DC30

Manual

ecotap®

A brand of legrand®

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1. INTRODUCTION

Thank you for selecting an Ecotap® DC Charger.
This manual contains important information on correct and safe installation and use of the DC Charger.

The charging station was designed for charging vehicles fitted with a mode 4 charging system and a CHAdeMO connector plug or a CCS2 connector plug. The charging station and the vehicle will together select the safest option for quickly and safely charging the vehicle.
The charging station complies with directive 2014/35/EU on harmonisation of the laws relating to electrical materials within certain voltage limits (recasting of all earlier published versions).

This manual provides information on safe installation and use of the charging station. This manual was drawn up to ensure optimum operation and technical lifespan of the charging station.

This manual was drawn up with great care. However, if anything in the manual is unclear, please contact your supplier before installing the charging station.

Proper operation of the charging station can only be guaranteed if the charging station is installed by an authorised installer / engineer.

Please read this manual carefully before installing and using the charging station.

Store this manual with the charging station to ensure the instructions and safety regulations are always available.

This is an English translation of the original manual, which was written in Dutch.

Installation video:

2. GENERAL

2.1 Warranty

The Ecotap® B.V. General Delivery Conditions apply.
Ecotap® B.V. cannot be held responsible for injury or damages as a result of the charging station being changed, damaged, converted, or expanded with other components, or if it is not being used in accordance with the specified instructions and conditions.

2.2 Symbols used in this manual and on the charging system

Symbol	Meaning
	Pay attention! Important instruction
	Electrical hazard

	For maintenance: first disconnect the installation from its power supply and test it to make sure there is no voltage left, before engaging in any maintenance activities
	Wear special gloves.
	Disconnect the electrical installation from its power supply
	Reading this manual is mandatory

3. DEVICE DESCRIPTION

3.1 Application

The charging station is specially designed for intensive use. Locations not suitable for placing the charging station: - Small enclosed spaces < 4m3 - The preferred position of the charging station is not directly in full sun.	

3.2 Accessories

The following accessories are **NOT** included in the scope of delivery:
- Installation tools
- Mounting frame
- Screwdriver bit for opening charger
- Drilling template.

3.3 Safety features

- Lockable with special screws
- Fuse boxes / earth leakage protection
- 12 Volts control voltage
- Strain relief
- IP54 waterproof category

4. SAFETY

Read the following safety regulations carefully before you install and use the charging station.	

4.1 Safety instructions

Before you install the charging station, you must make sure the location is safe for all bystanders. NEVER allow children onto this worksite. Never allow ANYONE who has nothing to do with the work onto the worksite.

- Never be distracted while you are performing the work.
- Make sure you maintain a healthy posture at all times while doing the work.
- Do not leave any tools or charging station components unattended.
- Make sure any tools you are using are clean and dry.
- Make sure that the charging station, tools and components will stay dry when it is raining.

	Make sure that there is no danger of anyone tripping over objects or paving while you are digging the hole for the foundation.
	Make sure to wear good, suitable gloves for any special actions throughout the entire installation and connection process.
	Always check any measuring instruments you will be using to disconnect the installation from its power supply before you use them, checking them several times to make sure they are working properly.

5. MANDATORY CHECKS BEFORE INITIAL USE

	The following checks are required to be performed before the charging station is installed and/or used. NEVER use the charging station if, during one or more of these checks, the power supply or stability of the charging station does not comply with safety regulations.
	Always perform the checks below before applying voltage to the charging station.

√ All work described below is in compliance with NEN 3140.
√ Check whether the wires have been connected to the terminals in the right order.
√ Check whether the wires have been properly tightened, 4 to 5 Nm.
√ Check whether the cable thickness of the power cable matches the fused current rating.
√ Check whether the charging station is tightly and properly secured.
√ Check whether the station is sufficiently waterproof.
√ Keep the immediate environment of the work area free from obstacles.

6. OPERATION / INSTALLATION MANUAL

6.1 Wall mounting
When the charger is mounted on a wall, the black mounting frame must be mounted to the wall first, using the supplied bolts, before hanging and fixing the charger to the mounting frame.
The perfect height of the charger is between 75cm and 95cm measured from the bottom of the charger. (such that the cable holder is located at a height between 95cm and 115 cm)
Preferably the charger is not placed in a location in direct sun light.

6.2 Mounting on a frame
Installation of the foundation frame requires a hole of about L400 x W250 x D700 mm.
The power cable can be guided through the lower opening to the upper opening.
The (black) mounting frame must be removed first. This frame is not needed when the station is mounted on the foundation frame. The bolts for the black mounting frame can be used to mount the charger on the foundation frame.

See figures 1, 2, and 3.

Figure 1

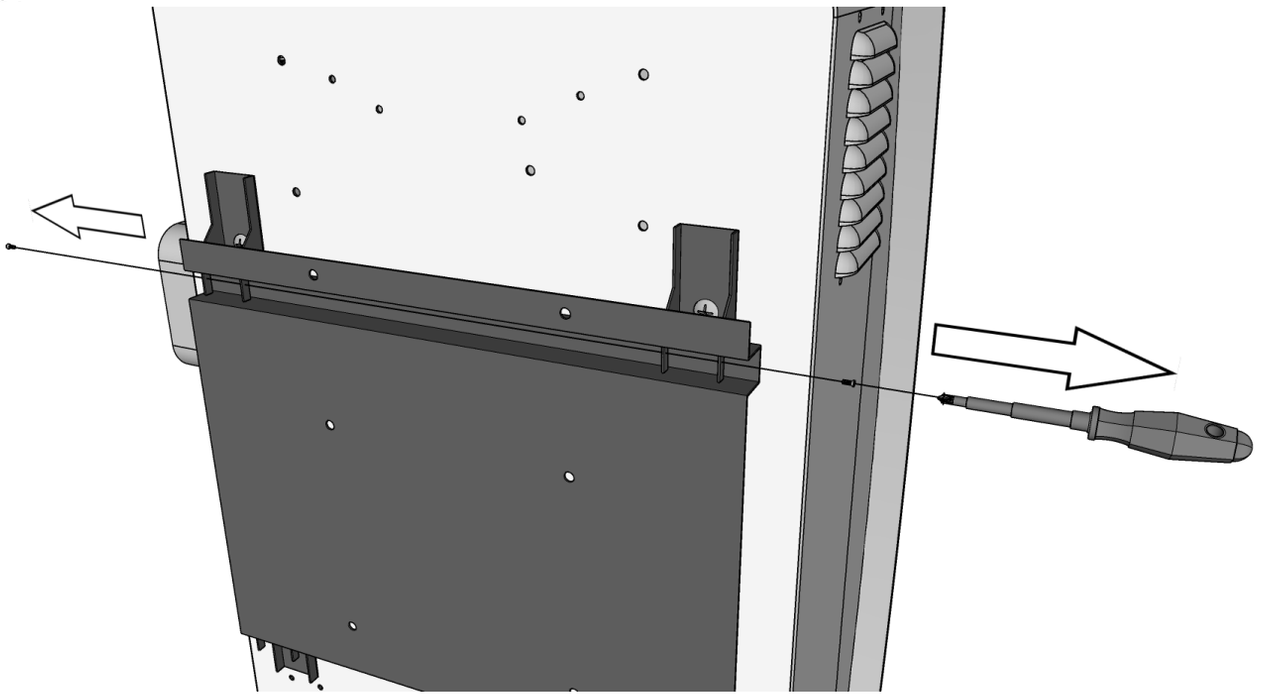


Figure 2

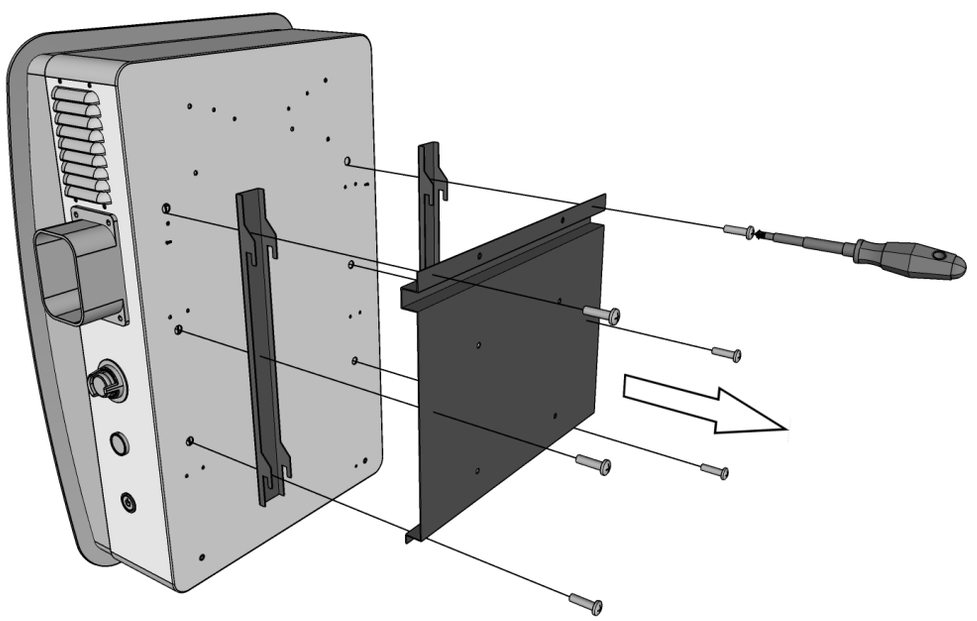
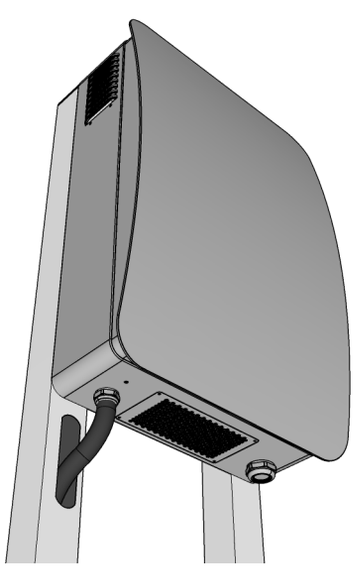


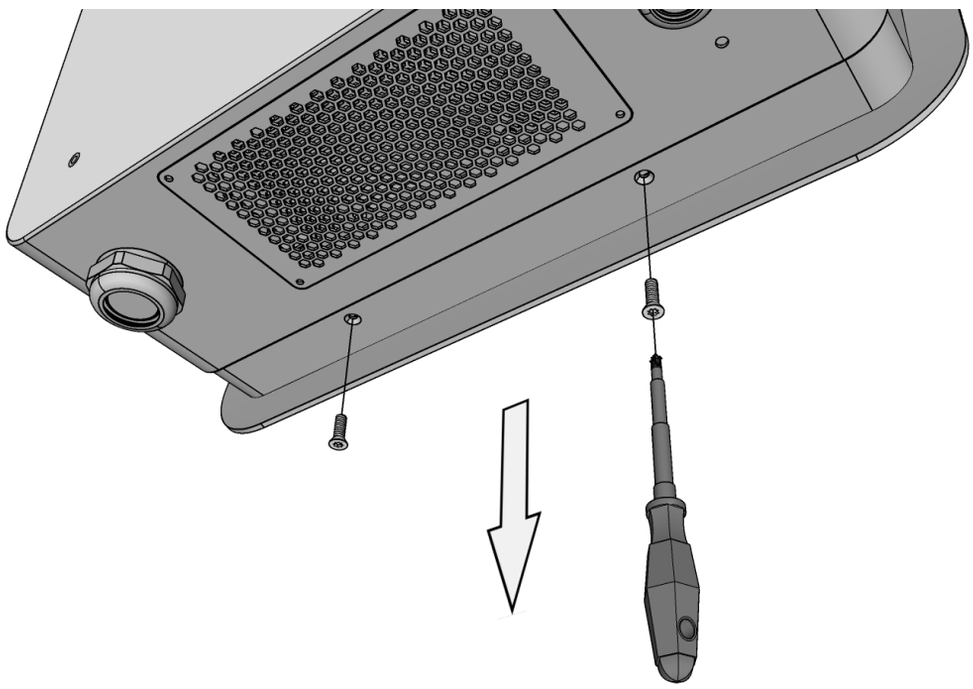
Figure 3



6.3 Open the cover

Proceed as follows to open the cover.
Use a screwdriver bit to remove the screws on the bottom of the charger. See figure 1 The cover can then be removed by sliding de cover to the side and then upward.
To close the cover, perform this procedure in the reverse order.

Figure 4

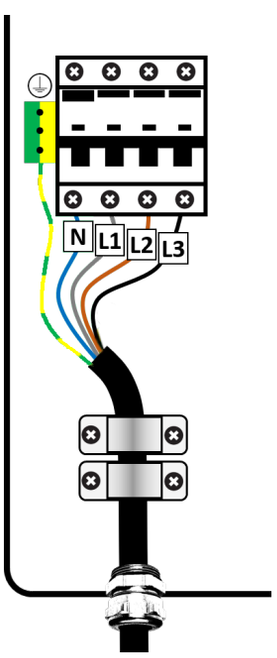


6.4 Drilling instructions

Determine the height of the DC charger. The upper sides of the DC charger protrude 16 cm above the two highest drill holes.

6.5 Insert the cable and attach the strain relief

Insert the power cable at the bottom and tighten the cable gland.
Attach the cable to the provided strain relief bracket inside the charger.
Connect the cable wires to the terminals of the main switch (max. 5Nm).



7. MAINTENANCE

Always disconnect the charging station from the power supply and read the manual before performing maintenance or fixing a malfunction.
Only products approved by the supplier can be used to repair or replace components. Repairs and replacements should always be carried out by a certified specialist.
Maintenance should always comply with and be carried out in accordance with NEN3140 and NEN50110 low voltage EU regulations.

Check the charging station for leaks.
Check the wires of the main power cable and ensure a tight connection of at least 3.5 to 5 Nm.
Treat any damage to the charging station with anti-corrosion paint.

8. TRANSPORTATION AND STORAGE

The charging station must be transported in a flat position in its box in order to prevent damage to the paint. Damage to the paint can lead to corrosion.
The charging station should be stored in a dry area.

9. RESOLVING PROBLEMS

Under no circumstances open the charging station yourself! This is highly dangerous. Only certified fitters/installers with the correct measuring tools may connect the charger and open it for repairs.
CAUTION!
All work and modifications to the charging station must at least comply with NEN1010 /3140.

10. OPERATION OF THE CHARGING STATION

The charging station can be operated with the charging card or a likewise key fob.

The charging station still has to be registered.The charging station is accompanied by a letter that will guide you through the registration process; this letter is intended for the owner of the charging station.As soon as registration is complete, the charging station can be put into operation; all the settings for using the charging station are set via the wireless connection that the charging station establishes with the Internet via 3G/UMTS/GPRS.

10.1 Operation

You remove the plug from the charging station cradle and insert it into your vehicle. The procedure starts by holding the charging card briefly in front of the scan point. First, the plug is locked in the vehicle.The signal lamp on the charging station will start flashing green (may take 1 to 2 minutes)Then the charging station communicates with the vehicle and the BackOffice system. Once all security and pass data have been checked, the charging process is started. The signal lamp on the charging station will light blue. After some time, the charging station may activate the cooling systems provided for this purpose to dissipate excess heat via the vent channel.To stop the charging process, hold the pass briefly in front of the scan point. The charging process is stopped. You can now remove the plug and hang it back in the provided holder.You may also need to unlock the car with remote control or button on vehicle to be able to disconnect the plug.

10.2 Emergency stop

In case of an emergency, the emergency button provided for this purpose must be used. On activation of the emergency button, the charging process is immediately aborted both software and hardware.To unlock the emergency button, the button must be moved clockwise with a small twist , the button will then spring back to its resting position.

11. TECHNICAL SPECIFICATIONS

AC INPUT	
Input voltage:	3 x 400VAC + N ± 10%
Input frequency:	50Hz
Power factor:	Rated output load PF ≥ 0.99
Connection value:	Minimal 3 x 50A (With a lower available capacity, the charger can be set lower by software)
RCD:	Type B
Input under voltage protection:	255V ±5V
Input overvoltage protection:	535V ±5V
DC OUTPUT	
Protocol:	Mode 4
Output power:	1 - 30 kW
Constant power range:	30KW@200-1000V
Output voltage range:	200-1000VDC
Output current range:	0~80A
Output overvoltage protection:	510±5V
Output under voltage alarm:	140V±2V
Voltage stabilized accuracy:	≤±0.5%
Max. startup overshoot:	≤±1%
Current stabilized accuracy:	≤±1%
Startup Time:	Normally 3s ≤ t ≤ 8s
Efficiency:	>96%
OPERATING ENVIRONMENT	
Operating temperature:	-30°C ~ 70°C, derating from 55°C
Overtemperature protection:	On temperature >70°C±4°C or <-40°C±4°C, charger will shut down automatically
Operating/ambient temperature:	-25°- to 60°
Storage temperature:	- 40°C ~ 85°C
Humidity:	≤ 95% RH, without condensation
Pressure/Altitude:	79kPa~106kPa/2000m

PHYSICAL CHARACTERISTICS	
Acoustic Noise:	< 58dB (measured at 1 meter distance, under ideal conditions)
Cooling:	Air Cooling fans
Dimensions:	710 mm x 480 mm x 225 mm
European Standards:	EN 61851-1 2011, EN 6185123-2014, CE
Casing material:	Steel >1,5 mm
Treatment:	Anti-corrosion and powder coating
Standard colour:	Body: RAL 7011 / Cover: RAL 9016
Weight:	57 kg
Number of charging points:	1 (CCS)
Cable length:	3 meter
Maximum cable thickness:	16 mm2
Fixation:	To wall or stand
MTBF:	> 500000 hrs (40°C)
DC power plug:	Mode 4 (IEC-61851-23/24) Combo-2 (DIN 10121)
Enclosure protection against external impacts:	> IK10 according to IEC 62262
Loadbalancer:	Charging speed is adjusted based on the available amount of energy at a certain moment within the network connection
CONTROL	
Back office protocol :	OCPP 1.6 Json
Start-Stop:	RFID-card
Suitable charge cards:	Mifare, NTag and iCODE SLI cards (more info)
Network interface:	Ethernet (standard) / GPRS-UMTS (3G)
Push button:	Emergency stop button

Pay attention ! Earthing (earth dispersion resistance) completely in accordance with the applicable standards.

Ecotap® B.V. reserves the right to change the above technical data without prior notice due to ongoing, innovative developments of the charging station. Moreover, the technical data may vary from country to country.

12. CONTACT DETAILS SUPPLIER

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5281RV Boxtel – The Netherlands
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13. EU CONFORMITY STATEMENT

(Directive 2014/35/EU, Annex II page 96/369, EMC 2014/30/EU)

Ecotap® B.V. Kruisbroeksestraat 23, 5281RV Boxtel, the Netherlands, hereby states that the following charging station meets the requirements of the listed directives and standards.

Type: Ecotap® DC 30 **Year of construction: 2019**

EU directives used:
- Low-voltage directive 2014/35/EU
- EMC directive 2014/30/EU

Standards used as reference:
• EN 61851-23:2014
• EN 61851-1:2012
• EN 61851-21-2 :2016
• EN 61000-3-11:2000
• IEC 61000-3-12:2011
• EN 61000-4-2:2009
• EN 61000-4-3:2006
• EN 61000-4-4:2012
• EN 61000-4-5:2014
• EN 61000-4-6:2014
• EN 61000-4-8:2010
• EN 61000-4-11:2004
• NEN/EN/IEC 60529
• IEC 62262
• NEN/EN/IEC 61439-1
• IEC/TS 61439-7

Used harmonisation standards:
NL NEN-EN-IEC 61851-1/ NEN-EN-IEC 61851-22
FR NF-EN-IEC 61851-1 / NF-EN-IEC 61851-22
DE DIN-EN 61851-1 / DIN-EN 61851-22
GB BS-EN 61851-1 :2019 / BS-EN 61851-22
IT IEC-EN 61851-1 / IEC-EN 61851-22

Boxtel, April 2019

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