



Instructions manual

for battery systems by RKB-REITZ electronic AG

Status: 01.01.2024

All rights, including photomechanical reproduction and storage in electronic media, are reserved by RKB-REITZ electronic AG. Commercial use or distribution of the texts, models, drawings and photos used in this product is not permitted. The manual may not be reproduced, stored or transmitted in any form or by any means, in whole or in part, or translated without prior written permission.

Content

Directory.....	3
General information.....	4
Scope of delivery.....	4
Intended use	5
• Security.....	6-8
• General safety instructions for the battery system pack.....	6
• Installation.....	9
Loading.....	10-11
Maintenance and care instructions.....	12
• Care.....	12
• Cleaning.....	12
• Maintenance.....	12
Emergency situations.....	13
• Leakage of the battery system.....	13
• Fire.....	14
• Humidity or water	15
• Mechanical damage.....	15
Warranty coverage.....	16
Exclusion of liability and guarantee	16
Contact	17

General information

About this guide

Please read these instructions carefully. It contains important information on installing and using the battery system. Pay particular attention to the safety instructions. RKB-REITZ electronic AG accepts no liability for damage caused by non-compliance with these instructions. These instructions are an integral part of the product and apply exclusively to battery systems from RKB-REITZ electronic AG. Please keep these instructions and hand them over to the new operator when reselling the system. Both the technician who installs the battery system and the operator must always have access to this manual. The installer should be familiar with this document and follow all instructions.

Scope of delivery

	In Scope of delivery	Optionally available
Energy storage (battery system)	X	
Energy indicator (charge level indicator)		X
Charger		X
Instructions for use	X	
Safety supplement	X	

Elements that are not included in the standard scope of delivery can be supplied separately.

Intended use

The lithium iron phosphate battery system may only be charged with a suitable charger and operated within the specified limits. Protection against moisture is important and any deviating use can lead to damage and danger.

Requirements for the operating environment

- Operating temperature: 0°C to 50°C
- Charging operating temperature: 0°C to 40°C
- Optimum operating temperature: 15°C to 30°C
- Relative humidity (operation): 25% to 95%
- Storage temperature: 0°C to 50°C
- Relative humidity (storage): 25% to 95%
- Mechanical space reserves for cells: approx. 2-2.5 mm per cell (due to ageing)

Security

General safety instructions for the battery system



Failure to observe the safety instructions in this section may result in serious injury to persons or damage to property.

Observe the following safety instructions:

Explosion hazard

- The battery system must not be subjected to strong impacts.
- Avoid crushing or puncturing the battery system.
- Never expose the battery system to fire or heat.



Fire hazard

- Do not expose the battery system to temperatures above 50°C.
- Do not place the battery system near heat sources such as a fireplace.
- Do not expose the battery system to direct sunlight.
- Ensure that the battery system connectors do not come into contact with conductive objects such as wires.



Electric shock hazard

- Do not open or dismantle the battery system.
- Do not touch the battery system with damp or wet hands.
- Do not expose the battery system to moisture or liquids.
- Place the battery system out of the reach of children and animals.



Risk of damage to the battery system

- Ensure that the battery system does not come into contact with liquids.
- The battery system must not be exposed to strong pressure.
- Do not place any objects on top of the battery system.

Harmful to the environment

Please observe the following instructions in connection with the battery system of this appliance to avoid environmental damage:



- **Recycling:**

The battery systems contain valuable materials that can be recycled. Please return the battery system to appropriate recycling facilities to recover valuable resources and reduce environmental impact.

- **Storage:**

Store the battery system in a cool, dry place, away from direct sunlight and extreme temperatures. This extends the service life of the battery system and reduces the risk of leaks or other harmful effects.

- **Do not disassemble:**

Do not open the battery system and do not attempt to dismantle it. This can release harmful substances and pose a risk. In the event of damage to the battery system, please contact the manufacturer for safe repair or replacement options.

- **Note to end users:**

This product contains a rechargeable battery system. Please observe the local regulations and laws on the correct disposal of battery systems to prevent environmental damage.

By following these instructions, you will help to minimize the environmental impact of this product and promote sustainability. Thank you for your environmentally conscious actions.

Waste disposal

- Do not dispose of the battery system in household waste. Take it to a suitable collection point for old electrical appliances or batteries. By disposing of it correctly, you will help to minimize potential damage to the environment.

Further information can be found at : www.rebat.de



Installation



The battery system must be installed by a trained electrical professional (according to DIN VDE 1000-10 or BGV A3 accident prevention regulations), who is responsible for observing the applicable standards and regulations.

Ensure that the installation location fulfils the following conditions:

- The area is waterproof protected.
- The floor is levelled and horizontal. There are no flammable or explosive materials nearby.
- The ambient temperature ranges from 15°C to 30°C.
- Both the temperature and the humidity remain constant.
- The area is free of dust and dirt.

CAUTION

If the ambient temperature is outside the range permitted for operation, the battery system will stop operating in order to protect itself. The optimum temperature for operating the battery system is between 15°C and 30°C. If the battery system is exposed frequently to extreme temperatures, this can affect the performance and service life of the battery system.

Charging and discharging process of the RKB-REITZ electronic AG battery system:

Please adhere to the DIN 2259 guidelines for charging the battery system from RKB-REITZ electronic AG. Only use the accessory charger supplied or approved by RKB-REITZ electronic AG to prevent overheating or damage to the battery system.

Charging the battery system:

- Fully charge the battery system according to the instructions in the user manual before using it for the first time, as the first charging process is crucial.
- Avoid charging the battery system under conditions that are not listed in the instructions for use.

Discharging the battery system:

- Avoid discharging the battery system below its rated voltage to prevent damage. The integrated electronics warn and switch off the device to prevent deep discharging.
- It is advisable to give preference to partial discharges. Do not discharge the battery system to 10% to ensure optimum service life.
- Each battery system has a limited number of charge cycles based on full cycles. This means that half a discharge and recharge corresponds to half a charge cycle.

Avoid overloading:

- Frequent overcharging can permanently damage the battery system. The charger automatically stops the charging process as soon as full charge is reached to prevent overcharging.
- Avoid repeatedly connecting the charger to prevent an unnecessary supply of charge.

Observe the loading conditions:

- Ensure that there is sufficient ventilation during the charging process to ensure optimum performance.
- The ideal temperature range for charging is between 15°C and 30°C to maximize battery life.
- Do not charge the battery system near sources of ignition or naked flames to avoid the risk of explosion.
- To prevent cell damage, do not charge the battery system in cold temperatures. If the outside temperature is low in winter, warm the battery system to room temperature before charging.

Charging time of the battery system:

- The charging time may vary depending on the charger. For example, the charging time at a charging current of 0.2C is approximately 8 hours.

Maintenance and care instructions

Care

Temperature sensitivity:

- High temperatures can damage the battery system. Avoid leaving it in the car or in direct sunlight. At temperatures above +50°C, the lithium battery system loses capacity and performance.

Storage instructions:

- Store the battery system with a charge level of 50-75% when not in use for longer periods. Ideally, it should be stored at low temperatures between 5°C and 10°C. It is advisable to check battery systems in storage every 3 months and recharge them if necessary.

Cleaning

Please use a dry cotton cloth to clean the outside of the housing.

NOTE Never clean the battery system wet or with chemicals.

Maintenance

The system does not require regular maintenance as it is designed to be maintenance-free. In the event of faults, please contact our service hotline: **+49 (0)7237- 486340**

Emergency Situations

In emergencies, please immediately alert the fire department and emergency services. RKB-REITZ electronic AG battery systems typically consist of multiple battery cells. These systems are designed in a way that, under proper use, no hazards should arise, unless they are mechanically damaged or used improperly.

Leaking of the Battery System

If electrolyte from an RKB-REITZ electronic AG battery system leaks or evaporates, avoid any direct contact with the leaking liquid or vapors. If a person comes into contact with this leaked substance, please follow the measures described below.

If vapors are inhaled:

Immediately evacuate the contaminated area and seek medical attention.

Eye contact:

Flush the eyes immediately with flowing water for at least 15 minutes and seek medical attention.

Skin contact:

Thoroughly wash the affected area with water and seek medical attention.

Ingestion:

Contact a doctor immediately.

Fire

Immediately alert the fire department and emergency services in case of an emergency. Ensure that the following equipment is available near the RKB-REITZ electronic AG battery system to minimize potential fire hazards:

- **SCBA (self-contained breathing apparatus) and personal protective equipment:**

Ensure that protective equipment complies with the requirements of the Personal Protective Equipment Directive 89/686/ECC.

- **Fire extinguisher:**

Available fire extinguishers should contain Novec 1230, FM-200 or carbon dioxide (CO₂) as an extinguishing agent to be effective in the event of a fire.

- **Temperature control:**

Battery systems can explode at temperatures above 150°C. In the event of a fire, it is advisable to move the battery system to a safe area if possible before it catches fire in order to minimize the risk of damage.

These preparatory measures are crucial to ensure safety and to be able to react appropriately in the event of an emergency.

NOTE ABC fire extinguishers have no effect if the battery system pack is on fire.

Humidity or water

If the RKB-REITZ electronic AG battery system has become wet or has been exposed to water, please do not enter the area around the system. Contact RKB-REITZ electronic AG or an authorized dealer immediately for technical support.

Mechanical or electrical damage

Mechanical damage can be caused by falls, vibrations, crushing or similar events. Even if damage appears minor on the outside, damaged battery systems harbor potential dangers and require extreme caution when handling. Electrical damage can include torn cables, damaged insulation or defective protective electronics. Such systems are no longer safe for use and pose a potential danger to both people and buildings.

In the event of damage or malfunction, the battery system should be stored outside buildings in a fireproof and weather-protected location that is not accessible to unauthorized persons. RKB-REITZ electronic AG must then be notified immediately on **07237 486340** in order to coordinate further action.

Failure to comply with these instructions will invalidate the warranty and excludes liability on the part of RKB-REITZ electronic AG.

NOTE Electrolyte may leak from damaged batteries or flammable gases may be released. If such damage has occurred, please contact RKB-REITZ immediately on +49 (0)7237-486340, where you will receive the necessary information on how to proceed. Please note that the guidelines for the transportation of hazardous goods must be observed when shipping a battery.

Warranty coverage

RKB-REITZ warrants this product provided it is installed and operated in accordance with the instructions in this manual and used for its intended purpose. The warranty for this product expires immediately if it is installed or operated in any other way than intended. Any changes or modifications to the battery will void the warranty and exclude liability on the part of RKB-REITZ.

Exclusion of liability and warranty

RKB-REITZ does not assume any warranty and is not liable for direct or indirect damage caused by the following causes:

- Any changes or modifications to the battery will invalidate the warranty and exclude liability on the part of RKB-REITZ.
- Transportation or storage of the product
- Incorrect installation
- Operating the product in an unsuitable environment
- Incorrect or improper operation
- Lack of cooling
- Disregarding safety warnings or safety instructions
- Repairs or modifications by unauthorized personnel
- Fault or overload due to end devices or consumers
- Force majeure events
- External influences such as unusual physical or electrical loads
- Use of a terminal device or consumer that does not comply with current regulations
- Use of a charger that is not approved by RKB-REITZ for the specific battery type.

The logo for RKB-REITZ ELECTRONIC AG. It features the letters 'RKB' in a stylized blue font with a black arrow pointing right, followed by 'REITZ' in blue. Below this, 'ELECTRONIC AG' is written in a black, sans-serif font, underlined.

RKB-REITZ

ELECTRONIC AG

Otto-Hahn-Str. 19
75248 Ölbronn-Dürrn

Tel: +49(0)7237-48634-0
Fax: +49(0)7237-48634-181

Email: info@rkb-reitz.de
Internet: www.rkb-ag.de

Subject to technical changes. We accept no liability for printing errors.



Herewith, RKB - REITZ electronic AG, Otto-Hahn-Str. 19, DE-75248 Ölbronn-Dürrn, declare that the devices described below, due to their design and construction as well as the version placed on the market by us, comply with the relevant basic safety and health requirements of the EC Directives.

In case of any modifications made to the devices without our prior approval, this declaration shall become void.

Device designation: 16S1P LiFePo4, 48,0V - 60,0Ah LiFePo4
Device type: Article n°: 1.004.1275

Relevant EC Directives: EMV Directive (2014/30/EU)
Applied harmonized standards: EN 61000-6-1:2007
EN 61000-6-3:2007 A1:2011

Address: RKB – REITZ electronic AG
Otto-Hahn-Str. 19 · DE-75248 Ölbronn-Dürrn
Phone.: +49 7237/48634-0 · Fax: +49 7237/48634-181
E-Mail: info@rkb-reitz.de · Internet: www.rkb-ag.de

This declaration is issued under the sole responsibility of the manufacturer and, if applicable, its authorized representative.

Contact person:

Yolanda Gutiérrez
Vorstand / Managing Board
Ölbronn-Dürrn, February 2024

EC Declaration of Conformity



Herewith, RKB - REITZ electronic AG, Otto-Hahn-Str. 19, DE-75248 Ölbronn-Dürrn, declare that the devices described below, due to their design and construction as well as the version placed on the market by us, comply with the relevant basic safety and health requirements of the EC Directives.

In case of any modifications made to the devices without our prior approval, this declaration shall become void.

Device designation: 16S1P LiFePo4, 48,0V - 60,0Ah LiFePo4
Device type: Article n°: 1.004.1395

Relevant EC Directives: EMV Directive (2014/30/EU)
Applied harmonized standards: EN 61000-6-1:2007
EN 61000-6-3:2007 A1:2011

Address: RKB – REITZ electronic AG
Otto-Hahn-Str. 19 · DE-75248 Ölbronn-Dürrn
Phone.: +49 7237/48634-0 · Fax: +49 7237/48634-181
E-Mail: info@rkb-reitz.de · Internet: www.rkb-ag.de

This declaration is issued under the sole responsibility of the manufacturer and, if applicable, its authorized representative.

Contact person:

Yolanda Gutiérrez
Vorstand / Managing Board
Ölbronn-Dürrn, February 2024

EC Declaration of Conformity