Kon-TEC
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Datasheet



KT-LFP12100-GL

Wireless communication

Heating pads

GreenLINE

Series GreenLINE

$LiFePO_4$ Battery

lithium iron phosphate

Equipped with heating pads and wireless communication.

12.8 V | 100 Ah

View product online

TECHNICAL SPECIFICATIONS

PARAMETERS	
Average voltage	13.2 V ± 0.1 V (C/20)
Nominal voltage	12.8 V
Nominal capacity	100 Ah
Energy	1280 Wh
Cycle life at 100% DoD	2500 cycles
Cycle life at 80% DoD	3500 cycles
Cycle life at 60% DoD	4500 cycles
Expected chemical lifespan	up to 12 years
Efficiency	97%

CHARGE AND DISCHARGE	
Recommended charge voltage range	14 ~ 14.2 V
Max. charge current	100 A
Recommended charge current	20 A
BMS charge cut-off voltage	14.7 V
Charging method	CC / CV
Charging time	10 A – 10 h / 20 A – 5 h
Max. continuous discharge current	100 A
Max. peak discharge current	110 A (5 s)
Recommended low-voltage disconnect	11 V
Min. BMS discharge cut-off voltage	10 V
Wake-up voltage	12 V

OPERATING CONDITIONS	
Heating pads	Yes
Operating temperature	From -15°C to ~45°C
Charging temperature	From -15°C to ~45°C
Storage temperature	From -15°C to ~60°C

OTHER	
Weight	9.5 kg
Dimensions (excl. terminals)	260×168×210 mm
Terminal height	~25 mm
Terminal type	M8
Terminal tightening torque	8-10 Nm

COMMUNICATION	
Wireless communication	Yes
Range	10 m
Operating system	Android, iOS

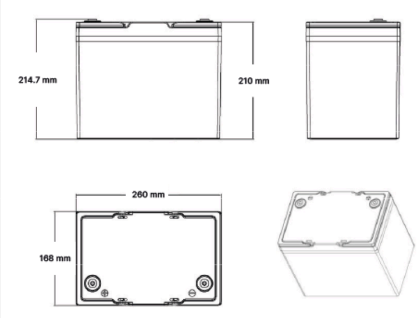
COMPLIANCE	
Certificates	CE, UN38.3

The battery has a built-in Battery Management System (BMS).

PROTECTION FEATURES

Low-temperature charging protection, overcharge, over-discharge, short-circuit and over-temperature protection.

DIMENSIONS



Mobile apps for Kon-TEC® batteries

Kon-TEC® batteries equipped with wireless communication can be used with a mobile app for monitoring basic operating parameters, including the state of charge, operating status and battery service life.

Before downloading the app, check the product series and the serial number of the battery.

Kon-TEC® GreenLINE BATTERIES

SMB Link

SMB Link is a mobile app designed for Kon-TEC® GreenLINE batteries equipped with wireless communication.

The app allows you to monitor the basic operating parameters of the battery, including the state of charge, operating status and battery service life.

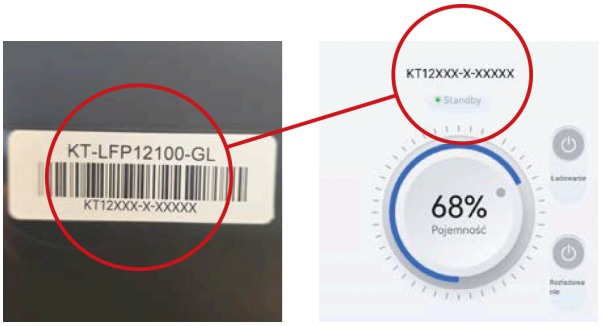
The app can be downloaded from Google Play or the App Store by scanning the QR code at the bottom of this page with a mobile device.

Download SMB Link

GET IT ON Google Play

Download on the App Store

Checking the GreenLINE battery



Before installing the app, make sure that the battery belongs to the Kon-TEC® GreenLINE series.

For Kon-TEC® GreenLINE batteries, use the SMB Link app.

PLEASE NOTE

The SMB Link app is intended for Kon-TEC® GreenLINE batteries.

Before downloading and launching the app, check the series designation of the battery.

FEATURES

Heating pads

Kon-TEC batteries can be charged at low temperatures (below 0°C).

Wireless communication

Wireless communication integrated with the BMS. It provides communication between the battery and a mobile device and allows battery parameters to be read in real time.

Light weight

Kon-TEC batteries are 50% (or more) lighter than conventional lead-acid, gel or AGM batteries. They also deliver higher power output.

Fast charging with low energy losses

High energy efficiency is ensured by very high round-trip efficiency (approx. 97%).

Exceptional power

100% of the current regardless of the depth of discharge. For lead-acid batteries this is no more than 60% of the rated capacity.

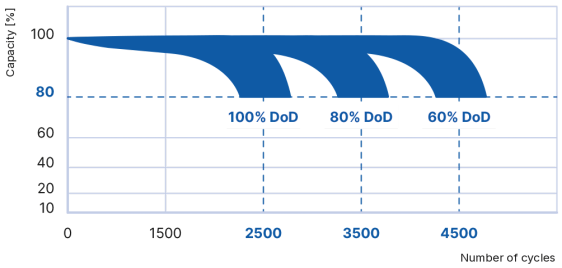
Very long cycle life

2500 cycles at 100% DoD (full charge and discharge), up to 4500 or more cycles at 60% DoD. For comparison, a lead-acid battery typically withstands only approx. 200-300 cycles.

Cost efficiency

A LiFePO4 battery offers half the cost per unit of delivered energy compared to GEL batteries.

BATTERY CYCLE LIFE IN CYCLIC OPERATION



APPLICATIONS

LiFePO$_4$ batteries have a wide range of applications. As reliable energy storage units, they can power electrical devices, vehicles and systems in almost every industry.

Typical applications include:

- Caravans and motorhomes.
- Special-purpose electric vehicles.
- Electric drives.
- Yachts, catamarans, houseboats.
- Wheelchairs and mobility vehicles.
- Hybrid photovoltaic systems.
- Wind turbines.
- Emergency lighting.
- 12 V devices and toys.
- Power source for 12 V~ / 230 V~ inverters.

MAIN SAFETY PRECAUTIONS

- Do not expose the battery to direct sunlight.
- Do not immerse the battery in water.
- Do not leave the battery near heat sources.
- Charge the battery only under supervision.
- Do not short-circuit the + and – terminals with any conductive objects.
- Do not connect the battery directly to mains sockets.
- Do not throw the battery into fire.
- Do not transport the battery together with other metal objects.
- Do not strike, throw or step on the battery.
- Do not pierce the battery with any objects.
- Do not disassemble/open the battery.
- Do not store an unused battery for a long time.
- Do not leave the battery in high-temperature conditions.
- Do not use the battery in areas with strong electrostatic or magnetic fields.
- Read the charger manual carefully.
- Store the battery with its terminals protected.
- Keep the battery away from children and animals.
- Do not wear metal objects while handling and using the battery.
- The charging time should not exceed that specified in the charger manual.
- Do not solder anything to the battery.
- Do not expose the battery to microwaves or high pressure.
- Do not apply any form of pressure to the battery.
- If the battery emits an unusual odour, becomes noticeably hot, changes colour, deforms or behaves abnormally in any other way during use, immediately disconnect it from the load, move it to a safe place and contact the supplier/manufacturer.
- If the battery terminals are dirty, clean them with a dry cloth; otherwise the connection to the battery may be faulty.

STORAGE AND SERVICE LIFE

Batteries should be stored under the following conditions:

- In ventilated rooms, avoiding direct sunlight.
- For long-term storage, use rooms with low air humidity and a temperature in the range from -10°C to +45°C.
- Store the battery fully charged.
- When the battery is stored for 6 months or LONGER, at least one full discharge and charge cycle is required to avoid damage to the cells caused by self-discharge.

The number of cycles (cycle life) after which the battery retains at least 80% of its nominal capacity depends on the depth of discharge.

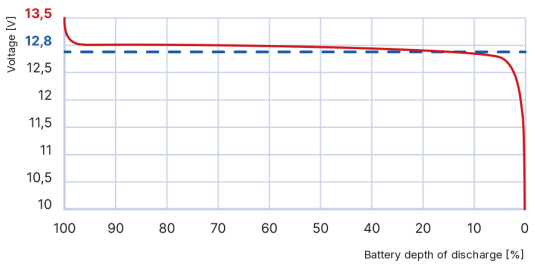
It is not less than 2500 cycles at 100% DoD (full charge and discharge). After 2500 cycles the battery is still operational, its capacity is at least 80% of the nominal capacity and begins to decrease over time and/or with further use. The shallower the discharge cycles, the longer the cycle life. Accordingly, for 80% DoD cycles (discharge down to 20% of total capacity) the cycle life is 3500 cycles, and for 60% DoD cycles (discharge down to 40% of total capacity) the cycle life is 4500 cycles.

The estimated service life of the battery electrolyte is approximately 12 years.

NOTE

Due to the non-linear discharge characteristic of a LiFePO$_4$ battery, its voltage remains almost constant over a wide range of its capacity (Fig. 1). A nominal voltage of 12.8 V (for our batteries) can indicate a battery charged to approx. 90% of its nominal capacity, BUT also one discharged to nearly 0% of its nominal capacity. As the characteristic shows, a battery whose open-circuit voltage (rest voltage, no load) is 12.8 V (or less) may be practically fully discharged. Therefore, the voltage of LiFePO4 batteries must not be used to determine their actual state of charge/discharge.

Fig. 1. Battery voltage drop, 1C discharge



Never allow the open-circuit voltage at the terminals of a LiFePO$_4$ battery to fall below 12.8 V.

WARRANTY TERMS

The customer is granted a warranty for the above product, a 12.8 V LFP battery, that this product will be free from defects in materials and workmanship for a period of 2 years from the date of purchase within the territory of Poland.

If, during the warranty period, symptoms occur that may indicate a product defect, contact the technical support department, which will advise on how to proceed. Under this warranty, a defective product will be restored to working order or replaced if the fault makes repair impossible.

The warranty claim will be processed within no more than 30 working days from the date of receipt of the complaint. Replacement of the device consists of supplying a new, defect-free product of the same type or – if it has been discontinued – one with similar parameters, except for the dimensions, which may differ. Traces of service work may remain on the outer casing of the battery.

This warranty does not apply:

- in the event of incorrect connection, use or charging of the device,
- if the product has been modified, opened, altered or damaged as a result of improper use,
- in the event of failure to follow the operating instructions of the device,
- if the product has been sold at a public auction,
- if the device has been destroyed in an accident or natural disaster,
- if the connection terminals have been damaged,
- if the device has been damaged by fire, freezing or high temperature,
- in the event of flooding/crushing by pressure,
- in the event of user interference with the device,
- if the housing has been damaged.

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