



Instruction manual Compleo PRO plus

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1 General information

1.1 Introduction

Thank you for choosing one of our products. The charging stations of Compleo offer convenient, safe and standard compliant charging according to the standard IEC 61851-1, charging mode 3.

Before putting the charging station into operation, read the instruction manual carefully and follow the instructions.

Also observe the vehicle-specific instructions in the instruction manual of your electric vehicle.

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

Information on assembly and installation can be found in the separate installation manual.

If you sell the charging station, pass this manual on to the buyer.

1.2 Intended use

The charging station is designed for charging 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 Compleo PRO plus is suitable for all electric vehicles with a type 2 connection. The charging station Compleo PRO plus 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.

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

- Before each charging procedure, check whether the charging cable or the contacts of the charging plugs are damaged. Do not

use a damaged charging cable. There is a risk of an electric shock!

- If you find any damage to a firmly attached charging cable, contact our support (see chapter 8).
- Never repair defective charging cables yourself.
- 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.
- Make sure that neither children nor pets come near the connected charging cable. Never let children play with the charging station.
- 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).
- Never open the charging station yourself. It is only permitted to qualified personnel or persons instructed by qualified personnel to open the charging station.
- Do not use the charging cable with an extension cord or adapter.
- Always make sure to remove the charging cable from the vehicle before driving off.
- 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.
- Never clean the charging station with harsh cleaning agents, high pressure water jet cleaners and steam jet cleaners.
- Never immerse the charging cable in in water or any other liquid.
- Do not use explosive or readily flammable substances in the vicinity of the charging station.
- Assembly, electrical connection, commissioning, maintenance and repair may only be carried out by a qualified electrician. The qualified electrician must be regis-

tered in the installer directory.

- If further trades are required for assembly, the necessary activities may only be carried out by trained specialists.
- 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 Description of the charging station

The following figure shows the Compleo PRO plus charging station. Depending on the variant ordered, the optical appearance differs from the figure.

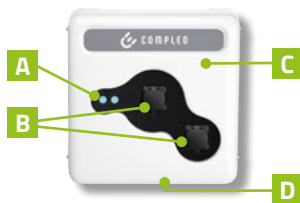


Figure 1: Overview of Compleo PRO plus

- A** Status LEDs
- B** Type 2 sockets
Charging stations with firmly attached charging cables: Parking positions for charging plugs
- C** Plastic cover
Encloses the full metal housing
- D** Cable glands for the power supply lines

4 Charging a vehicle

4.1 Meaning of the status LED colors

The charging station has a status LED that displays the current status of the charging station. The colours of the status LED represent the following states:

-  LED shines green, the charging station is ready for use.
-  LED flashes alternately green and blue, authorization and release phase.
-  LED shines blue, the vehicle is being charged. You can find out how far the charging process has progressed from the charging indicator of your vehicle.
-  LED shines red, the charging station has detected an error.

4.2 Connecting charging cable

 **WARNING:** Ensure that the charging cable, when connected to the charging station and the vehicle, does not block any paths.

 **WARNING:** Pay attention to the charging cable lying on the ground when the charging cable is connected to the charging station. There is a risk of tripping.

Your charging station has either a type 2 socket or a firmly attached charging cable.

Charging station with socket:

1. Make sure that the status LED of the charging point you want to use shines green.
2. Connect the charging cable to the inlet of the electric vehicle.
3. Connect the other end of the charging cable to the selected socket of the charging station.

The charging plug is automatically locked. The status LED remains green.

Charging station with firmly attached charging cable:

1. Make sure that the status LED of the charging point you want to use shines green.
2. Connect the corresponding charging cable to the vehicle inlet of the electric vehicle.

The charging plug is automatically locked. The status LED remains green.

4.3 Authorization & Starting the charging process

4.3.1 Types of authorization

You can use two different types of authorization at the charging station:



By RFID chip or RFID card



Via app

4.3.2 Starting the charging process with RFID chip or RFID card

1. Make sure that the charging cable is connected to the electric vehicle and to the charging station.
2. Hold the RFID card or chip in front of the card reader, which is located on the right or left side of the charging station, depending on the selected charging point.

The charging station is then activated. The status LED flashes alternately green and blue. After successful activation, the charging process starts automatically. The status LED now shines blue.

4.3.3 Starting the charging process via app

You can use the Compleo app or the app of another billing service provider (e.g. plugsurfer) where you are registered. Use the help or instructions for the app of the respective provider to familiarise yourself with the app used.

1. Make sure that the charging cable is connected to the electric vehicle and to the charging station.
2. Start the smartphone app and follow the app's instructions to start the charging process.

4.4 Ending the charging process

Note: In case of power failure, the charging plug is automatically unlocked by the lock release module.

4.4.1 Ending the charging process with RFID chip or RFID card

Charging station with socket:

1. When the desired state of charge has been reached, you can stop the charging process by opening the central locking of your vehicle or end the charging process at your charging station.

Note: When the vehicle is fully charged, the vehicle will automatically stop charging.

2. Disconnect the charging cable from the electric vehicle. To do this, follow the instructions of your vehicle's instruction manual.
3. Then disconnect the charging cable from the charging station.
4. Stow the charging cable carefully back in your vehicle.

Charging station with firmly attached charging cable:

1. When the desired state of charge has been reached, you can stop the charging process by opening the central locking of your vehicle or end the charging process at your charging station.

Note: When the vehicle is fully charged, the vehicle will automatically stop charging.

2. Disconnect the charging cable from the electric vehicle. To do this, follow the instructions of your vehicle's instruction manual.
3. Then plug the charging plug into the parking position.

4.4.2 Ending the charging process via app

Charging station with socket:

1. When the desired state of charge has been reached, you can stop the charging process

at your vehicle or via app.

2. Disconnect the charging cable from the electric vehicle. To do this, follow the instructions of your vehicle's instruction manual.
3. Then disconnect the charging cable from the charging station
4. Stow the charging cable carefully back in your vehicle.

Charging station with firmly attached charging cable:

1. When the desired state of charge has been reached, you can stop the charging process at your vehicle or via app.
2. Disconnect the charging cable from the electric vehicle. To do this, follow the instructions of your vehicle's instruction manual.
3. Then plug the charging plug into the parking position.

5 Cleaning

 **CAUTION:** Finish charging before cleaning and maintenance. In addition, disconnect the charging cable from a possibly connected vehicle. Depending on the variant, stow the charging cable in your vehicle or plug the charging plug into the parking position.

You can clean the charging station as follows:

Wipe the outside of the charging station with a dry cloth.

 **WARNING:** The charging station must not be cleaned with a water or steam jet cleaner. A short circuit may be caused.

 **WARNING:** Do not use harsh cleaning agents. This can cause damage to health and the charging station.

6 Inspection and maintenance

The legislator requires that the charging station and the associated sub-distribution system be checked once a year for their function and safety.

The inspection and maintenance of the charging station may only be carried out by the manufacturer or by specialist partners certified by Compleo.

As a result of the inspection you will receive a protocol, which you should keep in a safe place.

Please also note chapter 9, Warranty.

7 Troubleshooting table

Please note that as a user you may only carry out the troubleshooting measures listed in the following table yourself. All other troubleshooting measures may only be carried out by

qualified personnel.

Problem	Possible cause	Solution
The charging process is not started. The status LED is still green.	The vehicle is not recognized.	First check for proper seating of the plugs on the vehicle and, if necessary, on the charging station. If the problem persists, check whether the vehicle displays an error message. If this is the case, bring your vehicle to the workshop. If the workshop determines that the vehicle is not responsible for the error message, contact our support (see chapter 8).
	Charging cable is defective	Use a different charging cable. If the charging cable is firmly attached to the charging station, contact our support (see chapter 8).
	Authorization was not performed by the user.	Perform the authorization (see chapter 4.3).
Authorization with the RFID card is not possible. A long signal tone sounds.	The RFID card is not registered for the charging point.	Use a registered RFID card or contact our support (see chapter 8).
The status LED shines red. No charging cable is connected to the charging station.	General error	Contact our support immediately (see chapter 8).
The status LED suddenly lights up red during charging.	DC error or general error	Remove the charging cable. If the status LED is still red, contact our support (see chapter 8).
The status LED does not light up.	The charging station is not supplied with power.	Contact the installer of your charging station.
	The status LED is defective.	Contact our support (see chapter 8).

After plugging in the charging cable, the status LED lights up red immediately.	The charging cable has a too low current carrying capacity.	Use a charging cable with a higher current carrying capacity.
	Charging plug cannot be locked.	Reinsert the plug correctly into the socket of the charging station.
	There is a foreign body in the socket of the charging station.	Remove the foreign body from the socket of the charging station.
	The locking engine is defective.	Contact our support (see chapter 8).
Charging cable cannot be removed. Locking mechanism does not open.	The locking engine is stuck due to too early attempt to remove the charging cable.	Insert the plug into the socket of the charging station as far as it will go. Then reconnect the charging cable to the vehicle. Afterwards disconnect the charging cable from the electric vehicle and the charging station.

8 Support

Please contact our support by e-mail. We will be happy to help you: support@compleo-cs.com

9 Warranty

9.1 General information

Should the charging station show visible defects during delivery/assembly, please inform us immediately by telephone or e-mail. If you notice any physical or optical damage when the charging station arrives, please send us pictures of the damaged charging station. This will ensure a quickest possible guarantee processing.

9.2 Warranty conditions

The legal guarantee for this charging station is valid for a period of two years.

The warranty will be granted under the following conditions:

1. The prerequisite for the warranty is the installation and annual maintenance (incl. maintenance protocol) of the Compleo-product by a certified Compleo specialist partner.
2. It is at the discretion of Compleo whether the warranty is fulfilled by repair or by replacement of the device or the defective part. Further claims are excluded.
3. Warranty repairs may only be carried out by Compleo Connect GmbH. For repairs carried out by other dealers, there is no claim for reimbursement of costs within the scope of the warranty.
4. If the device is to be operated in a country other than the country for which it was originally developed and produced, changes may have to be made to the device in order to adapt it to the technical and / or safety standards of this other country. Such changes are not due to defects in materials or workmanship and are not covered by this warranty. The costs for such changes and for damages to the device caused by the changes will not be reimbursed.
5. Excluded from the guarantee are:
 - The cost of regular inspections, maintenance, repair or replacement of parts due to normal wear and tear;
 - Transport and travel costs as well as costs incurred for the installation and dismantling of the device;
 - Damage caused by misuse and improper use of the device, and incorrect installation;
 - Damage caused by lightning, water, fire, force majeure, war, wrong mains voltage, insufficient ventilation or other reasons beyond the control of Compleo.
6. This warranty is product-related and can be claimed within the warranty period by any person who has legally purchased the product.

7. The Buyer's statutory rights in respect of material defects to which he is entitled under the purchase contract are not restricted by this warranty.

Further information can be obtained by calling +49 (0)5252 98892-00

9.3 Warranty case

When submitting a warranty claim, you will be required to provide:

- maintenance protocols,
- the original invoice or the sales receipt issued by the dealer, or any other corresponding confirmation,
- the device serial number.

It is at the discretion of Compleo Connect GmbH whether the warranty obligations are fulfilled by repair or by replacement of the device or the defective part. Further claims are excluded.

For further information please contact the following number:

Tel.: +49 (0)5252 98892-00

Or visit our website:

Web: www.compleo-cs.com

10 Disposal



Please note that this product must not be disposed of with household waste. The product must be disposed of at a designated collection and return point for the disposal and recycling of electrical and electronic equipment. Observe all applicable national and local legislation. Further information can be obtained from your local authorities.

For safety reasons, the charging station may only be dismantled by a qualified electrician or a Compleo specialist partner. Ask your contact person whether he will take charge of the disposal for you.

11 Technical Data

Charging class 11 kW

Type	Wallbox or charging column
Number of charging points	2
Charging capacity per charging point	11 kW
Voltage	230 V
Amperage	16 A
Phases	3-phase
Authorization	App, RFID
Socket	Type 2
Ladekabel	Type 2, firmly attached
Dimensions wallbox (H x W x D)	560 x 560 x 220 mm
Weight wallbox	approx. 18,5 kg
Dimensions charging column (H x W x D)	1455 x 770 x 189 mm
Weight charging column	approx. 33 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	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	Double-bit lock
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 (not compliant with german calibration law)	-25 to +55°C 
Operating temperature range (compliant with german calibration law)	-25 to +40°C 
Rel. humidity	5 to 95 % (non-condensing)
Protection class	I

Protection degree	IP54
Mechanical impact protection	IK 8
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
Mechanical ambient conditions according to MessEV (compliant with german calibration law)	M1
Electromagnetic ambient conditions according to MessEV (compliant with german calibration law)	E1

Charging class 22 kW

Type	Wallbox or charging column
Number of charging points	2
Charging capacity per charging point	22 kW
Voltage	400 V
Amperage	32 A
Phases	3-phase
Authorization	App, RFID
Socket	Type 2
Ladekabel	Type 2, firmly attached
Dimensions wallbox (H x W x D)	560 x 560 x 220 mm
Weight wallbox	approx. 18,5 kg
Dimensions charging column (H x W x D)	1455 x 770 x 189 mm
Weight charging column	approx. 33 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	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: B32 A for 22 kW)
DC tripping current $I_{\Delta dc}$	0,006 A
Housing lockable	Double-bit lock
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 (not compliant with german calibration law)	-25 to +55°C 
Operating temperature range (compliant with german calibration law)	-25 to +40°C 
Rel. humidity	5 to 95 % (non-condensing)
Protection class	I
Protection degree	IP54

Mechanical impact protection

IK 8

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}	32 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}	32 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
Mechanical ambient conditions according to MessEV (compliant with german calibration law)	M1
Electromagnetic ambient conditions according to MessEV (compliant with german calibration law)	E1

12 Directives and standards

The following guidelines and standards have been observed:

Directives

Low Voltage Directive 2014/35/EU

EMC-Directive 2014/30/EU

RoHS Directive 2011/65/EU

WEEE-Directive 2012/19/EU

Standards

EN 61851-1

EN 61439-7

EN 61000-6-2

EN 61000-6-3

EN 61000-3-2

EN 61000-3-3

13 Glossary

Unfortunately, technical terms cannot always be avoided. In our glossary you will therefore find some technical terms and abbreviations briefly explained:

Vehicle inlet

The charging plug of the charging cable is inserted in the vehicle inlet of the electric car. The vehicle inlet is, so to speak, the socket of the electric vehicle.

Charging mode 3

Charging mode 3 is used for single-phase or three-phase alternating current charging with permanently installed charging stations. Alternating current charging is controlled by communication between the charging station and the vehicle. Among other things, the charging station is able to detect the charging power of the charging cable, the interruption of the charging process and the maximum available charging current.

Circuit breaker

Circuit breakers disconnect the circuit from the mains if the current exceeds a certain value due to overload or short-circuit.

Lock release function

The lock release function ensures that the charging plug is automatically unlocked when the power fails during charging.

RCD (Residual-Current Circuit Device)

A residual current device (RCD), also known as residual current circuit breaker, is a fault current protective device that interrupts a circuit when a so-called residual current is detected. This can occur if a small part of the current passes through the human body and does not flow back into the circuit via the RCD. RCDs trip at 30 mA at the latest.

Shockproof socket

A shockproof socket is a common 230 Volt household socket.

Contactor monitoring

By the contactor monitoring, it is determined whether the contacts of the contactor are welded (glued) due to a defect. In the event of such a fault, a dangerous voltage is still present and the status LED lights red.

Sub-distribution

The sub-distribution serves to distribute the electricity in the house. It is located in the so-called fuse box and consists of various switching and fuse elements.

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