

Charge Amps Halo



Installation Manual

English

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Respect the environment! Must not be discarded with household waste! This product contains electrical or electronic components. Leave the product for separate collection and proper treatment at a designated location e.g. the local authority's recycling station.



In conformity with the relevant EU directives.

Neglecting to follow and carry out the directions, instructions and safety precautions in this Installation Manual implies that any warranty provisions will be cancelled and that Charge Amps can reject any and all claims for compensation in connection with any injuries/damage or incidents – direct or indirect – that are a result of such negligence.

Charge Amps AB does not give any warranties as to the accuracy or completeness of this document and shall have no liability for the consequences of using such information. Charge Amps AB reserves the right to make changes to information published in this document without notice.

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1 Safety

WARNING: Read all instructions before installation!

- The product must only be installed by a qualified electrician in accordance with the Installation Manual.
- Make sure to switch the power off at the main switch before installation or service.
- Improper use and negligence to follow the instructions of this Installation Manual may create a risk of personal injury.
- National installation requirements and restrictions apply
- Only use this product for charging compatible electric vehicles.
- Inspect the product for visible damage before use.
- Never attempt to repair or use the product if it is damaged.
- Make sure that the product is in good condition and that all cables are properly seated before use.
- Do not immerse the product in water, subject it to physical abuse or insert foreign objects in any part of the product.
- Always store the vehicle connector in the holder when not in use.
- Never use an adapter between the vehicle connector and the electric vehicle.
- Cord extension sets are not allowed to be used.
- Make sure to always wind up the EV charging cable while not in use to prevent risk of damage to the cable and risk of tripping.
- Make sure to unwind the EV charging cable before charging to avoid overheating while in use.

- Never attempt to disassemble the product in any way other than what is described in the Installation Manual.
- Make sure that all terminal screws are securely fastened before reattaching the charger unit.
- Make sure that all terminal screws are securely fastened before reattaching the front cover.
- Make sure no flammable, explosive, corrosive or combustible materials, chemicals, or fumes are nearby the mounting position.
- Be careful not to touch the circuit board during installation to prevent risk of static electricity.
- To avoid muscle strain or back injury, use lifting aids and proper lifting techniques.

2 Technical data

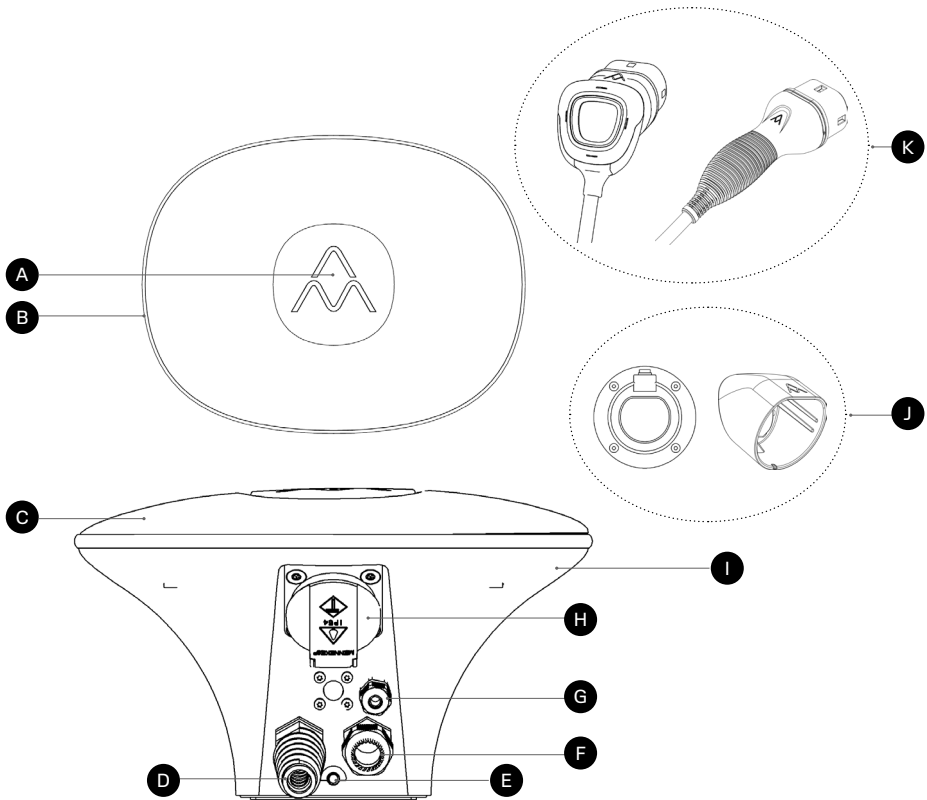
Charging mode	Mode 3
EV power supply identifier	
Metering	1 to 3 phase voltage, current and power
Vehicle connector	Type 2, 7.4/11 kW
Rated voltage (U_n)	230/400 V
Rated insulation voltage (U_i)	250/400 V
Rated impulse withstand voltage (U_{imp})	4 kV
Rated frequency (f_n)	50 Hz
Rated current (I_n)	16/32 A (depending on variant)
Rated diversity factor (RDF)	1 (can be lowered if used together with a load balancing functionality)
Rated peak withstand current (I_{pk})	3 kA, 20 kA ² s
Rated short-time withstand current (I_{cw})	192 A for 2 s
Residual current safety	Built in DC detection: 6 mA, 10 s External RCD Type-A* that complies with one of the following standards is needed: IEC 61008-1, IEC 61009-1, IEC 60947-2 or IEC 62423.
Short circuit safety	External MCB is required
Protection against electric shock	Class I
Types of earthing system	TN, TT, IT
Overvoltage category	III

Pollution degree	1
Electromagnetic compatibility	Environment B
Operating temperature	-35°C to +45°C
Altitude	0 m to 2000 m
IP code	Main unit: IP66 Vehicle connector: IP44
IK code	IK10
Mechanical resistance	High
Dimensions (W x D x H)	Main unit: 262 x 159 x 203 mm Vehicle connector: 81 x 125 x 88 mm
Cable length	7.5 m
Weight	4 kg
Characteristics of power supply and output	AC EV supply equipment connected to AC supply network, permanently connected
External design and method of mounting	Enclosed wall-mounted surface type: - Surface mounted on walls - Stationary ground and floor mounted installation with accessory Charge Amps Pole Mount
Type of construction	Fixed parts
Intended use and location type	By ordinary persons, indoor and outdoor installation with non-restricted access

RFID	Type: ISO/IEC 14443 Typ A 13.56MHz Mifare Range: 13.553 – 13.567 MHz Max output: 31 dBm
Wi-Fi	Type: 802.11 b/g/n Range: 2400-2500 MHz Max output: 20/17/14 dBm@802.11 b/g/n
Communication protocol	OCPP 1.6J (valid for Charge Amps Halo with product number: 130577, 130578, 130800, 131134, 131114 and 131133) CAPI (valid for Charge Amps Halo with product number: 100307, 100308, and 101082)

*If the local installation requirements demand that the built in DC detection shall be in accordance with IEC 62955, an external RCB Type B will be required.

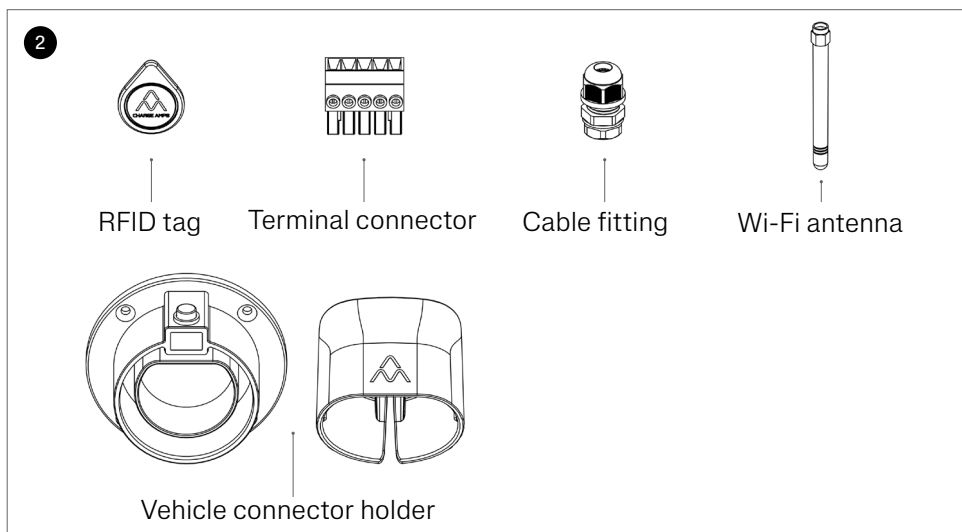
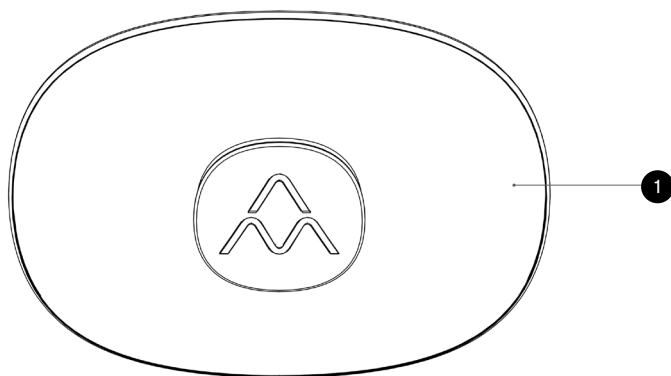
3 Product overview



- | | |
|--|---|
| A Centre light and RFID reader | H 230 V socket-outlet (some models only) |
| B Ring light | I Back cover |
| C Front cover | J Vehicle connector holder* |
| D Cable entry: fixed charging cable | K Vehicle connector* |
| E Wi-Fi antenna | |
| F Incoming power cable entry | |
| G Data cable entry | |

*Comes in different versions

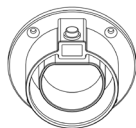
3.1 Package contents



1 Charge Amps Halo

2 Accessories:

- 1x RFID tag
- 1x Five-pin terminal connector for feed current (comes in different versions).
- 2x Cable fitting for power and data.
- 1x Wi-Fi antenna
- 1x Vehicle connector holder (comes in different versions)
- 4x Screws for Vehicle connector holder (only for certain model):



Screws are included.



Screws are not included. 2 x 3.5 mm screws with recessed head are needed.

Additional contents

- Document with serial number and password
- Quick Guide

4 Before installation

4.1 Recommended tools

- Screwdriver: flat-bladed screwdriver for electrical installations
3.5 mm
- Drill for screw/plug for wall mount
- Laser/spirit level for proper mounting on the wall
- Wire stripper for cabling
- Angled Allen key H4
- Scissor for sizing of the back sealing

4.2 Materials provided by the installer

- 3 x 5 mm flat head stainless screws type A2 or A4 with associated plugs (if required) for mounting of Charge Amps Halo
- 2 x 3.5 mm screws with recessed head for wall mounting of the Vehicle connector holder
- External sealant for the wall (if required)
- External type A RCD, 30 mA
- Installation cable max 14.0 mm outer diameter, according to the charging capability of the selected product
- LAN cable with short connector head (some models only)

4.3 Mounting requirements

N.B: Make sure to always use sealant if installing in an outdoor environment or on an uneven surface.

- If possible, do not mount Charge Amps Halo in direct sunlight.
- Make sure the wall can support the product weight.
- Do not install Charge Amps Halo in confined spaces.
- Use screws and plugs (if required) suitable for the wall material.
- Charge Amps Halo must be mounted upright.
- Recommended mounting height 750–1450 mm.

4.4 Electric requirements

N.B: Local regulations might add additional requirements for the electrical installation.

- Charge Amps Halo must be earthed through permanent electrical installation.
- Only insert the electrical cable through the specified cable entry.

4.4.1 Short circuit safety

N.B: Below recommendations are minimum levels. Local regulations must always be fulfilled.

Make sure the installation for Charge Amps Halo is properly fused:

- Charge Amps Halo 1-phase 3.7 kW: 16 A, Curve B or C MCB*.
- Charge Amps Halo 3-phase 11 kW: 16 A, Curve B or C MCB*.
- Charge Amps Halo 1-phase 7.4 kW: 32 A, Curve B MCB*.

* MCB = Miniature Circuit Breaker, B Curve MCB's trip at 3-5 times rated current and C Curve MCB's trip at 5-10 times rated current.

4.4.2 Residual current safety

DC fault current protection is integrated in Charge Amps Halo.

An external RCD of following type is required:

- RCD type A, 30 mA.

4.5 Internet access

Both Wi-Fi and LAN connection (some models only) is available for Charge Amps Halo.

4.5.1 Wi-Fi

Once the power is switched on, Charge Amps Halo will provide a Wi-Fi access point which is available for 10 minutes. You can use the Wi-Fi access point to connect Charge Amps Halo to the Wi-Fi network of the facility.

N.B: The Charge Amps Halo Wi-Fi access point is deactivated if the RJ45 port is actively connected.

Before installing Charge Amps Halo, make sure the Wi-Fi network of the facility is supported:

Supported networks:

- Wi-Fi 2,4 GHz according to 802.11b/g/n.

Recommendation for network security and encryption:

- WPA using TKIP: supported but not recommended.
- WPA2 using AES: recommended.
- WPA3: not supported.

4.5.2 LAN

N.B. Ethernet connection is only available for Charge Amps Halo OCPP version.

N.B: Max. outer diameter of the ethernet cable is 4-8 mm.

It is possible to connect Charge Amps Halo via an ethernet cable with following specifications:

- The connector of the ethernet cable must be of short type.
- A cat5 cable, or better, is required.

5 Installation

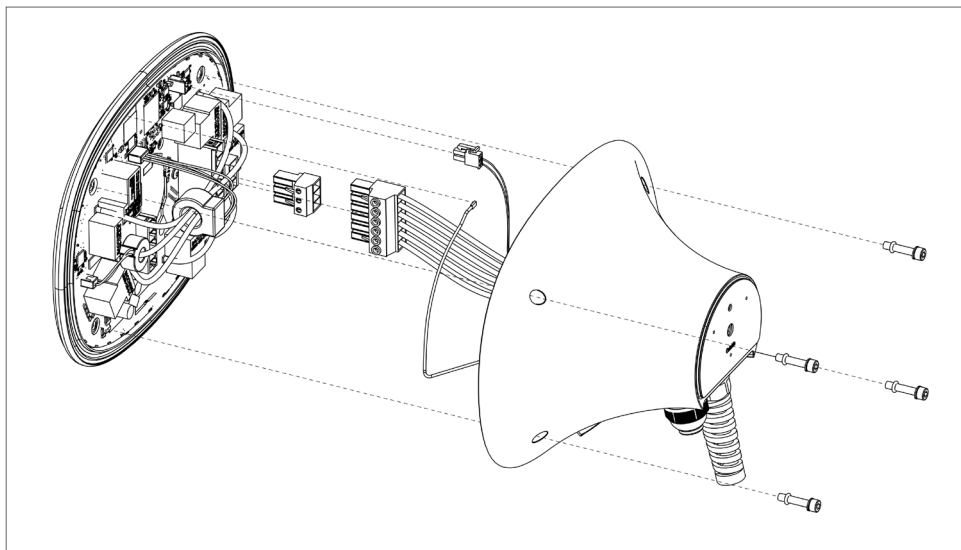
5.1 Mounting

N.B: Mounting shall only be performed by an qualified electrician.

IMPORTANT: Always use sealant when mounting Charge Amps Halo to the wall!

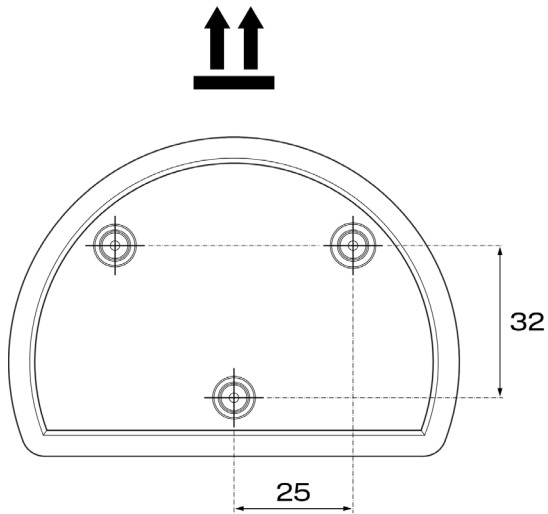
1. Unpack Charge Amps Halo. Make sure that Charge Amps Halo is in good condition and that all cables are properly seated. Do not place the face plate directly on the ground.
2. Mount a separate type A RCD on the feed line to the Charge Amps Halo.
3. Remove the Charge Amps Halo front cover with an Allen key H4. Make sure that the O-rings securing the screws do not come loose.

4. Remove all connected terminal blocks/connectors from the circuit board.



5. Place the circuit board on a safe place, not directly on the ground.

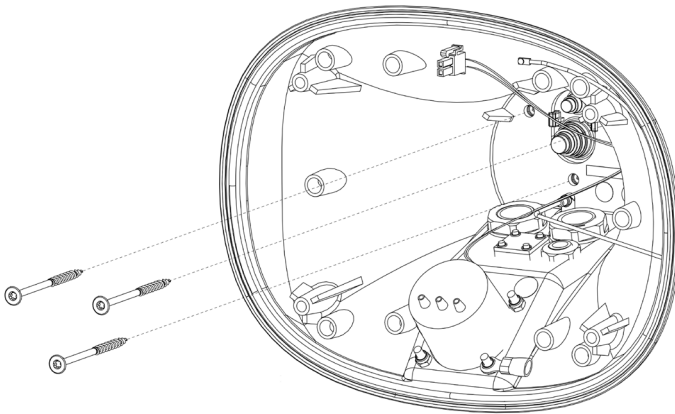
6. Mark and drill mounting holes on the wall for the Charge Amps Halo according to the dimensions in the drawing below*. The marked area is the sealing area that puts pressure on the wall. Make sure this area is flat and clean to avoid water leakage.



*Not to scale, [mm].

7. Mount the back cover on to the wall. Make sure the mounting surface is vertical and flat.

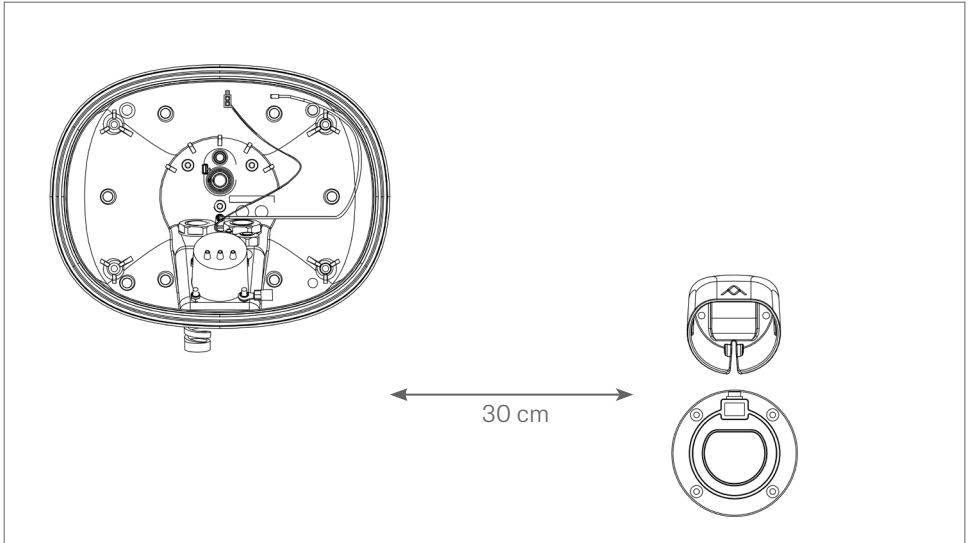
IMPORTANT! If Charge Amps Halo shall be installed with cabling coming from the back side, make appropriate sized wholes in the membrane of the wall sealing before mounting the back cover on to the wall. Follow the instructions in chapter "5.2.3 Back cable entry" for more information.



(Mounting screws are not included in the packaging for Charge Amps Halo).

8. Mark and drill mounting holes on the wall for the Vehicle connector holder. Place the holes for the Vehicle connector holder approximately 30 cm to the right of Charge Amps Halo.

N.B: Note that the Vehicle connector holder comes in two different versions.



9. Mount the Vehicle connector holder.

5.2 Connection

WARNING! Make sure that the power is turned off at the main switch and that the feed cable is isolated!

5.2.1 Cable connection

N.B: There are two options for cable entry, via the bottom or back side of Charge Amps Halo. Only insert the cable through the specified cable entries.

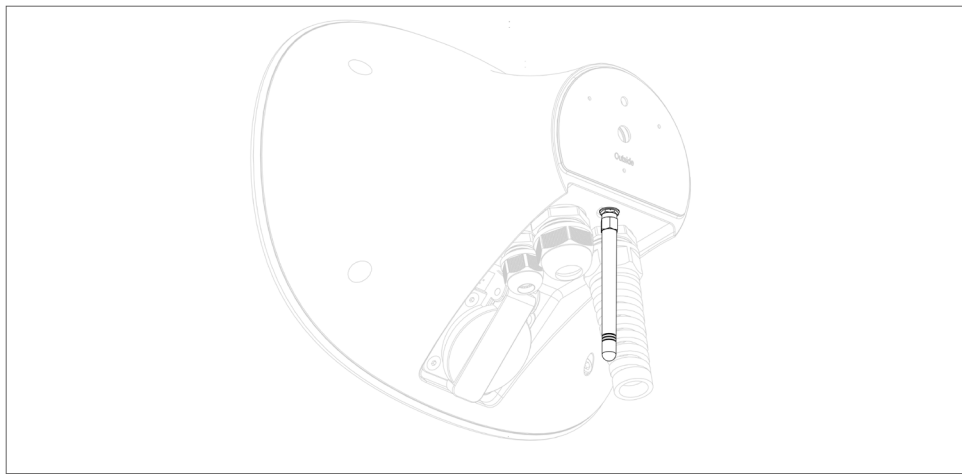
Electrical conditions in the facility and cable lengths may require a higher cross-sectional area to meet the triggering conditions. Make sure that the incoming power cabling is dimensioned to be able to connect the Charge Amps Halo:

- Charge Amps Halo 16 A: minimum 2.5 mm²
- Charge Amps Halo 32 A: minimum 6 mm²

N.B: The outer diameter of the selected power cable cannot exceed 14.0 mm.

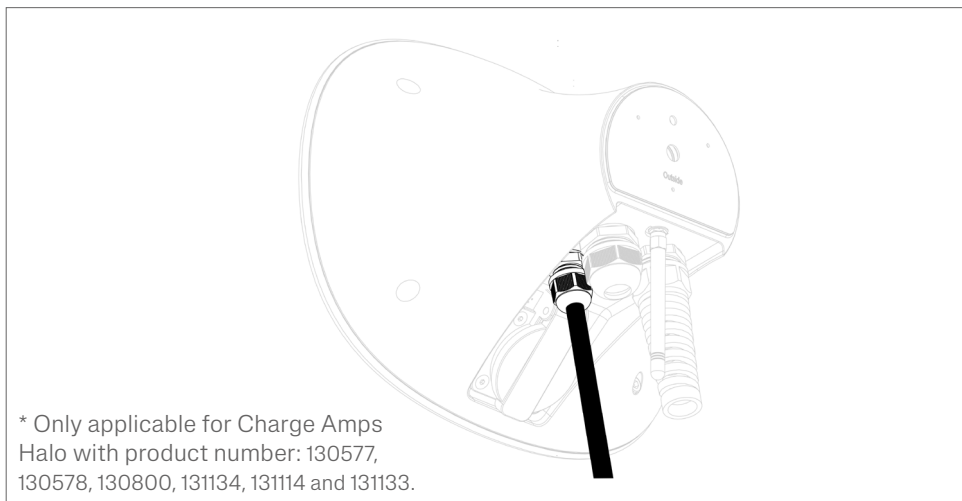
5.2.2 Bottom cable entry

1. Loosen the cable entry nuts.
2. Mount the external Wi-Fi antenna.



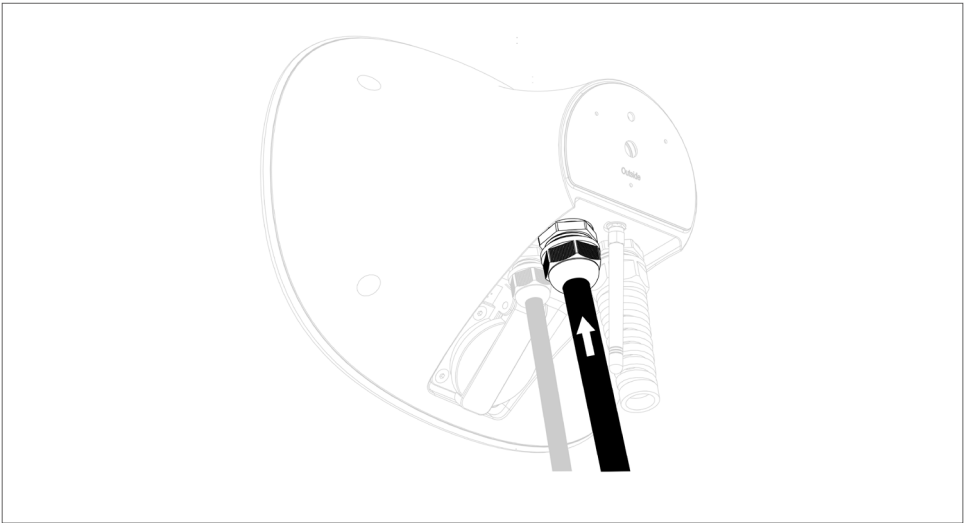
3. Insert the ethernet cable through the data cable entry*.

N.B: Max. outer diameter of the ethernet cable is 4-8 mm.



* Only applicable for Charge Amps Halo with product number: 130577, 130578, 130800, 131134, 131114 and 131133.

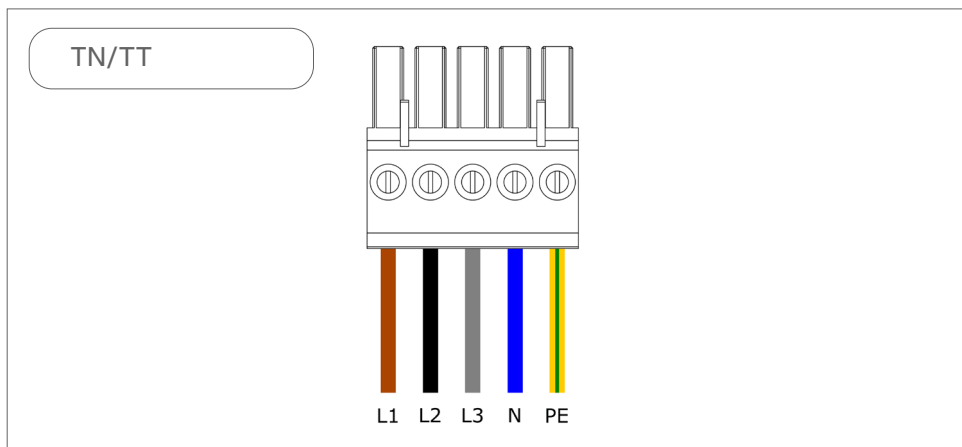
4. Strip the power cable (15-20 cm) and insert through the power cable entry.



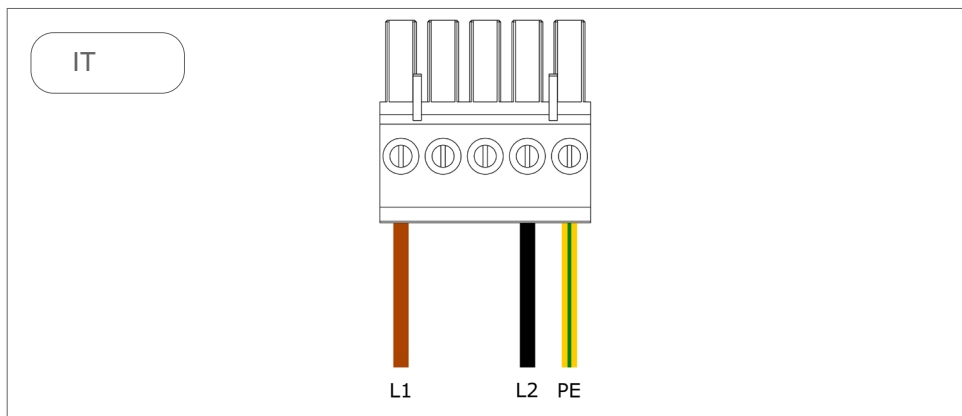
5. Retighten the cable entry nut (2 Nm).

6. Connect the conductors to the 5-pin terminal block according to your supply network:

- TN/TT one phase connection: it is recommended to connect all phases in a one-phase installation since it will optimize load balancing functionality.
- TN/TT three phase connection: connect all phases.



- IT connection:

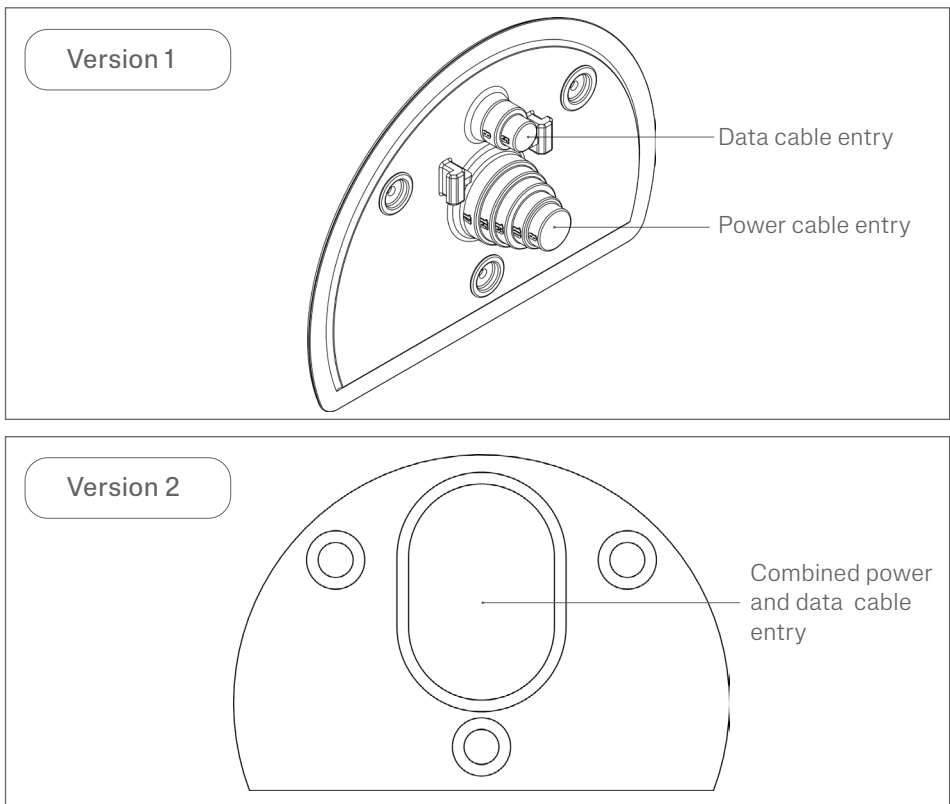


5.2.3 Back cable entry

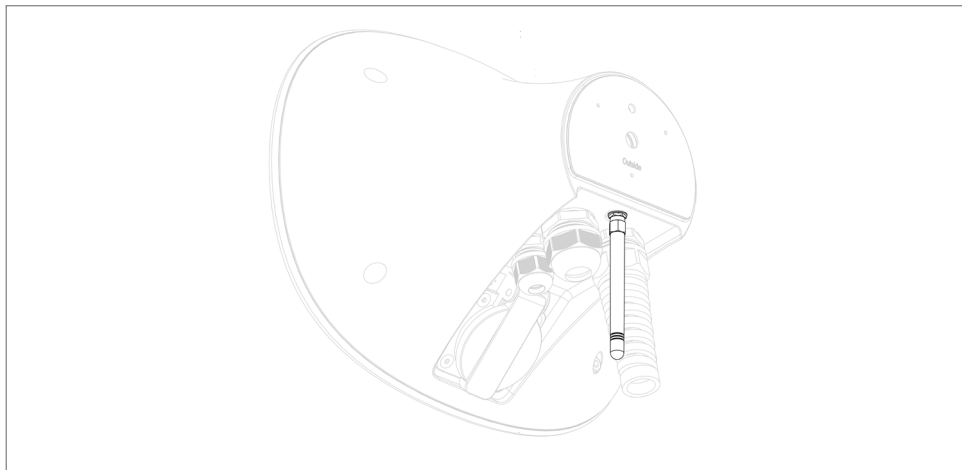
IMPORTANT: Always use sealant when mounting Charge Amps Halo to the wall!

When pulling the cables from the back side of Charge Amps Halo, please note that the wall sealing comes in two different versions:

- Version 1: comes with a separate power cable entry and data cable entry. Make appropriate sized wholes in the membrane for each entry using a scissor.
- Version 2: comes with a combined power cable entry and data cable entry.



1. Mount the external Wi-Fi antenna.

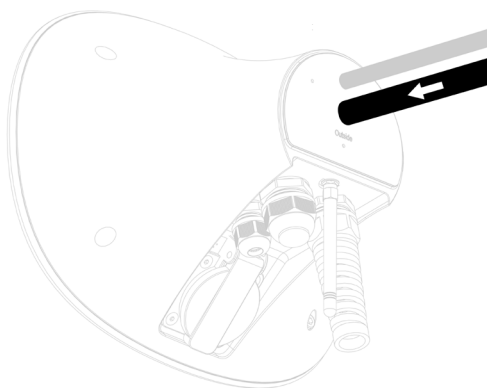


2. Strip the power cable (15-20 cm).

3. Insert the power cable and ethernet cable through the specified cable entry. Note that the cable entry will vary depending on version of wall sealing.

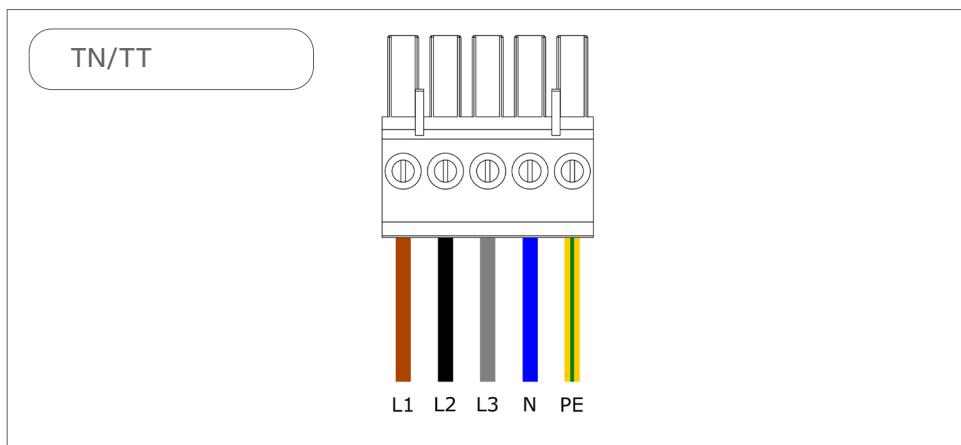
N.B: LAN connection is only applicable for Charge Amps Halo OCPP version.

N.B: Max. outer diameter of the ethernet cable is 4-8 mm.

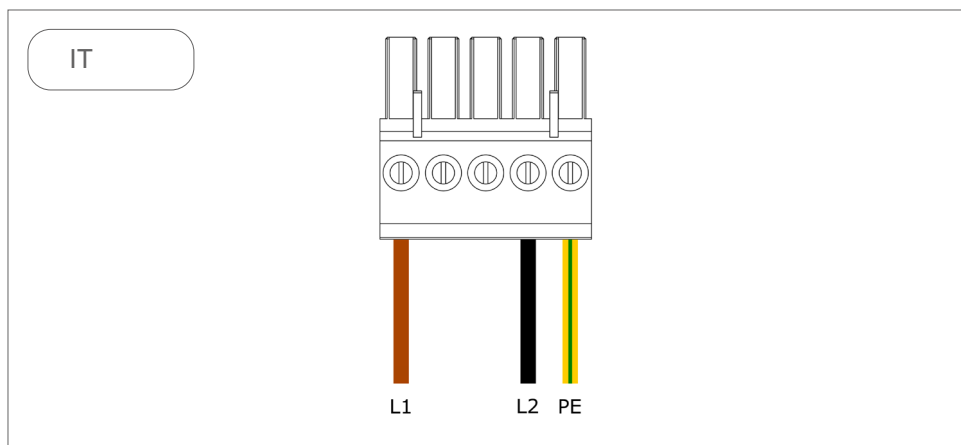


4. Connect the conductors to the 5-pin terminal block according to your supply network:

- TN/TT - one phase connection: it is recommended to connect all phases in a one-phase installation since it will optimize load balancing functionality.
- TN/TT - three phase connection: connect all phases.

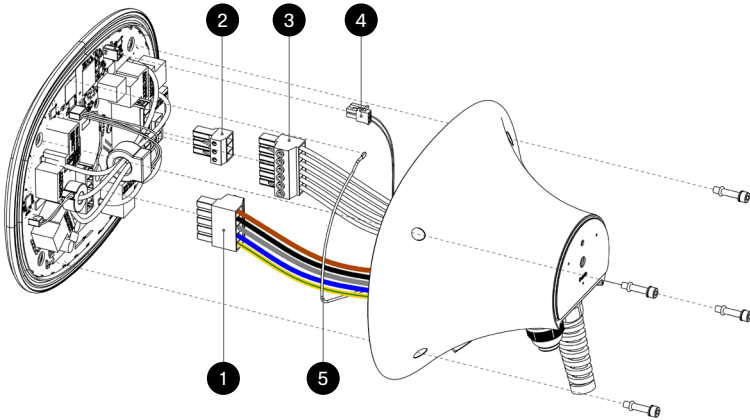


- IT connection - one phase:



5.3 Reassemble

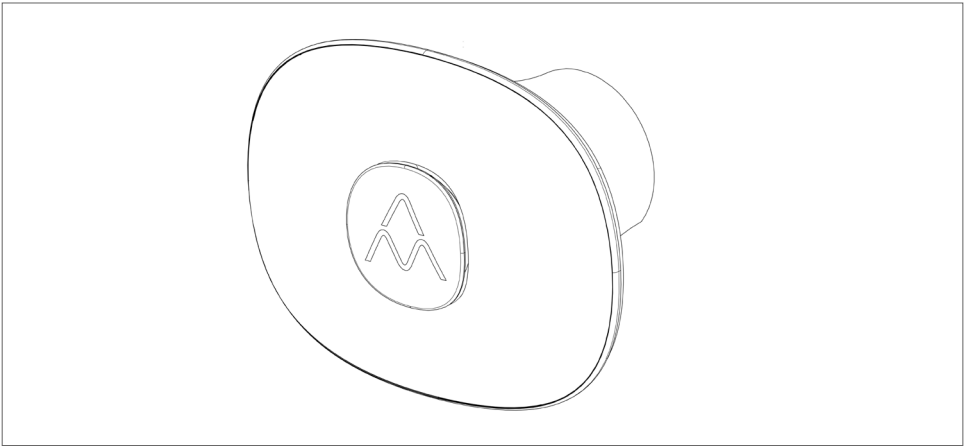
1. Refit the terminals in the front cover.



- ❶ 5-pin terminal block for incoming power supply
- ❷ 3-pin terminal block for socket-outlet
- ❸ 6-pin terminal block for charging cable
- ❹ Ethernet connector (some models only)
- ❺ Wi-Fi antenna cable

2. Refit the front cover to the back cover and make sure that:

- All O-rings around the fastening screws are in place.
- No cables are pinched.
- All cables are properly seated.
- The front cover is mounted with Charge Amps logo in an upright direction.



3. Tighten the four H4 Allen head screws with a torque of 1.5–2.0 Nm.

4. Turn the power on at the main switch.

- A start-up sequence with self-test begins.
- Once Charge Amps Halo is illuminated with a steady white light, it is ready for use.

5. Continue the installation by configuring Charge Amps Halo.

6 Configuration

N.B: Always register in Charge Amps Partner Portal to configure Charge Amps Halo.

Charge Amps Halo comes with two different communication protocols, OCPP 1.6J or CAPI. Follow the instructions for configuration based on the version of your Charge Amps Halo:

- Charge Amps Halo with product number 130577, 130578, 130800, 131134, 131114 and 131133 with communication protocol OCPP 1.6J: follow chapter 6.2.
- Charge Amps Halo with product number 100307, 100308, and 101082 with communication protocol CAPI: follow chapter 6.3.

6.1 Create a Charge Amps Partner Account

Before starting the configuration, make sure to create an account in Charge Amps Partner Portal:

1. Create a User Account at Charge Amps Cloud
<https://my.charge.space/>
2. Visit our Help Center at:
www.chargeamps.com/support
3. Once you reached the Help Center, navigate to the inquiry form from the top menu and fill in the form.
4. You will receive an email with instructions for how to proceed and Charge Amps will notify you when your Partner Account has been created.

6.2 Connect Charge Amps Halo OCPP 1.6J version

N.B: Valid for Charge Amps Halo with product number 130577, 130578, 130800, 131134, 131114 and 131133.

There's two ways to connect Charge Amps Halo to the internet: via Charge Amps Halo Wi-Fi access point or via LAN. Once connected to the internet, you can configure Charge Amps Halo in the local management interface.

Before starting the configuration process, make sure you have access to:

- The serial number for Charge Amps Halo (can be found in the documentation included in the packaging).
- The PIN code for Charge Amps Halo (can be found in the documentation included in the packaging).

N.B: Make sure to store and keep the PIN code safe for later use after installation!

6.2.1 Connect via Charge Amps Halo Wi-Fi access point

N.B: The Charge Amps Halo Wi-Fi access point is deactivated if the RJ45 port is actively connected.

Once the power is switched on, Charge Amps Halo will provide a Wi-Fi access point which is available for 10 minutes. Connect to the Charge Amps Halo Wi-Fi access point by using a smartphone, tablet or computer:

1. Set to airplane mode to avoid conflicting Wi-Fi.
2. Enter following information:

- SSID: "HALO_nnnnnnM" (where "nnnnnn" equals the last 6 digits of the serial number).
 - Wi-Fi password: the PIN code for Charge Amps Halo.
3. Open a new page in a web browser and type in "192.168.250.1" in the address field to access the Local management interface.
 4. In the Local management interface, sign in by entering the PIN code again.
 5. Navigate to the Wi-Fi tab.
 6. Connect Charge Amps Halo to the internet by entering the sign in details of the facility's Wi-Fi network and then save the settings.
 7. Continue to chapter 6.2.4 and follow the instructions stated in the "Local management interface settings".

6.2.2 Connect via LAN

1. Make sure that Charge Amps Halo is connected to the local network via an ethernet cable of one the RJ45 port.
2. Using a smart phone, tablet or computer, open a new window in the web browser.
3. Enter the IP address assigned to Charge Amps Halo in the address field to reach the Local management interface. (Log in to the router to find the IP address assigned to Charge Amps Halo).
4. In the Local management interface, sign in by entering the PIN code for Charge Amps Halo.
5. Continue to chapter 6.2.3 and follow the instructions stated in the "Local management interface settings".

6.2.3 Local management interface settings

In the local management interface, the electrical settings of the installation, how to handle RFID-tags for an offline-operated Charge Amps Halo and how to connect to a different cloud provider than Charge Amps Cloud can be configured.

Electrical installation settings

To configure the settings of the electrical installation, follow the steps below:

1. Select the Installation tab and fill in the different fields.
2. Save the settings.

RFID management for offline chargers

When Charge Amps Halo is connected to a cloud service, all management of RFID-tags is handled in the cloud. If Charge Amps Halo is to be operated offline, without a connection to a cloud service, management of RFID tags can be handled in the local management interface.

N.B: If Charge Amps Halo should be connected to a cloud service at a later stage, the tags added in the local management interface will be ignored.

To add and manage offline RFID-tags, follow the steps below:

1. Select the RFID tab and follow the instructions.
2. Save the settings.

Connect to a different cloud provider

If Charge Amps Halo is to be connected to a different cloud provider than Charge Amps Cloud, follow the steps below to set the correct cloud provider:

1. Navigate to the OCPP tab.
2. Enter the URL of the cloud provider which should be connected to Charge Amps Halo.
3. Save the settings wait 10 seconds for the settings to be saved, and then restart Charge Amps Halo.

6.3 Connect Charge Amps Halo CAPI version

N.B: Valid for Charge Amps Halo with product number 100307, 100308, and 101082.

There's one way to connect Charge Amps Halo CAPI version to the internet: via Charge Amps Halo Wi-Fi access point.

Before starting the connection process, make sure you have access to:

- The serial number for Charge Amps Halo (can be found in the documentation included in the packaging).
- The PIN code for Charge Amps Halo (can be found in the documentation included in the packaging).

N.B: Make sure to store and keep the PIN code safe for later use after installation!

6.3.1 Connect via Charge Amps Halo Wi-Fi access point

N.B: The Charge Amps Halo Wi-Fi access point is deactivated if the RJ45 ports is actively connected.

Once the power is switched on, Charge Amps Halo will provide a Wi-Fi access point which is available for 10 minutes. Connect to the Charge Amps Halo Wi-Fi access point by using a smartphone, tablet or computer:

1. Set to airplane mode to avoid conflicting Wi-Fi.
2. Enter following information:
 - SSID: "HALO_nnnnnnM" (where "nnnnnn" equals the last 6 digits of the serial number).
 - Wi-Fi password: the PIN code for Charge Amps Halo.
3. Open a new page in a web browser and type in "192.168.250.1" in the adress field to access the Local management interface.
4. Connect Charge Amps Halo to the internet by entering the sign in details of the facility's Wi-Fi network in the bottom of the page.
5. Save the settings.

7 Cloud connectivity

Charge Amps App

Please download Charge Amps App for full control, adjusting settings and enabling smart charging and scheduling.



Charge Amps App

Please create an account in the Charge Amps Cloud to configure, control and manage your charger via our web interface.



My charge space →

<https://my.charge.space/>

Full product information

Visit www.chargeamps.com for Charge Amps Halo Installation Manual, Charge Amps Halo User Manual and other product documentation.



Full product information →

<https://www.chargeamps.com/product/charge-amps-halo/>

8 Dismounting

N.B: Dismounting shall only be performed by a qualified electrician.

The power supply to the charger must be isolated before dismantling starts.

1. Perform a factory reset of Charge Amps Halo before powering it down. Contact the supplier before performing this action.
2. Turn the power off at the main switch.
3. Use this Installation Manual and follow the steps in reverse to dismount Charge Amps Halo in the correct order.

9 Maintenance

N.B: Never spray water or any other liquid directly on the product.

- Never spray water on the vehicle connector, immerse it in water, or let it lie on the ground.
- Visually check that the vehicle connector is free from damage.
- Check that the vehicle connector cable is free from visible damage.
- Check that the screw connectors securing the power cables on the underside of the Charge Amps Halo are properly tightened.
- The outside of the product, the charging cable and the end of the vehicle connector must be regularly wiped with a clean, dry cloth to remove dirt and dust.
- Do not use detergent to clean any of the product's components.

10 Product support and service

If you have any questions or problems with the product, support is always available. To find answers to your questions most quickly: Read through the User Manual to check whether your questions are answered there.

If your question is not answered, please:

1. Contact your supplier or cloud provider.
2. If you need service or repair, start by contacting the supplier from whom you purchased the product.
3. For additional information, visit our Help Center at:
www.chargeamps.com/support.

11 Warranty

Warranty terms may differ from market to market. Contact your supplier regarding the warranty terms.

www.chargeamps.com

Charge Amps AB (publ)
Frösundaleden 2B, 8th floor
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Charge Amps UK Ltd
4th Floor, 3 More London Riverside
London SE1 2AQ, United Kingdom