MaxiCharger DC Compact (Wall-mounting)

Installation and Operation Manual

Version 1.0

CE Model

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NOTICE

Before operating or maintaining this unit, please read this manual carefully, paying extra attention to the safety warnings and precautions.

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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 charging station to ensure a successful installation and smooth operations.

This document is intended for these groups:

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

1.1 Conventions

1.1.1 Bold Text

Bold text is used to highlight selectable items such as buttons and menu options.

1.1.2 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.

1.1.3 Illustrations

Illustrations used in this manual are only examples; the actual product(s) or screens may vary.

1.1.4 Revision History

Version	Date	Descriptions
V1.0	2024.02	Initial version

1.2 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 charging stations
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

2 Safety

For your own safety and the safety of others, and to prevent damage to the device and vehicles upon which it is used, it is important that the safety instructions presented throughout this manual be read and understood by all persons operating or coming into contact with the device.

2.1 Safety Warnings

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.

- Disconnect the power supply to the charging station during the entire installation procedure.
- The load capacity of the grid must meet the requirements of the charging station.
- Connect the charging station to a grounded, metal, and permanent wiring system. Otherwise, use the equipment-grounding conductor with the circuit conductors and connect it to the equipment grounding terminal or lead on the product.
- Unqualified personnel must keep a safe distance during the entire installation procedure.
- The connections to the charging station must comply with all applicable local rules.
- Only use electrical wires of sufficient gauge and insulation to handle the rated current and voltage demand.
- Protect the wiring inside the charging station from damage and do not obstruct the wiring when you perform maintenance on the cabinet.
- Protect the charging station with safety devices and measures as specified by local rules.
- If applicable, install a fire alarm system nearby this equipment to detect early fires.
- **If any specifications or regulations mentioned in this manual contradict with your local rules, refer to your local rules.**

2.2 Owner Responsibilities

The owner runs the charging station 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 charging station 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 charging station.
- Ensure the charging station has installed the protective devices.
- Ensure all protective devices are installed after installation or maintenance.
- Ensure the space around the charging station 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 Charging station 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 Charging station.

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 charging station.

2.4 Usage Instructions

Do not operate the charging station and immediately contact the manufacturer if any of the following situation

arises:

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

2.5 Signs on the Charging Station

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 charging station 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.

- Obey the local rules when discarding parts, packaging materials or the charging station.
- Discard electrical and electronic equipment separately in compliance with the WEEE-2012/19/EU Directive on waste of electrical and electronic equipment.
- Do not mix or dispose the charging station with the household waste.

2.7 Cyber Security



NOTICE

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

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

Appropriate measures shall be taken by the owner to shield the charging station, 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 is designed to charge an electric vehicle (EV). Our charging stations provide safe, reliable, fast, and smart charging solutions.

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

- Fleets
- Highway rest stops
- Commercial parking garages
- Other locations

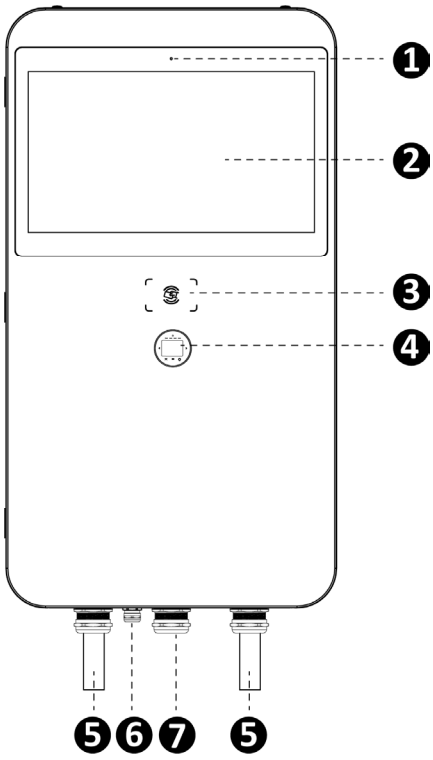


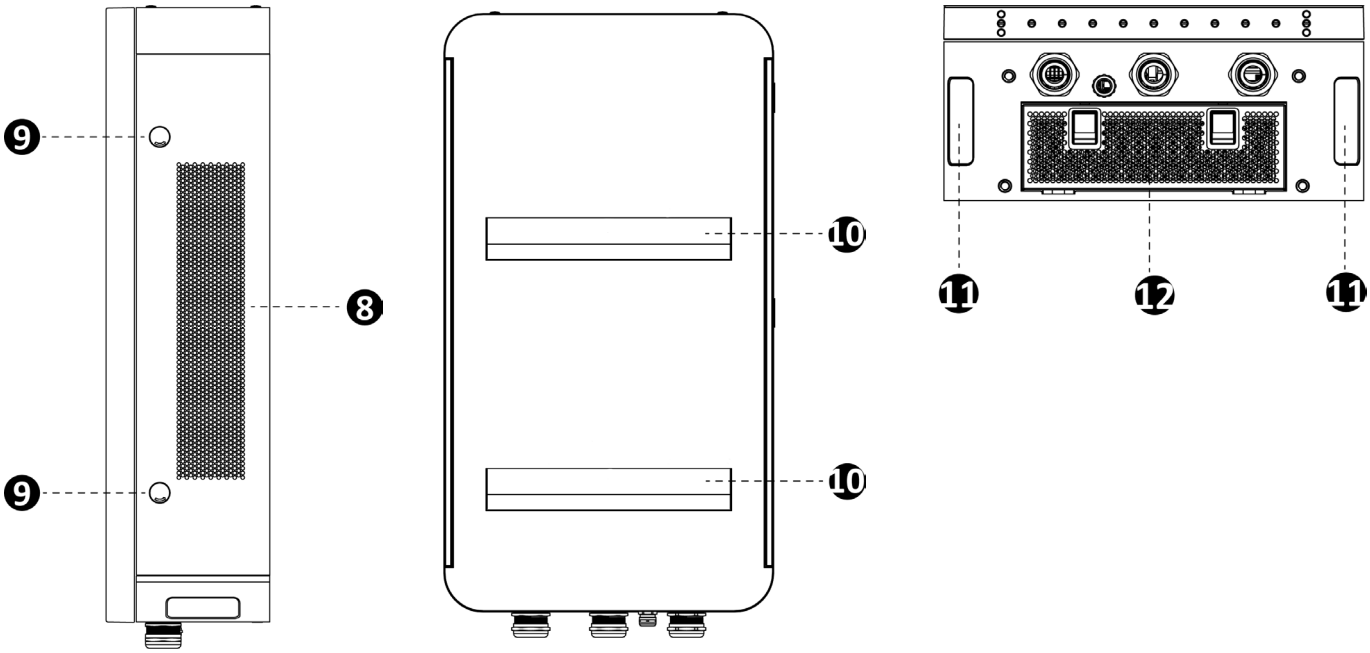
DANGER

- Do not operate the equipment in any way other than described in this manual or other related documents released by Autel. Failure to comply may cause potential personal injury and/or damage to the property.
- Use the charging station only as intended.

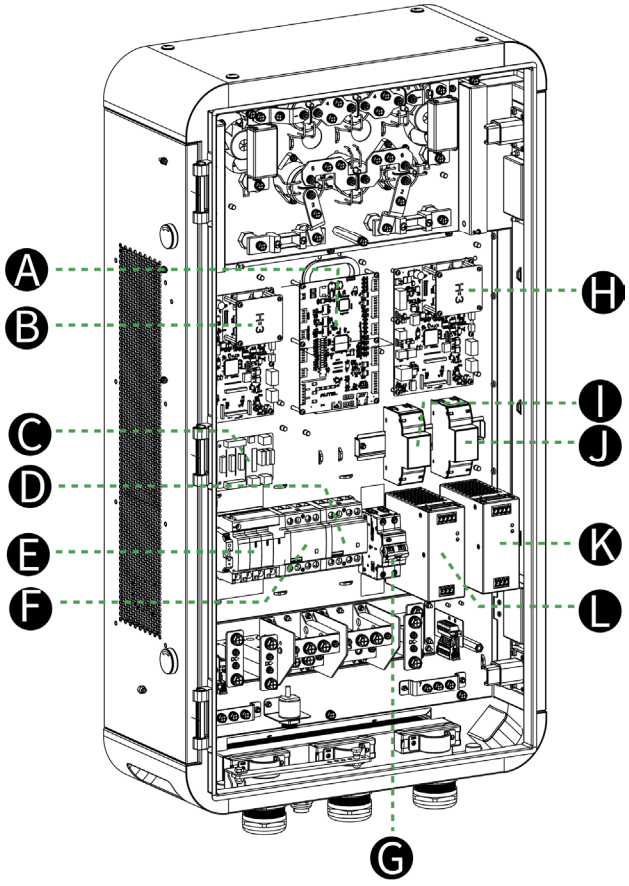
3.1 Product Overview (Outside)

1. Ambient Light Sensor
2. Touchscreen
3. RFID Card Reader
4. POS Payment Device (optional)
5. EV Charging Cable
6. Ethernet Cable Port
7. AC Inlet Hole
8. Vent — each on the right and left side
9. Lock
10. Groove
11. Lifting Handle
12. Bezel





3.2 Product Overview (Inside)



A. Equipment Control Unit

B. Communication Control Unit 1

C. Power Hub

D. AC Contactor (KM2)

E. Surge Protection Device

F. AC Contactor (KM1)

G. Residual Current Breaker with Over-Current (RCBO)

H. Communication Control Unit 2

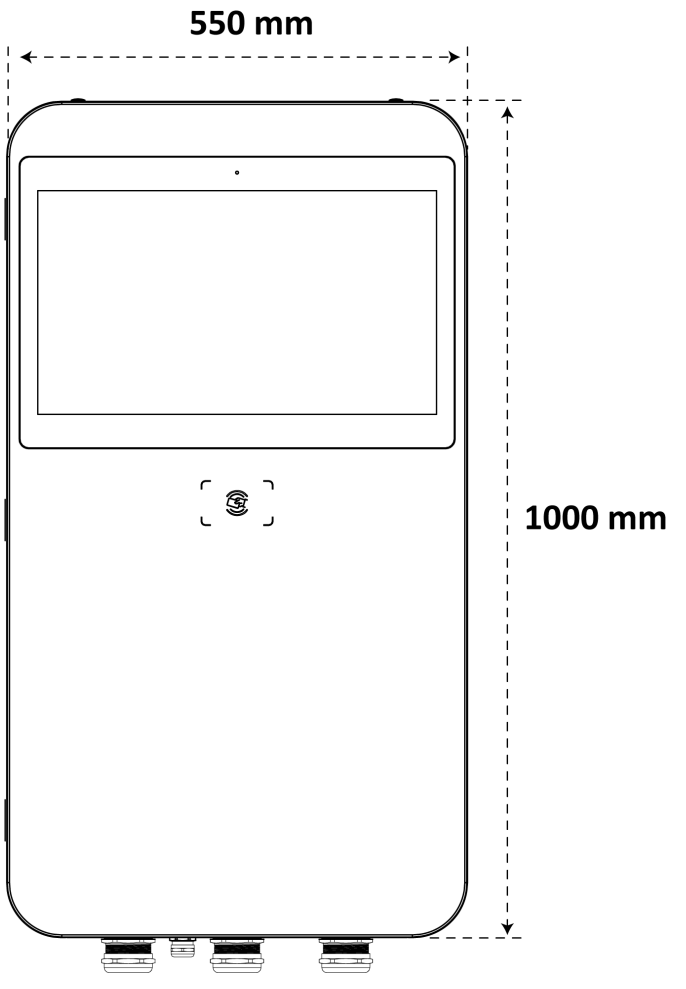
I. Energy Meter (PJ1)

J. Energy Meter (PJ2)

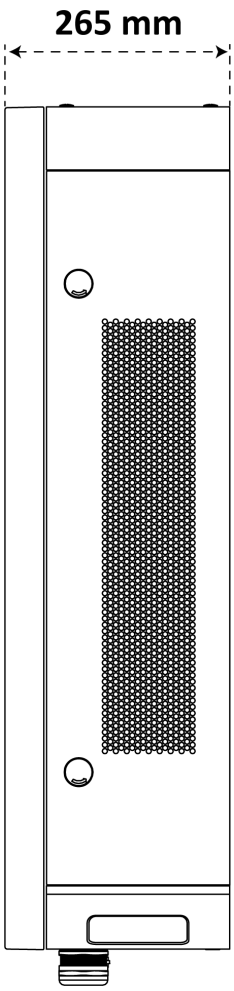
K. 48 V Auxiliary Power

L. 24 V Auxiliary Power

3.3 Product Dimensions

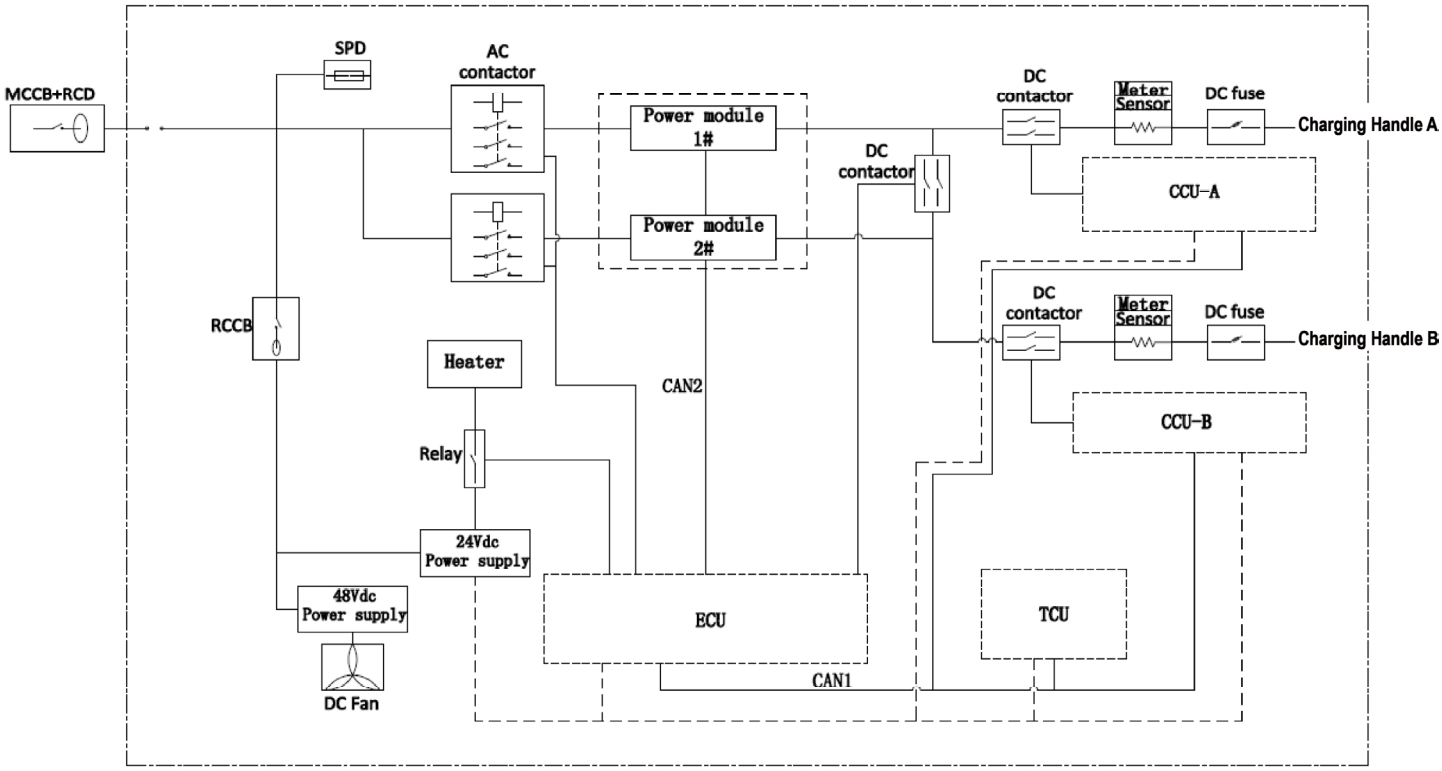


Front View



Side View

3.4 Principle Diagram



4 Preparation

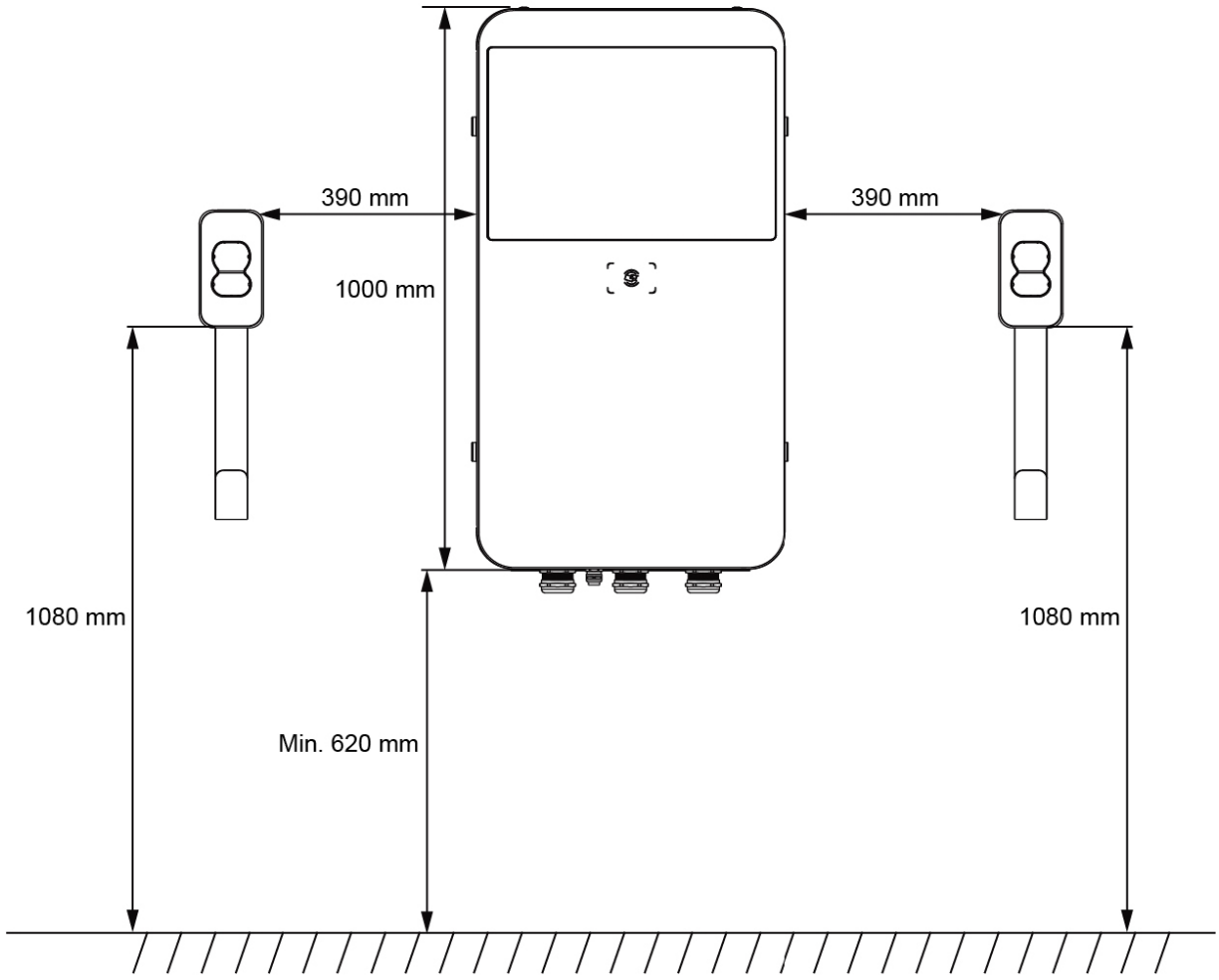
4.1 Before You Begin

- Ensure the appropriate wiring, circuit protection, and metering are in place at the installation site, according to the specifications, wiring diagrams, and grounding requirements.
- The charging station should only be installed by a licensed electrician in accordance with all local codes and ordinances.
- The cellular coverage at the installation site should be consistently strong when choosing to communicate over cellular network for the charging station. Use a cellular signal detection device to ensure the signal is above -90 dBm. If the signal is below -90 dBm, install repeaters to boost the strength of the cellular signal. Repeaters are often required when installing the charging station in underground environment such as underground garage or enclosed parking space.
- There is enough space available around the installation site to use a lifting equipment, to unpack, and to allow people to work freely.
- Ensure the charging handle of the charging station can sufficiently reach the vehicle's charging port with the chosen cable length. The standard charging cable length is 5.5 m, and 7.5 m is also available.

4.2 Location Requirements

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

- Mounting the charging station on a concrete wall supporting a weight of approximately 150 kg.
- Ensure that there is sufficient space to install the charging station. The recommended installation space is shown in the illustration below.



NOTICE

The installation height meets the standards for people with disabilities.

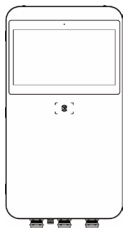
4.3 Installation Tools and Materials

4.3.1 In the Box

Main Kit

Charging Station

1 PC



Lifting Eye Bolt (M12)

4 PCS



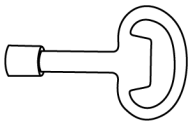
Hex Key (6 mm)

1 PC



Triangle Socket Key

2 PCS



Packing List

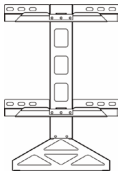
1 PC



Wall-mounting Kit

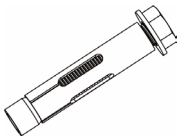
Wall Dock

1 PC



Expansion Bolt (M12 x 80)

4 PCS

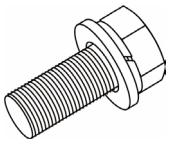


Expansion Bolt (M6 x 60)

8 PCS

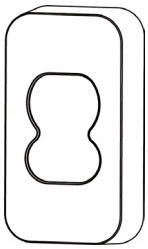


Screw (M12 x 30)
2 PCS



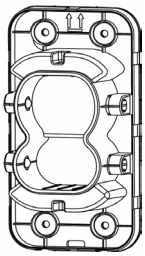
Socket Case

2 PCS



Socket Inlet

2 PCS



Cable Holder

2 PCS



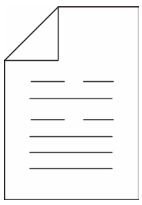
Quick Reference Guide

1 PC



Packing List

1 PC



4.3.2 Recommended Tools

The following tools are recommended when installing the charging station:

- Flathead Screwdriver
- Hoisting Equipment
- Socket Wrench (10 mm/13 mm/19 mm)
- Phillips Screwdriver
- Power Drill
- Drill Bit (8 mm/16 mm)
- Brush
- Wire Stripper
- Cable Lug (Recommended: SC16-8)
- Spirit Level
- Tape Measure
- Hammer
- Marker
- Crimping Tool
- Voltage Tester
- Digital Multimeter



NOTICE

- The tools mentioned above are not provided. Be sure to have all the tools prepared prior to the installation.
- This tool list does not necessarily include all the tools you may need.

5 Installation

General Installation Procedures:

- Unpack the shipping crate.
- Move the equipment to the installation site.
- Mount the equipment.
- Complete the power supply wiring.
- Connect the charging station to the Internet.
- Finish installation.

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



WARNING

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



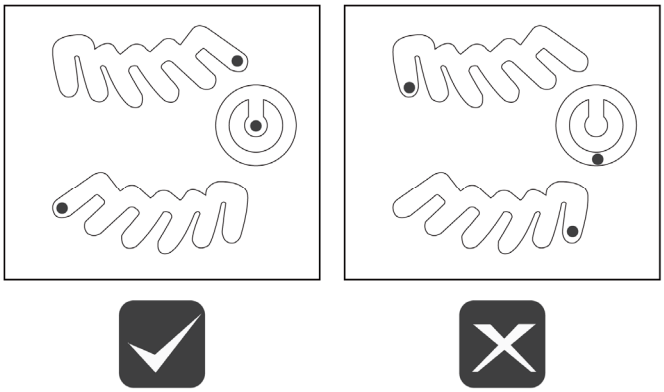
NOTICE

Always check local codes to ensure compliance. The guidelines described here are the minimum requirements. Ensure that the installation complies with all applicable codes.

5.1 Unpacking

1. Check the tilt and inversion indicators and shock watch.

   - Observe the sensors attached to the package for the degree of the tilt and complete overturn. If the sensors demonstrate severe tilt (over 30°) or total overturn, **do not** refuse shipment and note on bill of lading degree of tilt.



   - If the shock watch appears red, **do not** refuse shipment and make notation on delivery receipt and inspect for damage. If damage is found, contact your local dealer.

2. Remove the packaging material.

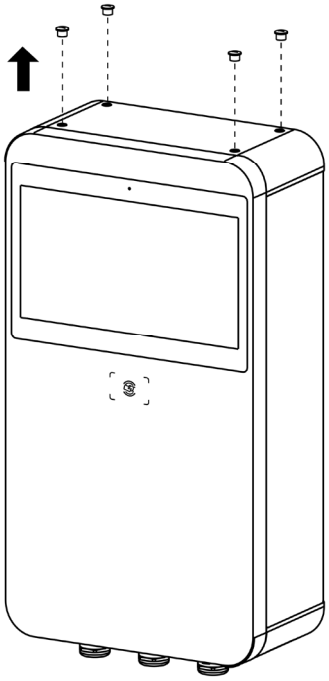
3. Inspect whether the charging station and the parts for installation are damaged. If any damage is found or the parts are not consistent with the order, contact your local dealer.

4. Make sure that all parts are delivered according to the order.

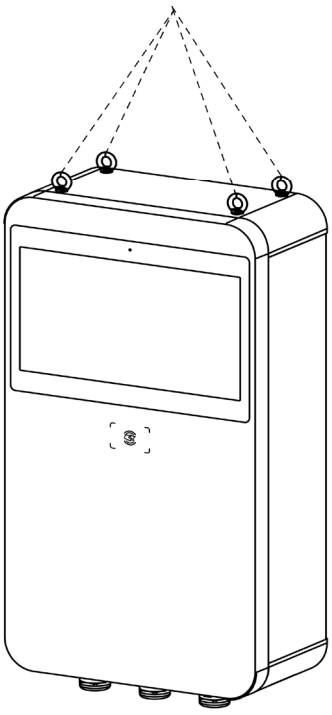
5.2 Moving the Charging Station

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

1. Remove the four screws on the top of the charging station using a flathead screwdriver. Set them aside.



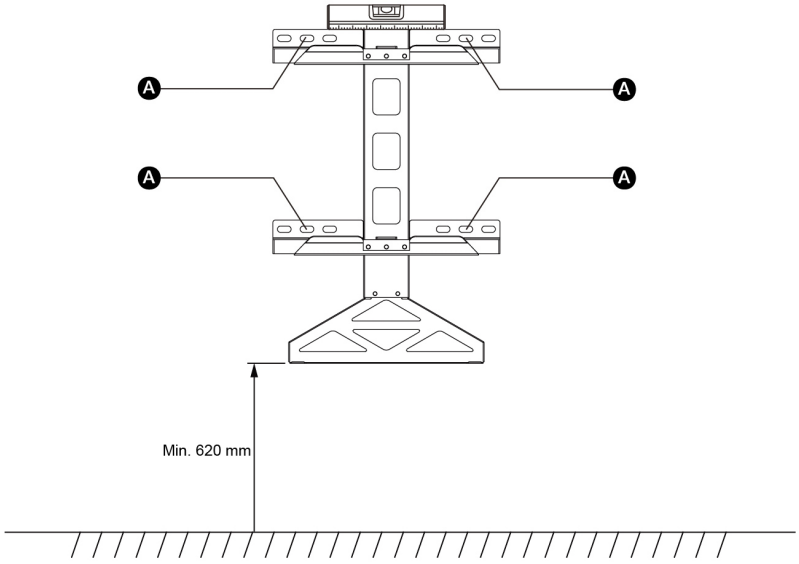
2. Install and tighten the four M12 lifting eye bolts into the four holes.
3. Connect the cables of the hoisting equipment to the eye bolts' lifting loops. **DO NOT** tilt over 45° when hoisting the charging station.
4. Move the charging station to the installation site.



5.3 Mounting the Equipment

Step 1

1. Mark a horizontal line measuring 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.

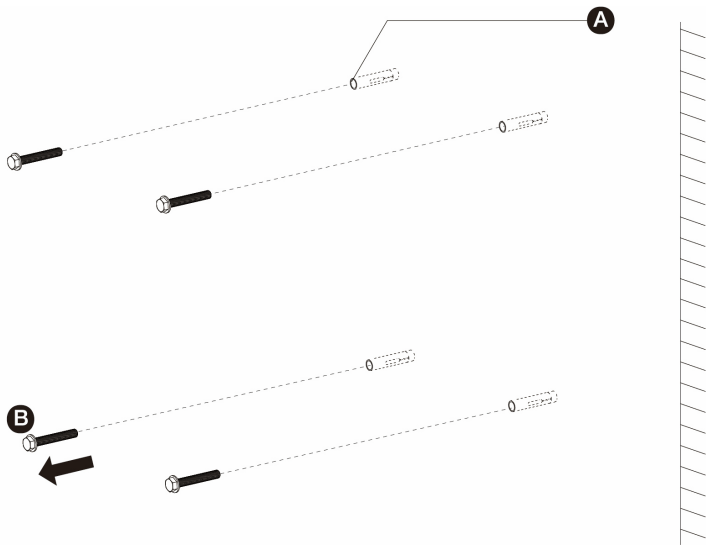


NOTICE

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.

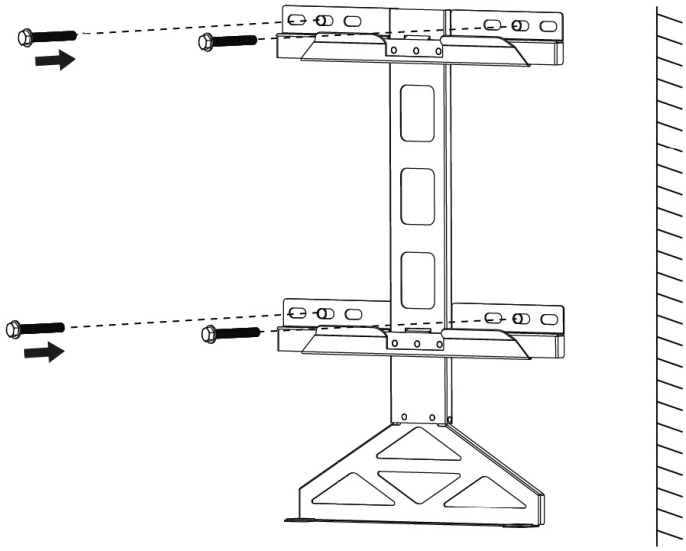
Step 2

1. Drill four 16 mm holes to a depth of 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 (B) using a 19 mm socket wrench.



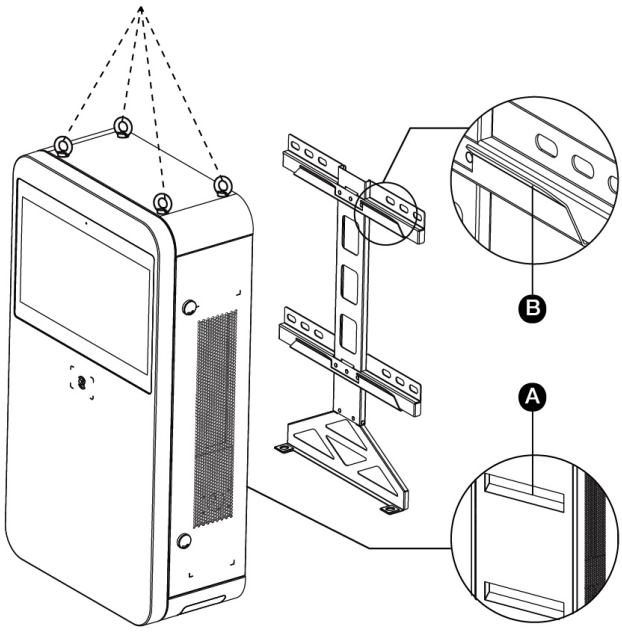
Step 3

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 45–55 Nm.



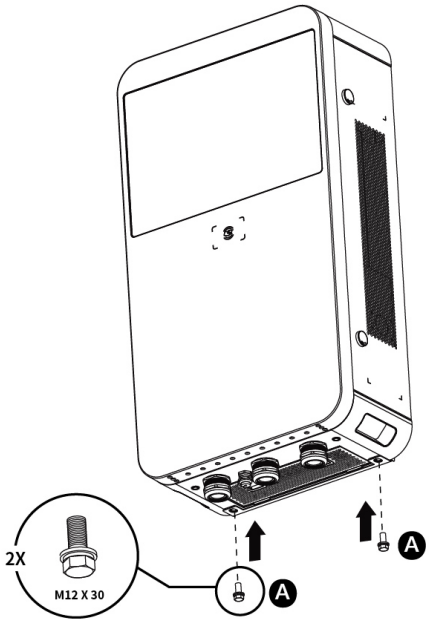
Step 4

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



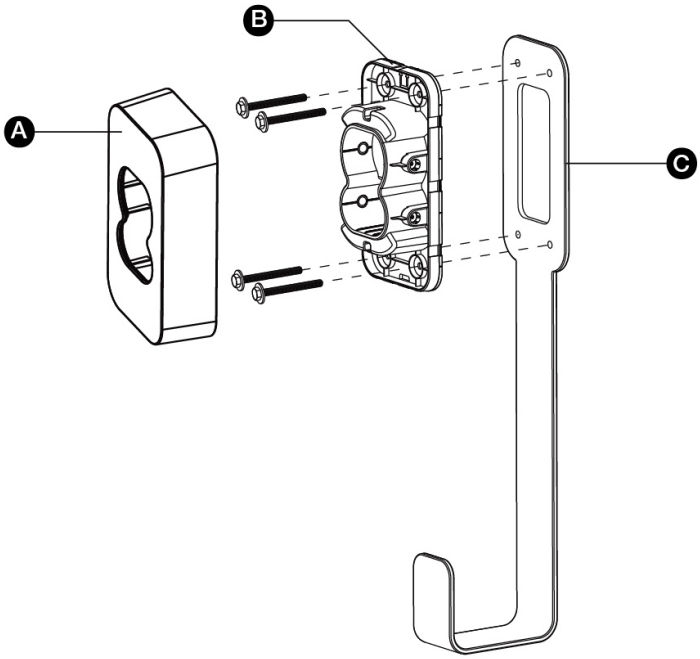
Step 5

Install two M12 x 30 screws (A) to the bottom of the charging station using a 19 mm socket wrench. Tighten the screws to 39 Nm to secure the charging station to the wall dock.



Step 6

1. Place the socket inlets against the wall, measuring 1080 mm above the surface and 390 mm from the charging station.
2. Mark the eight mounting holes and remove the socket inlets.
3. Drill eight 8 mm holes to a depth of 60 mm.
4. Hang the cable holders (C) and socket 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 3 Nm using a 10 mm socket wrench.
5. Press the socket cases (A) onto the inlets. Ensure they are securely attached.



NOTICE

Install socket A on the left side of the charging station and socket B on the right.

5.4 Power Supply Wiring

WARNING

Risk of Electric Shock



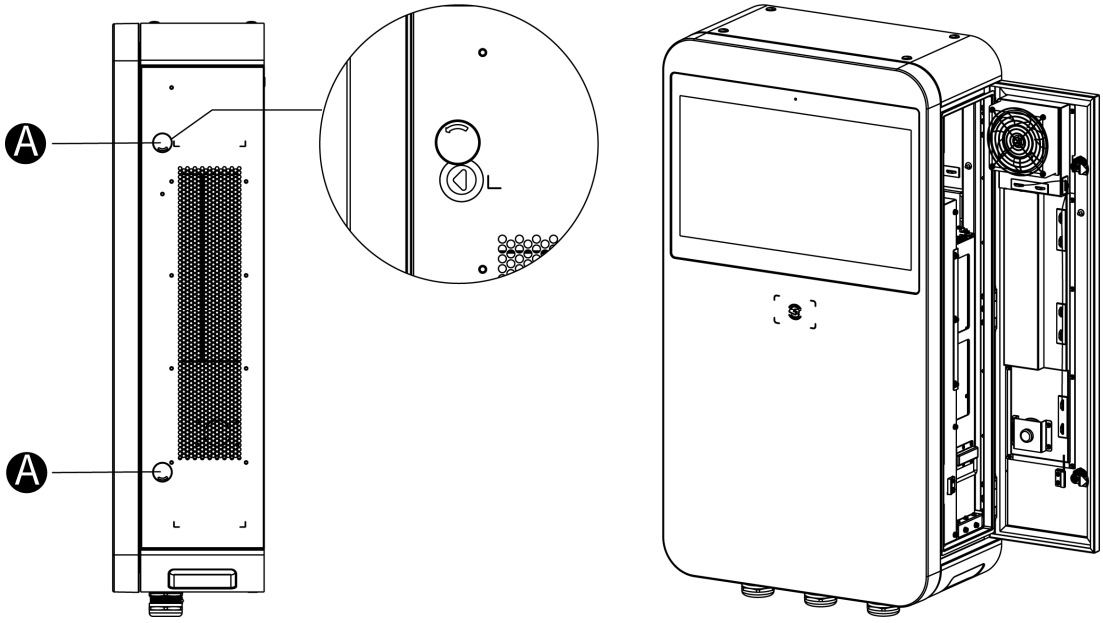
- Only a qualified electrician is allowed to determine the electrical requirements and connect wires.
- Ensure the power is off before connecting the wires.
- It is recommended to use 90 °C XLEP copper wire.
- The circuit breaker at the panel must be off.
- The charging station must be grounded to true earth.
- An insulated grounding conductor must be installed as part of the branch circuit that supplies the charging station.
- 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.

5.4.1 AC Input Cable Information

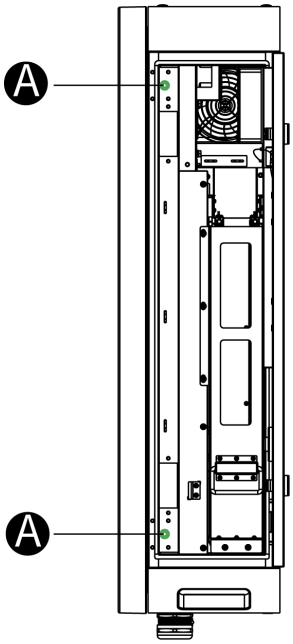
Charging Station	Power Input Voltage	Rated Input Current	Wire Gauge Size	Cable Lug Size
47 kW	400 V	75 A	5 x 16 mm^2	SC16-8

5.4.2 Connecting the AC Input Cable

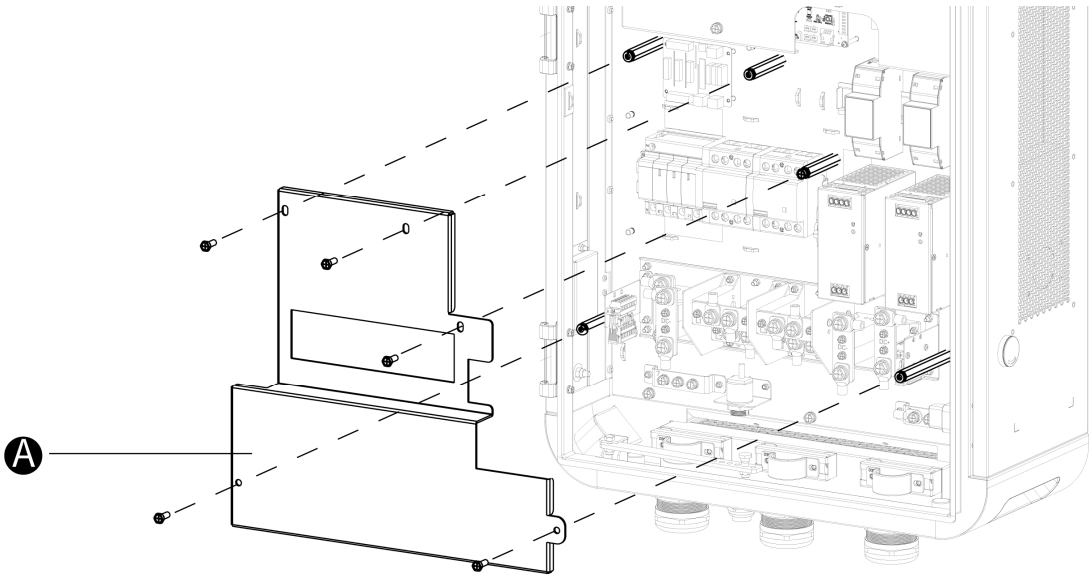
1. Flip open the lock cover (A) on the right side of the charging station, then insert the triangle socket key into the lock and turn it anti-clockwise to open the side door.



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



3. Loosen the five M6 x 16 screws using a Phillips screwdriver to remove the insulating barrier (A). Set them aside.



4. Pull the wires and guide them through the bottom AC inlet hole.

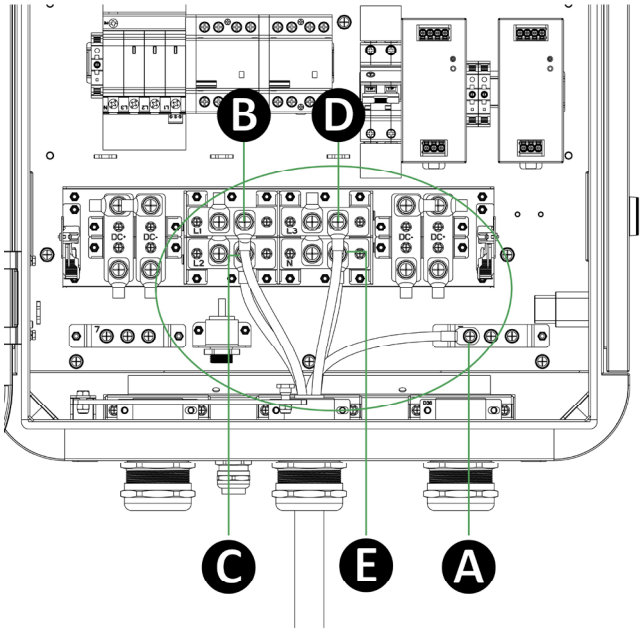
5. Use a wire stripper to remove an appropriate length of the insulation from the end of the wires. Ensure the stripped length is compatible with the cable lugs.

6. Use the crimping tool to attach the cable lugs to the end of the wires.

7. Loosen the M6 fastener using a 10 mm socket wrench and connect the PE wire to the PE busbar (A). Reinsert the fastener and tighten it to 6 Nm.

8. Use a 13 mm wrench to loosen the four M8 fasteners 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
   - N wire to the connector E



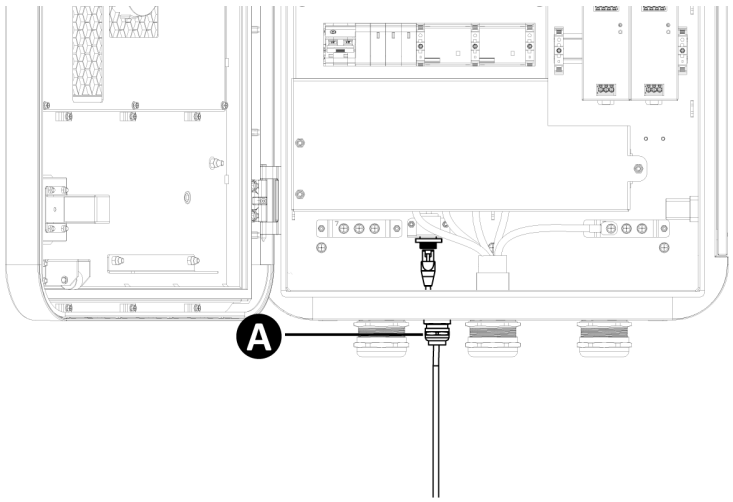
9. Reinsert the M8 fasteners and tighten them to the torque 6–12 Nm.
10. Reinstall the insulating barrier.

5.5 Connecting to the Internet

The charging station can access the Internet via Ethernet Cable, Wi-Fi or cellular network. Select the optimal method to connect to the Internet and follow the steps below accordingly.

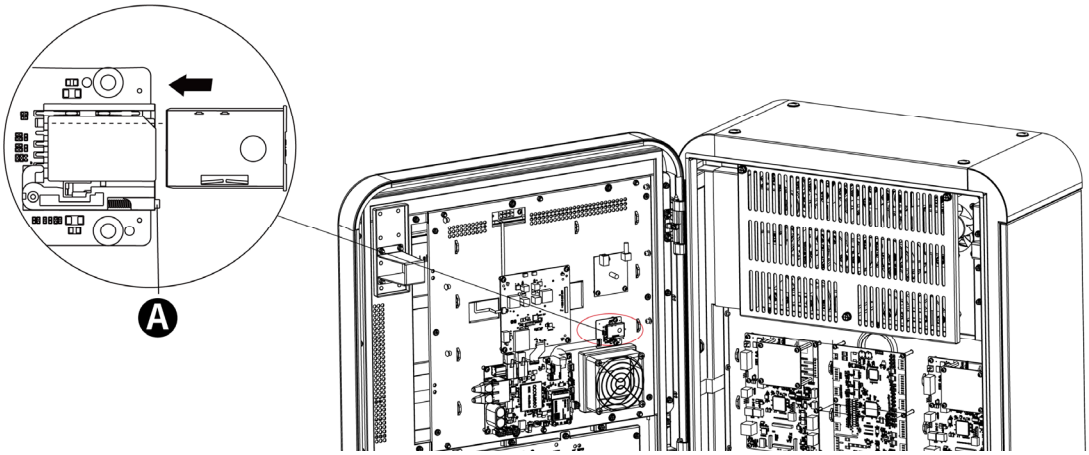
5.5.1 Via the Ethernet Cable

1. Loosen the cable gland (A).
2. Put the Ethernet cable through the Ethernet cable port at the bottom of the charging station.
3. Plug the Ethernet cable into the RJ45 port.
4. Tighten the cable gland (A).



5.5.2 Via the Cellular Network

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 placed correctly.
3. Push the SIM card tray into the slot.



5.5.3 Connecting to Wi-Fi

To connect the charging station to Wi-Fi, follow the first four steps in *6.2 Setting the OCPP Parameters* to enter the Device Maintenance Screen and tap **Select Network** to choose your local network.

5.6 Finishing 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 Installing the Upstream Protective Device

Devices	Specifications
Dedicated upstream protection device(s)	Options: ● RCD (Type A) + MCB Determine whether to install the RCD based on the local utility. The MCB must match the power rating of the charging station. ● RCBO (Type A)
Upstream overcurrent protection breaker, such as RCBO or MCB (The breaker serves as the main disconnect switch to the charging station.)	Breaker rating: 100 A Recommended: 100 A. Or refer to your local rules for breaker rating. Tripping characteristics: type C
Upstream residual-current device (RCD)	Type A, with a rated residual operation current of 30 mA

5.8 Preparing 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 charging station is receiving 230 VAC phase to ground and 400 VAC phase to phase, ± 10%. Voltages must be verified by a qualified electrician.
- Turn on the internal circuit breaker.

The charging station is now ready for operation.

6 Commissioning

Ensure the installation and wiring are secured and correct, then power on the charging station.

CAUTION

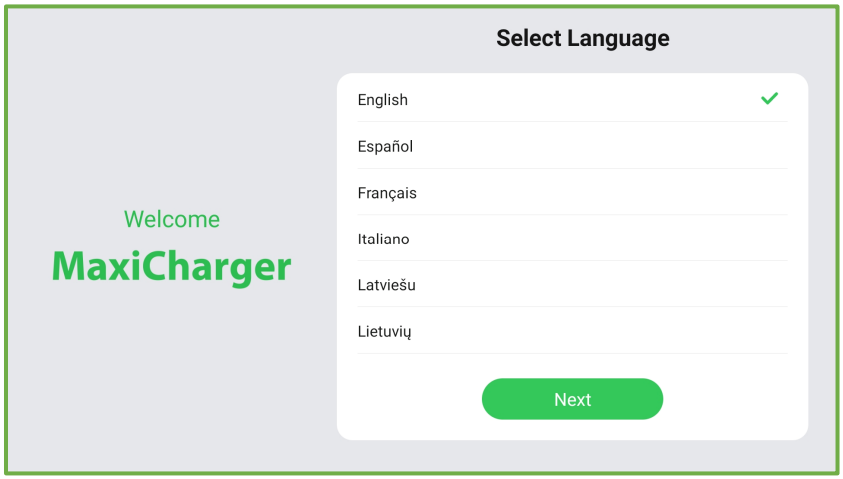
- Do not touch the inside components of the charging station while it is powered on.
- Operate the charging station only when its door is closed and locked.

NOTICE

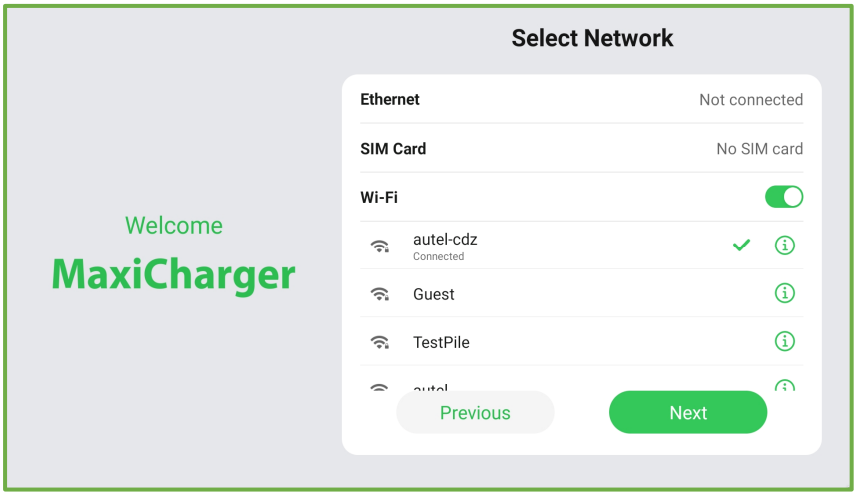
If the ambient temperature is below -20 °C, it may take 3 to 5 minutes for the touchscreen to display when powering on the charging station. In extreme cases, the display module will be reset to ensure the stability of the charging station.

6.1 Initial Settings

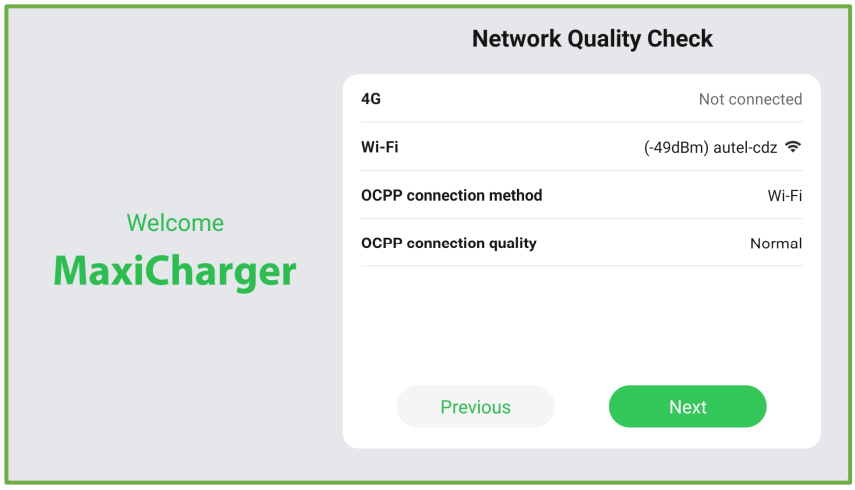
6.1.1 Select Language



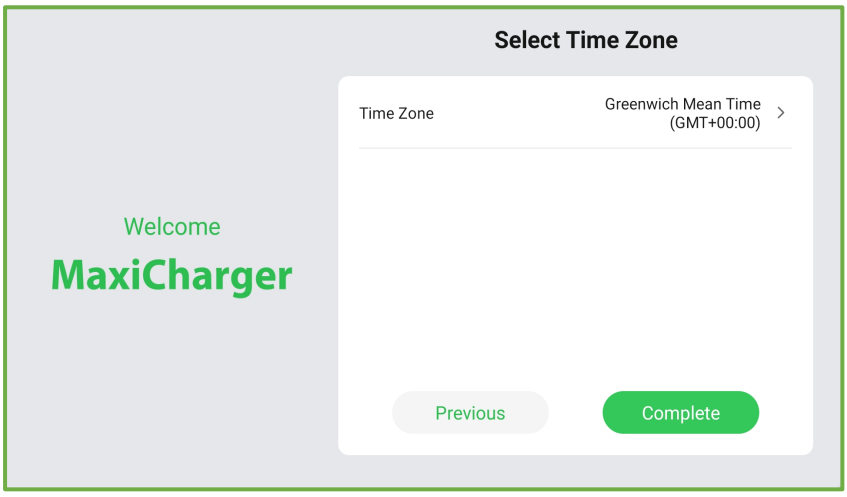
6.1.2 Select Network



6.1.3 Network Quality Check



6.1.4 Select Time Zone

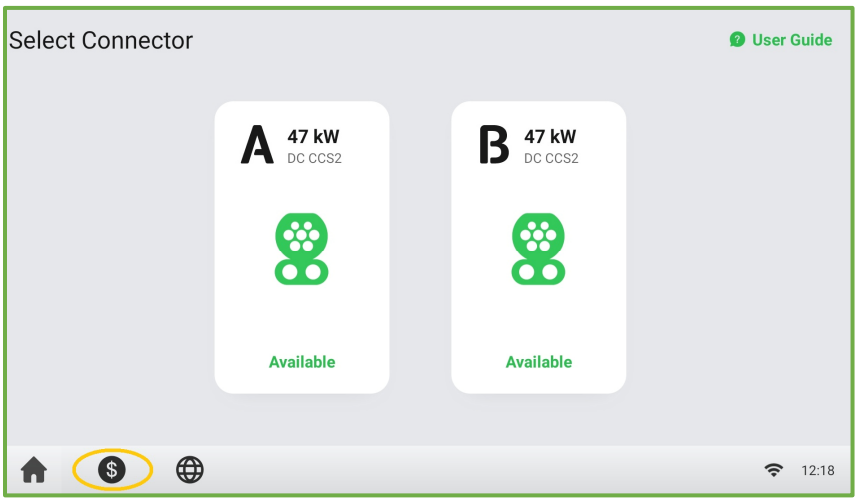


6.2 Setting the OCPP Parameters

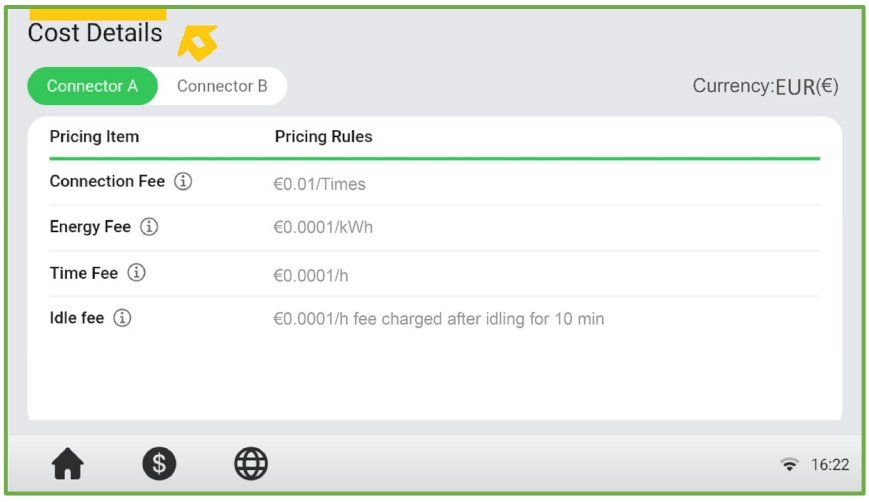
NOTICE

The OCPP parameter settings should be performed by an installation engineer.

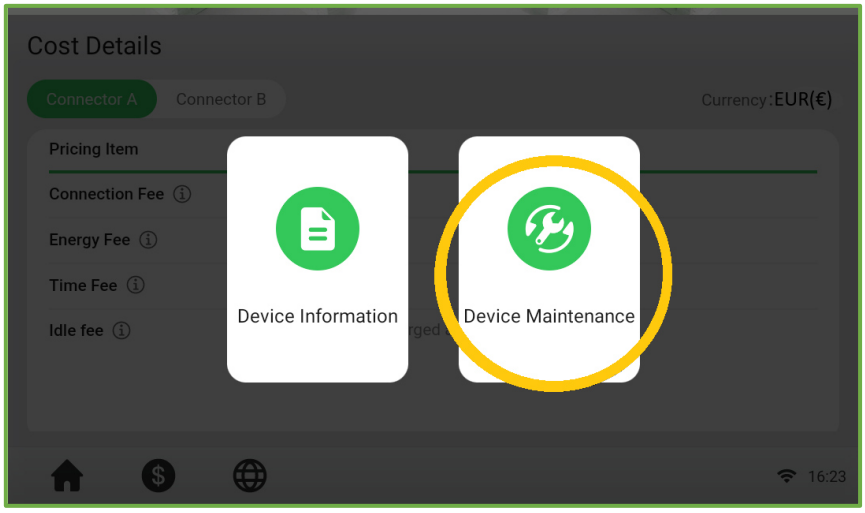
1. On the Standby Screen, tap the “currency (**$**)” icon on the lower-left corner to enter the Cost Details Screen.



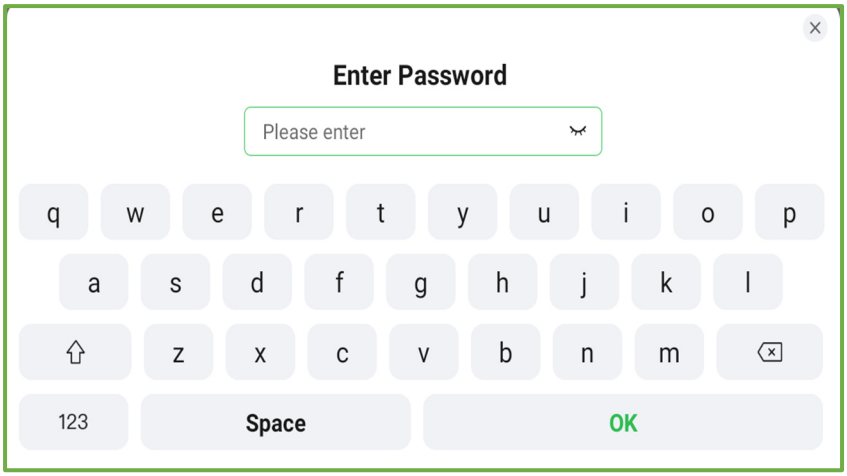
2. On the Cost Details Screen, **double tap** the upper-left corner to proceed.



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



4. A password prompt will appear. Enter **the last 6 characters of the product serial number** to continue, which can be found on the product label. For example, if the product serial number is DE0090B1GNBC00029P, the password is 00029P (The letter “P” is capitalized). If that doesn't work, try using 1234 as the password.

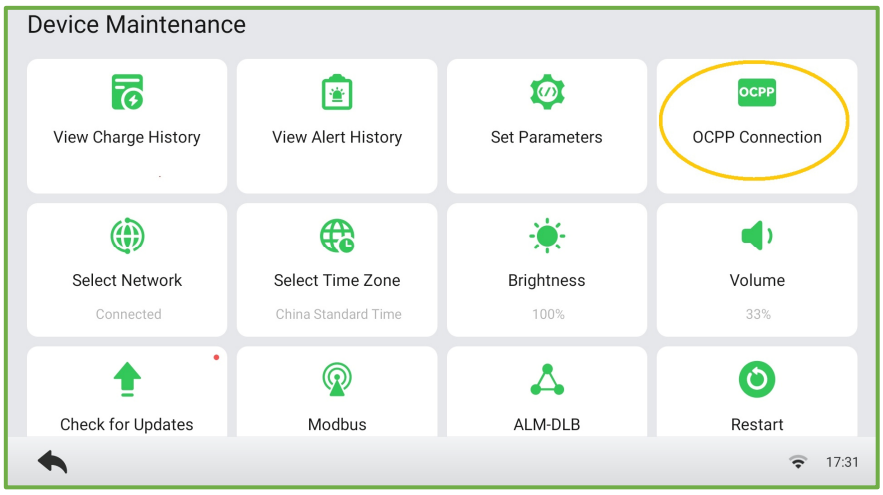


NOTICE

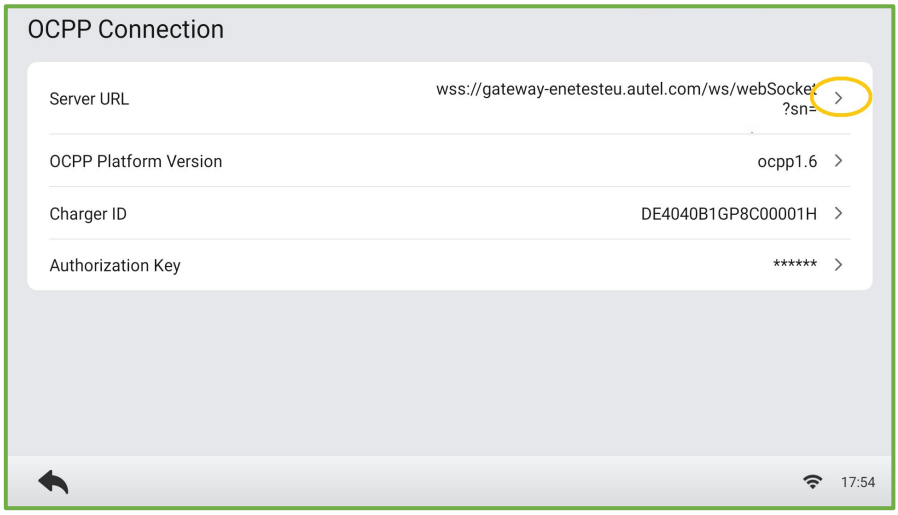
The password should be changed when commissioning, and it can be changed on Autel charging management platform.

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5. On the Device Maintenance Screen, select **OCPP Connection**.



6. Check the Server URL by referring to that provided by the client. If it is not correct, click on "**>**" to the right of the Server URL to change it.



NOTICE

Make sure that the URL you type is correct and without space.

6.3 Configuring the Cloud Platform

1. Configuring the cloud platform is also needed for the charging station. The charging station supports Autel or a third-party cloud platform. The Autel Charge Cloud, a one-stop charging management solution, is intended to address the needs of many use cases including commercial, residential, governmental, car dealers, and fleets. Contact Autel technical support for subscription and learn more details in Autel Charge Cloud manual.
2. If a third-party cloud platform is used, contact the third-party personnel for configuration.

7 Operation

7.1 Charging Procedure

General charging procedures:

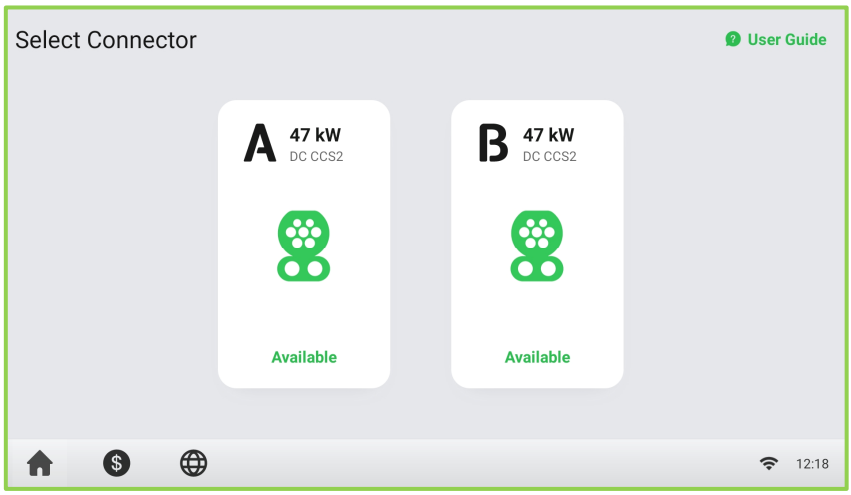
1. Park an EV with the charging port within reach of the charging handle.
2. Plug in the EV.
3. Start the charging session.
4. Stop the charging session.



WARNING

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

7.1.1 Standby Mode



After a connector is successfully connected to your EV, the charging station 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.

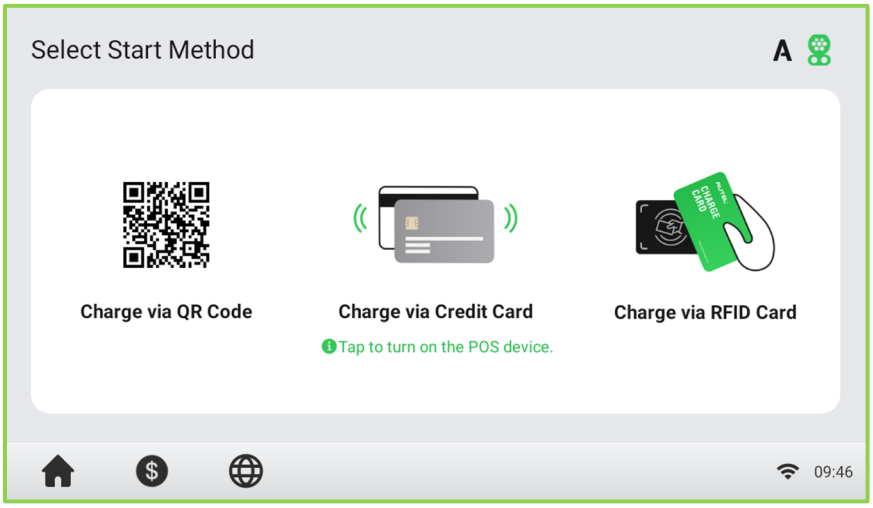
7.1.2 Authorization

NOTICE

- Before starting a charging session, observe the screen for any abnormalities, such as an error message. Check the surroundings and the charging station for any abnormalities and damage as well.
- If the screen displays an error message, **DO NOT** use the charging station. Contact Autel technical support.

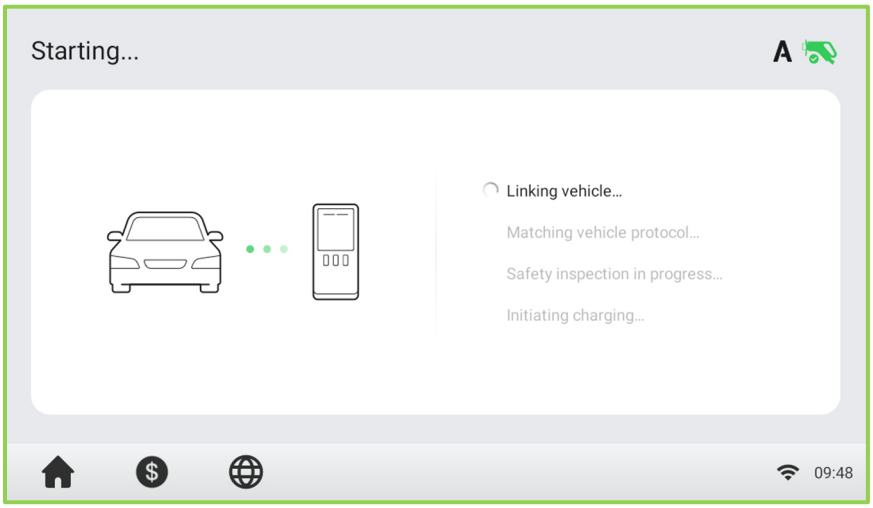
When the Authorization Screen appears, you can use any of the following methods to start a charging session.

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



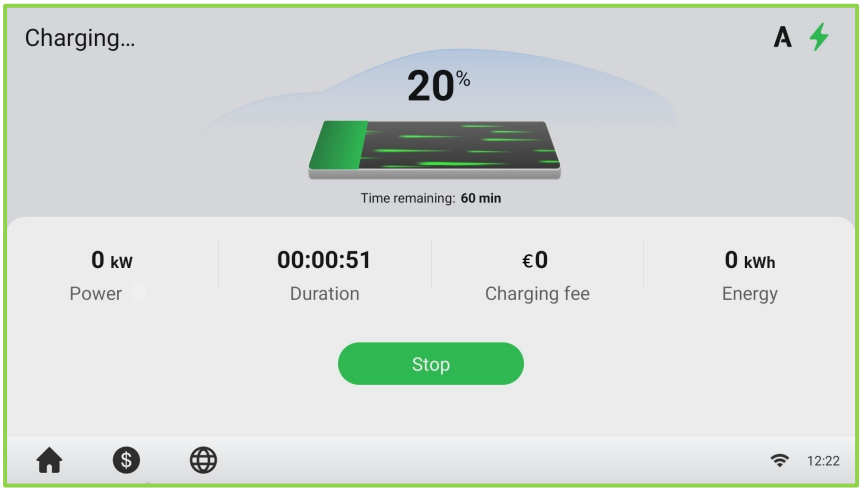
7.1.3 Starting Charging

After authorization, the charging station will set up communication with your EV and necessary safety tests will be performed. Following the safety tests, the charging session will start automatically.



7.1.4 Charging

You will be informed of the charging progress. Information about the charging duration, energy, cost, and power will appear on the Charging Screen.



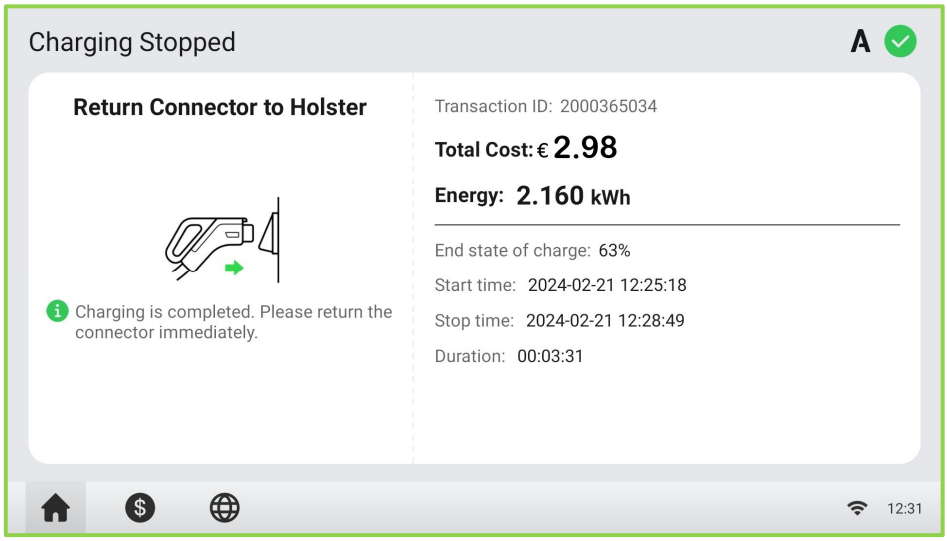
7.1.5 Finishing Charging

1. Tap the **Stop** button on the screen.

NOTICE

When the battery is full, the charging session stops automatically.

2. Normally, you have to authorize again to finish charging, using the same authentication method as was used to start:
    - QR code: Scan the QR code with the Autel Charge app and tap the **Stop** button on the Charging Screen of the Autel Charge app.
    - RFID card: Put the RFID card on the card reader again to finish charging.
    - Credit card: Finish charging directly.
3. When charging is finished, your transaction details will appear on the screen.



4. Disconnect the EV charging cable from the EV.
5. Return the charging handle to the socket.

7.2 Charging Errors

This section depicts several common problems that may arise during your charging session, along with possible causes/solutions to help you resolve them. If the problem persists, contact your local dealer or Autel technical support.

7.2.1 Connector Connection Error

If the connector is not properly connected to your EV, then the Connector Not Connected screen will appear. Insert the connector into your EV's charge port and check the connection.

7.2.2 Authorization Failure

If an error occurs when you start the authorization process but without starting charging, the Authorization Failure screen will appear. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem, or contact your local dealer or Autel technical support.

7.2.3 Charging Start Failure

If an error occurs when you start charging, the Charge Start Failure screen will appear. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem.

7.2.4 Charging Failure

If an error occurs during charging, the Charging Failure screen will appear. The cause and possible solution(s) will display on the screen. Follow the on-screen instructions to resolve the problem, or contact your local dealer or Autel technical support.

7.3 Emergency Stop Response

When detecting emergency stop signal sent from the EV during charging, the charging station will immediately stop DC output. As a result, the voltage and current will be dramatically reduced to 60 V and 5 A in 30 ms. The DC output contactor will also be disconnected. After this charging session is finished, the charging station will return to normal.

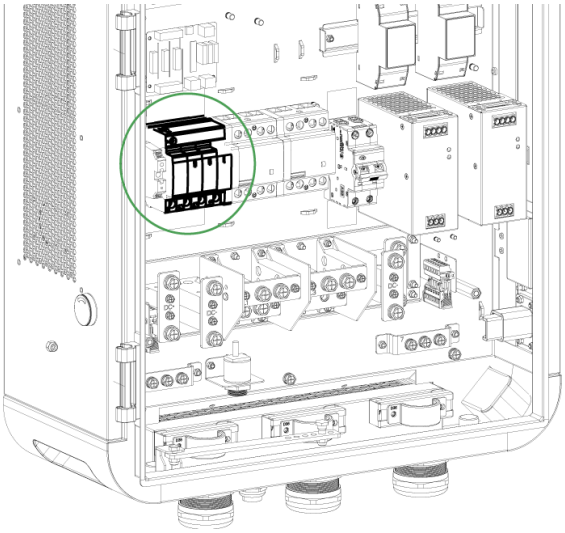
7.4 Powering down the Charging Station

1. Set the upstream breaker which provides the power to the charging station to **OFF** and lock it. Make sure that this breaker stays in the **OFF** position during the procedure.
2. Open the front door.
3. Measure the AC voltage by referring to *7.4.1 Measuring the AC Voltage*. Make sure that all the measured voltages are 0 volt.
4. Measure the DC voltage by referring to *7.4.2 Measuring the DC Voltage*. Make sure that all the measured voltages are 0 volt.
5. Close the front door.

7.4.1 Measuring the AC Voltage

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

- L1 to L2
- L1 to L3
- L2 to L3
- Neutral to L1/L2/L3



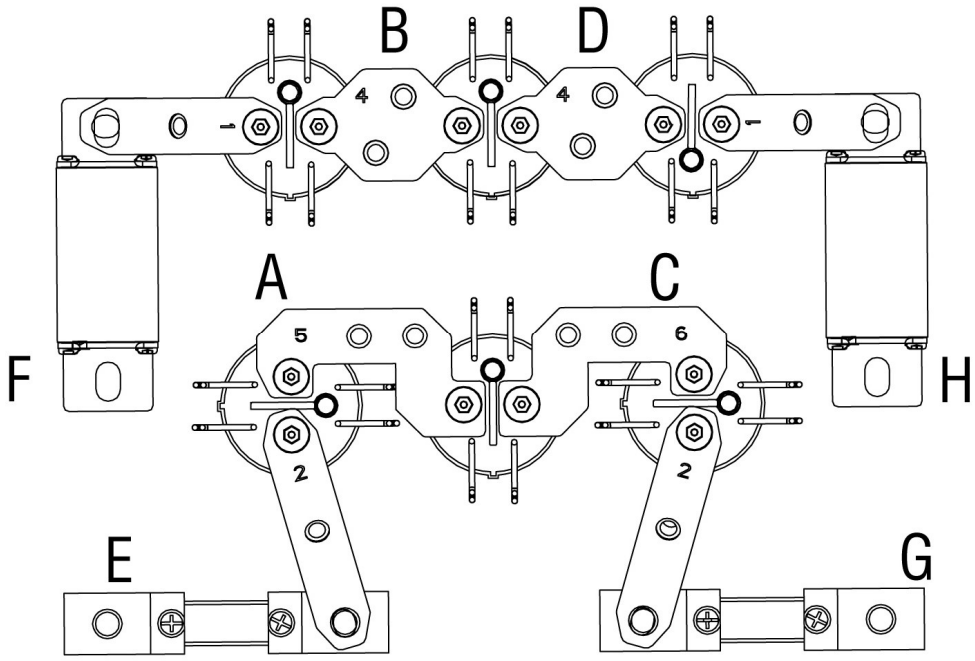
NOTICE

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

7.4.2 Measuring the DC Voltage

Use a voltage tester to measure the DC voltage between the output terminals. Make sure that all the measured voltages are 0 volt.

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



8 Maintenance

8.1 Routine Maintenance

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

- Clean the charging station every quarter, tighten the screws and bolts of key parts, and check whether the wire connection of the charging station's connector is burned out. If any abnormality is found, replace the parts promptly.
- Clean the filter at least twice a year.
- Test the residual current breaker with overload once a year.



WARNING

- Disconnect the power supply to the charging station during the entire maintenance procedure.
- Make sure that 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 you remove the safety devices for maintenance, reinstall them after completing the work.

8.1.1 Residual Current Breaker with Overload Maintenance



WARNING

Be careful when you work with electricity.

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

➢ **To test the RCBO**

1. Open the front door of the charging station. When the cabinet door is open, the charging station should not be directly exposed to a rainy environment.
2. The charging station must be in Standby mode. Tapping the touchscreen will wake up the charging station.
3. Locate the RCBO, and press the **Test** button to start the test.
   - Pass: The RCBO will trip and restore the **Test** button to its original position.
   - Fail: The RCBO does not trip. Please contact Autel technical support. Do not use the charging station until the repair is completed.
4. Close the front door after the test is finished.
5. Mark the time when the test is needed to be repeated annually.

8.1.2 Cleaning the Charging Station

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

➢ **To remove rust**

1. Stop any charging processes and power off the charging station.
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.



WARNING

- Before cleaning, stop any charging processes and do not connect the power to the charging station. Failure to do so may cause damage and/or personal injury or death.
- Do not apply high-pressure water jets and avoid water leaking into the charging station. Make sure that the inside of the charging station is dry during cleaning.
- Do not use caustic solvents, sprays, solvents or abrasives. Use cleaning agents with a pH between 6 and 8 for strong stains only.

8.1.3 Cleaning and Replacing the Filter

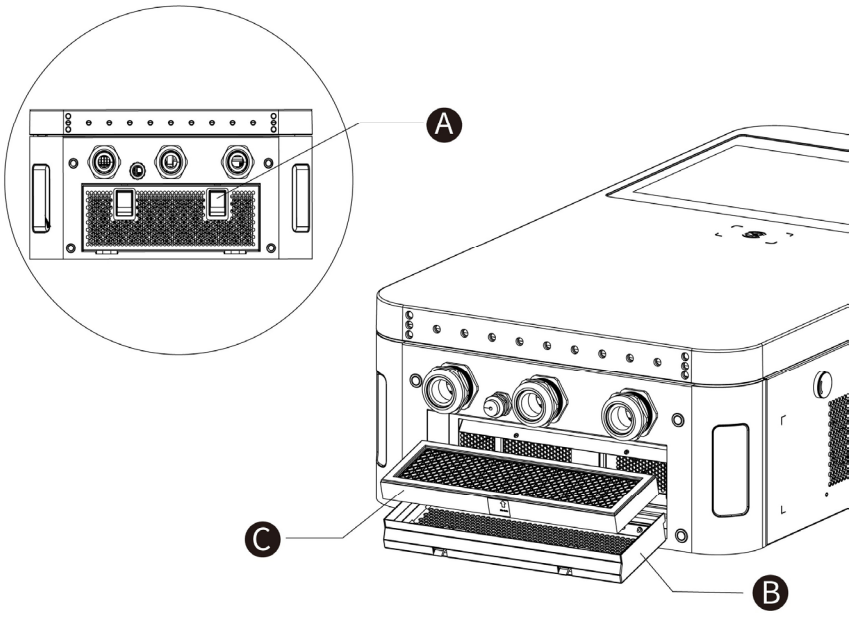
WARNING

- Before cleaning, stop any charging processes and do not connect the power to the charging station. Failure to do so may cause damage and/or personal injury or death.
- Do not apply high-pressure water jets and avoid water leaking into the charging station. Make sure that the inside of the charging station is dry during cleaning.
- Do not use caustic solvents, sprays, solvents or abrasives.

The charging station is equipped with a filter with a large mesh area to prevent the electronic components from being damaged by dust. Clean the filter every 3 months (not exceeding 6 months). Replace the filter annually.

➢ **To clean or replace the filter**

1. Before cleaning and replacing, be sure to stop all charging processes, disconnect the external power supply.
2. Open the two toggle latches (A) at the bottom of the charging station to flip the bezel (B) downwards.
3. Remove the filter (C).
4. Clean debris or dust of the filter and reinstall a cleaned filter. Or install a new air filter.
5. Flip the bezel upwards and close the two toggle latches.



8.2 Inspection and Maintenance

When the charging station operates normally, only routine maintenance is needed.

When the charging station operates abnormally, refer to *9.1 Troubleshooting* to resolve the problem or contact your local dealer or Autel technical support promptly.

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 points:

- Cable and charging handle: Check for cracks or ruptures on the charging handle or cable.
- Display: Check for damage and cracks. Check whether the touchscreen works.
- charging station coating: Check for damage, cracks or ruptures.
- charging station: Check for rust or damage.

The following special inspections are needed for safe use:

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



WARNING

Stop any charging process and do not connect the power to the charging station until all the inspections are completed.

8.3 Remote Maintenance

The charging station 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 for abnormality.
- If any operation abnormality is found, contact your local dealer or Autel technical support promptly.

Autel service engineers can check logs, update configurations and programs, and provide remote maintenance services, such as remote management, diagnosis, configuration, and upgrade.

8.4 Maintenance Schedule

Item	Frequency	Actions
Charging handle	Every 3 months	Check for cracks or ruptures.
Input Cable	Every 3 months	Check for cracks or ruptures on the cable.
Filter	Annually	Replace the filter.
Charging Station	Every 3 months	Clean and check for damage.

9 Troubleshooting and Service

9.1 Troubleshooting

The table below describes the most common faults when operating the charging station. 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 charging station and restart it.
Overvoltage	0x202D	The DC output voltage is above the upper limit of the vehicle or the rated voltage of the charging station 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 charging station 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.

Error	Error Code	Possible Cause	Solution
CCU auxiliary power supply shutdown	0x202C	Sever power fault due to aged key components or lines.	Power off the charging station. 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.
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 charging station and contact Autel technical support.
FPGA fault	0x3010	Controller fault	Stop the charge session, power off the charging station, 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 charging station 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.

Error	Error Code	Possible Cause	Solution
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 charging station immediately and contact Autel technical support.
Charging station offline	0x9001	Communication error between gateway and the Autel Charge Cloud	Check the network connection and OCPP configurations.

9.2 Service

If you cannot find solutions to your problems with the aid from the table above, please contact Autel technical support.

AUTEL Europe

- **Phone**: +49(0)89 540299608 (Monday–Friday, 9:00 AM–6:00 PM Berlin Time)
- **Email**: evsupport.eu@autel.com
- **Address**: Landsberger Str. 408, 4. OG, 81241 Munich, Germany
- **Web**: www.autelenergy.eu

10 Specifications

10.1 Technical Specifications

Product Information	
Power Rating	40 kW, max. 47 kW
Charging Type	Mode 4
Rated/Max. Input AC Current	75 A/82 A
Input Voltage Range	400 VAC ±10% @50 Hz
Input frequency	50 Hz
AC Input Connection	3P + N + PE
Cable Length	5.5 m/7.5 m (optional)
Overvoltage Category	AC side (Input) OVC: III
Power Factor (>50% Load)	≥ 0.99
DC Output Voltage	CCS2: 150 to 950 VDC CHAdeMO: 150 to 500 VDC
Outlet A+B	CCS2 + CHAdeMO (charging for 2 EVs concurrently) CCS2 + CCS2 (charging for 2 EVs concurrently)
Peak Efficiency	≥ 96%
Energy Metering	Accuracy: 2%
Total Harmonic Distortion (>50% Load)	≤ 5%
Standby Power	40 W
Network Type	TN-S, TN-C, TN-C-S, TT (Requires external RCD)
Cellular Communication	GSM, 4G, LTE

Product Information	
Protection	Overcurrent, overvoltage, under-voltage, ground fault, over-temperature, short circuit, insulation monitor, surge protection

General Characteristics	
Enclosure Rating	IP54
Operating Altitude	< 2000 m (2000 m to 3000 m with power de-rating)
Operating Temperature Range	-30 °C to +55 °C (+45 °C to +55 °C with linear power de-rating)
Storage Temperature Range	-40 °C to +70 °C
Mounting	Wall-mounting
Weight	120 kg
Noise Level	< 65 dB @ 1 m/25 ° C/full load/822 V (Vout)
Humidity	< 95 % RH (non-condensing)
Dimensions (W x D x H)	550 x 265 x 1000 mm

User Interface	
Display	21.5-inch LCD touchscreen
Status Indication	LED/APP/ Touchscreen
User Interface	Autel Charge APP Autel Charge Cloud
Communications Protocols	OCPP 1.6 JSON OCPP 2.0.1 (optional)

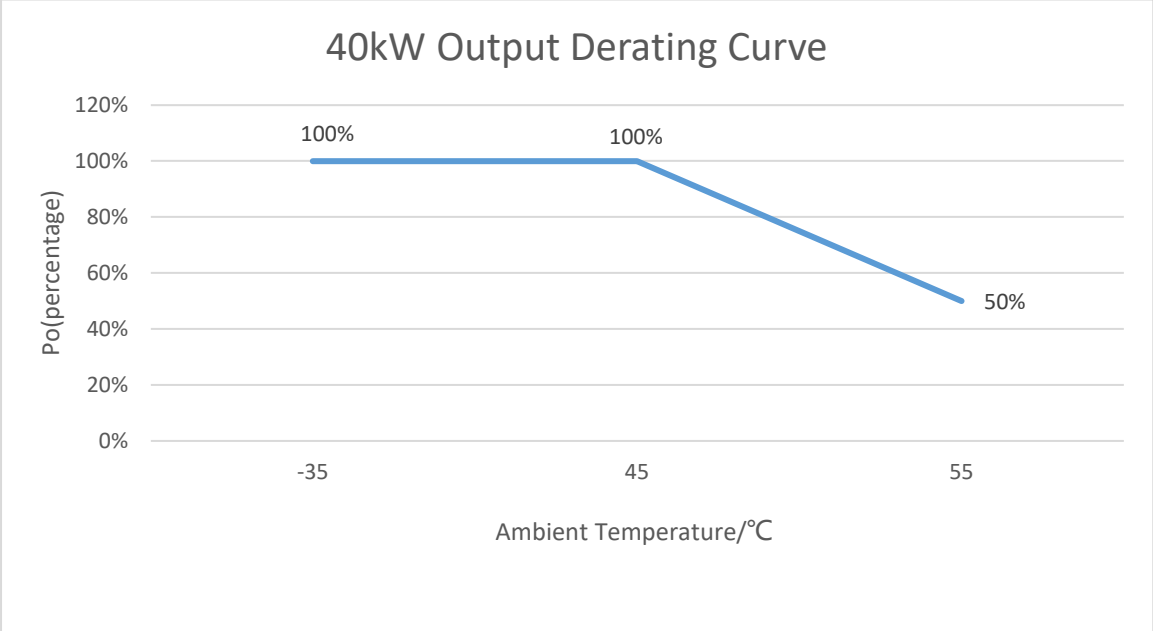
User Interface	
Connectivity	Wi-Fi Ethernet CAN RS485 Cellular Network
User Authentication	QR Code RFID Plug & Charge Credit Card (optional)
Wheelchair Accessibility	Yes
RFID Reader	ISO 14443 A + B to part 4 and ISO/IEC 15693 Mifare NFC

Software Update	
Software Update	OTA updates via web portal

Certification and Standards	
EMC Compliance	Class A
Safety and Compliance	IEC 61851-1 IEC 61851-23 IEC 61851-21-2 ISO 15118
Charging System	IEC 61851-1 IEC 61851-23 IEC 61851-21-2

Certification and Standards	
Communication to the EV	ISO 15118 DIN 70121 CHAdeMO 1.2
Certification	CE UKCA RCM
Warranty	Base warranty 24 months after site acceptance test or 30 months after factory delivery. Warranty extensions possible.

10.2 Derating Curve





www.autelenergy.com