



Installation instructions
LRT Home Essential+ 11kW
LRT Home Essential+ 22kW

Manufacturer

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1 About this document

Read these installation instructions before installation, commissioning and maintenance. This is a prerequisite for safe working and trouble-free use.

Observe the safety instructions and warnings in this documentation.

Keep the documentation accessible to all users.

This documentation is a permanent part of the described product and must be handed over to the buyer at the time of sale.

Scope

The installation instructions apply to the models:

- LRT Home Essential+ 11kW
- LRT Home Essential+ 22kW

Target group

The installation instructions are intended for:

- Electricians

Qualification of electricians



Installation, maintenance and repair work on the charging station may only be carried out by qualified electricians. They must be trained in the use of a mains connection.

Due to their technical training, knowledge and experience as well as knowledge of the relevant standards and regulations, electricians are able to carry out work on electrical systems and to recognise possible dangers independently.




In Germany, qualified electricians must comply with the provisions of the accident prevention regulation German Social Accident Insurance (DGUV) Regulation 3 (e.g. master electrician). In other countries, corresponding regulations apply and must be observed.

Safety instructions



Structure of safety instructions:




 SIGNAL WORD	Nature and source of the danger
 Warning signs	Consequences of disregarding the danger → Measures to avert the danger → ...

The signal word indicates the level of risk as well as the severity of possible injuries:

Signal word	Meaning
 DANGER	This signal word is used to indicate an imminently dangerous situation which, if not avoided, will result in serious injury or death.
 WARNING	This signal word is used to indicate an imminently dangerous situation which, if not avoided, will result in serious injury or death..
 CAUTION	This signal word is used to indicate an imminently dangerous situation which, if not avoided, will result in serious injury or death..
ATTENTION	This signal word without a warning sign is used to indicate a possible danger of property damage.
NOTE	This signal word indicates additional information that is useful for the user, such as such as measures to simplify operation and cross-references.

The warning sign indicates the type of danger.

Warning signs	Meaning
	General warning sign, danger of personal injury
	Warning of electrical voltage

Mandatory signs	Meaning
	Important note, danger of property damage
	Cross-reference
	Information, tip

2 Safety

2.1 Intended use

NOTE



Observe the intended use.

The protection of persons and the charging station is not guaranteed if the charging station is not used in accordance with its intended use.

- Only use the charging station in accordance with its intended use.
- LRT Automotive GmbH is not liable for damage caused by improper use.
- Read these installation instructions before using the charging station. Knowledge of the operating instructions is part of the intended use.

The LRT Home Essential Plus is a three-phase charging station for electric vehicles. This is a stand-alone solution without a higher-level control system. However, it can be connected to a HEMS via a MODBUS interface. The charging station is used exclusively for charging electric vehicles in accordance with charging mode 3 as per IEC 61851. It may only be installed and operated in purely residential areas.

Only operate the charging station under the specified operating conditions, see chapter 3.3 Technical data.

The charging station

- is suitable for charging with alternating current (AC).
- has been designed and manufactured according to the international standard IEC 61851.
- meets the requirements of protection class IP44.
- is suitable for outdoor use.
- is intended for use in private areas, e.g. private properties.
- is intended exclusively for stationary installation.
- may only be installed and operated in purely residential areas

NOTE



Do not use extension cables, cable drums, multiple sockets or adapters to operate the charging station.

2.2 Foreseeable misuse

The charging station may only be operated within the technical data specified by LRT Automotive GmbH. Any use other than that described in chapter 2.1 Intended use is considered improper use. The manufacturer is not liable for any damage resulting from this.

Possible foreseeable misuse:

- Use of extension cables, cable drums, multiple sockets or adapters for the operation of the charging station
- Charging with other charging modes
- Use in the non-private sector
- Use in mixed and industrial areas
- Use in an environment with aggressive media (e.g. sea air) or highly dusty media (e.g. desert) or in an explosive atmosphere
- Operation outside the specified operating conditions, see chapter 3.3 Technical data
- Modifications or changes to the charging station

2.3 Safety instructions

NOTE



Observe the installation instructions.

Failure to observe the installation instructions and the resulting improper use of the charging station can result in life-threatening personal injury and property damage to the charging station or the vehicle.

- Read the installation instructions before using the charging station.
- Keep the documentation accessible to all users.

DANGER



Warning of dangerous electrical voltage!

Touching electrical cables can result in a fatal electric shock.

- Always keep the charging station housing closed. As long as the charging station is connected to the power supply, there is a risk of injury from touching components inside. Always disconnect the power supply before carrying out installation, maintenance or repair work on the charging station.
- Do not leave children unattended near the charging station while charging is in progress.

DANGER



Warning of electromagnetic interference radiation!

Charging stations from LRT Automotive GmbH, which are operated as intended, comply with the European directive on electromagnetic compatibility with regard to interference radiation. In the event that persons with pacemakers or defibrillators wish to carry out activities at charging stations and their equipment, LRT Automotive GmbH cannot make any statement about the suitability of these medical devices.

- LRT Automotive GmbH recommends that affected persons only carry out work on the charging station after consulting the manufacturer of these medical devices.

- Do not store flammable, explosive, chemical or other hazardous substances near the charging station.
- Do not clean the vehicle or the area around the charging station with a pressure washer while the vehicle is connected to the charging station. The plug connection is not resistant to pressurised water.

2.4 Warranty and disclaimer

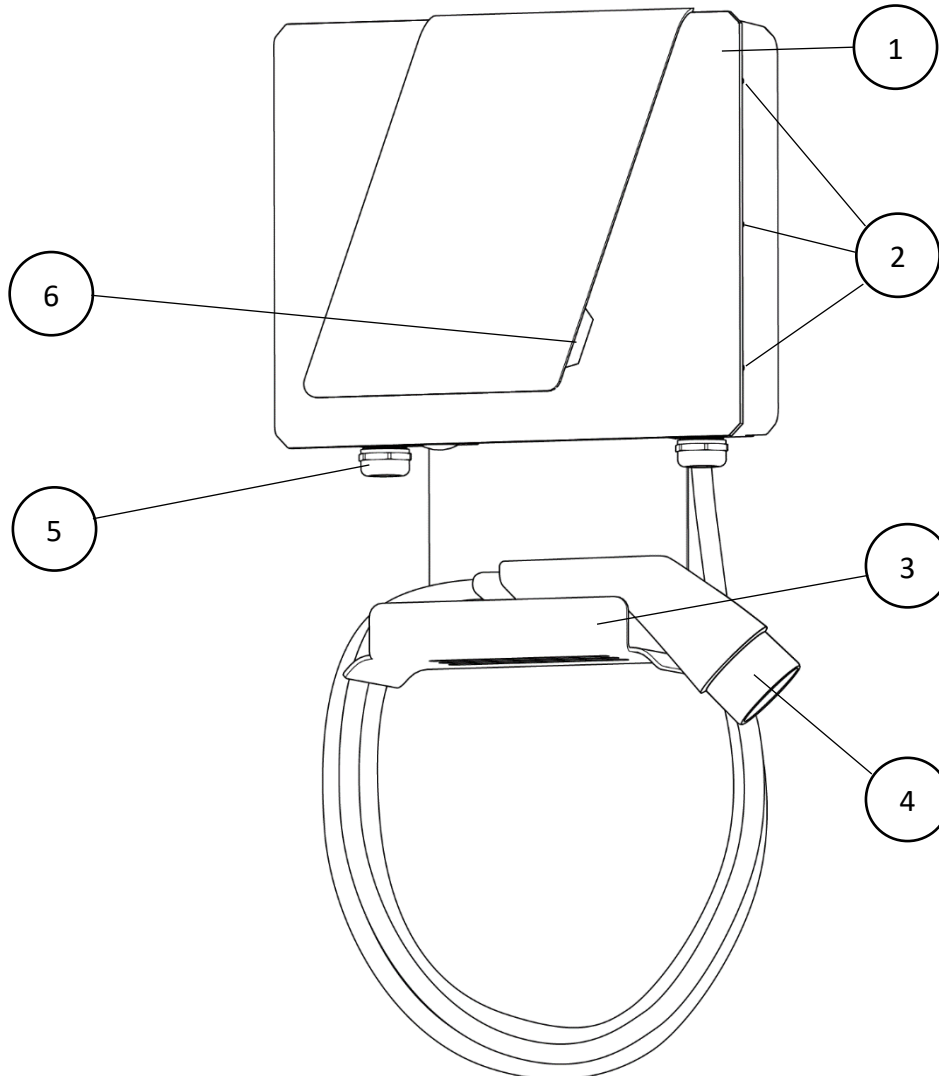
LRT Automotive GmbH accepts responsibility only for the condition of the charging station as delivered and for all work carried out by LRT specialist personnel and official partner companies.

The manufacturer's warranty is void upon:

- Failure to observe the safety and operating instructions.
- Improper handling and improper use of the charging station.
- Unauthorised and improper installation, maintenance and repair of the charging station.
- Modifications or changes to the charging station.
- Damage caused by fire, flood and other natural disasters.
- Transport damage or damage caused during installation.

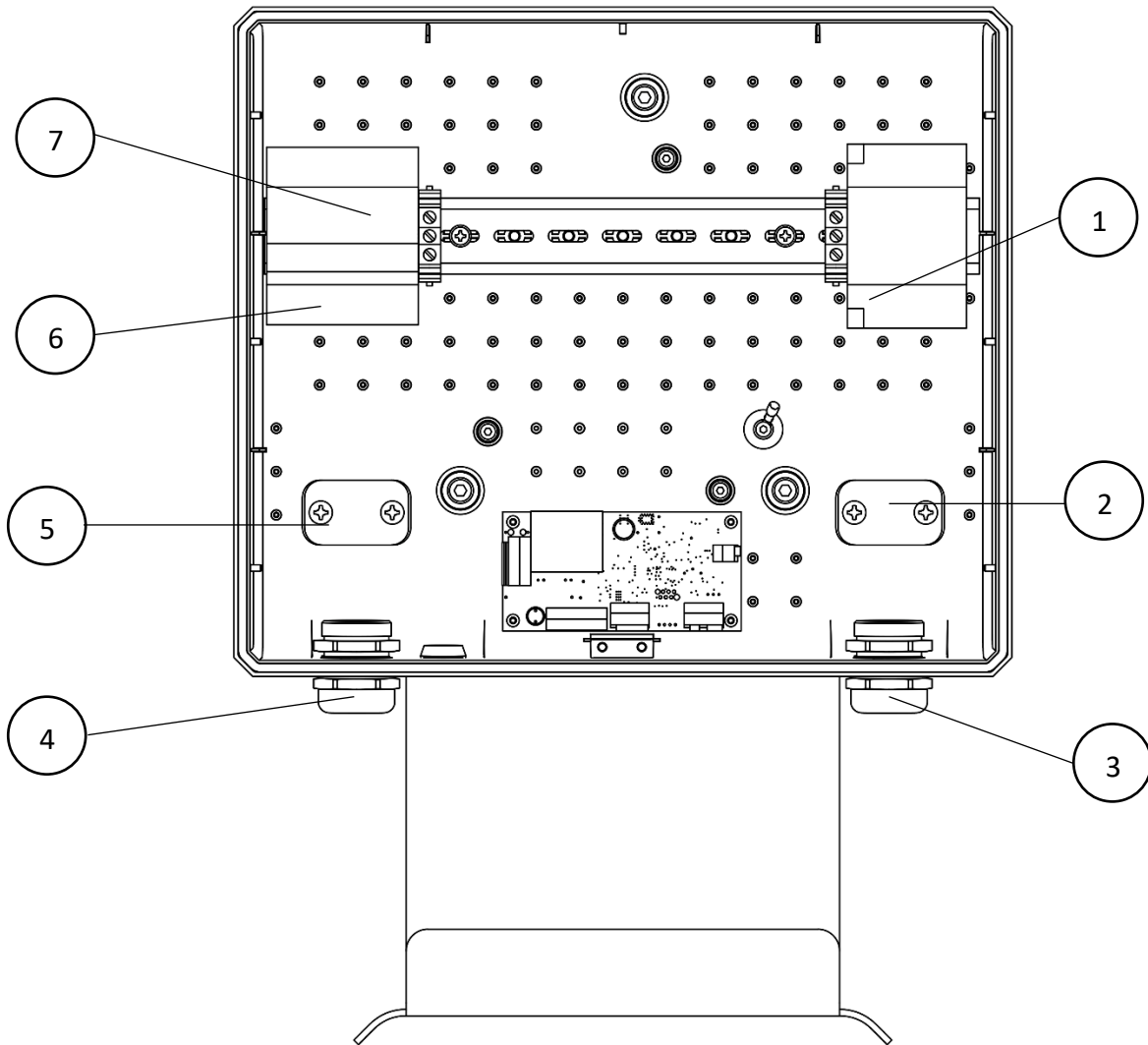
3 Description

3.1 Structure



1	Charger housing	4	Charging cable with coupling
2	Cover screw connection	5	Power cable connection
3	Holder for charging cable	6	LED display

Fig. 1: Housing of the charging station outside



1	Contactor/charging cable connection	5	Power cable strain relief
2	Charging cable strain relief	6	RCD / power cable connection
3	Charging cable feedthrough	7	Test button
4	Power cable feedthrough		

Fig. 2: Housing of the charging station inside

3.2 Function

The LRT Home Essential Plus is a three-phase charging station for charging electric vehicles according to charging mode 3 as per IEC 61851 with alternating current (AC).

Functional element	Function
Type 2 cable	Coupling for connecting the vehicle
LED display	Status display of the charging station
RCCB type A + DC-Current detection	Fuse

3.3 Technical data

General data

Model	Home Essential Plus 11	Home Essential Plus 22
Part number	AC09C	AC10C
Housing dimensions LxWxH	48x36x13 cm	
Housing material	PC/ABS V0 + MB	
Weight	6.6 kg	
Cable length	5 m	

Electrical

Model	Home Essential Plus 11	Home Essential Plus 22
Charging mode	Mode 3 – C	
Three-phase alternating current	3P + N + PE	
Supply voltage	400 V AC $\pm 10\%$	
Mains frequency	50/60 Hz	
Max. current	16 A	32 A
Max. charging power	11 kW	22 kW
Overvoltage category	III	
Charge coupling	Charging cable type 2 IEC 62196	
RCCB	30mA AC Typ-A RCCB + 6mA DC-Current detection	
Connection	3phase to RCCB	
Protection class	IP44	

Ambient conditions

Model	Home Essential Plus 11	Home Essential Plus 22
Ambient temperature	-40 °C – 45 °C	
Storage temperature	-40 °C – 70 °C	
Max. humidity	5 % – 95 %, non-condensing	
Max. height above sea level	2000 m	

4 Installation



Warning of dangerous electrical voltage!

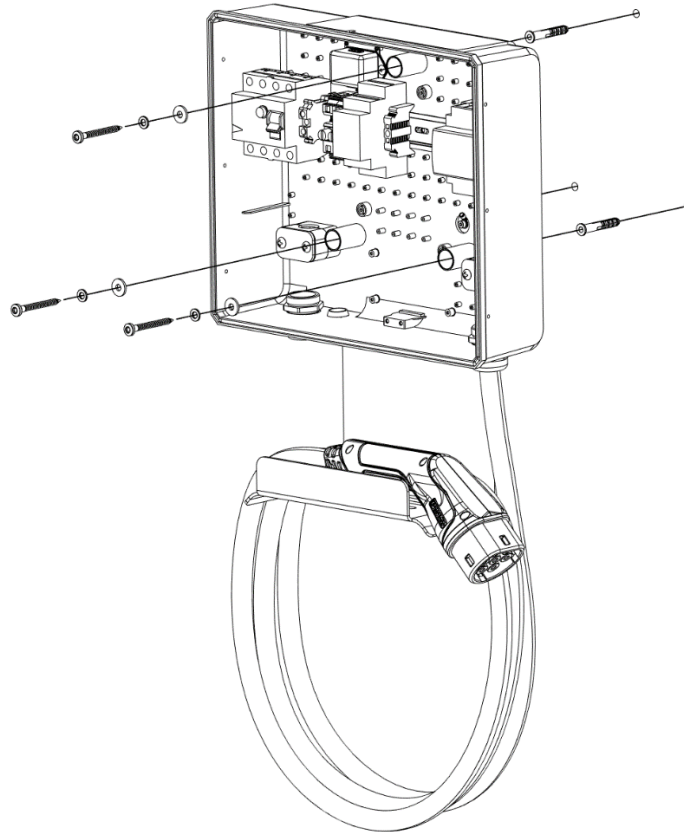
Touching electrical cables can result in a fatal electric shock.

- The charging station may only be installed and fused by a qualified electrician.
- The charging station may only be installed in purely residential areas.
- Observe the local safety regulations and legal requirements.

4.1 Scope of delivery

- Pre-assembled charging station housing with charging cable
- Drilling template
- 3 universal dowels
- 3 washers
- 3 seals
- 3 fixing screws
- Installation instructions
- Operating instructions

4.2 Wall mounting



1. Use the enclosed drilling template to mark the 3 drill holes on the wall. Ensure that the drilling template is correctly aligned.
2. Drill the marked 3 holes, \varnothing 8 mm, approx. 60 mm deep.
3. Insert the dowels into the drill holes. The dowels are 8-mm universal dowels.



If the universal dowels are not suitable for fastening the charging station to the intended wall, use other dowels.

4. Loosen the 7 screws on the sides and top of the housing.
5. Carefully disconnect the cable from the LED printed circuit board and put the cover aside.
6. Hold the open charging station against the wall with one hand so that the mounting holes are over the drill holes.
7. Place the washers and seals and fasten the charging station with the 3 screws provided. Be careful not to damage the components inside the charging station.
8. Do not release the charging station until all 3 screws are firmly tightened.

4.3 Electrical connection

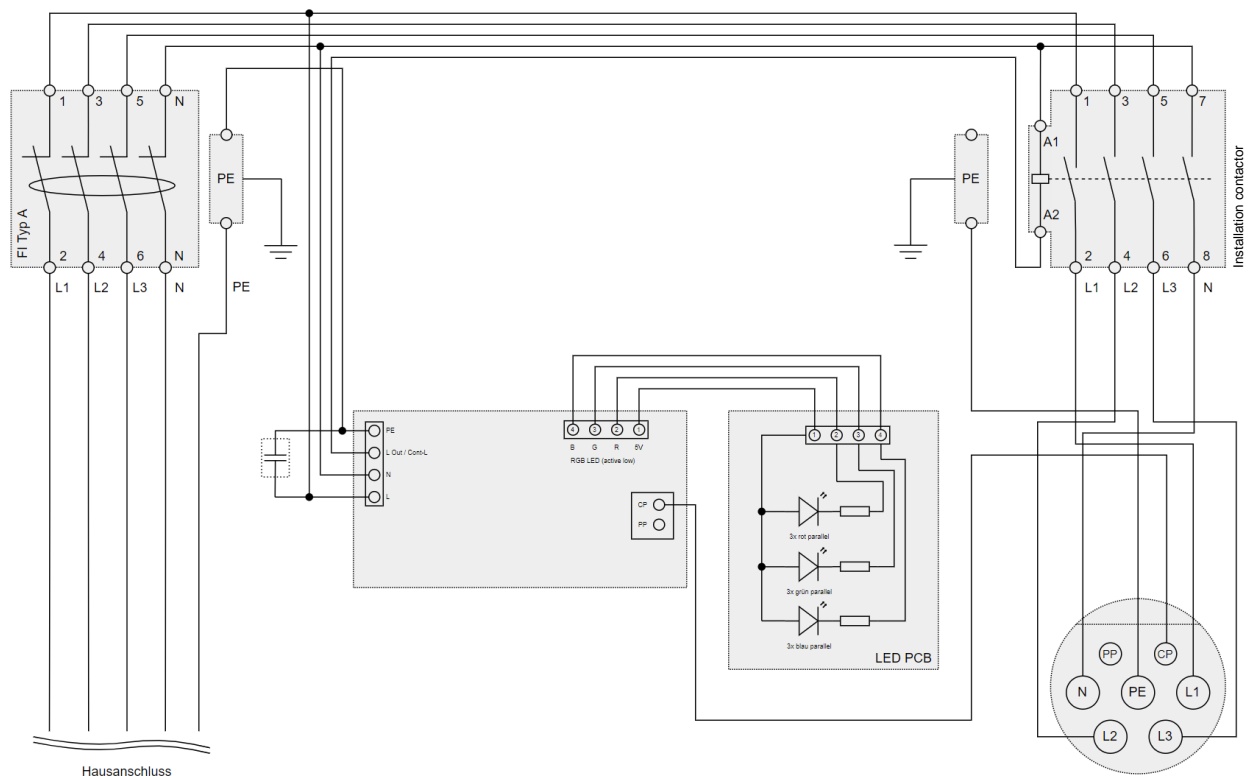


Fig. 4: Circuit diagram

1. Connect the cable to the power supply according to the circuit diagram.
2. Plug the cable back into the LED printed circuit board and close the cover.
3. Apply light pressure to the centre of the cover with one hand while securing it with the 7 screws. Do not remove your hand from the cover until all 7 screws are tight.
4. Put the charging station into operation.

5 Commissioning

Check the following points before commissioning:

- Is the charging station firmly connected to the wall?
- Is the housing undamaged and closed?
- Is the charging cable undamaged? The sheathing must not be cracked and no metal must be exposed.
- Is the coupling of the charging cable clean and dry?

Proceed only if the answer to all the questions is yes.

1. Switch on the RCCB.
2. The charging station starts the automatic function test. The function test takes approx. 7 seconds, the LED display flashes white.
3. After the function test, the LED indicator flashes green. The charging station is ready to be connected to an electric vehicle.
4. Plug the coupling of the charging cable into the socket on the vehicle side.

5. As soon as the vehicle is connected to the charging station, the LEDs light up yellow and blue during the charging process.
 →The vehicle requests the charging process and begins charging.

Cancelling the charging process

The charging process can be cancelled if the driver wants to use his vehicle before it is fully charged.

There are two options for cancelling the charging process:

- via the controls in the vehicle,
- by switching off the fuse on the building side.

The process should be cancelled using the controls on the vehicle. Only if this is not possible for safety reasons (e.g. if the vehicle is on fire) should the building security system be switched off.

Charging will resume when the fuse is turned back on and the charging cable is connected to the vehicle.

Malfunction or failure

In the event of a fault or failure, disconnect the charging station from the supply voltage by switching off the fuse on the building side. Troubleshooting and repair may only be carried out by a qualified electrician.

NOTE



If the building or wallbox fuse trips, do not simply switch it back on. This may result in damage to the charging station, the vehicle, etc.

- Disconnect the vehicle from the charging station.
- Find and eliminate the reason for tripping.

The fuse can then be switched on and the charging station reconnected to the vehicle.

Meaning of the LED display

LED display	Operating status
White flashing	Function test
Lights green	Ready to connect
Lights yellow	Connected to vehicle
Lights blue	Charging
Lights red	Malfunction

6 Testing the safety function

For charging stations with a built-in personal protection switch (RCCB), its function must be checked twice a year by pressing the test button. The test button is located on the top of the personal protection switch and is labelled "Test". Triggering the RCCB after pressing the test button disconnects the power supply to the charging station.

After releasing the test button, the charging station starts the automatic function test. The function test takes approx. 7 seconds, the LED display flashes white.

After the function test, the LED indicator flashes green. The charging station is ready to be connected to an electric vehicle.

7 Disposal

The charging station is a device that must be disposed of in accordance with national and regional regulations for waste electrical and electronic equipment.

The charging station may only be dismantled and disposed of by a qualified electrician.

8 CE Declaration of Conformity

EU-Konformitätserklärung gemäß der EU-Niederspannungsrichtlinie 2014/35/EU, Anhang IV

Hiermit erklären wir, dass die Bauart des

Erzeugnis: Ladesystem Mode 3
Modell: LRT Home Essential+ 11 und Home Essential+ 22
Hersteller: LRT Automotive GmbH, Impexstrasse 7, 69190 Walldorf

Folgenden einschlägigen Bestimmungen entspricht:

Niederspannungsrichtlinie 2014/35/EU
EMV-Richtlinie 2014/30/EU
RoHS-Richtlinie 2011/65/EU

Angewandte harmonisierte Normen, insbesondere:

EN61851-1: 2011
EN 61000-3-2: 2014
EN 61000-3-3: 2013
EN 62196-1: 2014
EN 62196-2: 2017

Die Konformitätserklärung bezieht sich auf den Auslieferungszustand des Ladesystems.

06.05.21, L. Weder

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