



Twin 5 Plus



EV Charging Stations

Installation and User Manual



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1. SAFETY AND USAGE INSTRUCTIONS

1.1 Disclaimer

This document has been subjected to rigorous technical review before being published. It is revised at regular intervals, and any modifications and amendments are included in the subsequent issues. Although Alfen has made its best efforts to keep the document as precise and up-to-date as possible, Alfen does not assume any liability for defects and damage which results from the use of the information contained herein.

NOTE

This manual is subject to updates and changes. Errors and omissions excepted.

Any deviation to the products as assembled by Alfen including, but not limited to, customer-specific modifications to the product such as the placement of stickers, SIM cards or the usage of different colors (all referred to as 'Customization') may affect the final product, its experience, appearance, quality and / or lifespan (the Customized Product). Alfen is not liable for any damage to, or caused by, the Customized Product if this damage is caused by this applied Customization.

Alfen shall not be liable in any way, for any kind of damage, and the (carry in) warranty for the product and the accessories shall not apply in the following cases:

- Failure to comply with the instructions in this manual in general and with the operating conditions specifically.
- Improper use.
- External damage.
- Installation, commissioning or faulty repair or maintenance by unqualified persons.
- Failures from the grid or the GPS / GPRS provider.
- Modification or configuration of the product or accessories without the knowledge of Alfen.
- Use of spare parts not approved or manufactured by Alfen.
- The charging station is used outside its operating conditions as stated in this manual.
- Situations have occurred that are beyond the control of Alfen(force majeure).
- Malfunction of an open charge point back office.
- Damage to the electrical vehicle.

1.1.1 Disclaimer public charging stations

Alfen ICU B.V.(“Alfen”) has received the explicit request to use the open area in the Alfen Twin 5 Plus (the “EV Charger”) for installing electrical components.

The Interior view on page 7 indicated red marked area (the “Dedicated Area”) may be used for the installation of electrical components within the Alfen Twin 5 Plus (the “charging station”) which charging stations are placed in the public domain if the following conditions remain to be fulfilled throughout the Warranty Period:

- The charging station shall only be opened by authorized certified electricians who shall have completed the Alfen training (an “Engineer”);
- Customer shall provide explicit consent to the Engineer for the placement of components in the Dedicated Area;
- The installation, the use and operation of the charging station (EV Charger) shall always be in accordance with all applicable laws, regulations and the manuals;
- Components may only be stored in the Dedicated Area before the main switch;
- All additional installed electrical components are IP20 at minimum and installed according local installation and safety regulations and laws.

If the above conditions remain fulfilled throughout the Warranty Period, Alfen confirms that the Dedicated Area may be used and the warranty for the charging station (EV Charger) remains valid.

1.2 Improper use

Using the charging station is safe when used as intended. Any other use or changes to the charging station are considered improper use and therefore not permitted. The operator, owner or qualified technician is responsible for any personal injury or material damage arising from improper use.

1.3 Copyright

The reproduction, distribution and utilization of this document, as well as the communication of its contents to other parties without explicit authorization by Alfen N.V. or one of its affiliates, is strictly prohibited. © Alfen N.V.

1.4 Trademarks

Eve®, ICU®, Alfen® are trademarks by Alfen N.V.. Any unauthorized use of the trademarks is therefore illegal.

1.5 Languages

The English version of this document is the original source. Documents in other languages are translations of this source.

1.6 Purpose and intended audience

This manual applies to the Twin 5 Plus (in this document also indicated as “charging station”) produced by Alfen ICU B.V., Hefbrugweg 28, 1332AP Almere, the Netherlands,

1. SAFETY AND USAGE INSTRUCTIONS

reg.no. 64998363 ("Alfen"). The Alfen Twin 5 Plus is intended exclusively for charging electric vehicles and, when installed correctly, may be used by untrained individuals. Follow this manual to install and commission the charging station correctly.

Installation, commissioning and maintenance of this charging station may only be performed by a qualified electrician. It is essential that this person has:

- Expertise on all relevant general and specific rules regarding safety and incident prevention
- Comprehensive knowledge of applicable electrical regulations.
- The ability to identify and foresee risks and avoid potential hazards
- Received and read these installation and operating instructions

1.7 Explanation of text instructions used

Safety warnings and precautions are indicated in this document as follows:

DANGER

Signal word used to indicate an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Signal word used to indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury

CAUTION

Signal word used to indicate a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTE

Signal word used to provide additional information or information on possible product damage.

1.7.1 Safety symbols

The following warning pictograms are attached to (parts of) the charging station:

Pictogram

Description



Dangerous voltage



Protective earth

1.8 General safety

Make sure to follow the stated safety aspects at all times when operating the charging station:

DANGER

Risk of injuries, explosion or fire. Do not use the charging station in the vicinity of explosive or highly flammable substances.

DANGER

Risk of electrocution. Do not use the charging station if it is partially submerged in water.

DANGER

Risk of injury and electrocution. Do not use the charging station if it is damaged or plugs and cables are defective. Contact the charge point operator to repair the defects immediately.

DANGER

Risk of injury and electrocution. Keep away children or individuals who are not able to assess the risks associated with using this product.

More extensive safety information is available in the relevant sections of this document.

1.9 Software and complementary documentation

NOTE

You must have a wired network connection between the charging station and your laptop, tablet or smartphone to check whether a new firmware version is available.

- The MyEve app notifies if a new firmware version is available.
- The ACE Service Installer does not notify if a new firmware version is available. You need to check this via the menu "Device/Upload new firmware..."

1. SAFETY AND USAGE INSTRUCTIONS

NOTE

It is possible to request a printed copy of this manual in your language by Alfen at any time. Refer to the contact information for your request.

By means of the following links you can obtain detailed information regarding the Twin 5 Plus charging stations.

YouTube channel



Alfen - Power to adapt

providing installation, service and information videos.

Data sheet



Datasheet Twin 5 Plus

providing detailed information on models, technical features and equipment.

EU Declaration of conformity



DoC - Twin 5 Plus

providing service and procedure instructions.

Knowledge Base



Knowledge Base

Twin 5 Plus with AHP-platform



Firmware information, update, error codes list

providing firmware information, update, error codes list.

Smart Charging configuration



Smart Charging Network extension module

for the Dutch market only

Training for Alfen charging stations



Trainings charging stations equipment

class-room trainings provided by Alfen.

Warranty



B2B Warranty

The applicable Terms & Conditions of the Alfen B2B Warranty

Alternative Fuels Infrastructure Regulation (A.F.I.R.)



A.F.I.R Implementation Guide

providing information for the CPO on how to implement QR code payment.

1.10 Operating conditions

Operating temperature -25°C to 55°C

Relative atmospheric humidity 5 - 95%

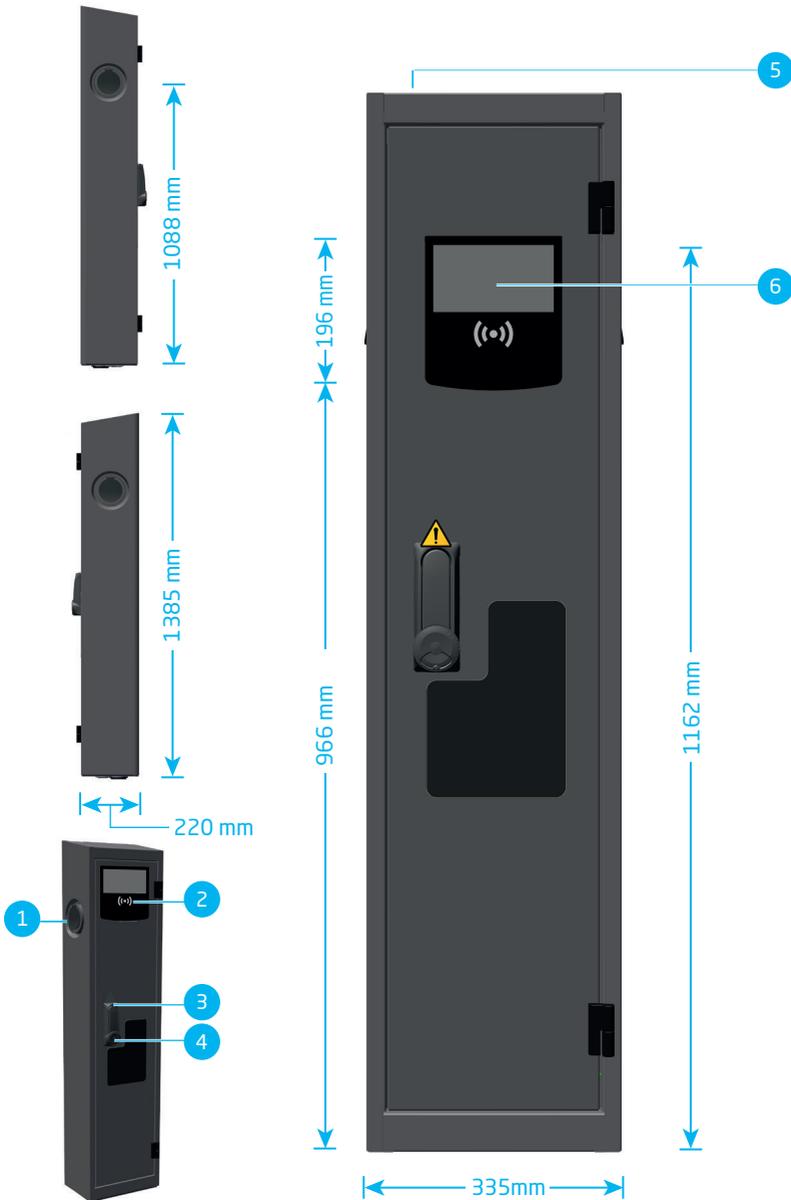
Protection category I

Degree of protection (casing) IP54

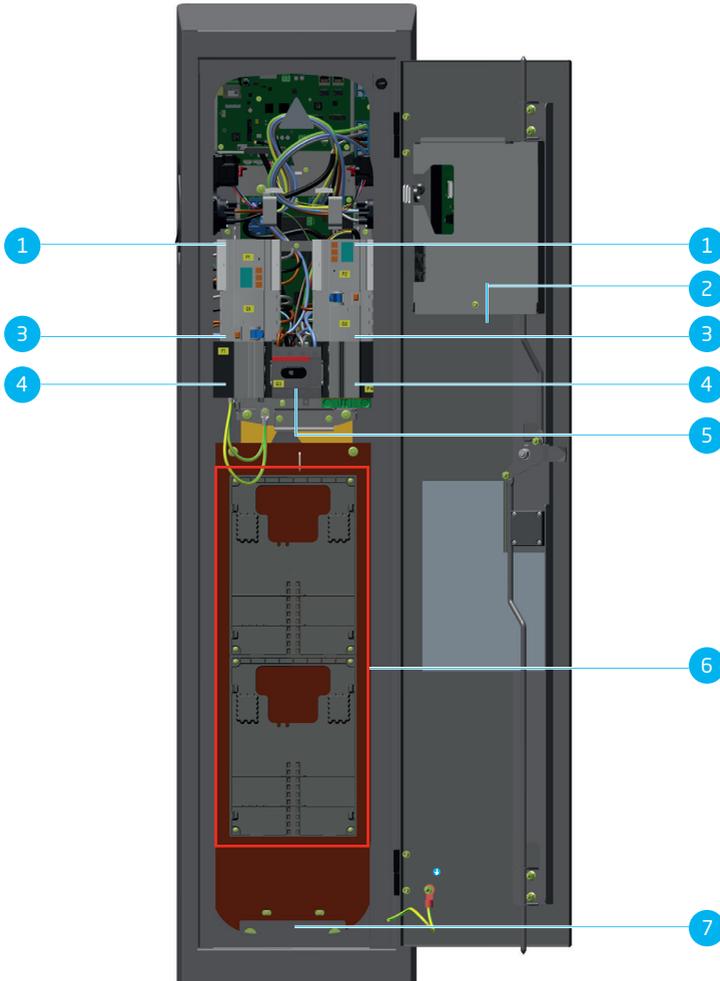
IK protection IK10

2. PRODUCT OVERVIEW

2.1 Exterior view



2.2 Interior view



2. PRODUCT OVERVIEW

2.3 Legend product overview

Exterior view

- 1 Type 2 socket
- 2 Charge card (RFID) interface
- 3 Door handle
- 4 Cylinder for grid operator / Cylinder for owner
- 5 Charge point Identifier (customer specific label)
- 6 Display

Interior view

- 1 Power meter
- 2 Identification label
- 3 Type B residual current device (RCD)
- 4 Miniature circuit breaker (MCB) or fuse holders
- 5 Main switch
- 6 Dedicated area (refer to chapter Disclaimer public charging stations on page 3)
- 7 Strain relief

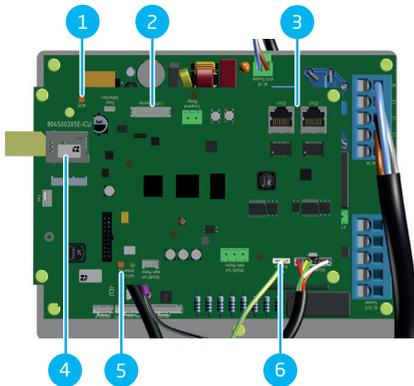


Figure 2.1: Interior view detail

No. Description

- 1 GSM antenna
- 2 Display connection
- 3 UTP-Ethernet connections
- 4 SIM card holder
- 5 Wifi antenna
- 6 RFID- Reader connection

2.4 Identification label

NOTE

When contacting your charge point supplier / operator, always have your type / article number and object number available to facilitate quick support.

The identification label shows the following information:



Figure 2.2: Identification label

No. Description

- 1 OCCP charge point model name (consisting of the platform name and the last five digits of the article number)
- 2 Type / Article number
- 3 Object number (unique number per charging station)
- 4 Production date
- 5 Technical specifications (such as the number of phases, maximum charging current and voltage)

3.1 Charging stations display with payment options

The charging stations display shows the payment options in alternation.

- **Charge card (RFID):** you can pay contactless and cashless with your charge card (via the RFID card reader which is located underneath the display of the charging station).
- **Payment terminal:** a separate payment terminal which is connected to the charging stations might be available at the charging plaza. You can pay contactless and cashless with any (mobile) bank card.
- The charging station displays a **QR-code** which enables you to pay contactless and cashless.



Figure 3.1: Payment options shown in alternation on charging stations display

Pos.	Description
1	Charging stations display: Payment with charge card (RFID)
2	Charging stations display: Payment with (mobile) bank card on payment terminal or payment via QR-code
3	Charging stations display: logo is shown

3.2 Charging stations display during charging

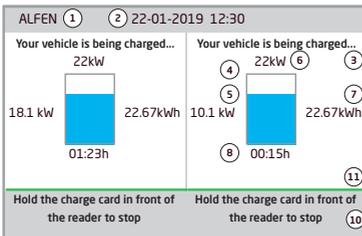


Figure 3.2: Display during charging from one socket

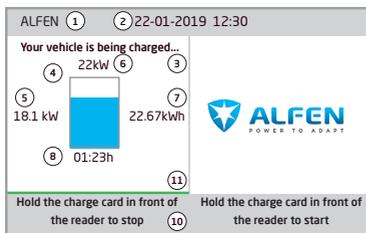


Figure 3.3: Display during charging from both sockets

No.	Description
1	Charge point ID: Identification is determined by the reseller or provider of the back-office management system. This ID can be shared, for example: if support is needed.
2	Date and time: These are set automatically by a back-office management system or during installation, using the MyEve app or the ACE Service Installer. If the charging station does not have a current time, this field is invisible.
3	Status information
4	Status indicator (symbols)
5	Current charging capacity to the connected vehicle
6	Maximum charging capacity of the charge point
7	Energy consumed during the current charging session

3. USER INTERFACE

No.	Description
8	Duration of the current charging session
9	Usage instructions: In this field, instructions are displayed. If an error occurs, an error code and instruction will also be shown in this field.
10	Progress bar: Displays the progress of the authorization process. A full progress bar indicates the background steps are completed and the charging session will start.

3.3 Status indicator symbols



Charge card accepted or cable connected



Warning. Notification with error code



Communicating with vehicle or charging complete



Error. Notification with error code



Charging session active, with charging speed indication



Progress bar

3.4 Access control for local authorization (RFID)

To control local user access to an Alfen charging station, install an RFID card as the 'Master key'. With this Master Key, you can grant access to other RFID cards for using your charging station.

NOTE

Your charging station must be configured correctly in order to accept Master Keys. For stand-alone charging stations this functionality is automatically ON. If the charging station is delivered with a pre-programmed backoffice management system, this functionality will be OFF.

3.4.1 Installing the Master Key

1. Select an RFID card, like the included Alfen charge card.
2. Hold the RFID card in front of the card reader for 10 seconds.
3. After 10 seconds, the RFID card will be registered as the Master Key. The following icon appears on the screen:



NOTE

The charging station does not recognize the RFID card and will give a warning first. Ignore the warning.

NOTE

The charging station will only recognize one RFID card as the Master Key.

Once the Master Key is registered, it can be used to add or remove charge cards from the local database.

3.4.2 Adding and removing charge cards in the local database

For every charge card held in front of the charging station, a sound signal will be given. Follow the on-screen instructions to manage access control:

NOTE

The Master Key cannot be used for charging. It is only used for access control of the charging station.

1. Hold the Master key in front of the RFID-reader



2. Hold the charge card you wish to add in front of the RFID-reader. The following symbol is displayed:



3. Hold the charge card you wish to remove in front of the RFID-reader. The following symbol is displayed.



4. To close the database, hold the Master Key again in front of the RFID-reader.

NOTE

If you have added or removed a RFID card in error, you can immediately hold it in front of the card reader to undo the action.

NOTE

To prevent the local database from being 'open' to access control, the menu will close automatically if no card has been detected or removed after 10 seconds. The symbol will disappear from the display.

3.4.3 Removing the Master Key

A Master key can only be removed using the MyEve app or the ACE Service Installer. If necessary, you can ask for help from one of our technicians. This might, however, incur costs. Therefore, always keep the Master key in a safe location.

4. OPERATION

4.1 Payment options

4.1.1 Starting the charging process with QR code

The charging of the EV can be paid for by means of using a QR code. To use this several steps have to be followed. The table below describes these steps. To complete these steps successfully a smartphone (or similar device) is required, with an connection to the Internet and a camera to scan QR codes.

The table below shows the steps that are necessary to pay by means of a QR code. To clarify what the steps involve, some icons are used to indicate when the display on the charging station must be used, when the smartphone must be used, and when an action at the EV is necessary.

The charging process consists of the following steps:

Step	  	Remarks
1		The charging station shows a QR code.
2		Scan the QR code with a mobile device.
3		The mobile device decodes the QR code and opens a web page.
4		The web page shows a form that asks for an email address. Enter the correct email address.
NOTE The email address is necessary for delivering an invoice for the costs of the charging session.		
5		After the email address is accepted, the web page shows the available payment providers that can handle the payment. Select the preferred payment provider.
6		The mobile device opens the web page of the selected payment provider, typically a bank or an Internet payment service.
NOTE The exact contents of this page depends on which payment provider has been selected.		
7		Authorize the payment. This may require a password or a different means of confirming your identity, depending on which payment provider has been selected. This information is only communicated with the payment.

Step		Remarks
8		The authorization is checked and the web page shows that it is accepted.
9		The charging station starts the charging process. It displays a green check mark and shows a message to insert the charging cable.
10		Insert the charging cable in the charging station and in the EV.
11		The charging process starts. The display of the charging station shows the details.

4.1.2 Finishing the charging process with QR code

To finish the charging process, follow these steps:

Step		Remarks
1		Disconnect the charging cable from the vehicle. This stops the charging process.
2		The charging station unlocks the charging cable.
3		The charging station shows a summary of the transaction and prompts to remove the charging cable from the charging station.
4		Remove the charging cable from the charging station.
5		The payment service provider settles the costs of the transaction. An invoice specifying these costs is sent to the email address that was specified earlier.

4. OPERATION

4.2 Start and stop charging with charge card

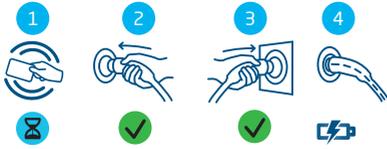


Figure 4.1: Starting the charging process with user authorization / charge card. Symbols shown on the user interface

No.	Description
1	Scan the charge card on the charging stations RFID-interface
2	Plug the charging cable into the charge point
3	Plug the charging cable into the car
4	Charging in progress

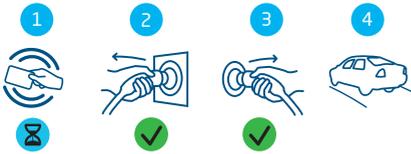


Figure 4.2: Stopping the charging process. Symbols shown on the user interface

No.	Description
1	Scan the charge card on the charging stations RFID-interface
2	Remove the charging cable from the charge point
3	Remove the charging cable from the car
4	Leave the charging place

4.3 Start and stop charging with Plug&Charge and Autocharge



Figure 4.3: Starting the charging process without charge card. Symbols shown on user interface

No.	Description
1	Plug the charging cable into the car
2	Plug the charging cable into the charge point
3	Charging in progress



Figure 4.4: Stopping the charging process without charge card. Symbols shown on user interface

No.	Description
1	Remove the charging cable from the car
3	Remove the charging cable from the charge point
4	Leave the charging place

5.1 Safety announcements

⚠ DANGER

Risk of injury and electrocution. Installation, (de)commissioning and maintenance of the charging station may only be performed by a qualified electrician.

⚠ DANGER

Risk of injury and electrocution. Installing the charging station incorrectly may result in fatal injury! When working with electricity, failure to comply with relevant regulations can lead to dangerous and life-threatening situations.

⚠ DANGER

Risk of electrocution. The electrical system must be disconnected from every power source before performing any installation or maintenance work!

⚠ DANGER

Risk of injury and electrocution. The charging station contains electrical components that still contain a charge after being disconnected from the system. Always test with proper equipment there's no residual current before commencing to work.

⚠ WARNING

Risk of injuries, explosion or fire. Never install in a potentially explosive atmosphere.

⚠ WARNING

Risk of electrocution. Never install in areas prone to flooding without implementing compensatory measures.

⚠ WARNING

Risk of injury and electrocution. Installation work may not be carried out during rain or if the air humidity exceeds 95%.

⚠ WARNING

Risk of injury and electrocution. The installation must be performed by a qualified electrician who has read this manual and will execute the installation in accordance with the IEC 60364 (Electrical Installations for Buildings) standard.

⚠ WARNING

Risk of damage or electrocution. A charging station must always be installed on separate power circuit.

⚠ WARNING

Risk of damage or electrocution. Local conditions may affect the installation requirements. Your installation must comply with the standards and regulations of the location (country) where it is installed.

⚠ CAUTION

Risk of injury and damage. The installer is always responsible for choosing the correct cable diameter and complying with the relevant standards and legislation.

⚠ CAUTION

Risk of injury and damage. The installation and cables should be installed to match the maximum charging current to the input of the charging station. This should assume continuous load.

⚠ CAUTION

Risk of injury and damage. Mechanical impact and/or collisions might cause damage to the equipment. Protect Alfen products installed in public areas and car park sites.

⚠ CAUTION

Risk of damage. Adapters or conversion adapters are not allowed to be used.

5.2 Assembly and installation requirements

When selecting a location to install the charging station, the following criteria must be met:

- Always fully comply with local technical requirements and safety regulations
- An on-site connection has been prepared that complies with the specifications of the charging station.
- The installation site must have a leveled and solid foundation or, if the charging station is installed into the ground, preparing the foundation is part of the installation process.
- A maximum temperature difference within 24 hours of < 35 °C

Please refer to the following table for safety options and cable cross-sections advised.

5. INSTALLING AND CONNECTING

Power supply cable: minimum advised cable cross-section (based on assumed max. 50 m cable length)

- 11 kW charging, 16 A selected per phase: 5 x 4 mm²
- 22 kW charging, 32 A selected per phase: 5 x 6 mm²
- Maximum cross-section: 35 mm²

Short-circuit protection:

- Integrated in grid connection box (in case of direct installation to grid), or
- Installation on the local low-voltage distributor:
- With circuit breakers: 40 A, 3-pole, type B or C
- With fuses: 3 x 80 A gG. In case of gG fuses it is possible to apply 64 A (minimum)

Earth leakage protection: (possibly in combination with circuit breaker)

- 30 mA RCB Type B

Nominal input voltage:

- VL₁-N: 230 V (+/-10%)
- VL₂-N: 230 V (+/-10%)
- VL₃-N: 230 V (+/-10%)
- VL₁-L₂: 400 V (+/-10%)
- VL₁-L₃: 400 V (+/-10%)
- VL₂-L₃: 400 V (+/-10%)
- VPE-N: ≈ 0 V

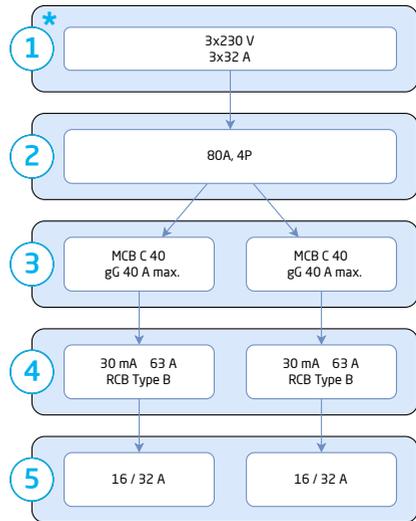
Nominal frequency:

- 50 Hz

Grounding:

- TN system: PE cable
- TT system: separately installed
- grounding electrode < 100 Ohm spreading resistance
- IT system: connected to a shared reference (common earth) with other metal parts

5.2.1 Schematic overview of charging station protection devices



Position	Indication
1 (*option)	Grid connection box or CAM
2	Main switch
3	Short circuit protection
4	Residual current protection
5	Sockets

5.3 Preparation prior to installation

- View the site and determine the installation location.
- Check the scope of delivery and required parts.
- Read this installation manual before hand.

5.3.1 Door locks

The door handle of the charging station can be equipped with 2 locks (depending on scope of delivery):

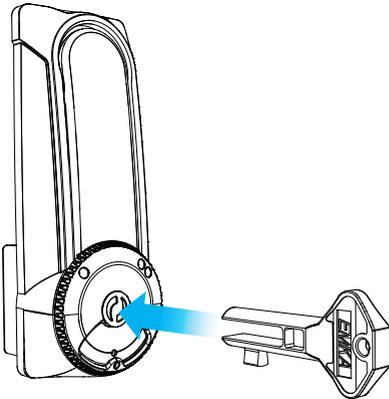


- 1 left lock for owner of charging station
- 2 right lock for grid operator

5.3.1.1 Opening the door with dummy key

If no cylinders are provided in the opening, open the charging station door with the provided plastic dummy key as follows:

1. Insert the provided (plastic) dummy key into one of the openings and turn.



NOTE

If you insert the dummy key into the left opening, turn it *counterclockwise* to unlock the handle.

2. Pull the handle upwards to open the door.

5.3.2 Installation tools

- Level

- Shovel
- Stanley knife
- Phillips screwdriver
- Wire stripper
- Socket set / spanners

5.4 Scope of delivery

The scope of delivery provides:

- Charging station
- Installation manual and assembly supplies
- Charge card(s)
- Charge point password



Figure 5.1: Bottom plate with mounting material

No.	Description	Quantity
1	Grommet for main power supply	1
2	Grommet for data cable	1
3	Connection nut	1
4	Base plate gasket (taped to base plate)	1
5	Base plate	1

5.5 Mechanical installation procedure

5.5.1 Foundation for ground mounting

1. Dig a hole of approx. 500 x 500 mm and 550 mm deep and level out horizontally.
2. Position the base and level it.
3. Place the supplied cable glands and cutting glands on the sealing plate. Place the whole assembly on the bottom of the charging station

5. INSTALLING AND CONNECTING

4. Provide an earth electrode or earth pin, depending on the local regulations.

5.5.2 Inserting ground cable and earth cable

1. Make a provision in the form of a main grounding rail right at the bottom of the charging station to ground the charging station. (This applies to both: a PE cable and an earthing pin)
2. Pass the ground cable through the conduit, concrete base and tulle in the gasket / base plate assembly.
3. Leave an overhang from the top of the base of at least 250 mm. Due to the mounting of the strain relief it is recommended to cut the cable only when the charging station is mounted on the base.
4. Pass the earthing cable, coming from the earthing pin, through the gasket / base plate assembly.

5.5.3 Mounting the charging station onto the base

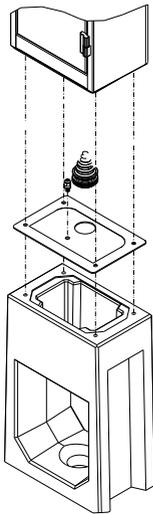


Figure 5.2: Exploded view of charging station to be mounted on base

1. Insert four threaded M10 x 80 mm rods into the sockets on the base.
2. Place the gasket / baseplate assembly over the threaded ends.

3. Place the charging station on the base over the wire ends and over the power supply cable and ground cable.
4. Cut the cable grommet to size, so that the power supply cable is firmly clamped in place.
5. Guide the power supply cable through the bottom plate. Pull the power supply cable to the outside of the charging station to fit the strain relief provided.
6. Mount the strain relief.
7. Guide the power supply cable back into the charging station / base. Make sure that 250 mm cable length remains in the charging station.
8. Fasten the charging station to the base as shown in figure with the provided 4 M10 nuts including lock and V-rings.
9. Secure the charging station to the base with 4 M10 x 80 mm studs.

5.6 Electrical installation

1. Remove the sheath from the power cable with a Stanley knife and remove the sheaths from the loose wires with a wire stripper.
2. Connect the earth pin.
3. The earthing sleeve / earthing wire of the distribution system operator may only be used as an earthing device with the written consent of the system operator;

4. According to your installation requirements, make sure the grounding resistance of the system is set to one of the following values:
 - a. < 100 Ohm (requirement by EV/ZE Ready 1.4l certification);
 - b. < 167 Ohm (requirement Dutch NEN1010 standard);
 - c. according to the values stated in the legal regulations of your country.
5. According to product variant disconnect the charging station from voltage source:
 - a. Make sure the main switch is in the OFF (0) position, or
 - b. Make sure the main residual current circuit breaker (RCCB) is in the OFF (0) position
6. According to product variant disconnect the charging station from voltage source:
 - a. Remove the fuses in the distribution system operator cabinet of the charging station, or
 - b. Switch the circuit breakers (MCB) to the OFF (0) position;
7. According to product variant:
 - a. Connect the wires of the phases to the fuse holders, or
 - b. to the circuit breakers (MCB) in the distribution system operator cabinet of the charging station including standard grid connection. (PE on separate rail)
8. Connect the provided cable clamp to the plate provided at the back wall inside of the charging station (see figure 2.2 and 2.3 position 7) ensuring strain relief on the cable.
9. According to product variant connect the charging station to voltage source:
 - a. Place fuses (if supplied) in the fuse holders and close the holders, or
 - b. Switch the circuit breakers (MCB) to the ON (I) position.
 - c. Switch on the external power supply.
10. According to product variant connect the charging station to voltage source:
 - a. Make sure the main switch is in the ON (I) position, or
 - b. Make sure the main residual current circuit breaker (RCCB) is in the ON (I) position.
11. If a transparent cover is supplied for the internal components, fit it with the bolts supplied.
12. Close the door and make sure it is securely locked.

6. COMMISSIONING

6.1 Safety instructions before use

1. Make sure the charging station is properly connected to the power supply as described in this manual.
2. Make sure the distribution of the power supply is separately protected by an appropriate breaker (automatic or fuse cartridges)
3. Make sure the charging station is installed in accordance with this manual.
4. Make sure the casing is always closed during normal operation.

6.2 Initial start-up

1. Turn on the local power supply.

The charging station will run self diagnostics. The output is tested within a few seconds:

- Testing locks
- Testing internal relays: you will hear these click
- The display will illuminate briefly

The charging station will display the following:

- The display will show the message 'Charging point is powering up' and then the start screen with logo.

Your charging station is now ready for testing.

6.3 Testing the sockets

1. Put the test charging cable or charging cable into the socket. Press firmly.
2. Hold the charge card in front of the RFID-reader to start charging.
 - a. If you use a charging cable the texts 'Card accepted' and 'Charging in progress' are shown.
 - b. If you use a test charging cable 'Please plug cable into vehicle' is displayed. An electrical load needs to be connected to simulate the charging process, then the texts 'Card accepted' and 'Charging in progress' are shown.

The socket is functional.

3. Hold the charge card in front of the RFID-reader to stop charging.

The text 'End of session' is displayed.
4. Pull out the test charging cable or charging cable.

The socket is now ready for use.
5. Repeat the same procedure for the other socket.

7.1 Configuring the charging station

7.1.1 Wired network connection

How to establish a wired network connection by connecting the charging station to your device using an UTP (Ethernet) cable:

The minimum requirement is a CAT5 UTP (Ethernet) cable

NOTE

For the use of a smartphone or tablet an adapter such as a USB-C to Ethernet or Lightning to Ethernet is required.

1. Log into the MyEve app or the ACE Service Installer.
2. Connect the UTP (Ethernet) cable to your router or directly to the charging station.
3. Connect the UTP (Ethernet) cable with the corresponding port.
4. Connect your device to the switch or router or directly to the charging station.
5. Select your charging station from the list in the MyEve app or the ACE Service Installer.

NOTE

If the charging station(s) is (are) not detected automatically, the MyEve app or the ACE Service Installer might be blocked by the Firewall on your laptop, tablet or smartphone. Check the settings of your laptop, tablet or smartphone and try again.

6. Enter the provided password.
The network connection has now been established. Via the MyEve app or the ACE Service Installer you can configure the settings
7. After finishing the configuration, hand over the card with password (recovery) information to the customer.

7.1.2 Backoffice management systems

If additional services by a backoffice provider have been purchased, the charging station has been configured ex-factory to connect to the selected backoffice management system.

NOTE

A connection with a backoffice management system can only be established if arrangements with the supplier of this system have been made. The service of third parties is not provided by Alfen.

NOTE

If the charging station is set to connect with a backoffice management system, it will do so directly and automatically.

NOTE

Manually configuring and connecting to a backoffice management system can be done with the MyEve app. A SIM card needs to be installed during installation. If you do not have a SIM card, please contact your backoffice provider.

NOTE

If a mobile communication (SIM card) Internet connection has been purchased, the charging station is already equipped with a SIM card and will automatically connect, once the charging station is being commissioned.

7.2 Configuration tools

The charging station can be accessed and configured:

- via the MyEve app
- via the ACE Service Installer

The app will guide you step-by-step through the configuration process.

NOTE

Currently the communication between the MyEve app and the charging station is only possible via a wired connection.

7. CONNECTIVITY

7.3 Before using the MyEve app

NOTE

The MyEve app has been designed to be used by the installer / electrician only. Its purpose is to commission and configure Alfen charging stations.

The MyEve app is not intended for use by the charging station end users.

1. Download the MyEve app in Google Play, Apple Store or Windows Store to your laptop, tablet or smartphone.



Google Play Store



Apple App Store



Microsoft Store

2. You will be requested to create an account.
3. If you have the MyEve app already installed, make sure you update to the latest version. Use the above QR-codes to see if your MyEve app needs to be updated.
4. Make sure the Firewall settings on your laptop, tablet or smartphone are not blocking the MyEve app.

7.4 Before using the ACE Service Installer

1. Download the ACE Service Installer from the Alfen website to your laptop:

<https://alfen.com/en-gb/search-downloads>

2. Request an account at this e-mail address: ace.aftersales@alfen.com.

NOTE

It may take some days until you receive the login-data.

3. If you have the ACE Service Installer already installed, make sure you have the latest version. If updates are available, you will be asked to update when you log in.
4. Make sure the firewall settings on your device are not blocking the ACE Service Installer.

DANGER

Risk of injury and electrocution. Installation, (de)commissioning and maintenance of the charging station may only be performed by a qualified electrician.

Alfen recommends to carry out preventive maintenance once a year at public charging stations.

NOTE

Contact your Sales Manager to find out about the possibilities for service contracts including preventive maintenance.

8.1 Service

The charging stations are serviced by the local charge point supplier. Your charge point supplier provides support to you. When contacting your charge point supplier, always have the serial number of your charging station available to facilitate quick support. Optionally you can find support for all our products on knowledge.alfen.com.

9. DISPOSAL

9.1 Decommissioning and returning

WARNING

Risk of injury and electrocution. Installation, (de)commissioning and maintenance of the charging station may only be performed by a qualified electrician.

For returning charging equipment to Alfen Charging Equipment, create a 'Request for Service' ticket at support.alfen.com.

For further instructions please view How do I return a charging station to have it repaired in Alfen's manufacturing facility (Carry-in)? You will receive all shipping instructions within the ticket.

9.2 Waste electrical and electronic equipment (WEEE)



Electrical and electronic equipment contains materials, components and substances that may be hazardous and present a risk to human health and the environment if not handled correctly.

Equipment marked with the illustrated crossed out wheeled bin is electrical and electronic equipment. The crossed out wheeled bin indicates that this waste must be collected separately and must not be discarded together with household waste.

Refer to your local authority for collection schemes under which residents can dispose waste electrical and electronic equipment at a recycling center or other collection points.

10. ERROR CODES AND TROUBLESHOOTING

Code	Error message displayed	Icon	Possible cause	Possible countermeasures
General error				
001	Not able to charge. Please call for support.		Unknown general error.	Contact the service department of your charge point supplier.
Charging station related error				
101	One moment please. Your charging session will resume shortly.		DC fault current (>6mA) detected by charging station.	<ul style="list-style-type: none"> • One specific vehicle: Contact your car dealership. • Multiple vehicles: Contact the service department of your charge point supplier.
102	Not able to charge. Please call for support.		Internal error. Unexpected or no voltage on output of power board.	<ul style="list-style-type: none"> • Contact the service department of your charge point supplier. • Check powerboard.
104	Not able to charge. Please call for support.		Internal error. Voltage to low on internal power supply (power board).	<ul style="list-style-type: none"> • Contact the service department of your charge point supplier. • Check powerboard.
105	Not able to charge. Please call for support.		Internal error. No communication with internal power meter.	<ul style="list-style-type: none"> • Contact the service department of your charge point supplier. • Check if internal power meter is configured correctly. • Check internal power meter.
106	Not able to charge. Please call for support.		Power interrupted by internal RCD.	<ul style="list-style-type: none"> • Contact your installation engineer. • Internal RCD (Type A: 30 mA AC) tripped.
108	Not displayed.	Not displayed.	Charging station configured as Plug & Charge authorization mode and Plug & Charge ID is not configured.	<ul style="list-style-type: none"> • Contact the service department of your charge point supplier. • Configure Plug & Charge ID.
109	Not displayed.	Not displayed.	No connection / connection lost to RFID-reader.	<ul style="list-style-type: none"> • Contact the service department of your charge point supplier. • Check if RFID-reader is connected correctly.
Installation related error				

10. ERROR CODES AND TROUBLESHOOTING

Code	Error message displayed	Icon	Possible cause	Possible countermeasures
201	Error in installation. Please check installation or call for support.		Protective earth not connected or unstable.	<ul style="list-style-type: none"> Contact your installation engineer. Recommended earth resistance of the installation < 100 Ohm.
202	Input voltage too low, not able to charge. Please call your installer.		Supply voltage below 210 VAC.	Contact your installation engineer.
206	Temporary set to unavailable. Contact CPO or try again later.		Charging station is set to inoperative by the charge point operator / the charging station is updating.	<ul style="list-style-type: none"> Contact your charge point operator. Firmware update in progress.
208	Not displayed.	Not displayed.	Supply voltage above 275 VAC.	<ul style="list-style-type: none"> Contact the service department of your charge point supplier. Check voltage levels.
209	Not displayed.	Not displayed.	No connection / connection lost to DSMR4.x / SMR5.0 (P1) smart energy Meter.	<ul style="list-style-type: none"> Contact the service department of your charge point supplier. Check DSMR4.x / SMR5.0 (P1) smart energy Meter connection.
210	Not displayed.	Not displayed	No connection / connection lost to Modbus TCP/IP energy meter / energy management system.	<ul style="list-style-type: none"> Contact the service department of your charge point supplier. Check Modbus TCP/IP energy meter / energy management system.
211	Not able to lock cable. Please call for support.		Unable to move locking motor during build-in self-test.	<ul style="list-style-type: none"> Contact your installation engineer. Check if locking motor is connected correctly. Check if locking motor can move.
212	Error in installation. Please check installation or call for support.		Missing phase in installation.	<ul style="list-style-type: none"> Contact your installation engineer. Check voltage levels.
213	Not displayed.	Not displayed.	No connection / connection lost to TIC smart energy Meter.	<ul style="list-style-type: none"> Contact the service department of your charge point supplier. Check TIC smart energy Meter connection.

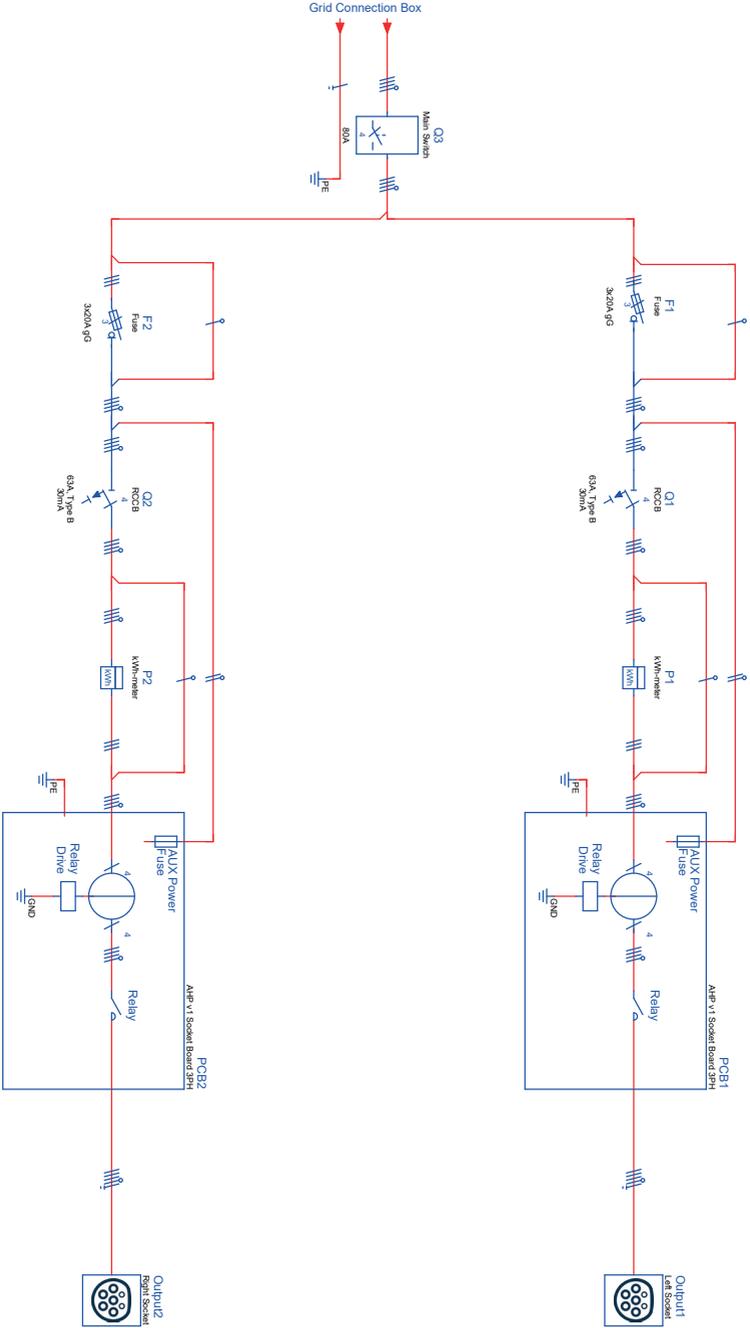
Vehicle related error

10. ERROR CODES AND TROUBLESHOOTING

Code	Error message displayed	Icon	Possible cause	Possible countermeasures
301	One moment please your charging session will resume shortly.		Unknown error in communication with car.	<ul style="list-style-type: none"> • Check car and charging cable. • Otherwise contact the service department of your charge point supplier.
302	One moment please your charging session will resume shortly.		Safety measure, Vehicle draws more power than allowed / did not reduce power in time according to the IEC 61851 standard.	<ul style="list-style-type: none"> • One specific vehicle: Contact your car dealership. • All vehicles: Contact the service department of your charge point supplier.
303	One moment please your charging session will resume shortly.		Safety measure, vehicle has started and stopped charging to often within 1 minute.	<ul style="list-style-type: none"> • Check car and charging cable. • Otherwise contact the service department of your charge point supplier.
304	Charging not started yet to continue please reconnect cable.		Cable connected for more than 2 minutes without starting a charging session.	<ul style="list-style-type: none"> • Reconnect cable and start charging session within 2 minutes. • Otherwise contact the service department of your charge point supplier.
Ambient or equipment related error (user, plug, cable, weather conditions etc.)				
401	Inside temperature high. Charging will resume shortly.		Temperature inside the charge point above 70 degrees Celsius.	<p>Unexpected:</p> <ul style="list-style-type: none"> • Ambient temperature. • No EV charging. <p>Contact the service department of your charge point supplier.</p> <p>Expected:</p> <ul style="list-style-type: none"> • Ambient temperature. • Installed in direct sunlight. • EV charging. <p>Contact your installation engineer.</p>
402	Inside temperature low. Charging will resume shortly.		Temperature inside the charge point below -40 degrees Celsius.	<ul style="list-style-type: none"> • Unexpected ambient temperature. <p>Contact the service department of your charge point supplier.</p> <ul style="list-style-type: none"> • Expected ambient temperature.
404	Not able to lock cable. Please reconnect cable.		Unable to lock the charging cable.	<p>Contact the service department of your charge point supplier.</p> <ul style="list-style-type: none"> • Check socket and charging cable plug. • Check if the lock motor can move freely.

10. ERROR CODES AND TROUBLESHOOTING

Code	Error message displayed	Icon	Possible cause	Possible countermeasures
405	Cable not supported. Please try connecting your cable again.		Measure PP resistance of the charging cable is out of range according to the IEC 61851 standard.	<ul style="list-style-type: none">• One specific cable: Issues with other charge points. Cable broken <ul style="list-style-type: none">• All cables: No issue with other charge point. Contact the service department of your charge point supplier.
406	No communication with vehicle. Please check your charging cable.		Monitored CP voltage level is out of range according to the IEC 61851 standard.	<ul style="list-style-type: none">• One specific cable: Issues with other charge points. Cable broken <ul style="list-style-type: none">• All cables: No issue with other charge point. Contact the service department of your charge point supplier.
407	Not displayed.	Not displayed.		



11. TECHNICAL DRAWINGS



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