OPERATING MANUAL

AES eBike battery 2.0 LongLife 36 V
AES eBike battery 2.0 LongLife 48 V

AES Akku Energie Systeme GmbH, Biedenkamp 8, 21509 Glinde

You have chosen an AES eBike battery 2.0 from AES Akku Energie Systeme GmbH. We are delighted that you have chosen a long-life product that was manufactured to the highest industrial standards.

Your AES Team

COMPANY INFO

Operating manual
„AES eBike battery 2.0 LongLife 36 V
AES eBike battery 2.0 LongLife 48 V“

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Version 1.2

Table of contents

Important notes on this manual

Please read the operating instructions carefully before installation or starting any work. These contain important information on the proper functioning of the AES eBike battery 2.0 LongLife 36 V / 48 V. („LongLife“ following „LL“)

This manual is intended for all users of the AES eBike battery 2.0 LongLife 36 V / 48 V and the charger as well as qualified electricians, who are qualified for commissioning.

Safekeeping of manual

This manual should be kept in a safe place near the AES eBike battery 2.0 LongLife 36 V / 48 V and the charger and must always be accessible to all users and to electricians responsible for commissioning and maintenance. In the event of a change of operator, the user manual must be transferred.

Limitation of liability

AES Akku Energie Systeme GmbH does not assume any liability for any personal injury, damage to property, damage to the product or consequential damage caused by non-observance of this manual, improper use of the product, repairs or other work carried out on the product by non-qualified electricians. Unauthorized modifications or changes to the product are hereby prohibited.

1 Safety

1.1 Safety instructions for using the AES eBike battery 2.0 LL 36 V / 48 V

- The AES eBike battery 2.0 LL 36 V / 48 V may only be used for its intended purpose in accordance with these operating instructions.
- The AES eBike battery 2.0 may not to be charged outdoors.
- Opening the AES eBike battery 2.0 will invalidate the warranty!
- The AES eBike battery 2.0 must not be opened under any circumstances! There is a risk due to potential high currents!
- There must not be any flammable materials within a radius of 1 m around the AES eBike battery 2.0.
- Never touch the electrical contacts inside the connection socket of the AES eBike battery 2.0.
- Manipulation or greasing of the electrical contacts is prohibited.
- Place the AES eBike battery 2.0 respectively on a non-flammable surface out of the reach of children.
- Never cover the AES eBike battery 2.0.
- No objects may be set down on the AES eBike battery 2.0.
- The battery‘s electrical contacts must be clean and dry before pushing the AES eBike battery 2.0 into the holder on the eBike.
- Ensure sufficient ventilation when charging the AES eBike battery 2.0.
- Never charge or use a damaged AES eBike battery 2.0.
- Do not charge the AES eBike battery 2.0 unattended.
- The charging location should be equipped with a functional Class D fire extinguisher (for metal fires).

1.2 Safety instructions for charging the AES eBike battery 2.0 LL 36 V / 48 V

- The AES eBike battery 2.0 LL 36 V may only be charged using the AES charger:

  AES charger standalone 2.0 A (42 V for 36 V system)
  Item no. AESL2SA42V2.0A

  AES charger standalone 4.0 A (42 V for 36 V system)
  Item no. AESL2SA42V4.0A

- The AES eBike battery 2.0 LL 48 V may only be charged using the following AES charger:

  AES charger 3.0 A standalone (54.6 V for 48 V system)
  Item no. AESL2SA54V3.0A

- Make sure that the charger cables are not kinked and do not touch hot surfaces or sharp edges.
- Please examine the AES eBike battery 2.0 LL 36 V / 48 V and the charger for damage each time before putting into operation. If any damage is found, the operation of the eBike battery and the charger is forbidden. Please get the eBike battery repaired by qualified service only.
- It is forbidden for the user to carry out unauthorized repairs on the AES eBike battery 2.0 LL 36 V / 48 V.

ATTENTION: If you want to clean the AES eBike battery 2.0 LL 36 V / 48 V, make sure it is not connected to the charger or an eBike.

1.3 Fire protection instructions

IMPORTANT: Do not attempt to extinguish fires involving lithium batteries yourself. The course of such fires cannot be predicted and risk of personal injury cannot be excluded.

In the event of a fire involving the AES eBike battery 2.0 LL 36 V / 48 V, comply with applicable regulations. Notify the fire service and draw the attention of fire service personnel to the following dangerous goods: UN3480, lithium-ion battery, Class 9.

2 Scope of delivery, illustration and general instructions for handling

2.1 Scope of delivery

1 AES eBike battery 2.0 LL 36 V or 48 V.

2.2 Illustration

- **This shows an AES eBike Akku 2.0 LL 48 V:**

sideways left,

front (handle with charge status display),

rear (with socket), according to the version the designation „48 V“ or „36 V“ is imprinted next to the guide drillings,

from above (with snapper) extended.

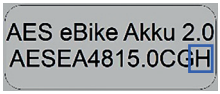
2.3 General instructions for handling

Push the AES eBike battery 2.0 evenly with both hands and never with force into the holder on the eBike.

2.4 General notes on CAN-Bus

The eBike batteries of the Akku 2.0 series communicate with the connected motor systems via a digital bus (CAN bus). The communication method used depends on the type of the connected motor system or the consumer. Therefore, the eBike Battery 2.0 is available in different versions. The communication method used can be seen on the silver sticker on the type plate.

- The last letter of the type designation (H or S) indicates the communication method used:



Version H: Fully compatible with Heinzmann motor systems.
Version S: Simple operation, operation without using the CAN bus.

- The version of the AES eBike battery 2.0 used must correspond to the application environment. The operation of the respective battery version is explained in the relevant sections of these operating instructions.

3 Operation

3.1 AES eBike battery 2.0 Version H

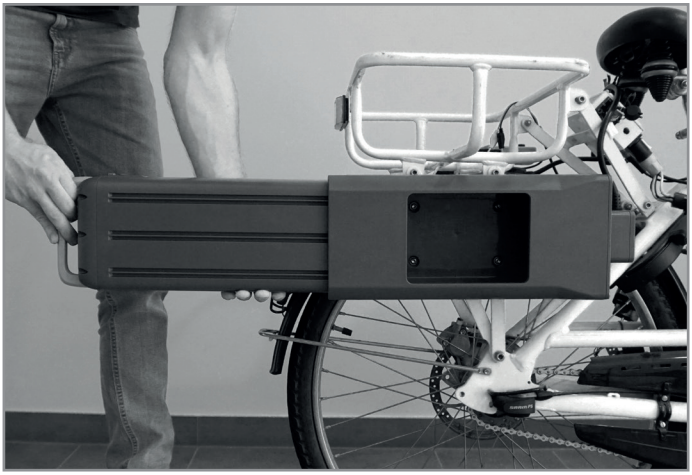
This battery can only be used in conjunction with Heinzmann motor systems. The battery is switched on and off by pressing the key on the control panel of the motor system. If you want to read off the charge status during operation, press the button of the charge status display again.

3.2 AES eBike battery 2.0 Version S

This version does not require a CAN bus connection for operation. Briefly press the key next to the charge status display to switch on the battery. To switch off the battery, press and hold the key for longer than 2 seconds. The display and the output voltage are switched off when the button is released. If no charging or discharging current runs through the switched-on battery, it switches itself off after 60 minutes.

3.3 Operation

Use both hands to guide the AES eBike battery 2.0 on the handlebar side to the mount on the eBike (see picture).



As soon as the back of the eBike battery 2.0 is inserted into the holder on the eBike, press the snapper down with your thumb and push the battery carefully into the recess provided on the holder until the snapper engages. (see picture below).

4 Charging process and charge level display

4.1 Charging process with charger

Place the AES eBike battery 2.0 LL 36 V / 48 V next to the charger on a non-flammable surface. Do not cover the AES eBike battery pack or the charger (see picture).

When using a single charger, be sure to grip the charger plug as shown in the picture below. Do not hold the plug by the cable either when plugging it in or when unplugging it (see picture below).

Position the battery so that you can follow the charging progress on the charging status display.

Connect the mains cable of the charger to a mains socket and the output cable to the battery. For version S batteries, the button next to the charge status display must now be pressed again. During the charging process, the charging status indicator on the display shows the following (see picture).

To charge an AES eBike battery 2.0, a charger with a charging end voltage that is appropriate for the battery must be used. The following chargers are currently available:

- The AES eBike battery 2.0 LL 36 V may only be charged using the AES charger:

AES charger 4.0 A standalone for 2.0 (42 V)
Item no. AESL2SA42V4.0A

AES charger 2.0 A standalone (42 V)
Item no. AESL2SA42V2.0A

- The AES eBike battery 2.0 LL 48 V may only be charged using the AES charger:

AES charger 3.0 A standalone (54.6 V)
Item no. AESL2SA54V3.0A

4.2 Display of charging status

To see the charge status, please press the button to the right of the charge status display once briefly.

The battery status is displayed graphically by a battery symbol with 1 to 7 bars as well as numerically in percent. In addition, the current voltage of the battery is shown in volts (V).

To set the charge level display on a new battery, it must first be fully charged and then completely discharged.

4.3 Note on correct storage the AES eBike battery 2.0

Outdoor temperatures below +41 °F can temporarily reduce the capacity of the AES eBike battery 2.0 by up to 10 %. At low outside temperatures, the battery should therefore be stored at room temperatures and only installed in the electric vehicle shortly before use.

5 Technical features - AES eBike battery 2.0 LL 36 V / 48 V

	AES eBike battery 2.0	
Nominal Voltage	36 V DC	48 V DC
Capacity	15 Ah	15 Ah
Energy	540 Wh	720 Wh
Cell Connection	11S / 1P	15S / 1P
Permanent Charge Current	8 A	8 A
Peak for recuperation	18 A (7s)	18 A (7s)
Continous discharge current	25 A	25 A
Boost-function	50 A (5 s)	50 A (5 s)
CAN-Bus	yes	yes
IoT compatible	yes	yes
Cell Type	3,2 V / 15 Ah LiFePO4	3,2 V / 15 Ah LiFePO4
Charge, discharge cycles at 90 % residual capacity	> 1,800	> 1,800
Charge, discharge cycles at 80 % residual capacity	> 2,500	> 2,500
Weight	4.3 kg	5.9 kg
Dimensions (mm)	L 336,3 x W 157 x H 83	L 400 x W 157 x H 83
Casing	ABS plastic	ABS plastic
Charge temperature	+32 °F to +113 °F	+32 °F to +113 °F
Discharge temperature	-4 °F to +113 °F	-4°F to +113 °F

6 Care instructions

An empty AES eBike battery 2.0 LL 36 V / 48 V must be fully charged within 24 hours!

Regardless of use, the AES eBike battery 2.0 LL 36 V / 48 V must be fully charged after 4 weeks at latest!

If you want to clean the AES eBike battery 2.0 LL 36 V / 48 V, make sure it is not connected to the charger or an eBike.

If you want to clean the charger, first disconnect the power connection by pulling the mains plug out of the power socket!

The inside of the electrical connection socket of the AES eBike battery 2.0 LL 36 V / 48 V should be cleaned exclusively by expert personnel or by the manufacturer AES Akku Energie Systeme GmbH.

Do not use aggressive cleaners or solvents such as acetone. Please use a soft, clean and lint-free cloth.

7 Electrical tests

The electrical test of the AES eBike battery 2.0 LL 36 V / 48 V takes place at the manufacturer AES Akku Energie Systeme GmbH where all relevant data such as capacity, end-of-charge voltage, rest voltage and the uniformity of the individual cell voltages are checked.

8 CE Declaration of Conformity

CE-Konformitätserklärung
CE-Declaration of Conformity

Die/*The*

AES Akku Energie Systeme GmbH
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erklären in alleiniger Verantwortung, dass das Fahrradakku
declare in sole responsibility that the Batterypack

AES Akku 2.0 48V/15Ah

AES Akku 2.0 36V/15Ah

konform ist zu der
is complient with the

CE

EN 62133-2:2017

EN 61000-6-3:2007+A1:2011+AC:2012

EN IEC 61000-6-1:2019 EN IEC 61000-3-2:2019

EN 61000-3-3:2013+A1:2019

UN Transporttest 3480
UN Prüfhandbuch Teil III, Abschnitt 38.3

Glinde, den 19.08.2021
Ort, Datum

M. Behlke
Geschäftsführer

Die entsprechenden Erklärungen und Unterlagen sind bei der AES Akku Energie Systeme GmbH hinterlegt.
The relevant statements and documents are deposited in the AES Akku Energie System GmbH.

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