# Delta EVSE

## Commissioning Guide

EVCS

# Delta EVSE Commissioning

## General information

The intention of the commissioning procedure is to find possible errors before applying power and to set the system correctly within the customer network. The commissioning shall be recorded in the Installation and Commissioning protocol.

Prerequisites

To properly commission the EVSE, the charger must have been installed and powered-up according to the corresponding product manuals. For more information on the installation and power-up process, please refer to the appropriate product manuals.

The following steps will guide you through the commissioning process:

## Commissioning procedure

The commissioning procedure has 3 goals:

- Ensure that no components were damaged during transport, installation and power-up.
- Safely turn ON the charger.
- Integrate the charger into the charge point management system.

# Qualification

**Personnel qualification**

The Delta charger must only be commissioned (powered-up) by licensed and certified personnel.

The work described here may only be carried out by technicians with appropriate professional qualifications, necessary experience, and Delta Electronics training.

**Personnel qualification for maintenance and repair**

Only a trained specialist may carry out mechanical and electrotechnical work and must have:

- Qualification in accordance with nationally applicable regulations
- Knowledge of product documentation
- Knowledge of local safety regulations

For more information concerning Delta Electronics training and certification please contact your Delta service partner (and/or EVCS.Service@deltaww.com).

Please refer to the EVCS UFC 200 documentation (also available from EVCS.Service@deltaww.com).

# Documentation

Read all of the following manuals before (installing and/or) commissioning the charger.

Follow all safety instructions and working instructions. All safety instructions in the manuals are based on risk assessment carried out in accordance with the Machinery Directive 2006/42/EC Annex I and EN ISO 12100.

Store manuals in a safe place close to the charger. Ensure manuals are available when needed.

Available from EVCS.Service@deltaww.com:

Delta Product Planning Guide
**Delta Product Installation Manual**
**Delta Product Power-Up Manual**
Delta Product Commissioning Manual
Delta Product Configuration Manual
Delta Product User Manual
Delta Product Maintenance Manual
Delta Product Trouble-shooting Manual
Delta Product Installation and Commissioning Protocol
Delta Product Preventive Maintenance Protocol
Delta Product Calibrated energy metering system and OCPP specification for CPO
EV Charging ModBus Register Table for External Energy Management

# Safety

**<u>Always!</u> observe general safety information, specific safety instructions and precautions as well as information concerning personnel qualification and proper use of the product.**

**Before installing the charger, carefully review safety regulations, consult with a licensed contractor, licensed electrician and trained installation expert to ensure compliance with local building practices, climate conditions, safety standards, and state and local codes.**

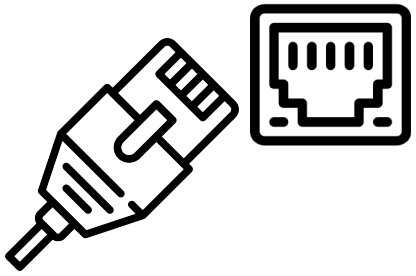
## Risk levels

- Immediate or pending danger that will result in death or serious injury if not avoided
  - Danger of electric shock or injury
- Pending danger that could result in minor injuries if not avoided
- Potential damage to property

**Electric shock**

# Network connectivity planning

# Network connection



## Wireless connection

- Delta chargers can connect to back office system using mobile 4G/LTE connection.
- SIM card is installed inside the embedded modem
- The Delta service connection is maintained using integrated Teltonika RUT955 modem

**The charger must be connected to the internet or a private network to access the OCPP back office system.**

## WAN Ethernet connection

- The charger can also connect to the OCPP back office system using the Ethernet connection.
  - Cabling must be UTP/STP Cat 5e outdoor cable type. Maximum length of the cable is 100m.
  - The cable must be crimped using RJ45 connectors, following Ethernet standard.
  - Ends of the cable must be labelled to clearly identify communication cable for EV chargers
- The Ethernet cable must be inserted to the **WAN port** of RUT955 device.

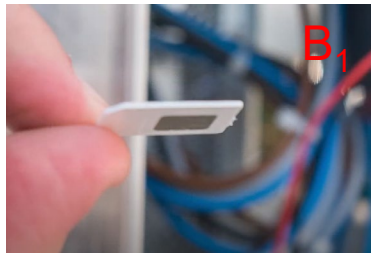
# Commissioning procedure

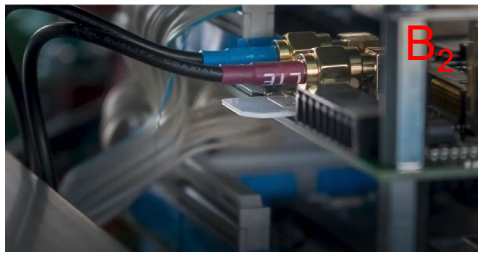
Connectivity – wireless connection via embedded modem
The pictures are for reference only, please refer to ordered product manual for further clarification

1. To insert a **customer** SIM card, first turn the charger off with RCBO1 [A].

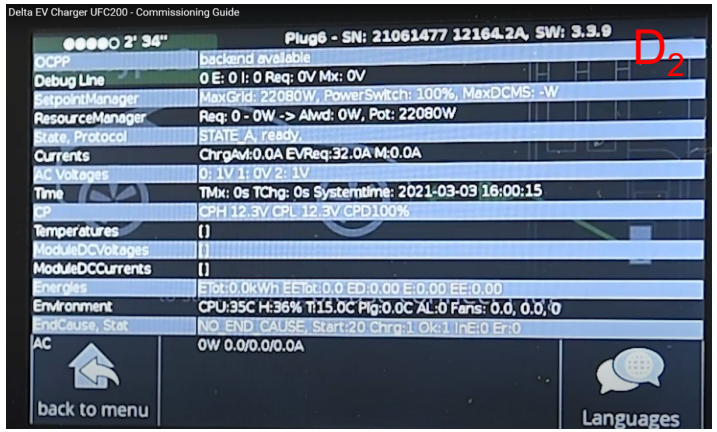

2. Insert customer SIM card into modem with chip facing down and notch as shown [$B_{1-3}$].

3. Switch RCB01 on [C].






4. If the charger OCPP backend is already configured you should see "backend available" messages[$D_{1-2}$].

5. Finally, test the charger with an EV (electric vehicle) or simulator.

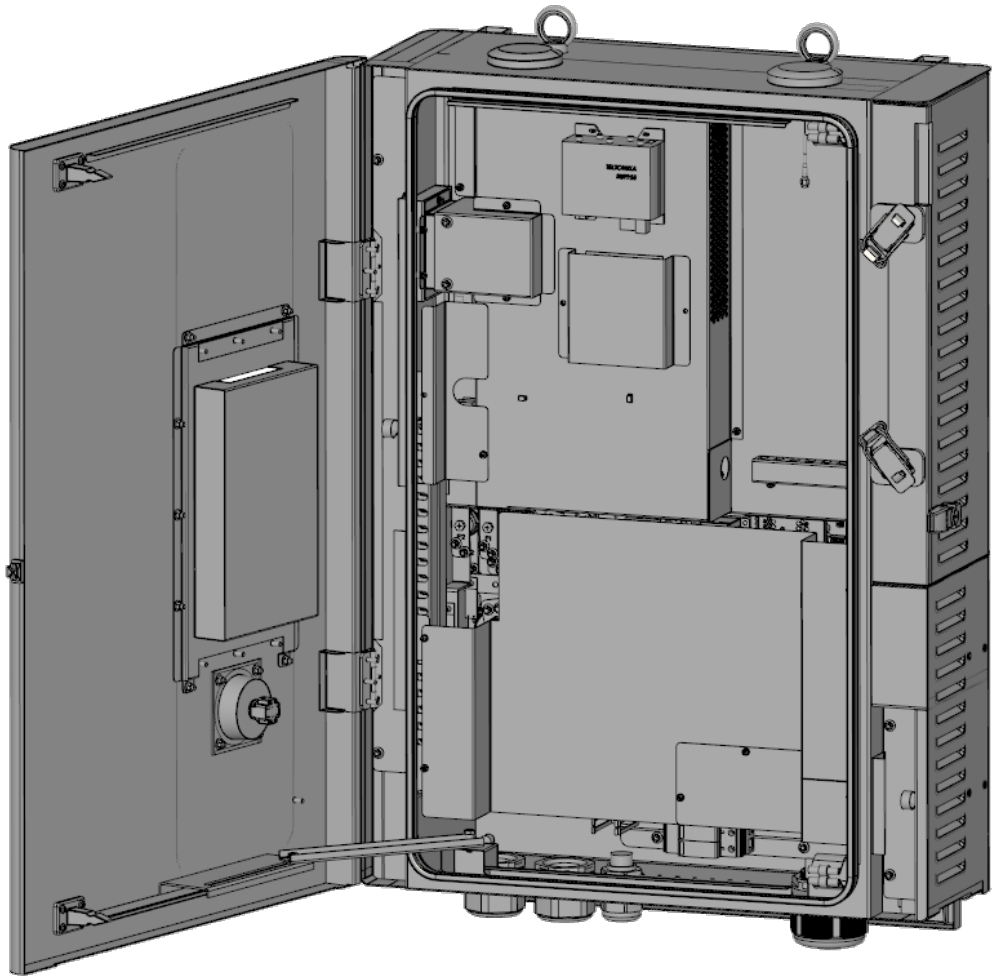
# Delta DC WB 50

## Network Connection

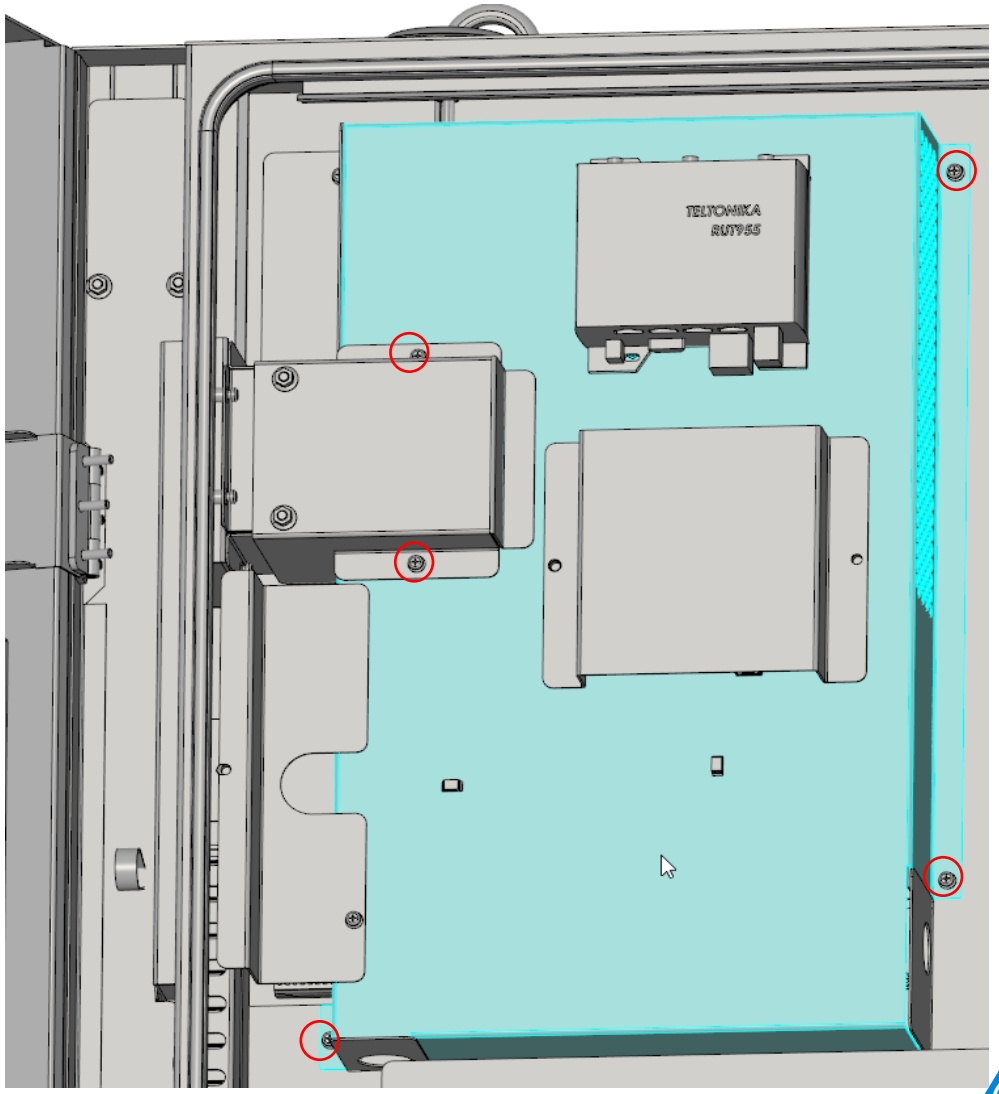
EVCS

# Wireless connection

- Open front panel

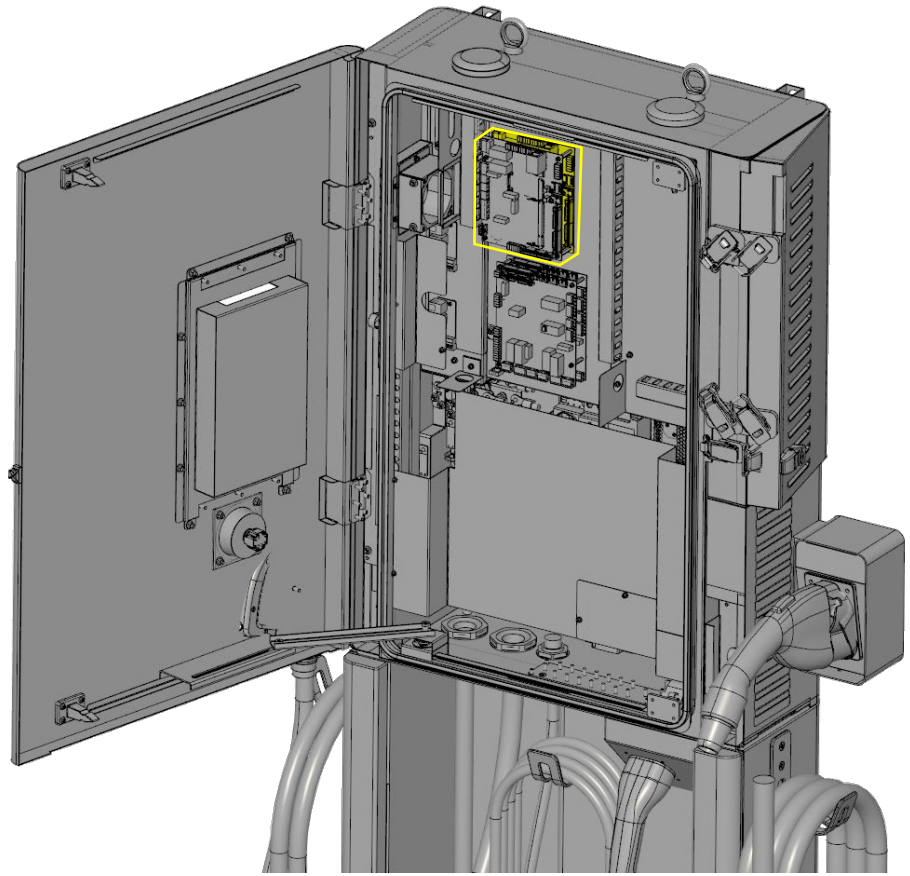


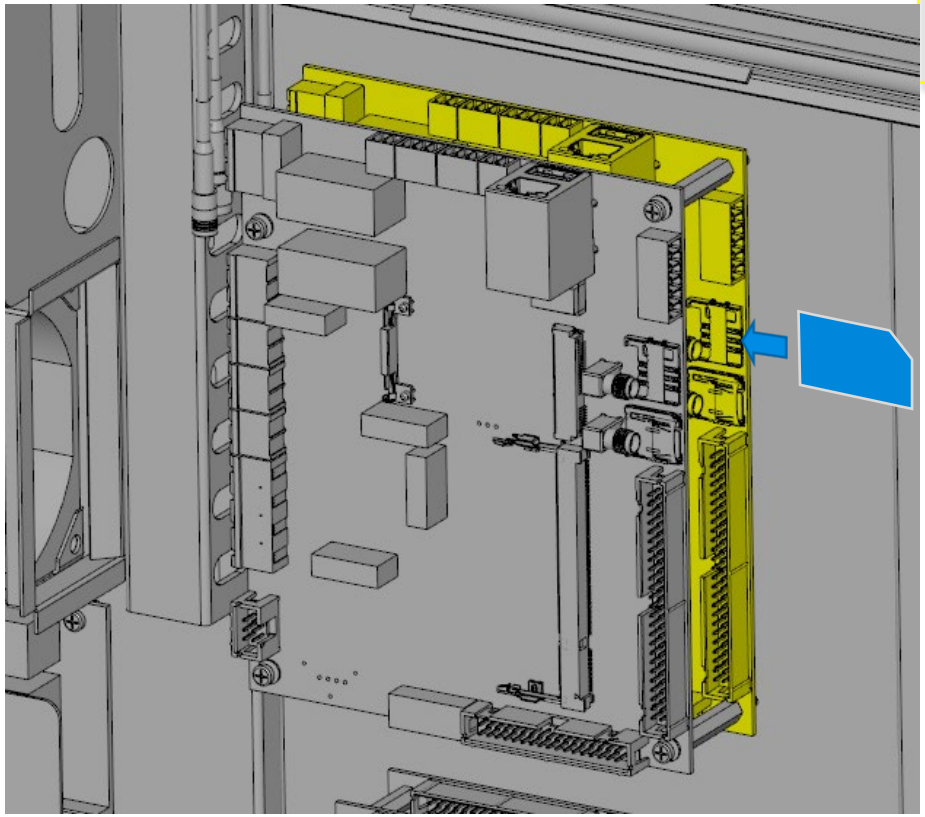
- Remove two covers by releasing 5x screws

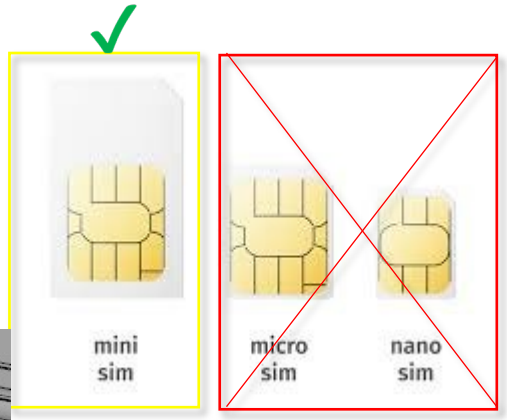


# Wireless connection

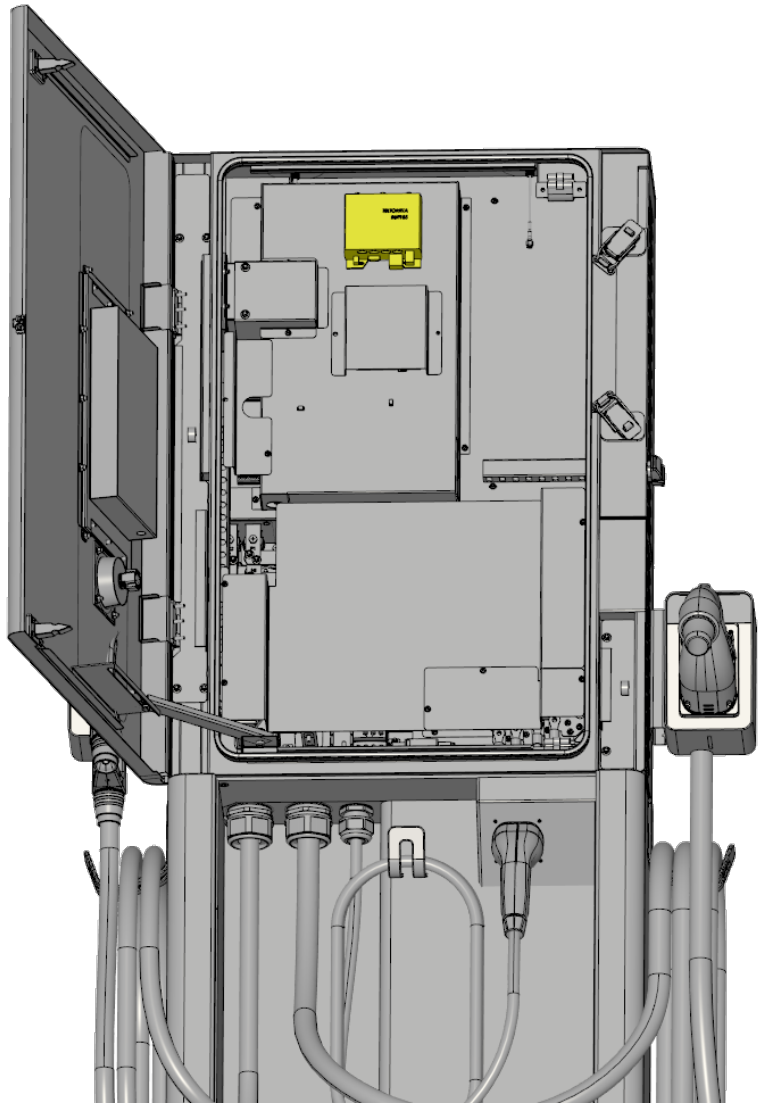
- Mini sim card size
- Simcard slot is at bottom board (main controller)



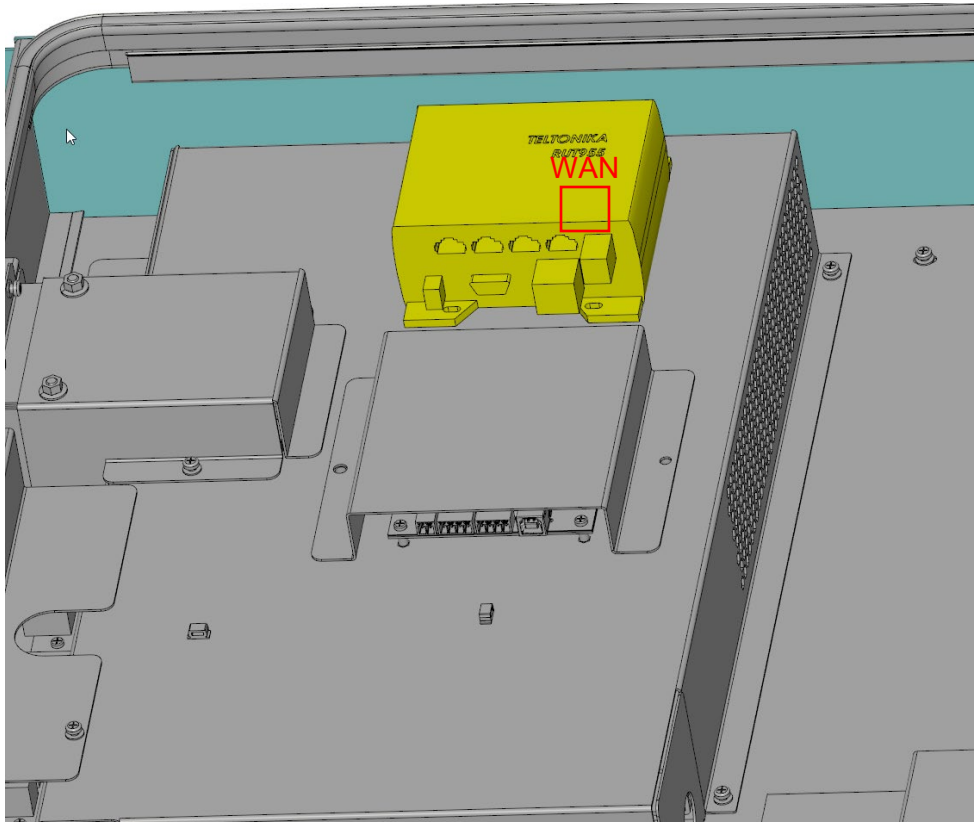




# LAN connection



- Connection to the WAN port
- Preserved cable length is 1.6m from the ground

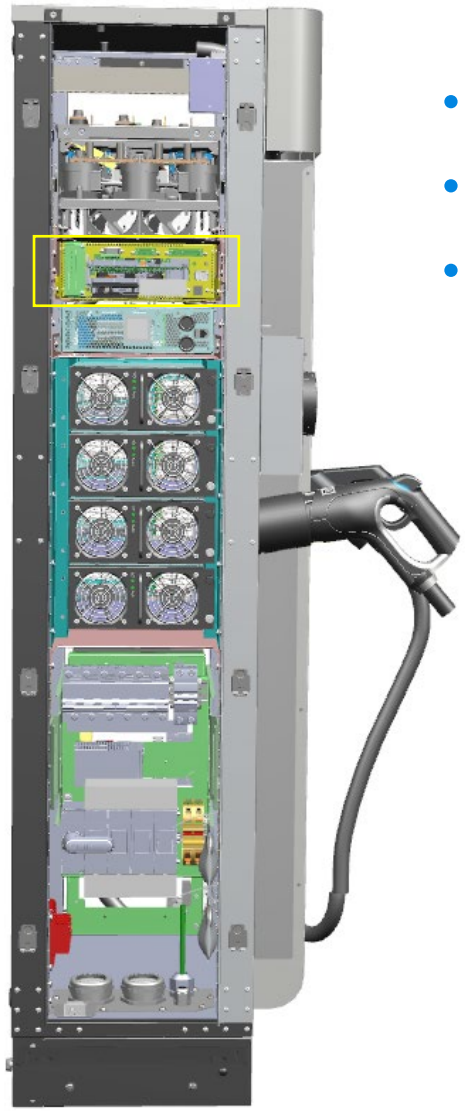


# Delta SLIM 100

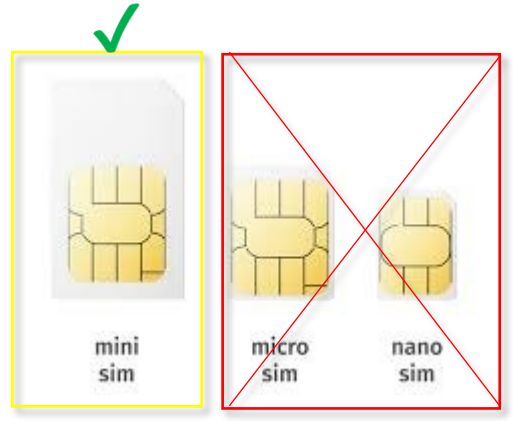
## Network Connection

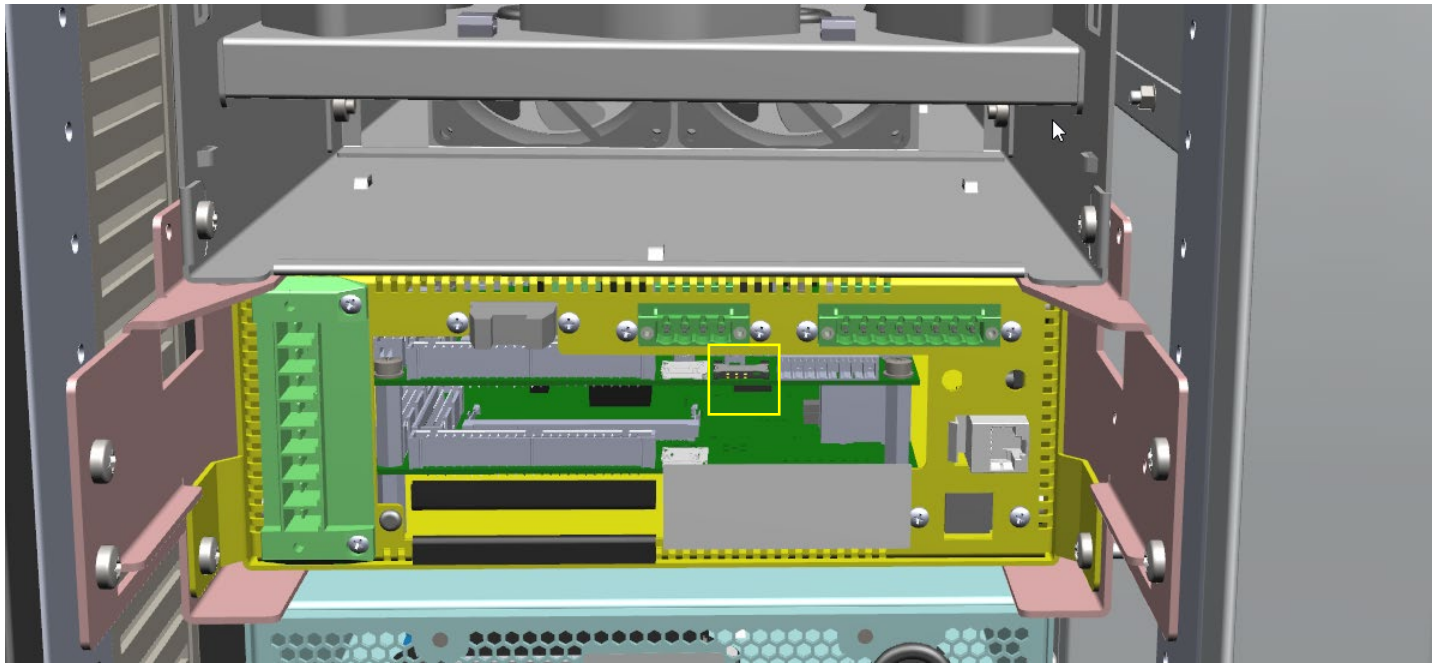
EVCS

# Wireless connection

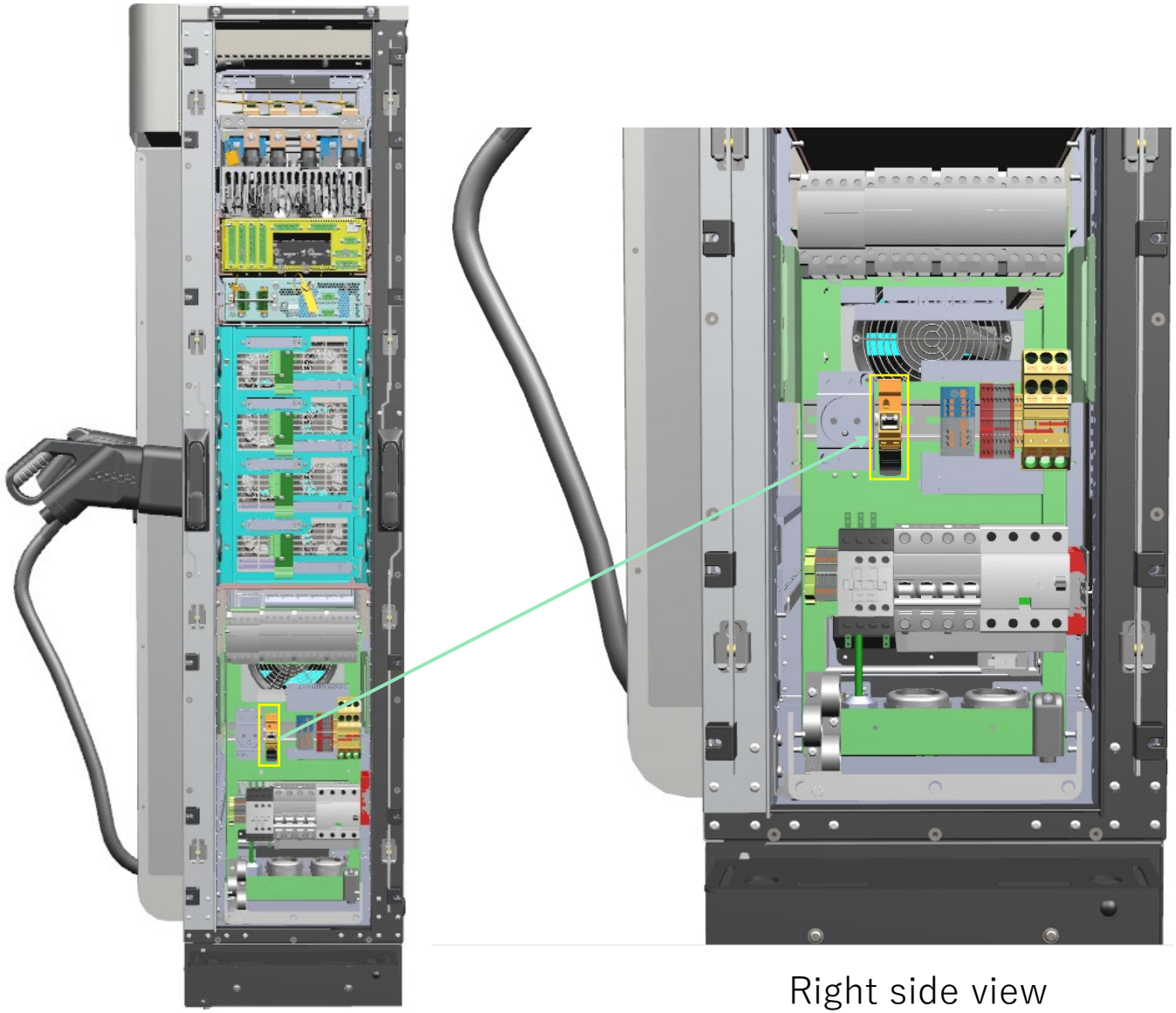


- Mini sim card size
- Sim card slot is at control cards capsule
- Do not mix with the Teltonika router!



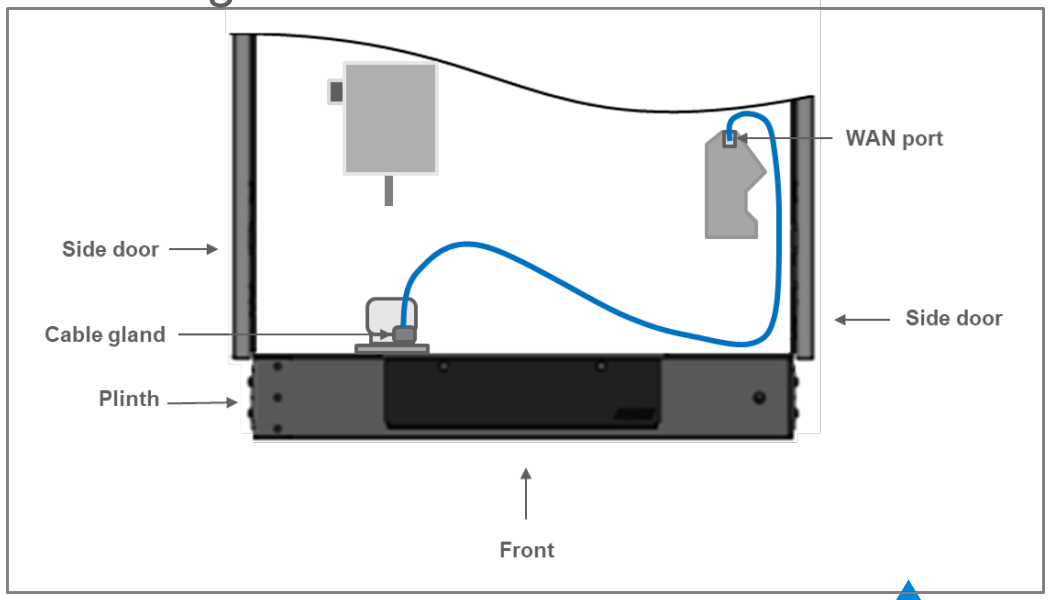



# WAN connection



Right side view

- WAN port link to the main board
- Preserved cable length is 1.2 m from the ground
- Do not connect external network to other ports as it will cause network issues with charger's internal communication



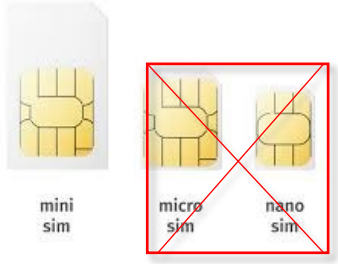
# Delta UFC 200/500

## Network Connection

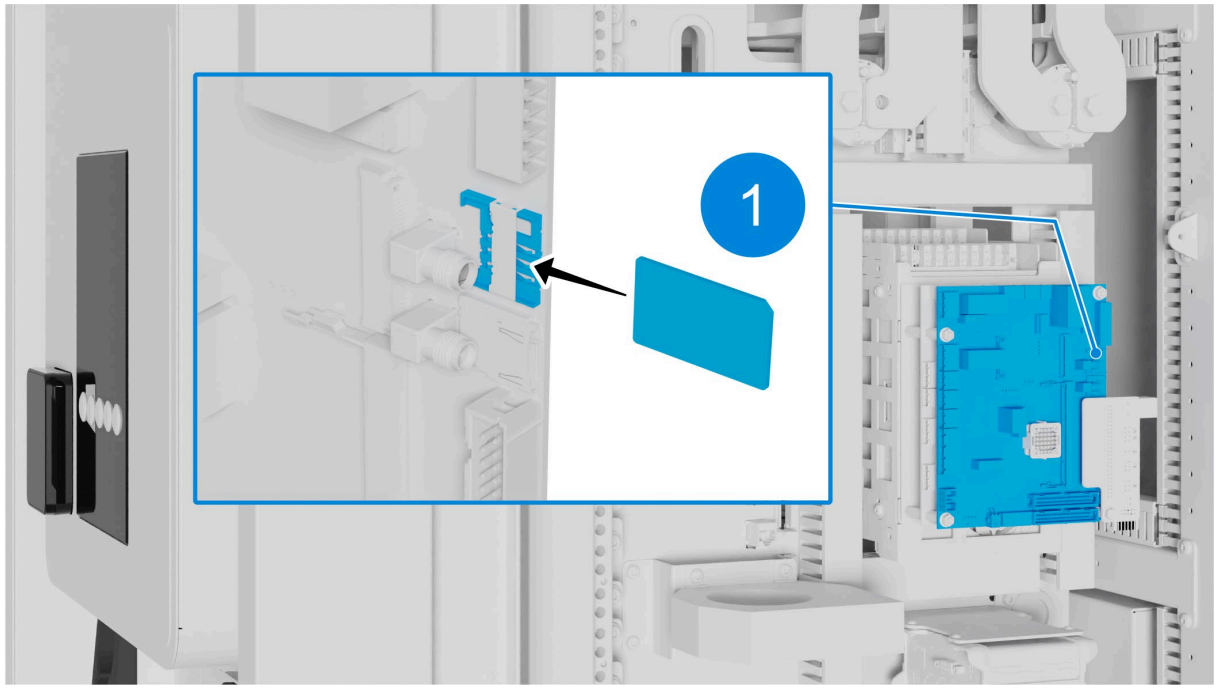
EVCS

# Wireless connection

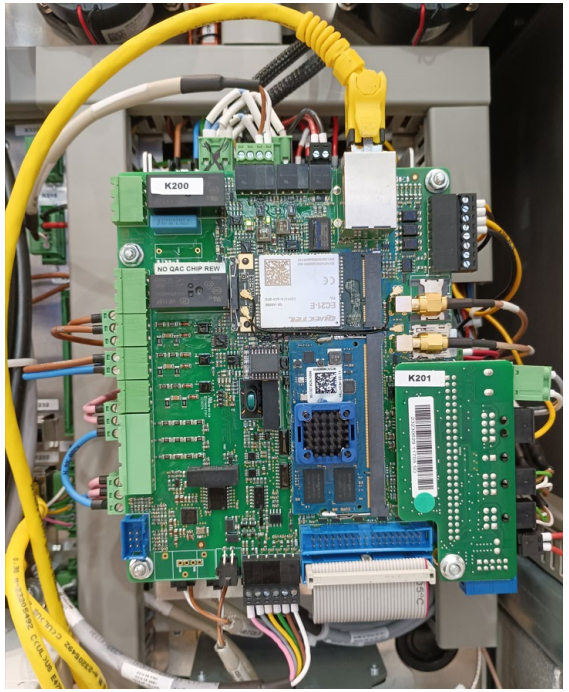
## Network connection




- For wireless OCPP connection via GSM - install SIM card in SIM card slot.




SIM card slot on controller board



# WAN connection

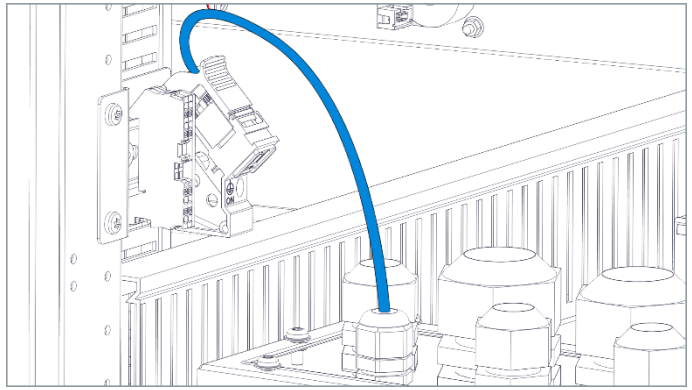
## Network connection

- For OCPP connection and local energy management connection via communication cable – WAN port on RUT955 device.


# Wired connection (optional) available in UFC 200

Installation guide chapter 5.3.5

For an OCPP connection and local energy management connection via a communication cable - connect the communication cable to the IDC connector. Refer to OCPP communication cable connection for instructions.



*OCPP connection via communication cable*

# WebUI access connecting the laptop

# Delta DC WB 50

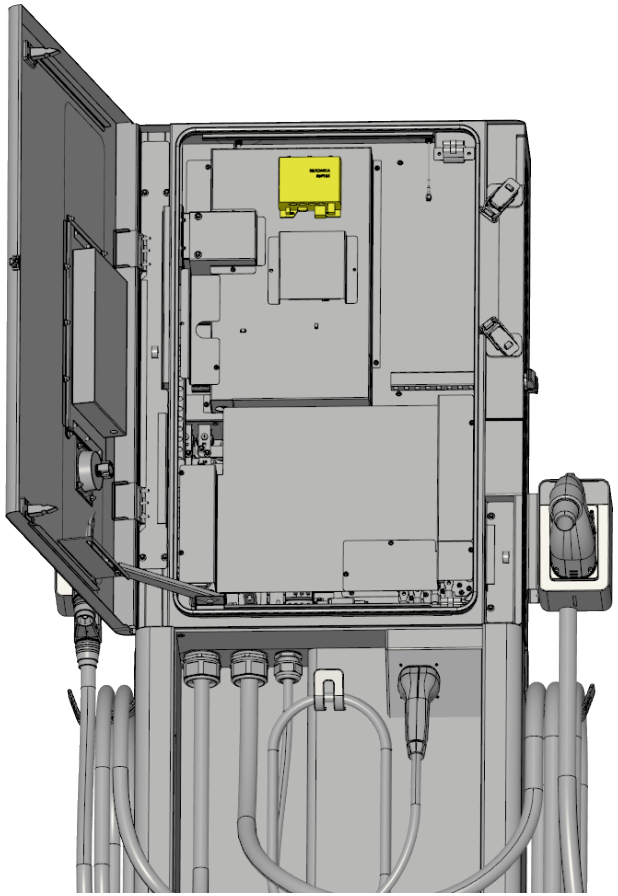
## Accessing WebUI

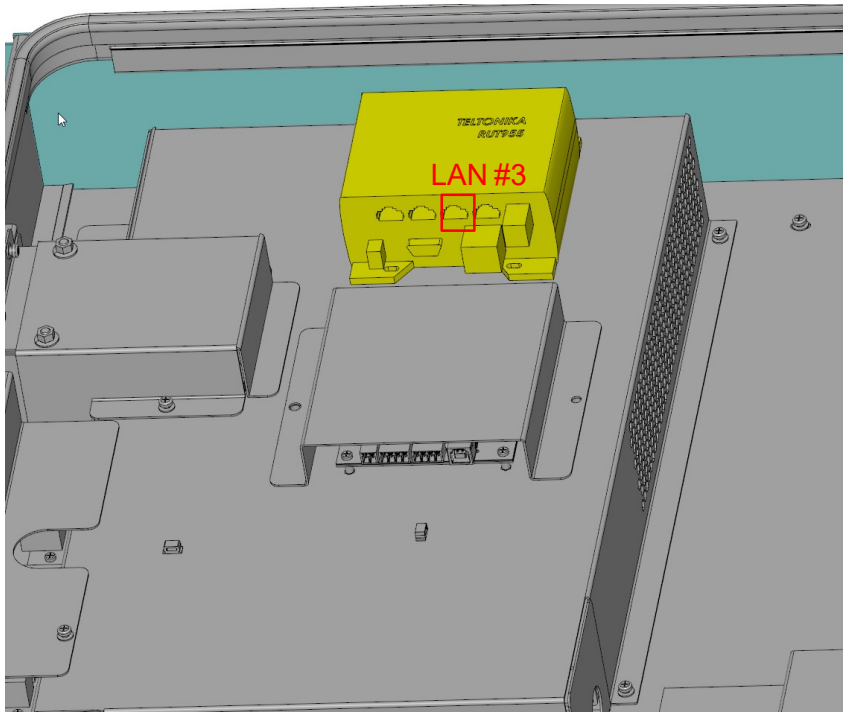
EVCS

# WebUI first time access

Via local LAN

- Open front panel
- Connect the LAN cable to the LAN port of the Router (Ethernet switch **LAN** port #3) and the service laptop.





# Delta SLIM 100

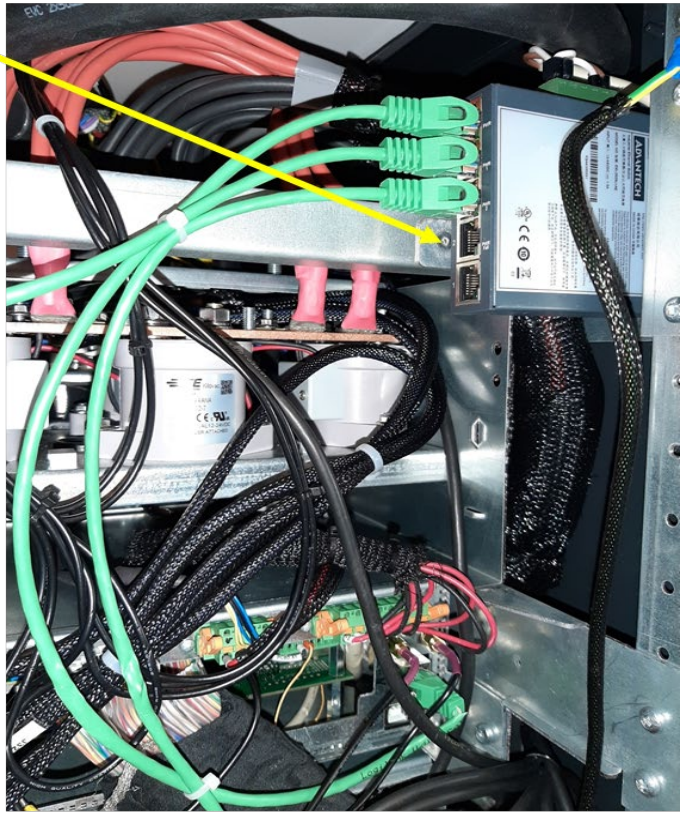
## Accessing WebUI

EVCS

# WebUI first time access

Via local LAN

- Remove left door.
- Connect the LAN cable to the LAN port of the Switch (Ethernet switch **LAN** port) and the service laptop.

# Delta UFC 200/500

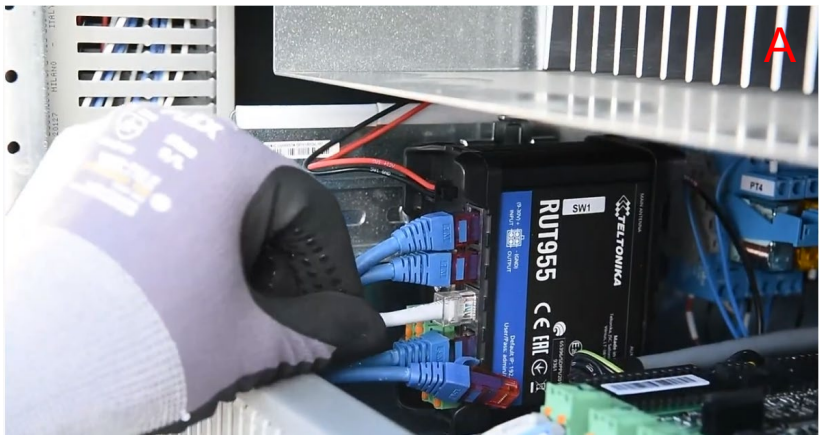
## Accessing WebUI

EVCS

# WebUI first time access

Connectivity

1. A laptop can be connected to port LAN3 on the Teltonika router for accessing WebUI and Delta service ONLY to help, for example, with installation, commissioning, or remote service where agreed (this is not a connection to the backend) [A].


- Remove service door.
- Connect the LAN cable to the LAN port of the Switch (Ethernet switch **LAN** port) and the service laptop.

2. The Delta SIM card should not be removed.
3. Use a LAN cable of at least 2 m.
4. Have available an internet enabled smartphone.

WebUI first time access via. LAN port

# OCPP settings

## Below setting are common for all Delta chargers

# Commissioning procedure
# General Instruction for all Delta chargers
## Service router

- A laptop can be connected to port LAN3 on the Teltonika router or switch for Delta service ONLY for remote help with installation, commissioning, or service if agreed.
- The Delta SIM card should not be removed.
- Use a LAN cable of at least 2m and have an available internet enabled smartphone.

**Delta can connect to the charger via the service connection to conduct:**

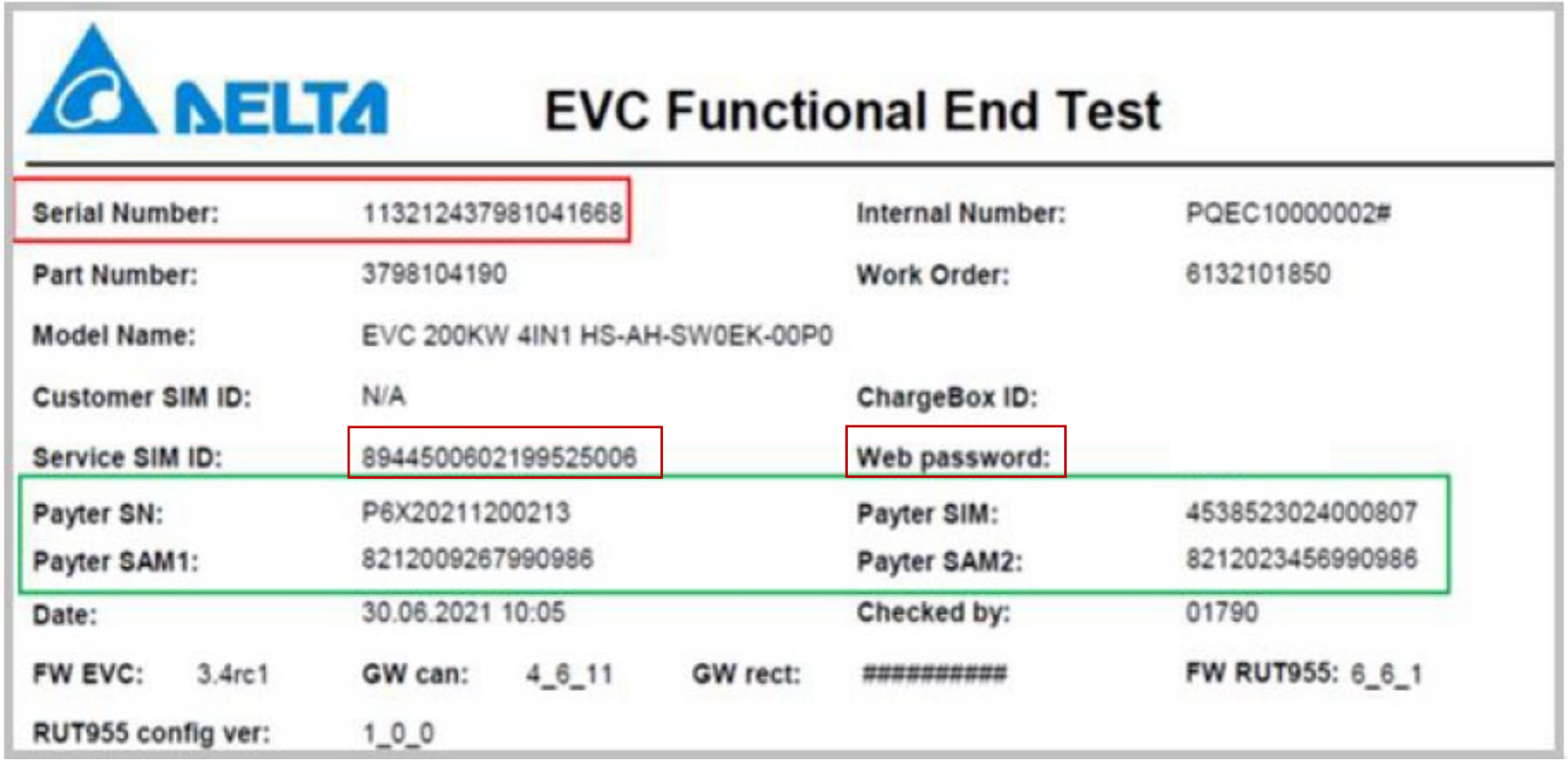
- Service tickets for diagnostics and log download.
- Preventive maintenance e.g., stability monitoring.
- Remote support e.g., firmware upgrade, interoperability test support with vehicles.


The Delta Electronics service connection is maintained through the integrated RUT955 router’s wireless modem and a dedicated SIM card.

# WebUI first time access

Via local LAN

- Retrieve the **Web Password** from End Test report.
- In the case  Delta support is needed, please raise a ticket with **serial number and Service Sim ID** to EVCS.service@deltaww.com 1 week ahead



EVC Functional End Test

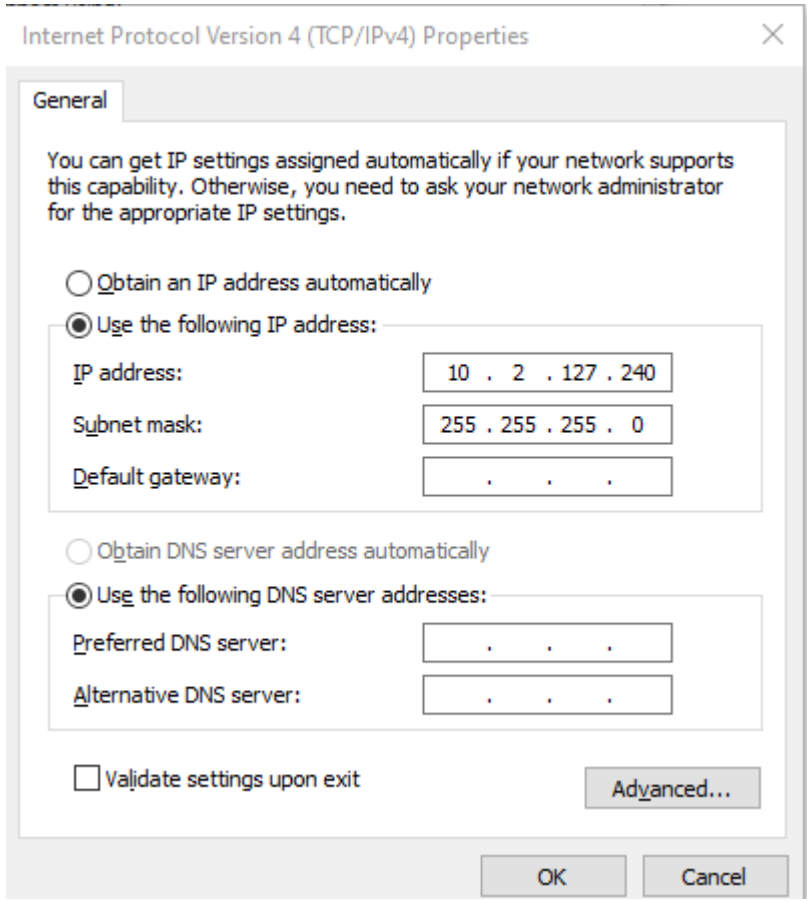
| | | | |
|---|---|---|---|
| Serial Number: | 113212437981041668 | Internal Number: | PQEC10000002# |
| Part Number: | 3798104190 | Work Order: | 6132101850 |
| Model Name: | EVC 200KW 4IN1 HS-AH-SW0EK-00P0 | | |
| Customer SIM ID: | N/A | ChargeBox ID: | |
| Service SIM ID: | 8944500602199525006 | Web password: | |
| Payter SN: | P6X20211200213 | Payter SIM: | 453852302400807 |
| Payter SAM1: | 8212009267990986 | Payter SAM2: | 8212023456990986 |
| Date: | 30.06.2021 10:05 | Checked by: | 01790 |
| FW EVC: 3.4rc1 | GW can: 4_6_11 | GW rect: ########## | FW RUT955: 6_6_1 |
| RUT955 config ver: | 1_0_0 | | |

Example End test report

# WebUI first time access

Via local LAN

- Setup LAN port in the laptop as 10.2.127.xx, Subnet mask as 255.255.255.0



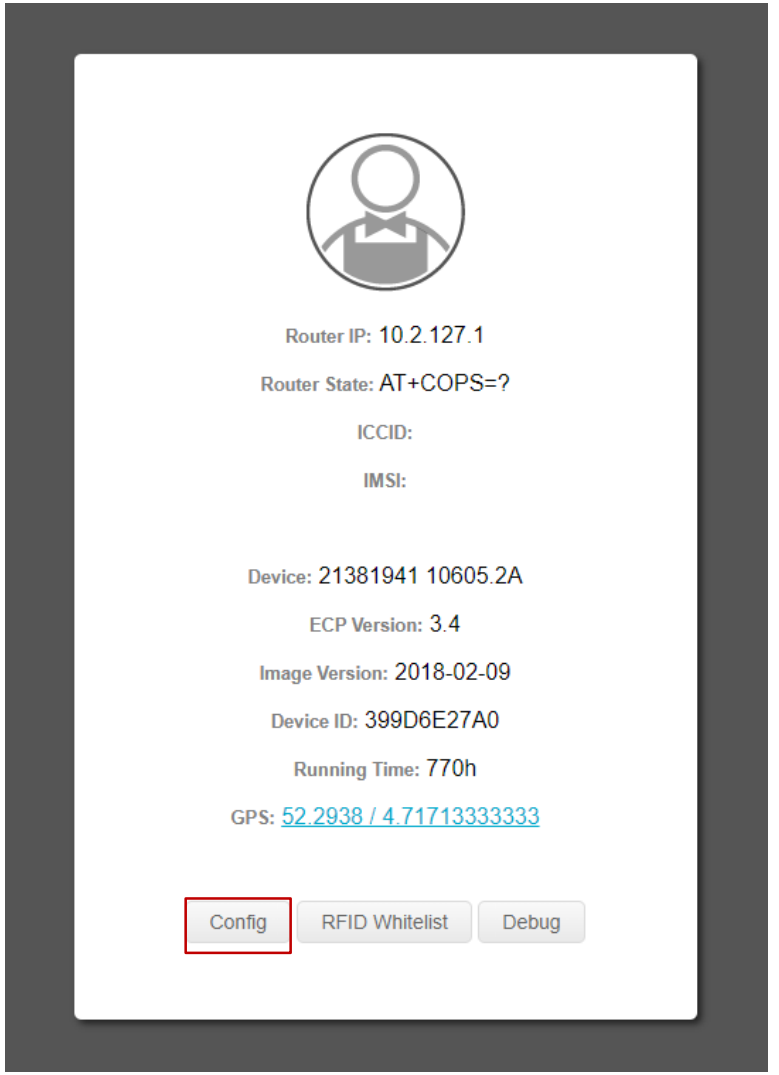
# WebUI first time access (Step 1)

Via local LAN

Port 8080 is used for configuration

Port 8888 is used for file uploading and downloading

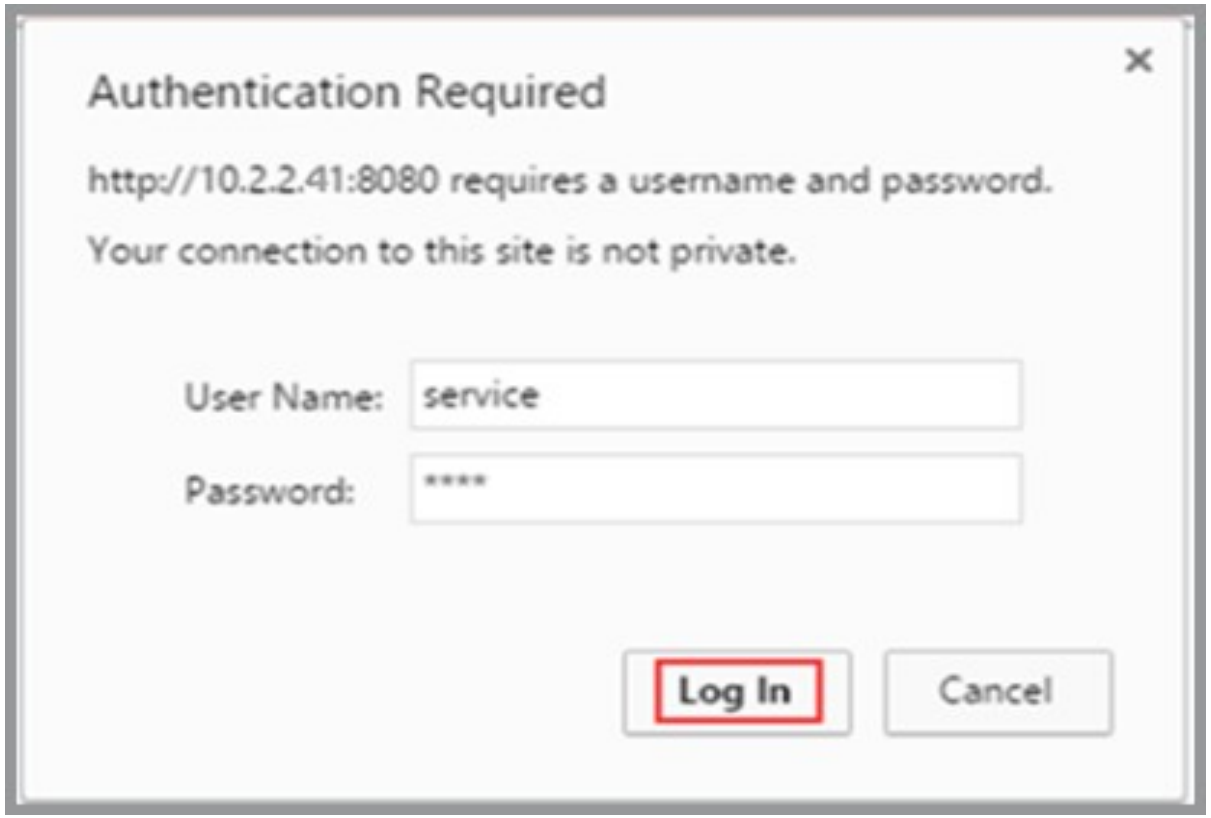
- Enter **http://10.2.127.1:8080** into the URL bar of the chrome browser.
- Click “Config”



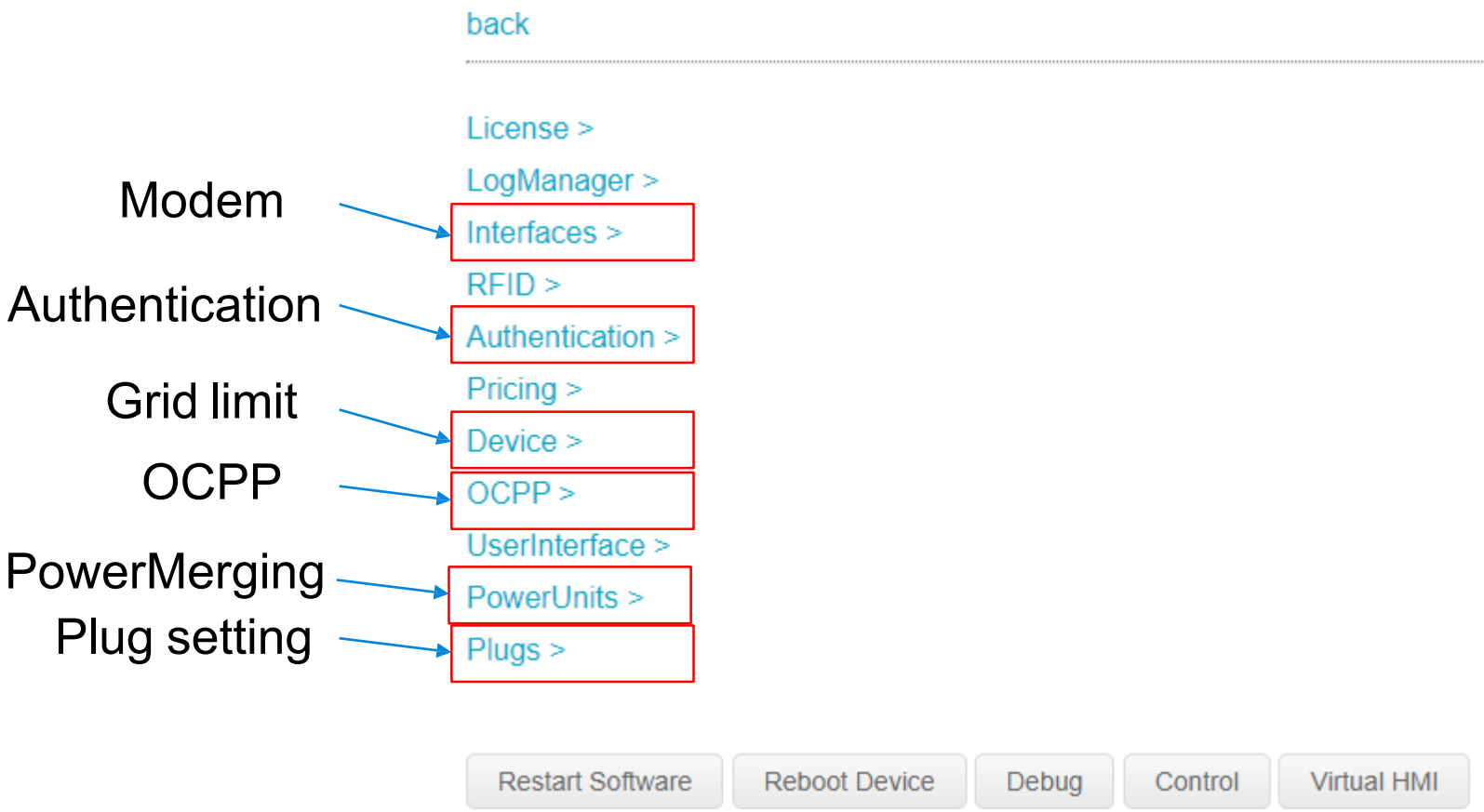
# WebUI first time access (Step 2)

Via local LAN

- Enter credential
- User Name: service
- Web Password: from Ent Test report
- Click “Log In”

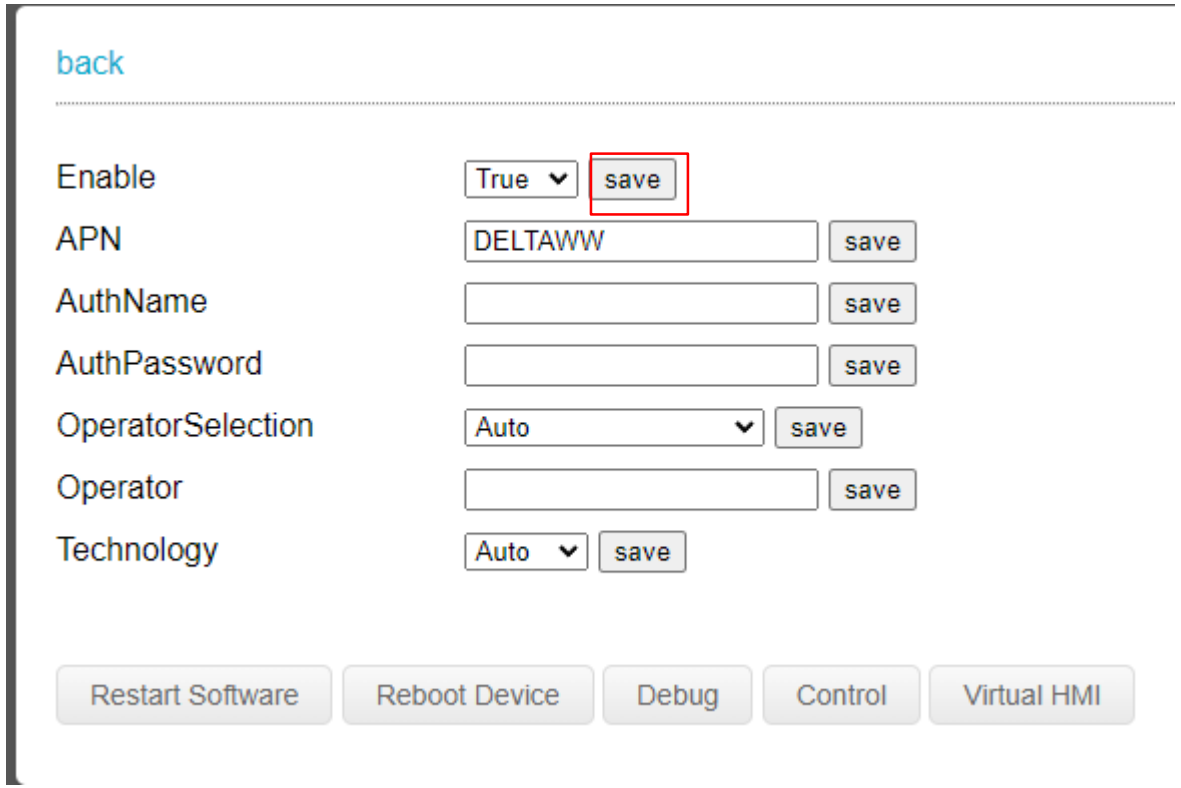


# Main menu (Step 3)



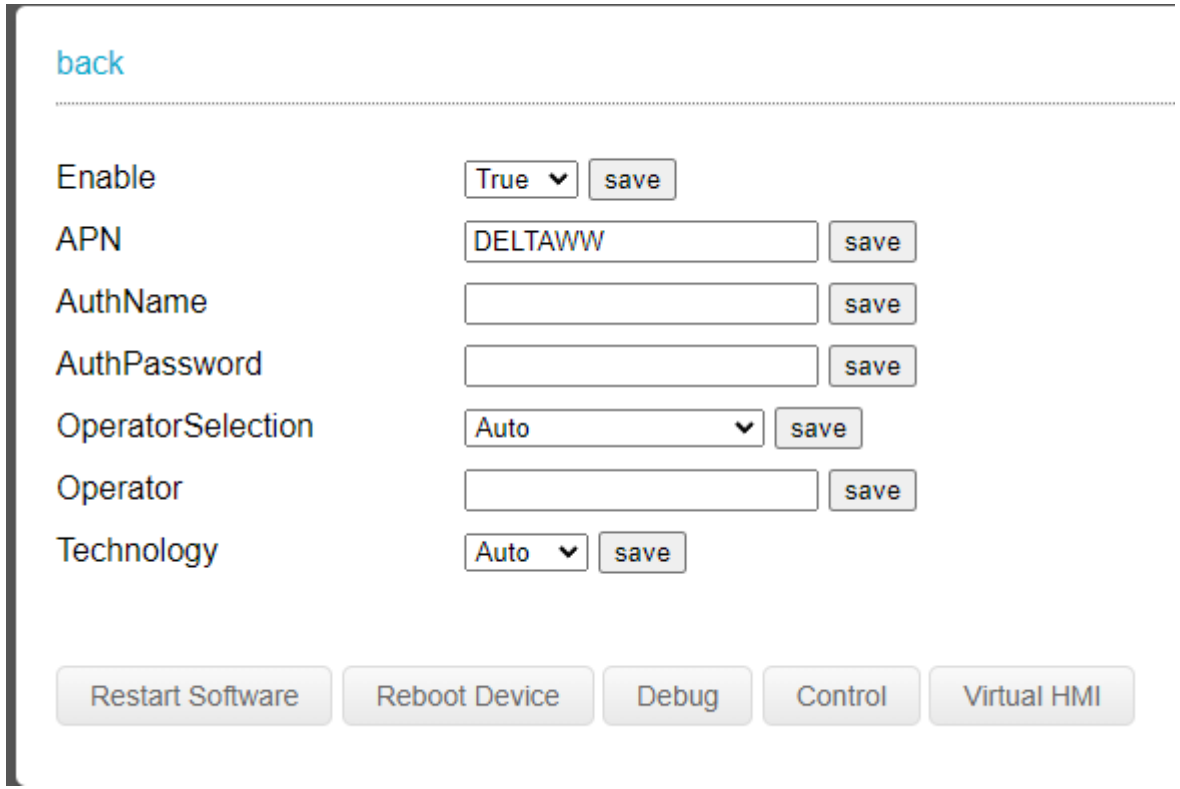
# Save the change (General Instruction)

- Always click [save] button after change value



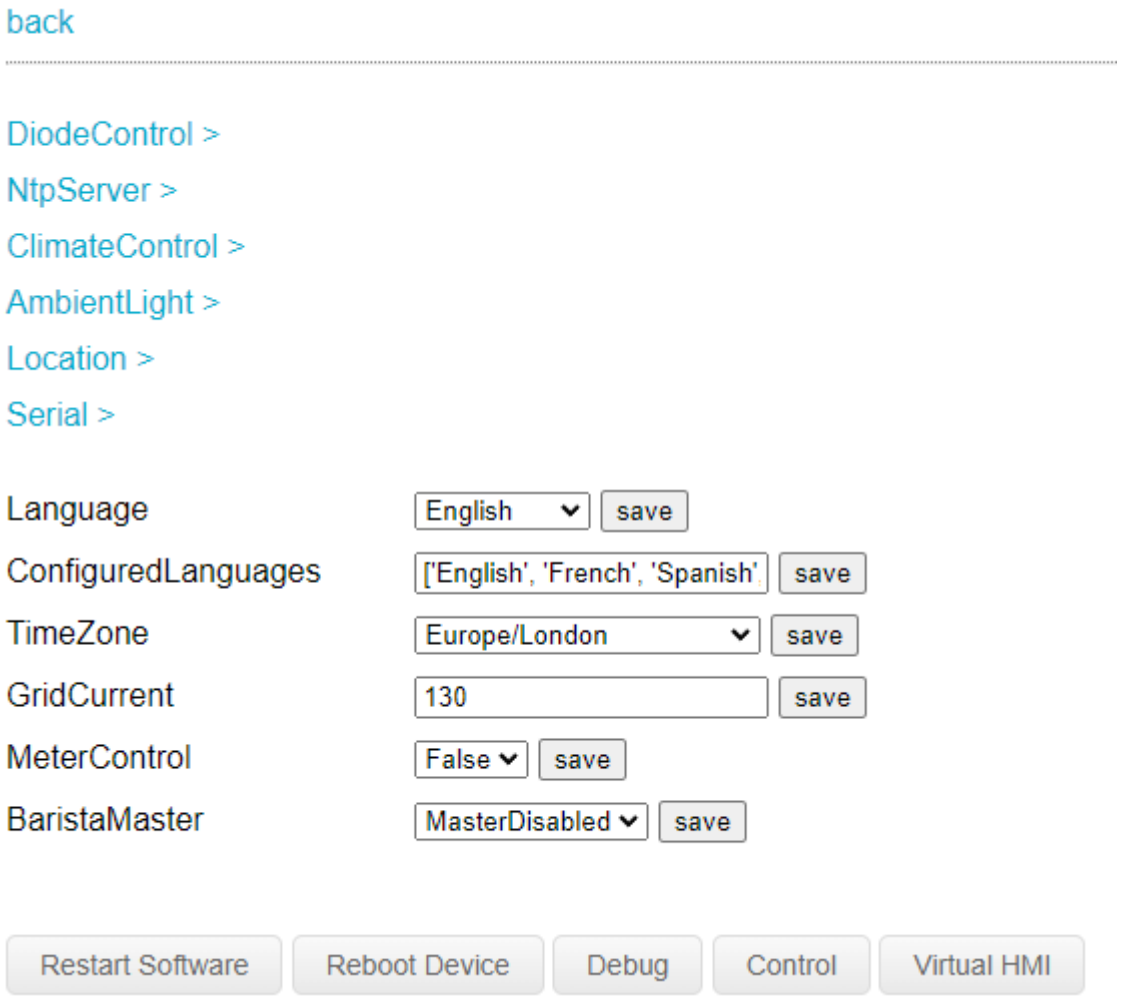
# Modem Settings (Step 4)

- Main menu→Click [Interfaces] → [GPRS]
- Set [Enable] = True
- Input proper APN/AuthName/AuthPassword



# Languages and Grid limitation (Step 5)

- Main menu→ Click [Device]
- Select default language and optional languages
- Set [GridCurrent], if it is necessary, the unit is Amps.

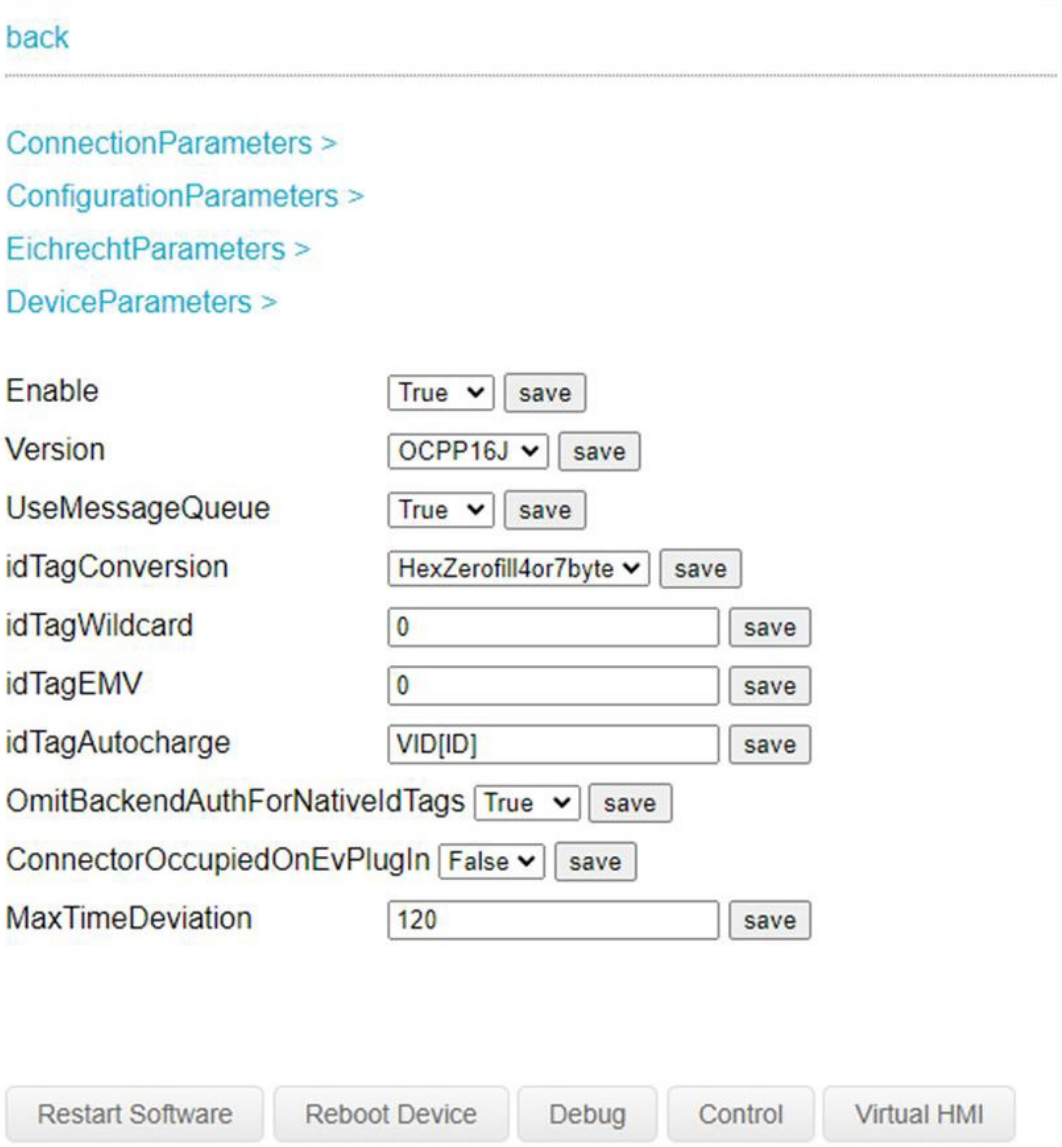


# Check activated plug number (Step 6)

- Main menu→ Click [Plugs]
- Check if the [ConfiguredPlugs] is in accordance with the order technical specifications

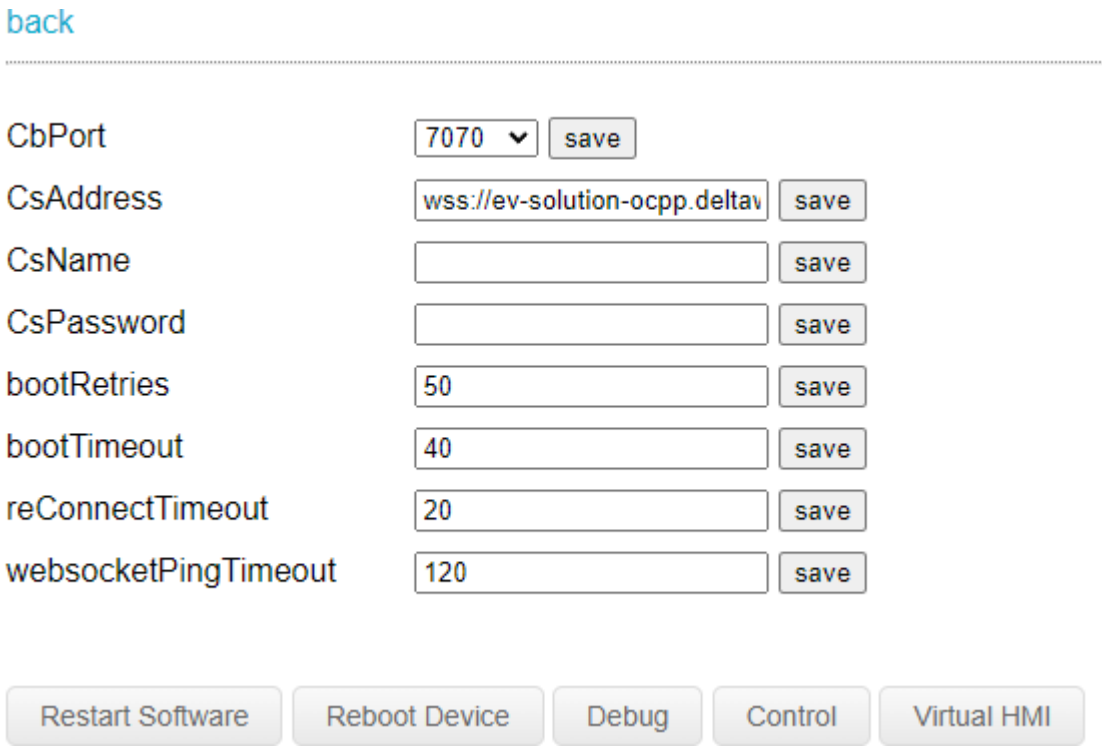
# OCPP settings (Step 7)

- Main menu→ Click [OCPP]
- Set [Enable] = True
- Set [Version] = OCPP16J



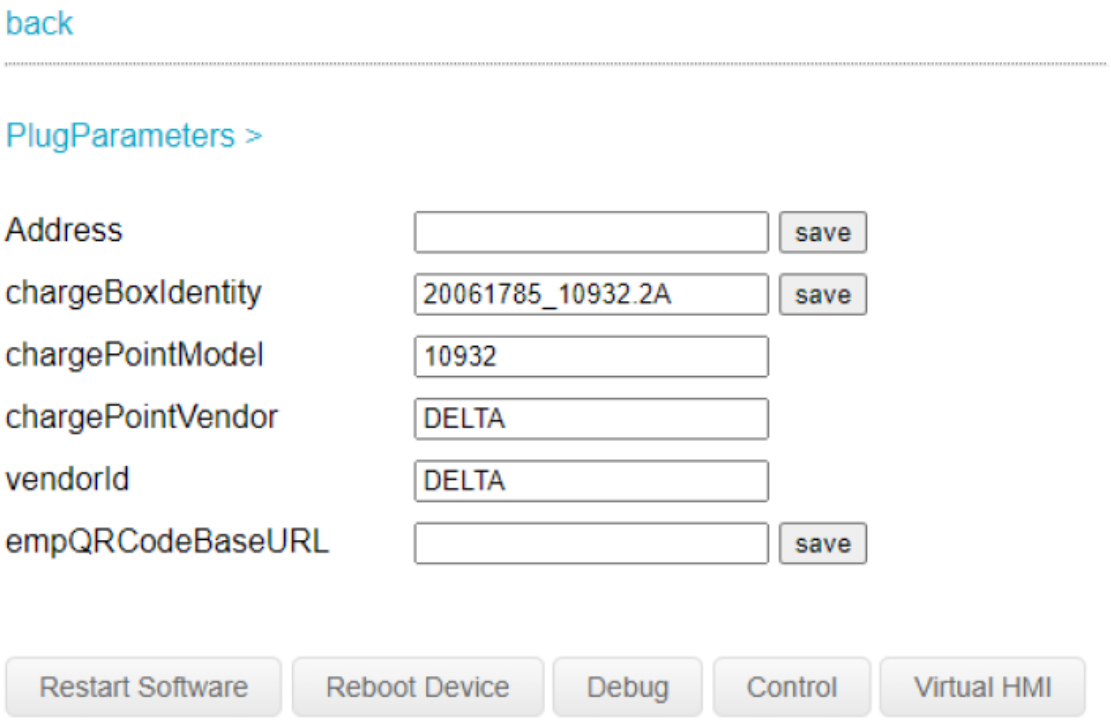
# OCPP settings (Step 8)

- Click [ConnectionParameters >]
- Set [CsAddress] = your central point URL
- Click [back]



# OCPP settings (Step 9)

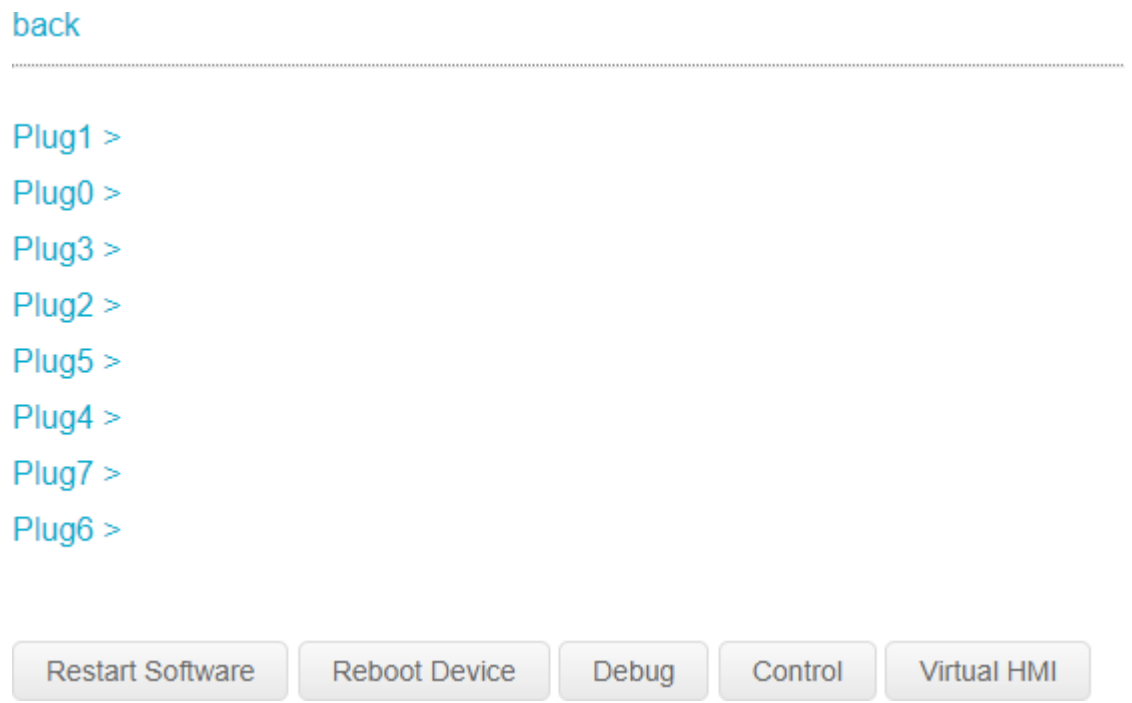
- Click [DeviceParameters >]
- Set [chargeBoxIdentity] to your BoxID



# OCPP settings (Step 10)

- Click [PlugParameters >]
- Click in Plug0 (CCS), Plug1(CCS or CHA), plug2(AC socket)
- Set OCPP connector ID for every connector.

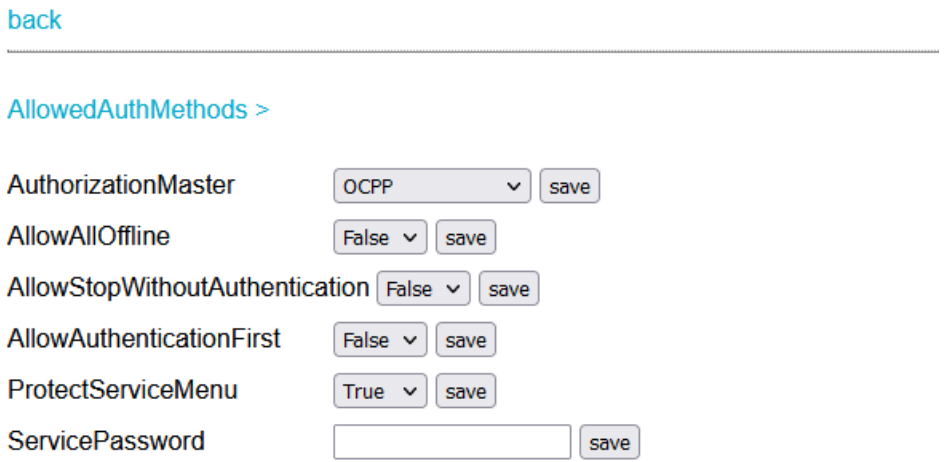
**The above Plug description is for reference only. Please check the Plug configuration is in accordance with the order technical specifications**




# Authentication mode (Step 11)

The settings below should be in accordance with the authentication requirement. Please refer to configuration manual for detail.

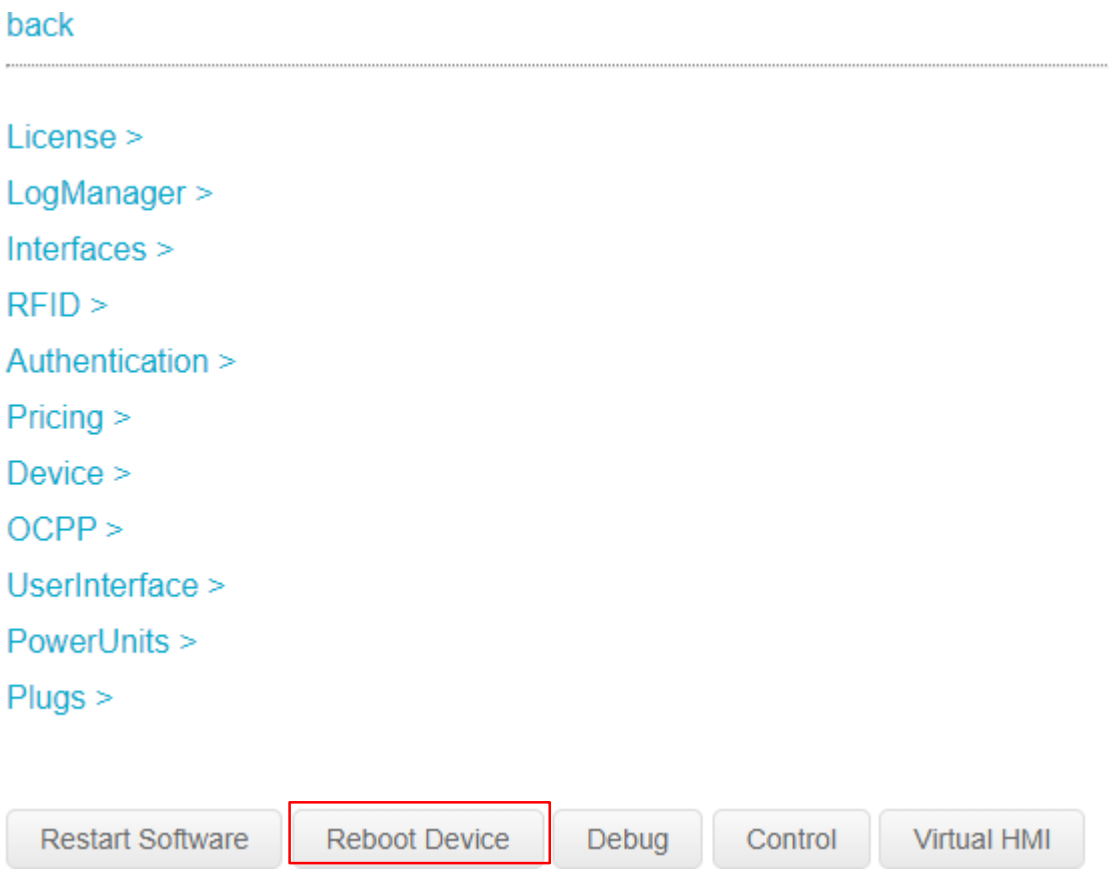
- Click [Authentication]
- Set [AuthorizationMaster] = OCPP




- Click [AllowedAuthMethods >]
- Set [RFID] = True
  - AdHoc = QR code
  - EMV = payment terminal
  - Autocharge = car authentication

# Restart system (Step 12)

- Click [Reboot Device] to make changes taking effect



# Checking Backend Connection (Step 13)

When controller breaker is turned ON the display will start to show images, and the charger will perform a start-up contactor test.



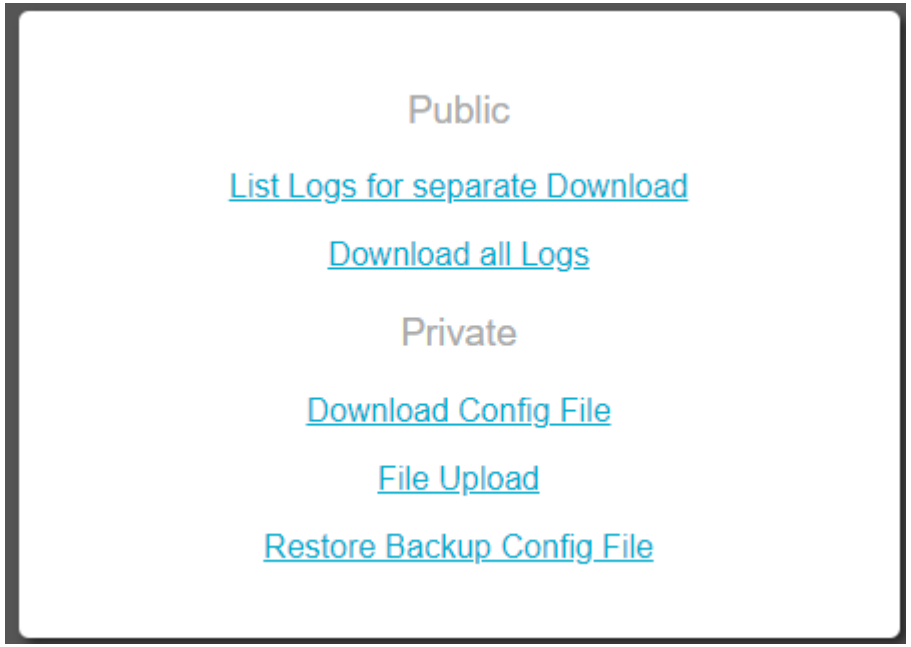
Check all buttons and RFID reader work.

If the charger OCPP backend is already configured, you should see "backend available" messages

# Log file downloading and FW uploading

# Log file downloading and FW uploading

- Enter **http://10.2.127.1:8888** into the URL bar of the chrome browser.
- Enter service credential



# List Logs for separate Download

ACEnergyMeterPlug6-0.log (9765 KB)
ACEnergyMeterPlug6-1.log (9765 KB)
ACEnergyMeterPlug6.log (2378 KB)
AuxGarbageCollector.log (2 KB)
AuxiliaryProcess.log (17 KB)
CCS-Ethernet-qca0-0.log (9765 KB)
CCS-Ethernet-qca0-1.log (9765 KB)
CCS-Ethernet-qca0.log (9422 KB)
CPC.log (160 KB)
CarComISO-qca0.log (8901 KB)
Charge.log (2304 KB)
GarbageCollector.log (2 KB)
I2CLogger.log (19 KB)
Main.log (2 KB)
ModemDebug.log (2 KB)
ModemStatus.log (3 KB)
OCPP-0.log (9766 KB)
OCPP-1.log (9766 KB)
OCPP.log (3220 KB)
Plug0-0.log (9765 KB)
Plug0-1.log (9766 KB)
Plug0.log (3246 KB)
Plug1-0.log (9765 KB)
Plug1-1.log (9765 KB)
Plug1.log (4210 KB)
Plug6-0.log (9765 KB)
Plug6-1.log (9765 KB)
Plug6.log (3092 KB)
ResourceManager.log (6135 KB)
ResourceManagerEvents.log (954 KB)
Statistics.json.log (1 KB)
System.log (45 KB)
SystemLogger-0.log (9765 KB)
SystemLogger-1.log (9765 KB)
SystemLogger.log (5207 KB)
TaskManagerAuxiliary.log (15 KB)
TaskManagerMain.log (15 KB)
Warnings.log (19 KB)
WebUI8080.log (2 KB)

Smarter. Greener. Together.