



Installation manual

Compleo ECO se

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1 General information

1.1 Introduction

Before you start 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 or on a charging column. Any other usage is considered to be improper and is not permitted.

The charging station ECO se is suitable for all electric vehicles with a type 2 connection. The charging station Compleo ECO se without a firmly attached charging cable can also be used for electric vehicles with a type 1 connection, if a corresponding adapter cable according to IEC 62196-2 is used.

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 construction workers (Chapter 3.3).

Assembly and electrical installation of the Compleo ECO se may only be performed by qualified electricians.

The construction of a foundation for the charging column may only be carried out by qualified construction workers.

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.
- 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.
- If it rains when installing the charging station, make sure to protect the charging station from water.
- 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.
- Use only standard-compliant charging cables (according to EN 62196-1, EN 62196-2 and EN 50620).
- 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:

- In the case of wall charging stations, the cable gland for the supply cable „D“ is located on the side at the bottom right of the housing base (see Figure 3).

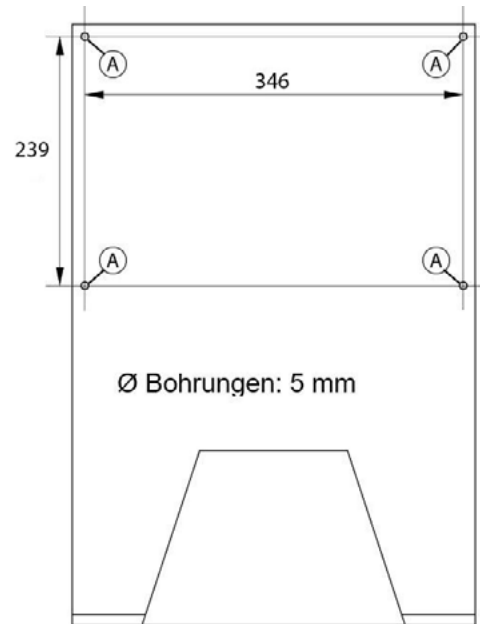


Figure 1: Wall mounting plate with integrated cable holder

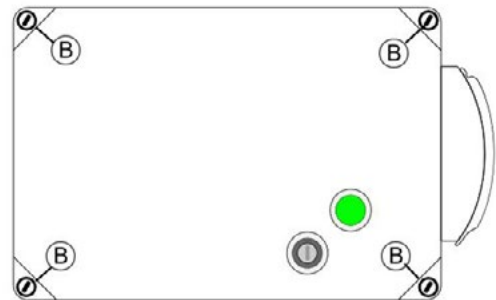


Figure 2: Basic unit - top view cover



Figure 3: Basic unit - housing base

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.

3.3 Mounting of the charging column

In order to mount the charging column, a foundation must first be laid. This preparatory work must be carried out by a contracted construction company.

3.3.1 Use of the prefabricated foundation

In the simplest case, use our prefabricated foundation. This significantly simplifies the mounting of the charging column. In this prefabricated foundation an empty pipe and the foundation plate with four threaded rods are already cast. The shape of the prefabricated foundation may differ from the shape in Figure 4 and Figure 5. The shape and dimensions of the foundation plate, which you can see in Figure 6 and Figure 7, are relevant.

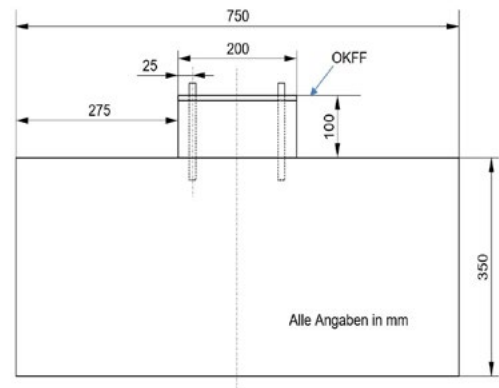


Figure 4: Prefabricated foundation - side view

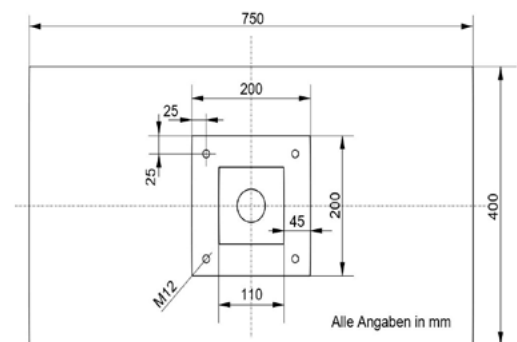


Figure 5: Prefabricated foundation - top view

For the use of the prefabricated foundation proceed as follows:

1. For the prefabricated foundation, dig a excavation pit with a minimum area of 100 x 80 cm and a minimum depth of 60 cm.
2. Pull the supply cable(s) through the empty conduit in the prefabricated foundation.
3. Make a compacted gravel bed.
4. Bring the prefabricated foundation into position so that the upper edge of the foundation plate coincides with the top edge of the finished floor.
5. Underlay the prefabricated foundation and level the foundation with a spirit level.

3.3.2 Casting of an own foundation with foundation plate

If you want to pour your own foundation, use our foundation plate. It already has the right size, the hole for the empty pipe is already there and the threaded rods are fixed in the right place.

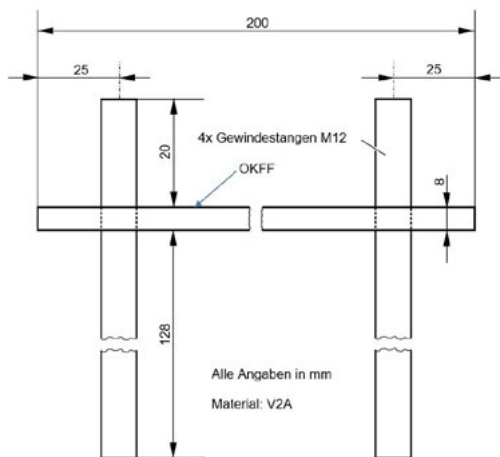


Figure 6: Overview of the foundation base

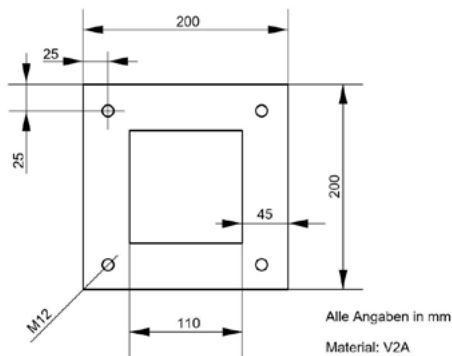


Figure 7: Overview of the foundation base

To cast your own foundation with foundation plate, proceed as follows:

1. For the foundation, dig a excavation pit with a minimum area of 80 x 40 cm and a minimum depth of 60 cm.
2. Make a firm gravel bed.
3. The short ends of the threaded rods stand vertically upwards. The upper edge of the foundation plate corresponds to the top edge of the finished floor.
4. Pull the supply cable through the empty conduit.
5. Insert the empty conduit about 5 cm through the hole in the foundation plate and fix the empty conduit.
6. Lay the empty conduit as required.
7. Align the foundation plate with the spirit level.
8. Pour out the excavation pit so that the concrete is in complete contact with the underside of the foundation plate. The upper side of the foundation plate must not be covered with concrete.

3.3.3 Casting of an own foundation without foundation plate

To cast your own foundation without foundation plate, proceed as follows:

1. For the foundation, dig an excavation pit with a minimum area of 80 x 40 cm and a minimum depth of 60 cm.
2. Make a compacted gravel bed.
3. Pull the supply cable through the empty conduit.
4. Position and fix the empty conduit in the correct place.
5. Pour out the excavation pit so that you obtain an even mounting surface.

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.
- The charging station Compleo ECO se requires a suitable circuit breaker.
- If possible, use an overvoltage protection in the sub-distribution.

Usable cable cross-sections:

- Use the cable cross-sections given in the table. If you require larger cable cross-sections, please specify them when ordering or contact us.

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	grey
N	4	blue
PE	5	green/yellow
Supply cable		NYM-J 5x 2,5 mm ²
Circuit breaker		C 16 A, 3-pole
RCD in sub distribution		Type A 0,03 A/ 25 A

4.2 Electrical connection of the wall charging station

For the electrical connection of the wallbox, proceed as follows:

1. Connect the supply cable to the charging station. Follow the instructions in chapter 4.1.
2. Place the cover on the housing base and fasten the cover with the 4 plastic cover screws.

4.3 Electrical connection of the charging column

When electrically connecting the charging column, it must be observed whether or not a foundation plate is integrated in the foundation. If a foundation plate is integrated in the foundation, proceed as follows:

1. Unscrew the cover of the charging station and lift it off.
2. Unscrew the side panel of the charging column and pull the side panel out upwards.
3. Lift the charging column and pull the supply cable through the bottom of the column.
4. Place the charging column appropriately on the foundation plate.
5. Fasten the charging column base with the supplied washers and cap nuts.
6. Unscrew the cover of the charging column.
7. Pull the supply cable on the open side up to the top and insert the supply cable through the cable gland.
8. Tighten the cable gland.
9. Connect the supply cable according to the power class (see chapter 4.1).
10. Screw the housing cover of the charging station back on.
11. Press the side panel against the open side with light pressure.
12. Lift the side panel about 2 cm and then press the side panel down again.
13. Place the aluminum cover on the charging column and screw the cover tight.

If no foundation plate is integrated in the foundation, proceed as follows:

1. Unscrew the cover of the charging station and lift it off.
2. Unscrew the side panel of the charging column and pull the side panel out upwards.
3. Lift the charging column and pull the supply cable through the bottom of the column.
4. Place the charging column on the foundation and align the charging column.
5. Use the charging column base as a drilling template and fasten the charging column with four suitable dowels, washers and

screws.

6. Unscrew the cover of the charging column.
7. Pull the supply cable on the open side to the top and insert it through the cable gland.
8. Tighten the cable gland.
9. Connect the supply cable according to the power class (see chapter 4.1).
10. Screw the housing cover of the charging station back on.
11. Press the side panel against the open side with light pressure.
12. Lift the side panel about 2 cm and then press the side panel down again.
13. Place the aluminum cover on the charging column and screw the cover tight.

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 Metrawatt 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

Power class	11 kW
Construction type	Wallbox or charging column
Number of charging points	1
Charging capacity per charging point	11 kW
Voltage	400 V
Amperage	16 A
Phases	3-phase
Authorization	App
Socket	Type 2
Dimensions wallbox (H x W x D)	255 x 395 x 170 mm
Weight wallbox	approx. 3,5 kg
Dimensions charging column (H x W x D)	1220 x 395 x 330 mm
Weight charging column	approx. 13 kg
Load contactor	4-pole, 40 A
Control fuse	1-pole, B6
Integrated fuses	RCM-module – DC fault current detection 6 mA contactor monitoring Lock release module
RCD	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	Yes
OCPP connections	OCPP 1.6 JSON
Interfaces (internal)	RS485
Interfaces (external)	Ethernet RJ45, GSM/UMTS
Logs (internal)	Modbus RTU
Logs (external)	Modbus TCP, OCPP 1.6 JSON
Adjustable	Yes (digital input, Modbus TCP and OCPP 1.6 JSON)
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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Contact

Compleo Connect GmbH
Paderborner Straße 76
D-33189 Schlangen

T: +49 5252 9889220
info@compleo-cs.com
www.compleo-cs.com

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