Installation and Operation Manual

MaxiCharger DC Compact (Wall-mounting)

Version 1.0

UL Model

Trademarks

Autel® and MaxiCharger® are trademarks of Autel Intelligent Technology Corp., 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).

Hardware Support Hours of Operation; 8 A.M. - 5 P.M. CT, M-F

Website: **https://acd-inc.com/energy/**

Tel: 1(877)990-2237

Email: energyservices@acd-inc.com

Address: 403 North Main Street Benton, AR USA, 72015

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

CONTENTS

1 Using This Manual 1

1.1 Signal Word 1

1.2 Target Group 2

1.3 Revision History 2

1.4 Terminology 2

2 Safety 3

2.1 Safety Warnings 3

2.2 Owner Responsibilities 4

2.3 Installation Engineer Qualifications 4

2.4 Usage Instructions 4

2.5 Signs on the MaxiCharger 5

2.6 Disposal Instructions 5

2.7 Cyber Security 5

3 General Introduction 6

3.1 Product Overview (Inside) 7

3.2 Product Overview (Outside) 8

4 Preparation 9

4.1 Before You Begin 9

4.2 Location Requirements 10

4.3 Installation Tools and Materials 11

5 Installation 13

5.1 Unpack 14

5.2 Move the MaxiCharger 15

5.3 Mount the Equipment 16

5.4 Power Supply Wiring 19

5.5 Internet Connection 23

5.6 Finish Installation 24
5.7 Upstream Protective Devices 24
5.8 Prepare for Operation 24
5.9 OCPP Settings 25
5.10 Autel Charge Cloud Configuration 27

6 Operation 28

6.1 Charge Sessions 28
6.2 Charging Errors 32
6.3 De-energize the MaxiCharger 33

7 Maintenance 35

7.1 Routine Maintenance 35
7.2 Inspection and Maintenance 38
7.3 Remote Maintenance 38
7.4 Maintenance Schedule 39

8 Troubleshooting 40

9 Specifications 42

9.1 Specifications 42
9.2 Product Dimensions 45

1 Using This Manual

This manual describes the installation and use of the MaxiCharger DC Compact. 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 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.

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
V1.0	2023.09.19	Initial version

1.4 Terminology

Term	Definition
AC	Alternating current
CCS	Combined Charging System, a standard charging method for electric vehicles
CCU	Communication Control Unit, a control unit used to communicate with the BMS (Battery Management System) and control the power delivery to the EV
CHAdeMO	Abbreviation of CHArge de MOve, a standard charging method for electric vehicles
DC	Direct current
EV	Electric vehicle
OCPP	Open charge point protocol, open standard for communication with charge stations
RCCB	Residual current circuit breaker
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 protection device, a device intended to protect electrical devices from voltage spikes in AC circuits
TCU	Transaction Control Unit, 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 use the MaxiCharger if the cabinet, power cord or charging cable are frayed, have broken insulation or shows any other signs of damage.
- 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 with 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 National Electric Code (NEC) to meet the rated current and voltage demand.
- 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 to ensure it is properly grounded. 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 open and close 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 of 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

- Fully understands 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 Signs on the MaxiCharger

Symbol	Risk Description
	General risk
	Hazardous voltage that gives risk of electrocution
	Waste from electrical and electronic equipment
	Hot surface that gives risk of burn injuries

2.6 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.

2.7 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

The MaxiCharger DC Compact offers the best value with 40kW smart charging power, advertising, and communication capability in a perfect size to fit almost any application.

Intended Use

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

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.

NOTICE

The images and illustrations depicted in this manual may differ slightly from the actual product.

3.1 Product Overview (Inside)

A Equipment Control Unit (ECU)

B Communication Control Unit 1 (CCU1)

C Power Hub

D Surge Protection Device (SPD)

E AC Contactor 1

F AC Contactor 2

g Residual Current Circuit Breaker (RCCB)

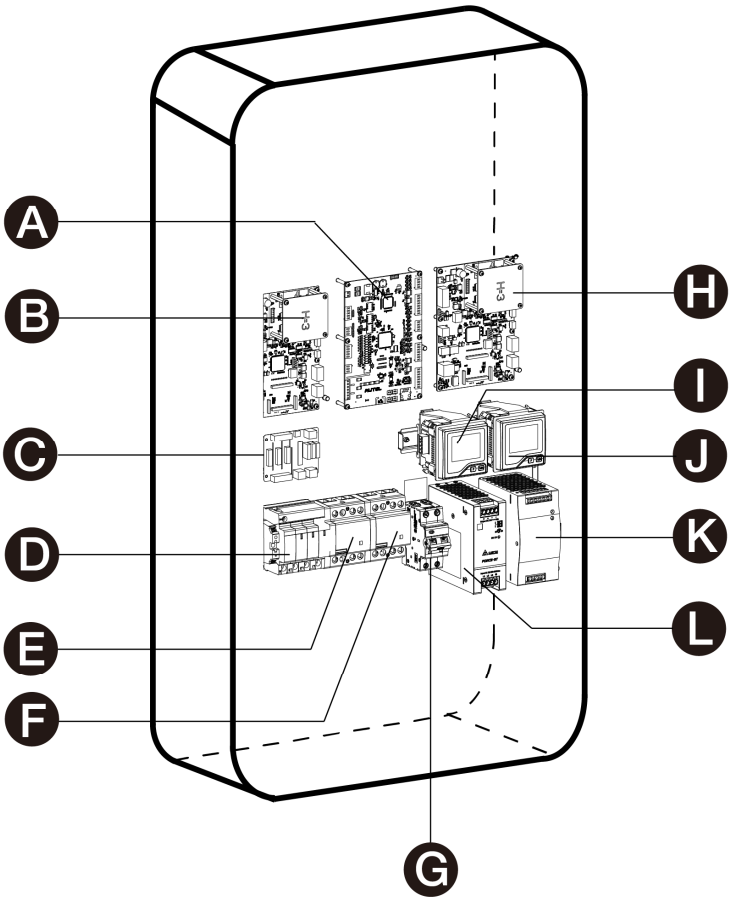
H Communication Control Unit 2 (CCU2)

I Energy Meter 1

J Energy Meter 2

K 48 V Auxiliary Power

L 24 V Auxiliary Power



3.2 Product Overview (Outside)

1. Ambient Light Sensor — detects ambient brightness

2. 21.5-inch LCD Touchscreen

3. RFID Reader

4. POS Device (Optional)

5. Charging Cable

6. Ethernet Cable Inlet Hole

7. AC Inlet Hole

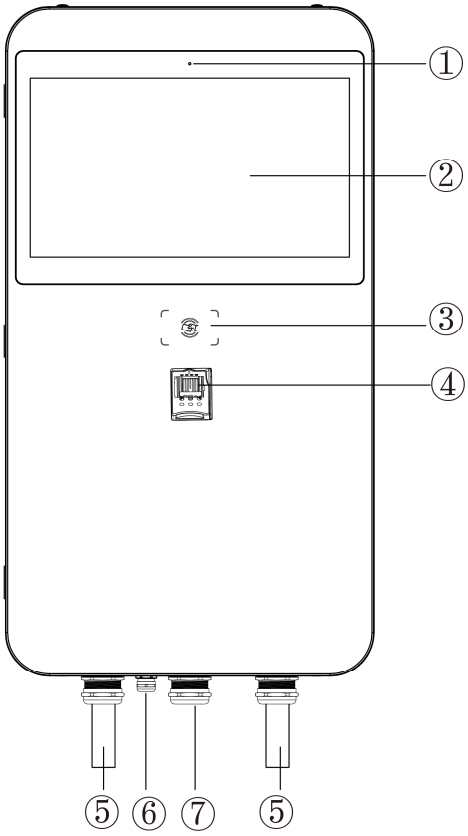
8. Lock

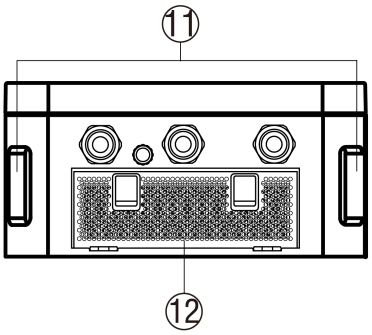
9. Vent — each on the right and left side

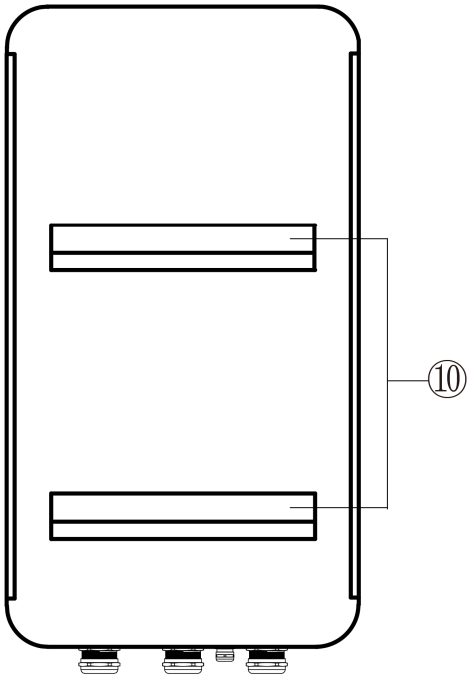
10. Groove

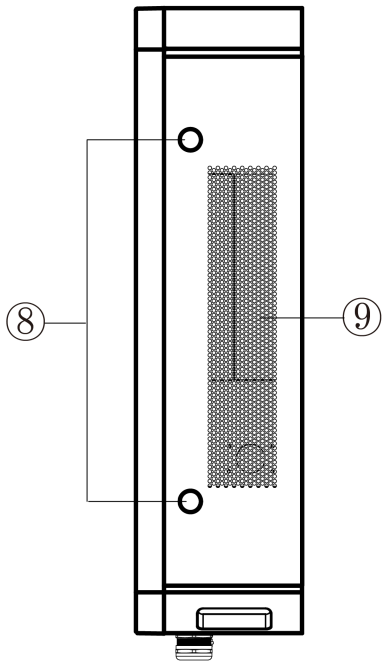
11. Lifting Handle

12. Inlet Air Filter Bezel









4 Preparation

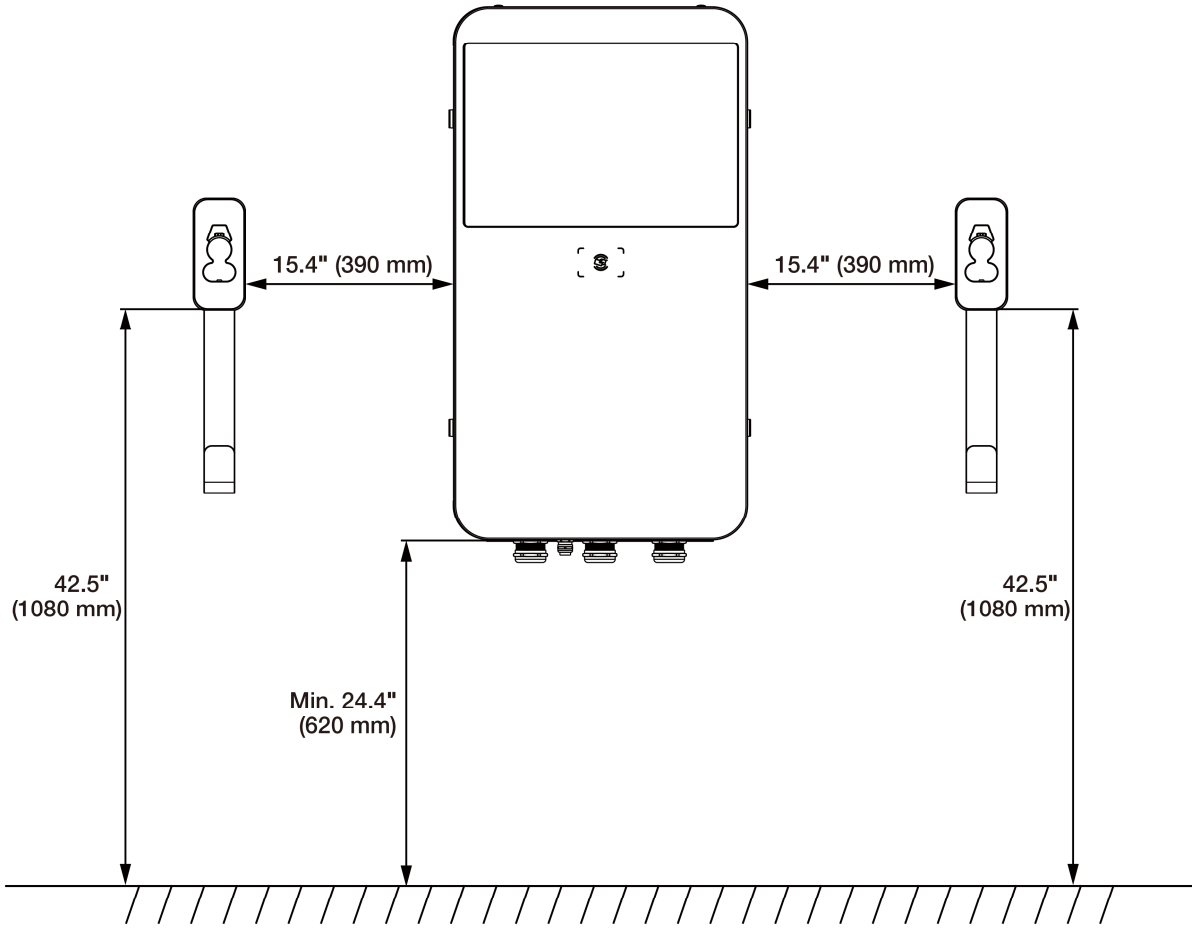
4.1 Before You Begin

- Read through this manual prior to installation to be familiarized with the installation steps.
- Ensure the appropriate wiring, circuit protection, and metering is in place at the installation site, according to the specifications, wiring diagrams, and grounding requirements.
- 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 installation site has a load capacity sufficient to support the MaxiCharger.
- Ensure adequate CDMA (Verizon or Sprint) or GSM (AT&T, Rogers) cellular coverage is available at the installation site. Cellular repeaters may be required in underground garages or other enclosed parking structures.
- Ensure the space around the MaxiCharger is sufficient to carry out installation or maintenance work.

4.2 Location Requirements

Before mounting the MaxiCharger, choose a suitable mounting location that meets the following requirements:

- Before mounting the charger, ensure the wall can support a weight of approximately 330 lbs. (150 kg).
- Ensure that there is sufficient space to install the charger. The recommended installation space is shown in the illustration below.
- Ensure the charging connector of the charger can sufficiently reach the vehicle's charging port with the chosen cable length. The standard charging cable length is 18 feet (5.5 m). 24.6 feet (7.5 m) cable is also available.

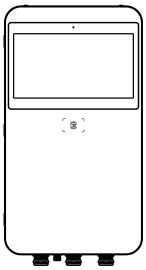


4.3 Installation Tools and Materials

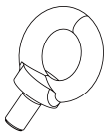
4.3.1 In the Box

Main Kit

MaxiCharger
1 PC

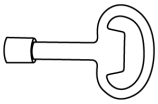


Lifting Eye Bolt (M12)
4 PCS



Hex Key (1/4-inch)
1 PC

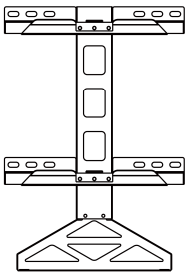
Triangle Socket Key
2 PCS



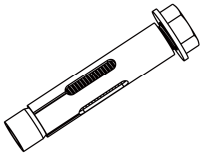
Packing List
1 PC

Wall-mounting Kit

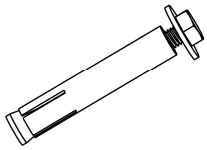
Wall Dock
1 PC



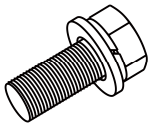
Expansion Bolt (M12 x 80)
4 PCS



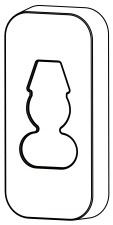
Expansion Bolt (M6 x 60)
8 PCS



Screw (M12 x 30)
2 PCS



Holster Case
2 PCS



Holster Inlet
2 PCS

Cable Holder
2 PCS

Quick Reference Guide
1 PC

Packing List
1 PC

4.3.2 Recommended Tools

- Spirit Level
- Power Drill
- Drill Bit (5/8” and 5/16”)
- Socket Wrench (3/4”)
- Socket Wrench (3/8”)
- Brush
- Hammer
- Marker
- Hoisting Equipment
- Wire Stripper
- Crimping Tool
- Cable Lug
- Flathead Screwdriver
- Phillips Screwdriver

NOTICE

The tools mentioned above are not included in the packages. Ensure they are readily available prior to installation.

5 Installation

General Installation Procedures:

1. Unpack the shipping crate.
2. Move the equipment to the installation site.
3. Mount the equipment.
4. Complete the power supply wiring.
5. Connect the MaxiCharger to the Internet.
6. Finish installation.

The installation work shall be carried out after a suitable location is chosen.

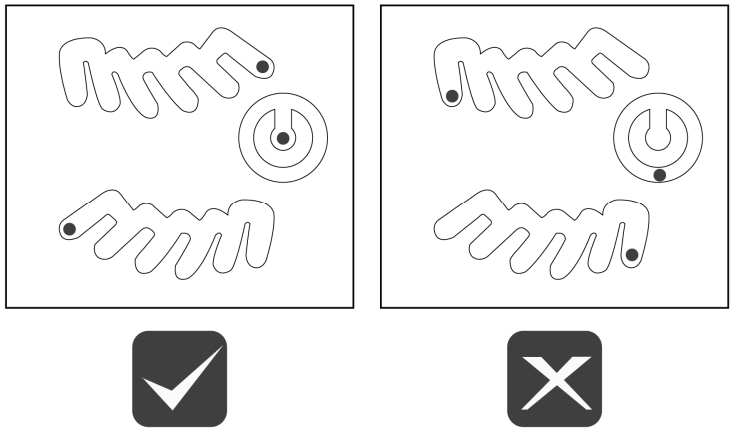
CAUTION

- Cut off the power supply before opening the MaxiCharger.
- Do not touch the inside components of the MaxiCharger while it is powered on.
- Ensure no voltage is applied while checking the MaxiCharger.
- Operate the MaxiCharger only when its door is closed and locked.

5.1 Unpack

1. Check the Shockwatch and tilt and inversion indicators.

2. Observe the sensors attached to the package for the degree of the tilt and complete overturn and check the Shockwatch. If the sensors demonstrate over 30° of tilt or total overturn, or 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 complete and no damage is found.



3. Remove the outside packaging and interior protection materials.

4. Inspect the MaxiCharger and the parts for damage. If damage is evident or the parts are not consistent with the order, contact your local dealer.

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

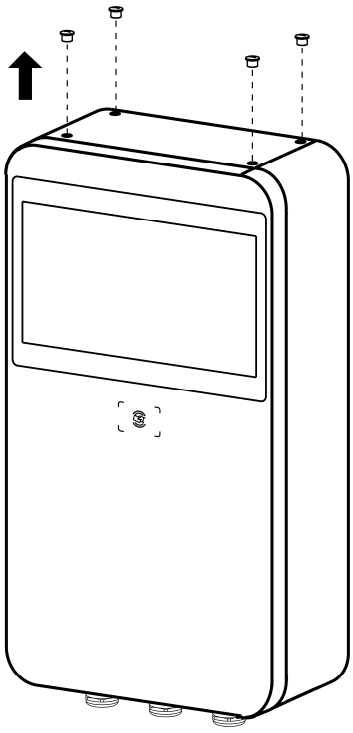
5.2 Move the MaxiCharger

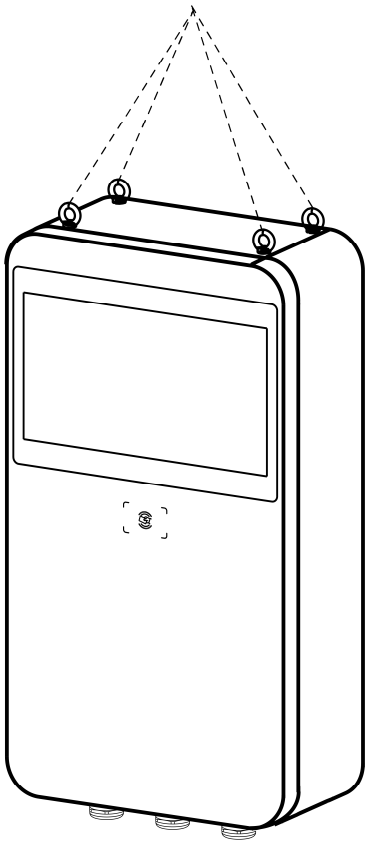
It is recommended to move the MaxiCharger to the installation site using appropriate hoisting equipment (crane, straps, and so on).

1. Remove the four screws at the top of the charger using a flathead screwdriver. Set them aside.
2. Install the four M12 lifting eye bolts into the four holes and tighten the bolts using any tool that seems appropriate and handy (such as a screwdriver).
3. Connect the cables of the hoisting equipment to the eye bolt lifting loops.
4. Move the equipment to the installation site.

CAUTION

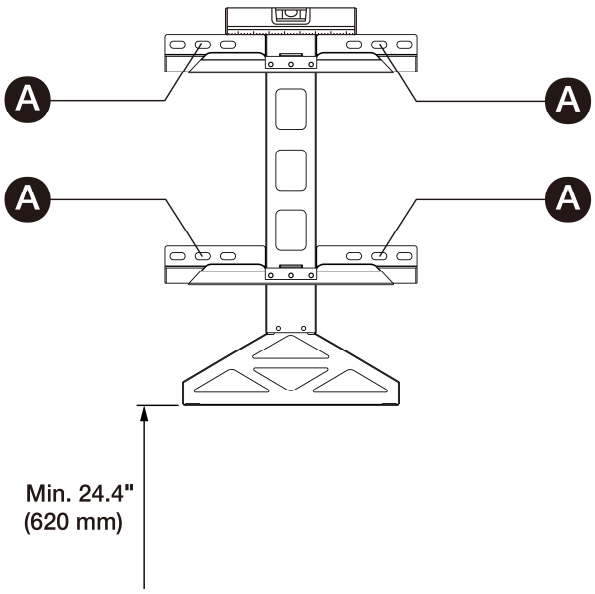
Do not tilt the equipment over 40 degrees when hoisting.





5.3 Mount the Equipment

Step 1

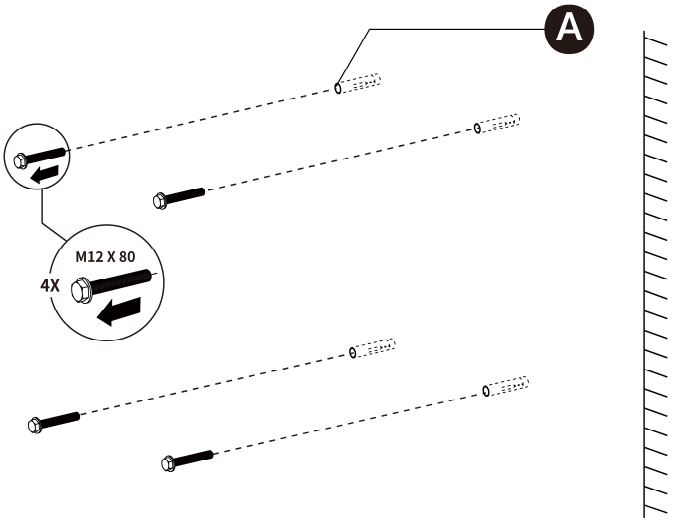


1. Mark a horizontal line measuring 24.4 inches (620 mm) above the surface at a minimum.
2. Place the wall dock on the wall, aligning its bottom with the horizontal line and level it using a spirit level.
3. Mark the four mounting holes (A) and remove the wall dock.

NOTICE

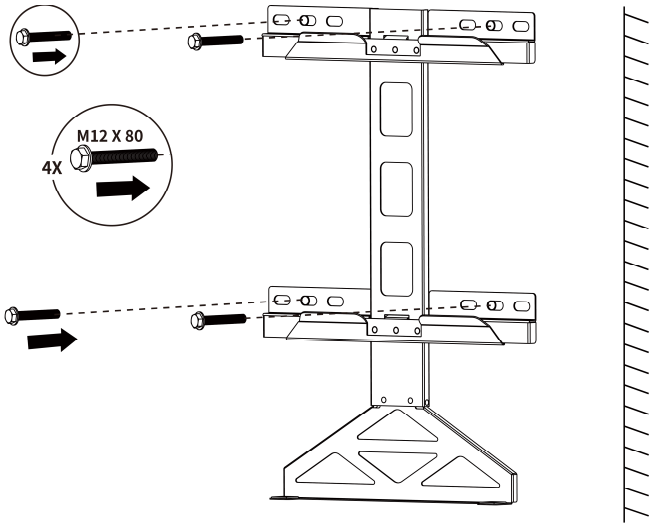
There are three types of mounting holes on the wall dock: namely, outer, middle, and inner. Choose the most appropriate type based on the wall width.

Step 2



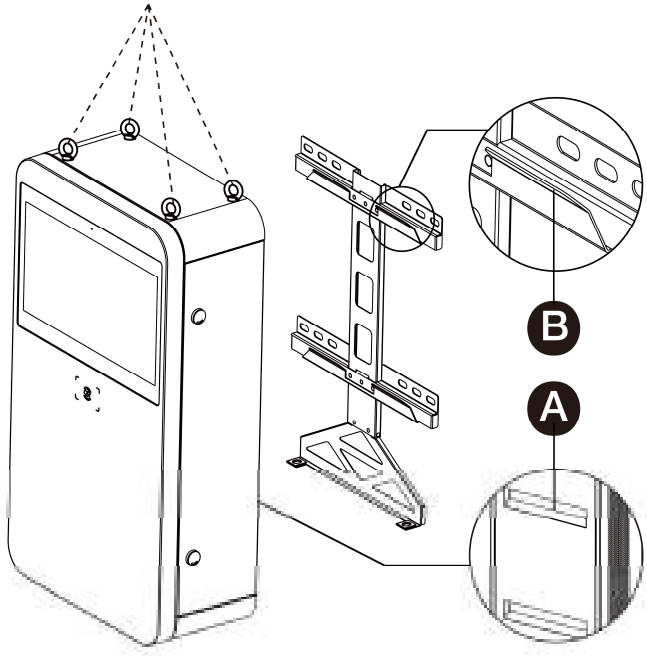
1. Drill four 5/8” (16 mm) holes to a depth of 3.15” (80 mm). Remove any debris using a brush.
2. Tap four M12 x 80 expansion bolts into the holes until the expansion sleeves (A) are stuck. Then remove the bolts and gaskets using a 3/4” socket wrench.

Step 3



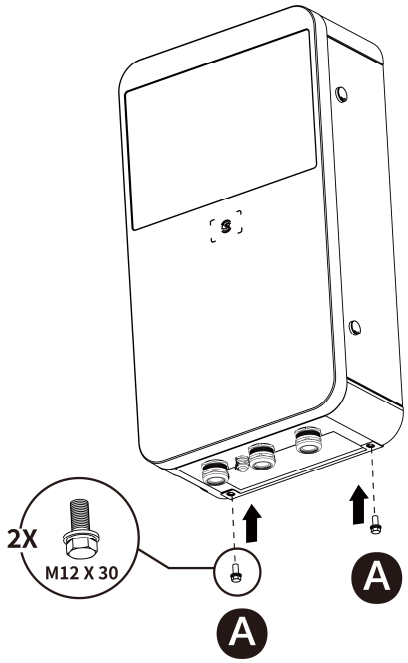
Put the wall dock against the wall, aligning it with the four mounting holes. Then reinsert the bolts and gaskets and tighten the bolts to 398–487 in–lb. (45–55 Nm).

Step 4



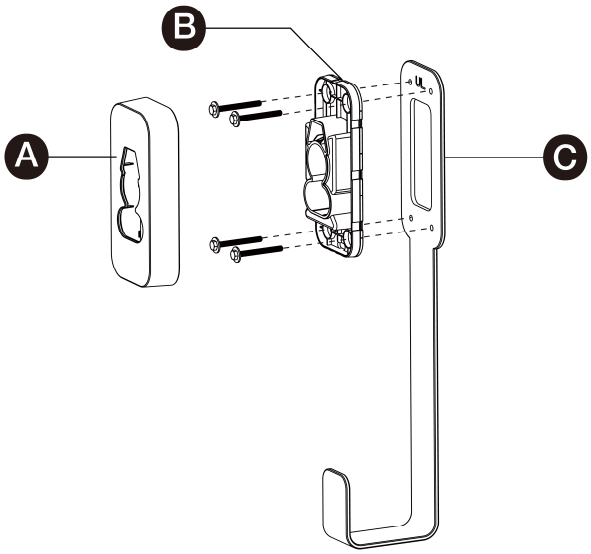
Hoist the charger and mount it onto the wall dock, making sure its grooves (A) catch onto the wall dock's mounting brackets (B). Ensure the charger is securely attached.

Step 5



Install two M12 x 30 screws (A) to the bottom of the charger using a 3/4” socket wrench. Tighten the screws to 345 in–lb. (39 Nm) to secure the charger to the wall dock.

Step 6



1. Place the holster inlets against the wall, measuring 42.5” (1080 mm) above the surface and 15.4” (390 mm) from the charger.

2. Mark the eight mounting holes and remove the holster inlets.

3. Drill eight 5/16” (8 mm) holes to a depth of 2.4” (60 mm).

4. Hang the cable holders (C) and holster inlets (B) onto the wall, aligning them with the mounting holes. Then insert eight M6 x 60 expansion bolts into the holes. Tighten the bolts to 27 in–lb. (3 Nm) using a 3/8” socket wrench.

5. Press the holster cases (A) onto the inlets. Ensure they are securely attached.

NOTICE

Install holster A on the left side of the charger and holster B on the right.

5.4 Power Supply Wiring

WARNING

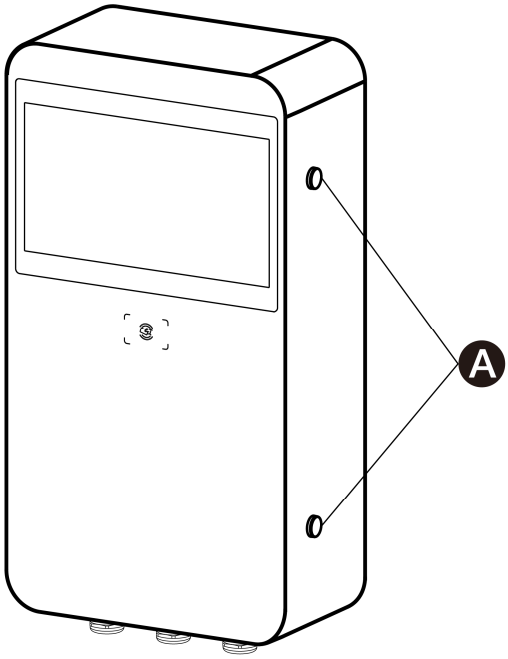
Risk of Electric Shock

- Only a qualified electrician is allowed to determine the electrical requirements and connect the wires.
- Ensure the power is off before connecting the wires.

Before connecting the wires, ensure the following requirements are met:

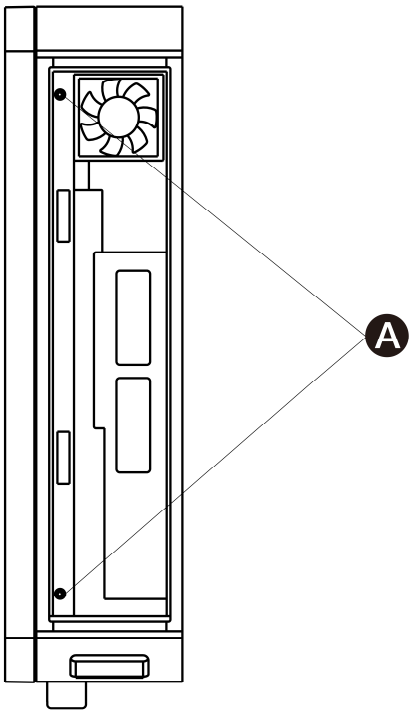
- Electrical input rating must be 480V three-phase in Wye or Delta configuration (Neutral is not required).
- Use 90-degree copper wire only.
- The circuit breaker at the panel must be off.
- The MaxiCharger must be grounded to true earth.
- An insulated grounding conductor must be installed as part of the branch circuit that supplies the MaxiCharger.
- The grounding conductor should be grounded to earth at the service equipment or, when supplied by a separately derived system, at the supply transformer.
- All connections must comply with all local codes and ordinances.

Step 1



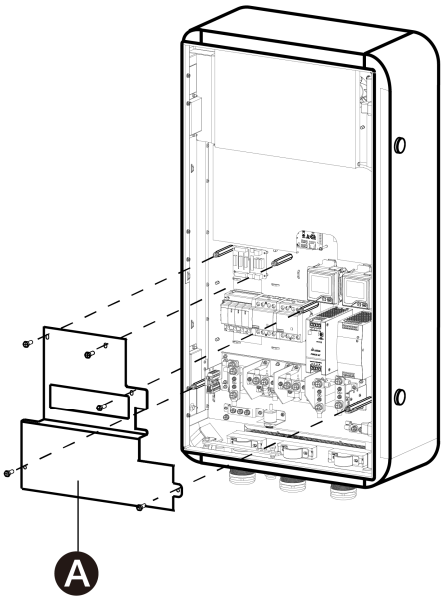
Flip open the lock covers (A) on the right side of the charger. Then push the triangle socket key into the lock and turn it counterclockwise to open the side door. Ensure the triangle of the key matches that of the lock when pushing.

Step 2



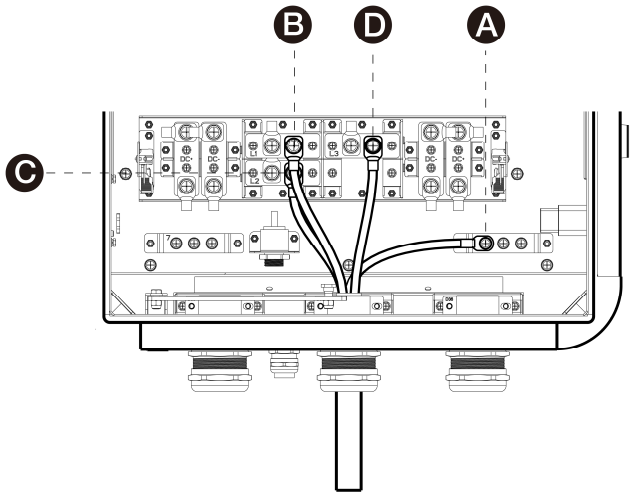
Loosen the two M8 hex screws (A) using the hex key and open the cabinet door.

Step 3



Loosen the five M6 x 16 screws using a Phillips screwdriver to remove the galvanic isolation board (A). **Set them aside**.

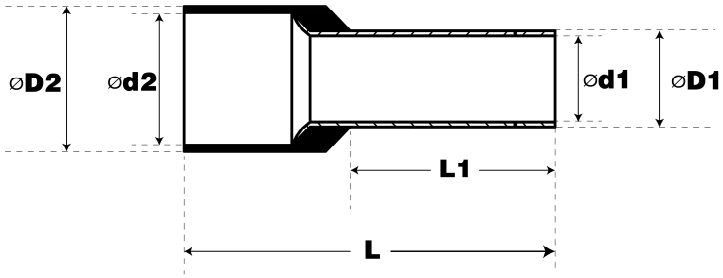
Step 4



1. Pull the wires from the conduit stub-up and guide them through the AC inlet hole.
2. Use the wire stripper to remove correct length of the insulation from the end of the wires. Ensure the stripped length is compatible with the cable lugs.
3. Use the crimping tool to attach the cable lugs to the end of the wires.
4. Loosen the M6 screw on the PE busbar using a 10 mm socket wrench. Then attach the PE wire to the PE connector (A) and screw the M6 screw to 53 in-lb. (6 Nm).
5. Loosen the M8 fasteners using a 13 mm socket wrench and attach the wires to the connectors:
   - L1 wire to the connector B.
   - L2 wire to the connector C.
   - L3 wire to the connector D.
6. Reinstall the M8 fasteners and tighten them to 53-106 in-lb. (6 to 12 Nm).
7. Reinstall the galvanic isolation board.

Table 5-1 AC Input Cable Specifications

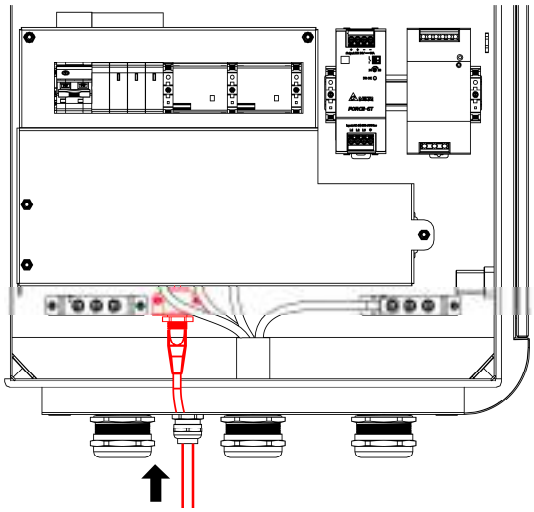
Power Input Voltage	480V
Input Current	Maximum: 52 A Nominal: 50 A
Wire Gauge	Min. 6 AWG Max. 5 AWG
Cable Lug Size (mm)	L: 28 ± 2.5 L1: 18 ± 2 D1: 6.2 ± 0.5 d1: 5.8 ± 0.4 D2: 9.6 ± 0.6 d2: 8.8 ± 0.6 *NOTE: L is length and D (d) is diameter.*



5.5 Internet Connection

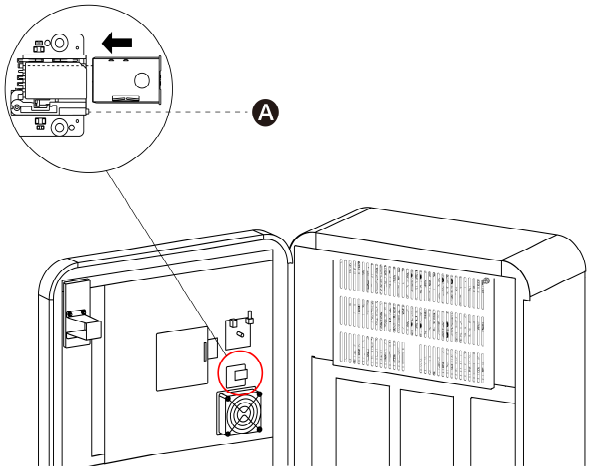
The MaxiCharger can be connected to the Internet via Ethernet cable, cellular network or Wi-Fi. Choose an appropriate connection method as applicable.

5.5.1 Connect the Ethernet Cable



1. Loosen the Ethernet cable gland.
2. Put the Ethernet cable through the Ethernet cable port at the bottom of the MaxiCharger.
3. Plug the Ethernet cable into the RJ45 port.
4. Tighten the cable gland.

5.5.2 Install the SIM Card



1. Press the button (**A**) and slide the card tray to the right to remove it.
2. Place the SIM card into the card tray. Ensure the card is inserted correctly.
3. Reinstall the card tray.

5.5.3 Connect to Wi-Fi

To connect the charger to Wi-Fi, follow the first four steps in *5.9 OCPP Settings* to enter the Device Maintenance Screen and tap **Select Network** to choose your local network.

5.6 Finish Installation

Close the cabinet door by tightening the two M8 hex screws. Then close the side cover and turn the socket key clockwise to lock it.

5.7 Upstream Protective Devices

The local utility may require an RCD to be installed. The recommended device type is provided below:

Device	Specifications
Upstream residual current device (RCD)	Type A or Type B, with a rated residual operation current of 30 mA.

5.8 Prepare for Operation

- Ensure all electrical connections are clean, tight, and free of wire strands and metal shavings.
- Wipe all surfaces with a soft cloth dampened with warm water.
- Turn the external circuit breaker on and verify that the charger is receiving 277 VAC phase to ground and 480 VAC phase to phase, ± 10%. Voltages must be verified by a qualified electrician.
- Turn on the internal circuit breaker.

The MaxiCharger is now ready for operation.

NOTICE

If the ambient temperature is below –4 °F (–20 °C), it may take 3 to 5 minutes for the touchscreen to display as a preheating process. In extreme cases, the display module will be reset to ensure the normal operation of the equipment.

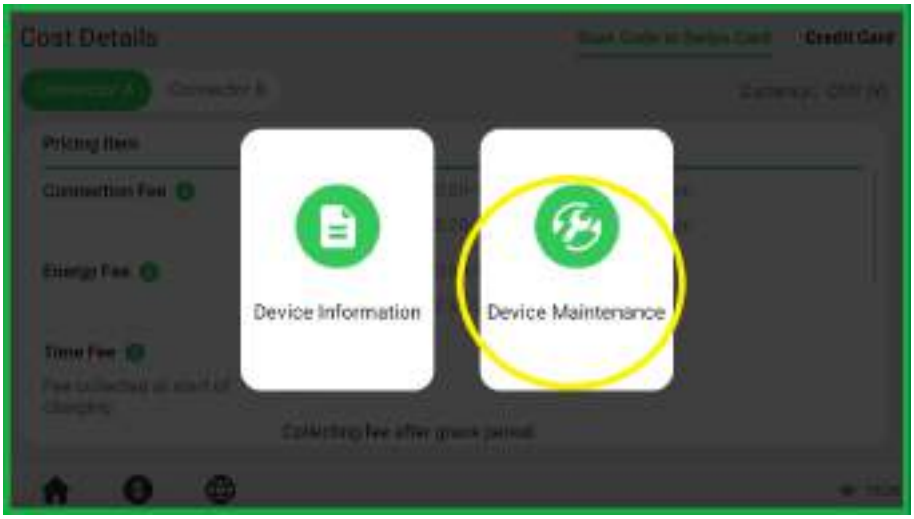
5.9 OCPP Settings

Follow the steps below to set the OCPP parameters.

1. On the Standby Screen, tap the “currency (**$**)” icon on the lower-left corner to enter the Cost Details Screen.

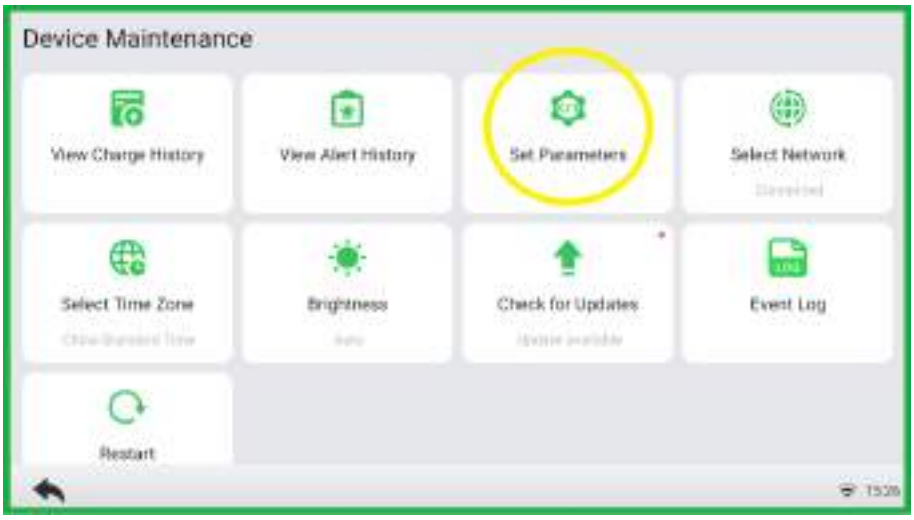
2. On the Cost Details Screen, **double tap** the upper-left corner to enter the next page.

3. Select **Device Maintenance** on the screen.



4. A password prompt will appear. Enter **the last 6 digits of the product serial number** to continue, which can be found on the product label.

5. On the Device Maintenance Screen, select **Set Parameters**.



6. Set the OCPP parameters accordingly.

5.10 Autel Charge Cloud Configuration

To ensure the normal operation of the charger, configuring the Autel charge cloud is necessary. This platform is a one-stop charging management solution intended to address the needs of many use cases including residential, commercial, governmental, car dealers, and fleets. Contact Autel technical support for subscription and obtain the *Autel Charge Cloud Manual* for more details.

If a third-party cloud platform is used, consult their personnel for configuration.

6 Operation

6.1 Charge Sessions

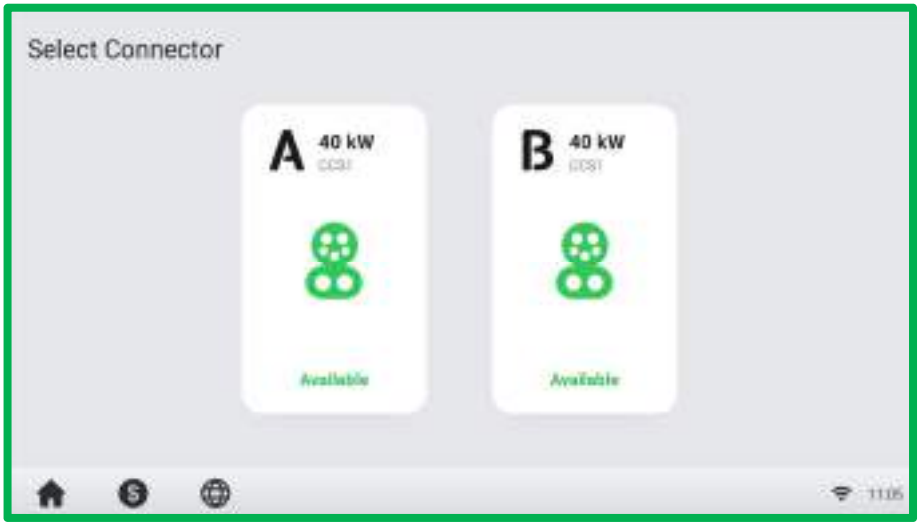
General charging procedures:

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.

WARNING

- Do not cover the vent during charging.
- Do not clean or operate in the EV during charging.

6.1.1 Standby Mode



After a connector is successfully connected to your EV, the MaxiCharger can automatically recognize the connector, then the corresponding connector's Authorization Screen will appear.

If no operation is performed for a long time on the Authorization Screen, the Standby Screen will appear. Manually select the appropriate connector on the touchscreen.

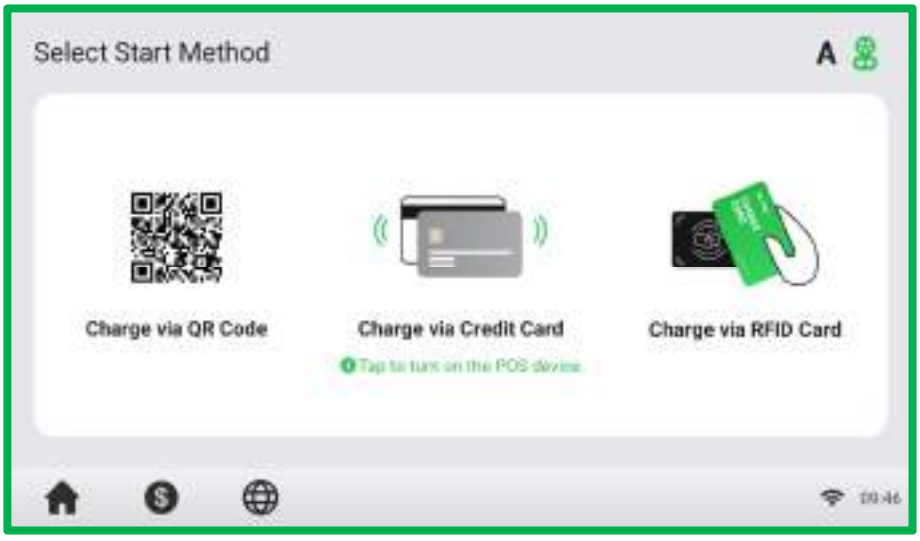
6.1.2 Authorization

CAUTION

- Observe the screen for any abnormality, such as an error message, before starting a charge session. 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 personnel for support.

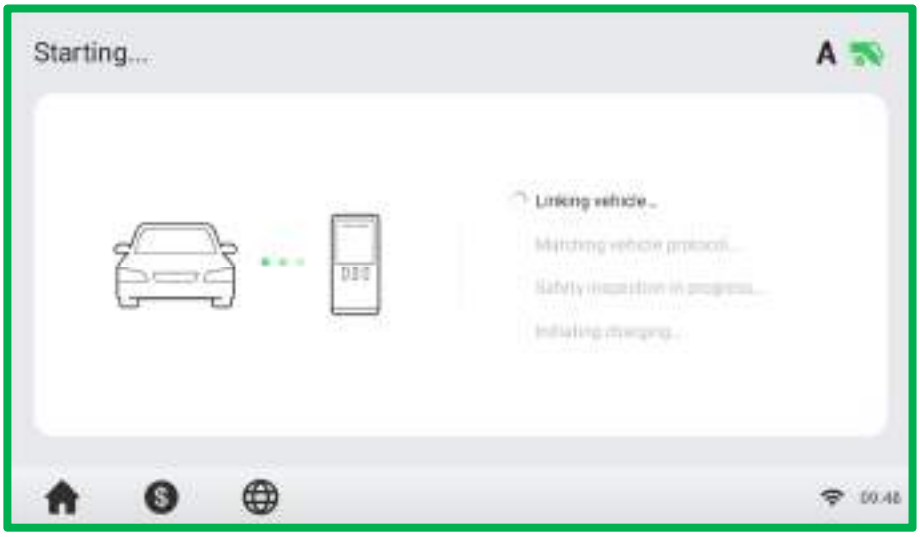
When the Authorization Screen appears, you can use any of the following methods to start a charge session:

- Scan the QR code on the screen
- RFID card
- Plug & charge
- Credit card (optional)



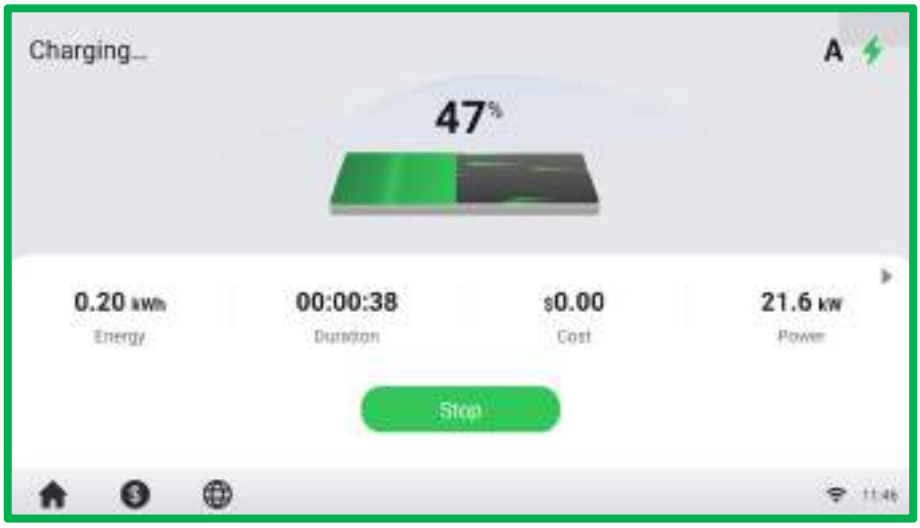
6.1.3 Start Charging

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



6.1.4 Charging

Information about the charging duration, volume, cost, and power will appear on the Charging screen. Tap the Right Arrow button on the right to view more information about the charging status, including SoC (State of Charge), current, and voltage.



6.1.5 Stop Charging

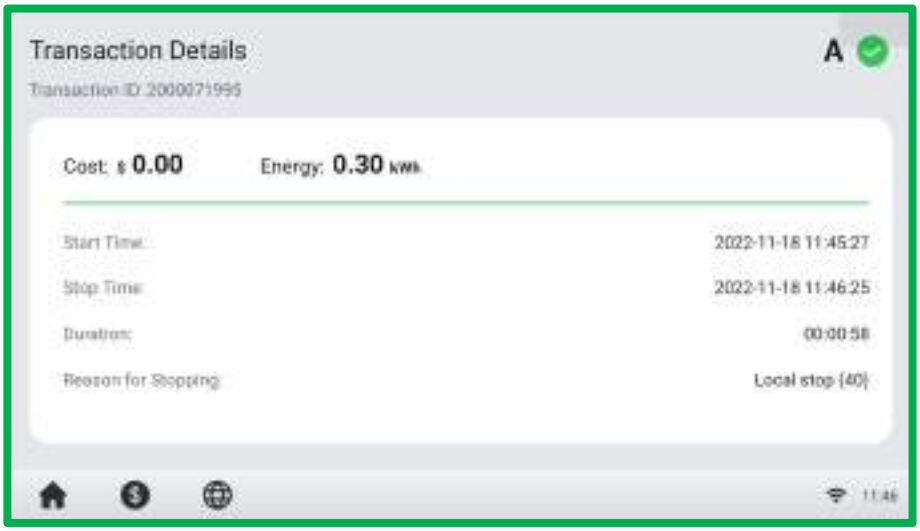
➢ **To stop charging**

1. Unplug the vehicle or tap the **Stop** button on the touchscreen.

2. If a session stops unexpectedly, the charger requires another authorization to restart a charge session. Use the same authentication method to begin the charge again:

   - QR Code/Credit Card: 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.

The transaction details will appear on the screen when a charge session is complete.



NOTICE

The charging session stops automatically when the battery is full.

6.1.6 Finish Charging

Return the connector to the holster on the MaxiCharger.

6.2 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 your local dealer or Autel technical support.

6.2.1 Connector Connection Error

If the connector is not connected to the EV, then 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.

6.2.2 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 the local dealer or Autel technical support.

6.2.3 Charge Start Failure

The Charge Start Failure screen appears when the charger 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.

6.2.4 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 your local dealer or Autel technical support.

6.3 De-energize the MaxiCharger

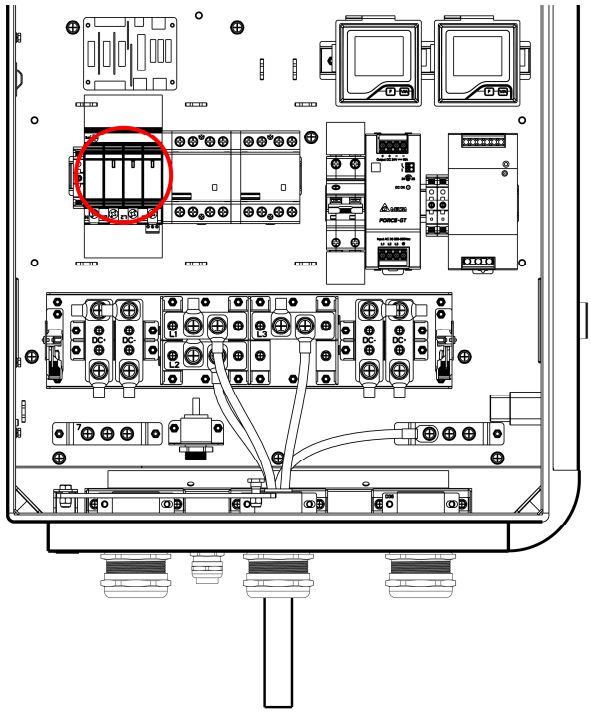
General Procedure:

1. Set the upstream breaker which provides the power to this MaxiCharger to **OFF** and lock it. Ensure that this breaker stays in the **OFF** position during the procedure.
2. Open the cabinet door.
3. Measure the AC voltage. Ensure that all the measured voltages are 0 V.
4. Measure the DC voltage. Ensure that all the measured voltages are 0 V.
5. Close the door.

6.3.1 Measuring the AC Voltage

Use a voltage tester to measure the AC voltage between the terminals on the surge protection device.

- L1 to L2
- L1 to L3
- L2 to L3



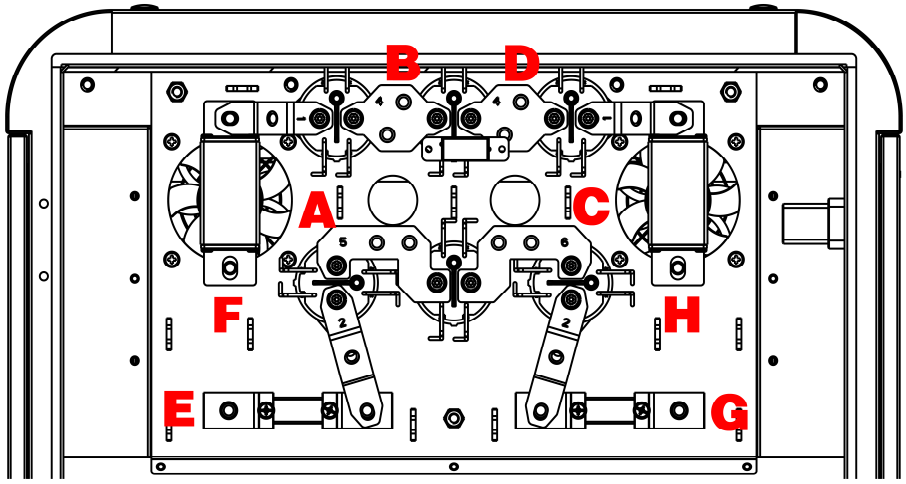
NOTICE

The surge protection device switch shows the indications L1, L2, and L3.

6.3.2 Measuring the DC Voltage

Use a voltage tester to measure the DC voltage between the output terminals:

- Power module group output 1- (B) to power module group output 1+ (A)
- Power module group output 2- (D) to power module group output 2+ (C)
- EV charging cable 1 output - (F) to EV charging cable 1 output + (E)
- EV charging cable 2 output - (H) to EV charging cable 2 output + (G)



7 Maintenance

7.1 Routine Maintenance

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

- Clean the cabinet every quarter, 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 at least twice a year.
- Test the residual current device once a year.

WARNING

- 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 any charging processes 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 Residual Current Device Maintenance

The internal residual current circuit breaker (RCCB) should be tested annually for correct functioning. Before testing, disconnect the MaxiCharger with the EV and stop any charging processes.

➢ **To test the RCCB**

1. Open the cabinet door. When the door is open, the MaxiCharger should not be directly exposed to a windy and rainy environment.

2. The MaxiCharger must be in the Standby mode. Tapping the touchscreen can wake up the MaxiCharger.

3. Locate the RCCB, and press the **T** button to start test.

- Pass: The RCCB will trip and restore the **T** button to its original position.
- Fail: The RCCB does not trip. Please contact Autel technical support. Do not use the MaxiCharger until the repair is completed.

4. Close the cabinet door after the test is finished.

5. Mark the time when the test is needed to be repeated annually.

7.1.3 Cleaning and Replacing the Air Filter

The MaxiCharger is equipped with an air inlet filter at the bottom. Clean the air filter every 3 months (not exceeding 6 months). Replace the air filter once a year.

➢ **To clean or replace the air inlet filter**

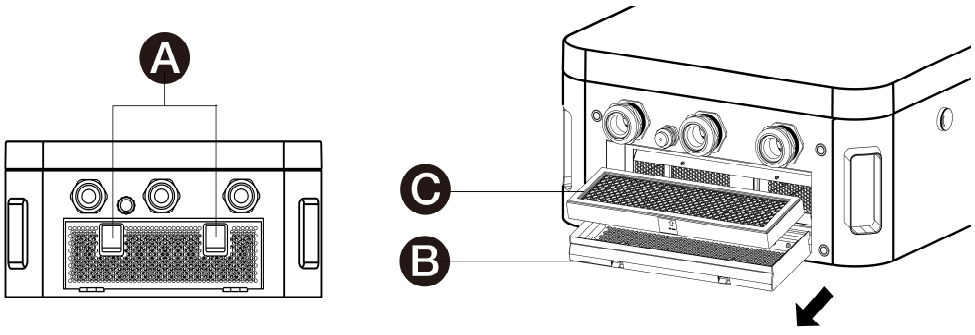
1. Ensure there is no active charge session and perform lockout-tagout to secure the charger.

2. Pop open the two buckles (A) at the bottom of the charger and flip the bezel (B) open.

3. Remove the air filter (C).

4. Clean the air inlet filter of debris or dust and reinstall the cleaned filter. Or install a new air inlet filter.

5. Close the bezel.



7.1.4 Fuse Inspection

The fuses inside the MaxiCharger should be inspected every year. Follow the instructions below to complete the inspections.

➢ **To inspect the fuses**

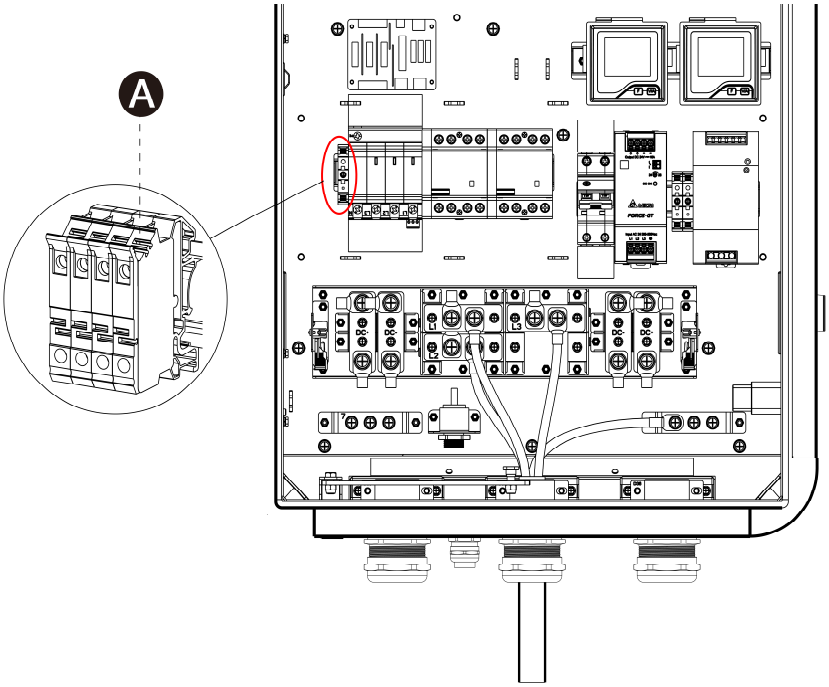
1. Ensure there is no active charge session and perform lockout-tagout to secure the charger.

2. Open the cabinet door and locate the fuse terminal blocks as shown in the diagram below.

3. Press the lever (A) and pull out the fuse terminal.

4. Check if the fuse is blown or appears broken.

5. Follow the procedures above to check all fuses.



7.2 Inspection and Maintenance

Routine maintenance is needed when the MaxiCharger is operating in normal condition.

Refer to *Troubleshooting* or contact ACDI Energy technical support to resolve any error.

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

Regularly conduct a 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 the MaxiCharger installation site has been flooded.

WARNING

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

7.3 Remote Maintenance

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

- 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	Actions
Connector	Every 3 months	Check for cracks or ruptures on the connector.
Input Cable	Every 3 months	Check for cracks or ruptures on the cable.
Air Filter	Annually	Replace the inlet air filter.
Cabinet	Every 3 months	Clean and check for damage.

8 Troubleshooting

The table below describes the most common faults when operating the MaxiCharger. Contact Autel technical support if the fault encountered is not in this table.

Error	Error Code	Possible Cause	Solution
CP voltage abnormal	0x2037	It may be caused by signal interference, poor contact or software errors.	Perform remote restart or reset. If the fault persists, contact Autel technical support.
Communication error with the entire charging module group	0x3011	There is a problem with the module's address setting.	Power off the MaxiCharger and restart it.
Overvoltage	0x202D	The DC output voltage is above the upper limit of the vehicle or the rated voltage of the MaxiCharger during charging.	Stop the charge session and contact Autel technical support.
Communication error with the power control module	0x200E	The CCU does not receive messages from the ECU and the communication is timed out.	Perform remote restart or reset. If the fault persists, contact Autel technical support.
BMS communication error	0x2007	It may be caused by charging incompatibility.	Perform remote restart or reset. If the fault persists, contact Autel technical support.
Cooling fan abnormality	0x304A	Fan aged or damaged.	Power off the MaxiCharger and contact Autel technical support for repair or replacement of the fan.
Charging port electronic locking fault	0x2002	It might be caused by a vehicle-related fault.	Contact the vehicle manufacturer and Autel technical support.
CCU auxiliary power supply shutdown	0x202C	Sever power fault due to aged key components or lines.	Power off the MaxiCharger. Then locate the faulty component or line and contact Autel technical support for its repair or replacement.
Meter communication error	0x0001	Aged meter or line.	Stop the charge session and contact Autel technical support.

Error	Error Code	Possible Cause	Solution
Insulation monitoring fault	0x2003	If it appears from time to time, it might be due to the vehicle or software error; if it appears frequently, there may be an aged key component.	Perform remote restart or reset. If the fault persists, contact Autel technical support.
AC contactor stuck	0x3008	AC contactor fault or line aging	Power off the MaxiCharger and contact Autel technical support.
FPGA fault	0x3010	Controller fault	Stop the charge session, power off the MaxiCharger, and contact Autel technical support.
CCU current sampling and module output current accumulation fault	0x3014	Charging module output or sampling fault	Perform remote restart or reset. If the fault persists, contact Autel technical support.
Power distribution contactor sticking (charging possible)	0x3047	Contactor or sensor fault or line aging	Power off the MaxiCharger immediately and contact Autel technical support.
Communication error on one charging module	0x3051	Abnormal charging module	Contact Autel technical support to identify the fault, and then clear the fault or replace the module.
Fan fault with one charging module	0x305A	Abnormal charging module	Contact Autel technical support to identify the fault, and then clear the fault or replace the module.
Inconsistent CCU voltage sampling and the module output voltage	0x305C	Abnormal charging module	Contact Autel technical support to identify the fault, and then clear the fault or replace the module.
Insulation detection alert	0x2040	If it is a one-time problem, there is may be a falling object, and no operation is required; if it has occurred for several times, the connector cable may be damaged or there are foreign objects in the busbar.	Power off the MaxiCharger immediately and contact Autel technical support.
Charger offline	0x9001	Communication error between gateway and the Autel Charge Cloud	Check the network connection and OCPP configurations.

9 Specifications

9.1 Specifications

DC Output Connection

Charging Mode	Mode 4
Output Power	40 kW
Output Voltage	CCS1: 150 to 950 VDC CHAdeMO: 150 to 500 VDC
Maximum Output Current	CCS1: 133 A CHAdeMO: 125 A
Number of Outputs	2 x CCS1 1 x CCS1 + 1 x CHAdeMO 1 x CCS1
Peak Efficiency	≥ 96 %

AC Input Connection

Standard Wiring	4-wire 3-phase (L1, L2, L3, and Earth, no neutral)
Input Voltage	480 VAC + 10 % ~ -15 %
Input Frequency	60 Hz
Power Factor (> 50% Nominal Load)	≥ 0.99
Total Harmonic Distortion (> 50% Nominal Load)	≤ 5 %
Energy Metering	Accuracy: 2.5 %

General Characteristics

Enclosure Rating	NEMA 3S, IK10
Operating Altitude	6561.7 feet (2000 m)
Operating Temp. Range	-22 to +131 ° F (-30 to +55 ° C)
Storage Temp. Range	-40 to +158 ° F (-40 to +70 ° C)
Mounting	Wall-mounting
Weight	264.6 lbs. (120 kg)
Humidity	< 95 % RH (non-condensing)
Noise Level	< 65 dB @ 1 m/25 ° C/full load/822 V (Vout)
Network Type	TN-S, TN-C, TN-C-S, TT (External RCD required)
Protection	Overcurrent, overvoltage, undervoltage, ground fault, over-temperature, short circuit, insulation monitor, surge protection

User Interface

Display	21.5-inch LCD touchscreen
Charging Cable Length	18 feet (5.5 m) Standard 24.6 feet (7.5 m) Optional
Status Indication	LED/LCD/APP
User Interface	Autel Charge App Autel Charge Cloud
Connectivity	4G Wi-Fi Ethernet
Communication Protocols	OCPP 1.6J (Can be upgraded to OCPP 2.0.1 later)
User Authentication	APP RFID card Credit card (Optional) Plug & Charge
Wheelchair accessibility	Yes
RFID Reader	ISO 14443 A + B to part 4 and ISO/IEC 15693 Mifare NFC

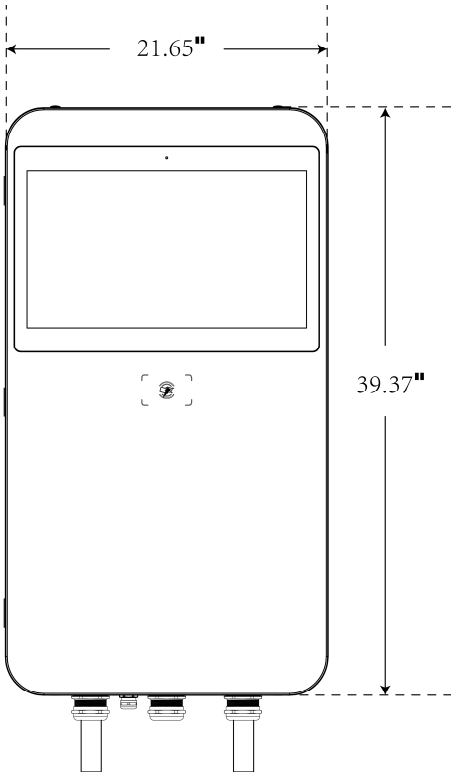
Software Update

Software Update	OTA updates via web portal

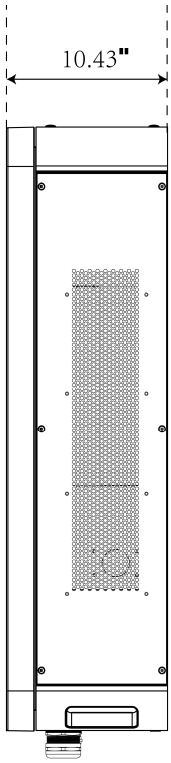
Certification and Standards

Safety and Compliance	UL 2202, UL 2231-1, UL 2231-2, CSA No. 107.1-16, NEC Article 625, ISO 15118 Plug & Charge
EMC Compliance	FCC 15 Class A
Certification	UL/cUL
Warranty	24 months, warranty extension possible

9.2 Product Dimensions



Front View



Side View

acd-inc.com/energy