



Charge Amps **Amp Guard**

Installation Manual

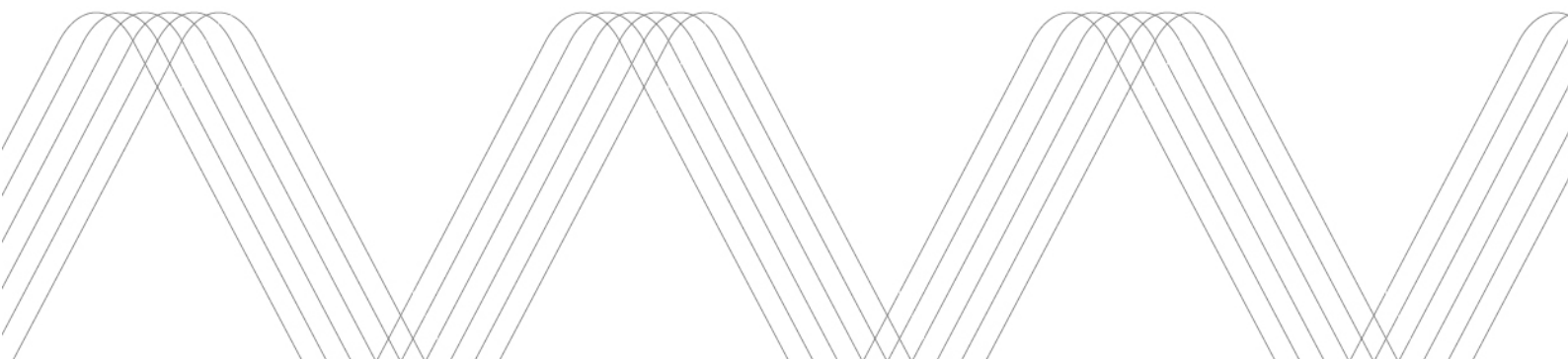


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Respect the environment! Must not be discarded with household waste! This product contains electrical or electronic components that should be recycled. Leave the product for recycling at a designated location e.g. the local authority's recycling station.



Disposal of the product must comply with the local environmental laws and guidelines. The product consists of plastic and electronics, and should be recycled as specified for these materials.



Approved in accordance with the relevant EU directives.

Neglecting to follow and carry out the directions, instructions and safety precautions in this Installation Manual may result in any warranty provisions being cancelled and Charge Amps AB rejecting any and all claims for compensation relating to any injuries/damage or incidents – direct or indirect – that are a result of such negligence.

The manufacturer 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. The manufacturer reserves the right to make changes to the information published in this document without notice. Visit www.chargeamps.com for the latest document releases.

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1. Safety

WARNING! Read all the instructions before use.

- Improper use may give rise to a risk of personal injury.
- The product must only be installed by a qualified electrician in accordance with the Installation Manual.
- National installation requirements and restrictions apply.
- Inspect the product for visible damage before use.
- Never attempt to repair or use the product if it is damaged.
- Do not immerse the product in water, subject it to physical misuse or insert foreign objects into any part of the product.
- Never attempt to dismantle the product in any way.

2. Technical Data

Measuring range (current)	0–100 A (Home), 0–400 A (Public)
Measuring range (voltage)	0–390 V
Network	LAN, Wi-Fi
Power supply	230VAC 50/60Hz (via the voltage/power supply terminal)
Installation	DIN rail (6 modules) or standalone
Dimensions	108 × 97 × 57 mm
Sensor cable length <i>Must not be tampered with, otherwise measurement accuracy may deteriorate.</i>	1 m
Max. diameter of measuring object	400 A: 34 mm 100 A: 13 mm

3. Product Overview

3.1. Parts



- A. LAN port
- B. Terminal for current sensor
- C. Terminal contact for powering the Charge Amps Amp Guard and voltage supply if all three phases and N are connected.

3.2. Package contents

- Charge Amps Amp Guard
- Three current sensors
 - Home version: Blue 0–100 A
 - Public version: Black 0–400 A

4. Before Installation

4.1. Recommended tools

- Smartphone, tablet or computer with internet connection
- Flat head screwdriver, max. width 3 mm

4.2. Internet access

The Charge Amps Amp Guard must be connected to the internet to supply data to the load balancer. The load balancer communicates with the charging station(s).

The customer must provide an internet connection via a network cable (LAN) or Wi-Fi (2.4 GHz).

- A LAN connection, if available, is preferred to ensure a more secure connection to the internet.
- The network needs to have DHCP activated to ensure that an IP address is automatically assigned to the Charge Amps Amp Guard.
- The Wi-Fi password may contain a maximum of 30 ASCII characters.

5. Installation

Install the Charge Amps Amp Guard directly after the main switch of the building, to allow monitoring of all power usage.

For one-phase systems, L2 and L3 are not used.

5.1. Connect the current sensors

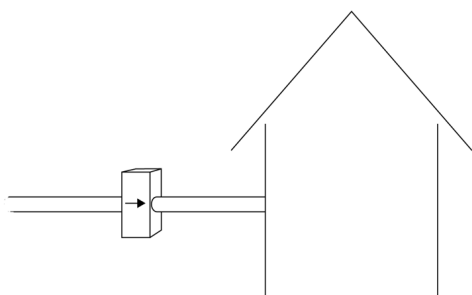
IMPORTANT!

It is extremely important that the current sensors are connected to the correct phase, and that the clamps are in the right direction and are connected in the correct way with the Charge Amps Amp Guard terminals.

The sensors must be positioned correctly around the main power cables, in compliance with the indicators on the clamps.

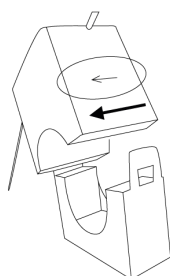
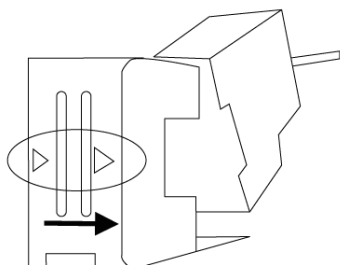
The Charge Amps Amp Guard comes with three current sensors, one for each phase.

The direction of mounting is marked on the current sensor. The arrow must point in the current direction.



Home version: Blue 0–100 A

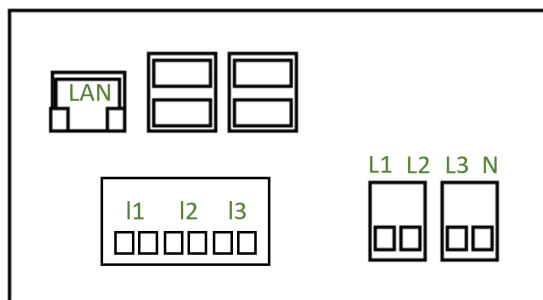
Public version: Black 0–400 A



5.1.1. Installation

1. Clamp the current sensor around the incoming phase, paying attention to the current direction.
2. Connect each current sensor to the corresponding terminal contact:

	S1	S2
Home	Red	White
Public	White	Black



3. Repeat for all three phases.

5.2. Connect to the mains

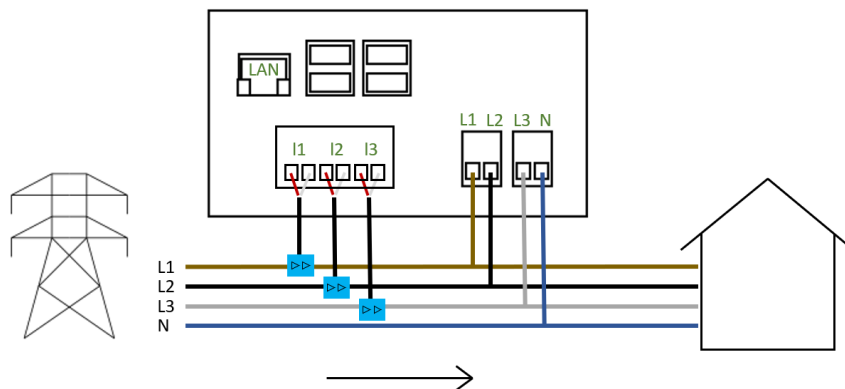
IMPORTANT!

Each phase must be connected to the correct terminal connector to ensure that current measurement and load balancing function correctly.

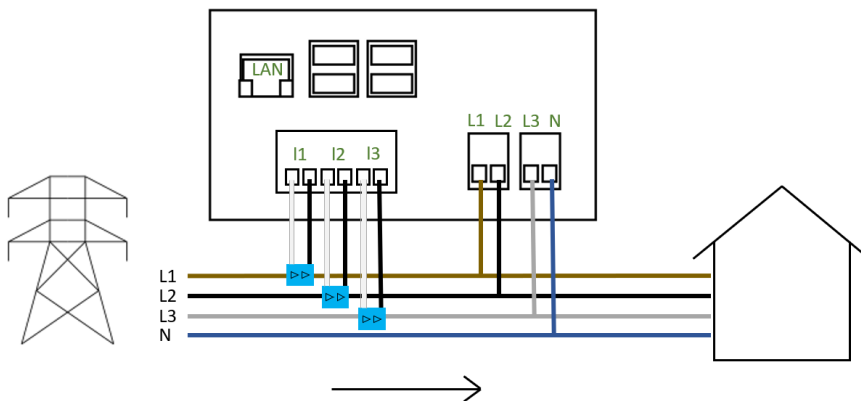
The mains are used to power the Charge Amps Amp Guard and are used to measure voltage.

For installations that do not have any generating equipment, such as solar panels or wind power, it is sufficient to connect N and L1.

5.2.1. Final result of the electrical installation



Overview of installation of the Charge Amps Amp Guard Home



Overview of installation of the Charge Amps Amp Guard Public

5.3. Network installation

5.3.1. LAN installation

Connect a (Cat 6) network cable to the LAN port.

5.3.2. Wi-Fi installation

N.B. Only 2.4 GHz Wi-Fi is supported. There is a risk of malfunction if 5 GHz and 2.4 GHz have the same SSID.

The Wi-Fi password may contain a maximum of 30 ASCII characters.

1. Connect to the Charge Amps Amp Guard Wi-Fi using a smartphone, tablet or a computer.
To avoid conflicting Wi-Fi, set the airplane/flight mode.
 - SSID: Amp Guard_***** (* = Specific to the Charge Amps Amp Guard's serial number) The serial number is located on the front.
 - Password: Enter the Charge Amps Amp Guard PIN code.
The PIN code / Wi-Fi 8-digit password is located on the back.
2. Start a web browser and type in 192.168.251.1 as the search path.
3. Enter the sign-in details of the facility network to connect the Charge Amps Amp Guard to the internet.
4. Click *Submit*.

6. Configuration

6.1. Cloud connectivity

The Charge Amps Cloud and Charge Amps App are available for the Charge Amps Amp Guard connected to Charge Amps as the cloud provider.

To connect the Charge Amps Amp Guard to other cloud providers, please check with your cloud provider regarding portals and apps.

Contact the cloud provider to verify a successful connection.

Charge Amps **App**



Charge Amps **Cloud User**



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

Charge Amps **Cloud Partner**



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

Visit the link to obtain full product documentation.



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

6.2. Create a Charge Amps Partner account

Installation of Charge Amps products requires a Charge Amps Partner account.

Use your login credentials or create a new account.

1. Create a user account at Charge Amps Cloud <https://my.charge.space/>
N.B Do not register the EV charger. Configuration is made in the Partner interface.
2. Send an email to Charge Amps (support@charge-amps.com) stating the following:
 - a. User account login name
 - b. Company name
 - c. Company postal address
 - d. Company email
 - e. Company phone number
 - f. Corporate identity number
 - g. Company representative
3. Charge Amps will notify you by email when your Partner account has been created.

6.3. Cloud configuration

Connect the Charge Amps Amp Guard to the Charge Amps App or Cloud service to complete the installation.

To ensure the Charge Amps Amp Guard works correctly, it is necessary to set the parameters in a load balancer group via the Charge Amps cloud service.

6.4. Preparations

Before configuration, make sure to have the following at hand:

- Contact information for the customer.
- The EV charger serial number and PIN code (document included in the EV charger packaging). The serial number is also visible on the underside of the EV charger. Contact support if the password is lost.
- The Charge Amps Amp Guard serial number and PIN code.
The serial number is located on the back.
The PIN code / Wi-Fi 8-digit password is located on the back.

6.5. Create an organisation

An organisation is for example a housing cooperative, a company or a private individual.

1. Sign into the Partner interface <https://my.charge.space/partner>.
2. Select *Organisations* in the menu bar and click *Create*.
Enter the requested information, which is email and contact person as a minimum.
3. Click *Save*.
The organisation is now added and visible in the list of organisations.

6.6. Add an EV charger

1. In the Partner interface, find the organisation in the list of organisations.
2. Click *Go to*.
A popup window will take you to the Admin interface (<https://my.charge.space/admin>).
3. In the Admin interface, click *Chargers* and select *Add*.
4. Enter the serial number and password for the EV charger and click *OK*.
5. Return to the Partner interface (<https://my.charge.space/partner>).

6.7. Settings

1. In the Partner interface, select the *Chargers* tab in the menu bar.
2. Find and select the EV charger.
3. Select *Current Settings - must only be modified by authorized users* to expand the drop-down list. Modify the bottom two options:
 - a. *Load balancer offline current limit*
Select the offline charging amperes, in case the EV charger loses the internet connection and is unable to communicate with the load balancing system in the cloud service.
 - b. *Load balancer offline phase*
Select the lowest loaded phase. The charger will use this phase if offline. If there are several chargers, it's recommended to use different phases for each of them.
4. Click *Save*.

6.8. Add the Charge Amps Amp Guard

1. In the Partner interface, select the *Measurement devices* tab in the menu bar.
2. Click *Add*.
 - a. Enter the serial number (ends with a G).
 - b. Enter the 8-digit PIN code (visible on the label on the back of the Charge Amps Amp Guard).
 - c. Select organisation.

6.9. Create load balancing

1. In the Partner interface, select the *Loadbalancer* tab in the menu bar.
2. Click *Add*.
 - Enter the Name (preferably the name of the organisation) and Description (to help identify the load balancer).
 - Select the organisation.
 - *Socket* disable/enable (optional to edit).
 - Select Charge Amps Amp Guard in *Measurement device (i/a)*.
 - Select the latest software version in *Loadbalancer type*.
 - *Chargers included in measurements*
If the measurement device is measuring the load on the distribution board to which the load balanced chargers are connected.
 - Add *Phases*. Enter which phases should be included in the load balancing and state the order. For example 1, 2, 3 or 3, 2, 1 etc. **Important!**
 - Enter *Max Current Per Phase (AG Offline/AG Online)* Maximum current for the load balancing group if the Measurement device is offline/online.
 - Enter *Min Current Per Phase*. The minimum current that a charger will get from load balancing.
 - Enter *Supply Max Current*, the facility main fuse, where the Charge Amps Amp Guard is set to measure.

6.10. Import charging boxes

1. Select the *Charger* tab and click the blue option *Import*.
2. Select *Click here to import org*.
3. Mark the chargers to import for load balancing and click *Import*.

6.11. Activate load balancing

1. Click *Activate* at the bottom of the drop-down list for load balancing groups.

7. Product support and service

If your question is not answered in the manual, please contact the supplier or cloud provider, see chargeamps.com/support.