# Lithium Battery Charger User Manual

**24-58.4 Vdc / 30A**



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## 1. Product Overview

The charger adopts power factor correction, full resonance, and full digital control technology, and has the characteristics of small size, light weight, high efficiency, high reliability, and simple installation, operation and maintenance.
This manual relates only to the Battery Charger 48Vdc (EUROPE VERSION). Only trained and authorized personal should install, troubleshoot or assist WECO in local repairs of these Battery Charger. This manual should be reviewed in its entirety for proper installation and operation of the Battery Charger.

## 2. Product Identification and Label

Product label

| | |
|---|---|
| **Energy Storage Systems**<br>WeCo Srl Viale Kennedy 113-121<br>Scarperia e San Piero CAP 50038 (FI) | **BATTERY CHARGER**<br>**48 Vdc** |
| Emergency Number ITALY + 39 055-0357960 | www.wecobatteries.com service@wecobatteries.com |
| Modello/Model | C00380 |
| Tipo Carica Batteria/Battery Charge Type | LiFeP04 |
| Tensione Ingresso AC Min Max /Min Max In Ac Voltage | 200-250Vac 50/60Hz 7A |
| Tensione Uscita Dc Min Max /Min Max Out DC Voltage | 24-58.4Vdc 30A |
| Range Temperatura Charger/ Charger Temperataure Range | Charge 0°C +55°C |
| Grado IP/IP Grade | IP20 (Solo per Uso Interno/Indoor Use only) |
| Luogo di Utilizzo/Used Site | Indoor, ventilated, away from flammable Gas or Liquids<br>Interno, ventilato lontano da Gas e liquidi infiammabili |
| Dimensione/ Dimensions | 303x153x92mm |
| Peso del carica batteria/Weight of the battery Charger | 3,2 Kg |
| Standards | EN IEC 55014-1:2021<br>EN IEC 55014-2:2021<br>EN IEC 61000-3-2:2019+A1:2021<br>EN 61000-3-3:2013+A1:2019+A2:2021<br>EN 60335-1:2012+A11:2014+A13:2017<br>EN 60335-A1:2019+A14:2019+A2:2019<br>EN 60335-2-29:2021+A1:2021<br>EN 62233:2008 |
| Example progressive serial Number : C-2024-05-0001 | |
| * Questo prodotto deve essere utilizzato e manutenuto solo da operatori professionali qualificati.<br>Leggere attentamente il Manuale di Uso Manutenzione prima di operare.<br>Il mancato rispetto delle prescrizioni contenute nel manuale fa decadere la garanzia.<br>*This product must be used and maintained by qualified professional Installers.<br>Read carefully User Manual before use.<br>El uso e instalación inadecuados anulará la garantía.<br>*Este producto solo debe ser usado y mantenido por operadores profesionales calificados.<br>Lea atentamente el Manual de Uso y Mantenimiento y la garantía antes de operar.<br>El incumplimiento de las instrucciones contenidas en el manual invalidará la garantía. | |
|  | |
| MADE IN CHINA | |

## 3. Product Specs

Input Range: 200-250Vac 50/60Hz 7A
Output Range: 24-58.4Vdc 30A

High efficiency, high input power factor, low input harmonic current, small size and light weight.

Low interference: The world's cutting-edge LLC soft switching technology and APFC technology are combined with full digital optimization control technology to greatly reduce electromagnetic interference during charging, without affecting surrounding electronic and electrical equipment. At the same time, it protects workers from electromagnetic interference and ensures a healthy working environment.

High reliability: The full digital setting technology is adopted to eliminate the traditional mechanical potentiometer, which can avoid the loss of control or drift of output parameters caused by potentiometer failure and mechanical vibration and improve the reliability of charging.
Current and voltage display: real-time display of charging voltage and current.

## 4. Usage Environment

Altitude: not higher than 3000m.
Ambient temperature: not higher than 50 ℃, not lower than 0 ℃.
Ambient Operation: It should be spacious and well ventilated.
It must not be near flammable or explosive objects and it is strictly forbidden to load it into the warehouse where the materials are stored.
It must not come into contact with any kind of liquid or gaseous element.

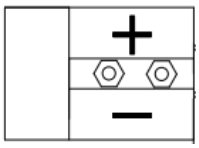
## 5. Function

The fully digital intelligent charging technology can accurately detect various battery conditions, and the advanced intelligent multi-stage charging mode can prevent the battery from overcharging or undercharging.
Good usability: The bright LED displays the charging status information of the charger and the digital tube displays the charging voltage and charging current.
High safety: 0 voltage and 0 current when no-load, the charger will start working only when the voltage is greater than 24Vdc.
Complete protection function: with battery open circuit, battery reverse connection protection, output overload, short circuit protection function. Ensure safe use.
Charging mode: normal charging mode.

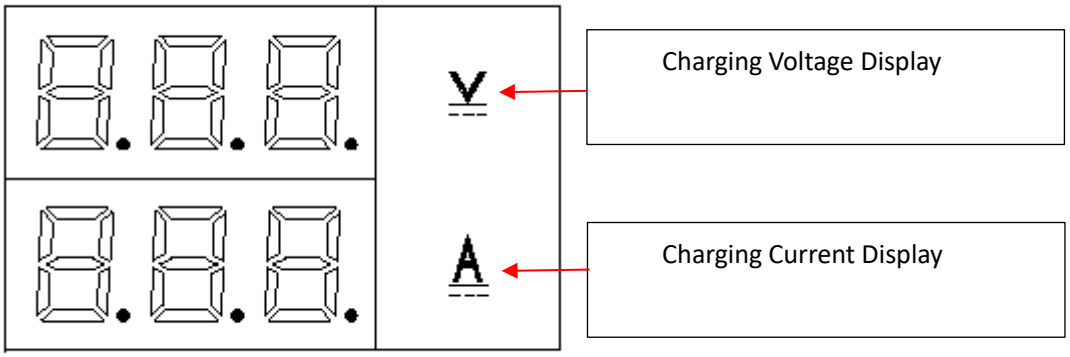
## 6. Technical parameters

| | |
|---|---|
| The model of charger | C00380 |
| Working temperature | ＜50℃ |
| Input voltage | AC: 200-250V, 50-60HZ |
| Charging voltage | DC: 24-58.4 Vdc ± 1 % |
| Charging current | DC: 30A ± 2 % |
| Shut off point current | 3 A |
| Weight | 3.6 Kg |

### Input and output interface description

| Input Harness | | | |
|---|---|---|---|
| Input Line | | European standard |  |
| Terminal pin number | Line Colour | Wire diameter ($mm^2$) | Functional Description |
| 1 | Brown | 1.5 | L - Phase Wire |
| 2 | Blue | 1.5 | N - Neutral Wire |
| 3 | Yellow-Green | 1.5 | PE - Protective Grounding Wire |
| Output harness | | | |
| Terminal Model | | SB 50A |  |
| Terminal pin number | Line Colour | Wire diameter ($mm^2$) | Functional Description |
| + | Red | 4-6mm | Charger Output Positive Pole |
| - | Black | 4-6mm | Charger Output Negative Pole |

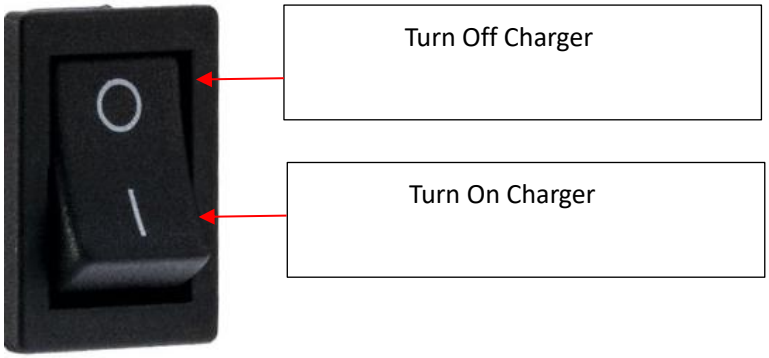
## Display Window Description




## Indicator Light Description

| Working Indicator Light | State | Instructions |
|---|---|---|
| Green Light | Bright | No Load |
| Red light | Bright | Charging |
| Green Light | Bright | Battery Full |
| Lights off | Not Bright | The power supply is not connected or is damaged. |

## Button Description



## 7. Operation Guide

**Please read this "Safety Operation Guide" carefully before using the charger!**

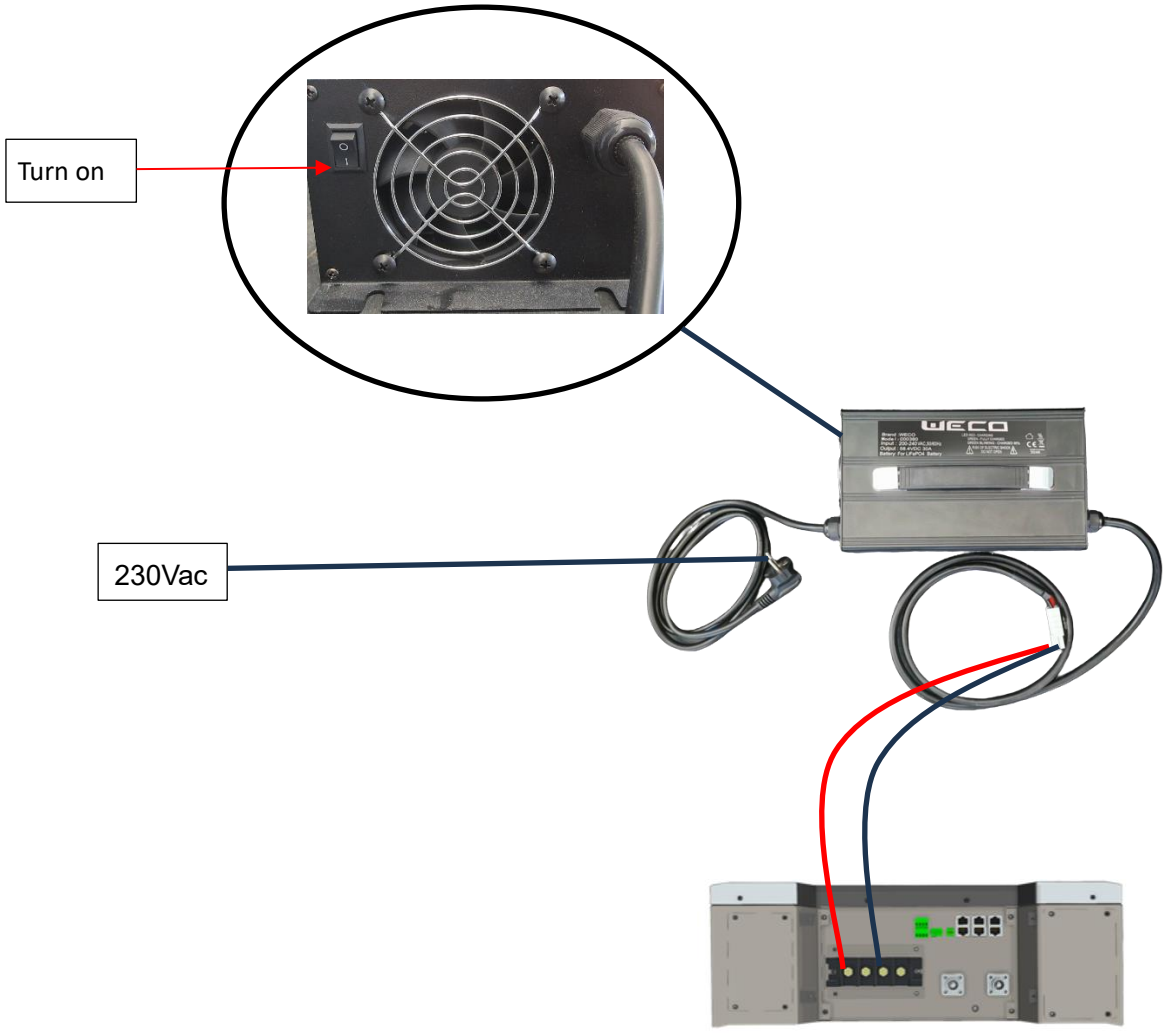
1. In order to prevent leakage from endangering personal safety, the charger uses AC input and the charger casing is grounded. The charger should be connected to AC power using a reliable 16A or above power socket with a grounding electrode. At the same time, a circuit breaker must be present in front of the socket to prevent leakage and fire.
2. Choose a reliable dedicated socket that matches the charger (socket requirements: the plastic shell must be flame retardant, the internal spring thickness must be no less than 0.8mm, and it must have good resilience, and the outer skin of the socket cable must be flame retardant), otherwise the plug and socket may be burned, and in serious cases, it may cause a fire. Use a national standard 1.5mm 2 copper core cable as the power connection to ensure that the cable is not hot during charging to prevent fire.
3. Please do not disassemble the charger by yourself. Opening the cover at will may cause electric shock or other injuries.
4. Do not place the charger in a location exposed to water or rain; otherwise, there will be a risk of electric shock and the charger may be damaged.
5. The DC output plug and socket should be connected tightly. If they are damaged or loose, please replace them immediately. Otherwise, the plug may overheat and even cause a fire.
6. If there is any abnormal sound or smell during the operation of the charger, please unplug the power plug immediately and contact the after-sales service personnel or the company. Do not disassemble and inspect without authorization to prevent electric shock.
7. Make sure all ventilation openings are not blocked to prevent the charger from overheating. Do not place the charger near a heat source and leave enough space around the charger to ensure ventilation and easy access to connectors.
8. Before moving the charger, please disconnect the AC input power cord and DC output plug of the charger.
9. Make sure the AC supply voltage is consistent with the charger input voltage requirement. If you have any questions, please contact the supplier or consult the local power supply bureau.
10. The battery voltage must match the nominal voltage of the charger, otherwise the battery may be damaged.

11. Do not pull, twist or shake the cable to avoid damaging the connection terminal between the charging cable and the charger. If the cable is found to be worn, please replace it immediately.

## Battery Connection

Please follow these steps to connect external battery charge with a battery:

- Connect external charger positive and negative pole to the Low voltage terminal of the battery.
- Connect external charger to the Ac Power supply and after press Turn on button.




**It is mandatory to connect the battery charger ONLY to the LV terminals of the battery.**

**It is possible to connect the battery charger to the HV terminal of the battery only if you use LBC Charger Controller. Please refer to the user manual of LCB Charge Controller for this operation.**

**8. Prevent leakage and fire**

If your charger does not work properly, please refer to the following for troubleshooting:

| Fault phenomenon | Cause Analysis | Method of exclusion |
|---|---|---|
| Battery not connected | Bad battery interface | Check and correct the battery connector |
| Over temperature protection | The charging environment temperature is too high or the cooling fan is faulty or the cooling air duct is blocked. | Please move the charger to a place with lower temperature for charging; eliminate fan failure; remove air duct obstruction |
| Input circuit failure | The grid voltage does not meet the requirements or the input connector has poor contact. | Please confirm whether the grid voltage is normal and whether the input socket is in good condition. |
| Charging timeout | Damaged or aged battery | Check and replace damaged batteries |
| Precharge timeout fault | Damaged or aged battery | Check and replace damaged batteries |
| Charger internal temperature sensor failure | Charger abnormality | Please return to the factory for repair |
| After connecting to AC power, it will soon show full charge | 1. The battery is broken<br>2. The battery connection line is in poor contact<br>3.Battery fully charged | Please check whether the battery is damaged, whether the battery connection cable is secure, and whether the battery is fully charged. |
| Light does not shine | Charger has no AC input | Check the AC power and AC line |
| | Internal damage of the charger | Contact after-sales personnel |

If the charger still does not work properly after the above treatment, please record the fault phenomenon and the status of the indicator light and contact our customer service centre at: service@wecobatteries.com .