MaxiCharger AC Elite II

Installation and Operation Manual

Version 1.0

UL Model

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Safety

Safety messages are provided to help prevent personal injury and equipment damage. All safety messages are introduced by a single word indicating the hazard level.

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.

The safety messages herein cover situations Autel is aware of. 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.

- Read and follow all warnings and instructions before installing and operating the charger.
- This charger should only be installed by a licensed electrician in accordance with all local codes and ordinances.
- This charger must be grounded through a permanent wiring system or an equipment-grounding conductor.
- Do not install or use this charger near flammable, explosive, harsh, or combustible materials, chemicals or vapors.
- Children should be supervised when around this charger.
- Do not insert fingers or foreign objects into the electric vehicle connector.
- Do not use the charger if the flexible power cord or EV cable is frayed, broken or otherwise damaged, or fails to operate.
- Do not use the charger if the enclosure or the EV connector is frayed, broken or otherwise damaged, or fails to operate.
- Use 90 °C wire copper conductors or refer to local ordinances.
- Do not operate the charger outside its operating range.
- Incorrect installation and testing of the charger could potentially damage the vehicle's battery, components, and/or the charger itself.

- Handle the charger with care during transportation. Do not subject it to strong force or impact or pull, twist, tangle, drag or step on the equipment, to prevent damage to it or any components.

- Neutral must be bonded to Ground upstream at the transformer or panel for each separately derived system.

CONTENTS

1 Using This Manual

This manual describes the installation and use of the MaxiCharger AC Elite II. Prior to installation, read through this manual to be familiarized with the instructions of this charger to ensure a successful installation and smooth operations.

1.1 Conventions

The following conventions are used:

BOLD TEXT

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

NOTE

A NOTE provides helpful information such as additional explanations, tips, and comments.

IMPORTANT

IMPORTANT indicates a situation which, if not avoided, may result in damage to the test equipment or vehicle.

ILLUSTRATION

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

1.2 Revision History

Version	Date	Descriptions
V1		Initial version

2 General Introduction

The MaxiCharger AC Elite II is designed to charge a plug-in hybrid electric vehicle or an electric vehicle (hereinafter called EV) at your home or condo. Our chargers provide you with safe, reliable, fast, and smart charging solutions.

This manual will instruct you how to install and use this charger.

Intended Use

This charger is intended for the AC charging of EVs. It is intended for both indoor and outdoor use.

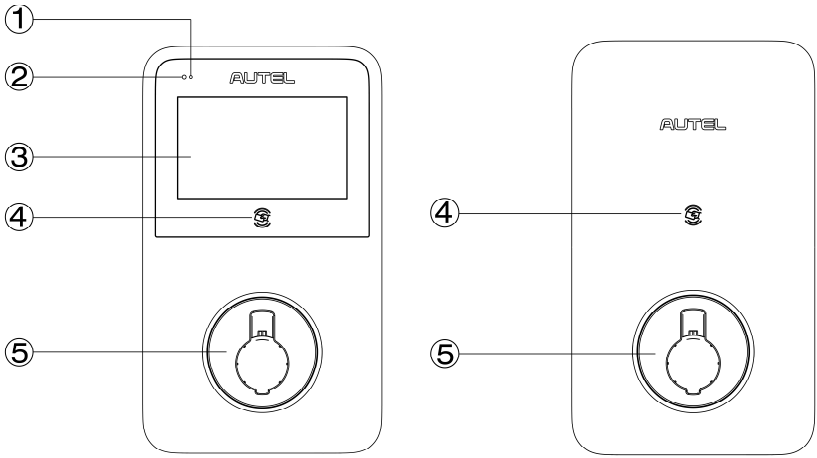
DANGER

- If you use the charger in any way other than described in this manual or other related documents, possible death, injury and damage to property can occur.
- Use the charger only as intended.

NOTE

This manual applies to both the residential and commercial model.

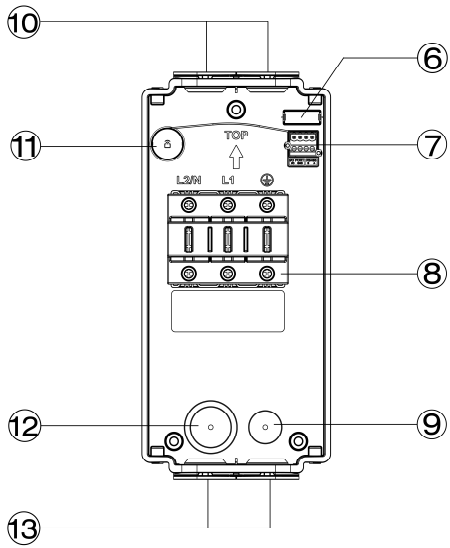
2.1 Product Overview



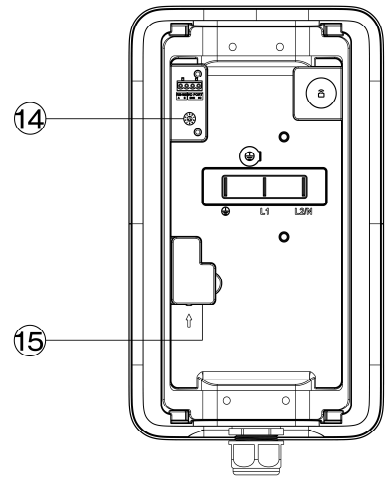
Commercial Model **Residential Model**

Front View

1. Energy Pulse Output (Infrared Ray)
2. Ambient Light Sensor—Detects ambient brightness
3. Touchscreen
4. RFID Reader
5. Holster



Wire Box



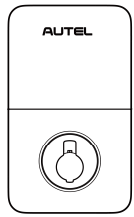
Charger Rear View

6. Built-in Spirit Level
7. RS485 Terminal
8. AC Input Terminal Block
9. Rear Data Cable Entry
10. Top Entries
11. NFC (Near Field Communication)
12. Rear Power Cable Entry
13. Bottom Entries
14. Current Selector
15. Ethernet Port

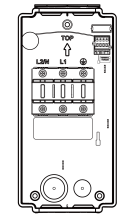
2.2 In the Box

Ensure that all parts are delivered according to the order. Check the packages for the following parts.

Charger
1 PC

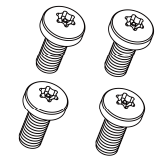


Wire Box
1 PC

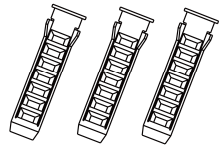


Self-tapping Screw
(M5 x 50)
3 PCS

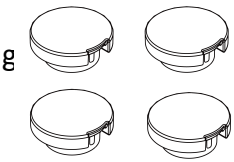
Screw
(M5 x 10)
4 PCS



Wall Anchor
(5/16”)
3 PCS



Screw Plug
4 PCS

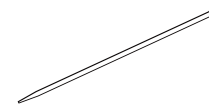


Quick Reference Guide
1 PC

Packing List
1 PC

T25 Torx Screwdriver
1 PC

Zip Tie
1 PC

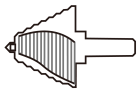


2.3 Recommended Tools

Tape Measure 

Pencil 

Wire Stripper 

Step Bit (1⅜”) 

Power Drill 

Drill Bit (5/16”) 

Torque Driver 

Phillips Bit PH2 

Multimeter 

Conduit Fitting 

Flathead Screwdriver 

NOTE

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

3 Installation

3.1 Electrical Design

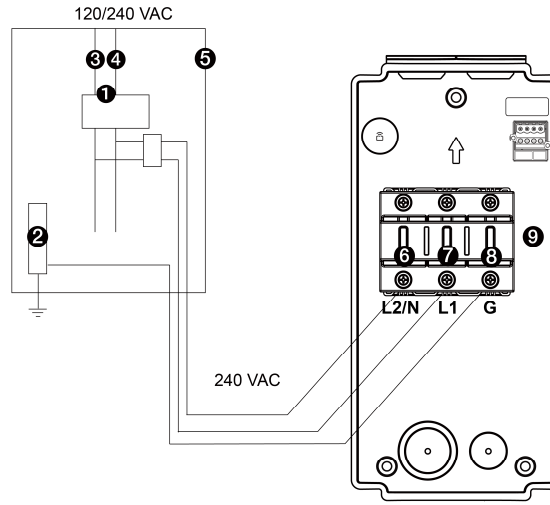
3.1.1 Upstream Wiring

Chargers are considered continuous load devices (EVs draw maximum load for long durations); therefore, electrical branch circuits must be sized at 125% of the load for North American installations, in accordance with National Electric Code (NEC) requirements. (For other regions, refer to local code.) This means that for a maximum 40 A load at 208/240 V output to an electric vehicle, 50 A breaker is required.

Wiring must be sized in accordance with NEC code for continuous load devices. Typically, 6 AWG or 8 AWG (16 mm^2 or 10 mm^2) insulated electrical wire is used, depending upon the rating of the circuit and the distance between the electrical panel and the charger. The AC input terminal block accepts a maximum of 3 AWG (27 mm^2).

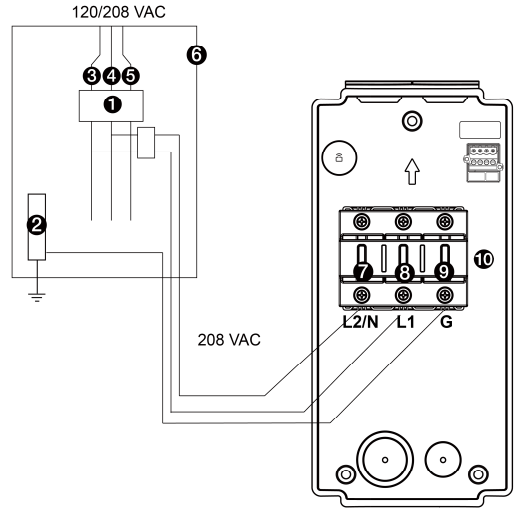
240 VAC Panel

1. Main Breaker
2. PE Bus
3. L1
4. L2
5. Local Service or Sub Panel
6. L2/N
7. L1
8. Ground/PE
9. Input Terminal Block



208 VAC Panel

1. Main Breaker
2. PE Bus
3. L1
4. L2
5. L3
6. Local Service or Sub Panel
7. L2/N
8. L1
9. Ground/PE
10. Input Terminal Block



3.1.2 Grounding Requirements

The charger must be connected to a grounded, metal, and permanent wiring system. An equipment-grounding conductor must be run with circuit conductors and connected to an equipment-grounding terminal or lead on the charger.

A grounding conductor that complies with applicable codes must be grounded to earth at the service equipment or, when supplied by a separate system, at the supply transformer.

Neutral is not used to power the charger but must be properly connected to ground, at the panel transformer, to provide necessary voltage reference relative to ground.

3.2 Preparing for Installation

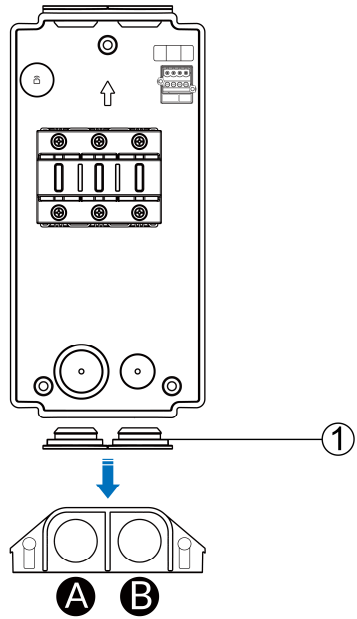
- Install the charger on a flat and vertical surface capable of supporting its weight (e.g., a finished wall or pedestal). The maximum weight of the charger is approximately 20.7 lbs. (9.4 kg).
- Install the charger in a location that allows the charging cable to remain within its bending tolerance.
- Position the charger in a location where it is not vulnerable to being damaged.
- Ensure the electrical panel supports a 240 V dedicated circuit with a new, dedicated, and non-GFCI two-pole circuit breaker, in accordance with local codes and ordinances.
- The recommended installation height for the charger is between 33.5 and 45 inches (850 to 1150 mm). The minimum outdoor installation height is 24 inches (600 mm) and that of indoor is 18 inches (450 mm). For ADA accessibility, mount the charger at a height of 27.5–33.5 inches (700–850 mm).

CAUTION

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

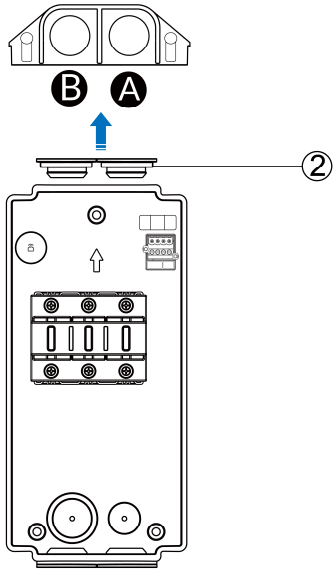
3.2.1 Cable Entry Options

The recommended cable entry options are described below. The preparation work varies depending on the entry options.

Cable Entry Option	**A: Power Cable** (Line/neutral: 3 AWG; PE: minimum 8 AWG. Copper wire only) **B: Data Cable** (Ethernet and RS485 cable)
Bottom Entry: Manually remove the plugs (1) from the bottom of the wire box.	

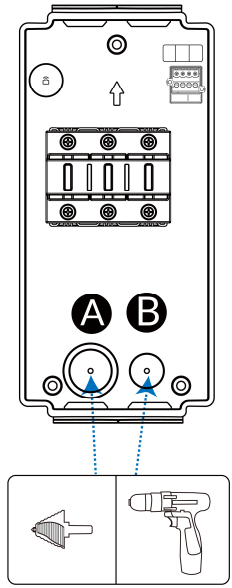
Top Entry:

Manually remove the plugs (2) from the top of the wire box.



Rear Entry:

Use a power drill with the 1⅜" step bit to drill into the rear cable entries.



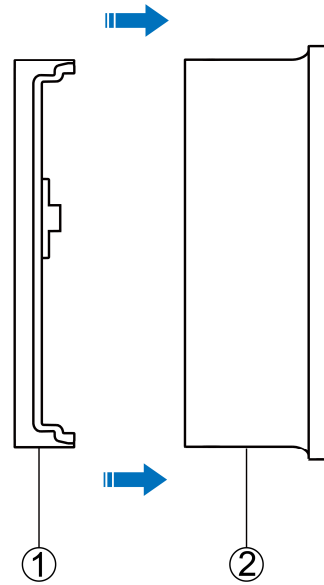
3.3 Installing the Charger

DANGER

Risk of shock. Turn off the power to the outlet at the circuit breaker until the installation is completed.

STEP 1

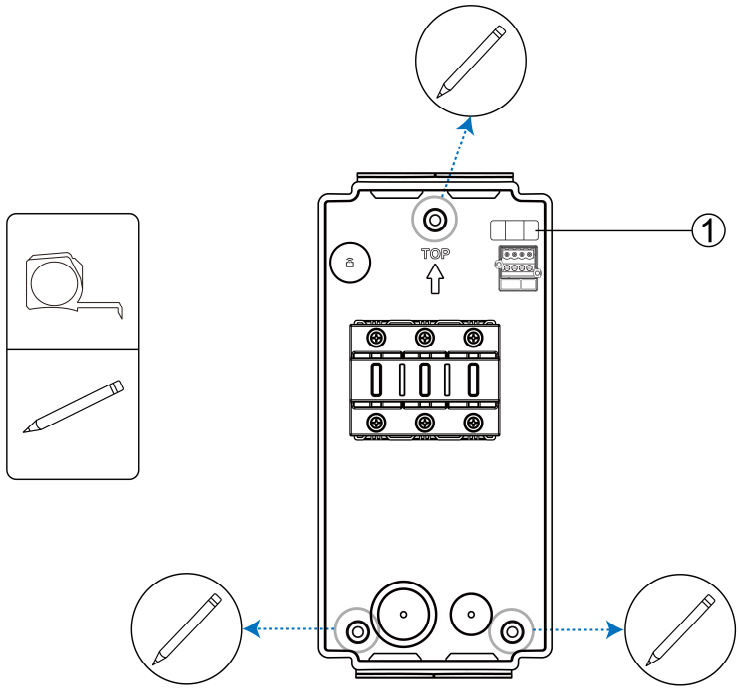
Manually detach the wire box (1) from the main unit (2).



STEP 2

1. Place the wire box against the wall at a height of 33.5–45 inches (850–1150 mm). Level it using the built-in spirit level (1).

2. Mark the three mounting holes using a pencil and remove the wire box temporarily.

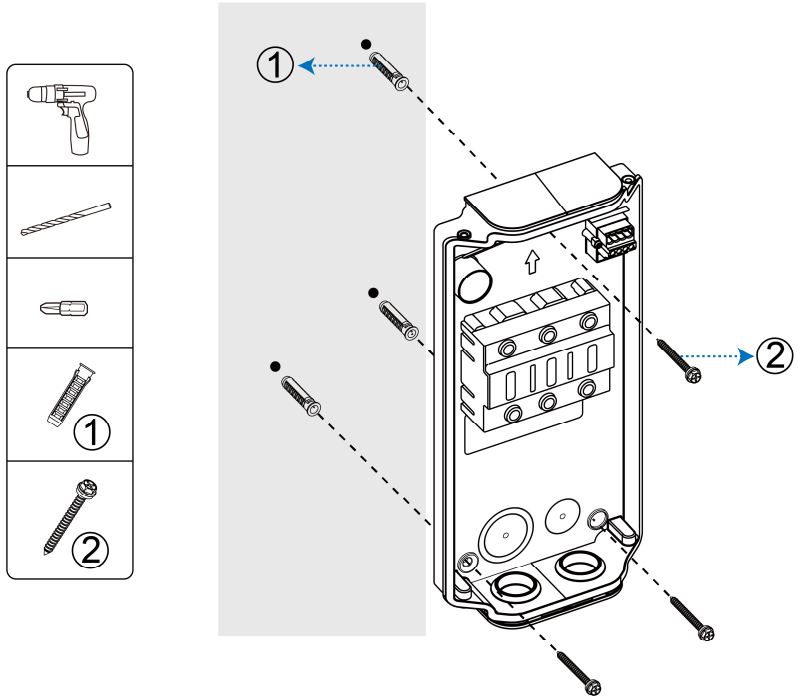


STEP 3

1. Drill 2 inches (50 mm) into the three holes measuring 5/16 inch (8 mm) in diameter.

2. Tap the three wall anchors (1) into the holes.

3. Place the wire box against wall aligning with the three holes. Then insert and tighten the three M5 x 50 self-tapping screws using a power drill with the Phillips bit (PH2) to secure the wire box.



3.4 Cable Connection

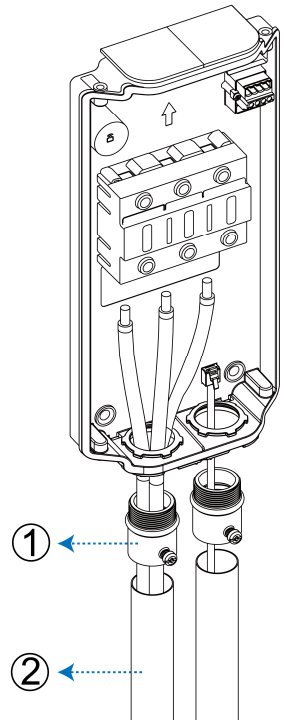
IMPORTANT

For the power cable, use copper conductors with the maximum wire size of 3 AWG (27 mm²).

Prepare the conduits and conduit fittings (1-inch recommended) and route them into the charger according to the cable entries.

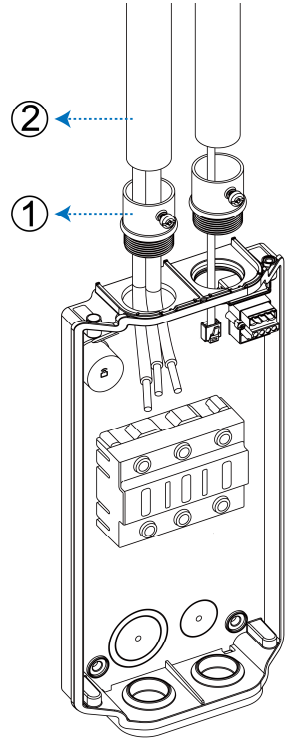
Bottom entry:

Route the cable through the conduit (2) and conduit fitting (1) into the charger from the bottom.



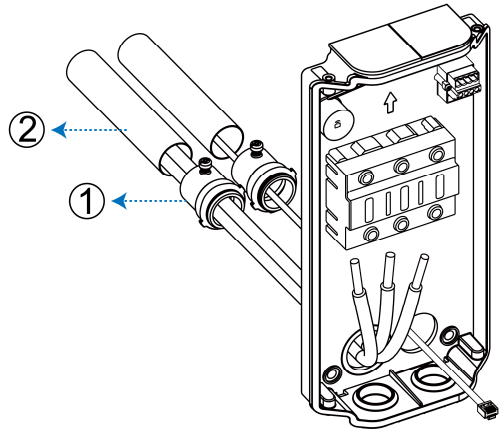
Top entry:

Route the cable through the conduit (2) and conduit fitting (1) into the charger from the top.



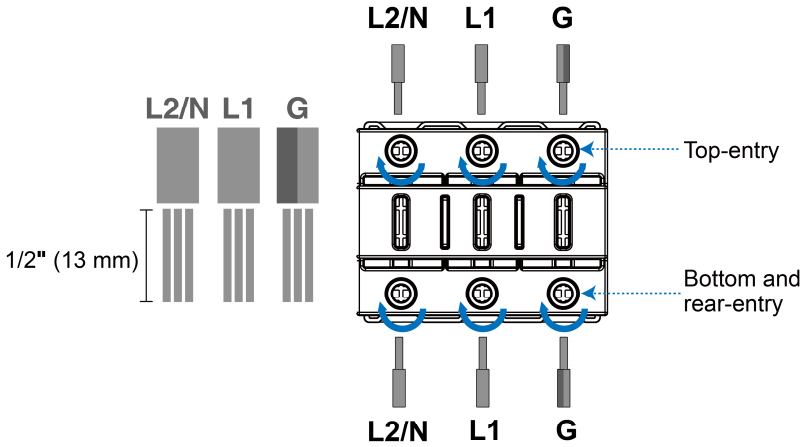
Rear entry:

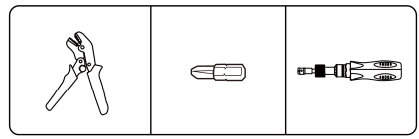
Route the cable through the conduit (2) and conduit fitting (1) into the charger from the rear.



3.4.1 Power Cable Connection

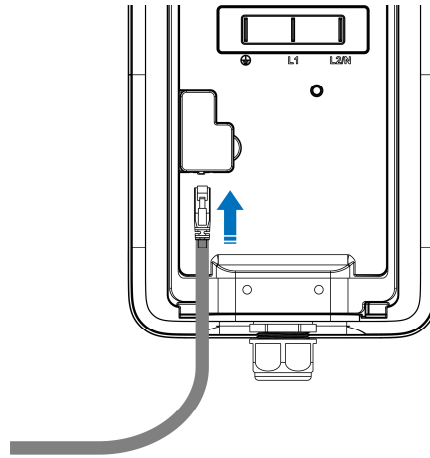
1. Loosen the terminal screws using a Phillips screwdriver.
2. Strip the wires to 1/2-inch (13 mm) and push them into the holes.
3. Connect the wires (L1, L2, and Ground) per the diagram and tighten each terminal screw to 35 in·lb (4 Nm).
4. Use the zip tie to organize the cables.





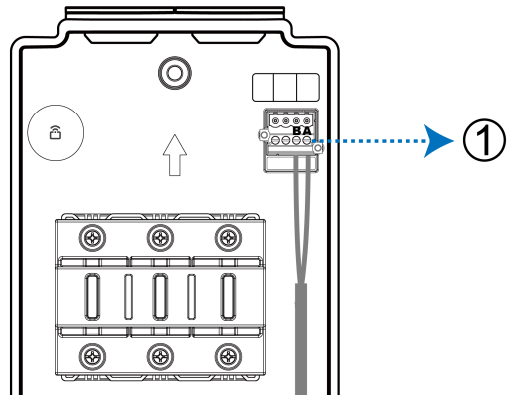
3.4.2 Ethernet Cable Connection

Plug the Ethernet cable into the RJ45 port at the back of the main unit.



3.4.3 RS485 Cable Connection (Optional)

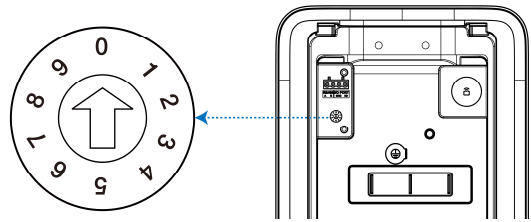
1. Use a flathead screwdriver to press and hold the buttons (1) above the connector holes on the RS485 terminal block.
2. Push the RS485a and RS485b cables into the holes as indicated. Release the buttons to secure the cables.



3.5 Adjusting the Rated Current (Optional)

This charger allows you to manually set a lower maximum current using the built-in current selector when installing the charger on a circuit rated lower than the maximum rating for the charger.

Locate the current selector on the back of the main unit. Then use a flathead screwdriver to set the rotary switch to the appropriate position per the table below.



CAUTION

To reduce the risk of fire, only connect the charger to a circuit with a branch circuit over-current protection of 125% of the selected maximum amperage setting of the device in accordance with ANSI/NFPA 70 (US) CSA C22.1 (Canada).

Position	Amperage (A)	Circuit Breaker Rating (A)
0	Not in Use	N/A
1	16	20
2	24	30
3	32	40
4	40	50
5	48	60
6	50	70
7	64	80
8	72	90
9	80	100

NOTE

- When the rotary switch is at 0, the corresponding amperage is 16A.
- The maximum current is limited by the power rating of a charger. For this model, the maximum current is 80A.

3.6 Configuration

STEP 1

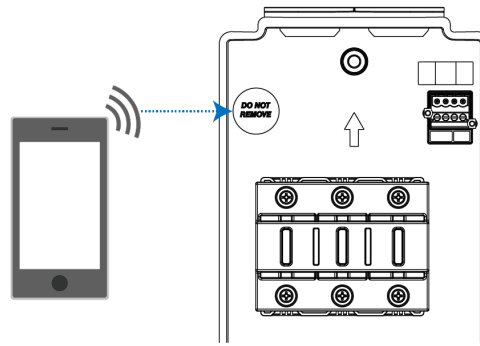
Scan the QR code to download the Autel Config app.

GET IT ON Google Play

Download on the App Store

STEP 2

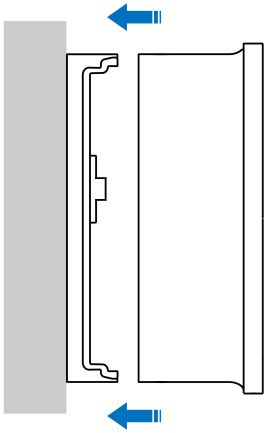
Tap your phone on the sticker and follow the on-screen instructions to configure the charger using the Autel Config app.



3.7 Finishing Installation

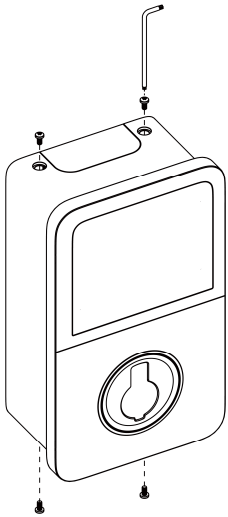
STEP 1

Push the main unit onto the wire box. Ensure they are securely attached.



STEP 2

Install and tighten the four M5 x 10 screws using the T25 Torx screwdriver to secure the charger.

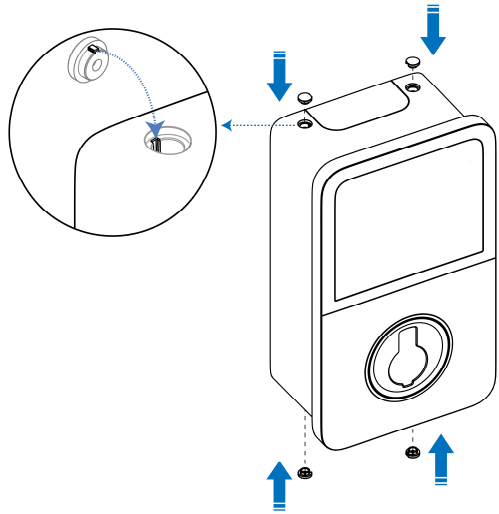


WARNING

Do not use a power drill here.

STEP 3

Install the four screw plugs. Ensure the contact pins fit the contacts in the main unit.



The installation is now complete.

4 Operation

4.1 Powering On

Once all electrical connections have been safely made, switch on the power to the circuit from the circuit breaker and wait for the power supply to come on. There will be a series of self-check starts, making sure that the charger works correctly and safely.

WARNING

Be careful when working with electricity.

4.2 Adding the Charger

1. Scan the QR code below to download the Autel Charge app to your mobile device from the Google Play or App Store. For iOS users, you will be redirected to the App Store; for Android users, you will be redirected to the Google Play.

2. Open the Autel Charge app on your mobile device, and log in with your phone number or email. If you do not yet have an account, register with your phone number first.

3. Scan the QR code or enter the serial number and PIN code, which can all be found on the Quick Reference Guide, to add the charger.

4. Follow the on-screen instructions to connect your charger via Bluetooth and connect it to the Internet. Then choose a desired function to start.

4.3 Start Charging

1. Remove the connector from the holster.
2. Plug the connector into the EV charging port.
3. Choose one of the following ways to start a charge session:
   - Use the Autel Charge app by tapping **Start** on the Charging screen.
   - Tap your RFID card on the RFID reader.
   - If the Auto Start function is enabled in the Autel Charge app, the charger will automatically start charging once the connector is properly connected.
   - If you have set a charging schedule in the Autel Charge app, the charger will initiate a charge session automatically as scheduled.
   - If the charger has a display, tap on the touchscreen and authorize charging via QR code or RFID card.

NOTE

Ensure the EV is charging. If you suspect the vehicle is not charging properly, try reconnecting the connector or contact Autel technical support.

4.4 Stop Charging

NOTE

- If the connector is unplugged from the EV during a charge session, the charger automatically disconnects the power supply. This stops all charging operations.
- When the vehicle is fully charged, the charger will automatically disconnect the power supply.

1. To stop charging, choose any of the following ways:

- Wait for the charge session to end and no further actions are required in the case of scheduled charging or Auto Start.
- Tap the **Stop** button on the Charging Screen of the Autel Charge app.
- Tap the RFID card on the RFID reader.
- If the charger has a display, tap **Stop** on the Charging Screen.

2. Unplug the connector from the EV and return it to the holster.

5 Troubleshooting

Item	Problems	Solutions
1	The charger is successfully added, but the Bluetooth connection fails.	Check whether the QR code on the charger is consistent with the QR code on the Quick Reference Guide. If so, make sure the Bluetooth is enabled on your mobile device; if not, contact customer support.
2	The charge session does not start as scheduled.	Do not insert the connector into your EV charging port before setting up a charging schedule for the first time. Insert the EV charging cable after the schedule is set up.
3	Over-voltage	Use the multimeter to check whether the voltage on the power input is too high. If the result is greater than or equal to 115 % of the rated voltage (276 V), contact local power grid company.

4	Under-voltage	Use the multimeter to check whether the voltage on the power input is not sufficient. If the result is less than or equal to 70 % of the rated voltage (161 V), contact local power grid company.
5	Ground fault	Ensure the charger is grounded correctly.
6	Power failure	Ensure the switch to the circuit breaker is on.
7	Over-heating	– Check whether the EV charging cable is securely connected. – Ensure the operating temperature is within the specified range on the product label. – Stop charging. Restart charging until it is within the operation temperature range.
8	Residual current detected	Unplug the vehicle and plug in again. If the problem persists, contact customer support.

9	Bluetooth communication failure	➢ Ensure the Bluetooth is enabled on your mobile device and the charger is powered on and operating properly. ➢ Forget the charger in the Bluetooth settings on your mobile device and pair the charger to your device via Bluetooth again. ➢ If the problem persists, contact customer support.
10	Update failure via Bluetooth	➢ Make sure the charger is in idle status. ➢ Make sure the Bluetooth connection is working properly. ➢ If the problem persists, contact customer support.
11	Internet connection fails	➢ Try to connect another device to the same Internet, verifying the Internet connection is working properly. ➢ If the problem persists, contact customer support.

6 Specifications

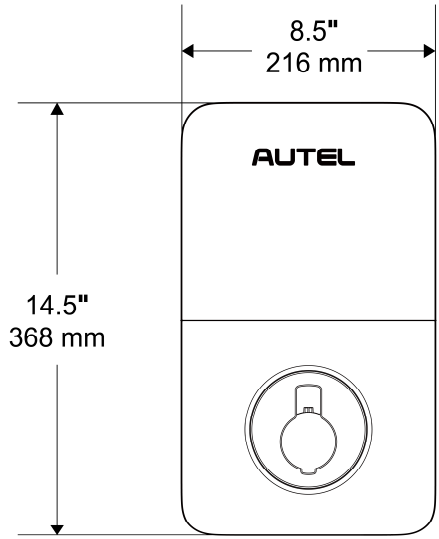
6.1 Specifications

Item	Description
AC Output Rating	19.2 kW
AC Input Rating	208/240 VAC, 60 Hz, single phase @ 16A, 24A, 32A, 40A, 48A, 50A, 64A, 72A, 80A
Circuit Breaker Options	20A, 30A, 40A, 50A, 60A, 70A, 80A, 90A, 100A (must be sized at 125% of the maximum load, e.g., 50A breaker for 40A output)
Input Wiring Scheme	Three wires: L1, L2, and Earth (no neutral)
Input Cord	Hardwired
Connector Type	SAE J1772
Charging Cable Length	**Residential model:** 25 ft. (7.5m) **Commercial model:** 18 ft. (6m); 25 ft. (7.5m) optional
Cable Management	Optional

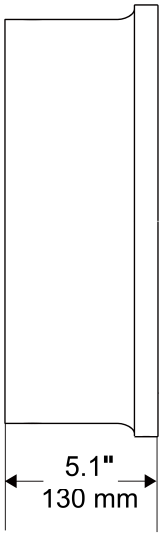
Display (Commercial Model Only)	7-inch, 800 x 480 touchscreen
Metering	**Residential model:** ANSI C12.20 (0.5%) compliant **Commercial model:** CTEP certified (Handbook 44, Section 3.40 compliant); ANSI C12.20 (0.5%) compliant
Ground Fault Detection	20 mA CCID with auto retry
Protection	Overcurrent, overvoltage, undervoltage, integrated surge protection
Connectivity	4G Wi-Fi Ethernet RS485 (Modbus, expand smart energy etc.) Wi-SUN
Card Reader	ISO 15693, ISO 14443 A/B
Communication Protocols	OCPP 1.6J OCPP 2.0.1
Mounting	Wall-mounted or floor using a pedestal
Enclosure Ratings	NEMA 3S, IP54,indoor or outdoor installation
IK Ratings	**Residential model:** IK10 **Commercial model:** IK09
Humidity	< 95%, non-condensing

Operating Altitude	9842.5 feet (3000 m)
Operating Temperature	**Residential model:** –40 to 131 °F (–40 to 55 °C) **Commercial model:** –31 to 131 °F (–35 to 55 °C) Derating when above 45 °C
Storage Temperature	–40 to 158 °F (–40 to + 70 °C)
Fire Class	UL94
Insulation Class	II
Overvoltage Category	III
Dimension (H x W x D)	14.5” x 8.5” x 5.1” (368 x 216 x 130 mm)
Weight	Residential model: approx. 20.3 lbs. (9.2 kg) Commercial model: approx. 20.7 lbs. (9.4 kg)
Safety and Compliance	UL 2594, UL2231-1, UL2231-2, UL 1998, CSA C22.2 NO.280
Codes and Standards	FCC Part 15 Class B, Energy Star, OpenADR 2.0b, NEC Article 625
Other Certifications	Smart Energy Profile (SEP) 2.0/IEC 61968 EEBus SAE J2953
OCPP Compatibility Test	OCA
Warranty	3 years (can be extended up to 5 years)

6.2 Product Dimensions



Front View



Side View

7 Compliance

FCC regulatory conformance：

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IC regulatory conformance:

This device complies with CAN ICES-3 (B)/NMB-3(B).

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme à la norme CAN ICES-3 (B)/NMB-3 (B).

Cet appareil contient des émetteurs / récepteurs exempt (s) de licence qui sont conformes aux RSS exemptes de licence d'Innovation, Sciences et Développement économique Canada. Son fonctionnement est soumis aux deux conditions suivantes:

(1) Cet appareil ne doit pas provoquer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences susceptibles de provoquer un fonctionnement indésirable de l'appareil.

RF Exposure

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d' exposition aux rayonnements de la IC établies pour unenvironnement non contrôé. Cet équipement doit être installé et fonctionner à au moins 20cm de distance d'un radiateur ou de votre corps.

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