

Operating instructions

for the product variants 11 kW and 22 kW



Thank you for your purchase decision

With the go-eCharger HOME+ you have chosen a solid, extremely compact and versatile product.

The Charger has been developed for extreme flexibility, offers you the advantages of a conventional wallbox and the possibility to charge anywhere where there is alternating current and three-phase current, provided that you have the appropriate socket adapter.

With the go-eCharger HOME+ you have chosen a fully equipped charging box. Because smart and intelligent solutions that make charging electric vehicles even more convenient are already integrated in the go-eCharger HOME+.

The go-eCharger was developed and tested by electric car drivers for electric car drivers. To keep it up to date in the future, we are constantly developing the firmware and adapting it to the state of the art. So let us surprise you with future features.

We wish you much pleasure with your great product and always enough electricity.

Your go-e team

Preface

Drivers of electric vehicles consciously choose this type of mobility. Electric drives are quiet and do not emit any environmentally harmful gases. But electric vehicles also need energy, which must be generated.

We are surrounded by energy. Every degree Celsius above absolute zero is energy. If we use existing energy carefully, we do not need to expand fossil power plants or nuclear power plants for electric mobility.

An important contribution we can all make is the use of surplus energy. If possible, do not charge your car when you come home after work, as the electricity grid is already the most heavily charged. In order to save energy and charge in an environmentally friendly manner, you should transfer your charging processes to lunchtime or early in the morning, as there is an abundance of electricity in the networks during this time.

This becomes even more interesting with a contract with our partner aWATTar, where you can profit from the strongly fluctuating electricity prices on the electricity price exchange by purchasing the electricity when the electricity is the cheapest. The technology for this is already built into each of our charging boxes. For more information, please visit https://www.awattar.com/services/goe

go-e will continue to work on making its products more energy-efficient and environmentally friendly in the future for a major goal: a future without emissions.

Frank Fox (founder go-e GmbH)

Table of Contents

Prelude	Page 6
Registration information	Page 6
Operating instructions	Page 7
Product overview	Page 9
Scope of delivery	Page 10
Technical specifications	Page 11
Mounting	Page 12
Commissioning	Page 13
Error indication	Page 14
The app	Page 15
WiFi settings	Page 20
WiFi wizard	Page 22
Troubleshooting: What does the colours of the LED ring mean?	Page 23
Warranty	Page 24
Confirmation for subsidy	Page 25
CE declaration of conformity	Page 26
Contact details	Page 27

Prelude

Please read carefully before using the device!

This manual should help you:

- to use the product properly
- to avoid damage
- to increase durability and reliability
- to prevent a hazard



go-e GmbH does not assume any liability for damages caused by disregarding these instructions!

Registration information:

Depending on the country, the requirements of the authorities and electricity network operators have to be observed, such as a reporting or approval requirement for charging equipment, or the limitation of 1-phase charging. Please contact your network operator to find out whether the go-eCharger is subject to registration or approval and whether other restrictions must be observed.

Note for Germany: Most of the relevant regulations can be found in the TAR Low Voltage (VDE-AR-N 4100:2019-04). According to this, every charging station from 3.6 kW has to be registered at the responsible electricity network operator according to his specifications before you put it into operation. Up to 12 kW charging power (like the go-eCharger HOME+ 11 kW), you only need to inform the operator where you use the charging box. You can then immediately start charging your vehicle.

If the charging station has a power output of more than 12 kW (like the goeCharger HOME+ 22 kW), you have to wait for the approval of the German network operator after registration and before installation. Based on research by go-e, the approval is almost always granted. Sometimes a reinforcement of the house connection is necessary for this. Further information on registration and approval can be found on our website at https://go-e.co/products/go-echarger-home/?lang=en in the FAQ.

Operating instructions

Non-compliance with the operating instructions can have serious consequences. go-e GmbH does not assume any liability for damage caused by disregarding operating instructions or other warnings on the device itself.

Attention



Attention! High voltage, fire hazard! Never use the device if the housing is damaged or opened!

Do not use the go-eCharger if the cables attached or connected to the device are damaged.

Never use wet or dirty plugs in conjunction with the go-eCharger.

Make sure that the connection to which the go-eCharger is to be connected has been properly installed and is undamaged.

The circuit to which the go-eCharger is to be connected must be equipped with a residual current circuit breaker and a circuit breaker.

Any modification or repair of hardware or software may only be carried out by qualified personnel of go-e GmbH or personnel trained for this purpose. The removal of warnings attached to the go-eCharger or the opening of the device will result in the loss of any liability by go-e GmbH.

The go-eCharger may only be used for the purpose of charging EV batteries in conjunction with the appropriate adapters and cables.

It's important to observe the maximum permissible charging current of the connection at which you are charging. If you don't known this, charge with the lowest charge current. When using adapters, the maximum current for the adapter has to be observed. If this is not known, use the lowest charging current. Attention: The go-eCharger HOME+ 22 kW automatically reduces the charging current to 16 A by plugging in the adapter only in conjunction with the original go-e adapters. The go-eCharger HOME+ 11 kW always charges with a maximum of 16 A, regardless of the adapter. Never use adapters whose technical suitability is unclear!

Never unplug by pulling the cable.

We recommend a maximum charging current of 10A for use with domestic plugs. Take care of a mechanical relief of the domestic plug by supporting the weight of the go-eCharger and the connected charging cable!

Observe the specifications of the electricity network operator with regard to single-phase charging and the resulting asymmetrical grid load.

Never cover the go-eCharger during charging. Heat accumulation can lead to permanent damage or even fire.

In the event of unusual heat generation, the charging process has to be stopped immediately. If you notice discoloration or deformation of the plastic due to heat generation, it is imperative that you contact the customer service.

Use your go-eCharger exclusively hanging or in the wall mount. Never use the charging box lying down! The type 2 connectors are not waterproof and water could penetrate to the contacts while lying down!

The go-eCharger is suitable for charging gassing vehicle traction batteries only in well ventilated rooms. In case of uncertainty, please contact your vehicle manufacturer.

The go-eCharger has a built-in RCD protection device with DC current detection (30 mAAC and 6 mADC). Therefore an upstream RCD type B is not necessary. If the go-eCharger is operated from a power outlet, it must be preceded by a RCD type A, independent of the go-eCharger.

The go-eCharger HOME+ 11 kW may only be operated on the following connections:

O CEE red 16 A 3-phase 400 V 50 Hz

With go-eCharger adapter for HOME+ 11 kW:

- O CEE red 32 A 3-phase 400 V 50 Hz (limited by Charger to 16 A 3-phase)
- O CEE blue 16 A 1-phase 230 V 50 Hz
- O multiple domestic plugs 16 A 1-phase 230 V 50 Hz

The go-eCharger HOME+ 22 kW may only be operated on the following connections:

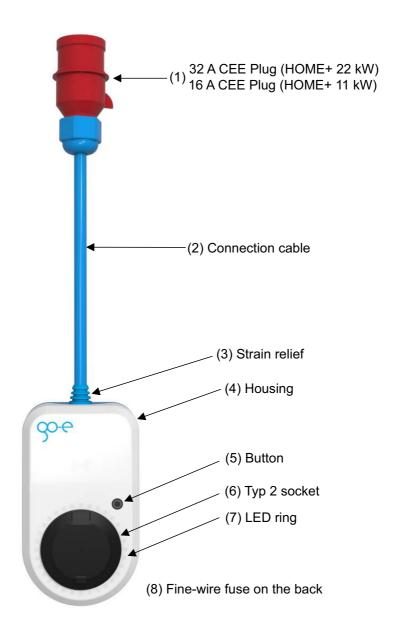
O CEE red 32 A 3-phase 400 V 50 Hz

With go-eCharger adapter for HOME+ 22 kW:

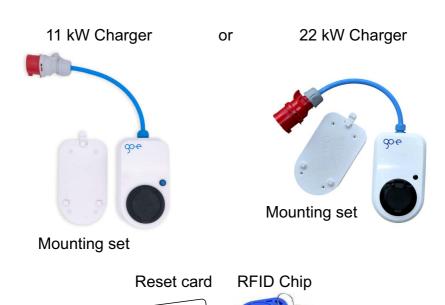
- O CEE red 16 A 3-phase 400 V 50 Hz
- O CEE blue 16 A 1-phase 230 V 50 Hz
- O CEE blue 32 A 1-phase 230 V 50 Hz
- O multiple domestic plugs 16 A 1-phase 230 V 50 Hz

The original go-e adapters for the go-eCharger HOME+ 11 kW and go-eCharger HOME+ 22 kW may only be used in conjunction with the respective go-eCharger.

Product overview



Scope of delivery



Optional

11 kW to 32 A CEE (red)

11 kW to 16 A CEE campingplug (blue)

go-eCharger adapter cable



22 kW to 16 A CEE campingplug (blue) 22 kW 16 A multiple domestic plugs

Scope of delivery:

- Charging box 11 kW with 16 A CEE plug (go-eCharger HOME+ 11 kW) or Charging box 22 kW with 32 A CEE plug (go-eCharger HOME+ 22 kW)
- · Wall mount incl. screws and dowels
- Optionally mountable cable protection (anti-theft protection)
- One Reset card (keep in safe custody) and one RFID chip
- Short instructions

Product specifications:

- Dimensions: approx. 15 x 25 cm x 9 cm
- · Weight: approx. 2,0 kg
- Connection cable: 30 cm + plug (CEE red 16 A or CEE red 32 A)

Charging capacity:

- Maximum charging power 11 kW (16 A 3-phase | HOME+ 11 kW) or 22 kW (32 A 3-phase | HOME+ 22 kW)
- Charging power adjustable between 1.4 kW and 11 kW (HOME+ 11 kW) or 1.4 kW and 22 kW (HOME+ 22 kW) [depending on the number of phases (1- or 3-phase) and selected amperes (adjustable in 1 ampere steps between 6 A and 16/32 A)]

Optional adapters:

go-eCharger HOME+ 11 kW

- 11 kW HOME+ to CEE red 32 A (3-phase)
- 11 kW HOME+ to CEE blue 16 A (1-phase)
- 11 kW HOME+ to multiple domestic plugs 16 A (household socket outlet)

go-eCharger HOME+ 22 kW

- 22 kW HOME+ to CEE red 16 A (3-phase)
- 22 kW HOME+ to CEE blue 16 A (1-phase)
- 22 kW HOME+ to CEE blue 32 A (1-phase)
- 22 kW HOME+ to multiple domestic plugs 16 A (household socket outlet)

Vehicle side connection:

- Type 2 socket (type 2 cable not included in delivery)
- Locking device (theft protection)
- · Vehicles with type 1 can be charged with adapter cable
- Ampere and charging status readable via LED ring or app
- · Charging power adjustable via button and app

Security features:

- RFID access control
- RCD protection device with DC detection, 30 mA AC, 6 mA DC
- Phase and voltage test of the input voltage
- · Phase test after contactor
- · Current sensor 3-phase
- Ground check (switchable grounding monitoring)
- Customer replaceable fine fuse for internal electronics (triggers if supply line is connected incorrectly)
- Adapter detection with automatic reduction to 16 A (for go-eCharger HOME+ 22 kW and only when using original go-e adapters)
- IP54 Protection against dirt and water, suitable for permanent outdoor use
- go-e network operator API for authorised access of the electricity network operator to the go-eCharger for network related power control

App an connectivity:

- Local (WLAN hotspot) or worldwide (via home WLAN) usable
- Charge monitoring (voltage, current, power, energy)
- Start/stop function
- RFID card management (up to 10 users per charger)
- Timer
- Electricity meter (total kWh and total amount per RFID card)
- Max Wh Charging
- Access management (RFID/App)
- Lock/Unlock functions
- · Electricity price exchange connection with intelligent charge management
- Load balancing
- Photovoltaic connection via open API interface (programming required)
- LED adjustment
 Management of the charging levels via button on the charging box
- Modbus TCP (firmware version 0.40 or higher) for power control by the electricity network operator
- Updateable for later functions (Smart-Home,...)





Make sure that the surface is free of distortions, and if the wall bracket is distorted, the charging box may no longer be able to be attached. Use the spacers provided to compensate for any unevenness.

Provide a power supply. If a three-phase socket is available, insert the charging unit onto the wall mount and the plug of the charging unit into the socket to determine the best positioning of the wall bracket. Now mark the top and side edges of the wall mount with a pencil.

A comfortable height for the charging box can be achieved by installing the three-phase socket approx. 170 cm above the floor (this may only be done by a qualified electrician).

The wall mount is then used as a template to mark the drill holes. Use a spirit level or a spirit level app to align the wall mount.



Connect



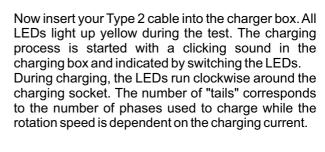
Never use the go-eCharger lying on its back; it may collect water in the Type 2 outlet when it rains.

Connect the go-eCharger to a suitable power source - at best directly to a CEE 16 A socket (go-eCharger HOME+ 11 kW) or a CEE 32 A socket (go-eCharger HOME+ 22 kW) or with an adapter to a corresponding other power source.



After an initial self-test, the LEDs light up in the number of the pre-set charging current (in amps). The button (5) can be used to select between 6 A and 16 A (go-eCharger HOME+ 11 kW) or between 6 A and 32 A (go-eCharger HOME+ 22 kW). The levels of the selection can be individually adjusted in the app. It does not matter whether the go-eCharger is connected in one or three phases.

Charging Process



Exit charging process

The charging process is terminated by the vehicle. This is usually the case when the vehicle's battery is fully charged. The socket remains locked after completion of the charging process until the cable is removed from the vehicle (theft protection).

If you want to interrupt charging prematurely, you can do this via the function of your vehicle ("cable unlocking") or via the app ("activation").

ATTENTION:

If the power supply is interrupted, the charging cable remains locked in the charger box for reasons of theft protection. To unlock it, it is necessary to put the charger box under power again.







Error Indication

The go-eCharger has a number of security questions in its program to check the used power source for possible errors. For this reason, it is possible that the go-eCharger may indicate a fault and refuse charging, especially with unknown power sources. A more detailed description of the causes and the measures to be taken are described in the section "Troubleshooting" at the end of this manual. You can read an error message in the app under "Status" (see section "App Charging").

Online Support



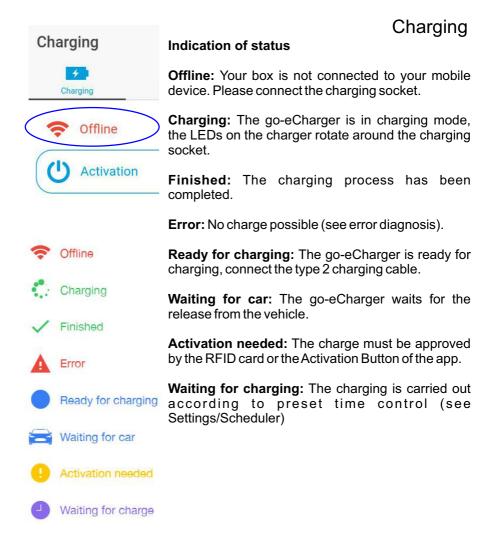
In our online support section, we address the most frequently asked questions in the FAQ. If you have any questions about the operation of the goeCharger, you will surely find what you are looking for. Please note that we will continue to offer the product at the lowest possible price. Therefore, please do not use the personal contact form unless you find your question answered in the manual or on our website.

Thank you for your support!

The App

The app gives you full access to a wide range of go-eCharger functions via direct (via hotspot) or worldwide (via the Internet). The app can be found in the Apple App Store, the Google Play Store or at http://app.go-e.co/.

Connect the app to the go-eCharger by either manually coupling the charger box in your WLAN settings (see Charging) or by scanning the QR code of the reset card.





Activation

Activate or deactivate charging. Depending on the settings under "Settings/Access Control", you must authorize each charging process using this button or an RFID card.

The cable remains locked in the standard setting until it is disconnected from the vehicle.



Change Ampere

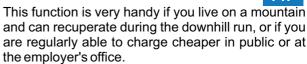
The charging power can be freely selected between 6-16 A (go-eCharger HOME+ 11 kW) or 6-32 A (go-eCharger HOME+ 22 kW). This setting always applies to all phases.

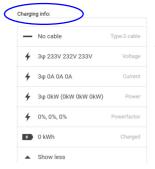
To change the default settings for the multifunction button, go to "Settings/Button".



Automatic stop

Set the max. kWh that you want to charge into your vehicle.





Charging Info

The overview gives you an overview of the current charging capacity in kW and the already charged energy in kWh.

Under the button "show more" you get detailed information about the charge, voltage etc.







Serial

Displays the serial number and name of the connected device.

Button

Define the charge levels you want to load with the button on your go-eCharger. Input fields set to "0" are skipped during selection with the button.

Access control

Four different options are available:

- Open Charging begins after connection to vehicle
- RFID/App Activation necessary
- Electricity prices (only available online) (further information www.awattar.com/services/goe)
 - Set the desired charging time
 - Set the charge cut-off time
- Load timer

This function allows you to set a charging start at any time.

Load balancing

Detailed instructions can be found in the App.



Cable unlock

Controls whether the cable should remain locked after charging until it is disconnected from the vehicle, unlocked immediately after charging or locked until it is unlocked via the app.



LED Brightness

Controls the brightness of the LEDs through a slider.

LED Color

Here the LED colours for "Ready", "Charging" and "Finish" can be individually adjusted.



Ground check enable / disable



Attention: This function should only be used if the power supply has no grounding (IT mains). If you are not sure, you should leave the setting at "Ground check enable"! The so-called Norway mode (earth detection is deactivated) is visualised by 4 red LEDs on the go-eCharger (3, 6, 9, 12 o'clock).

The go-eCharger has a safety function which checks that the power connection used is sufficiently earthed and prevents charging if there is insufficient grounding.

In some regions, e.g. Norway, isolating transformers are used (IT mains). In order to charge also in such regions with the go-eCharger, the function "Ground check" can be deactivated. When operating in the usual European mains with earthing, switching off the "Ground check" in case of insufficient earthing can lead to danger!





Show RFID card settings

Under this menu item you can manage RFID-enabled cards or chips.

For each card, the charged kWh is stored and the cards can be named.

Learn card

To do this, place any RFID card (but never put the go-eCharger reset card) on the go-eCharger's RFID card reader and press "Start". When the card has been taught-in, the LED ring flashes briefly. Now the

card can be used for the go-eCharger.

Delete cards



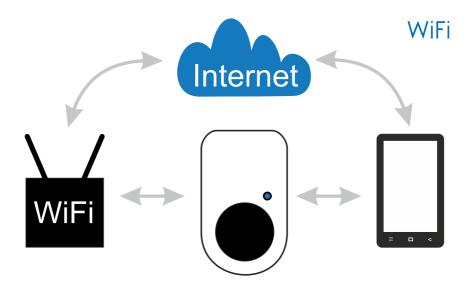




You can delete trained cards.

With the card, all data in the memory space of the charging box is deleted.

The app allows you to manage multiple goeChargers. See "Show RFID Settings" for more details.

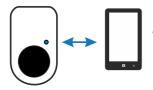


In order to use the WiFi function of the go-eCharger, you always need a direct connection of your smartphone with the charger to be able to set up the connection. You can perform all operations through the interactive graphic by touching the individual items or connections, or you can use the "Setup Wizard" on the following page.

Set up via the interactive graphic

Hotspot

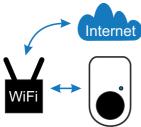
- Tap on the box to connect to it via hotspot. You should open the WLAN settings of your mobile phone.
- Select the go-eChargers (go-e-XXXXXXXX) from the list of displayed devices to connect it.
- After connecting, switch back to the go-eCharger app. The arrow between the mobile phone icon and the charger box should now turn blue.



 If there are problems, you should temporarily switch off mobile data... If the connection between the loading box and the app is established, you can connect the go-eCharger to the Internet.

internet connection

Tap the WLAN device. A pop-up window opens.



Enter the SSID (device recognition) and the password of your WLAN device into the popup window and confirm with "Save".

The arrows between the go-eCharger, the WLAN device and the Internet Cloud should now appear blue.

Access to the loading box via the Internet

- End the hotspot connection between your mobile phone and the charger box and reconnect to your home wireless router in the mobile phone's WLAN settings.
- Change back to the go-eCharger app.



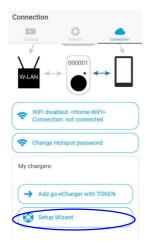
- Tap on the Internet Cloud to start the connection with the box.
 - In the opened window enter the TOKEN which you find on the provided reset card and confirm with "save".

The connection from the mobile phone via the Internet Cloud and the WLAN Router to the charging box should now appear in blue.

Now you can access your go-eCharger from anywhere, as long as your mobile phone and charger box are connected to the Internet.

To switch between Internet access and hotspot, use the WLAN settings of your mobile phone.





If your go-eCharger is out of the reach of your WLAN router, you can use the "connect automatically" function for the hotspot connection with the go-eCharger under the WLAN settings of your mobile phone, so that you always have quick access to the charging box.

If your go-eCharger has permanent access to the Internet via your home network, you should use the Internet connection by default.

Assistent (Wizard)

As an alternative to manual WiFi configuartion, you can also use the WiFi Wizard. Tap the Wizard button. The wizard will now guide you step by step through the installation.

Reset with reset card

With the go-eCharger Reset RFID card, the access settings of the loading box can be reset to the factory settings. Hold the reset card to the RFID reader of the loading box. The reset is confirmed by a short LED ring light in red.



Store the reset card in your car. You can reset the box settings at any time and log in again with the factory settings. This is especially important if you have activated the load release via RFID card and have misplaced the card.

Troubleshooting:

What does the colours of the LED ring mean?

(Colour codes correspond to the factory setting)

LED colours / error	Reason	Solution
No LEDs light up although the charger is connected.	No current on the junction box/-cable or fuse defective	Check the overload protection of the connection. Check the device fuse on the back of the go- eCharger. If it has melted, the power connection is probably not properly installed. Make sure that the connection is correct before you try again.
The LEDs light up blue (standby mode). However, the charging process does not start.	Vehicle is not recognised	Check the charging cable and the proper fit of the plugs.
The LEDs flash red at the top and light up static yellow/green at the bottom.	Erdungsfehler	Prüfen Sie, ob die Zuleitung ordnungsgemäß geerdet ist. Testen Sie den go-eCharger HOME+ ggf. an einer anderen Steckdose.
The LEDs light up red at the top and pink at the bottom.	RCD has detected an error	The charger has detected a residual current >= 6 mA and goes to fault. To acknowledge the fault, press restart in the app or unplug and plug the goeCharger HOME+ again. If necessary, the charging current can be reduced, but also check the used socket. (Possibly the charging device in your vehicle is also defective. If necessary, this should be checked by qualified personnel.)
The LEDs flash red.	General error	Please check the error code in the go-eCharger app.
The LEDs light up blue/red.	Phase error	Check supply line, possibly only 2 phases are present. Please test the go-eCharger HOME+ on another power outlet. If no function occurs, please contact go-e customer support.
4 LEDs light up red (3, 6, 9, 12 o'clock).	Norway mode	The earth detection is disabled. Attention: this function should only be used if the power supply has no grounding (IT mains).
The LED ring shines in rainbow colours.	Charger boots up	If the charger does not come out of this mode, the WLAN signal may be disturbed. Remove possible sources of interference (e.g. devices with WLAN mesh network).
LEDs light up blue/white.	Activation required	The access control is not set to open. To activate, use a teached-in RFID chip or the app.
5 LEDs light up red on top.	Unknown RFID chip	Use a trained RFID chip for activation.

Warranty

The statutory liability for defects law and the statutory warranty period of two years shall apply. After six months from delivery of the goods, the burden of proof of the statutory warranty shall pass to the customer. Shipping costs for repeated repairs due to technical defects by the manufacturer shall be borne by the manufacturer.

In the event of incorrect installation, improper use or incorrect connection or connection to incorrectly installed electrical connections and the resultant damage to the product by the purchaser or other technical defects caused by the purchaser, the warranty shall lapse or a reduction in value shall be made. In this case the buyer bears the shipping costs. This applies in particular if the product is operated with an energy source not recommended by the manufacturer for the product or used for purposes other than those specified by the manufacturer. The warranty also expires in the event of any modification or opening of the system by unauthorized persons, whereby only persons recognized by the manufacturer are to be considered as authorized. In case of doubt, consult the manufacturer.

Confirmation for subsidy



We hereby confirm that our product go-eCharger HOME+ 11 kW or go-eCharger HOME+ 22 kW has the following product characteristics:

- ICCB (In-cable control box) with 16/32 A CEE red plug and type 2 socket
- 3-phase 16 A charging power max. (version with 11 kW) or 3-phase 32 A charging power max. (version with 22 kW)
- Residual current protection mechanism with AC+DC detection according ÖNORM IEC 62752.
- Load balancing via App
- Smart home capable due to MQTT connection
- Smart grid capable through connection to aWATTar
- Recording of charging energy (kWh), total and broken down by RFID card
- Modbus TCP (firmware version 0.40 or higher) and go-e network operator API for authorised access of the electricity network operator to the goeCharger for network related power control

You can find more information about the product on our website:

www.go-e.co/?lang=en

Product image:

90-e GmbH

Satellitenstraße 1

AT 9560 Feldkirchen

Mail: office@go-e.co
Tel: +43 4276 6240010

WWW.90-e.co

CE Declaration of Conformity

This declaration of conformity was issued under the sole responsibility of the manufacturer:



go-e GmbH Satellitenstraße 1 9560 Feldkirchen in Kärnten Austria

Description and identification of the object for which this declaration of conformity is issued:

Product designation | Type: go-eCharger HOME+ | 11 kW / 22 kW

Serial number: CC1-01-000055 Manufacturing date: 09.2017

Brief description / Function:

The device under test is a charging box for electric cars according to type 2 standard for connection to an AC / three-phase mains supply via a CEE plug. The devices are marked with a serial number starting with CC1- or CM-02-.

Charging box:

Maximum power: 11 kW / 22 kW
Communication interfaces: WiFi, RFID

Frequencies: 13.56 MHz (RFID), 2.4 GHz (WiFi)

Connection:

Connection on infrastructure side: 16 A / 32 A CEE red, three-phase 230 V / 400 V Connection on vehicle side: Type 2 socket according to IEC 62196-2:2016

The manufacturer declares the conformity of the object described above with the following relevant harmonisation legislation of the European Union when used as intended:

Directive 2014/35/EU (Low Voltage Directive)
Directive 2014/30/EU (EMC Directive)
Directive 2014/53/EU (Radio Equipment Directive)

Directive 2011/65/EU (RoHS)

The following harmonised standards have been applied:

Health and safety: IEC 61851-1:2010 EN 61851-21:2002

EN 61851-22:2002

Electromagnetic compatibility: EN 301489-1: V2.2.3

EN 301489-3: V2.1.1 EN 301489-17: V3.2.2

Use of the radio frequency spectrum: EN 300328: V2.2.2

EN 300330: V2.1.1

Signed for and on behalf of:

Feldkirchen in Carinthia

9.11.2020

Place, date

Peter Pobi

Peter Pötzi, CTO go-e GmbH

Contact details

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