

Compleo eBOX professional - Commissioning

This brief installation instruction provides a quick overview of all the necessary steps. Additional information, references, and sources can be found in our [HelpCenter](#). The Installation instructions are only valid for the integration of the energy management system and the configuration of relevant assets. Make sure to carefully read the [safety instructions](#) and adhere to the [Infrastructural requirements for a gridBox gateway installation](#)

Required:

- Latest Firmware version, at least 2.1.0 (ACCU FW)
- PUK of the eBOX to log into the web interface



NOTE

The eBox smart and eBox touch wallboxes are mostly identical to the eBox professional. The eBox professional can additionally differentiate users via RFID and be connected to the network via LAN.

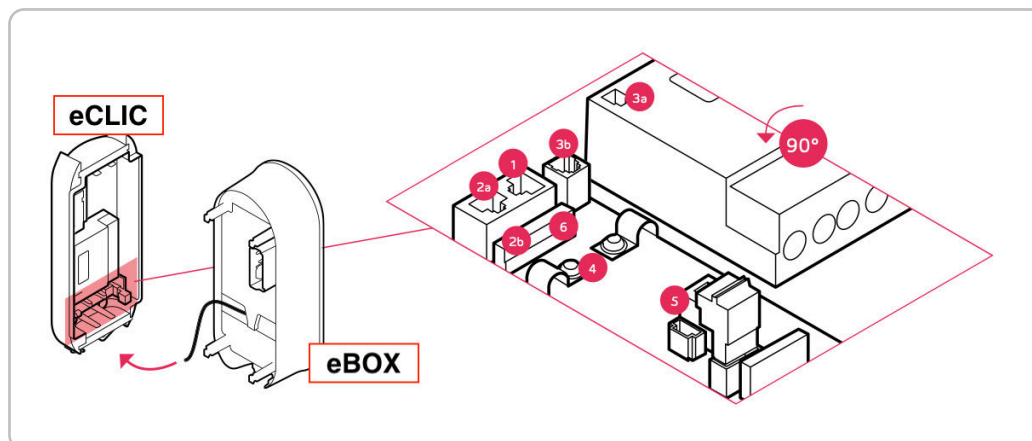
Connections

For the communication of the eBox with the load management and the CPO backend (if the latter is not done via LTE module), use the LAN2 port via connection 2b (LSA+ connection terminal).

The LAN1 port (connector 8, RJ45) is only needed in certain cases, if the wallbox cannot be configured via OCPP using the CPO backend.

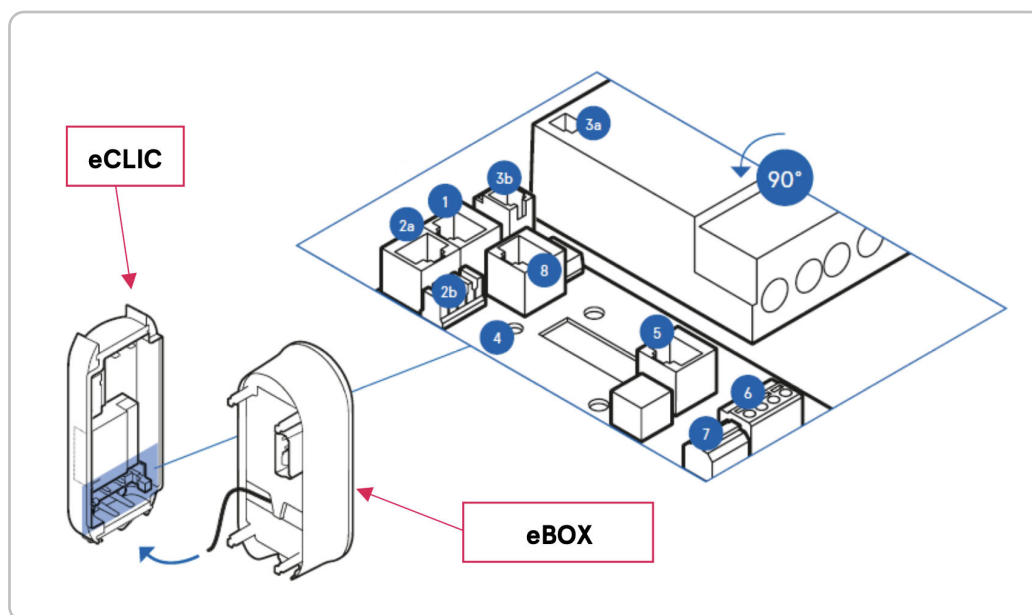
In this case, we recommend connecting a short Ethernet cable to port 8 "LAN1 RJ45" (see the following figure) and leading it to the outside exclusively for the duration of the commissioning. Afterwards, remove this cable be removed again.

Figure 1. Network connection HW3.0¹



1	LAN 1 RJ45 (eBOX communication)	3b	eSMARTMETER input (optional)
2a	LAN 2 RJ45	4	Cable clip position for S/FTP cable
2b	LAN 2 LSA-Plus	5	RJ50 Terminal (eBOX communication)
3a	eSMARTMETER output (optional)	6	LAN 1 RJ45 (deactivated)

Figure 2. Network connection HW3.5²



1	LAN 3 RJ45 (eBOX communication)	4	Cable clip position for S/FTP cable
2a	LAN 2 RJ45	5	RJ50 Terminal (eBOX communication)
2b	LAN 2 LSA-Plus	6	Grid control box connection
3a	eSMARTMETER output (optional)	7	Shunt release connection
3b	eSMARTMETER input (optional)	8	LAN 1 RJ45 (deactivated)

¹eon-drive-bediungsanleitung-ebox-prof-v.pdf, p.7

²EN_eBOXpro_UsersMan.pdf, p.7

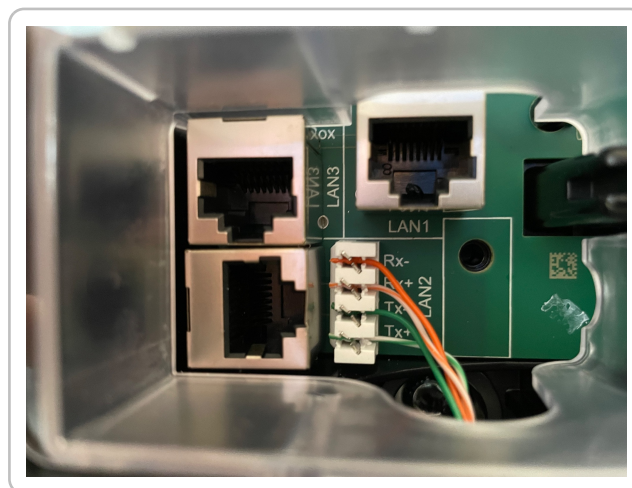
Note on the use of the LAN1 port

The internal PCB of the eCLIC is different from the previous hardware version 3.0. With hardware version 3.5 the used LAN1 port is changed and no longer available as LSA+ terminal bar. In some cases it is necessary to use a RJ-45 coupler with an additional short Ethernet cable.

Figure 3. Connection LAN 2 Port via LSA+ terminal (HW3.0)



Figure 4. Connection LAN 2 Port via LSA+ terminal (HW3.5)



IMPORTANT

You can connect the network cable according to standard TIA-568A (HW3.0) or TIA-568B (HW3.5). Both are supported for both HW generations. The common way is to use TIA-568A. Make sure to apply the same standard on both ends of the installation cable.

Configuration of the charging station

The boxes are set up via the app using Bluetooth direct connection, so both the basic configuration of the charging station and the configuration of the OCPP connection into the billing backend are completed. The following explains how you connect to the charging station, enable Modbus for load management and adjust the IP address to the network.



IMPORTANT

The formerly used LG2LAN protocol is deprecated and is removed with firmware versions higher than 2.1.0. The following instructions use the Modbus TCP protocol.

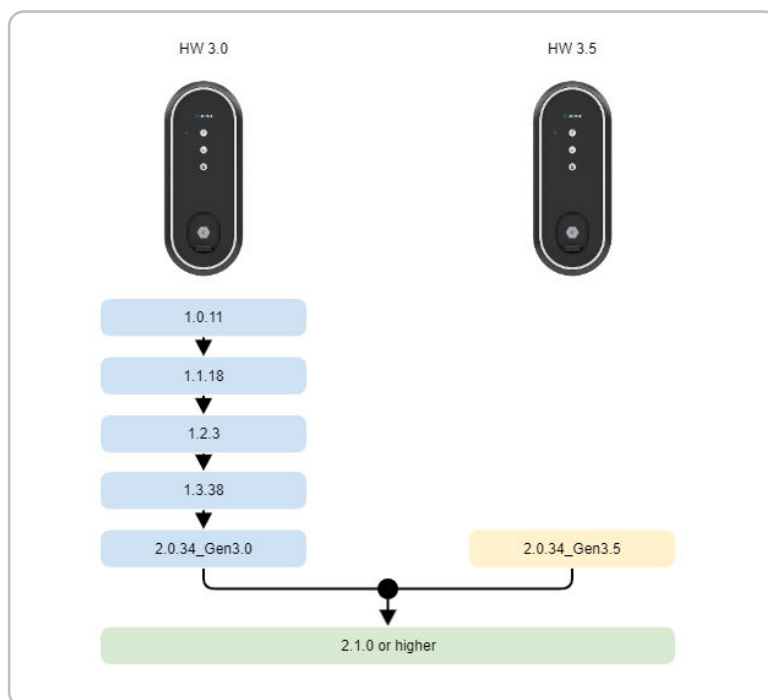
There are two variants how to configure the eBox. Depending on the environment, select the appropriate variant. In order to save time - especially with a larger number of eBoxes at one location - we recommend using the variant via CPO (OCPP) backend.

1. Directly via OCPP parameters, for example, via the CPO backend.
2. By TXT configuration file, via the local Web UI of the eBox.

If the eBox is already connected to a CPO backend (via OCPP), usually via LTE connection, we recommend option 1.

Find the latest firmware version on the website of Compleo: <https://chargetech.atlassian.net/wiki/external/YWFhOGIzOGY3MDkxNDM1N2EyZGI3NTUxMGU5NzJiN2Y>

Compleo's prescribed upgrade path is as follows:



Configuration via OCPP parameters

With the help of this method, all relevant parameters of the eBox can be set remotely. Access to the eBox via an OCPP backend is required for this.

Firmware update

Install the latest firmware via the CPO backend if you chose this connection option.

Preparation

These parameters are transferred separately and for each eBox at the location.

Adapt the parameters to the respective eBox and the electrical conditions. The meaning of the parameters is explained.

Configuration parameters	Explanation	Value
ldp1.load_management.noback_active_backend	Set fallback behavior to internal control computer	2
ldp1.load_management.local_loadmgmt_type	Load management via Modbus TCP	modbus_tcp
ldp1.common.evse_phases	On how many phases should be loaded	3
ldp1.load_management.loadmgmt_modbus_tcp_if	Which port is used to communicate with load management (normally LAN 2)	net2
router.network.net2_dhcpv4_active	Activation of DHCP for IPv4	1
router.routing.gateway_type	Address assignment dynamically via DHCP	dynamic
ldp1.load_management.modbus_fallback_current_phase_1	Fallback current L1 (in amps)	z.B. 6.0
ldp1.load_management.modbus_fallback_current_phase_2	Fallback current L2 (in amps)	z.B. 6.0
ldp1.load_management.modbus_fallback_current_phase_3	Fallback current L3 (in amps)	z.B. 6.0
ldp1.load_management.modbus_fallback_timeout	Modbus Communication Timeout	60



IMPORTANT

"modubs" is not a spelling mistake for the Modbus Communication Timeout

Transfer of the configuration parameters to the eBox

Depending on the CPO backend used, it is possible to upload the parameters from [Section : "Preparation"](#) directly via UI to the backend. From there, they are automatically sent to the eBox.

If this is not supported by the CPO backend, find a workaround and transfer them to the backend in JSON format via API. This requires basic technical knowledge. The gridX support can assist with this.



WARNING

After the transfer, the eBox must be restarted via CPO Backend!

Configuration via TXT configuration file

In this variant, establish the connection with a laptop to port 8 (LAN 1 RJ45), as explained in [chapter Section : "Connections"](#).

Establishing the connection and logging in

You can only access the manufacturer's configuration software if the charging station is reached via Ethernet. Establish the connection to the manufacturer's configuration software:

1. Open a browser and go to <http://172.16.0.1/>.



NOTE

If the charging station is configured with a different IP address, use the configured address instead.

2. Log in to the user interface of the charging station:

- Username: admin
- Password: <PUK>

Figure 5. Login

Firmware update

To check the firmware version, proceed as follows:

1. Log in to the eBox Web UI.
2. In the "System" view under the "System data" area, the current firmware version is displayed next to "ACCU firmware version".

Figure 6. Firmware version

Preparation

With this configuration method, only the parameters of the eBox **that must not remain at the default setting** are changed.

The following settings are made in the process:

- **Network**
 - DHCP is activated, i.e. the eBox obtains an IP address from the DHCP server.

**IMPORTANT**

DHCP must be activated in the router!

- Using the LAN 2 port for load management and the Web UI
- **Load Management**
 - Activation of external load management
 - Control via Modbus/TCP
 - Fallback current limitation, in case of failure of the connection between the eBox and the gridBox
- **General**
 - Operating the eBox in 3-phase mode

The following notes must be observed when creating the configuration file:

A new file (TXT) must be created using a simple text editor. The format as follows must be adhered to and then saved. If the parameters are not the same for all eBoxes at the site, several such files are required.

Example:

```
ldp1.load_management.noback_active_backend=2  
ldp1.load_management.local_loadmgmt_type=modbus_tcp  
ldp1.load_management.loadmgmt_modbus_tcp_if=net2  
ldp1.common.evse_phases=3  
router.network.net1_dhcpv4_active=1  
router.routing.gateway_type=dynamic  
ldp1.load_management.modbus_fallback_current_phase_1=6.0  
ldp1.load_management.modbus_fallback_current_phase_2=6.0  
ldp1.load_management.modbus_fallback_current_phase_3=6.0  
ldp1.load_management.modubs_fallback_timeout=60
```

**IMPORTANT**

"modubs" is not a spelling mistake.

Only the following parameters must be adjusted here:

- ldp1.load_management.modbus_fallback_current_phase_1
- ldp1.load_management.modbus_fallback_current_phase_2
- ldp1.load_management.modbus_fallback_current_phase_3

This is the current limitation in amperes for the case that the eBox loses the connection to the load management (fallback case).

Note on the allocation of the IP addresses:

- These are assigned by the DHCP server (a function of the router).
- Static DHCP leases can be assigned in the DHCP server to ensure that the IP address of an eBox does not change.
- Note a unique assignment for easier maintenance and troubleshooting.



NOTE

The assigned address must be unique within the network.



TIP

Assign the IP 192.168.1.11 to the first charging station and increase it for each additional charging station.

Uploading the TXT configuration file

In order for the eBox to receive the new parameters, the created file must be transferred as follows:

1. In the menu item "System/Configuration" there is the possibility to upload a TXT configuration file to the eBox.
2. Select the previously created file under "Upload" ("Choose File").
3. Confirm the file for uploading with "OK".

Figure 7. Configuration via TXT file

The screenshot shows the COMPLEO configuration interface. On the left, there is a navigation menu with the following items: ECU, Netzwerk, Peripherie, LDP1, System (highlighted in orange), Systemdaten, Konfiguration (highlighted in blue), Support, and Reset. At the top left, there are flags for Germany and the UK. At the top right, the COMPLEO logo is displayed. The main content area is titled 'Konfiguration' and contains two sections: 'Upload' and 'Download'. The 'Upload' section has a 'Choose File' button and the text 'No file chosen', along with an 'OK' button. The 'Download' section has three download links: 'Download Textkonfiguration', 'Download Individ', and 'Download Fertigungsdateien'.



WARNING

After the transfer, the eBox must be restarted!