

# MANUAL C-12-LFP

VOLL® CHARGER LIFEPO4/LI-ION

## 1. INTRODUCTORY INFORMATION

### 1.1 GENERAL DESCRIPTION

VOLL® solar system 12 consists of a left and right solar panel (SP-12-Pro-L or SP-12-Pro-R) with charging point, a battery (B-12-LFP), and a charger (C-12-LFP). The solar panel can be applied to an extended range of 12V solar motors. The captured sunlight is converted into electrical energy by the solar panel and can be stored by the battery, which allows the solar motor to operate autonomously. If the battery is empty, the battery can be charged via the charging point on the solar panel by the relevant charger.

### 1.2 SCOPE AND INTENDED USE

The charger is used to charge both an external and an internal battery of 12V solar motors. Charging can be done directly via the battery or motor, but also via the charging point of the solar panel. Modifications to the system are not permitted. Caution is advised.

### 1.3 LIABILITY

- Please read this manual carefully before installing and operating this product.
- Any use of this product outside the scope described above is prohibited. This and failure to follow the instructions contained in this manual will void VOLL®'s liability and warranty.
- VOLL® strives to continuously improve all products, so that the specifications, applications and technologies mentioned on this sheet can be adjusted at any time. The information offered on this sheet is based on the information currently known at the time of publication of this manual. No rights can be derived from information, schematic drawings, or images given in this manual.

Contact a VOLL® dealer or check [voll-energie.nl](http://voll-energie.nl) if in doubt when installing the product or for additional information.

## 2. SAFETY INSTRUCTIONS

- Use only for the scope and intended use described in section 1.2.
- The intended use of this product is to charge a Li-ion battery. Refer to the marking on the product to check which product it is and read the applicable instructions and technical specifications in this manual.
- This product may be used by unskilled users, provided that these instructions are followed.
- Untrained users may contact a VOLL® representative or VOLL® dealer if necessary for assistance with setting up, using, or maintaining this product, and for reporting unexpected operating situations or events.
- This appliance may be used by children from 8 years of age and by persons with reduced physical, sensory or mental capabilities or persons lacking experience and knowledge, provided that they have been given supervision or instruction concerning the safe use of the appliance during use and thus understand the

dangers involved. Do not allow small children to handle this product unsupervised as cables may pose a risk of suffocation and small parts may pose a risk of inhalation or ingestion.

- Do not allow animals to come into contact with this product, some animals are known to cause damage to cables, which may cause a risk of electric shock and high temperature. In addition, cables and small parts can pose a choking risk to the animal.
- Check that the power cord is not damaged. If the cord is damaged, the product should not be used until the cord or the product has been replaced. Replacement must always be done through a VOLL® representative or VOLL® dealer.
- The socket used must always be easily accessible in order to be able to easily switch off the mains supply to the product in the event of an operating error during operation.
- The product is switched on by plugging it in and switched off by pulling it out of the socket.
- If an operational error or unexpected change in performance occurs during operation, immediately disconnect the product from the mains power supply by unplugging it from the mains socket and contact a VOLL® representative or VOLL® dealer.
- When not using the product, remember to disconnect the product from the power outlet. This will reduce the risk of hazards, reduce the product's environmental impact, and save electricity costs.
- To prevent overheating, there must be sufficient space for air circulation around the product during use. One should not cover it.
- Although this product complies with the relevant safety standards, it should not come into prolonged contact with human skin, as some people may suffer allergies or injuries from prolonged contact with moderate temperatures and/or plastic materials.
- Before using this product with accessories and/or connected equipment, please read the corresponding user manuals carefully.
- This product contains dangerous voltages and there are no user-replaceable parts. Never attempt to remove the cover.
- Modifications to this equipment are not permitted. Repairs/maintenance must be performed by qualified personnel who can obtain assistance by contacting a VOLL® representative or VOLL® dealer.
- The product should be kept away from heat sources and should not be used near flammable anesthetic gases or in other environments with flammable or explosive atmospheres.
- This product complies with electromagnetic compatibility regulations for use in homes, offices, or light industrial environments, but all electrical products always have a potential for electromagnetic or other interference between the product and other devices. If you suspect such a fault, disconnect the product from the power supply and contact a VOLL® representative or VOLL® dealer.
- For products with plastic casings, avoid any contact with lotions, oils, grease, and solvents, as most types of plastic can be affected by such chemicals. Also, make sure not to place, operate, or store such products near UV light and direct sunlight.
- Place, use, and store this product only under reasonably predictable environmental conditions related to magnetic fields, EM fields, electrostatic discharges, pressure, or variations in pressure, acceleration, etc.

- If this product is used with or mounted in a vehicle, it should only be used when the vehicle is not in use.
- Turn off the product and allow the enclosure to cool before moving it to another location.
- Do not immerse the charger in water or other liquids.

Contact a VOLL® dealer or check [voll-energie.nl](http://voll-energie.nl) if in doubt during product installation or for additional information

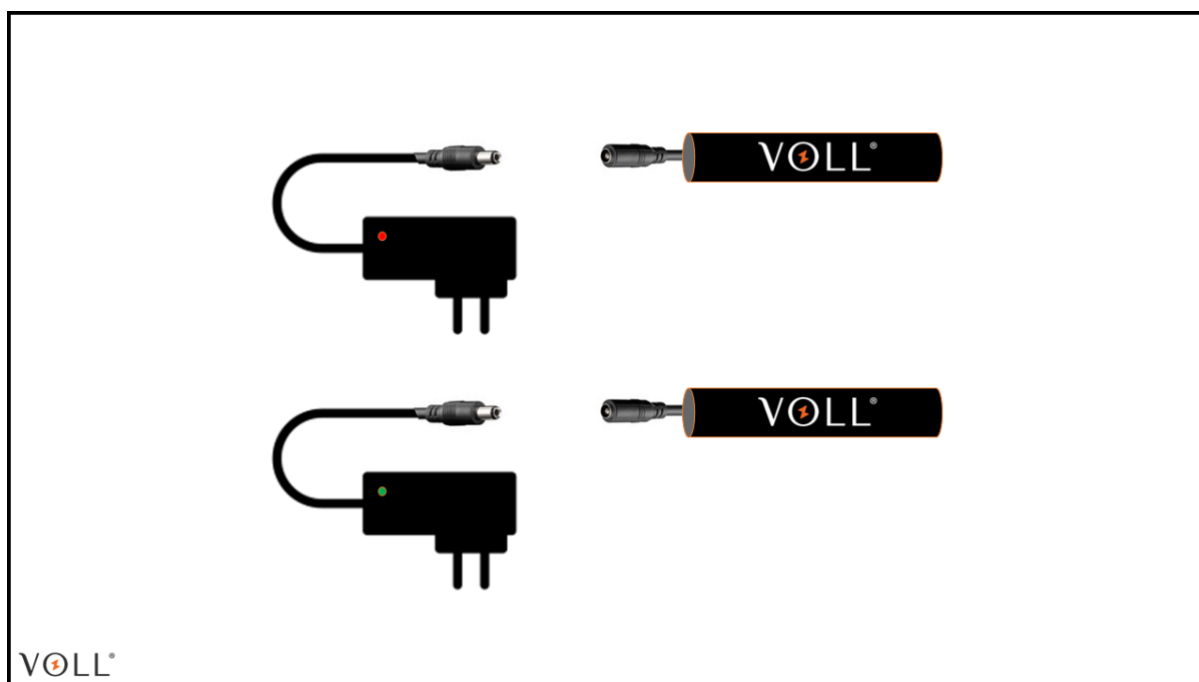
### 3. INSTALLATION

#### 3.1. CONNECTION CONDITIONS

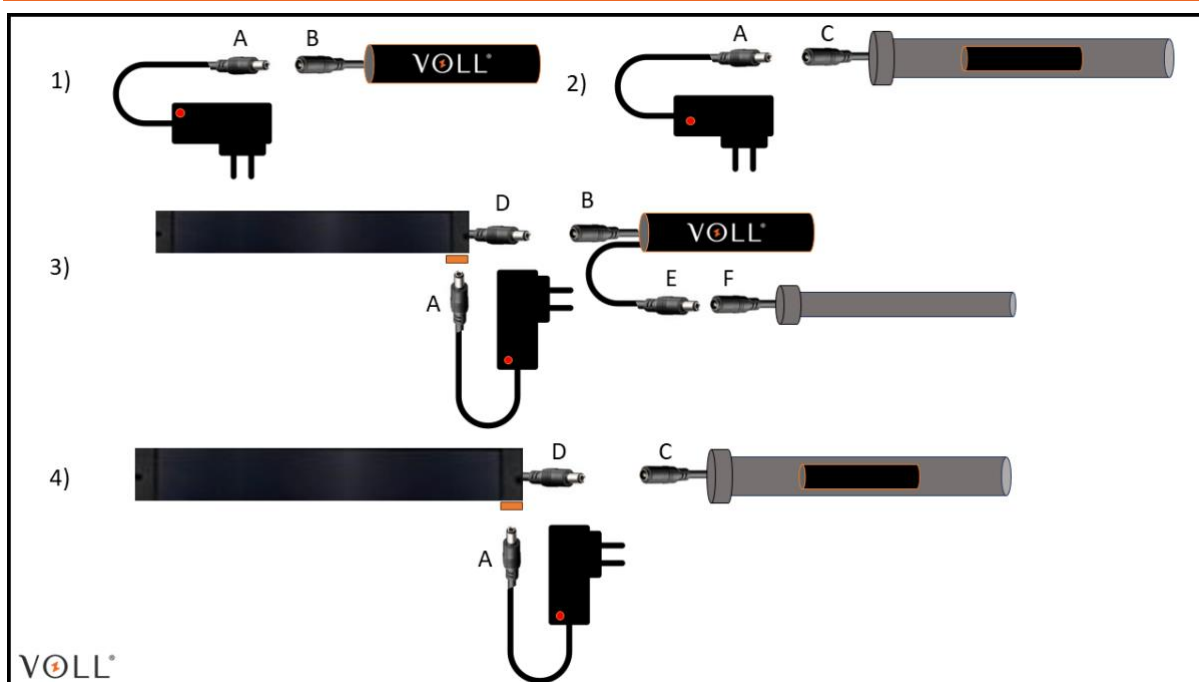
- The person using the charger must follow the guidelines below.
- The C-12-LFP charger is intended exclusively for charging the 12V LiFePO<sub>4</sub>/ Li-ion batteries.
- Make sure you have the correct charger for the battery you want to charge.
- Do not attempt to charge other batteries as described here.
- Check that your battery's specification allows environmental conditions while charging.
- Do not charge the battery in too high or too low temperatures.
- The charging cycle starts immediately as soon as the charger is connected to the mains power.
- If the charger is disconnected from the mains during a charging cycle, it will start a new charging cycle as soon as it is reconnected to the mains.
- When charging is complete, unplug the charger before removing the batteries.
- Avoid loose cables as much as possible.
- Make sure the connection is secure.

No adjustment may be made in the charger connector after delivery of VOLL®.

The light on the charger will be red while charging and will change to green when charging is complete.



### 3.2 CONNECTION DIAGRAM



*A = DC3.5X1.35-M; B = DC3.5X1.35-F; C = DC3.5X1.35-F; D = DC3.5X1.35-M; E = DC5.5X2.1-M; F = DC5.5X2.1-M.*

The charger can be connected in four ways:

1. The charger is connected to B of the external battery by means of A.
2. The charger is connected to C of the solar motor with internal battery by means of A.
3. The charger is connected to the charging point of the solar panel by means of A. The solar panel is connected to B of the external battery by means of D. The external battery is connected to F of the solar motor by means of E.

4. The charger is connected to the charging point of the solar panel by means of A. The solar panel is connected to C of the solar motor with internal battery by means of D.

## 4. MAINTENANCE, STORAGE AND RECYCLING

### 4.1 MAINTENANCE

No special maintenance procedure has been defined, but if the product becomes dusty or dirty, it should be wiped clean with a dry cloth while the product is not connected to mains power. No other maintenance is required.

If the solar motor still does not function properly after charging, the battery may need to be replaced or the installation of the solar panel may need to be adjusted. Contact a VOLL® representative, VOLL® dealer or visit [www.voll-energie.nl](http://www.voll-energie.nl) in case of doubt at the installation of the product or for additional information.

### 4.2 STORAGE

Make sure the charger is disconnected from the motor, solar panel, and battery during long-term storage.

Environmental conditions during transport and storage between periods of use, for no more than 4 weeks, should be within the temperature range -20 °C to +60 °C.

For storage longer than 4 weeks, the ambient conditions must be within the temperature range +5 °C to +35 °C.

### 4.3 RECYCLING



The charger must not be disposed of with household waste. The consumer and/or installer is legally obliged to recycle the charger via a local collection point.



Separating and recycling the solar panel contributes to protecting our environment.

## 5. TECHNICAL DATA

### 5.1 SAFETY SYMBOLS



Products with the "double square symbol" are double insulated (insulation class II). Products without this mark belong to Class I (safety earth connection necessary). To avoid the risk of electric shock, Class I products must only be connected to a power supply with protective earth connection.



This symbol indicates that the product is suitable for indoor use only. It should not be exposed to weather conditions such as rain, snow, or extreme temperatures. Ensure that the product is always used in a dry, well-ventilated area to avoid damage and prolong the life of the product.



Please read the manual carefully before using the product. The manual contains important instructions for safe and proper use.



**Warning:** There is a potentially hazardous situation when using this product. Read and follow all safety instructions in this manual to avoid accidents, injury, or damage.



**Warning:** There is a potential risk of electric shock or electrocution when using this product. To avoid electrical accidents, read and follow all safety instructions in this manual. Make sure that the charger is not exposed to water or other liquids and only use it according to the instructions.

## 5.2 DATASHEET

C-12-LFP	
Max. power	28.8 W
Output voltage (DC)	14.4 V
Output Current (DC)	2 A
Input voltage (AC)	100-240 V
Input frequency	50/60 Hz
Protection class	IP41
Dimensions (LxWxH)	80x50x50 mm
Standard cable length	900 mm
Weight	85 g
Operating temperature	-20 °C to +70 °C

## 5.3 CERTIFICATION



VOLL B.V. hereby declares that this product is in compliance with the essential requirements and with other relevant provisions of the European Directives applicable throughout the European Union, and in particular the Electromagnetic Compatibility Directive 2014/30/EU, the Restriction of Hazardous Substances Directive 2011/65/EU, and the Low Voltage Directive 2014/35/EU. The full EU declaration of conformity is available on the website [www.voll-energie.nl](http://www.voll-energie.nl) or on request through the VOLL® dealer.

Ir. Jim Hazelberg, Director, 01/2025