



## MANUAL / SAFETY NOTES

**FOR YOUR E-BIKE VISION POWERPACK, COMPATIBLE TO  
YAMAHA\* PW SERIES WITH 36 V**

### Leistungsdaten

17,1 Ah / 624 Wh battery downtube

20,7 Ah / 745 Wh battery downtube



372,0 x 98,2 x 98,4 mm

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**Akku Vision GmbH**  
Industriestraße-West 6  
D-63808 Haibach

Phone: +49 (0) 6021 3289288  
Email: [info@akkuvision.de](mailto:info@akkuvision.de)  
Web: [www.akkuvision.de](http://www.akkuvision.de)

E-Bike Vision is a trademark of the Akku Vision GmbH

# 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 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	17,1 Ah / 624 Wh	20,7 Ah / 745 Wh
Nominal voltage	36 V	36 V
Nominal capacity	17,1 Ah	20,7 Ah
Energy	624 Wh	745 Wh
Operating temperature	-10 up to 60 °C	-10 up to 60 °C
Charge temperature	0 up to 45 °C	0 up to 45 °C
Storing temperature	< 17 °C	< 17 °C
Weight	approx. 3,5 kg	approx. 3,5 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 36 V and a charge current of 6 A.
- E-Bike Vision charger for PowerPacks with 36 V and a charge current of 4 A.

Both chargers are only useable with the following adaptor:

- Charge adaptor for PowerPack, compatible with Yamaha PW Series

## 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 (CaCO<sub>3</sub>) 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

You can charge your new battery as usual with the original charger, which was included in the scope of delivery when you purchased the pedelec.

When using the E-Bike Vision charger in combination with the optionally available charging adapter or when using the original charger, you can charge your battery in the Pedelec or outside the Pedelec.

### Requirements for charging in the pedelec

Open the cap of the charging socket, which is located on the bike frame or near the battery. It is irrelevant whether the drive system is switched on.

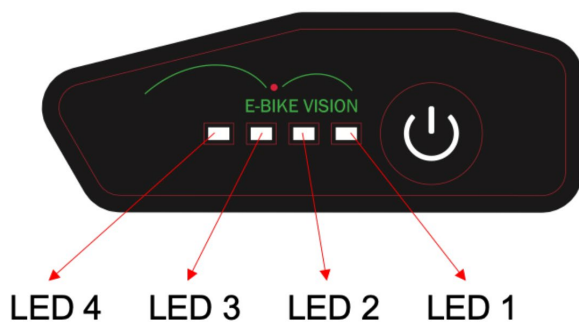
### Requirements for charging outside of the pedelec

You can start charging **outside the pedelec** by switching off the drive system. Please wait until all the LEDs on the battery have gone out. Now you can remove the battery as usual by unlocking the lock and z. B. in your apartment or garage in your presence.





### Start the charging process with the original charger

1. Connect the charger to the electrical network.
2. **Make sure that none of the battery LEDs light up if it is not installed in the pedelec.**
3. **If necessary, wake the battery from deep sleep by pressing the button on the battery.**
4. Now insert the charger plug into the battery.
5. The charging process starts and the LED of the battery, which corresponds to the current state of charge, starts to flash.
6. **If the charging process does not start immediately, press the capacity button on the battery to check and wait until the capacity indicator lights up.**
7. **Only in conjunction with an optionally available 7A charger: If the battery is almost fully charged (3 LEDs light up and the 4th flashes), the charger fan may not start because the charger immediately switches to the so-called constant voltage phase. Here the power consumption of the charger is very low and it is not necessary to run the fan. The fan will also switch off towards the end of the charging process, as this is no longer required in the constant voltage charging phase.**





















### Names of the LEDs on the capacity indicator



## Legende der LED-Anzeige

	LED off
	LED on
	LED flashes slowly (0,5 s interval)
	LED flashes fast (0,2 s interval)

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

F				E	
					
Charging 0 – 24 %					
F				E	
					
Charging 25 – 49 %					
F				E	
					
Charging 50 – 74 %					
F				E	
					
Charging 75 – 99 %					
F				E	
					
Battery fully charged (100%)					

## Finishing charging

To complete the charging process, pull the plug of the original charger on the unlocking ring straight out of the battery. Then pull the charger plug out of the socket.

The charging process with your original charger is finished (charge status 100%) when all LEDs of the battery have gone out.



## Charging times

The battery with a capacity of 17.1 Ah (624 Wh) requires approx. 5 hours for a full charge with the original standard charger 4A and approx. 3 hours with the optionally available quick charger 7A from Akku Vision GmbH.

The battery with a capacity of 20.7 Ah (745 Wh) takes approx. 6 hours for a full charge with the original standard charger 4A and approx. 4 hours with the optionally available quick charger 7A from Akku Vision GmbH.

## Battery usage

**Your PowerPack automatically goes into so-called deep sleep mode after approx. 14 days to keep self-discharge as low as possible. Before the next use (charging or using the pedelec), the battery must be awakened from deep sleep by pressing the button on the battery. Waking up is symbolized by turning on the LEDs in sequence.**

**The drive system is also switched off (by the battery) after approx. 5 minutes if the Pedelec is not used. It is irrelevant whether the light of your pedelec is activated or not!**

**When inserting the battery, make sure that it is correctly positioned before you snap it into the lock. Otherwise the battery case may be damaged!**

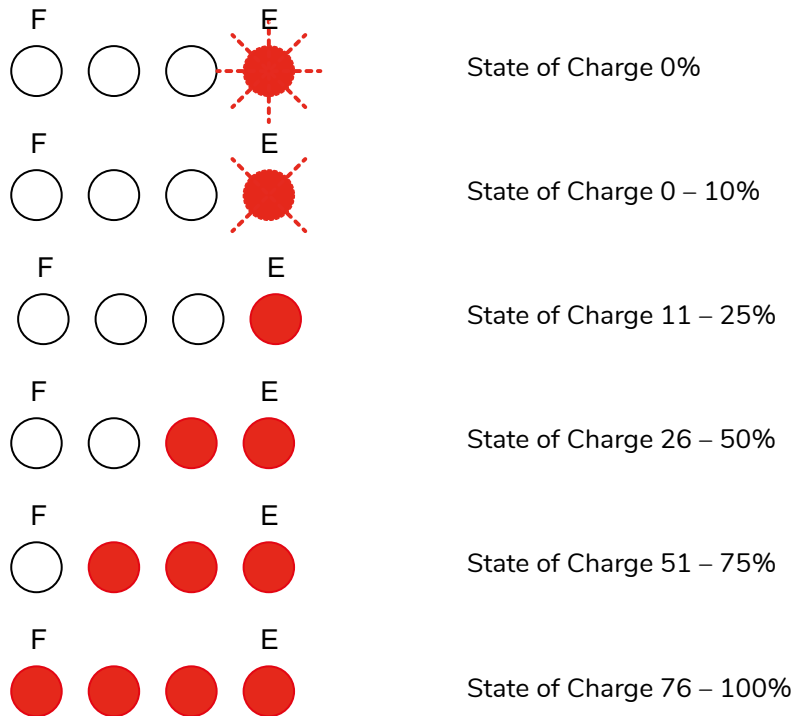
**Do not press the capacity button several times in quick succession, otherwise you will immediately activate and deactivate the battery again.**

Have you correctly installed your new E-Bike Vision PowerPack in your pedelec and locked it with the lock (don't forget to remove the key!)? Then switch on the drive system using the on / off switch on your display. The drive system now reads the current capacity from the battery and your motor will calculate the approximate remaining range based on your previous driving profile. The battery has no influence on the range calculation of the drive system.

**Do not remove the battery from the pedelec while the drive system is activated. Switch this off beforehand!**

## The LED status display on the battery:

The battery status is displayed by pressing the button on the battery once.



By pressing the button on the battery for a longer time, further information can be displayed.

### Display of charge cycles

By pressing and holding the button for a period of approx. 20 seconds, the full cycles are displayed for the entire operating time:

LED 1 flashes	0 - 100 full cycles
LED1 lit:	100 - 200 full cycles
LED1 lit, LED2 flashing:	200 - 300 full cycles
LED1, LED2 illuminated:	300 - 400 full cycles
LED1, 2 illuminated, 3 flashing:	400 - 500 full cycles
LED1, 2, 3 illuminated:	500 - 600 full cycles
LED1, 2, 3 lit, 4 flashing:	600 - 700 full cycles
LED1, 2, 3, 4 illuminated:	700+ full cycles

### Health status display (SOH)

By pressing and holding the button for a period of approx. 30 seconds, the health status of the battery is displayed:

LED 1, 2, 3, 4 illuminated:	100 - 75% SOH
LED 1, 2, 3 illuminated:	74 - 50% SOH
LED 1, 2 illuminated:	49 - 25% SOH
LED 1 illuminated:	24 - 0% SOH

### Manually put battery into deep sleep mode

By pressing and holding the button for a period of approx. 40 seconds, the battery is put into deep sleep (deep sleep mode). This is signaled by the LEDs being switched off in sequence, starting with the 4th LED.

The battery wakes up again by pressing the button once.

Please note that your battery automatically goes into deep sleep after a period of approx. 14 days when not in use.

## Light support

Your new PowerPack has the latest and safest battery management system technology to protect you and yourself from incorrect operation. Before the cells of the battery are deeply discharged, the battery switches off the motor of your drive system. However, there is enough energy left in the battery to safely drive home with the lighting switched on if you operate the lighting via the drive battery. Electrical circuits that are operated via the drive battery also continue to work.

## 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?

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.

