

THE
ALL IN ONE
RIDER'S
GUIDE

ZEHUS

HUMAN PLUS

Get to know
your way
to live *more*.



Contents

1	Riding	P 8
2	Zehus App	P 16
3	Power modes	P 28
4	Maintain and Care	P 40
5	Battery care	P 44

Safety warnings

P 6

Safety warnings

- DO NOT open the unit yourself. The All In One is maintenance-free and must be repaired only by qualified experts and only with original spare parts. Any unauthorized attempt to open the unit will void warranty claims.
- DO NOT make any modification to The All In One and DO NOT remove the anti rotational plates from your bike. This would yield to an incorrect behavior by your bike and it may result in serious injury.
- DO NOT use the bike without the protection covers for the charging connector. Warranty is void if the bike is being used without protecting the connector.
- Please observe all national regulations on registering and using e-bikes.
- The term “battery pack” refers to an internal part of The All In One system. DO NOT try to access the battery pack.
- The All In One must not be subjected to direct mechanical impacts. There is a risk that the battery pack and the electronics will be damaged.
- Protect The All In One system against severe heat, fire and immersing into water. Danger of fire and explosion.
-

- Vapors can escape in case of damage or improper use of the The All In One. Avoid contacts with those vapors, as they can irritate the respiratory system.
- Charge the battery pack only with original Zehus battery charger. Damage can occur while using non original charging devices.
- Keep the battery charger away from rain or moisture. Keep the battery charger clean. Danger of electric shock
- Before any charging operation, check the battery charger status (cable, plug, connectors). If any damage is detected, DO NOT use the charger and contact a qualified retailer.
- Do not operate the battery charger on flammable surfaces.
- Vapors can escape in case of damage or improper use of the charger. Avoid contacts with those vapors, as they can irritate the respiratory system.
- Keep the charger out of children reach.

1. Riding



The All In One helps you in reducing your pedaling effort while you ride your e-bike.

It is an e-bike system that integrates all the components inside it, in particular there is the motor itself, the battery and the electronics to control them. The system is compliant to the EU laws on Electric Pedal Assisted biCycle (EPAC).

1.1 Intended use

The All In One is intended to be used exclusively within the bike which was sold with. Any attempt to mount it on another bike will void warranty claims. The All In One is not permitted for competition and race use.

1.2 Before riding

Charge the All In One and register it with the Zehus App (see 2) before the use.

Attention!

It is recommended to gather first experience with The All In One away from roads with heavy traffic.

Check before every ride that your bicycle is working properly, it is very important to check visually and with your hands that all the components and systems on your bike are not damaged and in good condition, especially the brakes and tires.

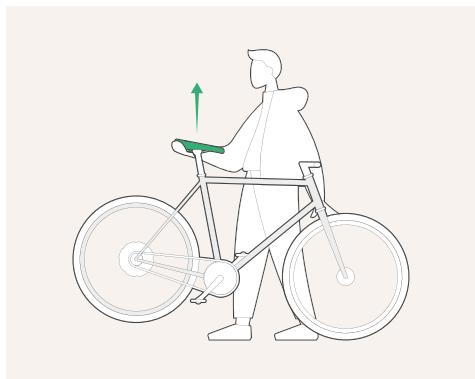


1.3 Turn on and off

Turn on (Halos and Horizon)

The All In One turns on automatically when the rear wheel reaches a speed higher than 8 km/h. Thus, to turn on All In One just start pedaling your bike as usual or lift the bike and spin the wheel in this manner:

1. Lift the bike from the saddle
2. Spin the pedals to make the wheel moving forward



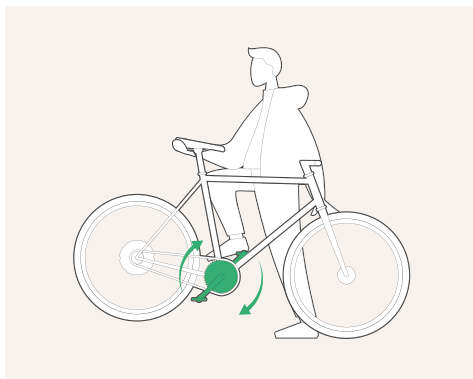
1. Lift the bike

Turn on Pulsus (Kickscooter)

If your mode is a kickscooter, simply start kicking to move your vehicle and The All In One turns on automatically when the speed is higher than 6km/h (4 mph).

Turn off

The All In One automatically turns off when no activities are detected within 2 minutes, to reduce the idle battery use, or you can turn it off through the optional Controller.



2. Spin the pedals

1.4 Assistance activation

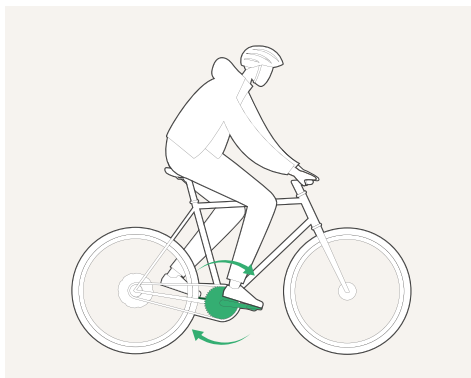
When All In One is turned on, the motor assistance is not yet activated for safety reasons. To activate the motor assistance, you must perform all the following steps:

3. Ride the bike and reach 8 km/
4. Pedal backwards 3 times continuously!

Note: The bike will slow down while performing step 2, due to the regenerative braking function (1.7).

Note: The All In One can also be activated using the Zehus App or using the Controller.

If you have The All In One Pulsus (kickscooter models) the assistance can be activated through the Controller or via the Zehus app.



3. Pedal forward



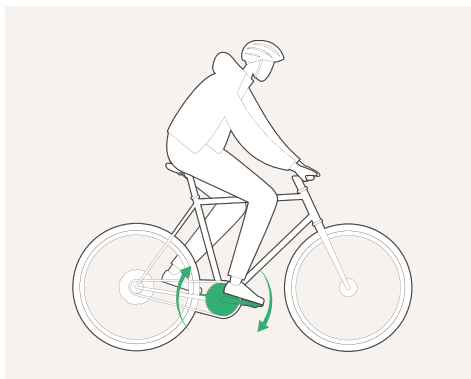
4. Pedal backwards

1.5 Motor assistance

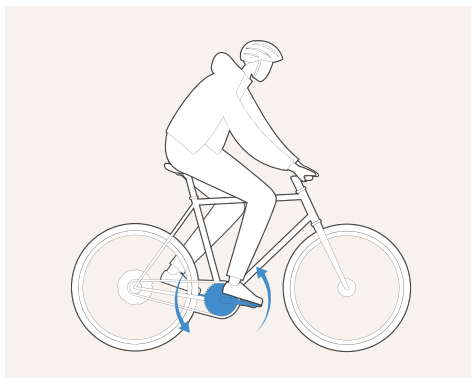
The motor assists the rider up to 25 km/h and with a maximum power of 250W just if you are pedaling. As soon as you stop pedaling, the motor will stop pushing.

The power delivered depends on several factors including the bike speed and the pedaling speed, depending on the selected power mode. The default power mode of The All In One is the “turbo” mode. (Change the power mode [2.4](#)).

The All In One features a regenerative braking function allowing you to slow down the bicycle using the electric motor as a generator recharging the batteries through the integrated Kinetic Energy Recuperation System (KERS). To activate this you need to pedal backward. As soon as you stop pedaling, the motor will stop braking. Regenerative braking can also be enabled using Zehus Controller.



Power assistance



Regenerative braking

Attention!

Regenerative braking DOES NOT substitute mechanical brakes and WILL NOT BE AVAILABLE when your The All In One is fully charged. Please do NOT remove the mechanical brakes from your bike.

If you have a The All In One Pulsus the motor assistance is deployed when it detects a kick from the user. The K.E.R.S. on the kickscooter is only available if you have the Controller, because you need to hold the lower button to activate it.

1.6 After riding

After your ride check the integrity of your vehicle and the system to prevent damages and malfunctioning. Keep your All In One charged and synchronized with the App. Please observe the operating storage temperature of the all in one. Protect the charging connector from impacts that can damage it. The components

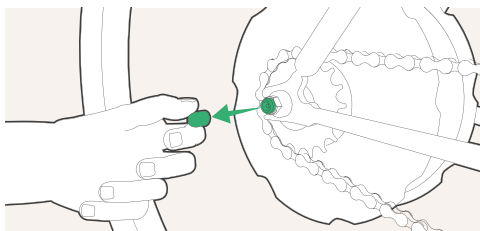
can be damaged if exposed to extreme temperatures.

1.7 Charging

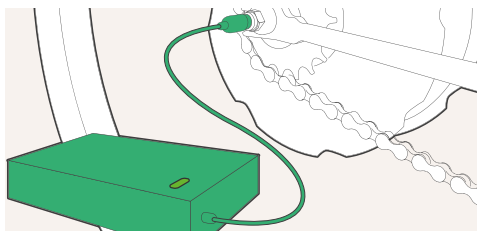
To charge The All In One, simply remove the protection cap from the charging connector and plug in the charger (connect it to a power outlet 110~240 V).

The charging time is approximately 3 hours for a complete charge. While The All In One is charging the charger LED must turn RED. When it is completely charged, the charger LED turns GREEN.

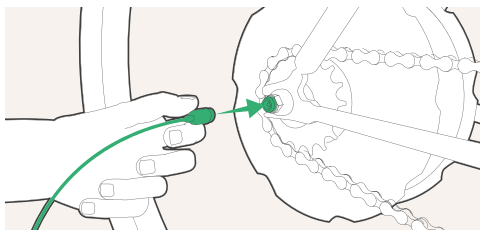
Note: when the charger gets disconnected from the bike, The All In One will turn off.



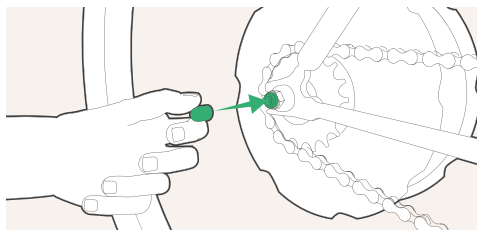
1. Remove the protection cap



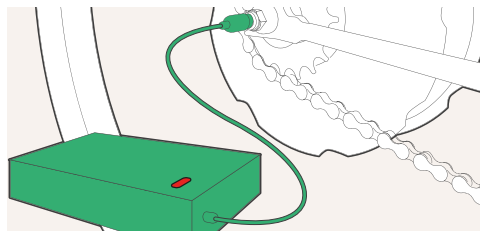
4. Charge complete



2. Plug the charger

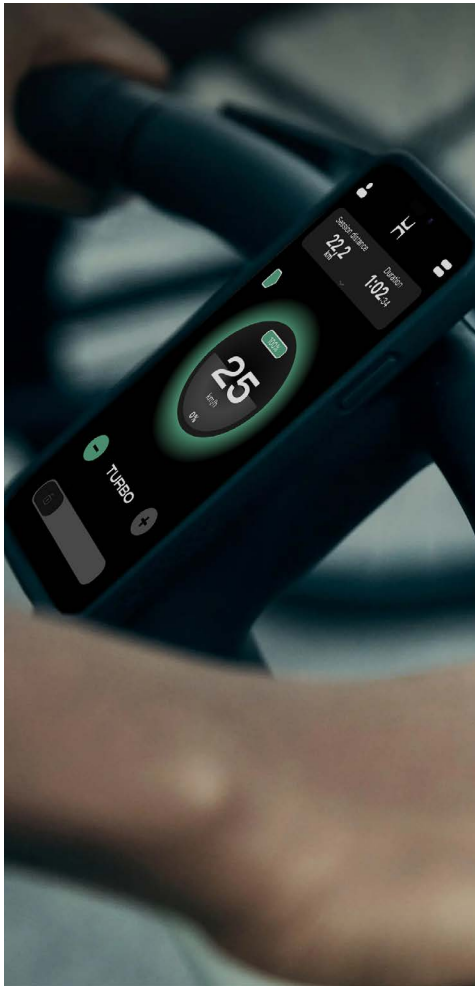


5. Reinstall the protection cap



3. Wait for complete charge

2. Zehus App



The Zehus App lets you register, configure and use the All In One. It is necessary to register the first time your vehicle to be able to use it.

Note: after registering your All In One, you will be able to use your bike also without a connected device!

Download the Zehus App from the Appstore or Google Play, then open it and register your account
Once your account has been created, you will be able to register one or more devices to it.



2.1 All In One registration

To register your All In One to your account open the Zehus App, Once performed the login, follow the on screen procedure on the App to register your All In One. Before starting the procedure we recommend you prepare your charger and assure you have a stable internet connection while registering.

Note: every Zehus device can be registered ONLY to one account. Please be sure to un-register your vehicle before landing or selling it.

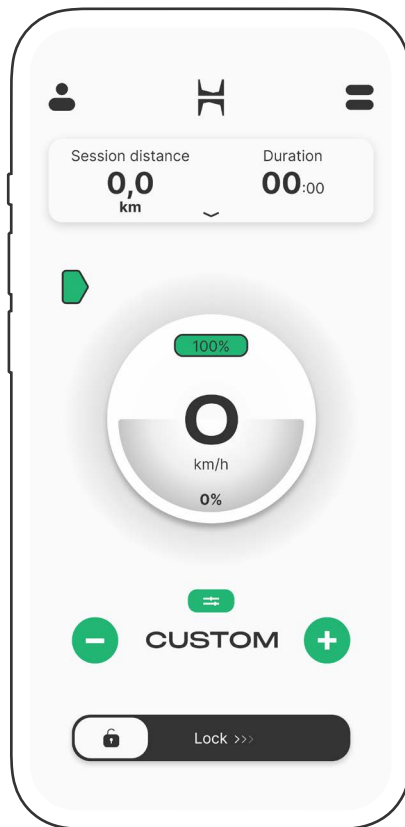
Note: Charger is recommended for the registration. Please remind that if you plug your charger off the All In One will turn off automatically and connection will be lost.

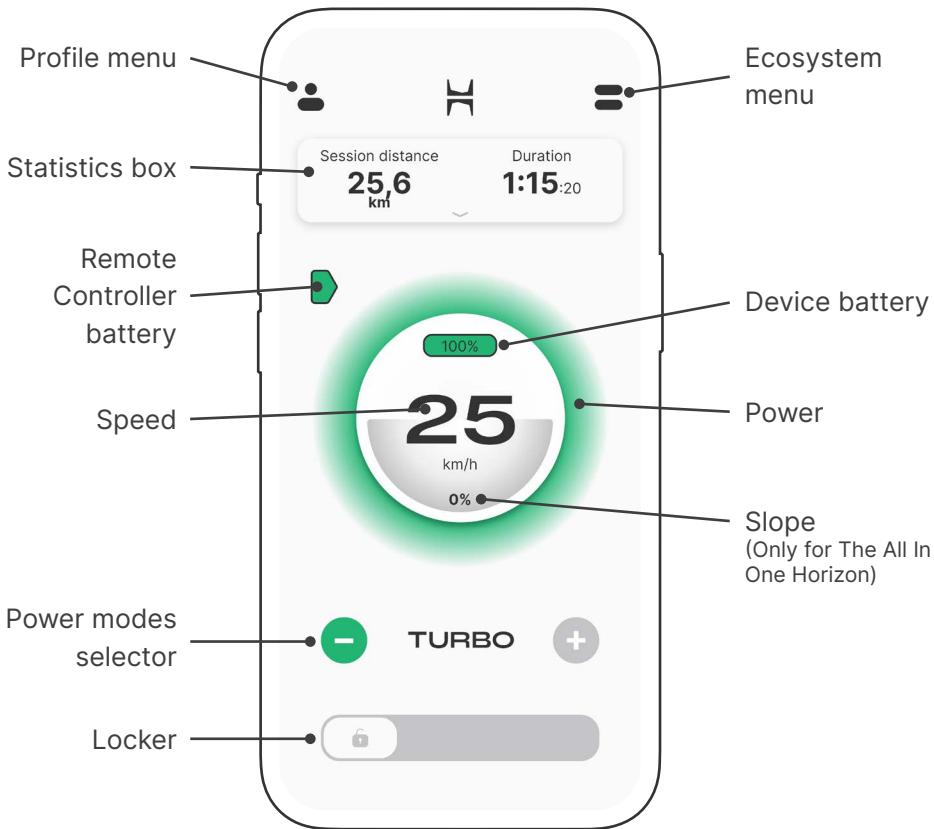
If your All In One firmware is not updated, the app asks you to update the firmware to complete the registration.

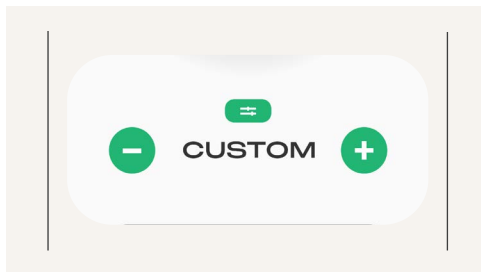
2.2 The Dashboard

The main page of the app is the dashboard, whenever it is connected to The All In One, an advanced dashboard is shown. Here you can access the profile and other menus, read the ride statistics, check battery status and manage the device.

Below the top bar with the menus, there is the statistics box where you can read the info of your riding. At the center of the screen there is the power ring that visualizes the assistance or regeneration level. Inside the ring there is all the necessary information, namely the speed, the battery and the slope indication (only for The All In One Plus). In the lower part of the screen it is possible to increase and decrease the power mode and to lock or unlock the vehicle.

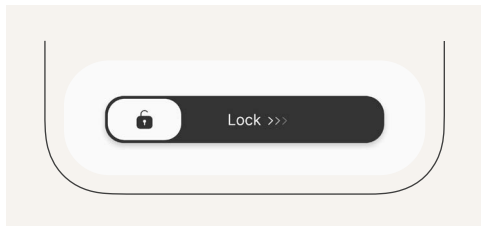






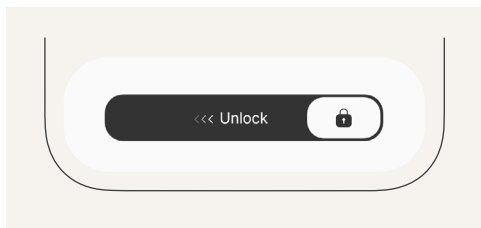
2.3 Changing power modes

The navigation through the power modes is possible with the + and - buttons, certain power modes offer the customization with a button over the icon. The customization involves the speed until which the motor assists you, the level of assistance (for detailed info see chapter 3).

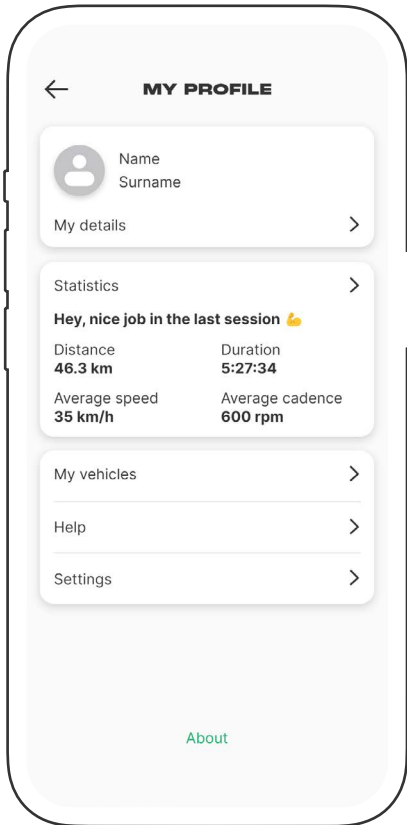


2.4 Electric lock function

This function allows you to lock the motor when you park the bike so that it is not usable if someone manages to steal it. This function makes your bike very difficult to pedal on. You can lock and unlock the motor through the slider on the dashboard.



Note: lock is available when the battery charge is higher than 20% and the bike is at 0 km/h. Lock will stay active until an authorized user connects to The All In One and unlocks it. When it turns



off, the wheel will be released from the braking force. As soon as it turns on again (speed higher than 5 km/h), the wheel will be safely locked again.

Attention!

The embedded electronic lock will not prevent thieves from stealing your bike. Please use an additional mechanic lock during prolonged stops.

2.5 Your profile

In this menu you can find the information about your profile in addition with all the data and settings related to it.

My details contains your account and personal information inserted during the registration.

The statistics page resumes all the data regarding your rides with The All In One.

In my vehicles it is accessible the list of vehicles registered to your account, as well as the possibility to

switch the connection between them, if there are more than one vehicle paired.

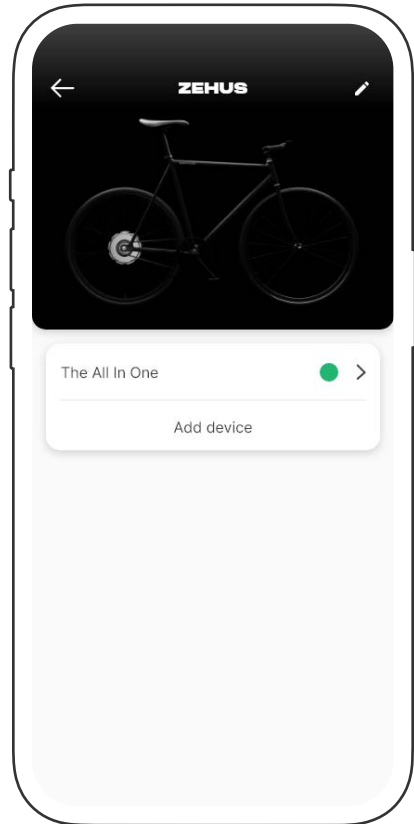
Settings page lets you configure the app to match your preferences.

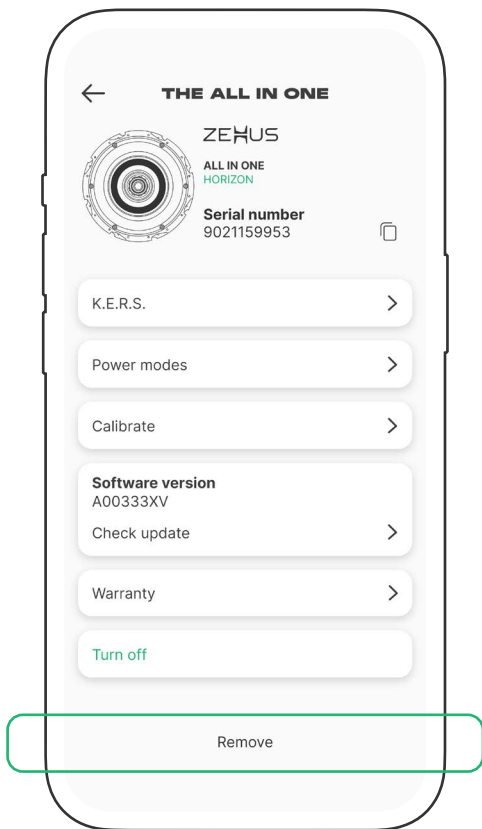
2.6 All In One ecosystem

Tapping the hamburger menu you access the ecosystem page where you can find all the functions and information related to your devices.

is possible to manage your Zehus powered bikes and scooters, change name, update firmware, force connection and disconnection, manage your settings and presets, manage your warranty or Unregister your The All In One.

In this section you can also access The All In One slope calibration.





2.7 Enale / disable KERS

In the motor page it is possible to access the KERS settings for all the power modes.

2.8 Remove the device

Your All In One can be only registered to one user. It is then important that when you decide to lend or sell your bike you perform the unregister procedure from the “My Vehicles” menu.

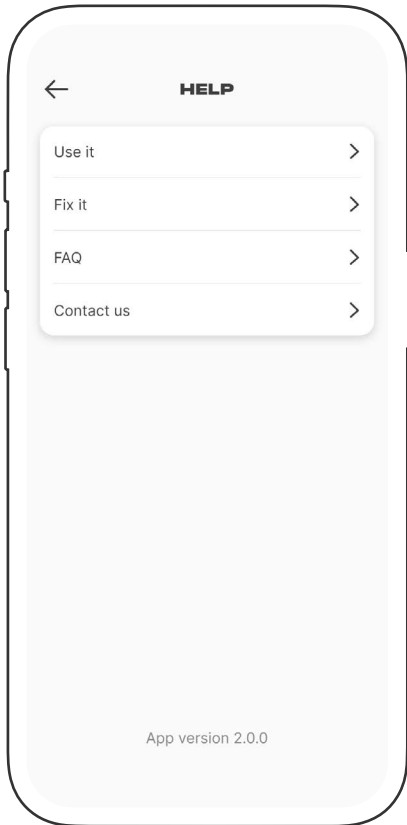
Note: it is not necessary to be connected to The All In One to unregister it.

Note: unregistering The All In One will NOT remove the link between it and a previously paired Remote Controller.

2.9 Help section

This section allows you to:

- Read the F.A.Q. of Zehus products
- Check the manuals for Zehus products



- Get assistance for your products in the Fix It procedure.
- Search for Zehus Service Center
- Send us a Feedback
- Check the app version

Note: all customer's data and bikes data are gathered and stored on Zehus Servers according to GDPR. These data are only used for service purposes. Please refer to our privacy policy for more information.

If you experience any problem or malfunction do not hesitate to reach us at support@zehus.it through your preferred e-mail client. This

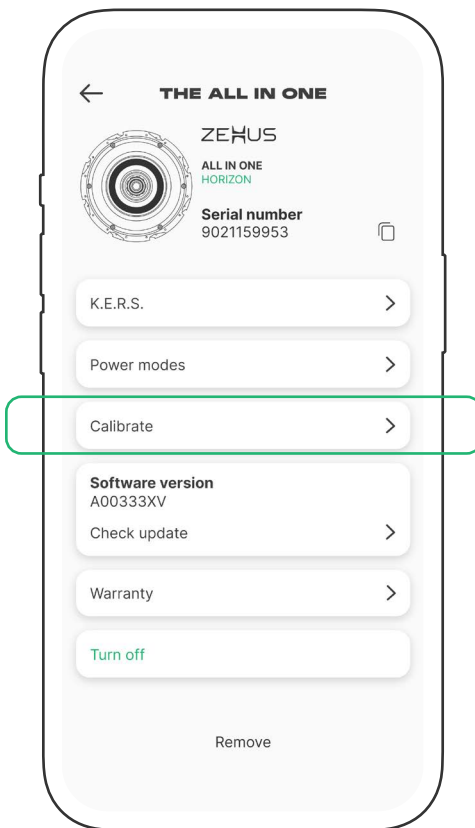
procedure will help us assist you!

2.10 Calibration procedure (only for The All In One Horizon)

The All In One Horizon features an advanced slope sensor that is very important to obtain the correct and pleasant behavior while using some of the power modes (See chapter 3).

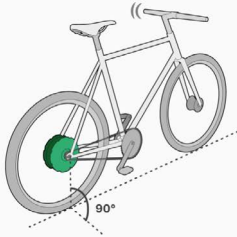
Note: If you have The All In One Horizon the app asks you to calibrate your device during the registration, or you can do it later from the motor page.

A wrong calibration could lead to a non correct and unpleasant behavior of your bike. In order to calibrate the slope sensor, please place your bike on a flat surface (0% slope). Then start the procedure from the dedicated section in the app.



CALIBRATION

In order to calibrate properly the vehicle have to be stationary and on a flat leveled surface during the procedure



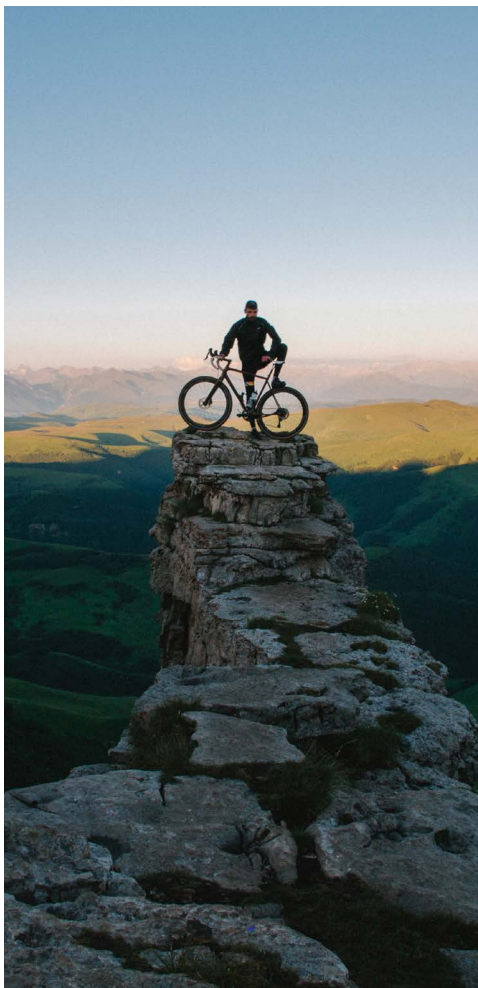
If these conditions are present you can start the procedure

Calibrate

Attention!

Please **DO NOT MOVE** the bike during the calibration procedure! Errors may occur if the bike is moved or inclined during the process.

3. Power modes

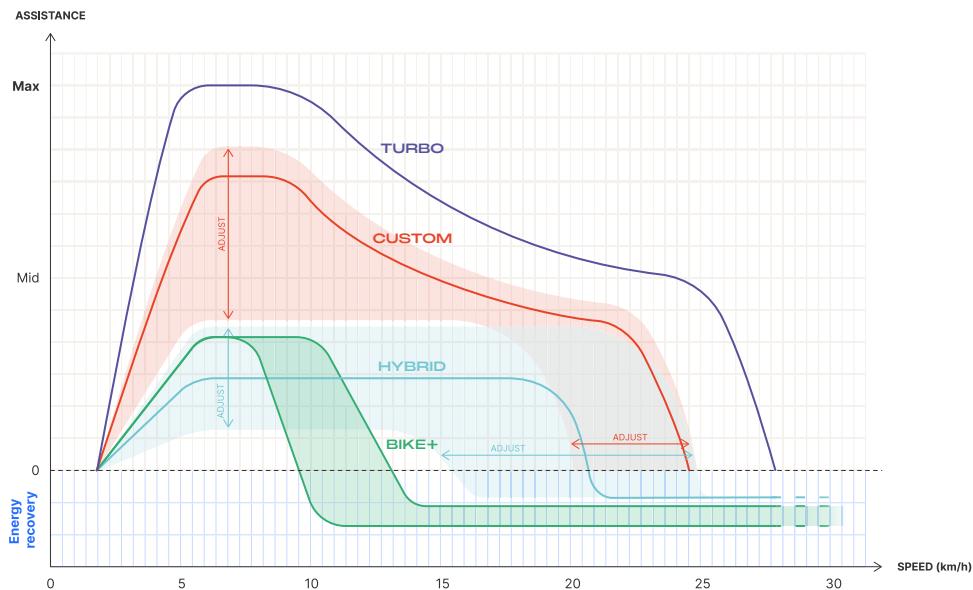


The All In One assistance is deployed through different power modes according to the model:

Horizon 5 power modes (Off, Bike+, Hybrid, Custom and Turbo), Halos 4 power modes (Off, Eco, Custom, Turbo) and Pulsus 3 power modes (Off, Pedelec, Fun)

Thanks to these modes it is possible to modulate and adjust the power of your motor according to the different needs of the cyclist and the route.

3.1 Horizon power modes



Off

Off provides no assistance to the cyclist, so the e-bike is similar to a muscular bike, however it maintains the backpedal regenerative brake.

Note: in this mode there is no boost available.

Bike+

Bike+ is a unique mode to give you the sufficient amount of assistance you need to optimize the energy management. Thanks to its adaptation it is deploying the power or regenerating it according to the speed and road slope. When the road

is flat and the speed is above 13km/h (8 mph) the system is starting to recover a small amount of energy, thus you feel a slight resistance when rolling. When it detects an uphill condition it increases the assistance to let you climb easier, when it detects a downhill situation it applies the regenerative braking to slow you down and recover energy. In this mode there is also the possibility to backpedal to brake and recover energy and to use the boost function.

Hybrid

Hybrid is a smart power mode, sensitive to road slope in a similar way to BIKE+. In this mode you can decide the cut off speed of the bike between 15 and 25 km/h (9-16 mph).

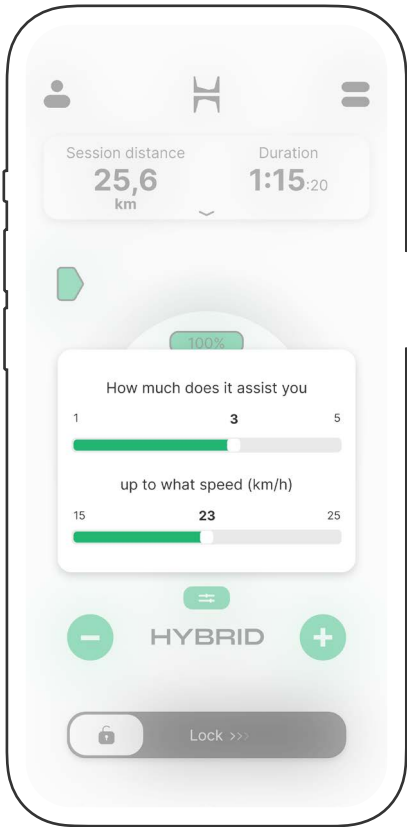
Custom

Custom is a customizable power mode in terms of level of assistance and speed until which it is deployed,

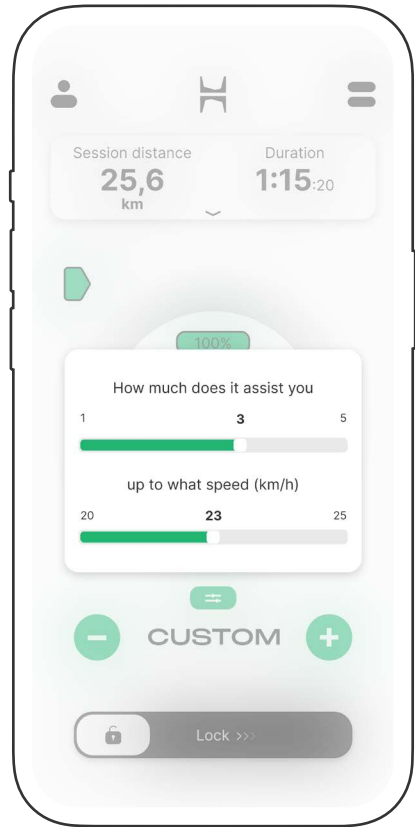
you can set these values in the app. It provides more power than Hybrid but always less than Turbo until 25 km/h (16 mph), it is a mode to balance a good amount of assistance with moderate energy consumption.

Turbo

Turbo is the most powerful mode you can select, it will give all the power of the motor up to 25km/h (16 mph).

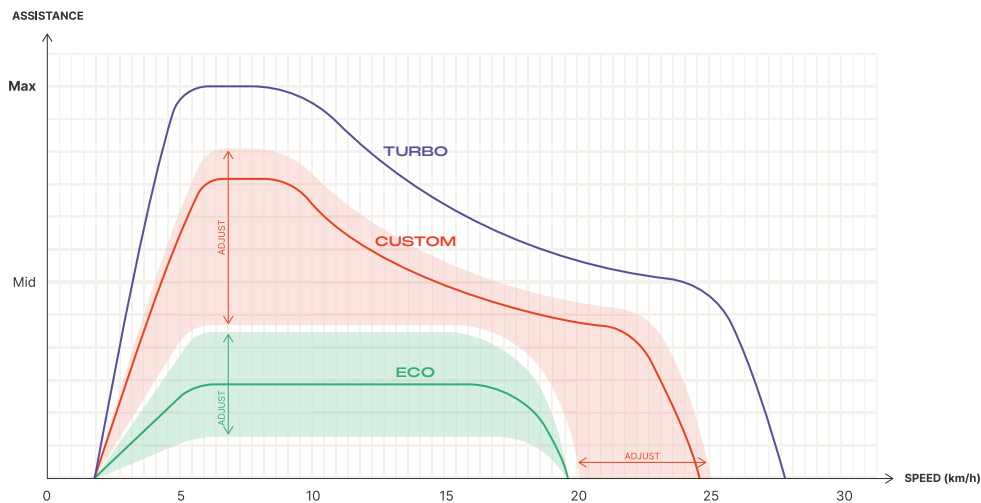


Adjusting Hybrid mode



Adjusting Custom mode

3.2 Halos power modes



Off

Off provides no assistance to the cyclist, so the e-bike is similar to a muscular bike, however it maintains the backpedal regenerative brake.

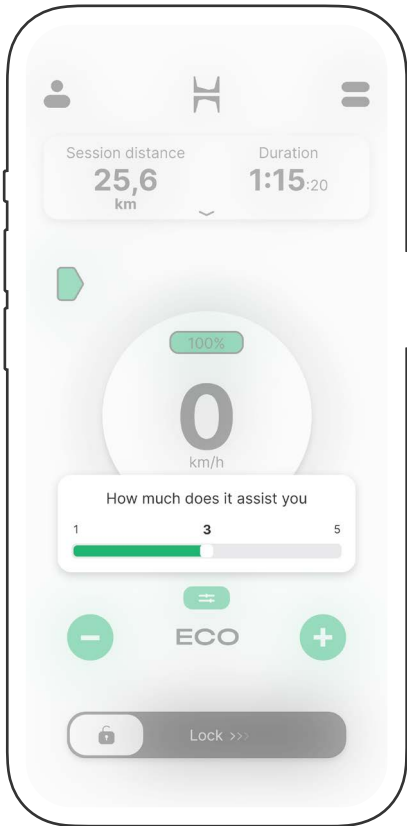
Note: in this mode there is no boost available

Eco

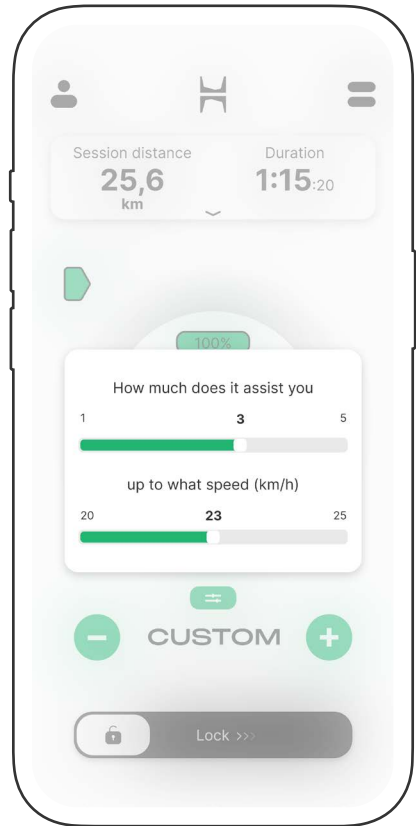
Eco deploys soft motor assistance until 20km/h (12mph), allowing to save battery power for more demanding conditions.

Custom

Custom is a customizable power mode in terms of level of assistance and speed until which it is deployed,



Adjusting Eco mode



Adjusting Custom mode

you can set these values in the app. It provides more power than Eco but always less than Turbo until 25 km/h (16 mph), it is a mode to balance a good amount of assistance with moderate energy consumption.

Turbo

Turbo is the most powerful mode you can select, it will give all the power of the motor up to 25km/h (16 mph).

3.3 Pulsus power modes

Off

Off provides no assistance to the cyclist, so the electric kickbike is similar to a muscular kickbike, however it maintains the regenerative brake (Controller is required).

Note: in this mode there is no boost available

Pedelec

Pedelec amplifies the power of your kick using the electric motor.

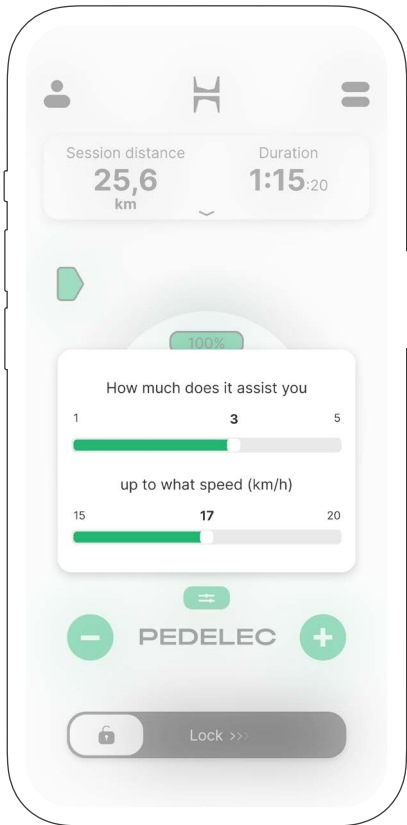
The kickbike then decelerates as a normal kickbike, until 6 km/h, then it keeps this speed for pedestrian areas. The maximum assistance speed is 20 km/h (12 mph). The level of assistance can be customized through the Zehus App.

Fun

In addition to Pedelec mode, Fun reduces the drag of the kickbike giving a “cruise control” effect that lasts up to 1km. Duration of this effect can be set through the Zehus app. The maximum speed of this mode is 20km/h (12 mph).

High speed braking

High speed braking is a regenerative brake (K.E.R.S.) that is automatically engaged at high speed 25 km/h Fun (16 mph) and 30 km/h (18 mph) Pedelec. This parameter can be set through the app.



Adjusting Peledec mode

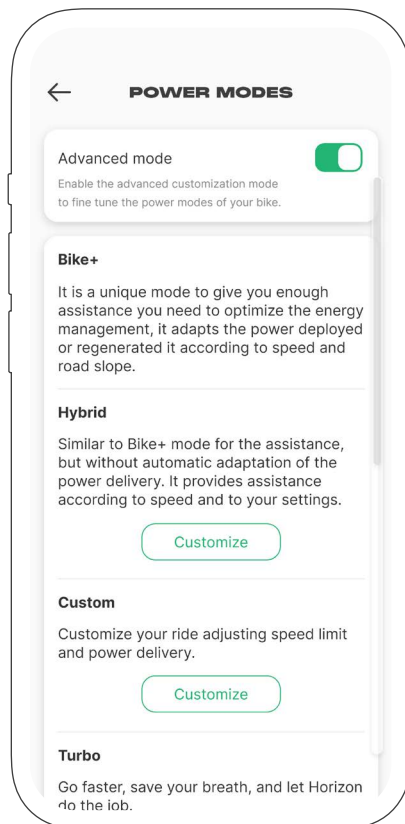
3.4 Boost

The boost is a function that you can activate for all models only through the optional Zehus Controller, it provides a temporary extra power to 500W.

In The All In One Pulsus this function stops at 20km/h.

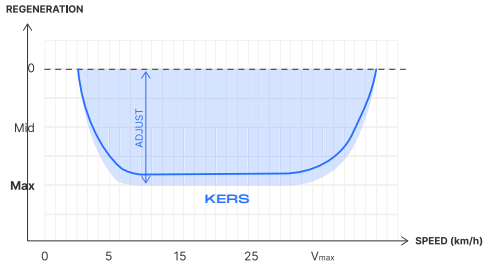
3.5 Advanced customization mode

The advanced mode enables the possibility to fine tune the customizable parameters of the power modes. Enabling this mode amplifies the range of values to set for the slider in the customization pop-up of the Zehus App. Disabling this mode restores the default values for the customizable power modes.

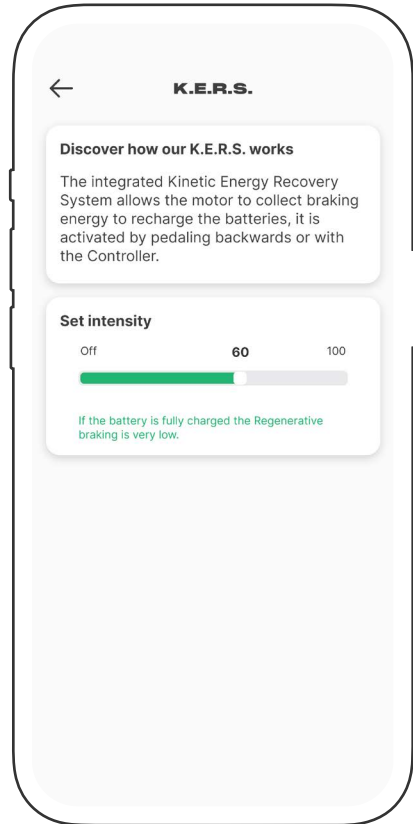


Enabling advanced mode

3.6 K.E.R.S.



The integrated Kinetic Energy Recovery System allows the motor to collect braking energy to recharge the batteries. KERS intensity is customizable from zero to maximum to balance the desired braking effect with the energy recovery. Further than charging back the battery it is useful while descending a hill to reduce brake usage or in towns to slow down before a stop. It is possible to customize the K.E.R.S. intensity via app, from off to 100 to set the desired strength of braking.



Adjusting K.E.R.S. intensity

3.7 Range

The range of The All In One models depends on many factors as:

- Power mode;
- Tire size and pressure;
- Road conditions and route profile;
- Temperature and headwind;
- Bike and cyclist weight and any luggage;
- Battery age and use conditions;
- Cyclist pedalling effort.

The All In One models range table

HORIZON

Power mode	Average range
Bike+	∞ km
Hybrid	35-70 km
Custom	35 - 45 km
Turbo	30 km

HALOS

Power mode	Average range
Eco	50 km
Custom	35-45 km
Turbo	30 km

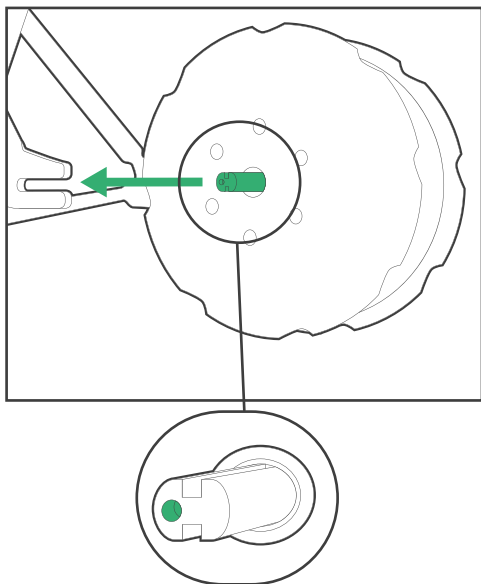
PULSUS

Power mode	Average range
Pedelec	40 km
Fun	30 km

4. Maintain and Care



It is important to maintain and take care of your bike frequently to have it always ready for every ride and to ensure the best durability of its components.



Correct

4.1 Wheel removal and mount

It is possible to mount and remove the wheel with your All In One to transport your bike, to change tires or to change gears. To remove the wheel you have to unscrew and store the close caps, the anti-rotation washers and the nuts, then you can remove the wheel from the frame. To mount the wheel back in place you have to insert it being careful to set it in the correct direction, then reinsert in this order the nuts, the anti-rotation washers and finally the close nuts.

4.2 Close nuts

Ensure before riding to have the close nuts installed to prevent damages to the charger connector and the axle

4.3 Change gears

If you desire to change gears or cassette on your All In One, it is

recommended to bring it to the closest service center, where a certified operator can assemble these components, thus updating the parameters on the motor firmware to make it run properly. Alternatively, you can proceed to assemble the components by yourself, but you are required to contact a service center to set up your firmware with the new parameters.

Attention!

ALWAYS seal the connector on The All In One with the proper protection cap before riding. Using the All In One without the protection cap will void the warranty.

4.4 Clean your e-bike

The All In One is weatherproof, thus it is possible to clean your e-bike with water and dedicated cleansers. Be careful not to use high pressure water directly on your bike and the motor, because it can damage it and

the other components, use e-bike specific products to wash and dry to preserve the integrity of the bicycle and the motor.

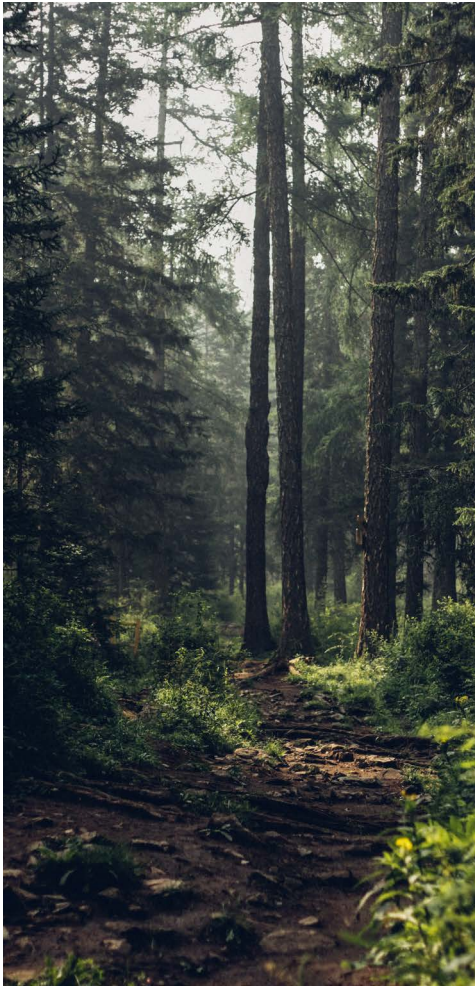
4.5 Servicing

If you need to service your All In One, please contact your dealer or the closest service center.

Attention!

Do not service or open the All In One yourself, electrical and mechanical parts expose you to risks of injury and damage to the product.

5. Battery care



It is important to take care of the battery embedded in The All In One to maximize its durability and capacity.

5.1 Charging

Always charge the battery of your All In One to avoid full discharge that could damage its power. Please follow the instruction contained on the label of the battery charger. It is recommended to charge the battery in a safe environment, clean and protected by water. It is recommended not to charge the battery at night.

5.2 Storage conditions

The All In One has to be stored at the right temperature. The battery pack life can be maximized by following the rules for correct storage and handling.

In case of malfunctioning your battery pack will have to be replaced. Please refer to a Zehus retailer to have your battery pack replaced.

Note: when not using the bike for long periods it is recommended to charge the battery pack to 60% and

to check the battery condition at least every 6 months. Before using the bike after a long period it is recommended to fully charge the battery.

Store All In One in a well-ventilated location, dry if possible. Protect the hub from moisture and water. The optimal storage temperature is +23°C and the bike must be stored between 0°C and +40°C. It is preferred not to leave the bike under the direct sunlight during hot summer days.

5.3 Transport

Items with internal battery packs are subject to Dangerous Goods Legislation requirements. Private users can transport such undamaged items by road without further requirements.

When being transported by commercial users or third parties (e.g. air transport or FWD agencies), special requirements on packaging

and labeling must be observed (e.g. ADR regulations). If necessary, an expert for hazardous materials can be consulted when preparing the item for shipping.

Dispatch The All In One only when the housing is undamaged.

Protect the charger connector with the provided closed nut in such a manner that the connector itself cannot be damaged or broken. Inform your parcel service that the package contains dangerous goods. Please also observe the possibility of more detailed national regulations. In case of questions concerning transport of The All In One, please refer to an authorized Zehus dealer. Bicycle dealers can also provide suitable transport packaging.

5.4 Disposal

The All In One and all its components should be sorted for environmental-friendly recycling.

Only for EC countries

According to European Guideline 2012/19/EU, electrical devices tools that are no longer usable, and according to European Guideline 2006/66/EC, defective or used battery packs/batteries. The All In One must be collected separately and disposed of in an environmentally correct manner.

Technical info

Drive unit

Rated power	250 W
Maximum torque	40 Nm

Battery pack

Rated voltage	28,8 V
Rated capacity	6000 mAh
Energy	173 Wh

Hub

Weight	3,2 Kg
Operating temperature*	-10 +40 °C
Storage temperature**	0 +40 °C
Charging temperature	0 +40 °C
IP rating	IPX4

Charger

Voltage input	100~240 V, 50/60 Hz
Voltage output	33,6 V
Charging current	2 A
Charging time	~3 h

** Operating temperature is limited by software*

*** Optimal storage temperature is 23°C*

The device uses the following radio parameters:

BLE: 8 dBm 2,360/2,500 GHz.

Warning

Handling of Li-Ion battery cells - risks and precautions

The user must have appropriate understanding of lithium-ion batteries before purchase.

Use caution when working with and using lithium-ion batteries as they are very sensitive to charging characteristics and may explode, burn, or cause a fire if misused or mishandled.

Always charge in or on a fire-proof surface. Never leave batteries charging unattended.

The batteries are sold for the use of system integrations with proper protection circuitry or battery packs with a battery management system or PCB (circuit board/module).

Buyer is responsible for any damage or injury caused by misuse or mishandling lithium-ion batteries and

chargers.

Charge only with appropriate charger designed by ZEHUS for this specific type of lithium-ion battery pack.

- MISUSING OR MISHANDLING LITHIUM-ION BATTERIES CAN POSE A SERIOUS RISK OF PERSONAL INJURY, PROPERTY DAMAGE, OR DEATH
- BATTERIES MAY EXPLODE, BURN, OR CAUSE A FIRE IF MISUSED OR MISHANDLED
- ONLY USE WITH PROPER CIRCUITRY IN A PROTECTED BATTERY PACK
- ONLY USE WITHIN MANUFACTURER LISTED SPECIFICATIONS
- DO NOT STORE LOOSE BATTERY IN A SIMPLY CARTOON BOX -

ALWAYS USE A PROTECTIVE
CASE OR BOX

- KEEP AWAY from metal objects to prevent short circuiting
- DO NOT short circuit
- DO NOT use if wrapper or insulator is damaged or torn
- DO NOT use if damaged in any way
- DO NOT overcharge or over-discharge
- DO NOT modify, disassemble, puncture, cut, crush, or incinerate
- DO NOT expose to liquids or high temperatures
- DO NOT solder, spot weld only
- User must be familiar with

handling lithium-ion batteries
before purchase

- Usage of batteries is AT YOUR OWN RISK
- ALWAYS charge in or on a fire-proof surface and never leave charging batteries unattended
- RESELLERS MUST FORWARD ALL WARNINGS TO ALL CUSTOMERS FOR THEIR REFERENCE AND SAFETY

Local regulations and laws pertaining to the recycling and disposal of lithium ion batteries vary so please consult your local jurisdiction regarding appropriate disposal.



Disposal of Old Electrical and Electronic Equipment

This symbol indicates that the product complies with the European Directive 2012/19/EU.

(Applicable in the EU-member states)

The symbol indicates that this product shall not be mixed with unsorted municipal waste when disposed of. There is a separate collection system for waste electrical and electronic equipment. For further information please contact the competent municipal authorities or the retailer from which you purchased the product. Correct disposal ensures that waste electrical and electronic equipment is recycled and reused appropriately. It helps avoid potential damage to the environment and human health and to preserve natural resources.



This symbol indicates that the product contains an integrated battery which is subject to the European Directive 2006/66/EU and cannot be disposed of in normal household waste. It is advisable to take the appliance to a collection point or a service centre where a technician can remove the battery properly. Please check and abide by any regulations for disposing of electrical / electronic products in your local area to prevent any impact to the environment and possible damage to health.

Please check our MSDS available at: www.zehus.it/boh



Hereby, Zehus SPA declares that the radio equipment type “Controller” is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: www.zehus.it/boh

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