Commissioning Manual

EV-Charger 7.3kW / 11kW / 22kW

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1. Hints for this Manual

1.1. Range of Validity

The document describes the commissioning steps for the following EV-Charger models:

NGEN STAR-EV7 **NGEN STAR-EV11** **NGEN STAR-EV22**

1.2. Target Group

This commissioning manual is intended for qualified electricians. The tasks described in this manual can only be performed by qualified electricians.

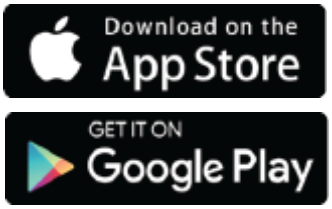
1.3. Used Symbols

Notes and general information appear in this document as described below:

	**Note!** "Note" provides important tips and instructions.

2. Download of the Smart Grid Connect App

The Smart Grid Connect mobile app is available to download from the Google Play Store (for Android devices) or the App Store (for iOS devices). Search for "Smart Grid Connect" in the App Store and follow the installation instructions.



App-Store (iPhone)

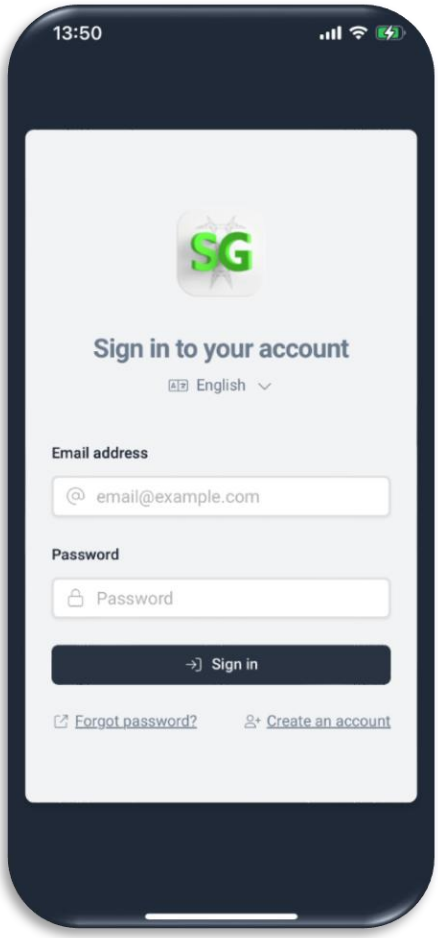
Google Play Store (Android)

3. Account Registration

Registration with a valid e-mail address and password is required to use the app for the first time. After registering, you will receive an email with a link to confirm your account. Follow the instructions in the email to complete the registration process.

4. Log in to the App

After successfully registering, you will need to log in to the app once. Your login details can be saved on your mobile phone to simplify future logins.

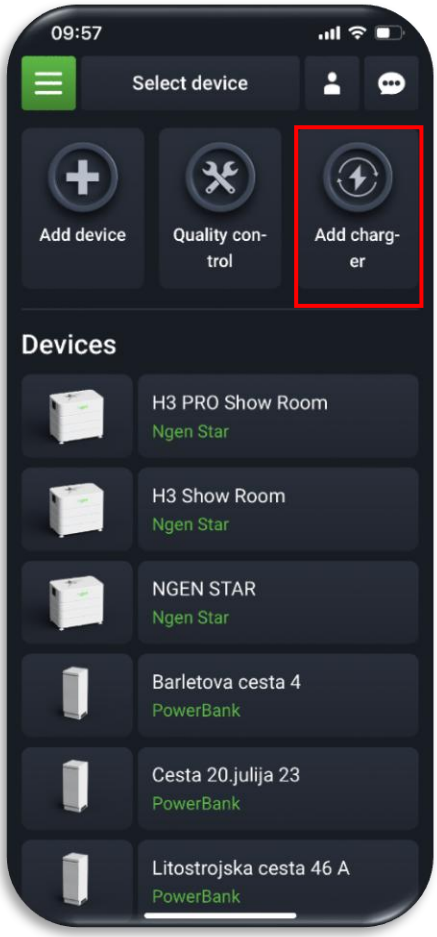


☞	Note! If you forget your password, please click on "Forgot password?" to reset it.

5. Connecting the EV-Charger with the App

5.1. Add and Bind EV-Charger

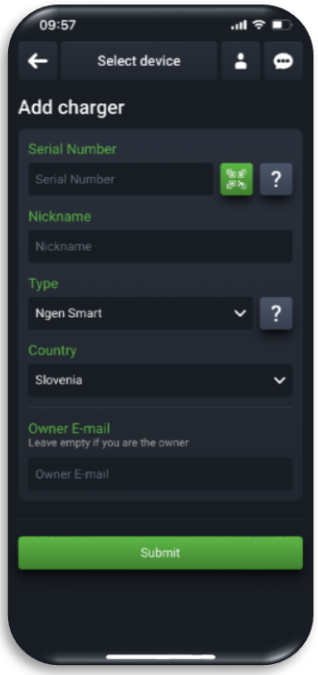
Step 1: Open the app and click on the “Add charger” button to start the setup process:



Step 2: In this step, you will need to provide specific details about the charging station:

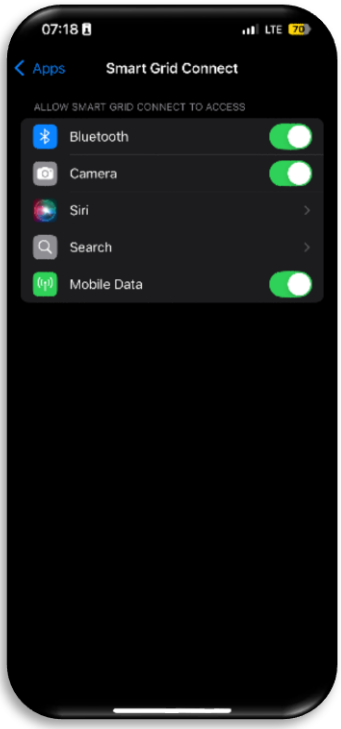
- **Serial number:** Enter the serial number by either reading it directly from the Type plate on the left side of the charging station or by scanning the QR-Code.
- **Nickname:** Assign a unique name to your charging station to simplify administration, such as “Garage North” or “Home Charging Station”.
- **Type:** Choose the type that suits your setup:
    - NGEN Smart: If the charging station is connected to justCHARGE.
    - NGEN Home: If the charging station is being used at home and is not connected to justCHARGE.
- **Country:** Select the country where the charging station will be installed.

- **Owner E-mail:** Enter the email address of the charging station owner. If you are the owner, leave this field blank.



5.2. Connecting the EV-Charger with Bluetooth

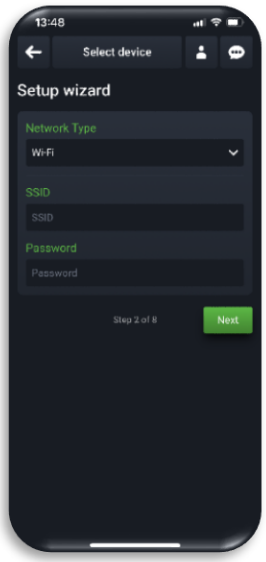
Enable Bluetooth on your smartphone, and the charging station will automatically establish a connection.



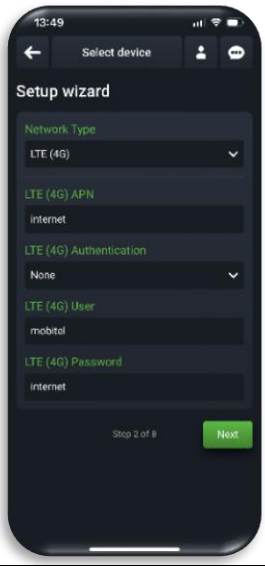
5.3. Network settings

Once the charging station is connected to your smartphone via Bluetooth, you will need to configure the network settings. Select either a Wi-Fi-Connection or LTE (4G):

Step 1: For the Wi-Fi-Connection, enter the SSID (Wi-Fi-Name) and the password to connect the charging station to your local network. Once the connection is established, your charging station will be ready to perform additional configurations, including remote access.



Step 2: For the LTE connection, enter the required values. In some cases, the APN settings of the SIM card must be configured before accessing the network. Typically, default values are sufficient. If the configuration is needed, your network provider will supply the necessary parameters.



	Note! If you have selected the NGEN Home version, the charging station is now set up, and you can configure the functions as described in Step 7.

6. justCHARGE Configuration

6.1. Choose or create a new group

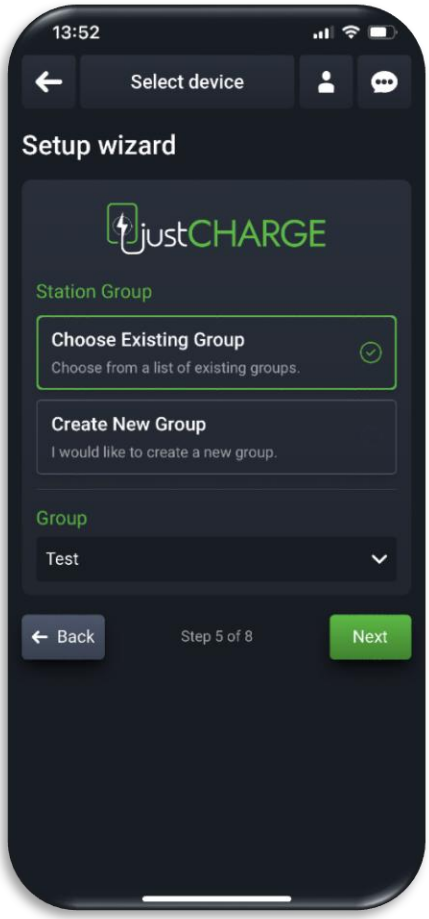
After the EV-Charger is connected to the cloud (this may take up to five minutes), you can assign the charging station to a group. This can be done by either adding it to an existing group or creating a new one. Follow the steps below:

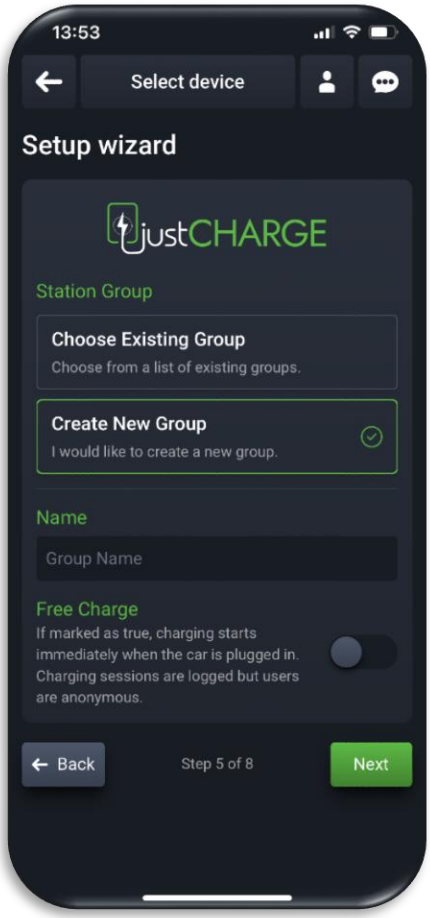
Create a New Group

- Select **Create New Group**
- Assigning a unique name to the new group

Add the EV-Charger to an Existing Group

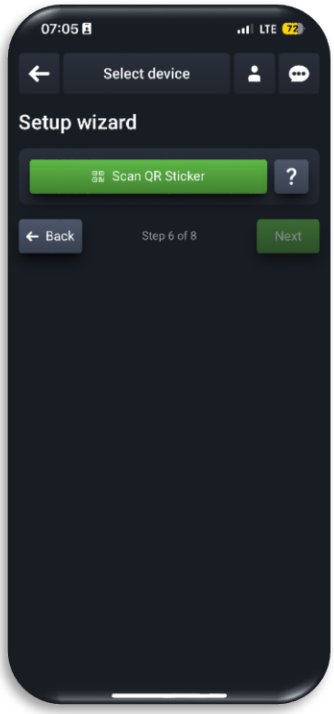
- Select **Add to Existing Group**.
- Choose the desired group from the list of available groups.



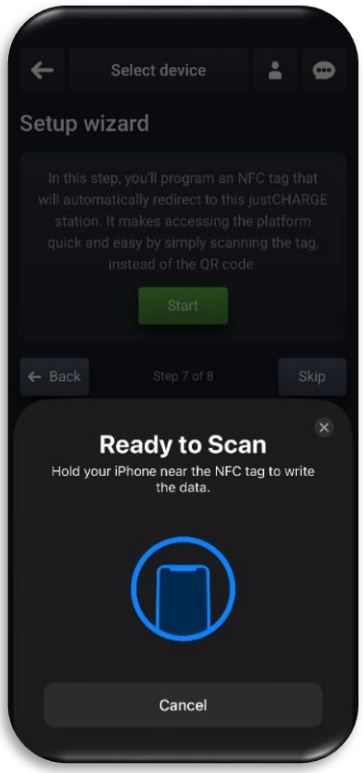


6.2. Configuration of the QR-Code and NFC Tag on the justCHARGE Sticker

Step 1: Scan the QR code of the **justCHARGE-Sticker** located on the charging station.

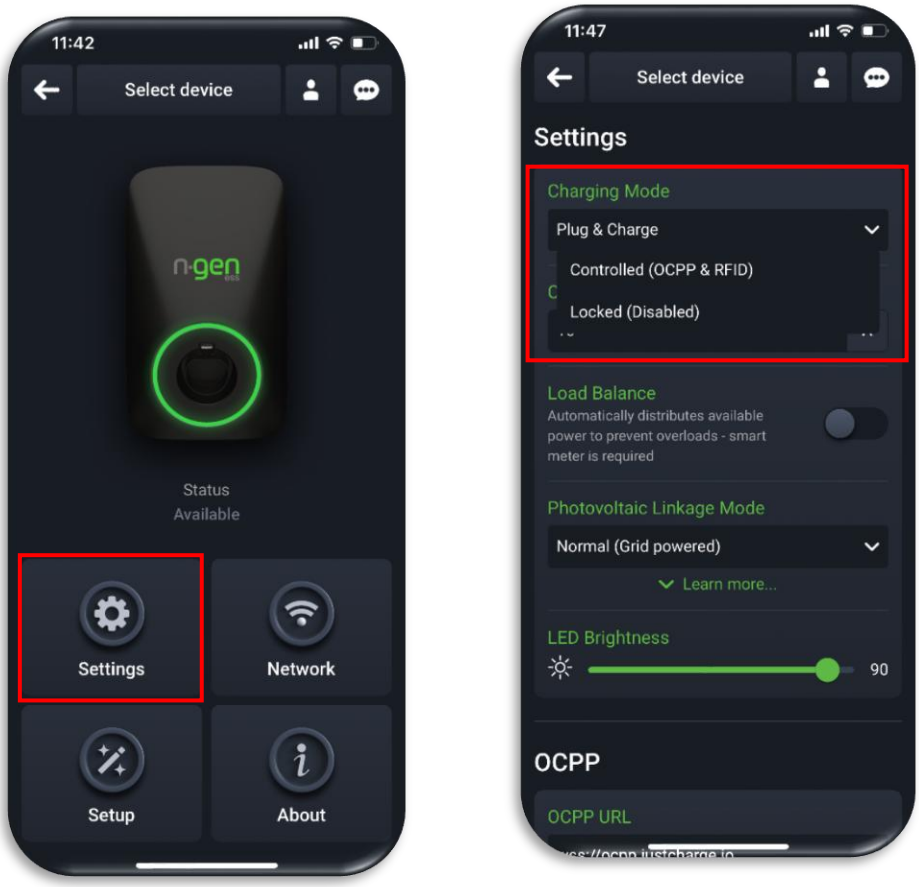


Step 2: Hold your smartphone near the NFC sensor on the justCHARGE-Sticker until the message "Ready to Scan" appears



7. Function settings of the EV-Charger

7.1. Charging Mode Setting

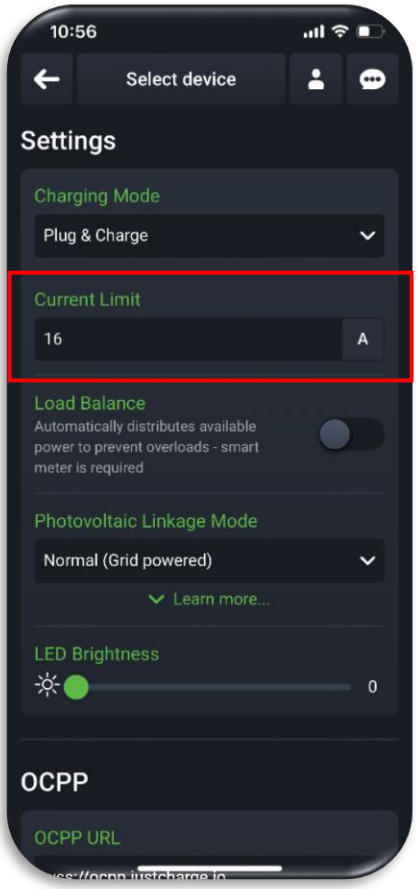


Click on the "Settings" button in the EV-Charger Control Interface to open the settings. You can adjust the charging mode of the EV-Charger to "Plug & Charge", "Controlled (OCPP & RFID)" and "Locked (Disabled)" as required.

☞	Note! The charging mode can only be set when the EV-Charger is in standby or idle mode.
☞	Note! **Controlled (OCPP & RFID):** Controlled (OCPP & RFID): The charging session can only be started using an RFID card, the justCHARGE platform, or the 'Start' button in the SG Connect App, which appears on the main screen (the screen displaying the image of the charger). **Plug & Charge:** Charging starts automatically when the Electric Vehicle is plugged in, without the need for authorization via RFID-Card or justCHARGE. **Locked (Disabled):** In this mode, the charging station is locked and cannot be used.

7.2. Charging Current Setting

In the EV-Charger “Setting” interface, you can set the maximum charging current of the EV-Charger.



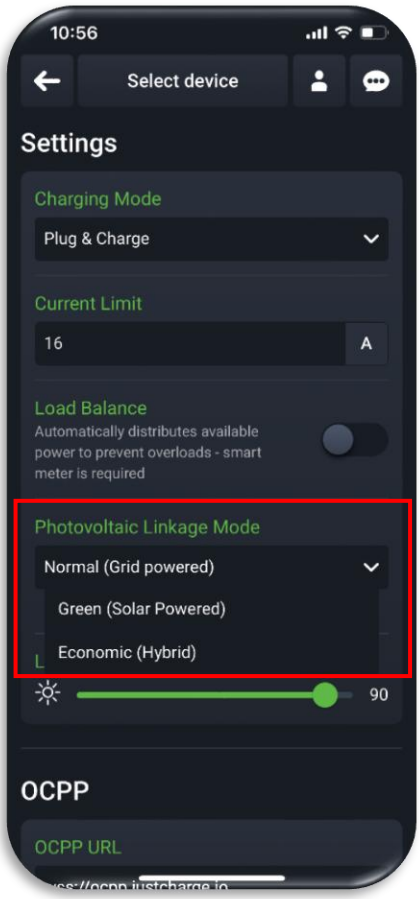
☞	Note! The adjustable current range is for the STAR EV7 & STAR EV22 = 6-32A and for the STAR EV11 = 6-16A

7.3. Utilization of excess photovoltaic energy

The "Photovoltaic Linkage Mode" for utilizing excess photovoltaic energy is suitable for situations where a single EV-Charger uses either solar energy or grid power. The Photovoltaic Linkage Mode is divided into three different operating modes:

- **Normal (Grid Power):** The Charging Station uses grid power to charge the electric vehicle.
- **Green Mode:** Only excess photovoltaic energy is used to charge the electric vehicle.
- **ECO Mode:** Excess photovoltaic energy is always prioritized. If it is not sufficient, the electric vehicle will be additionally charged with grid power.

Step 1: After successfully configuring the charging station in the app as described in the previous steps, click on the "Settings" button in the EV-Charger control interface to open the settings. In the settings interface, set the photovoltaic Linkage Mode to either Green Mode or ECO Mode as needed:



7.3.1 Function Explanation

Through the Elite-Charger app, you can set the Photovoltaic Linkage mode to Green Mode or ECO Mode. Below, you will find an explanation of the system conditions under which the system is activated:

Green-Mode:

1. If the photovoltaic energy is greater than the household loads and the minimum starting current (6 Amps) of the charging station is reached, the charging station will begin charging.
   (Charging Current = Photovoltaic energy – Household load)
2. If the photovoltaic energy is smaller than the household load the charging station is in charging pause state. The charging process can be resumed when the photovoltaic energy is greater than the household load and the minimum starting current (6.5 Amps) of the charging station is reached.

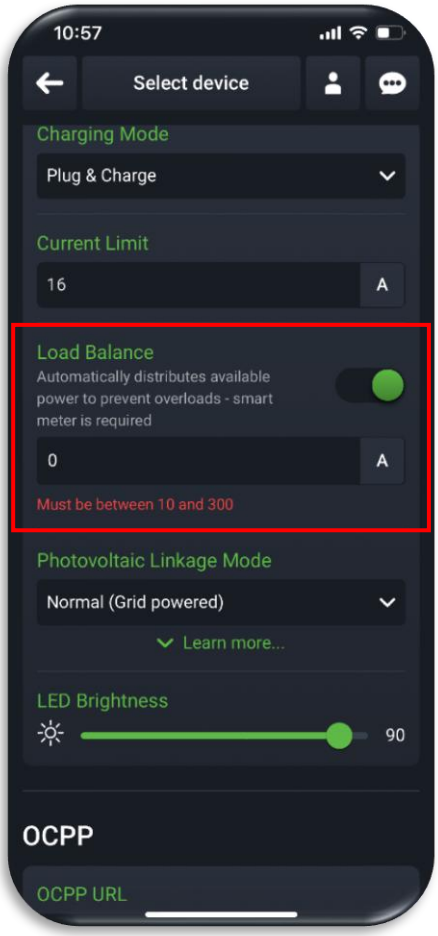
ECO-Mode:

1. If the photovoltaic energy is greater than the household loads and the minimum starting current (6 Amps) of the charging station is reached, the charging station will begin charging.
2. If the photovoltaic energy is smaller than the household load and the minimum starting current (6 Amps) of the charging station is reached, the charging station will begin charging with energy from the grid.
   (Charging current = 6A = Photovoltaic energy – Household load + Grid power)

7.4. Load Balancing Function for a Single EV-Charger

Enable the load balancing function through the Smart Grid Connect App, so that the EV charging station can obtain the current data of household consumption in real time via the smart meter and adjust the charging current of the charging station in real time according to the current threshold set for load balancing.

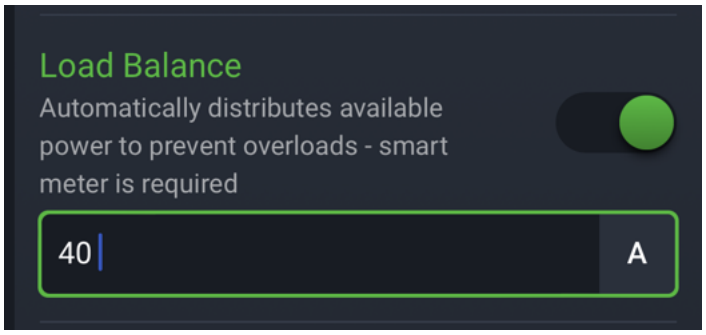
Step 1: To enable the load balancing function of the charging station, navigate to the settings interface of the EV-Charger and configure the load balance limit current parameters:



	Note! The threshold current value of the load balance function should be lower than the rated current of the main input fuse. The setting range of load balance current is 10A up to 300A.

7.4.1. Function Explanation

The following is an example of how the load balancing function work. It is known that the rated current of the circuit breaker is 40A. Therefore, set the threshold current for the load balancing function to 40A.



Example: It is known that the rated current of the circuit breaker is 40A.

- The charging current of the EV-Chargers is calculated as follows:
  - 40A – household load current (6A ≤ charging current of EV-Charger ≤ 32A)
- When the household load current is 5A, the charging current of the charging station is 32A.
- When the household load current is 15A, the charging current of the charging station is 25A. (40A – 15A = 25A)
- When the household load current is 34A, the charging current of the charging station is 6A. (40A – 34A = 6A)
- When the household load current is 35A, the charging current of the charging station is 5A. (40A – 35A = 5A)
- When the household load current is 33A, the charging current of the charging station is 7A. (40A – 33A = 7A)

☞	Note! According to the relevant standards, the minimum charging current for the EV-Charger is 6A. If the charging current is less than 6A, the EV-Charger is in a charging pause status. As soon as the charging current of the EV-Charger exceeds 6A again, the charging process of the EV-Charger resumes.

7.5. Firmware Upgrade

Click on “About” in the user interface of the EV-Charger to update the firmware. If updates are available, a button will appear, allowing you to start the update.