

Charging Station Installation Manual

OlifeEnergy DC



Made on: 2 January 2023
Prepared by: Olife Energy a.s.

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2 INFORMATION ON DOCUMENTS

The following instructions shall guide you through the whole documentation. We are not liable for any damage caused by failure to follow these instructions.

1. Parts of documentation

For equipment operators:

- Charging Station Operating Instructions

For service technicians:

- Charging Station Installation Manual

2. Archiving of Documents

This Installation Manual as well as all relating documents and other necessary tools, if any, shall be handed over to the equipment operator. The operator shall store the instructions and other tools so that these are available, if necessary.

3. Symbols Used

The symbols used in the text shall have the following meaning:

Immediate threat to life



Risk of serious injuries

Risk of light injuries



Risk of material damage



Symbol for useful instructions and information

2.1 TRANSPORT INSTRUCTIONS



Caution!

Danger of damage to charging cables and connectors!

- Ensure that the end connectors of charging cables are fastened to the chassis and fitted with a protective element when being transported.



Caution!

Danger of damage to the charging station!

The control electronic unit of the charging station is sensitive to conductive dust particles and moisture.

- When transported, the charging station shall be always fully assembled.

The charging station is delivered in a single package.

- The charging station shall be transported to the place of installation. During transport, the charging station should remain in its protective packaging.

2.2 PLACE OF INSTALLATION



Caution!

Danger of damage to the charging station control electronic unit!

When installing the charging station, avoid any contact of liquid with internal part of the control electronic unit. There is a risk of degradation or bonding between contacts possibly resulting in short circuit in the connection place, and/or damage to the control part of the charging station.

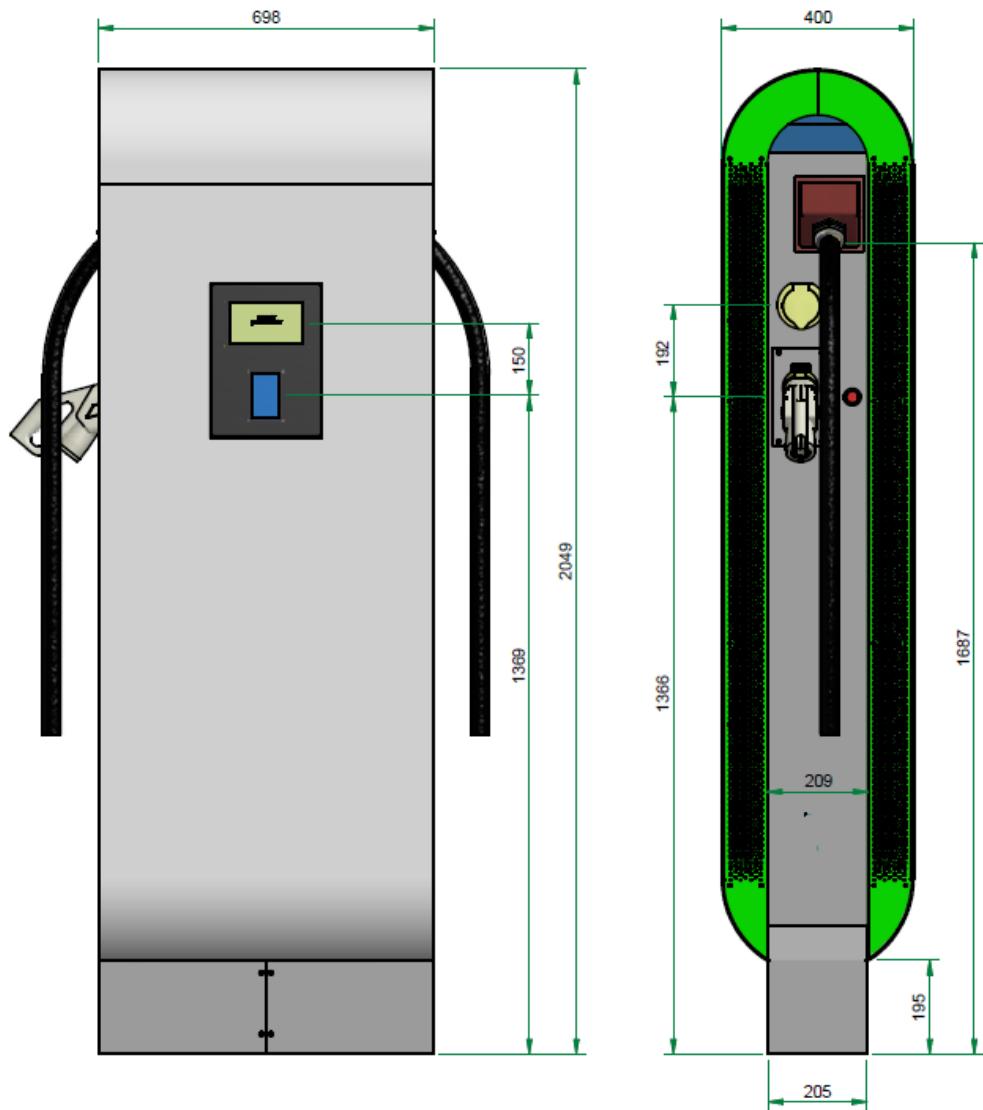
3 PRODUCT CHARACTERISTICS

OlifEnergy DC is a fast-charging station for electric cars complying with IEC 61851 standard. The station is an electrical device. It should be connected by a person qualified pursuant to relevant legislation. To ensure its safe operation, operating instructions must be followed. Failure to observe the instructions may result in the risk of injury or damage.

The station is able to charge two electric vehicles in DC (direct current) mode simultaneously using CCS2 standard and maximally 1 electric vehicle in AC (alternative current) mode, depending on the configuration selected. The station is always connected via a three-phase connection to 400 V distribution network.

The charging cycle can start automatically when the vehicle is connected, based on authorization with an RFID chip or from a remote server. There is one RFID interface shared for all connectors. The station supports dynamic management of the output. Pair of RFID readers is supplied with the station. OlifEnergy DC can be partially or completely controlled from a remote server using the OlifEnergy Cloud service or the OCPP protocol via third party servers.

3.1 DIMENSIONS



4 INSTALLATION

4.1 SCOPE OF SUPPLY



Figure 2: OlifeEnergy DC

Pc	OlifeEnergy DC Charging Station
1	Station OlifeEnergy DC
2	Integrated charging cable depending on the configuration
2	RFID card

4.2 LIST OF TOOLS FOR CHARGING STATION ASSEMBLY

(Not included in the Charging Station supply)

Material/Tool	Size	Description
Hex key	6	
Philips-head screwdriver	PH2	
Philips-head screwdriver	PH1	
Allan key	16	
4x anchor depending on the Project	>16 mm	

4.3 CHARGING STATION INSTALLATION



Danger!

Unprofessional installation can cause danger to persons or damage to property!

Possible risk of personal injury and material damage to the charging station if not installed according to the prescribed instructions.

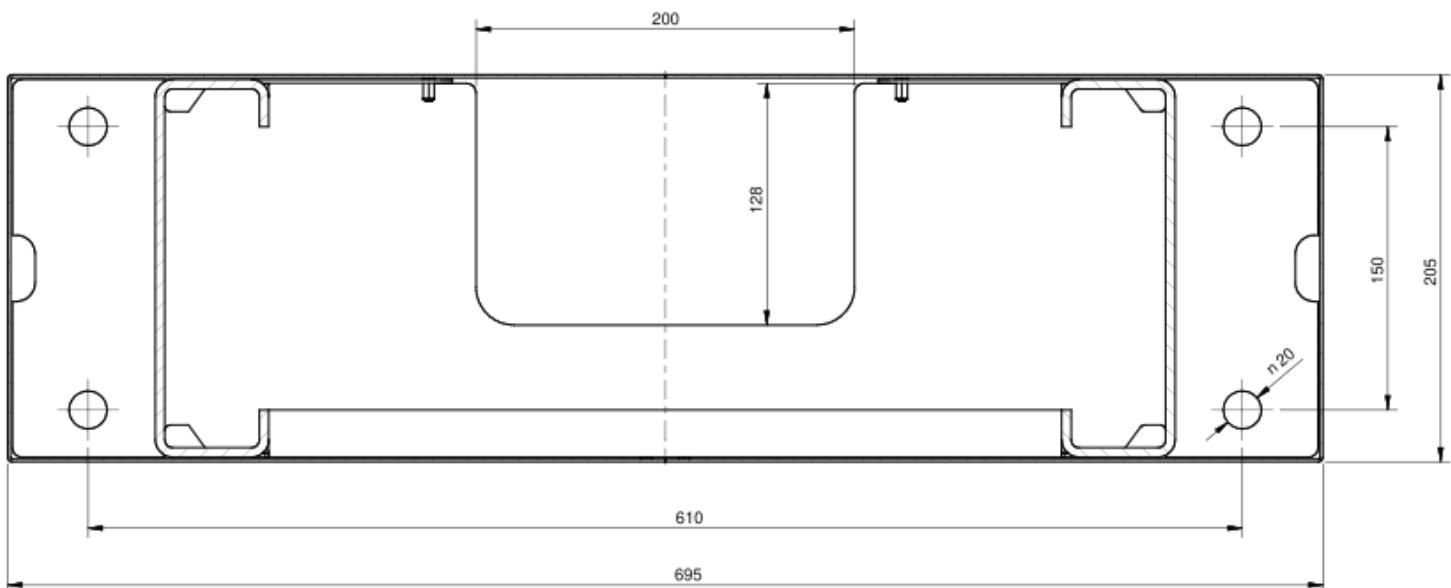
- When installing the charging station, make sure you follow the instructions



The following section will describe all steps taken to install the charging station. Following the sequence of steps will ensure safe installation of the charging station.

STEP 1: Preparing for the charging station installation

- At the place of installation, prepare a well-matured concrete base. **The concrete base must be in a non-freezing depth; it shall be designed by a qualified person with respect to the DC station weight and height and to the anchoring points distance from the base edge.** Anchoring points should be selected taking into account minimum diameter of the base of 16 mm. Through the base centre, lead the protective pipe for both heavy and light power cables so that they can enter the station through the hole indicated (200x128 mm). Neither the anchoring material nor supply cables are part of the delivery.



STEP 2: Opening the front cover

- Unscrew 6 screws and remove the front cover, as depicted in the picture below:



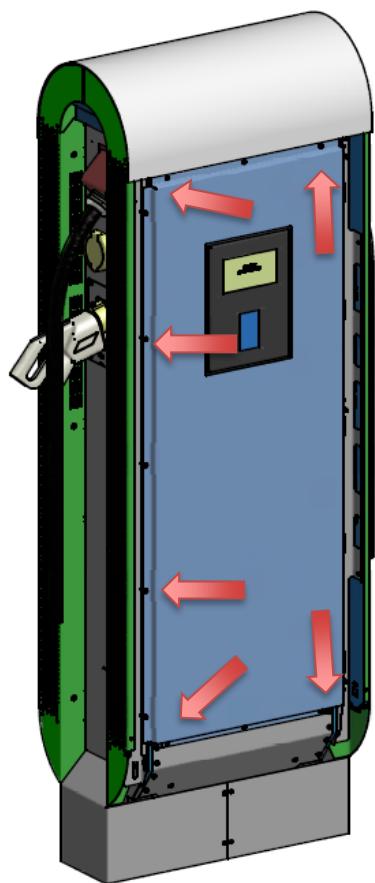
Assembly Tools	
Size	Type
6	



Lift the metal cover slightly and turn externally. This way, the cover can be lifted and removed from the chassis.

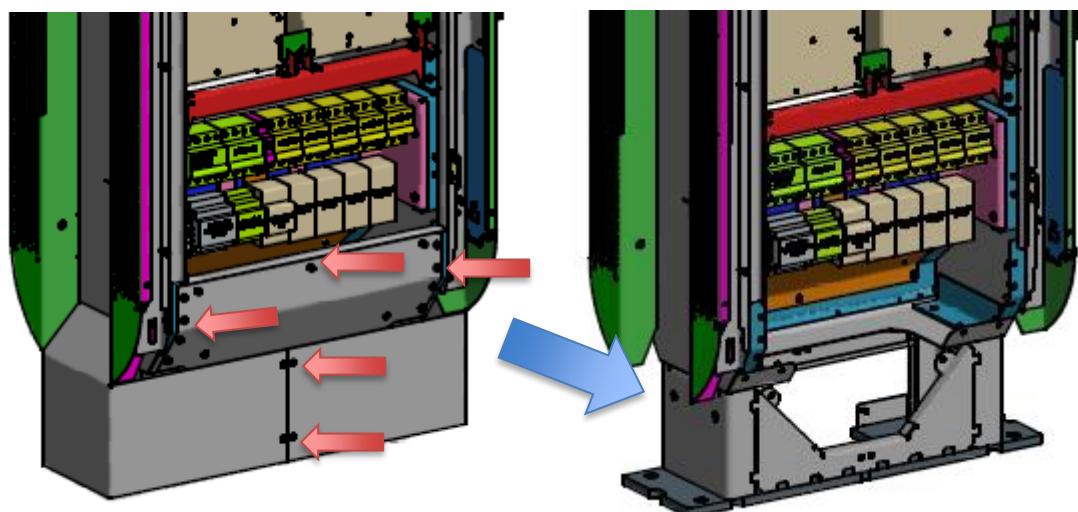
STEP 3: Opening the hinged sealing door

Unscrew the screws on the door perimeter, in total there are 11 screws.



STEP 4: Removing anchoring screws covers and the supply cable cover

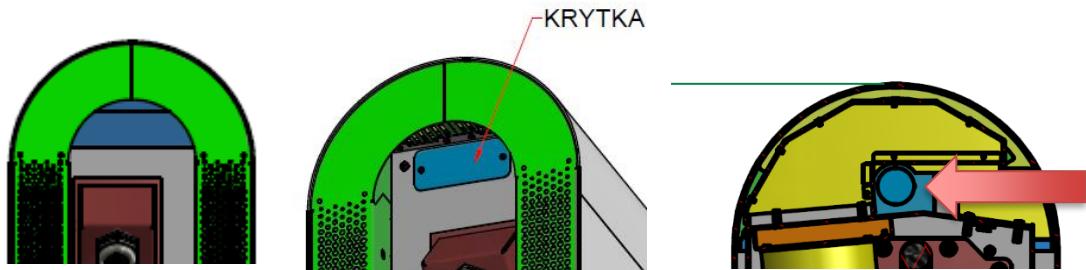
Unscrew the covers as depicted in the picture below, including the foam blank of the supply cable.



STEP 5: Putting the station in place

Make sure you shorten the supply cable and the protection to required length and remove the insulation before fitting the station to its place.

There is a hole for fitting a rod of 40 mm in diameter and at least 800 mm length under the top arc of the station. This rod can be used for handling the station with a lifting device (e.g. crane). Original handling rod can be ordered from the manufacturer.



Caution! Danger to health and property if the station is released!

Considering the station's weight and high centre of gravity, the station can be overturned. Make sure that its connection with the base is really strong and stable, taking into account also any external circumstances.

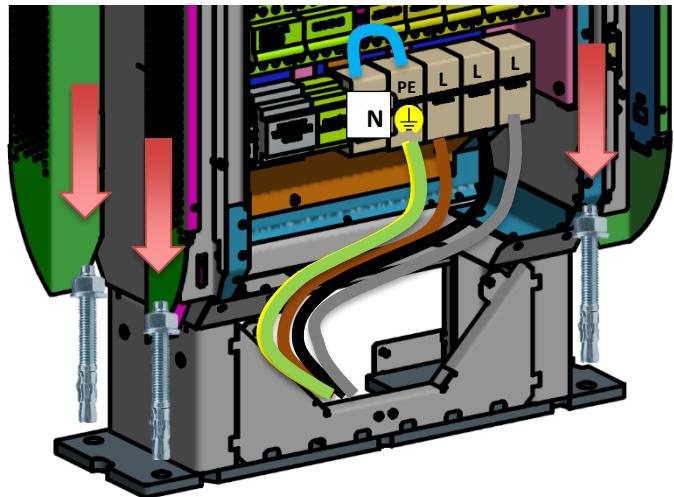
STEP 6: Anchoring the station and connecting the power cables

Pull the cables through and fix the station firmly to the base as shown in the instructions for the anchoring material and for the project. The anchoring material is not part of the station delivery.

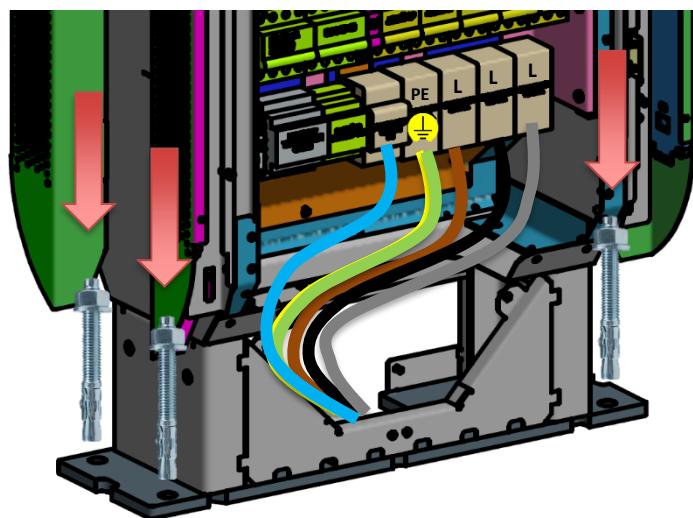
When fitted, fix the station to the concrete base using 4 pieces of anchors, as depicted in the picture below.

When connecting to TN-C network, the concrete base must be fitted with a grounding strap for local grounding of the station. Reduce the grounding strap on the conductor ended with a ring terminal. Screw the ring terminal to the grounding screw under the connection clamps. Lead the PEN conductor to PE terminal plate, label it as "PEN" and connect in one point with zero light-blue terminal plate.

Once the power cables have been connected, cut out a hole in the foam blind so that after having been fitted, it fits closely to the cable and seals the hole for cable supply.

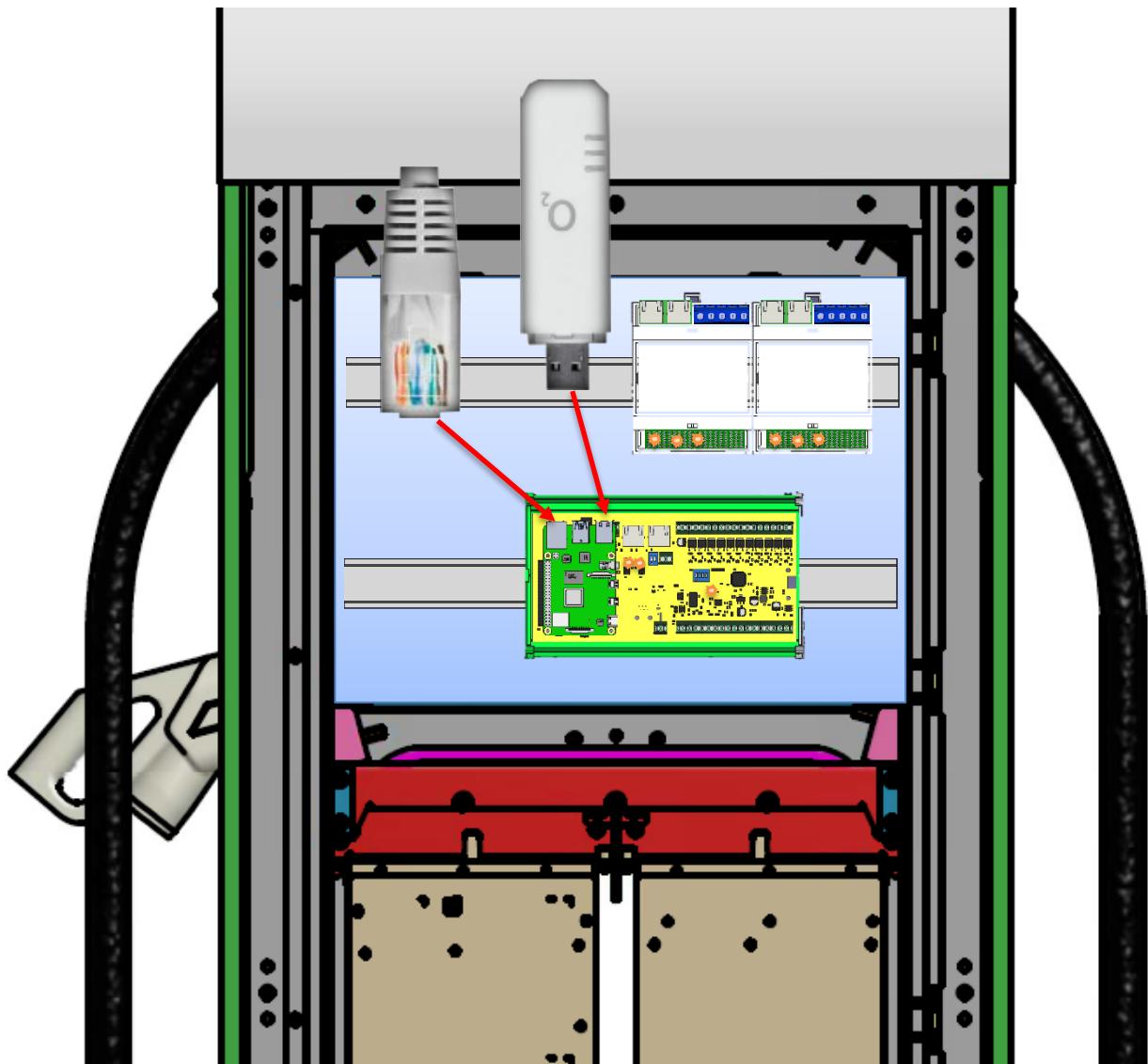


When connecting to TN-S network, connect all 5 conductors as shown in the picture below



STEP 7: Connecting network (Ethernet) cable / GSM modem

Connect the Ethernet cable to the control module of the station, as shown in the picture below.



STEP 8: Checking the charging station

The station must be checked before connection; the inspection is performed when the whole set is not under tension. The inspection must be performed to confirm that the following permanently connected electric items:

- comply with safety requirements of corresponding standards;
- have been chosen and installed properly;
- have no visible damages;
- have been chosen properly with respect to their current carrying capacity and voltage drop;
- protective and neutral conductors are properly marked;
- protective conductors including conductors of protective and additional coupling are used;
- the device is accessible for the purpose of control, marking and maintenance;

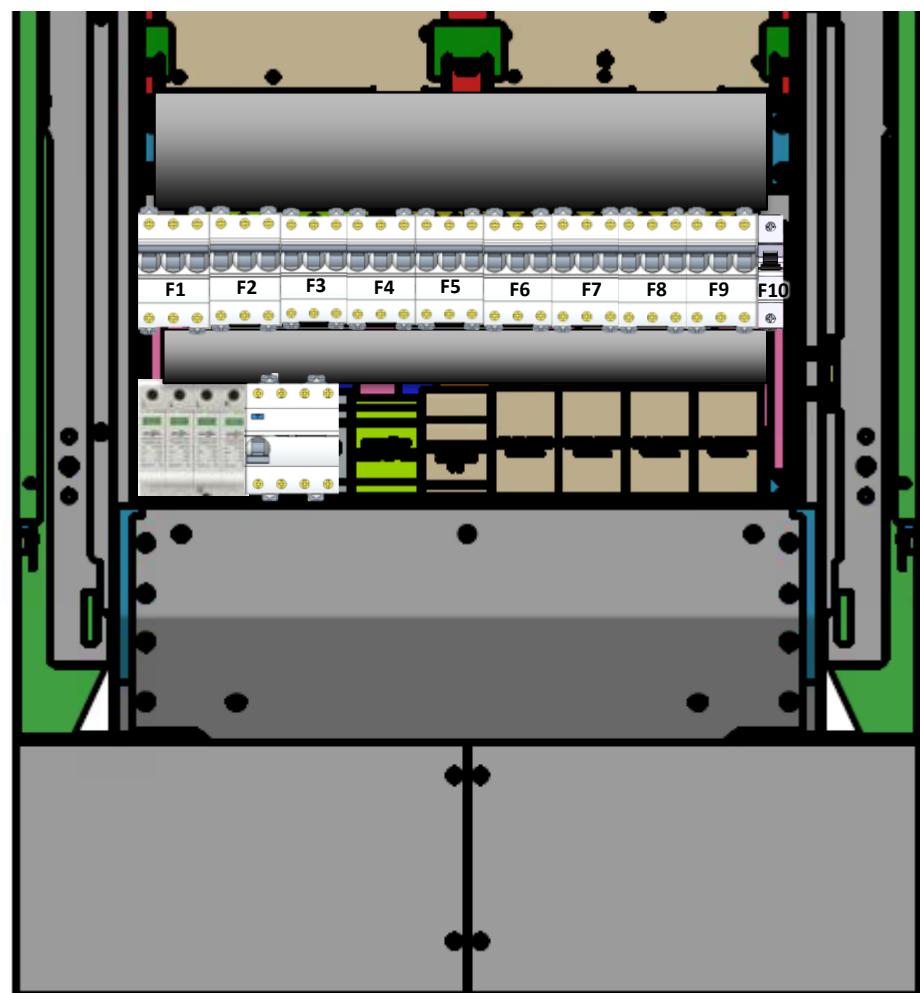
STEP 9: Launching into operation

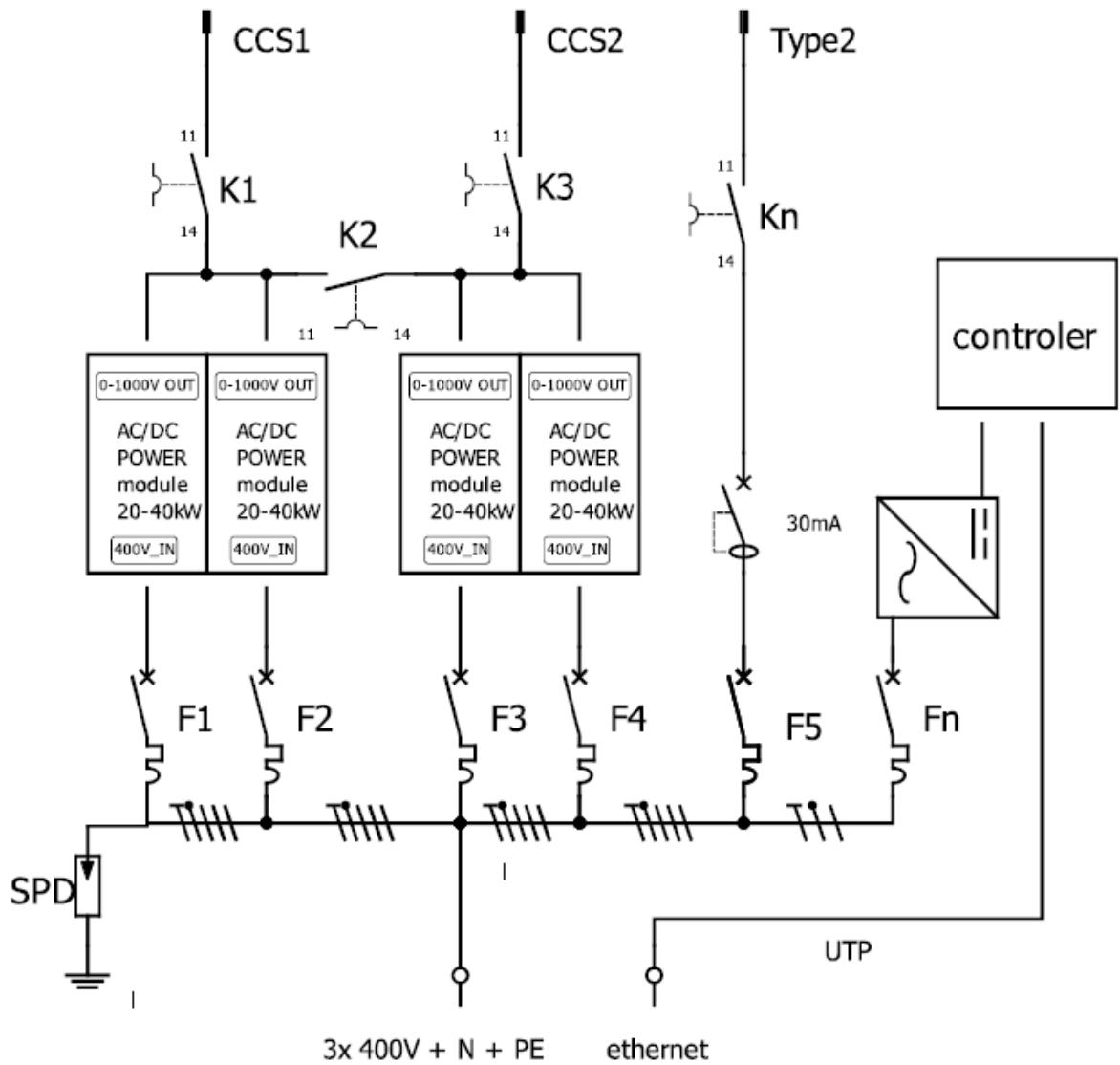
To launch the charging station into operation, turn on F1 to Fn circuit breakers. The number of switches depends on the station configuration.

Single-phase circuit breaker is used for protecting AC/DC power supply of electronic devices.

For AC configuration of the charging station with charging output, extra 3phase circuit breaker and current protector are fitted.

In addition, surge protection device is fitted. It is indicated by green rectangles turning into red ones. In such case, inform your distributor/service.





F1 to Fn.... where n can reach values up to 10, are 3phase circuit breakers and single-phase circuit breaker for power supply of the controlling electronic devices.

SPD..... Surge protection device

K1 to Kn..... Contactors

5 CONFIGURATION

5.1 DESCRIPTION

The charging station shall be configured via a web interface in the station. The following modes can be set: charging (automatic/authorized), web interfaces (Ethernet, Wi-Fi, GSM modem) and connection to a remote server (Olife-Energy Cloud, OCPP).

5.2 PROCEDURE

- 1 Connect a network cable (Ethernet) in the station. In the initial setting, the station expects being assigned IP address from DHCP server.
- 2 Open the web server on your device and connect to the station IP address (http://charger_ip).
- 3 Log in the web interface with username: *owner* and password: *owner*.

Now you can start adjusting the station setting. Once changed, the new setting must be saved. To see the changes, the station must be restarted.

6 RFID

6.1 DESCRIPTION

The reader is designed to read RFID chips operating at a frequency of 13.56 MHz. The system supports communication with ISO/IEC 14443 A/MIFARE cards and transponders with no additional active circuits. The electronics is equipped with an indicating piezo speaker.

6.2 TECHNICAL PARAMETERS

Communication interface	UART	Reading range	<50 mm
Frequency	13.56 MHz	Dimensions (mm)	64 x 40 mm
Intended for chip types	14,443 A, MIFARE	Working current	<50 mA
Power supply	2.7–5.5 V	Signalling interface	Buzzer



7 CHARGING INSTRUCTIONS

The charging station is ready to charge if LED diodes on the side of chassis are continuously illuminated.

Fast-charging connectors are always integrated, including cable; AC charging (if available) is via a socket where you have to insert your own Type-2 cable, or via an integrated Type-2 cable.

Connect the charging connector in a vehicle.

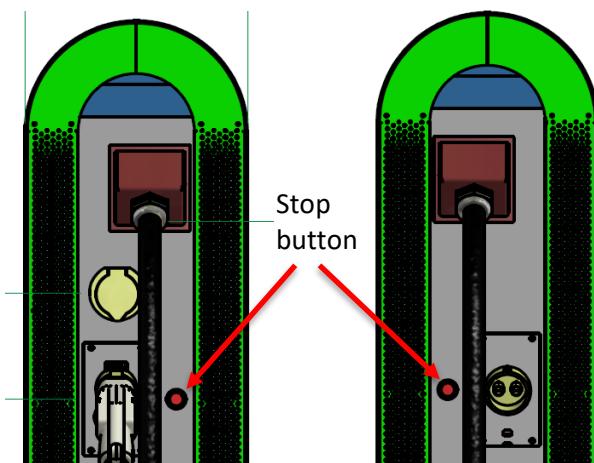
AUTOMATIC mode

The station indicates status “connected” via a flashing LED diode on the station side where the cable is connected.

If the station is in automatic mode, charging starts automatically.

First of all, cooling starts, after a while the station gives a clicking sound and LED diodes on the side start to emit green light.

To end the charging, use the button on the side of the station.

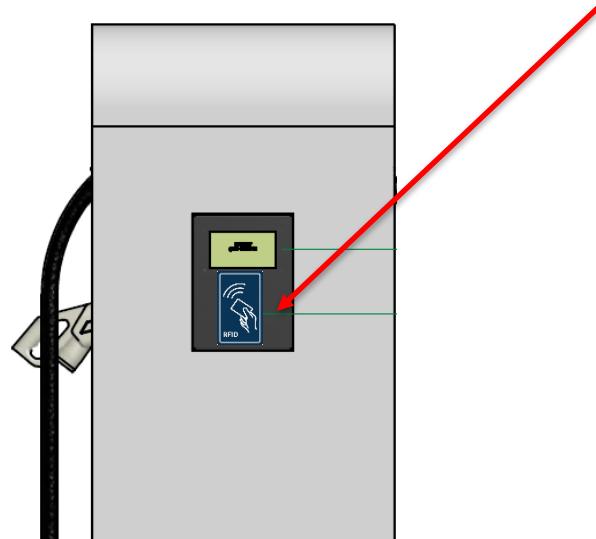


In case of AC charging, automatic mode is ended with a vehicle (depending on the type of the vehicle – by turning the key, with a button at the socket or on the control board, ...).

AUTHORISED mode

If the station is in the mode of launching authorization using RFID cards or in the mode of launching via mobile applications. Charging is ended using RFID or via the application.

Place for the RFID card is indicated with the symbol below.



Connector having been connected as the last one is always the one to be authorized.



Caution! The charging station is intended for electric vehicles conforming to ČSN EN 61851 standard which has been met by all modern serially produced electric vehicles.

8 DESCRIPTION OF LED INDICATION

STATUS	REPETITION	ON [ms]	OFF [ms]	BREAK [ms]
STATION READY FOR OPERATION		∞		
EV CONNECTED	1x	100	200	3,000
EV CHARGING	∞	2,000	1,000	
ERROR	>5x			

9 CONTACT TO MANUFACTURER

Olife Energy, a.s.

Lazarská 11/6

120 00 Prague 2

Czech Republic

www.olife-energy.com

info@olife-energy.com