Installation Instructions

Webasto Pure

English

Table of Contents

1 General information

1.1 Purpose of the document

These operating and installation instructions are part of the product and contain information for the user to ensure safe operation and for the electrician to carry out safe installation of the Webasto Pure charging station.

1.2 Using this document

- ▶ Carefully read the operating and installation instructions before installing and starting up the Webasto Pure.
- ▶ Keep these instructions ready to hand.
- ▶ Hand these instructions on to the following owner or user of the charging station.

1.3 Intended use

The Webasto Pure charging station is designed for charging electric vehicles in accordance with IEC 61851-1, charge mode 3. In this charge mode, the charging station ensures:

- The voltage is not applied before the vehicle has been connected correctly.
- The maximum power is calibrated.

The AC/DC converter is in the vehicle.

1.4 Use of symbols and highlighting

DANGER
This signal word denotes a hazard with a high degree of risk which, if not avoided, will lead to death or serious injury.

WARNING
This signal word denotes a hazard with a moderate degree of risk which, if not avoided, may lead to minor or moderate injury.

CAUTION
This signal word denotes a hazard with a low degree of risk which, if not avoided, will lead to minor or moderate injury.

NOTE
This signal word denotes a Special Technical Feature or (if not observed) potential damage to the product.

Refers to separate documents which are enclosed or can be requested from Webasto.

Symbol	Explanation
✓	Requirements for the following necessary action
►	Necessary action

1.5 Warranty and liability

Webasto shall not assume liability for defects or damage that are the result of the installation and operating instructions being disregarded. In particular, this liability exclusion applies in the following cases:

- Improper use.
- Use of non-original spare parts.
- Installation and commissioning carried out by unqualified staff (not an electrician).
- Modification of the device without observing Webasto repair instructions.

2 Safety

2.1 General information

The charging station has been developed, produced, tested and documented according to the relevant safety regulations and environmental requirements. The device must only be used in a technically faultless condition.

Have any malfunctions that adversely affect the safety of persons or of the device rectified immediately by an electrician in accordance with nationally applicable regulations.

NOTE
It is possible that the signalling in the vehicle differs from that described here. Always read the operating instructions of the respective vehicle manufacturer and always observe these.

2.2 General safety information

- Hazardous voltages are present within the casing.
- The charging station does not have its own main ON/OFF switch. The protective devices installed in the power supply system are therefore also used to disconnect the power supply.
- Check charging station for visual damage before use. Do not use the charging station if damaged.
- Installation, electrical connection and initial operation of the charging station must only be carried out by an electrician.
- Do not remove the cover of the installation area whilst in operation.
- Do not remove markings, warning symbols and the type label from the charging station.
- The charging cable must only be replaced by an electrician in accordance with the installation instructions.
- It is strictly prohibited to connect other equipment/devices to the charging station.
- When not in use, store the charging cable in the designated holder and lock the charging coupling in the charging station. Loosely wind the charging cable around the charger casing so that it does not touch the ground.
- Make sure that the charging cable and coupling cannot be driven over, trapped and are protected from any other hazards.
- Immediately notify Webasto Customer Service if the charging station, charging cable or the charging coupling are damaged. Do not continue using the charging station.
- Prevent the charging cable and coupling from coming in contact with external heat sources, water, dirt and chemicals.
- Do not attach extension cables or adapters to the charging cable.
- Remove the charging cable by pulling on the charging coupling only.
- Never clean the charging station with a high-pressure cleaner or similar device.
- Switch off the power supply before cleaning the charging sockets.
- When using the charging cable, please ensure that the maximum permitted force of 39 N (for 11 kW) and 48 N (for 22 kW) is not exceeded.
- Ensure only persons who have read these operating instructions have access to the charging station.

2.3 Safety information for installation

- Installation and connection of the charging station must only be carried out by an electrician.
- Only use the supplied installation material.
- The Webasto Pure safety concept is based on a power supply system that is earthed at all times. The electrician must ensure this requirement during installation.
- The charging station is suitable for use in areas without access restrictions.
- Do not install the charging station in an explosion sensitive area (EX zone).
- Install the charging station in such a way that the charging cable does not block any passageways.
- Do not install the charging station in areas subject to ammonia or air containing ammonia.
- Do not install the charging station in a location where falling objects (e.g. extension reel or tyres) can damage the charging station.
- The charging station is designed for use indoors, e.g. garages as well as for use in protected outdoor areas, e.g. carports. Do not install the charging station in the vicinity of water jets, e.g. car wash installations, high pressure cleaners or garden hoses.
- The charging station shall not be exposed to direct rain to prevent damage due to freezing, hail or similar.
- Protect the charging station from direct sunlight. The charging current may be reduced at high temperatures or charging may be disabled completely.
- The installation location of the charging station should be selected such that vehicles cannot inadvertently collide with it. Protective measures must be implemented if the possibility of damage cannot be ruled out.
- Do not place the charging station into operation if it is damaged during installation. A replacement will be required.

2.4 Safety information for electrical connection

- Comply with the nationally applicable requirements pertaining to electrical installations, fire protection, safety regulations and escape routes at the intended installation location. Observe the applicable national installation regulations.
- Each charging station must be protected with its own line circuit breaker and residual current circuit breaker. See chapter 7.1, "Requirements at the installation location" on page 5.
- Make sure that the electrical connections are de-energised before connecting the charging station to the power supply.
- Do not connect a vehicle during initial start-up of the charger.
- Make sure that the correct supply cable is used for the power connection.
- Do not leave the charging station unattended with the cover open.
- Do not install the charging station without the mounting frame.
- Change DIP-switch settings only with the power off.
- Register with the power supply company as required.

2.5 Safety information for initial start-up

- Initial start-up of the charging station must be carried out only by an electrician.
- Prior to initial start-up, the electrician must check that the charging station has been connected correctly.
- Before starting-up the charging station, check the charging cable, charging coupling and the charging station for visible damage. The charging station must not be started up if it is damaged or if the charging cable/charging coupling is damaged.

3 Unit description

These operating and installation instructions describe the Webasto Pure charging station. The exact unit description is indicated on the type label of the charging station.

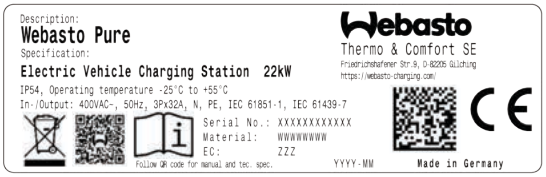

Fig. 1

4 Transportation and storage

Observe the ambient temperature for storage during transportation. See chapter 13, "Technical data" on page 11.

Transport the charging station only when suitably packaged.

5 Scope of delivery

Scope of delivery	Amount
Charging station with pre-assembled charging cable	1
Mounting frame	1
Key	2
Installation kit for wall mounting	
■ Wall plug (8 x 50 mm, Fischer UX R 8)	4
■ Screw (6 x 70, T25)	2
■ Screw (6 x 90, T25)	2
■ Washer (ISO 7089-8,4)	4
Operating and installation instructions	1

- ▶ Take the charging station and the mounting frame from the package.
- ▶ Check the completeness of the delivery.
- ▶ Check the complete delivery for damage.

6 Required tools

Tool description	Amount
Slot-head screwdriver 0.5x3.5 mm	1
Torx screwdriver Tx25	1
Torx screwdriver Tx10	1
Drilling machine with 8 mm drill	1
Mounting tools for 8 mm plugs and screws	1

Tool description	Amount
Hammer	1
Mounting tools for electrical cables and wire end ferrules	1
Multimeter	1
EV simulator with rotary field display	1
Required when replacing the charging cable: Mounting tools for cable glands M16 (wrench size 20 mm) and M32 (wrench size 36 mm)	1
Round file	1
Combination pliers	1

7 Installation and electrical connection

Observe the safety information provided here chapter 2, "Safety" on page 3.

NOTE

In addition to these operating and installation instructions, follow and comply with the local regulations relating to operation, installation and environmental protection.

NOTE

The Webasto Pure safety concept is based on a power supply system that is earthed at all times, which must always be ensured by an electrician during installation.

7.1 Requirements at the installation location

Take into account the following points when selecting the installation location for the Webasto Pure:

- The normal parking position of the vehicle.
- The location of the charging plug on the vehicle.
- A cable run from the charging station to the vehicle as short as possible.
- No risk of driving over the charging cable.
- Possible electrical connections.

If several charging stations are to be installed next to each other, a spacing of at least 200 mm must be maintained between each station.

The mounting surface must be completely flat (max. 1 mm difference between the individual mounting points).

The charger casing must not sag or twist.

NOTE

The mounting distance between the bottom edge of the charging station and the floor must be at least 0.9 m.

7.2 Criteria for the electrical connection

The maximum charging current is factory set and is indicated on the type plate of the charging station. The maximum charging current can be adapted to the value of the installed circuit breaker with the DIP-switches.

NOTE

The current value of the selected protective device must not fall below the current value specified on the type plate for the charging station or that set using the DIP switch.

See chapter 7.5, "DIP switch settings" on page 7.

Before connecting, have the prerequisites for connection checked by an electrician.

Comply with the nationally applicable regulations of the authorities and power supply companies, e.g. registration of installation of a charging station.

NOTE

As specified by the technical rules E VDE-AR-N 4100 (draft) 1-phase charging of vehicles is limited in Germany to 20 A. 1-phase charging with 32 A charging current is permitted in other countries, if allowed by local regulations. The 20 A limit can be deactivated by the user in compliance with national regulations and standards.

All protective devices specified must be designed such that every power supply pole of the charging station is disconnected in the case of a fault. When selecting the protective device, you must use the national installation regulations and standards.

7.2.1 Dimensioning of the Residual Current Circuit Breaker (RCCB)

To protect against sinusoidal AC residual currents, pulsating DC residual currents and smooth DC residual currents, a residual current device (RCD) type B in accordance with EN 62423 must be connected upstream. The rated residual current must not be greater than 30 mA.

7.2.2 Dimensioning of the circuit breaker

The circuit breaker must conform to IEC 60898. The let-through energy (I^2t) must not exceed a maximum 80,000 A^2s.

Alternatively, a residual current circuit breaker combination (RCBO) according to EN 61009-1 can be used. The aforementioned parameters apply for this circuit breaker combination.

7.2.3 Mains isolation device

The charging station does not have its own main ON/OFF switch. The protective devices installed in the power supply system are therefore also used to disconnect the power supply.

7.3 Installation

See also chapter 12, "Assembly" on page 10. The supplied installation material is intended for mounting the charging station on a concrete wall or on an external stand. For installation on a stand, the mounting material is included in the scope of delivery of the stand. Only use the supplied installation material to install the mounting frame. See for an overview of the mounting frame.

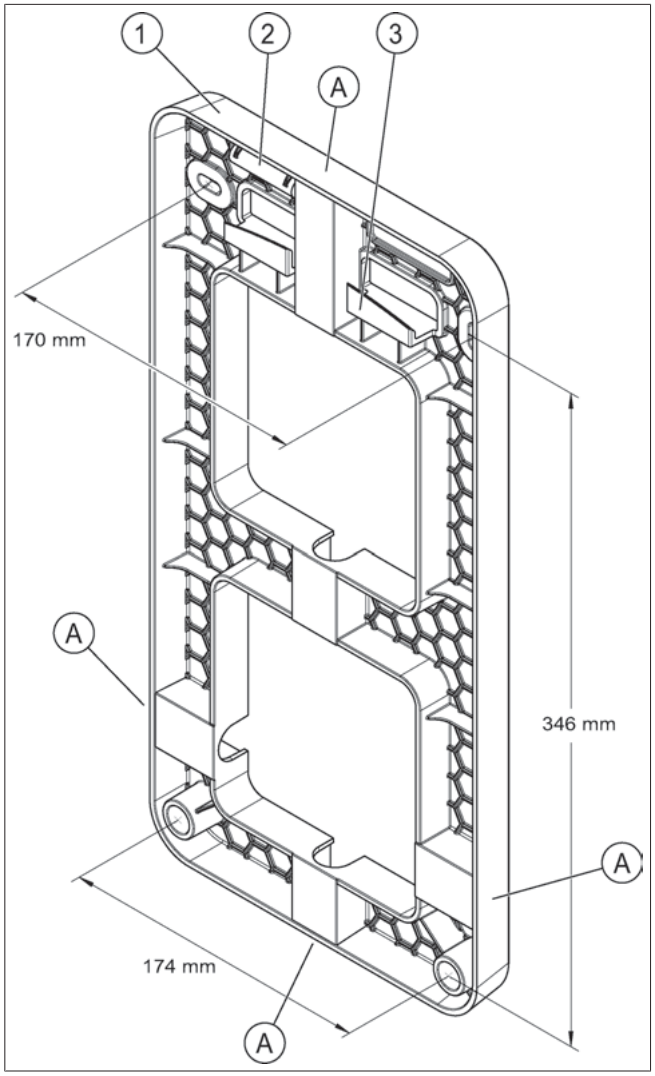

Fig. 2

Legend

①	Mounting frame	③	Hook to attach the charging station
②	Spirit level	Ⓐ	Prepared weak spot

Weak-spots for cable leadthroughs for surface mounting the connection cable.

- ▶ Mark the 4 holes with the aid of the mounting frame and spirit level.
  - – Make sure that the holes are centred.
- ▶ Drill the 4 holes in the wall.
- ▶ Insert the wall plugs in the holes.
- ▶ Prepare the mounting frame for the cable installation:
  - – Connection cable from rear:
    feed the cable through the bottom part of the frame.
  - – Connection cable from top/left/right/bottom:
    remove the prepared weak-spots in the frame.
- ▶ Place the mounting frame in level position.
- ▶ Secure the mounting frame with the 2 short screws and washers on the top holes.
- ▶ Remove the bottom cover from the housing.

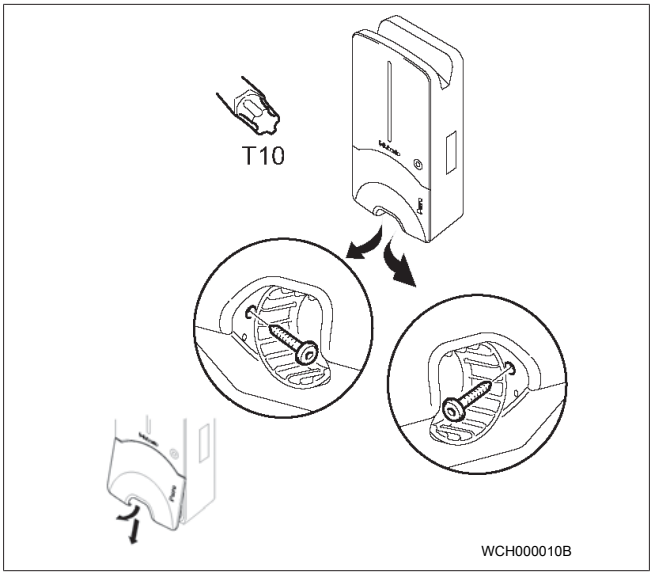

Fig. 3

- ▶ Feed the connection cable through the opening in the lower part of the housing and fix it with the rubber grommet supplied in the scope of delivery.
- ▶ Place the charging stations on the two hooks at the top of the frame.
- ▶ Secure the bottom part of the charging station with the 2 long screws and washers.

7.4 Electrical connections

- ■ The connection terminals are alligator clips.
- ■ Depending on the cable and type of installation, the minimum cable cross-section for a standard installation is 6 mm² (for 16 A) and 10 mm² (for 32 A).

NOTE

Use wire end ferrules in case of flexible connection cable.

- ▶ Feed the connecting cable through the rubber grommet into the centre of the charging station housing, straight and without tension. See also chapter 7.3, "Installation" on page 5.
- ▶ Route the connection cable with the correct radius (approx. cable diameter x10) to the connection terminals.
- ▶ Cut the wires to the correct length. Keep the connections as short as possible. The PE conductor should be longer than all the other wires.
- ▶ Strip the wires to a length of 12 mm.
- ▶ Check whether the power supply is 1-phase or 3-phase.
  - – 1-phase: Use only L1, N and PE.
  - – 3-phase: Use L1, L2, L3, N and PE. Then measure the phase order.

NOTE

A clockwise phase order is required.

- ▶ Secure the wires to the connection terminals as illustrated.

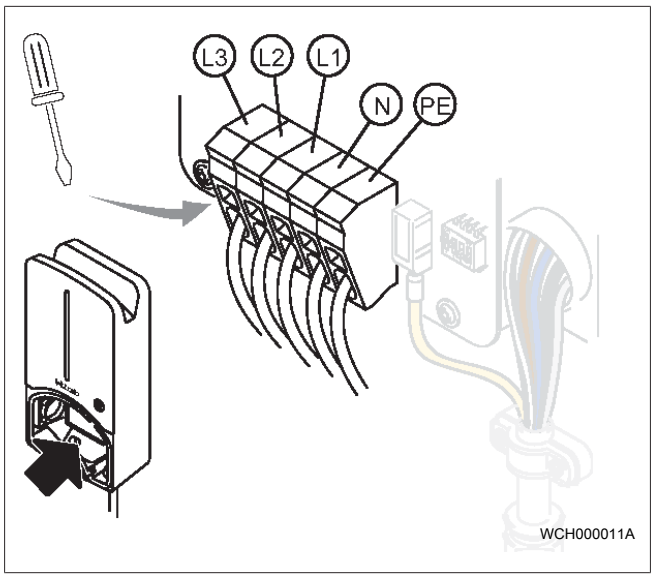

Fig. 4

- ▶ Check that the connections are tight and connection cable is secure.

7.5 DIP switch settings

DANGER

High voltages.

- ▶ Danger of fatal electric shock.

- ▶ Ensure safe isolation from the power supply.

DIP-switches configure the current setting of the charger.

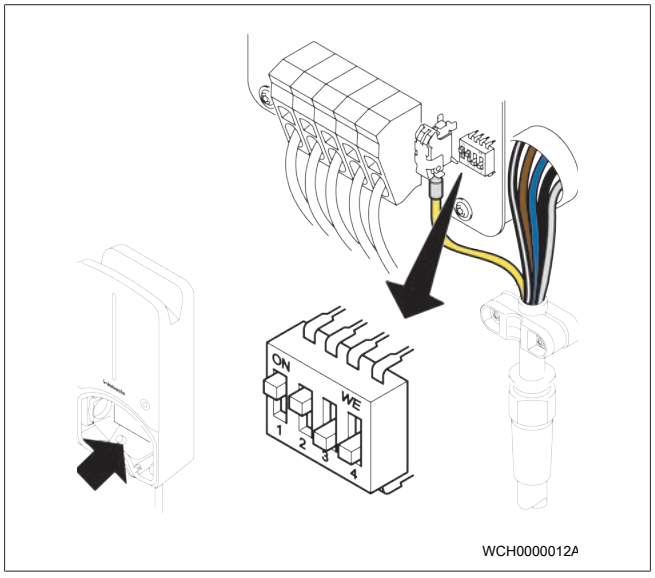

Fig. 5

DIP switch up/ON = 1

DIP switch down/OFF = 0

DIP-switch factory setting: 1100

NOTE

Changes to the DIP switch settings become active after restarting the charging station.

NOTE

DIP switches 3 and 4 are set at the factory. Switches 3 and 4 must be left set to 0.

	Switch				
	1	2	3	4	Capacity
Description	1- or 3-phase	16 or 32 A per phase	Factory setting		
16 A (1-phase)	0	0	0	0	3.7 kW
32 A (1-phase) *	0	1	0	0	7.4 kW
16 A (3-phase) **	1	0	0	0	11 kW
32 A (3-phase)	1	1	0	0	22 kW

* The charging current is limited to 20 A in the factory in the case of a 22 kW variant with 1-phase charging. See chapter 8.3, "Deactivate charging current limit (option 2)" on page 8. * The charging current is already limited to 16 A in the factory in the case of an 11 kW variant.

** A Webasto Pure programmed for 11 kW cannot be set to 22 kW with the DIP switches.

7.6 Initial start-up

7.6.1 Safety check

Document the results of the checks and measurements carried out during initial start-up corresponding to the applicable installation requirements and standards.

The local regulations relating to operation, installation and environmental protection also apply.

7.6.2 Start-up procedure

- ▶ Remove material residues from the connection area.
- ▶ Check that every screw is correctly tightened and every clamp is correctly engaged.
- ▶ Fit the lower cover.
- ▶ Secure the bottom cover with the mounting screws; Tighten the mounting screws to the stop. See chapter 7.3, "Installation" on page 5.
- ▶ Switch on power supply.
  - – Start sequence is activated (duration up to 60 seconds).
  - – LED indicator flashes in colours at 1 second intervals.

Red/green/blue. See LED indicators, operating status N1.

- ▶ If necessary, unlock charging station with key-operated switch.
- ▶ Perform initial operation check and record measured values in test log. An EV simulator is used for the measurement at the charging coupling.
- ▶ Simulate and test the individual operating and protection functions with the EV simulator.
- ▶ Connect the charging cable to the vehicle.
  - – The LED changes from blue to green.

8 Settings

NOTE

It is necessary to complete the following procedures within a certain time, therefore read through all the steps before starting the procedure.

8.1 To activate programming mode

See also Key-operated switch.

- ✓ Charging station switched on.
- ✓ LED indicator is blue.
- ✓ Key-operated switch set to ON.

✓ No vehicle connected.

▶ Set key-operated switch from ON to OFF, wait until LED indicator flashes blue 3 times.

▶ Set key-operated switch from OFF to ON (for max. 3 seconds).

▶ Set key-operated switch from ON to OFF; wait until LED indicator flashes blue once.

▶ Set key-operated switch from OFF to ON (for max. 3 seconds).

▶ Set key-operated switch from ON to OFF; wait until LED indicator flashes blue 3 times.

– When the LED indicator flashes for the fourth time it changes to white and the charging station automatically assumes programming mode.

Programming mode activated

The charging station runs through two options 10 times. If no option is selected with the key-operated switch after the charging station has run through them 10 times, programming mode will be deactivated automatically without any changes.

8.2 Dim LED indicator (option 1)

NOTE
The LED colours blue and green can be dimmed. The brightness of the red warning colour can not be changed.

✓ Programming mode activated:

The LED indicator flashes white in the following sequence once:

– 0.5 s OFF;
– 0.5 s ON;

After a four second pause the LED indicator switches to yellow for one second:

▶ Set key-operated switch from OFF to ON.

– "Dim LED indicator" function activated.

The LED indicator changes to blue and dims in several stages from maximum to minimum, in 3 second intervals. After reaching the lowest dim level the LED indicator switches back to maximum.

NOTE
If the key-operated switch setting is not changed from ON to OFF within 180 seconds, the original dim level will remain unchanged and the programming mode will be deactivated.

▶ Set key-operated switch from ON to OFF.

✓Dim level is selected.

If the key-operated switch setting is not changed further within 60 seconds, the selected dim level will be saved and programming mode deactivated.

▶ Set key-operated switch back from OFF to ON to switch to standby mode.

8.3 Deactivate charging current limit (option 2)

NOTE
The charging current limit is only activated in the factory for a 22 kW variant.

NOTE
The charging current is only limited to 20 A for 1-phase charging.

NOTE
The charging current limit may only be deactivated in compliance with national regulations and standards.

✓ Programming mode activated:

The LED indicator flashes white in the following sequence once:

– 0.5 s OFF;
– 0.5 s ON;
– 0.5 s OFF;
– 0.5 s ON;

After a three second pause the LED indicator switches to yellow for one second:

▶ Set key-operated switch from OFF to ON:

– Activate "charging current limit" function.

The current setting is indicated in colour by the LED:

Charging current limit activated = purple

Charging current limit deactivated = light blue

NOTE
If the key-operated switch setting is not changed from ON to OFF within 60 seconds, the original setting will remain unchanged and the programming mode will be deactivated.

▶ Set key-operated switch from ON to OFF:

✓Charging current limit activated:

– The 20 A limit is deactivated and the charging station is configured to the maximum current value (see type plate). The LED indicator changes to light blue.

✓Charging current limit deactivated:

– The 20 A limit is activated. The LED indicator changes to purple.

When the key-operated switch setting is not changed further within 60 seconds, the selected setting will be saved and programming mode deactivated.

▶ Set key-operated switch back from OFF to ON to switch to standby mode.

9 To replace the charging cable

DANGER
Danger of fatal electric shock.

▶ Switch off and secure the power supply to the charging station.

NOTE
Only use genuine Webasto parts.

NOTE
The charging cable may be replaced a maximum of four times during the service lifetime of the Webasto Pure.

NOTE
Refer to the Webasto online shop for part numbers:
www.webasto-charging.com

Follow the installation instructions provided with the repair kit when replacing the charging cable.

10 Disposal

The symbol of the crossed-out waste bin indicates that this electrical/electronic device must not be disposed of in household waste at the end of its service life. Dispose

of the device free of charge at a local collection point for electrical/electronic devices. Addressed can be obtained from your city or local authority. Separate collection of electrical and electronic devices enables re-use, material recycling or other forms of re-utilisation of waste equipment while also avoiding the negative effects of hazardous substances which may be contained in the devices on the environment and for human health.

- ▶ Dispose of packaging in corresponding recycling container in accordance with national regulations.

11 Declaration of conformity

The Webasto Pure was developed, manufactured, tested and supplied in accordance with the relevant directives, regulations and standards for safety, EMC and environmental compatibility.

Webasto declares that the product Webasto Pure is manufactured and delivered in accordance with the following directives and regulations:

- 2014 /35/EU Low Voltage Directive
- 2014/30/EU EMC Directive
- 2011/65/EU RoHS Directive
- 2001/95/EG Product Safety Directive
- 2012/19/EU Waste Electrical and Electronic Equipment Directive
- 1907/2006 REACH regulation

The complete text of the CE-declaration of conformity is available on the download area of http://webasto-charging.com.

QR code for documentation.

Fig. 6

12 Assembly

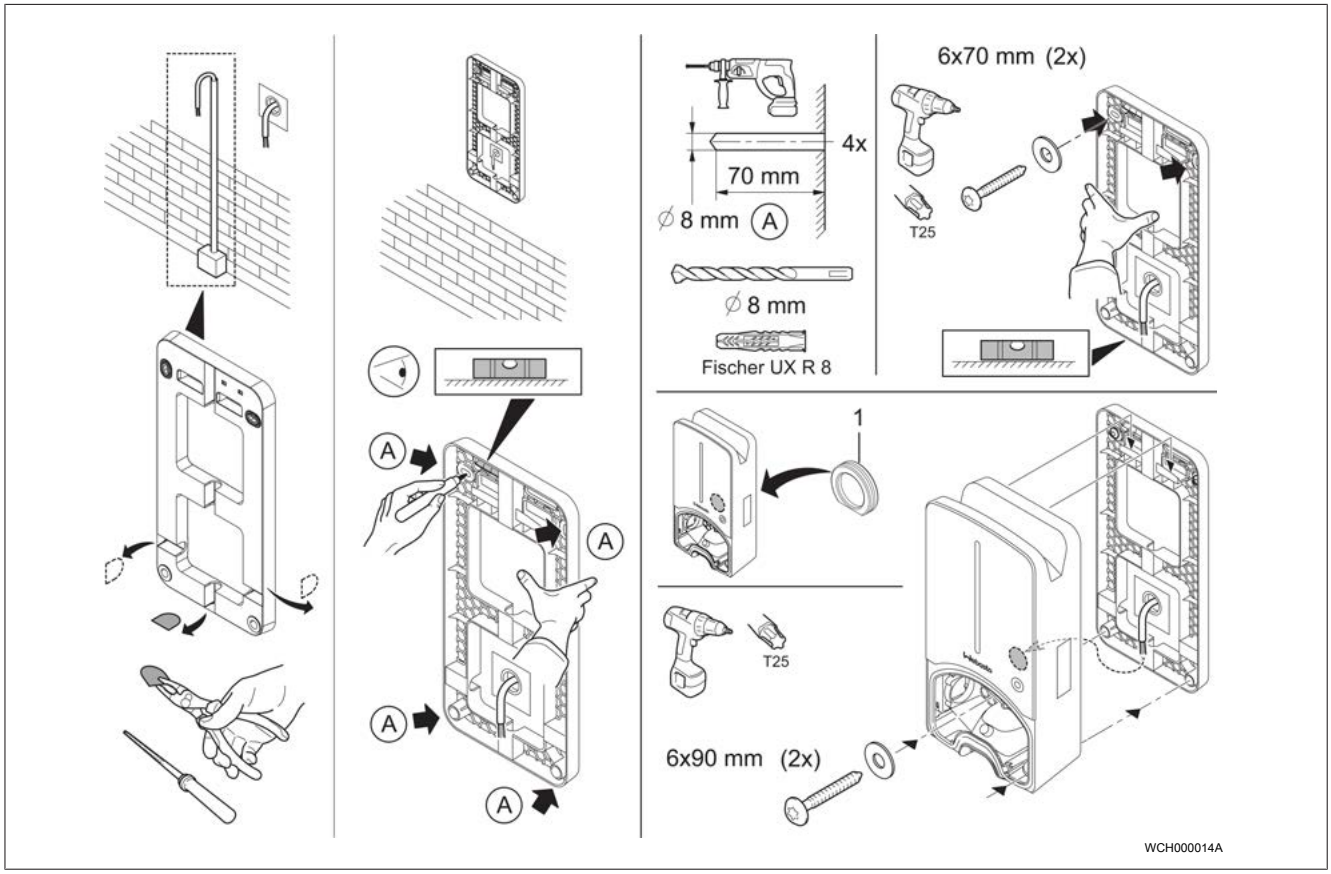

Fig. 7

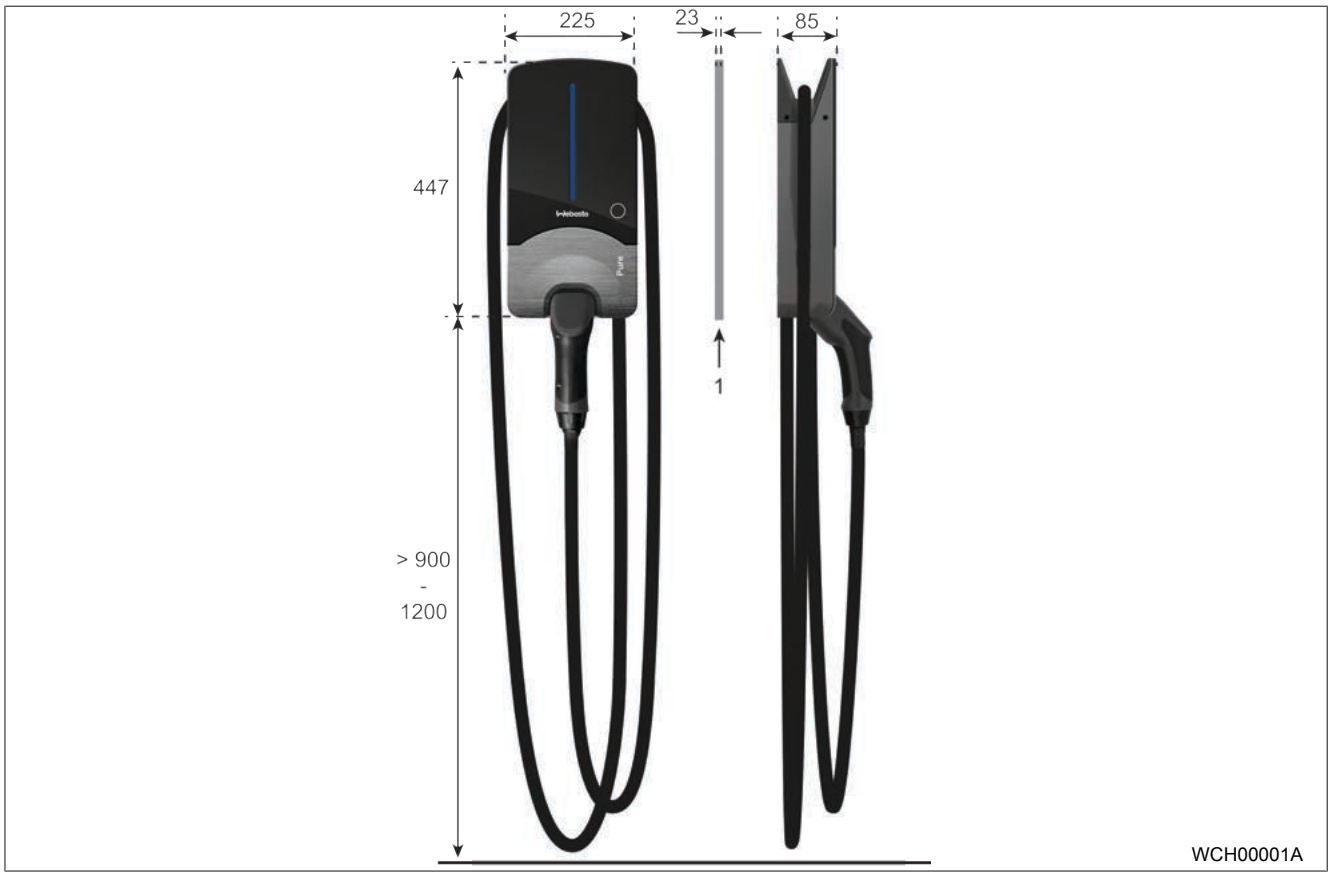

Fig. 8

All dimensions specified in mm.

13 Technical data

Description	Data
Mains voltage [V]	230 / 400 AC (Europe)
Rated current [A]	16 or 32 (single phase or 3-phase)
Grid frequency [Hz]	50
Network types	TT / TN
EMC class	Emitted interference: class B (residential, business, commercial areas)
	Immunity: industrial areas
Overvoltage category	III as per EN 60664
Protection class	I
IP-protection class	IP54
Protection against mechanical impact	IK08
Protective devices	A residual current circuit breaker and line circuit breaker must be provided on the installation side. See chapter 7, "Installation and electrical connection" on page 5.
Fixation type	Wall and base mounting (permanently connected)
Cable feed	Mounted on-wall or in-wall
Power supply conductor cross section	Depending on the cable and type of installation, the minimum cable cross-section for a standard installation is: 6 mm² (for 16 A) 10 mm² (for 32 A)
Charging cable with charging coupling	Type 2 according to EN 62196-1 and EN 62196-2
Mains connection terminal	Connection cable: ■ rigid (min.-max.) 2.5-10 mm² ■ flexible (min.-max.) 2.5-10 mm² ■ flexible (min.-max.) with wire end ferrule 2.5-10 mm²
Output voltage [V]	230 / 400 AC
Max. charging power [kW]	11 kW or 22 kW (depending on factory configuration)
Operating temperature range [°C]	-25 to +55 (without direct solar radiation)
Storage temperature range [°C]	-25 to +80
Display	LED element
Lock	Key-operated switch set to start charging
Altitude [m]	max. 2000 (above sea level)
Permissible relative humidity [%]	5 up to 95 Non-condensing
Weight [kg]	11 kW: 4.6
	22 kW: 5.6
Dimensions [mm]	See figures in chapter 12, "Assembly" on page 10

14 Check list for the installation of the Webasto charging station

Charging station	Webasto Pure	
Charging power	11 kW ☐	22 kW ☐
Serial number		
Material number		

General :	
Installation, electrical connection and initial operation of the charging station must be carried out by an electrician.	☐

Local conditions:	
The charging station has not been installed in an explosion sensitive area (EXzone).	☐
The charging station has been installed in a location where falling objects cannot damage the charging station.	☐
The charging station should not be exposed to direct rain or sunlight in order to prevent damage.	☐
The location of the charging station should be selected such that vehicles cannot inadvertently collide with it.	☐
The legal requirements for electrical installations, fire protection, safety regulations and escape routes have been met.	☐
The charging cable does not block any passageways.	☐
The charging cable and coupling has been protected against coming into contact with external heat sources, water, dirt and chemicals.	☐
The charging cable and coupling has been protected against being driven over, trapped or any other mechanical hazards.	☐
The customer/user was informed how the Webasto Pure voltage is switched off with the installation-side protective devices.	☐

Charging station requirements:	
The cable support sleeves for the power cable and data cable (for live only) have been fitted during installation.	☐
The kink protection for the charging cable has been screwed onto the charging station and the rubber seal has been fitted correctly into the kink protection.	☐
The suitable charging cable (11 kW or 22 kW) has been installed in the charging station (as per type label) during installation. The cable clamp that ensures the charging cable has strain relief has been fitted. The specified torques have been observed. The charging cable has been connected as per the instructions in the operating instructions.	☐
Tools and installation remnants have been removed from the charging station before closing the cover.	☐
The serial number of the charging station has been registered on the online portal: https://webasto-charging.com	☐

Customer/client:	
Place:	**Signature**:
Date:	

Electrician/contractor:	
Place:	**Signature**:
Date:	

These are the original instructions. The German language is binding.
You can request your language if it is missing. The telephone number of each country can be found in the Webasto service centre leaflet or the website of the respective Webasto representative of your country.

Webasto Charging-Hotline: +800-CHARGING (00800-24274464)

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