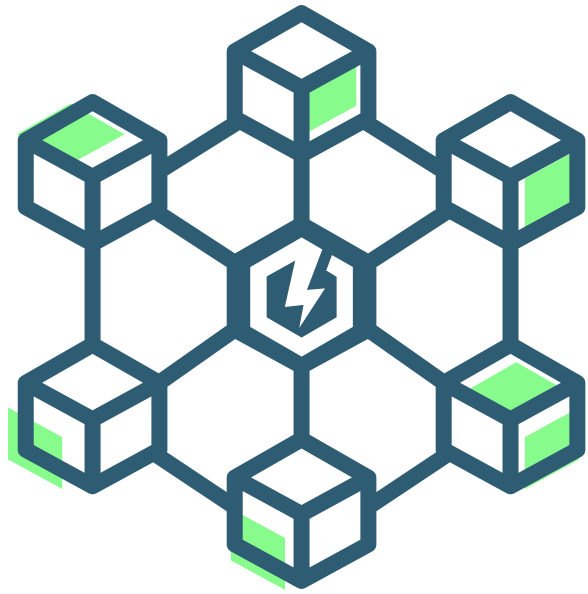




**renobat**  
energy solutions

**OUR SERVICES**

[info@renobat.eu](mailto:info@renobat.eu)  
[www.renobat.eu](http://www.renobat.eu)



# We design tailor-made electrical storage solutions for technology companies

In the last 10 years, Renobat has offered an exclusive service in Europe to optimize battery performance. Our goal is to become a trusted partner for our clients.

We offer tailor-made solutions, prototyping and reliability through high-quality materials.

To achieve maximum effectiveness, we make our team of engineers, technical service network, factories and warehouses available to the client.

## Our main adaptable products are:

- **UPS**
- **Lithium batteries**

## Our effectiveness provides the client with savings:

- **Economic**
- **Temporary**
- **Energetic**

## Our projects are applicable to:

- **Electric mobility**
- **AGV**
- **Modular UPS equipment**

## They guarantee us:

- **Experience of our team**
- **Customers**
- **Quality certificates**
- **Manufacturing process technical documents**

# Our values define us



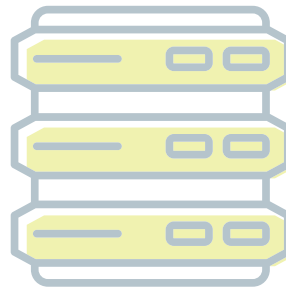
- **Innovation:** For our company it is a key and fundamental facet in the development of our activity. We want to bring new forms of production and application in the field of energy. For this reason, we develop advanced technology products that mean real savings.
- **Efficiency:** We seek the greatest efficiency, as quickly as possible, applying these concepts to all the actions of the company. Each project is carried out with the premise of consuming less energy
- and reduce the consumption of the planet's resources.



# UNINTERRUPTED POWER SUPPLY SYSTEMS

info@renobat.eu  
**www.renobat.eu**

# Convinced of what we do



We aim to offer the maximum protection and durability to the most sensitive equipment to electrical failures, adapting to the business needs of our clients.

We have a team of highly experienced professionals who have unlimited technical resources.

We diagnose your UPS systems and accumulators at no cost to know their status and to be able to offer the best solution if necessary.

We provide service in all phases of the product's life cycle, from its design to its replacement or recycling, thus offering better performance and useful life.

We are the perfect partner for companies that are involved in providing a high quality service and product to their clients and users.

Our service is a guarantee of maximum protection, safety, reliability and availability in the electrical supply for our clients' equipment.

## Life Cycle Phases

### Design

- Location
- Necessary equipment

### Planning

- Acquisitions
- Construction
- Tasks

### Execution

- Installation
- Start up

### Maintenance

- Remote maintenance
- Preventive
- Corrective

### Repair

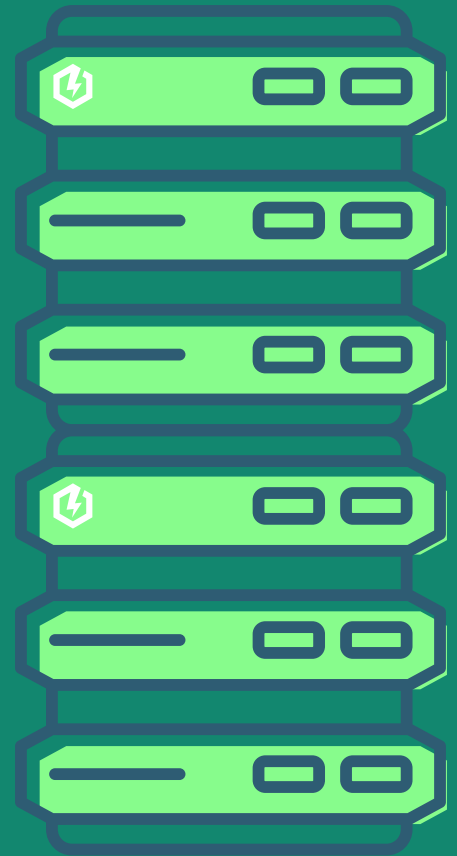
### Recycling

# Installation of UPS equipment

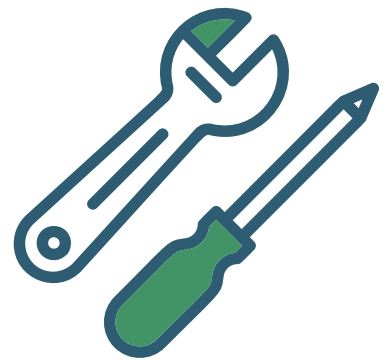
Our product range ranges from low and medium power single-phase equipment to large three-phase equipment used in high-power installations.

In the event that the response to a need requires new equipment that is separated from the standard models in our catalog, we make our Technical and Engineering Departments available to design the solution that guarantees compliance with the objectives of a power supply without mistakes.

The service offered includes from the study of the need to the preparation of the corresponding reports, plans, previous projects and projects of a technical or organizational nature. Once the solution is designed, we will take care of everything related to the acquisition, planning, installation and commissioning of the entire set.



# Maintenance and Technical Assistance



Aware of the importance of maintenance in the life cycle of UPS equipment, we structure preventive maintenance programs around two types of reviews:

- **Review without total stop.** These are reviews in which the operation of the equipment is not affected.
- **Review with total stop.** It includes the equipment shutdown and synchrony tests, transfer, retransfer, input cut-off, battery bank autonomy test ... together with the start-up of the system and in line with the critical load.

There are also 3 basic maintenance levels based on:

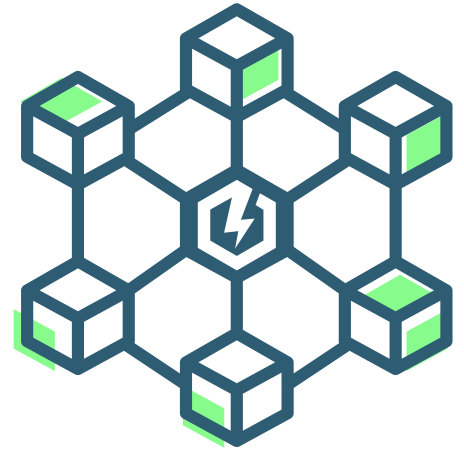
- **The frequency of reviews**
- **Telephone service hours**
- **Response time**

Once the maintenance is finished, we will deliver a detailed technical report by the team of the anomalies detected as well as a proposal of the improvements to be made.

# Telemaintenance Service

UPS equipment that has an SNMP card can be remotely controlled and monitored in real time through the Internet, allowing the operating status of the equipment and its environment to be known at all times, thus saving on-site supervision by the customer.

In the event of any incident or anomaly in the UPS equipment, the system sends a notice to the customer and our technical staff with an alarm. This alarm is notified by email and SMS.



The T24 service gives us access to different options such as:

- **Monitor the status of the UPS via web**
- **Adjust the UPS parameters**
- **Turn off connected equipment**
- **Access monthly reports**

# Battery replacement and recycling

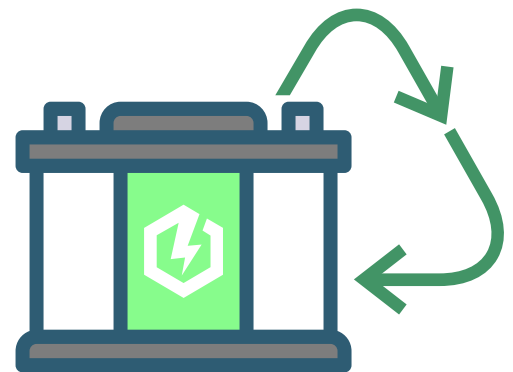
All batteries used in UPS equipment have a life cycle and must be replaced after a few years of use, depending on:

- **The supported temperature**
- **The load voltage to which they have been subjected**

Our technical department will replace the battery pack without jeopardizing the operation of the equipment at any time.

All components and batteries of the UPS equipment are recyclable. To recycle these materials, it is necessary to do it correctly and without being harmful to the environment.

For this reason, renobat adheres to an Integrated Waste Management System participating in UNIBAT and SIG to respond and comply with the obligations imposed on the producers of accumulators and batteries.



# Join the quality proposed by Renobat

## **Do you want lower energy consumption for your company?**

We offer highly efficient equipment that saves energy

## **Do you want to comply with ISO audits?**

We can generate continuous improvement reports.

## **Do you need continuity in the electrical service?**

We have a range of highly reliable equipment

## **Do you want to have a professional technical team?**

Our electronic engineers will be at your service

## **Would you like to have a custom contract?**

We propose customized solutions adapted to your needs

## **Is battery life important to you?**

We use different technologies appropriate to the desired expectations

## **Do you want to make a custom project?**

Our team of engineers will look for the best technical solution

## **Are you planning to develop an R&D project?**

We have an engineering service

## **Do you want to conserve the environment?**

We manage waste according to regulations

## **Do you need to avoid unexpected stops?**

We have different maintenance modalities including 24h

## **Are you interested in extended warranties?**

We offer warranty extensions on products



# 1 REN UPS OnLine 11 Series



### Features

- ▣ Single phase 230Vac +25%
- ▶ Single phase 230Vac +5%
- ⚡ 1000VA – 10k VA

### Applications

- PC in small offices and half power
- Storage networks
- Network servers and Telecommunications
- Electro medicine
- Critical loads

### Technical characteristics

- OnLine Double Conversion Technology (VFI)
- Active Power Factor Control (PFC)
- Microprocessor control system (DSP)
- Advanced Battery Management (ABM)
- Synoptic LED display
- Cold start from batteries
- Automatic reset
- Emergency power off (EPO) function
- RS232 communication port
- Slot for DB9, SNMO, AS400, RELAYS and USB

# 2 REN UPS OnLine 11 R Series



### Features

- ▣ Single phase 230Vac +25%
- ▶ Single phase 230Vac +5%
- ⚡ 1000VA – 20k VA

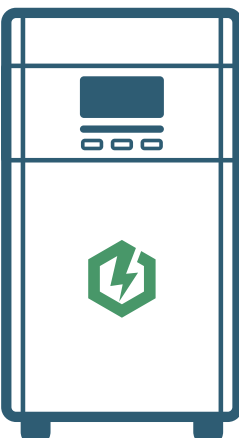
### Applications

- PC in small offices and half power
- Storage networks
- Network servers and Telecommunications
- Electro medicine
- Critical loads

### Technical characteristics

- Format adapted for rack cabinets
- OnLine Double Conversion Technology (VFI)
- Active Power Factor Control (PFC)
- Microprocessor control system (DSP)
- Advanced Battery Management (ABM)
- Information by LED display
- Emergency power off (EPO) function
- Intelligent battery charging design
- Programmable output voltage and sockets
- RS232 communication port and SNMP slot

# 3 REN UPS OnLine 31 Series



### Features

- ▣ Three-phase 400Vac +25%
- ▶ Single phase 230Vac +5%
- ⚡ 10k VA – 20k VA

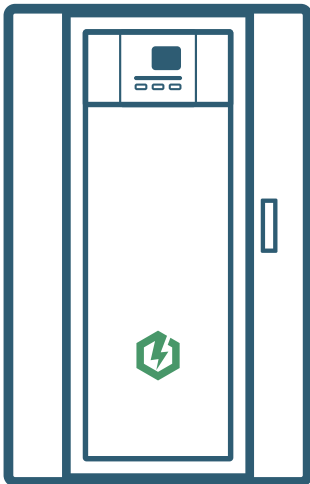
### Applications

- Information systems (Data Center)
- Network servers and Telecommunications
- Work centers
- Wireless Communication
- Industrial equipment

### Technical characteristics

- OnLine Double Conversion Technology (VFI)
- Active Power Factor Control (PFC)
- Microprocessor control system (DSP)
- Advanced Battery Management (ABM)
- Pure and stable sine wave output
- Cold start from batteries
- Low harmonic distortion (THD)
- Automatic electronic by-pass
- By-Pass maintenance manual
- IGBT technologies

# 4 REN UPS OnLine 33 Series



## Features

- Three-phase 400Vac +25%
- ▶ Three-phase 400Vac +5%
- ⚡ 10k VA – 300k VA

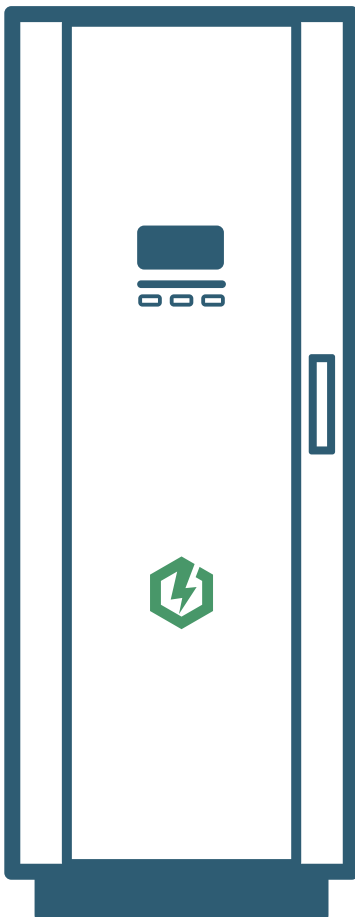
## Aplicaciones

- Information systems (Data Center)
- Network servers and Telecommunications
- Work centers
- Wireless Communication
- Industrial equipment

## Technical characteristics

- OnLine Double Conversion Technology (VFI)
- Microprocessor control system (DSP)
- Low harmonic distortion (THD)
- High efficiency with ECO Mode option
- Full control via LCD panel
- Remote power off (EPO)
- Electronic and manual By-Pass
- Advanced communication and high performance
- Slot for SNMP and RELAYS
- Modular design for easy maintenance

# 5 REN UPS OnLine 33 M Series



## Features

- Three-phase 400Vac +25%
- ▶ Three-phase 400Vac +5%
- ⚡ 10k VA – 300k VA

## Aplicaciones

- Information systems (Data Center)
- Network servers and Telecommunications
- Work centers
- Wireless Communication
- Industrial equipment



## Technical characteristics

- OnLine Double Conversion Technology (VFI)
- Microprocessor control system (DSP)
- Low harmonic distortion (THD)
- High efficiency with ECO Mode option
- Full control via LCD panel
- Remote power off (EPO)
- Electronic and manual By-Pass
- Advanced communication and high performance
- Slot for SNMP and RELAYS
- Modular design for easy maintenance





**LITHIUM POWER SYSTEMS**

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**www.renobat.eu**

# Electric mobility

## Prototypes and mass production



We make ourselves available to interested companies to carry out new electric mobility projects, from portable refrigerators for restaurants to large bus modification projects and/or vehicle electrification, starting with the design of the idea until reaching the manufacturing in serie.

We can carry out the entire project and we work for OEMs from product engineering, choosing the most suitable components and the most advanced current technological evolution taking into account maximum safety, the reduced space available and minimum maintenance.

We can manufacture electric traction systems for both freight and passenger vehicles. We carry out feasibility studies and evaluate the cost of transforming a single vehicle, or an entire fleet of thermal or hybrid vehicles, into electric vehicles.

### Services for electric vehicles

System design

Engineering/Optimization of the electrical/mechanical part

Prototyping, start up and calibration

Certificates and/or approvals

Pre-series manufacturing

Mass production

After-Sales service and maintenance

## Why choose LiFePO4?



### Fast charge

100%  
in 2-3 h



### Lifespan

Up to  
6000 cycles



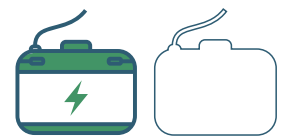
### Without maintenance

No need of distilled  
water



### Location

Can be charged  
anywhere



### Single battery

No exchange  
battery needed

# Maintenance with LiFePO4

## Battery systems



Lithium batteries are innovative energy systems based on lithium iron phosphate (LiFePO<sub>4</sub>). They can replace a conventional lead-acid battery in all types of electric vehicles with multiple benefits available instantly.

The use of the lithium-ion battery system optimizes intralogistics processes significantly for the great benefit of fleet operators, forklift users and other electrically powered industrial trucks.

We analyze the logistics of the company to determine which machines are working excessively, eliminating the possibility of getting a full charged battery (essential for a lead battery). Due to this analysis we can recommend the right LiFePO<sub>4</sub> battery for each case.

### Manufacturing process

Analysis of the logistics of the company

LiFePO<sub>4</sub> equivalence determination – Lead

Design of the chest and distribution of the elements

Control and power box layout

Assembly / Configuration / Start up

Mass production

After-Sales service and maintenance

## Why choose LiFePO<sub>4</sub>?



### Temperature

It can work between -28°C and 45°C



### Power

100% power to discharge



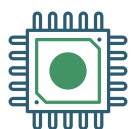
### Sustainable

Free of emissions and without polluting agents



### Without memory

It can be left half charged for a while



### BMS

High security without danger of fire or explosion

## Product range



## E-Mobility

We provide online management of the entire network associated with electric vehicles.

We calibrate the parameters of the vehicles remotely to achieve energy savings and a reduction of the maintenance cost of the vehicle.

## Activator

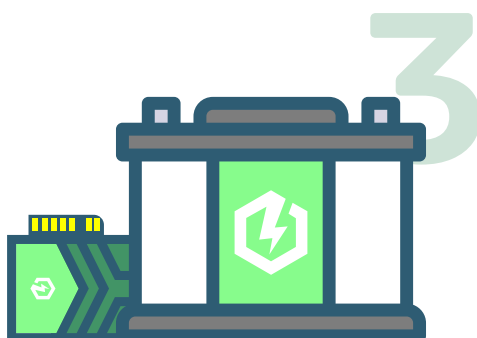
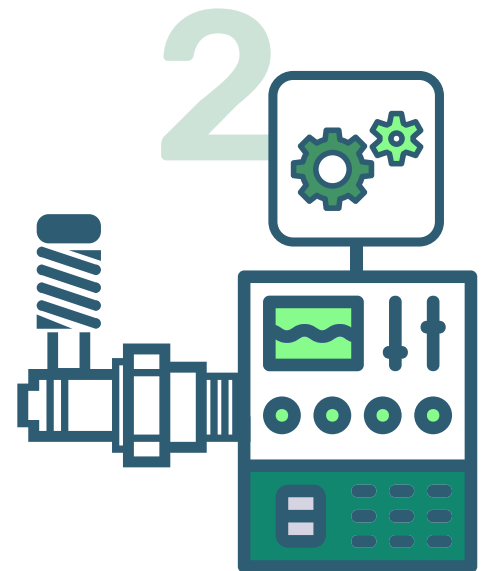
We help you choose the most suitable activator, from the inverter or motor to the most suitable transmission, all calibrated and controlled through CAN BUS to maintain maximum efficiency all along.

We have different inverter options for powers of:

- **1Kw to 300Kw**
- **24V to 800V**

The motors are adapted to the demands of the application and according to the chosen inverter.

**The powers can go from 1Kw to 300Kw and a motor device up to 8000 Nm.**



## LiFePO4 lithium batteries

LiFePO4 lithium batteries are more stable, safe and durable than any other type of battery, being interesting for critical applications such as:

- **Aeronautics**
- **Robotics**
- **Automotive**
- **Medicine**
- **Logistics warehouses**

We design and implement any battery system with 3.2V LiFePO4 elements.

The settings are customizable to each type of project:

- **With a voltage range from 12V to 800V**
- **With a capacity from 40Ah to 1000Ah**

# Special chargers

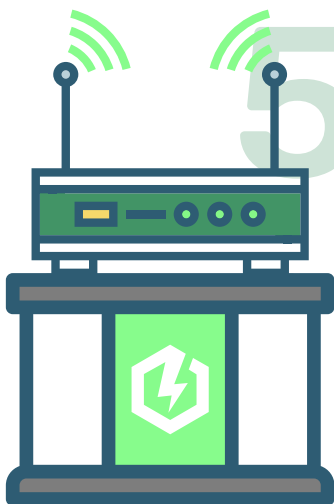
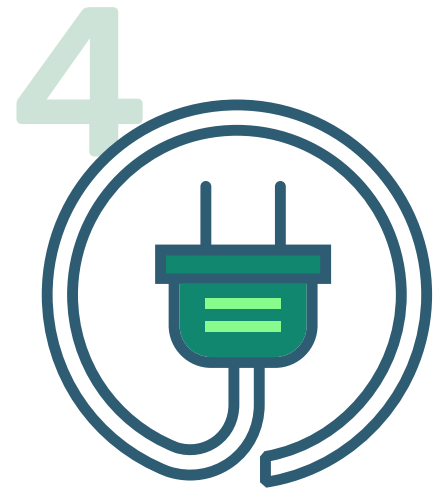
We supply and configure high-power chargers for all types of electric vehicles:

- **Fast or slow charge**
- **Internal or external location**

Our chargers are adaptable to cars, forklifts and all types of handling vehicles, especially if they are designed to work with LiFePO4 batteries.

- **Available voltage range is from 12V to 800V**
- **The amperage can be configured from 10A to 500A**

Each supplied charger is configured and commissioned using the PWM or CAN BUS protocol.



# BMS Control systems

The LiFePo4 battery needs to be monitored at all times to prevent it from working outside of its safe operating area.

In order to optimize battery capacity and prevent undervoltage or overvoltage, our system controls the battery components.

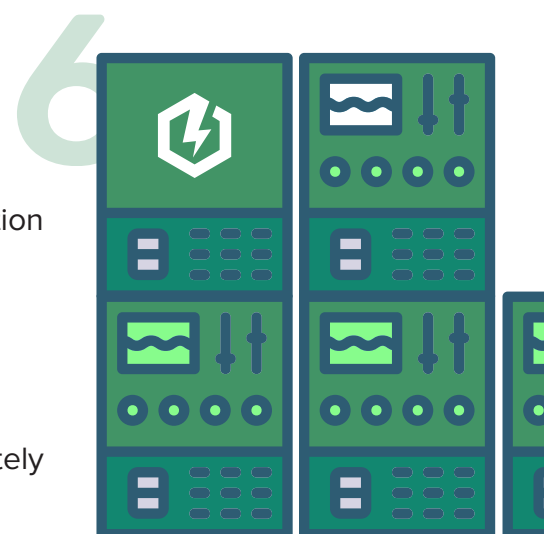
Automatically sends the information to the charger for a perfect and balanced charge at all times.

# Power electronics

We design all the most suitable power electronics for the application that the client needs so that they have maximum safety:

- **Contactors**
- **Fuses**
- **Converters**

All the components that are part of the electric vehicle are completely managed by the Battery Control Unit.





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