized, the MaxiCharger will get activated. Click on **Check** to conduct post-activation check.

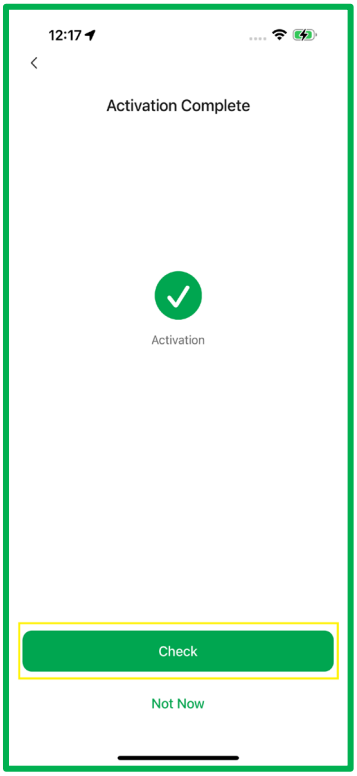


Figure 6-16 Activation Complete Screen

NOTICE

- After the MaxiCharger is activated, self-test will get started automatically.
- If you select **Not Now** here, you will be brought back to the Ticket Details screen. Click on the **Continue** button to conduct post-activation check when it is convenient.

9. On the Post-activation Check screen, tap **Start Check** to proceed.

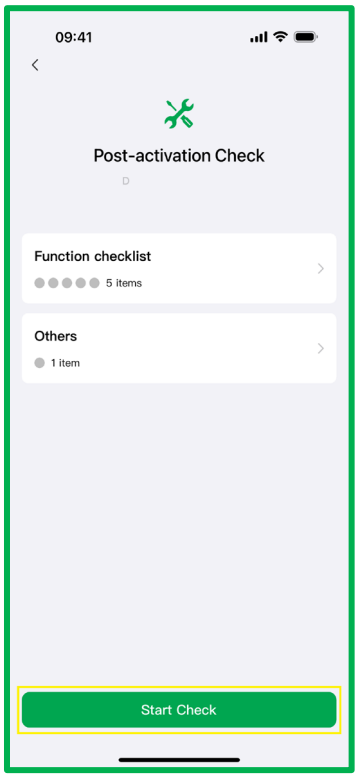


Figure 6-17 Post-activation Check Screen

10. Check related components with the guidance of the on-screen instructions. After ensuring there is no problem with the components, select **Pass** and upload photos to finish the first check item. Then click on **Next** to start the next check item.

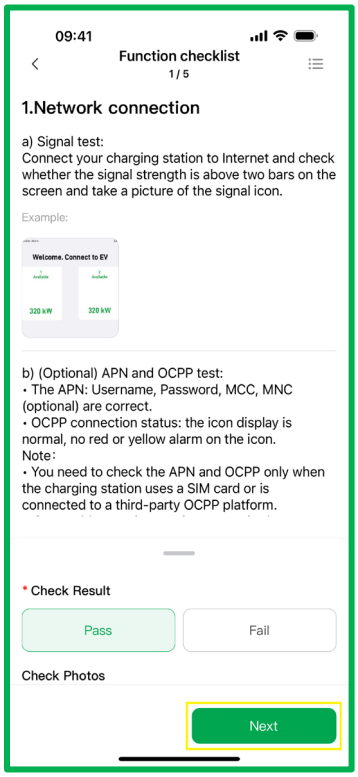


Figure 6-18 Function Checklist Screen

NOTICE

Fields marked with an asterisk are mandatory.

---

11. After checking the last item, click on **OK** and a prompt will appear. Select **OK** to complete the post-activation check.

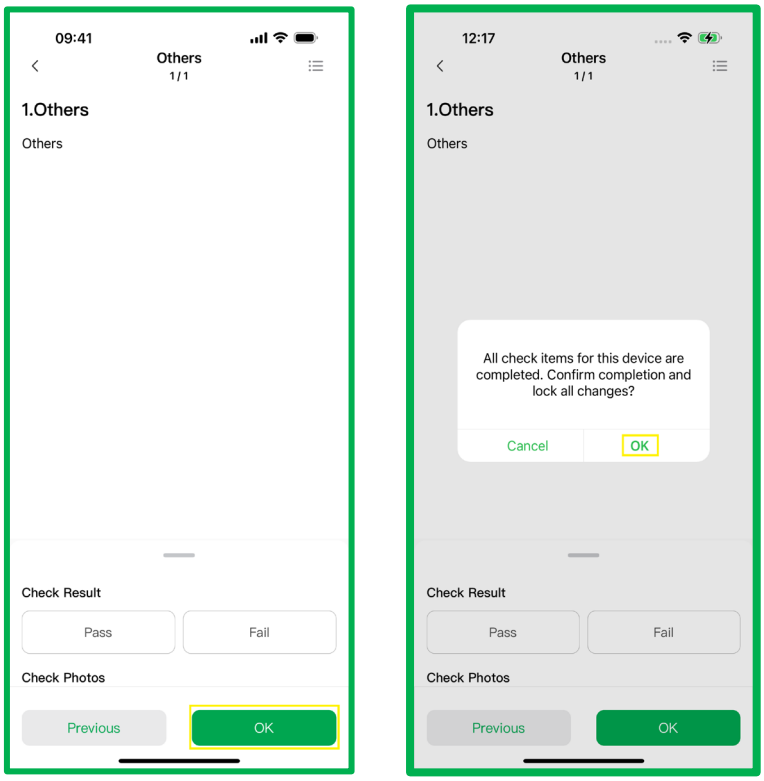


Figure 6-19 Others Screens

NOTICE

Ensure all items that must be checked have been successfully checked, or a prompt warning that you have failed to finish all the check items will appear.

---

12. On the Post-activation Completed screen, tap the **<** icon on the upper left to proceed. Tap the **<** icon again on the next screen to go back to the Ticket Details screen. Click on **Complete Ticket** to finish the task of Activation.

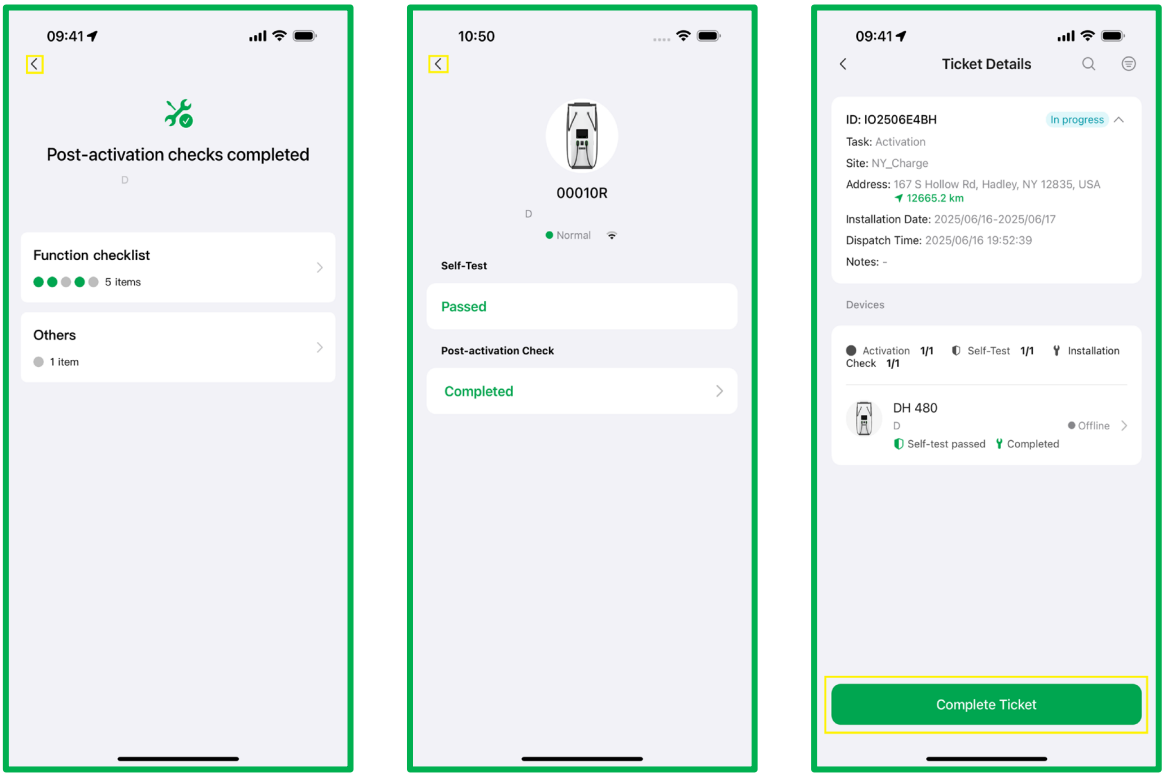


Figure 6-20 Post-activation Completed and Ticket Details Screens

6.5 Emergency Situations

If there is an emergency, push the **emergency stop button**. Then the MaxiCharger will stop all charge sessions and the touchscreen will display the following message:

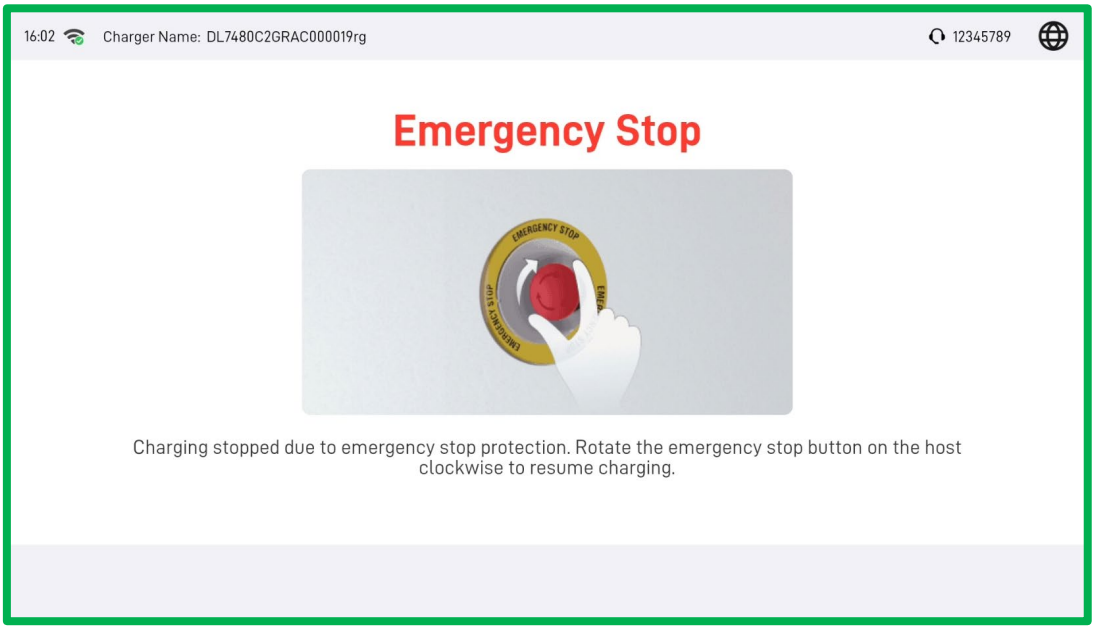


Figure 6-21 Fault Message Screen

Reset the MaxiCharger after an emergency (making sure that the situation is safe again first): Turn the emergency button clockwise to release it. The MaxiCharger will start, the message will disappear from the touchscreen, and the MaxiCharger will resume normal operation.

6.6 Charge Sessions

General charging procedure:

1. Park an EV with the charging port within reach of the connector.
2. Plug in the vehicle.
3. Start the charge session.
4. Stop the charge session.

6.6.1 Standby Screen

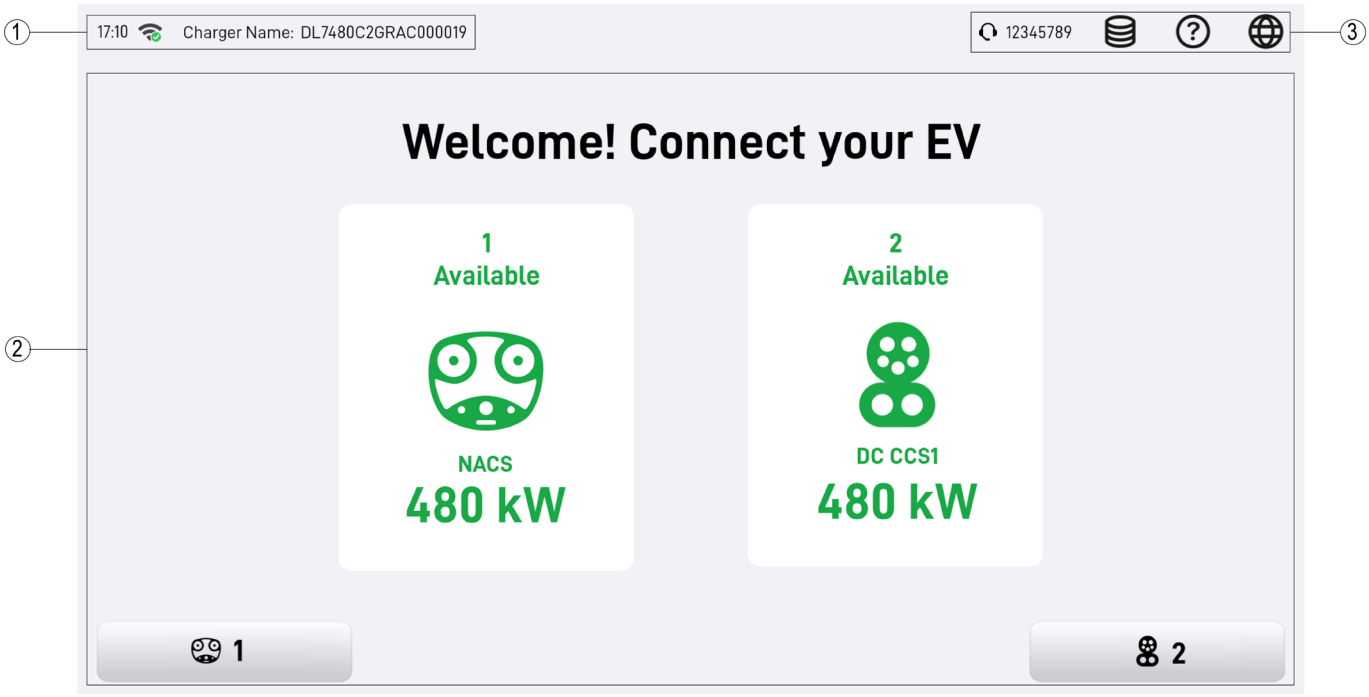


Figure 6-22 Standby Screen

1. Time, Internet icon and charger name — an x appearing at the lower corner of the Internet icon indicates the MaxiCharger is not connected to the Internet

2. Standby screen

3. Service hotline, pricing details, user guide and language options

After a connector is successfully connected to an EV, the MaxiCharger can automatically recognize the connector and the corresponding connector's Authorization screen will appear.

If no operation is performed for a period of time on the Authorization screen, the Standby screen will appear. Manually select the connector on the touchscreen to exit the standby screen.

NOTICE

- The illustration here takes chargers with one touchscreen and two connectors as an example.
- The displayed power may vary depending on the different configuration of the MaxiCharger.

6.6.2 Authorization

CAUTION

- Before starting a charge session, observe the screen for any abnormality, such as an error message. Check the surroundings and the MaxiCharger for any abnormality or damage as well.
- **DO NOT** operate the MaxiCharger if the screen displays an error message. Contact Autel technical support.

When the Authorization screen appears, you can use any of the following methods to start a charge session:

- RFID card
- QR code
- Telephone
- Autocharge/Plug & Charge (supports the ISO 15118 PnC function)
- PIN
- Credit card (optional)

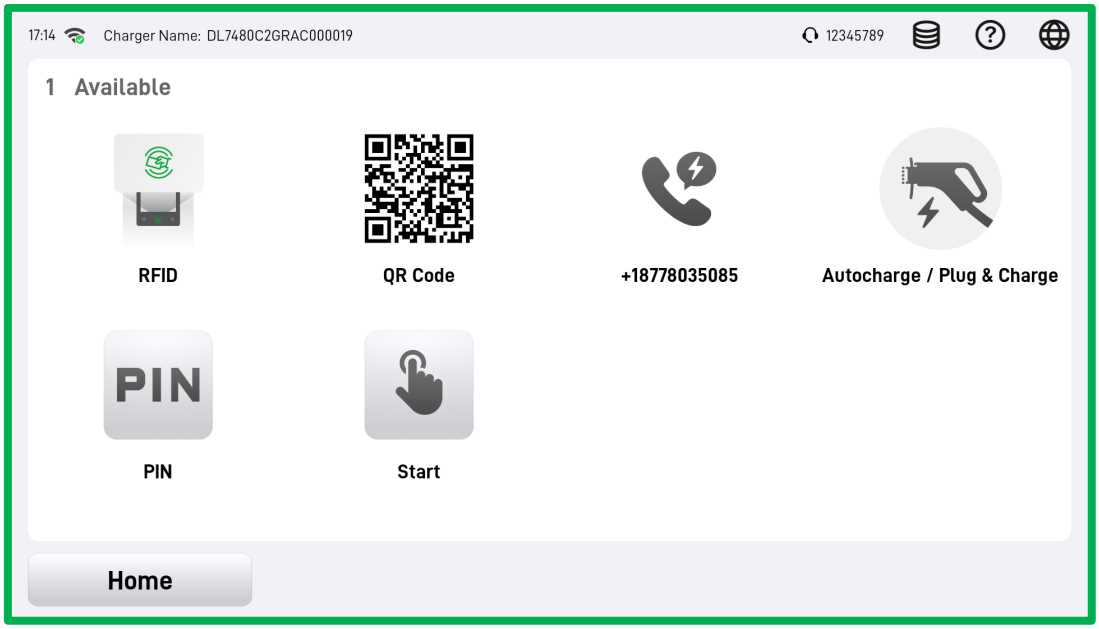


Figure 6-23 Authorization Screen

NOTICE

Do not swipe multiple credit cards/RFID cards stacked together. Use only one credit card/RFID card for the swiping operation. Stacking multiple cards may cause charging initiation failure.

6.6.3 Start Charging

The MaxiCharger enters communication with the EV following a successful authorization. The charge session will start automatically after passing safety tests.

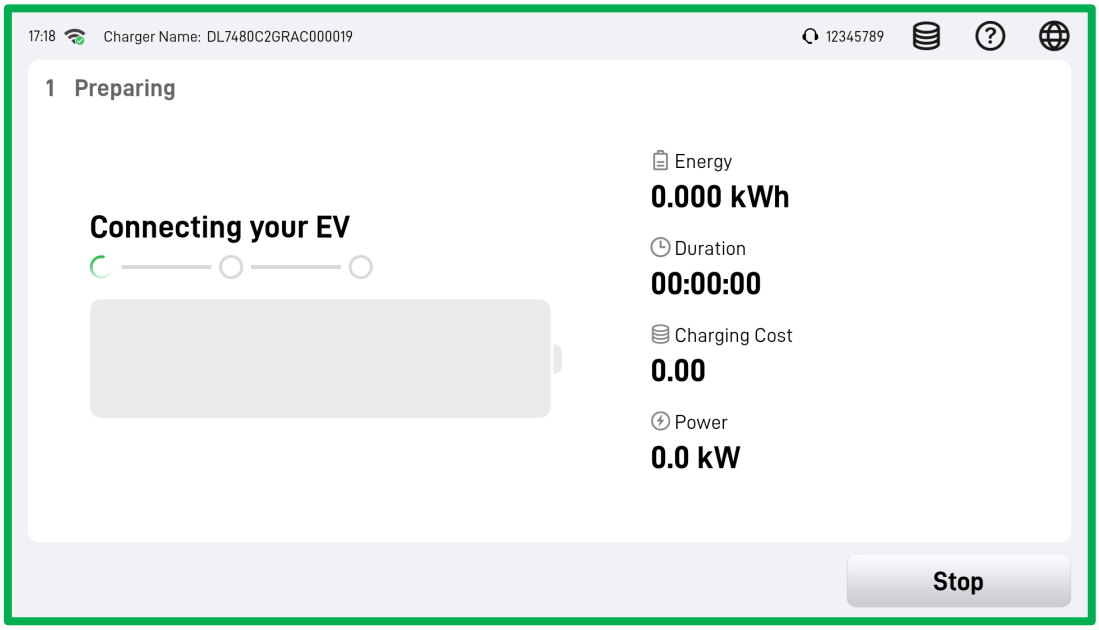


Figure6-24 Connecting Screen

6.6.4 Charging

Information about the charging process, energy, charging duration, cost, and power will appear on the Charging screen.

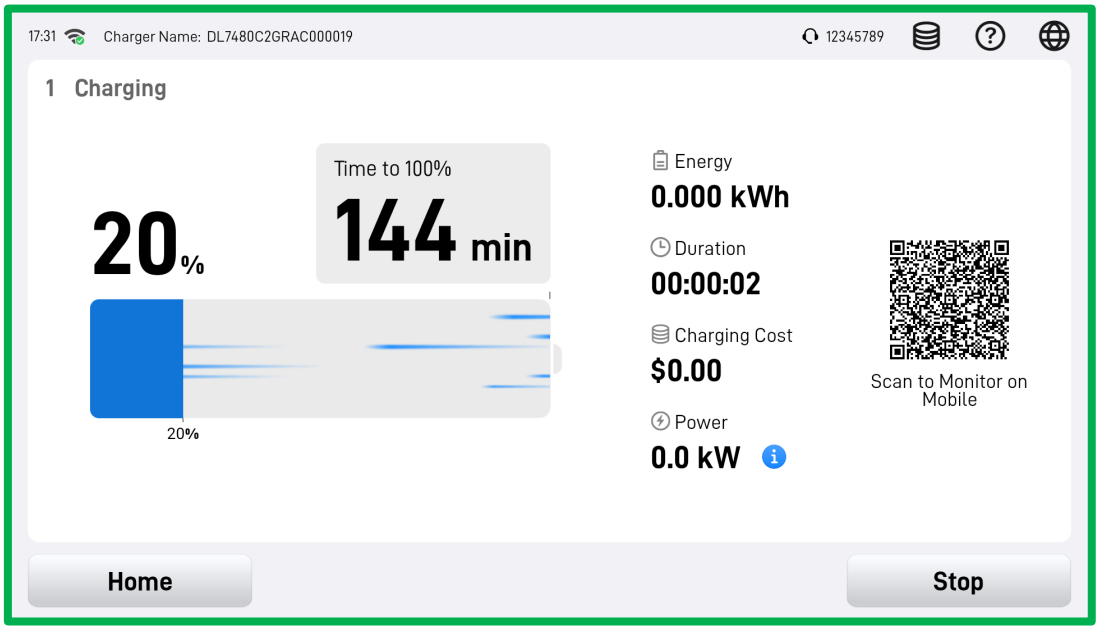


Figure 6-25 Charging Screen

6.6.5 Stop Charging

The way to stop charging will vary depending on the way to start charging:

- Autocharge/Plug & Charge/Credit Card/PIN/Telephone: Tap the **Stop** button on the touchscreen.
- QR Code: Tap the **Stop** button on the Charging screen of the Autel Charge app.
- RFID Card: Tap the RFID card on the card reader again to finish charging.

NOTICE

The charge session stops automatically when the battery is full.

Once the charging stops, the transaction details will appear on the screen.

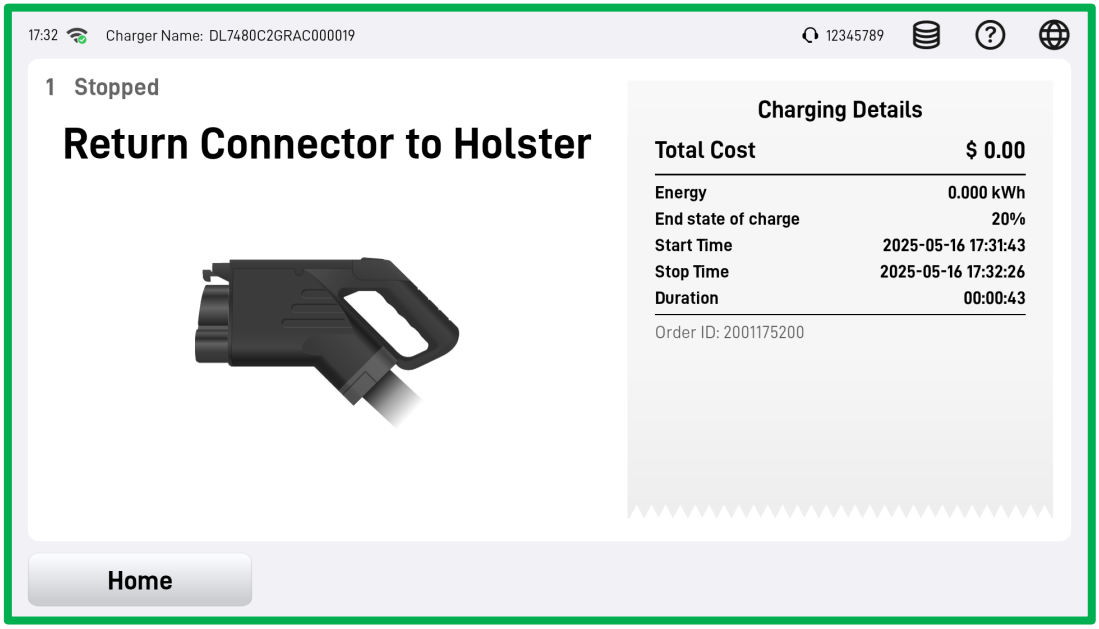


Figure 6-26 Charging Details Screen

WARNING

- **Do Not** cover the vent during charging.
- **Do Not** clean or operate in your EV during charging.

6.6.6 Finish Charging

Return the connector to the holster on the MaxiCharger.

6.7 Charging Errors

This section depicts several common problems that may arise during a charge session along with possible causes/solutions to resolve them. If the problem persists, contact Autel technical support.

6.7.1 Connector Connection Error

If the connector is not connected to any EV, the Connector Not Connected screen will appear. Disconnect completely, then plug in the EV and recheck the screen to see if the error message is resolved.

6.7.2 Authorization Failure

The Authorization Failure screen appears when there is an error processing the chosen authentication method. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem, or contact Autel technical support.

6.7.3 Charge Start Failure

The Charge Start Failure screen appears when the MaxiCharger has failed to pass the initialization process. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem.

6.7.4 Charging Failure

The Charging Failure screen appears when various errors occur during a charge session. The cause and possible solution(s) will be displayed on the screen. Follow the on-screen instructions to resolve the problem, or contact Autel technical support.

7. Maintenance

7.1 Routine Maintenance

Routine maintenance can keep the MaxiCharger in a safe and stable state.

- Clean the cabinet annually, tighten the screws and bolts of key parts, and check whether the wire connection of the connector is burned out. If any abnormality is found, replace the parts in time.
- Clean the air filter and dust filter annually.
- Test the residual current device regularly.

WARNING

- For safety, do not carry out maintenance work on rainy days.
- Disconnect the power supply to the MaxiCharger during the entire maintenance procedure.
- Ensure unauthorized personnel are kept at a safe distance during maintenance.
- Wear proper personal protective equipment, such as protective clothing, safety gloves, safety shoes, and safety glasses.
- If the safety devices are removed for maintenance, reinstall them after completing the work.

7.1.1 Cleaning the Cabinet

The cabinet is powder-coated. The coating must be kept in good condition. When the MaxiCharger is in a corrosion sensitive environment, superficial rust may appear on welding points. Visible rust has no risk to the integrity of the cabinet.

To remove rust:

1. Stop the charge session and power off the MaxiCharger.
2. Remove rough dirt by spraying with low-pressure tap water.
3. Apply a neutral or weak alkaline cleaning solution and let it soak.
4. Remove dirt by hand with a damp and non-woven nylon cleaning pad.
5. Rinse thoroughly with tap water.
6. Apply wax or a rust-preventive primer for extra protection if needed.

7.1.2 Cleaning and Replacing the Air Filters

The MaxiCharger is equipped with two air inlet filters and two air outlet filters with a large mesh area to prevent the electronic components from being damaged by dust. Clean the air filters every 3 months (not exceeding 6 months). Replace the air filters once a year.

To clean the air inlet filters:

1. Ensure there is no active charge session and perform lockout-tagout to secure the MaxiCharger.
2. Open the left door of the MaxiCharger. When the cabinet door is open, the internal components of the MaxiCharger should not be exposed to rain, snow or harsh environments.
3. Cut off the zip tie with cord cutters if there is one to ensure that the filters can be moved.
4. Manually unscrew the screw (**A**).
5. Manually pull up the filters to an appropriate height and move them to the left. Then turn them left to remove them from the fixing board as shown.
6. Clean the air inlet filters of debris or dust and reinstall the cleaned filters. Or install new air inlet filters.
7. Use a zip tie to secure the cord with temperature sensor as before.
8. Close the left door of the MaxiCharger.

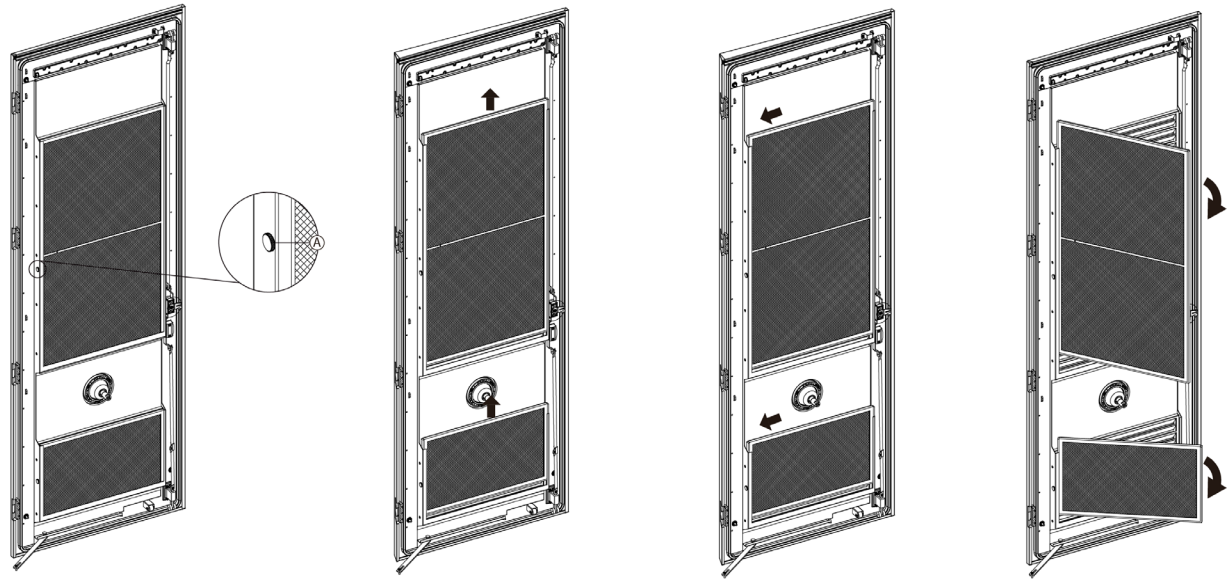


Figure 7-1 Removing the Air Inlet Filter

To clean the air outlet filters:

The air outlet filters are at the right door of the MaxiCharger. Refer to the steps above to operate.

7.1.3 Connectivity of the SIM Card

Over time, the SIM card may develop contact issues with the slot, causing connectivity problems. It is necessary to check if the SIM card is making proper contact with the slot.

To ensure the connectivity of the SIM card:

1. Stop the charge session and power off the MaxiCharger.
2. Open the left door of the MaxiCharger. When the cabinet door is open, the internal components of the MaxiCharger should not be exposed to rain, snow or harsh environments.
3. Locate the RBU at the control module. Loosen the two screws using a Phillips screwdriver and then pull out the RBU.
4. Remove the SIM card from the slot.
5. Press the SIM slot slightly together so that the contacts are better in contact.
6. Insert the SIM card into the correct slot. Ensure the card is placed correctly.
7. Close the SIM card slot cover.
8. Put the RBU back in place and tighten the two screws.
9. Close the left door of the MaxiCharger.

7.2 Inspection and Maintenance

Routine maintenance is needed even if the MaxiCharger is operating in normal condition.

When parts need to be replaced, cut off the power supply upstream and inside the equipment before proceeding.

Regularly conduct visual inspection of the following:

- Cable and connector: Check for cracks or ruptures.
- Display: Check for damage and cracks. Check whether the touchscreen works.
- Coating of the cabinet: Check for damage, cracks or ruptures.
- Cabinet: Check for rust or damage.

The following special inspections are needed for safe use:

- Check if the MaxiCharger was struck by lightning.
- Check if the MaxiCharger is damaged due to an accident or fire.
- Check if the MaxiCharger installation site has been flooded.

WARNING

Stop the charge session and do not connect the power to the MaxiCharger until all the inspections are completed.

7.3 Remote Maintenance

The MaxiCharger can connect to the Autel cloud platform to monitor parameters in real time. Autel's cloud platform provides remote upgrades, diagnosis, and services, and identifies any issue during operation.

- Daily system self-check.
- Contact Autel technical support to resolve any issue found.
- Autel service engineers can check logs, update configurations and programs, and provide remote maintenance services such as remote management, diagnosis, configuration, and upgrade.

7.4 Maintenance Schedule

Item	Frequency	Operations
Connector	Annually	Check for cracks or ruptures.
Input Cable	Annually	Check for cracks or ruptures.
Inlet Air Filter	Annually	Replace the inlet air filter.
Outlet Air Filter	Annually	Replace the outlet air filter.
Cabinet	Annually	Clean and check for damage, including the air filters.
SIM Card	Annually	Check if the SIM card is making proper contact with the slot.

8. Technical Specifications

8.1 General Specifications

Table 8-1 Product Specifications

480 kW (Air Cooling)	
AC Input	
AC Input Capacity	520 kVA
Input Connection	3P + PE (No neutral)
Input Voltage	3-phase 480 V AC + 10%/-15% (2 routes)
Input Frequency	60 Hz
Earthing Systems	TN-S, TN-C, TN-C-S, IT, TT (Requires external RCD) When connected to the TN-C system, the grounding continuity must be ensured. When connected to the TT or IT system, the equipment enclosure must be grounded.
Power Factor	≥ 0.99
Overvoltage Category	AC Side (Input) OVC: III
Harmonic Distortion (THDi)	< 5%
Maximum Current (each route)	347 A
DC Output	
Output Power	480 kW
Output Voltage	CCS/NACS: 150-1000 V
Max. Number of Outputs	2
Charging Mode	Mode 4: 2*NACS; 2*CCS1; 1*NACS+1*CCS1
Output Current	CCS1: 400 A (Max. 500 A) NACS: 380 A (Max. 500 A)
Peak Efficiency	96%

480 kW (Air Cooling)	
General Characteristics	
Dimensions of the Cabinet (W x D x H)	MaxiCharger with Swing Arm CMS: 30.8 x 30.8 x 90 inches (782 x 782 x 2287 mm)
Weight	1675.5 lb. (760 kg) (including the weight of modules and CMS)
Mounting	Floor Standing
Touchscreen	15.6-inch LCD Touchscreen 27-inch LCD Touchscreen (Optional)
Connectivity	4G/5G (Dual SIM Card) Wi-Fi Ethernet
Software Update	OTA updates via web portal, FTP, FTPS, HTTPS
Cable Length	Standard: 16.4 ft. (5 m) Optional: 23.6 ft. (7.2 m)
Energy Metering	Accuracy: 1%
Standby Power	≤ 85 W (Typical value)
Rated Service Breaking Capacity	65 kA
Emergency Button	Yes
Enclosure Type	Zinc Aluminum Magnesium Alloy
Enclosure Rating	Type 3R/IK10
Communication to the EV	ISO/IEC 15118 with PnC DIN 70121
User Interface	
Status Indication	Standard
RFID Protocols	ISO 14443 A/B ISO/IEC 15693 MIFARE

	480 kW (Air Cooling)
Credit Card Readers	Nayax VPOS Payter Apollo Polar PAX IM30
Communication Protocols	OCPP 1.6J OCPP 2.0.1 (Optional)
Cable Management System	Standard
User Authentification	AutoCharge Plug & Charge APP RFID Card QR Code Credit Card (Optional)
Environmental Specifications	
Humidity	≤ 95% RH, non-condensing
Operating Altitude	≤ 6561.7 ft. (2000 m)
Operating Temperature Range	–31 to 131 °F (–35 to +55 °C)
Storage Temperature Range	–40 to 158 °F (–40 to +70 °C)
Noise	55 dBA (Silent Mode)@25℃@1m in front of screen
Safety and Compliance	
Protection	Surge, overcurrent, undervoltage, overvoltage, tilt sensor, access protection, over-temperature protection, short circuit and overload protection
EMC Compliance	EMC Class A
Safety Standards	UL 2202 UL 2231-1 UL 2231-2 NEC Article 625 CSA C22.2 No. 107.1-16

	480 kW (Air Cooling)
Certification	UL cUL FCC
Warranty	
Design Life	10 Years
Warranty	24 months, warranty extension possible

8.2 Charging Module Location Specifications

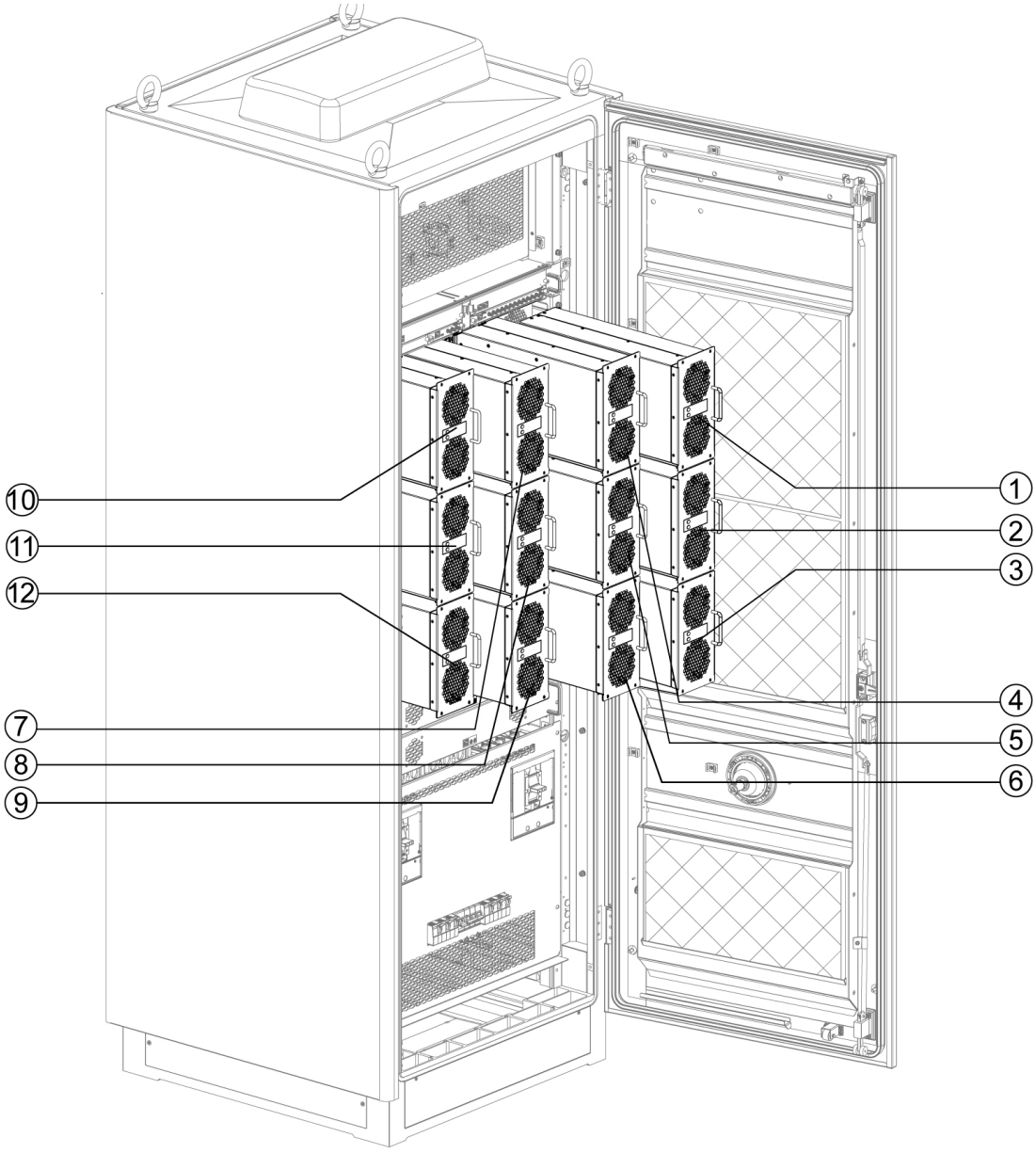


Figure 8-1 Charging Module Location

Table 8-2 Charging Module Installation Specifications

Rated Power	Number of Modules	Location
120 kW	3 PCS	3, 6, 12
160 kW	4 PCS	3, 6, 9, 12
200 kW	5 PCS	2, 3, 6, 9, 12
240 kW	6 PCS	2, 3, 5, 6, 9, 12
280 kW	7 PCS	2, 3, 5, 6, 9, 11, 12
320 kW	8 PCS	2, 3, 5, 6, 8, 9, 11, 12
360 kW	9 PCS	1, 2, 3, 5, 6, 8, 9, 11, 12
400 kW	10 PCS	1, 2, 3, 4, 5, 6, 8, 9, 11, 12
440 kW	11 PCS	1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12
480 kW	12 PCS	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

NOTICE

- Ensure the charging module is properly installed. The handle at the charging module should be at the right side and outward-facing.
- Seal the slots where the charging modules are not inserted with counterfeit charging modules.
- For replacing the charging modules, refer to related *Spare Part Replacement Manual*.

AUTEL®

www.autelenergy.com