



# Installation manual

## Compleo ECO s

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# 1 General information

## 1.1 Introduction

Before starting the assembly and installation of the charging station, read this instruction manual carefully and follow the instructions.

If you have received the installation manual in digital form, print out the document. Keep the manual stored at a safe place to have it at hand for any further reference.

## 1.2 Intended use

The charging station is designed for charging electric and plug-in hybrid vehicles according to charging mode 3. The charging station is mounted on a wall. Any other usage is considered to be improper and is not permitted.

The charging station Compleo ECO s is suitable for all electric vehicles with a type 2 connection.

Persons who, due to their physical, sensory or mental abilities or their inexperience or ignorance, are unable to operate the charging station safely shall not use the charging station without the supervision or instruction of a responsible person.


## 1.3 Target group


This document is intended for qualified electricians and qualified construction workers.

Assembly and electrical installation of the Compleo Eco s may only be performed by qualified electricians.

# 2 Safety

## 2.1 Signal words

 **WARNING:** Indicates a hazard with a medium level of risk which, if not avoided, could result in serious injury or death.

 **CAUTION:** Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

**Note:** Indicates additional information, which are not hazard related.

## 2.2 Safety instructions

- Observe all local legal regulations for the installation of charging stations and low voltage systems, as well as for fire and accident prevention. Pay particular attention to DIN VDE 0100-722 and DIN VDE 0105-100.
- Ensure that there is no voltage present before starting work.
- Observe the 5 safety rules according to DIN VDE 0105-100.
- If it rains when installing the charging

station, make sure to protect the charging station from water.

- Make sure that neither children nor pets come near the connected charging cable. Never let children play with the charging station.
- Do not use explosive or readily flammable substances in the vicinity of the charging station.
- Any changes to the charging station are not permitted. There is a risk of electric shock and damage to the charging station. Any changes to the charging station will void the warranty with immediate effect.
- Before commissioning and before each charging procedure, check the charging station and in particular the charging cable and contacts for possible damage.
- Do not use a damaged charging cable. There is a risk of an electric shock!
- Never repair defective charging cables yourself.
- If the charging station is damaged during assembly or installation, the charging station must not be put into operation. Replacement is necessary.
- Check before each charging procedure, whether the vehicle inlet is damaged. Do not connect a charging cable to a damaged vehicle inlet.
- Ensure that the contacts of the charging plugs do not come into contact with heat sources, dirt or water.
- Never put your fingers in the socket of the charging station.
- Do not step on the charging cable or bend it.
- Do not pull the plug out of the socket by the cable. Pulling on the charging cable may damage the charging cable or the locking mechanism.
- Never remove the charging cable by force. Dangerous arcs can cause serious injury or death.
- Unroll the charging cable completely to avoid overheating.
- Do not use the charging cable with an extension cord or adapter.
- Ensure that the charging cable, when connected to the charging station and the vehicle, does not block any paths.
- Pay attention to the charging cable lying on the ground when the charging cable is connected to the vehicle and charging station. There is a risk of tripping.
- Always make sure to remove the charging cable from the vehicle before driving off.
- Never immerse the charging cable in water or any other liquid.

- No liability will be accepted for damage during transport if the product is transported in anything other than the original packaging.
- At all times, observe the local safety regulations for the country in which you operate the device.

### 3 Assembly

#### 3.1 Choice of location

- The unit must not be installed in explosive atmosphere areas (EX areas).
- The charging station must not be installed in areas prone to flooding or earthquakes.
- If possible, mount the charging station protected from direct sunlight.
- The charging station must not be installed in places where it blocks escape routes or passages for people.
- The charging station must not be installed in places where it is exposed to direct water jets (e.g. high-pressure cleaners or car washes).
- Observe the permissible ambient conditions (see chapter 6).

#### 3.2 Mounting of the wall charging station

The following accessories are required:

- 4x half round head screws, 4x 40mm, included in the scope of delivery
- 4x plastic cover screws, included in delivery
- 4x dowels, 6x30 mm

Please observe the following instructions:

- When positioning the wall mounting plate, note that the supply and charging cable are connected at different points to the housing depending on the design of the charging station.
- For wall charging stations with a firmly attached charging cable, the cable gland for the supply cable „D“ is located on the top right side and the cable gland for the charging cable „D“ is located on the bottom right side.



Figure 1: Wall mounting plate with integrated cable holder



Figure 2: Basic unit - top view of cover



Figure 3: Basic unit - bottom of the housing

For mounting the wall charging station proceed as follows:

1. Make sure that the wall on which the charging station is to be mounted has sufficient load-bearing capacity.
2. Ensure that the wall on which the charging station is to be mounted has a flat surface or that compensating measures are taken to prevent the housing from twisting.
3. Hold the wall mounting plate against the wall in the required position.

4. Align the wall mounting plate with a spirit level.
5. Mark the drill holes „A“ and check the drilling distances.
6. If the drilling distances are correct, drill the 4 holes with 6 mm diameter.
7. Insert the 4 dowels.
8. Then open the cover of the wall charging station.
9. Insert one of the 4 half-round head screws through the upper left fixing channel of the bottom of the housing and through the upper left hole of the wall mounting plate.
10. Fasten the round-head screw together with the bottom of the housing and the wall mounting plate to the dowel (not tightened).
11. Align the bottom of the housing and wall mounting plate so that you can fasten it with the remaining half round head screws.
12. Insert all the other half round head screws through the fixing channel „C“ and tighten all 4 half round head screws firmly.

## 4 Electrical connection

### 4.1 Conditions for the electrical connection

Specifications for the sub-distribution:

- Each charging point must have its own supply line with appropriate fuse protection.
- For the charging station Compleo Eco s a suitable circuit breaker is required.
- The Compleo ECO s requires a suitable residual current circuit breaker. Since the Compleo ECO s already has a DC fault detection > 6 mA, a cost-intensive RCD type A (EV) or type B is not needed.
- If possible, use an overvoltage protection in the sub-distribution.
- For the Compleo ECO s a maximum cable cross-section of 4 mm<sup>2</sup> is possible.

Terminal assignment X1 for supply cable, cable cross sections and fuse protection		
Performance class		11 kW, 3x 16 A
Conductor	Number	Color
L1	1	brown
L2	2	black
L3	3	gray
N	4	blue
PE	5	green/yellow
Supply cable	NYM-J 5x 2,5 mm <sup>2</sup>	
Circuit breaker	C 16 A, 3-pole	
RCD in sub-distribution	Type A 0,03 A/ 25 A	

Terminal assignment X2 for firmly attached charging cable		
Performance class		11 kW, 3x 16 A
Conductor	Number	Color
L1	1	brown
L2	2	black
L3	3	gray
N	4	blue
PE	5	green/yellow
CP	6	black/white

### 4.2 Electrical connection of the charging station

For the electrical connection of the charging station, proceed as follows:


1. Connect the supply cable to the charging station. Follow the instructions in chapter 4.1.
2. If the charging station is to be equipped with a firmly attached charging cable, connect the charging cable to the charging station.
3. Place the cover on the bottom of the housing and fix the cover with the 4 plastic cover screws.

## 5 Safety tests

- After the electrical connection of the charging station, carry out the necessary safety tests.
- Before commissioning the charging station, check the effectiveness of the protective measures of the complete system according to the applicable national and local regulations.
- The measuring instruments used must comply with national regulations.
- Among other things, the Gossen Metra-watt PROFITEST MTECH+ protective measures tester with manufacturer no. M520R is required for testing the charging station. Alternatively, use the Metrel MI 3152 EurotestXC ST. If none of the test devices is available to you, the missing tests must be performed by a Compleo specialist partner.
- Enter the result of the test in a test report. A test report can be obtained from Compleo Connect GmbH upon request.
- Give the test report to the customer, who will send it to the manufacturer.

## 6 Technical data

Charging class 11 kW	
Type	Wallbox
Number of charging points	1
Charging capacity per charging point	11 kW
Voltage	230 / 400 V
Amperage	16 A
Phases	3-phase
Authorization	Plug & Charge
Charging cable	Type 2, firmly attached
Dimensions wallbox (H x W x D)	180 x 290 x 140 mm
Weight wallbox	approx. 2,5 kg
Load contactor	4-pole, 25 A
Control fuse	1-pole, B6
Integrated fuses	RCM-module – DC fault current detection 6 mA contactor monitoring Lock release module
RCD	Not integrated (required in sub-distribution, recommended protection: type A 0.03 A / 40 A)
Maximum back-up fuse	Not integrated (required in sub-distribution, recommended protection: B16 A for 11 kW)
DC tripping current $I_{\Delta dc}$	0,006 A
Housing lockable	No
Energy meter	No

OCPD connections	No
Interfaces (internal)	RS485
Interfaces (external)	Ethernet RJ45
Logs (internal)	Modbus RTU
Logs (external)	Modbus TCP
Adjustable	Yes (digital input, Modbus TCP)
State according to EN 61851-1	State D with ventilation is not supported.
Storage temperature range	-30°C to +70 °C
Operating temperature range	-25 °C to +55 °C 
Rel. humidity	5 to 95 % (non-condensing)
Protection class	I
Protection degree	IP54
Mechanical impact protection	IK8
Rated voltage $U_n$	230 V / 400 V AC
Rated operational voltage $U_e$	220 / 380 - 240 / 415 V 3N
Rated insulation voltage $U_i$	500 V
Rated impulse withstand voltage $U_{imp}$	4 kV
Overvoltage category	Category III
Rated current of a circuit $I_{nc}$	16 A fused on the load side, 6 A fused on the control side
Rated peak withstand current $I_{pk}$	<6 kA
Rated short-time withstand current $I_{cw}$	6 A
Rated conditional short-circuit current $I_{cc}$	16 A
Rated frequency $f_n$	50 Hz
Pollution degree	3
System according to type of earth connection	TN or TT
Installation site	Indoor and outdoor installation
EMC classification	Class B

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