



MANUAL / SAFETY NOTES

**FOR YOUR E-BIKE VISION POWERPACK, COMPATIBLE TO
PANASONIC* DRIVE SYSTEM WITH 26 V**

Power information

18 Ah / 454 Wh Battery Seattube version

21 Ah / 529 Wh Battery Seattube version

25 Ah / 625 Wh Battery Seattube version

20 Ah / 510 Wh Battery Seattube version

23 Ah / 583 Wh Battery Seattube version



133,1 x 112,3 x 281,4 mm

CONTENT

Introduction.....	3
Disclaimer	3
Guarantee.....	3
CE declaration of conformity.....	4
Technical information.....	4
Care and storage.....	4
Accessories	4
Common safety notes for PowerPacks.....	5
Safety notes for charging.....	6
The Charging.....	7
Charging time	8
Battery usage.....	8
Maintenance.....	9
Troubleshooting	9
Recycling.....	9



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READ MANUAL CAREFULLY BEFORE USE!

This manual is integral part of the product. It contains important information and safety notes. Keep it in range and give it away with the product to third party.

Introduction

We are glad, that you choose a Lithium-Ion battery of our PowerPack range.

Please take some time to read this manual carefully. It contains detailed information about handling of your battery, its functions and its care, as well as the usage of the E-Bike Vision fast charger.

For further questions, do not hesitate to contact your dealer or get in contact with us via our homepage.

Enjoy your new PowerPack and thank you for your confidence.

Your Akku Vision Team

Disclaimer

The Akku Vision GmbH assumes no responsibility for any loss, damages or costs arising from incorrect use and operation of the product, or related.

The obligation to pay any compensation, regardless of the legal reason, is limited to the directly involved E-Bike Vision products invoiced value, as far as this is permitted by law. This does not apply, if a liability according to binding legal rules due to intent or gross negligencem has to be respected. Furthermore, the Akku Vision GmbH assumes no responsibility for the completeness and accuracy of the documents that come with the battery, due to its different distribution channels.

Guarantee

For our battery products, we accept the legally applicable guarantee beyond a 24 months warranty. To qualify for the 24 months guarantee, submission of the purchase receipt is required.

Please contact your dealer from whom you purchased the product, in guarantee cases.

Excluded from the guarantee are malfunctions caused by:

- improper operations, e.g. overheating, incorrect connection, short-circuit or reverse polarity, immersion in water, cleaning with high pressure or steam cleaners, deep discharge, wrong polarity or drop
- use of non-approved accessories by the Akku Vision GmbH
- accidental or deliberate damages
- defectives due to normal tear
- operation outside the technical specifications
- damages that will not appear directly on the device, for which we assume the guarantee
- grease the contacts with contact spray or similar
- changes / repairs / modifications / installations or upgrades that have not be performed by the Akku Vision service center → use only our service center for repairs
- optical damages that justify no functional damages or which can be remedied by cleaning
- the costs for rental batteries

Removal of the performace label leads to loss of warranty claim.

CE declaration of conformity

The evaluation of the device was carried out by European harmonized directives. You therefore have a product that is related to its construction meets the safety objectives of the European Community to the safe operation of equipment. The detailed CE declaration of conformity can be obtained from our service center.



Technical information

Li-Ionen battery	18 Ah	21 Ah	25 Ah	20 Ah	23 Ah
Nominal voltage	25,9 V	25,4 V	25,2 V	25,55 V	25,55 V
Nominal capacity	18 Ah	20,8 Ah	24,8 Ah	19,95 Ah	22,8 Ah
Energy	466 Wh	529 Wh	625 Wh	510 Wh	583 Wh
Operating temperature	-10 up to 60 °C	-10 up to 60 °C	-10 up to 60 °C	-10 up to 60 °C	-10 up to 60 °C
Charge temperature	0 up to 45 °C	0 up to 45 °C	0 up to 45 °C	0 up to 45 °C	0 up to 45 °C
Storing temperature	~ 17 °C	~ 17 °C	~ 17 °C	~ 17 °C	~ 17 °C
Weight	approx. 3,3 kg	approx. 3,3 kg	approx. 3,3 kg	approx. 3,3 kg	approx. 3,3 kg
Safety class	dust- and splash water approved				

Care and storage

- Use only a soft cloth and a little water or a neutral detergent for cleaning
- Never clean with a high pressure or steam cleaner!
- Do not immerse in any liquids!
- Do not use any cleaning agents as gasoline, alcohol or other liquids.
- Abrasive cleaning agents can lead to detachment of the painting, discoloration, deformation, scratches or similar defects.
- Store your battery at room temperature (18° to 23° C).
- For longer periods, store it at temperatures around 17° C.
- Humidity should be in the range of 0 to 80 %.
- Ideal charging state in not use is about 70 % charged capacity. Check the state of charge by prolonged non-use regularly and charge your battery if necessary.

Accessories

- E-Bike Vision fast charger for PowerPacks with 26 V and a charge current of 5 A.

These allows easy charging directly on the eBike in no time.

Common safety notes for PowerPacks

Please read this manual carefully! Please consider the safety notes!

- PowerPacks are no toys. Keep them away from children!
- Don't change anything on the battery. Especially, consider that you are not allowed to open the battery, or rather modify it, otherwise you lose your warranty claim.
- By mishandling (heating, e.g. solar irradiation or store on radiators, open fire, dipping into water, cleaning with pressure washer or steam cleaner, short circuit, over charging, deep discharging, inverse polarity or dropping) or situations, that lead to not-proper operation, that can hurt people or catch the battery fire.
- PowerPack batteries are products which may not release any substances under normal and reasonably foreseeable conditions of use.
- However, should any liquids or gas eject from the battery, avoid any contact with it and also do not breathe it. If contact occurs randomly, wash the affected skin with water.
- In case of burns or on contact of the eyes with one of these fluids or by respiratory irritation, please consult a doctor!
- In extreme cases, seal batteries airtight and add dry sand, chalk powder (CaCO₃) or vermiculite.
- Do not use damaged batteries or chargers. In any doubt, contact your dealer.
- Do not use battery and/or charger for other purposes.
- You must use PowerPacks only in the designated eBikes.
- Use only the appropriate chargers.
- Contacts should not be treated with lubricants.
- The battery connectors at the eBike must be dry and clean before contacting!
- The covers of charge/discharge connectors must be replaced immediately on loss, otherwise warranty void.

→ That way, you do have the maximum safety!

Safety notes for charging

Please pay particular attention to the following points when charging:

- Connect the charger only to a suitable mains supply.
- Do not charge NiCd, NiMh or primary cells!
- Use the charger only with the appropriate PowerPacks of Akku Vision!
- When not using for a longer period, disconnect the mains supply and also connected batteries.
- The charging time varies depending on the battery's capacity and charger type.
- Do not charge the battery below 0° and not above 45° C. The battery management system will not allow to start the charging process.
- Please charge your PowerPacks only under supervision and on a non-combustible surface (both battery and charger).
- The charger is designed for operation in ventilated, dry and dust-free environment. Never expose to rain or extreme heat. Allow adequate air circulation.
- Do not cover the charger, nor the battery.
- Ensure that that the plugs and sockets of the charger are not damp or contaminated.
- Do not touch plugs and sockets of the charger with wet hands.
- Do not try to convert or disassemble the charger.
- Before the charger is connected to the mains, please ensure that line voltage matches to the supply voltage of the charger. The charger's needed voltage is indicated on its nameplate on the backside.
- A charger with a damaged power supply cord or plug must not be connected to the electrical grid and must promptly replaced or repaired by the E-Bike service center.
- Penetration of water and moisture into the charger must be avoided in any case. Should this have happened, power off the charger (by turning off the fuse) immediately. Disconnect the charger from the mains and let it be checked by the Akku Vision service center.
- A sudden temperature change from cold to hot, there could be condensation water on and in the charger. In this case, wait for connecting to the mains until the charger is as warm as the room. Try to avoid this case by storing the charger where you use it.

For maximum life of your battery, charge it only within 10° and 30° C temperature range.

The Charging

The charging outside the pedelec is started by unlocking the lock, that way you can remove the battery as usual and charge it in your appartement or garage in your presence.

Turn off the drive system and wait until the LEDs of the battery expire. Only now, you unlock the lock with the key counter-clockwise to the left.

When using the E-Bike Vision charger you are able to charge your battery in or outside the battery.

The drive system must be turned off.

Simply open the cap.

Under the cap, the 3pin connector for the E-Bike Vision charger is located.

Start of charging process with E-Bike Vision charger

1. Connect the charger to the mains.
2. Turn on the charger and wait until the green LED flashes slowly.
3. **Make sure that none of the battery LEDs are lighting when it's not mounted in the eBike.**
4. Now plug in the charging connector of the charger to the battery.
5. In the charging socket of the battery and in the charging plug of the charger, there are guide slots to prevent the charging plug to be inserted incorrectly. Please turn the charging plug slightly, when you plug it in the socket of the battery, until it is in its right position. This manifests itself by a slight snap. Now, the charging plug can be inserted with light pressure. Please do not try to push the charging plug into the charging socket with too much force, otherwise you could damage the battery or the charger.
6. Charging process starts and the fan turns on. The LEDs of the battery corresponding to its current state of charge begins to flash.
7. **If the battery is almost fully charged (4 LEDs are lighting and the 5th is flashing), the fan will not start turning under certain circumstances, because the charger switches immediately into the so-called constant voltage mode. Within this mode, the power consumption of the charger is that low that the running of the fan is not necessary.**
Furthermore, the fan will also turn off towards the end of charging process, as it is no longer needed in constant voltage mode.

During charging, the capacity is indicated by lighting and flashing of the battery's LEDs as follows:

LED 1 flashing:	0 – 19 % charged capacity
LED 1 lighting and LED 2 flashing:	20 – 39 % charged capacity
LED 1,2 lighting and LED 3 flashing:	40 – 59 % charged capacity
LED 1,2,3 lighting and LED 4 flashing:	60 – 79 % charged capacity
LED 1,2,3,4 lighting and LED 5 flashing:	80 – 96 % charged capacity
LED 1,2,3,4 and 5 lighting:	>= 97 % charged capacity

Break up of charging process

To complete the charging, switch off the charger and unplug the charging plug of the battery. Reattach the cap of the charging socket and pull the power plug of the charger from the wall socket.

Charging with your original charger is completed, as soon as all LEDs are lighting permanently.

With the E-Bike Vision fast charger, charging is completed, as soon as all LEDs of the battery are lighting and charger LED is lighting solid green or red.

If the charger's LED lights red, this is no cause for concerns. This can signalise for example, that the battery management system has finished charging for balancing the individual cell voltages of the installed cells. This ensures the lifetime and the safety of your battery.

Charging time

The battery with a capacity of 18 Ah requires about 9 hours to be fully charged with the standard charger and about 3,5 hours with our fast charger.

The battery with a capacity of 21 Ah requires about 11 hours to be fully charged with the standard charger and about 4 hours with our fast charger.

The battery with a capacity of 25 Ah requires about 14 hours to be fully charged with the standard charger and about 4,5 hours with our fast charger.

The battery with a capacity of 20 Ah requires about 10 hours to be fully charged with the standard charger and about 3,75 hours with our fast charger.

The battery with a capacity of 23 Ah requires about 13 hours to be fully charged with the standard charger and about 4,25 hours with our fast charger.

Of course, you can continue to use your old charger. Please proceed as described within the manufacturer's manual.

Battery usage

Please consider the safety instruction given earlier during usage of your E-Bike Vision PowerPack.

Your PowerPack will enter automatically into sleep-mode (if it is not installed in the eBike) after 3 days to prevent itself of self-discharging. Also, it will shut down the drive system after 10 minutes of no use of the eBike. It is irrelevant whether the lights are enabled or not!

Take care, that the battery is in its correct position, before inserting. If not, you can damage the battery's housing.

Before each use of PowerPack, it must be activated by pushing the capacity indicator button.

Do not press the capacity indicator button several times in quick succession, this activates and deactivates the battery once again.

You installed your new E-Bike Vision PowerPack correctly in your eBike and locked it (do not forget to remove the key)? Then turn on the drive system by the capacity indication button or via the ON /OFF switch of your HMI. The drive system now read the current capacity of the battery and will calculate the approximated range, based on your previous driving profile. The drive system is ready for use as soon as the speed is displayed.

Capacity is indicated during use as follows:

LED 1 flashing:	0 – 16 % charged capacity
LED 1 lighting:	17 – 33 % charged capacity
LED 1 and 2 lighting:	34 – 50 % charged capacity
LED 1,2 and 3 lighting:	51 – 67 % charged capacity
LED 1,2,3 and 4 lighting:	68 – 83 % charged capacity
LED 1,2,3,4 and 5 lighting:	>= 84 % charged capacity

Do not remove your battery off the eBike, as long as the drive system is on. Turn it off before!

Your new PowerPack owns the latest and most safely battery management system technology and protects itself from incorrect operation. Before the cells would be completely discharged, the battery switches off the motor. However, there will remain enough power within the battery, to drive safe home with activated lights, if you are powering the lights via the drive battery.

Maintenance

The life span of your PowerPack depends mainly of your carefully usage.

Never use the complete capacity, but use it regular and store it at 17° C. That way, your battery will thank you will longer life span.

With increasing aging your battery will loose capacity, anyway.

Do not try to refresh or exchange the cells on your own!

Get in contact with our service department. They can also rate and exchange single components after the warranty time.

An essential shorte usage time after fully charged the battery indicates that the battery is dissipated, however. Replace it!

Troubleshooting

If your drive system can not be activated, please check the contacts of the discharge plug to make sure that they are clean, straight and undamaged and that there is a safe contact between battery and connector box.

If the drive system can still not be activated, please try to charge your battery.

If charging does not start, please check the polarity of the charge plug.

Please test the battery by pushing the capacity indicator button.

Is the power cord of the charger connected properly and performs the wallet socket?

Is the green LED of the charger flashing? If this is flashing red, there can be a short circuit. Charger and battery must be returned to the Akku Vision service center.

If the battery is damaged, defective or exits any liquids or smell? Please do not use your PowerPack further and contact your dealer or our service center.

Recycling

Do not dispose lithium batteries in the household waste! Return defective or used batteries to the battery dealers or to the municipal waste collection centers. Turn back the battery in discharged state. Also prevent short-circuits by covering the terminals. With the proper disposal of your battery, you make an important contribution to protect our environment.

