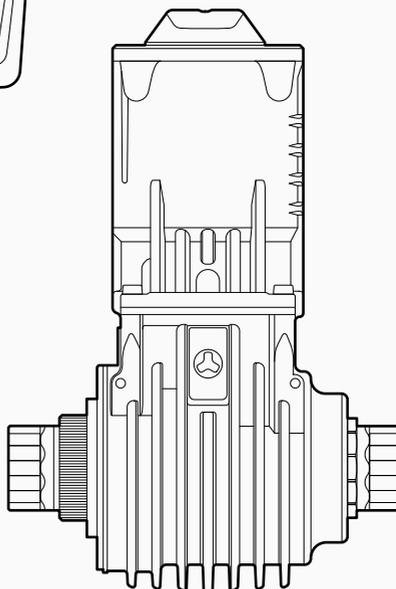
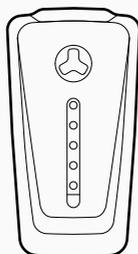
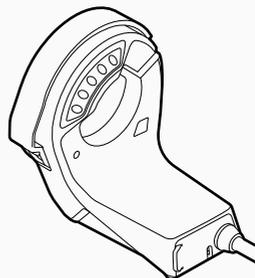
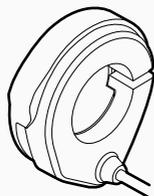
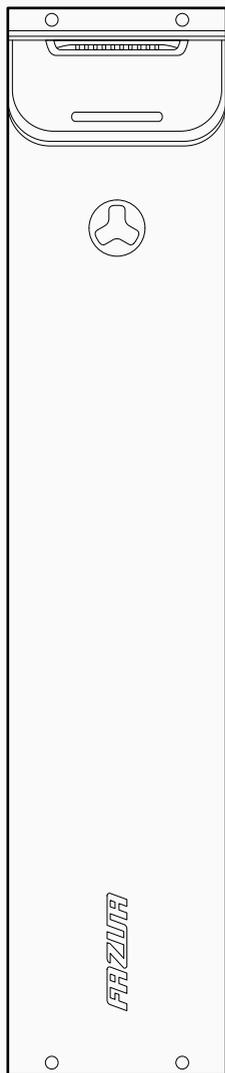




# FAZUA RIDE 60 DRIVE SYSTEM





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# 1 ABOUT THESE INSTRUCTIONS

## 1.1 Reading and retaining the instructions

These original instructions\* are part of the scope of supply of the FAZUA RIDE 60 drive system. They contain all important information on the safety and use of the individual components and the drive system as a whole. The instructions are based on the standards and regulations valid in the European Union.

Be sure to read the complete instructions carefully before using the components or the drive system installed in your e-bike for the first time. If you do not observe the instructions, you or other persons may suffer serious injuries and/or the drive system or individual components may be damaged.

Keep these instructions to hand at all times for ongoing use, and include these instructions if you pass on the drive system or an e-bike equipped with the drive system.

In addition to these instructions, it is also essential to observe the manufacturer's instructions on the e-bike in which the drive system is installed.

## 1.2 Explanation of characters and symbols used

Certain types of notices and information in these instructions are marked by characters or symbols that are listed below together with their meanings.

### **WARNING**

Risks that could result in death or serious injury are identified with the signal word "Warning".

### **CAUTION**

Risks that could result in moderate or minor injuries are identified with the signal word "Caution".

### **NOTICE**

Risks relating to actual product damage or property damage on other objects are marked with the signal word "Notice".



Useful additional information is marked with this information symbol.

---

\* These "original instructions" will be referred to as "instructions" in the further course.

## 2 SAFETY

### 2.1 Functional principle & proper use

FAZUA drive systems are designed as electric drive systems for e-bikes used as a means of transport. As intended, the electric pedal assist switches off as soon as you reach or exceed a certain (country and product specific) speed\*. When you ride at a speed that exceeds the switch-off point, you pedal without assistance from the motor, using only your own muscle power.

The drive system as a whole consists of several components:

**A** → Drive unit

→ More detailed information can be found in section “Drive unit”

**B** → Remote

→ More detailed information can be found in section “Control element and display”

**C** → Battery and charger

→ More detailed information can be found in section “Battery and charger”

The individual components are available in different model versions, which partly differ from each other due to their design and handling. Detailed information on the function of the individual components as part of the drive system, as well as on special features and handling of the specific models can be found in the component sections of these instructions.

The version of the drive system installed in your e-bike, in other words the specific combination of component versions, is designed specifically for your e-bike and cannot therefore be changed.

The basic principle is that the installation of the drive system as well as specific work on the system are only permitted to be carried out via the routes specified by the manufacturer or by an authorised specialist.

For information on which work you can carry out yourself and which work must be carried out by an authorised specialist, refer to the sections on the individual components of this manual.

FAZUA accepts no liability for damage caused by incorrect or improper installation or improper use.

Only use the components of the drive system as described in this manual. Any other usage is regarded as unintended and can result in accidents, serious personal injury and damage to the drive system.

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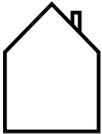
\* In Germany, the speed at which the electric pedal assist automatically switches off is 25 km/h.

## 2.2 Symbols and pictograms of the drive system

On individual components of the drive system, you will find specific symbols and pictograms which are listed along with their meanings.

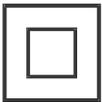


This symbol indicates that the user of the drive system or the individual components must read and understand these original instructions before use.



Any devices identified with this symbol (in this case, the charger) may only be used in dry indoor areas.

**WARNING!** When using in damp environments and on contact with liquids, there is a risk of electric shock!



An electrical device marked with this symbol corresponds to protection class II: The device has double or reinforced insulation as protection against electric shock.



This symbol is a warning against hot surfaces.

**WARNING!** There is a risk of burns on contact, and a risk of fire on contact with flammable materials.



These symbols indicate that the battery (lithium-ion battery) must be disposed of separately at the end of its service life and must not be disposed of with household waste.



Li-ion

Specific information can be found at in chapter “Disposal instructions”.



This symbol indicates that the component marked with this symbol must be disposed of separately as electrical or electronic equipment at the end of its service life and must not be disposed of with household waste.

Specific information can be found at in chapter “Disposal instructions”.



This symbol indicates products that meet all requirements for obtaining the European CE marking.

Specific information can be found at in chapter “Declarations of conformity”.



This symbol indicates products that meet all requirements for obtaining the European UKCA marking.

Specific information can be found at in chapter “Declarations of conformity”.



The "Geprüfte Sicherheit" (GS mark) seal of approval is awarded by independent certification bodies.

A device marked with the GS test seal complies with the safety-relevant requirements of the German Product Safety Act (Produktsicherheitsgesetz; ProdSG).



The “UL®-Listed” test seal is awarded by the US certification body, UL.

A device marked with the "UL®-Listed" test seal shown here complies with the safety-relevant requirements for Canada and the USA.



The FCC Seal is issued by the "Federal Communications Commission", an independent U.S. government agency responsible for implementing and enforcing U.S. communications laws and regulations.

An electrical device bearing the FCC seal complies with U.S. electromagnetic compatibility requirements.

### 2.3 *General safety instructions for the drive system*

The general safety instructions listed below refer to the drive system as a whole and must always be taken into account when using the e-bike equipped with it.

#### **WARNING**

#### **Dangers to e-bike users!**

There are fundamentally specific dangers to users of e-bikes. Depending on the e-bike model into which the drive system is installed, additional dangers may arise that are not covered here.

- ▶ Read and follow the manufacturer's instructions for your e-bike.
- ▶ Obtain information on any relevant national standards relating to e-bikes and comply with these.

**⚠ WARNING****Dangers due to unauthorised modifications!**

If you carry out unauthorised modifications to the drive system or to the components, you may cause an explosion, suffer an electric shock or cause serious injury to yourself or others.

- ▶ Never make any unauthorised modifications or changes to individual components of the drive system.
- ▶ Do not perform any unauthorised replacement of the drive system components.
- ▶ Never open any components of the drive system without authorisation. The components of the drive system do not require any maintenance.
- ▶ Only allow repairs to the drive system to be performed by authorised specialists.
- ▶ Only allow the components of the drive system to be replaced by an authorised specialist and with genuine spare parts.

**⚠ WARNING****Danger due to accidental start-up!**

If the drive system is put into operation in inappropriate situations, this can result in accidents and serious injuries.

- ▶ To prevent the drive system from starting up, switch off the drive system and, if necessary, secure it against being switched back on unintentionally or unnoticed when the e-bike is being transported or stored and during all work on the e-bike.
- ▶ If possible, remove the battery.\*

**NOTICE****Danger of damage!**

Improper handling can damage the drive system or individual components.

- ▶ Only have individual components of the drive system replaced with components of identical design or other components expressly

\* This applies only if your e-bike is equipped with a removable battery (See Chapter 23 "Function and model variants of the battery").

approved by the manufacturer of the drive system. This will protect the other components from possible damage.

- ▶ Have individual components of the e-bike replaced exclusively by identical components or other components expressly approved by the e-bike manufacturer. This will protect your e-bike (including the drive system) from possible damage.

## ***2.4 Instructions for safe riding in road traffic***

By following the instructions listed below for safe riding in road traffic, you can reduce the risk of accidents and injuries when riding a bicycle or e-bike.



The term "road traffic" also refers to publicly accessible private areas and publicly accessible field or forest paths.

- Only ride your e-bike in road traffic if the equipment complies with national road traffic regulations. If appropriate, ask your e-bike manufacturer for further information.
- Find out about the applicable road traffic regulations of the country or region, including for example, from the Ministry of Transport. Always keep yourself informed regarding changes in the content of the valid regulations.
- Observe and follow the country-specific and regional road traffic regulations.
- When riding, use a suitable bicycle helmet that complies with the country-specific and regional regulations or that is tested according to the DIN EN 1078 standard and bears the CE mark.
- When riding, wear light-coloured clothing with reflective elements to attract the attention of other road users.
- Do not ride your e-bike if you are under the influence of alcohol, intoxicants or medication that could impair your ability to ride safely.
- Do not use mobile devices such as smartphones, MP3 players or similar while riding.
- Do not distract yourself with other activities while riding, such as turning on lights. Stop first to carry out these types of activities.
- Never drive with your hands off the handlebars. Always keep both hands on the handlebars.
- Ride carefully and show consideration for other road users.
- Ride in such a way that no-one is injured, endangered, hindered or harassed.
- Ride on prescribed lanes for bicycles, where available.

### **3 INSTRUCTIONS FOR RIDING a E-BIKE WITH THE FAZUA DRIVE SYSTEM**

Observe the following instructions for riding your e-bike equipped with the FAZUA drive system.

#### **Changing gear:**

The gears of your e-bike are to be operated in the same way as those of a conventional bicycle. By selecting a suitable gear, the speed, power and range of your e-bike will increase while maintaining the same cadence.

The following points apply regardless of the type of gears fitted:

→ Stop pedalling when you change gear. This relieves the derailleur mechanism and the drive of your e-bike.

#### **Range/route planning:**

How long or how far you can ride your e-bike before you need to recharge the battery depends on several factors.

These factors include, for example:

- The set assistance level;
- The [riding] speed at which you move forwards;
- The way in which you change gear;
- The type of tyres and the set tyre pressure;
- The selected route and weather conditions;
- The weight of the rider and the e-bike (total weight);
- the condition and age of the battery.

The following general principles apply:

- Familiarise yourself with your e-bike step by step and stay away from roads and heavy traffic initially.
- Test the maximum range of your e-bike under various outdoor conditions before planning longer trips. An exact statement regarding the range of your system is not possible before or during a trip.

#### **Storage and operating temperatures**

- Observe the operating and storage temperatures for the components of the drive system and for the components of your e-bike - especially for the battery, as it can be damaged by extreme temperatures.
- For more detailed information on operating and storage temperatures, refer to the technical data of the individual components on Page 22, Page 26 and Page 36, as well as in chapter 4 "Storage and transport of e-bikes with the FAZUA drive system".

## 4 STORAGE AND TRANSPORT OF E-BIKES WITH THE FAZUA DRIVE SYSTEM

### WARNING

#### Danger due to accidental start-up!

If the drive system is put into operation in inappropriate situations, this can result in accidents and serious injuries.

- ▶ To prevent the drive system from starting up, switch off the drive system and, if necessary, secure it against being switched back on unintentionally or unnoticed when the e-bike is being transported or stored.
  - ▶ If possible, remove the battery.\*
- When transporting and storing your e-bike or the components of the drive system, please observe the specified temperature ranges for the components.
- If your e-bike has a removable battery, always transport and store the battery separately from the e-bike.

Batteries are subject to hazardous goods regulations. Undamaged batteries may be transported by private persons on public roads. Commercial transport requires compliance with the regulations on the packaging, labelling and transport of hazardous goods. Open contacts must be covered and the battery securely packed. When shipping, the parcel service must be notified of the presence of hazardous goods inside the packaging.

- Please note the following information on the charge level of the battery during prolonged non-use and the information on the temperature ranges for the corresponding storage periods.

If you do not intend to use the battery for an extended period of time, it should have a minimum charge level of 60% before you stop using it.

Check the charge status of the battery after 6 months of non-use: If the check reveals that the charge level is 20% or less, recharge the battery to a charge level of 60% or more.

Consider the following storage time-dependent temperature ranges for the battery (charge level 60 %):

- Storage time of < 1 month: -15 to 60 °C
- Storage time of 3 months: -15 to 45 °C
- Storage time of 1 year: -15 to 25 °C

\* This applies only if your e-bike is equipped with a removable battery (See Chapter 23 "Function and model variants of the battery").

→ If you have further questions, please contact a FAZUA Certified Partner or visit the official FAZUA service platform (<https://fazua.com/de/support>).

## 5 **FAZUA APP**

Your control element is equipped with a Bluetooth® function. As a result, you can connect a mobile device to the remote and utilise other features using the FAZUA app. You can download the FAZUA App from the FAZUA homepage. There you will also find detailed information about the FAZUA App and its functions. Scanning the following QR code will take you directly to the corresponding website:



[fazua.com/energy/app-connectivity](https://fazua.com/energy/app-connectivity)

## 6 **CARRYING OUT a FIRMWARE UPDATE**



To update the firmware, connect the drive system to your computer. You will need a USB cable for this purpose\*.

Depending on the model, the USB socket for connection is located on the control element or on the separate display (see chapter 18 “Control element and display illustrations” | 18.2 “Positions on the e-bike”).

Visit the FAZUA homepage for a detailed description of how to perform the firmware update. Scanning the following QR code will take you directly to the corresponding website:



[fazua.com/firmware](https://fazua.com/firmware)

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\* The USB cable is not included in the scope of delivery.

## 7 TROUBLESHOOTING

1. If your e-bike or the drive system does not function as desired, first check whether the fault can be rectified using the "Troubleshooting" overview table given below.
2. If necessary, contact a FAZUA Certified Partner or visit the FAZUA service platform (<https://fazua.com/de/support>), if:
  - The fault is not listed in the overview table,
  - The fault is listed in the overview table, but it is not resolved by following the instructions provided, or if you are unsure.

<b>"TROUBLESHOOTING" OVERVIEW TABLE</b>	
<b>Problem</b>	<b>Possible cause / solution</b>
Motor power feels lower than usual.	The drive system is brand new. → Wait until the drive system is "retracted". The drive system requires a few kilometres to produce full power
	It is very hot and the heat management of the battery and/or drive unit limits the performance.
	It is very cold and the battery (=lithium-ion battery) does not deliver the usual performance.
The upper LED on the control element/display lights up/flashes red.	There is a connection error between the drive unit and battery. Dirt on the connectors or jammed cables may be preventing the connection. → Clean the connectors to be able to insert the battery properly.*
The upper LED on the control element/display lights up/flashes yellow.	There may be a bad connection between the speed sensor and the bottom bracket. → Check that the speed sensor and magnet are correctly located in their receptacle on the rear wheel. If you cannot find any faults, contact a FAZUA Certified Partner.

\* This applies only if your e-bike is equipped with a removable battery (See Chapter 23 "Function and model variants of the battery").

<b>"TROUBLESHOOTING" OVERVIEW TABLE</b>	
<b>Problem</b>	<b>Possible cause / solution</b>
The white LEDs of the control element/display flash.	<p>Software update</p> <p>→ After a new firmware update, the control element is updated automatically. In this case, please wait and do not switch off the control element until the LEDs stop flashing</p>
The control element/display cannot be switched on.	<p>The battery is flat or has switched off due to a longer rest period (standstill).</p> <p>→ Try turning on the battery using the on/off button.</p> <p>→ Charge the battery if necessary.</p>
	<p>The interface between the battery and the drive unit may be dirty.</p> <p>→ Clean the interface between the battery and the drive unit.*</p>
The battery cannot be inserted or does not engage in the battery holder.	<p>The interface between the battery and the drive unit may be dirty. / It is possible that the engagement of the battery is obstructed by a cable, hydraulic line or Bowden cable.</p> <p>→ Clean the interface between the battery and the drive unit.</p> <p>→ Make sure that no cable prevents the battery from engaging.</p>
Sudden failure of the pedal assist function when riding the bike.	<p>BMS protective function</p> <p>→ Shut down the drive system by pressing and holding the control switch down for 8 seconds. When the drive system is ready to be switched on again, the status indicator LED flashes green: Now you can restart your drive system as usual.</p>

\* This applies only if your e-bike is equipped with a removable battery (See Chapter 23 "Function and model variants of the battery").

## **8 DISPOSAL INSTRUCTIONS**

According to the EU Directives on waste electrical equipment (Directive 2012/19/EU) and waste accumulators (Directive 2006/66/EC), the corresponding components must be collected separately and disposed of in an environmentally friendly manner.

→ Before disposing of your e-bike, remove the battery and any other batteries installed on the e-bike as well as all components and controls that contain batteries.

### **8.1 Disposing of your e-bike**

After you have removed all accumulators and batteries, the e-bike is considered waste electrical equipment and must be recycled.

→ Please contact your city or local government (council, region) for information regarding free collection points for waste electrical equipment and/or collection points where the component or e-bike can be recycled.

→ If necessary, make sure you delete any personal data stored on the device before you return the electrical or electronic device to the collection point. This task is your responsibility.

### **8.2 Battery disposal**

The battery of the drive system is a lithium-ion battery that must be disposed of as hazardous waste.

→ For disposal of the battery, please refer to the following information on the disposal regulations for batteries.

→ Dispose of the battery of the drive system as well as any other batteries and accumulators installed on the e-bike at a recycling centre or at a collection point in your town or municipality.

The crossed-out dustbin displayed on the battery (see chapter 1.2 “Explanation of characters and symbols used”) indicates that the battery must not be disposed of with household waste at the end of its service life, but must be taken to a special used battery collection point for lithium-ion batteries. If a battery/battery pack contains mercury (Hg), cadmium (Cd) or lead (Pb), the corresponding chemical symbol appears below the crossed-out dustbin.

In accordance with statutory obligations, the end user must return all batteries/battery packs to a suitable collection point at the end of their service life. Every end user should also contribute to preventing battery waste wherever possible. The use of long-life batteries and rechargeable batteries/power packs, as well as the careful handling of batteries/power packs and the devices powered by them is therefore recommended.

Before disposing of the product, always check whether the battery/power pack can be repaired or reconditioned.

Some batteries/power packs contain toxic substances. The collection and recycling of used batteries separately from the household waste is intended to ensure that the products are recycled or disposed of properly to prevent harmful effects on the environment and human health.

Due to their design, lithium-ion batteries also pose special risks, such as the risk of explosion and fire when exposed to heat, and must therefore be handled with special care (see also chapter 26 “General safety instructions for the battery and charger”).

Batteries and battery packs can be returned to dealers or deposited at suitable collection points in the city or municipality free of charge. City councils/local authorities are able to provide information on collection points.

## ***9 MANUFACTURER'S WARRANTY FOR THE EUROPEAN UNION AND UNITED KINGDOM***

FAZUA GmbH, Marie-Curie-Strasse 6, 85521 Ottobrunn, Germany (hereinafter referred to as “Manufacturer”) guarantees to the end customer (hereinafter referred to as “Customer”) in accordance with the following provisions that the drive system and its components installed in the bicycle (hereinafter referred to as “Product”) purchased by the customer within the European Union (as of 1 January 2017) and Switzerland (hereinafter referred to as “geographical scope”) is free of design, material and processing faults and will function without restriction for a period of two years following delivery (warranty period).

Nevertheless, if a fault occurs or the drive system is not fully functional, the manufacturer will remedy this at his own discretion and expense by repairing or supplying new or reconditioned parts.

The statutory rights of the customer due to defects according to § 437 of the German Civil Code (Bundesgesetzbuch; BGB) remain unaffected and are not limited by this warranty, but the customer is additionally entitled to the rights from this warranty.

However, claims under this guarantee shall only exist if

- the product shows no damage or signs of wear and tear caused by use deviating from its normal purpose and from the manufacturer's specifications stated in the user manual,

- the product does not show any signs of repairs, that a product component has been opened, or other interventions by specialist workshops not authorised by the manufacturer, and
- the serial number has not been removed or rendered illegible.

Claims under this warranty require the customer, before sending the product, to contact either the dealer from whom he purchased the bicycle or the manufacturer and give them the opportunity to assess the fault over the telephone within a period of eight days.

Claims under the warranty can only be asserted to the manufacturer on presentation of the original invoice with date of purchase.

Claims under this guarantee can only be asserted by handing over or sending the product to the manufacturer. The manufacturer shall bear all costs for sending and returning the product. If the manufacturer or the dealer has named a specific freight company to the customer for sending the product and the customer nevertheless uses another freight company, the customer must bear the additional costs incurred.

This warranty shall apply to the extent and under the conditions set forth above, including the presentation of proof of purchase, even in the event of resale, to any subsequent future owner of the product residing within the territorial scope of this warranty.

This guarantee is subject to the law of the Federal Republic of Germany, unless and insofar as this is contradicted by mandatory consumer protection regulations in the country of the respective customer.

## 10 SERVICE



If possible, prepare the error image and all information on the relevant component before contacting a FAZUA Certified Partner or the FAZUA service team.

→ If service is required, contact a FAZUA Certified Partner or the FAZUA service team.

→ Where applicable, also visit the FAZUA service platform:

<https://fazua.com/de/support>.

You will find extensive content here on the subject of "Service", as well as a search function for locating a FAZUA Certified Partner in your area.

## **11 DECLARATIONS OF CONFORMITY**

### **11.1 EU Conformity of the individual components or of the drive system**

The individual components or the drive system as a whole complies with all applicable EC provisions of the European Economic Area.

- The EU Declaration of Conformity for the drive system can be requested from FAZUA.
- The EU Declaration of Conformity for the e-bike as a whole (including the drive system) can be requested from the manufacturer of your e-bike.

### **11.2 UK Conformity of the individual components or of the drive system**

Each individual component, as well as the drive system as a whole, complies with the applicable regulations for obtaining the British UKCA marking.

- The UKCA Declaration of Conformity for the drive system can be requested from FAZUA.
- The UKCA Declaration of Conformity for the e-bike as a whole (including the drive system) can be requested from the manufacturer of your e-bike.

### **11.3 Special information on the remote with Bluetooth® function**

FAZUA GmbH hereby declares that this product conforms to the basic requirements and other relevant regulations of the Radio Equipment Directive 2014/53/EU, R&TTE Directive 1999/5/EC, EMC Directive 2014/30/EU, ErP Directive 2009/125/EC, Low Voltage Directive 2014/35/EC and ROHS Directive 2011/65/EC.

- The complete Declaration of Conformity and these instructions can be found online in PDF format at [www.fazua.com](http://www.fazua.com).

# DRIVE UNIT

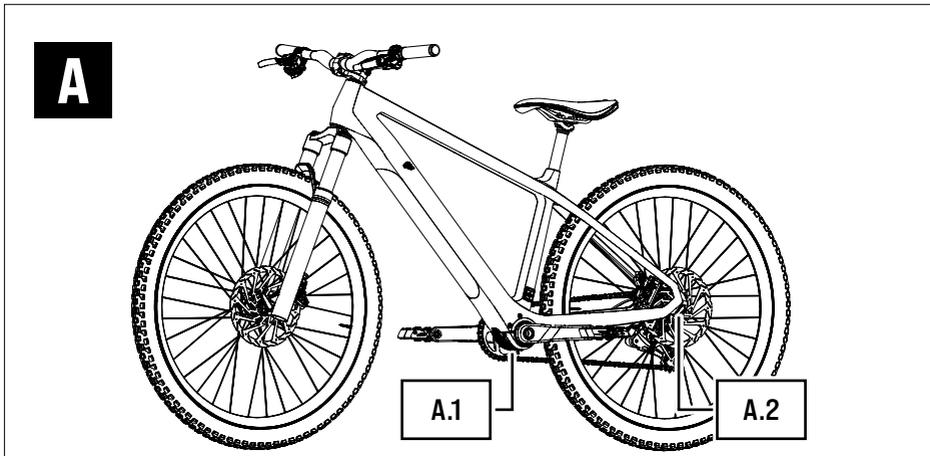
## 12 FUNCTIONALITY AND MODEL VARIANTS OF THE DRIVE UNIT

The drive unit converts the energy of the battery and supports you while pedaling. The speed sensor on the rear wheel determines the driving speed (with the help of a magnet). If the determined cycling speed exceeds the switch-off point\*, the drive unit automatically switches off the electric pedal assist. As soon as the cycling speed drops below the switch-off point, the electric pedal assist starts again.

**IMPORTANT:** The drive unit and speed sensor are permanently installed on your e-bike and must not be modified. If you make changes to the drive unit or to the speed sensor itself, this may impair the safety and function of the drive system.

## 13 ILLUSTRATIONS FOR THE DRIVE UNIT

### 13.1 Detail view and part designations/positions on the e-bike



#### Part designations

- A.1 → Drive unit (permanently installed component)
- A.2 → Speed sensor + magnet

\* The electric pedal assist switches off as soon as you reach or exceed a certain (country and product specific) speed

## 14 TECHNICAL DATA ON THE DRIVE UNIT

Article number	→ 10A101000A/10A101100A
Continuous rated power	→ 250 W
[Mechanical] power, max.	→ 450 W
Nominal voltage	→ 43.2 V
Support torque, max.	→ 60 Nm
Pedaling cadence [range]	→ 55–125 rpm
Protection type	→ IP54
Weight, approx.	→ 1.95 kg
Operating temperature	→ -5°C to +45°C (ambient temperature)
Storage temperature [< 1 month]*	→ -15°C to +60°C

## 15 CORRECT POSITION OF SPEED SENSOR AND MAGNET



For the drive system to function correctly, the speed sensor and magnet [A.2] must be mounted in the correct position on the rear wheel. If this is not the case or if the speed sensor is not connected correctly, the drive system will operate in "Soft Fault" mode.

→ More detailed information can be found in chapter 20.1 "E-bike status".

- If you find that the drive system is in "Soft Fault" mode, make sure the Speed Sensor and magnet are correctly located in their holder on the rear wheel.
- If the problem cannot be solved, do not use the e-bike and contact an authorised specialist to have the fault rectified.

\* The specification only applies if your e-bike is equipped with a removable battery and you have removed the battery before storage (See Chapter 23 "Function and model variants of the battery").

## 16 CLEANING AND MAINTAINING THE DRIVE UNIT

### CAUTION Risk of injury!

If the drive system is set in motion while you are handling it, you may injure yourself.

- ▶ To prevent the drive system from being set in motion, switch off the drive system and, if necessary, secure it against being switched back on unintentionally or unnoticed when cleaning the e-bike or the components of the drive system. If necessary, remove the battery before cleaning to prevent unintentional start-up\*.

### NOTICE Danger of damage!

Improper cleaning can damage the drive unit.

- ▶ Never clean the drive unit with a hard water jet or a high-pressure cleaner.
  - ▶ Do not use any aggressive cleaning agents when cleaning.
  - ▶ Do not use any sharp, angular or metallic objects for cleaning.
- Always keep all components of the e-bike and drive system in a clean condition.
- Clean the exterior of the drive unit gently with a cloth or soft brush.
- If necessary, use a mild soap solution for the external removal of coarser soiling.
- Wipe all surfaces dry after cleaning.
- IMPORTANT:** Pay particular attention to the contacts and interfaces between the battery and drive unit\*: The interfaces must not be soiled or contaminated and must be completely dried before inserting the battery to avoid damage.
- Clean the cooling unit of the drive unit regularly.
- Do not clean the radiator until it is visibly or heavily soiled!
- If you have any questions about cleaning and maintenance of your drive system, please contact a FAZUA service partner or visit the official FAZUA service platform (<https://fazua.com/de/support>).

\* This applies only if your e-bike is equipped with a removable battery (See Chapter 23 "Function and model variants of the battery").

# CONTROL ELEMENT AND DISPLAY

## 17 FUNCTIONALITY AND MODEL VARIANTS OF THE CONTROL ELEMENT AND DISPLAY

Use the control panel to make all settings for the drive system; the display provides information on current settings and battery charge level.

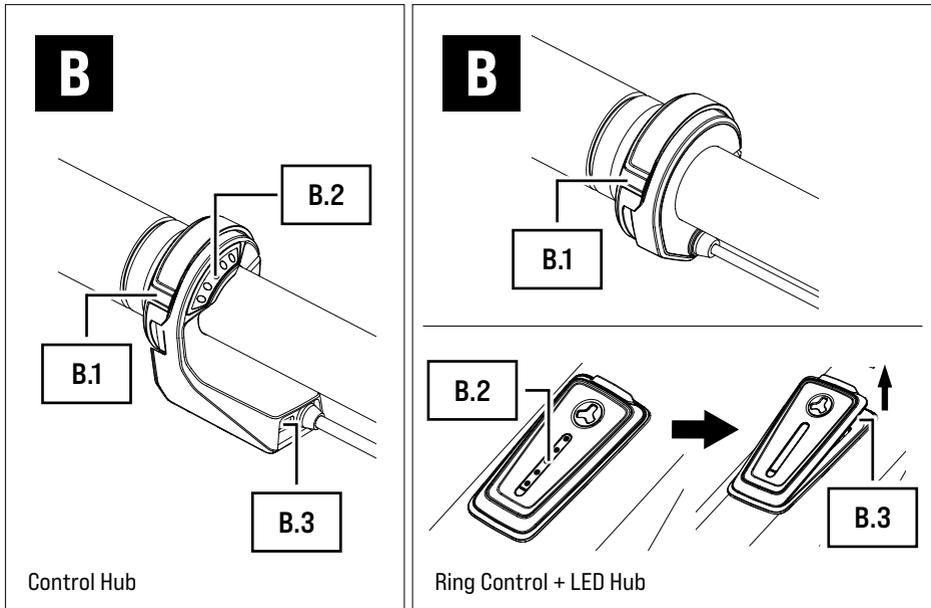


Depending on the model, the control element and display are either:

- a combined component (model: Control Hub); or
- or
- two separate components located in different mounting locations on the e-bike (models: Ring Control; LED Hub).

## 18 CONTROL ELEMENT AND DISPLAY ILLUSTRATIONS

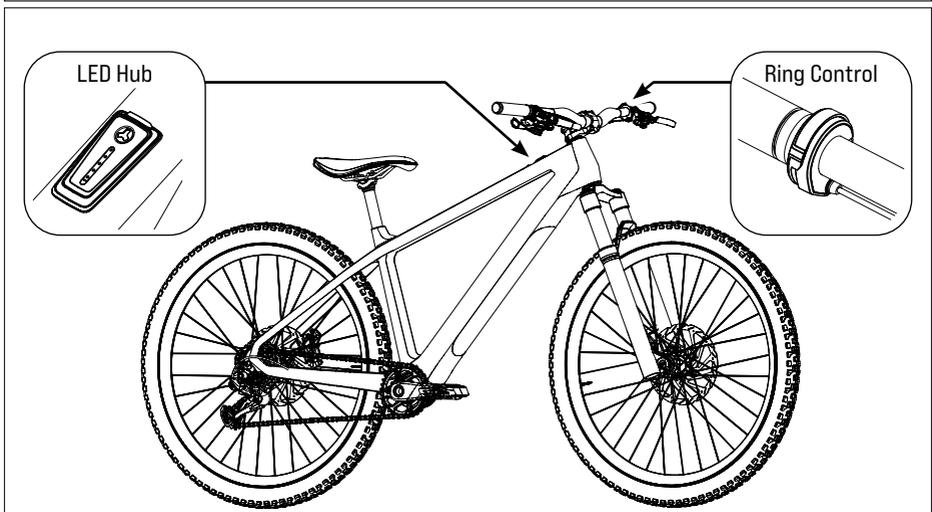
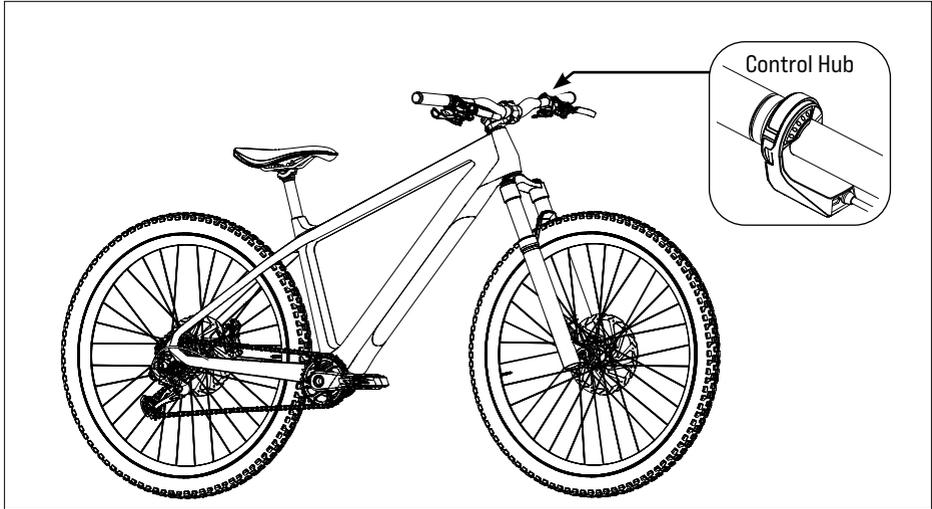
### 18.1 Detailed view and part designations



### Part designations

- B.1 → Control switch
- B.2 → LED display
- B.3 → USB port

### 18.2 Positions on the e-bike



## 19 TECHNICAL DATA FOR THE CONTROL ELEMENT AND DISPLAY

Model designations	
Combined component	→ Control Hub (control element, including the display)
Separate components	→ LED Hub (= display) → Ring Control (= control element)
Protection type (in installed condition)	→ IP54
Operating temperature	→ -5 °C to +45 °C (ambient temperature)
Storage temperature (< 1 month)*	→ -15 °C to +60 °C

## 20 DRIVING AND STATUS INFORMATION ON THE DISPLAY

The LED display [B.3] has 5 LEDs.

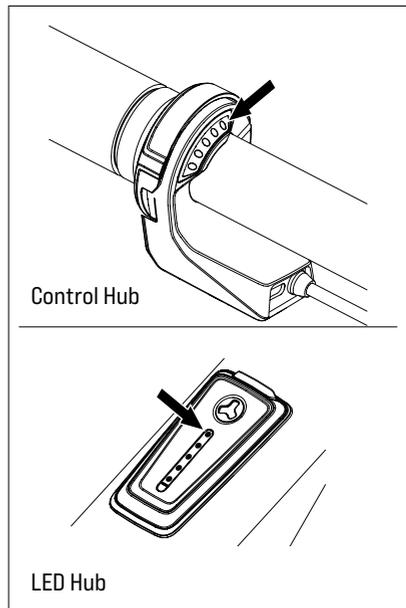
- All five LEDs together serve as a display for the charge level and the set assistance level of the pedal assist.
- The upper of the five LEDs (see arrow in figure on the right) additionally informs you about the status of your e-bike.

### 20.1 E-bike status

The upper LED on the display indicates a status change or a pending fault.

The status display LEDs light up in different colours depending on which status is displayed.

If no fault is detected, the LED will act as one of the five LEDs that indicate the charge level or set assistance level.



\* The specification only applies if your e-bike is equipped with a removable battery and you have removed the battery before storage (See Chapter 23 "Function and model variants of the battery").

## Possible status displays

- The upper LED **flashes green** = **"Ready for operation"**  
After successful installation of the battery in the e-bike, the status indicator flashes green briefly to indicate that you can now switch on the drive system using the control element.
- The upper LED **flashes yellow** = **"Soft Fault"**  
If a "Soft Fault" occurs, the status display flashes yellow. In this way, the drive system indicates that there is a temporary or non-critical fault that in most cases will result in reduced performance.  
If a "Soft Fault" occurs, you will be able to continue riding your e-bike, but FAZUA strongly recommends not doing so to avoid further faults or damage to the drive system or to the e-bike.
- The upper LED **flashes red** = **"Hard Fault"**  
When a "Hard Fault" occurs, the status display flashes red. If a "Hard Fault" occurs on your e-bike, the e-bike can no longer be used and requires maintenance.

## 20.2 Current charge level and set assistance level

All five LEDs of the LED display [B.2] together indicate two parameters.

### 1. The battery charge level indicator:

The charge level of the battery can be read from the number of illuminated LEDs. Each of the 5 LEDs here represents 20 % of the total charging capacity.

When the battery is fully charged, all 5 LEDs light up. If the battery is flat, the upper LED of the status indicator lights up white or no LED lights up.

### 2. The selected assistance level of the pedal assist:

Each assistance level is assigned a colour, i.e. You can read off the assistance level currently set via the colour of the lit LEDs on the display.

→ More detailed information can be found in chapter 21.3 "Assistance levels".

## 21 USING THE CONTROL ELEMENT

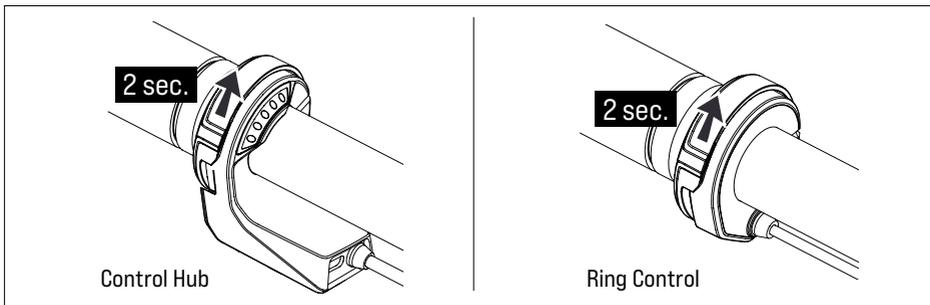
### WARNING

**Danger due to distraction during operation!**

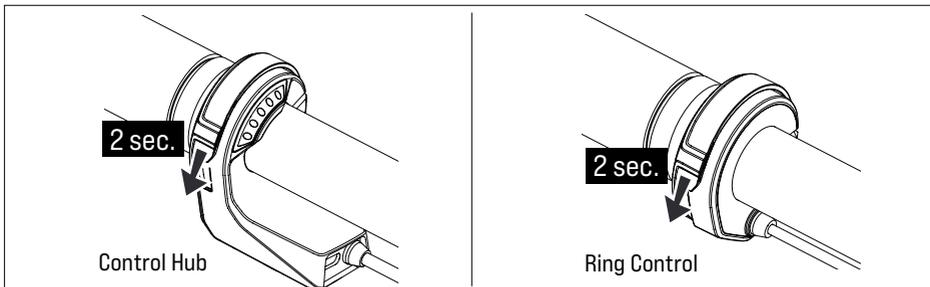
If you are distracted by shifting gears on the control or looking at the display while cycling, accidents and serious injury may result.

- ▶ Before using your e-bike for the first time, familiarise yourself with the functions and handling of your control element away from road traffic.
- ▶ Do not use the control element and do not look at the display while riding if it distracts you.

### 21.1 Switching the drive system on and off

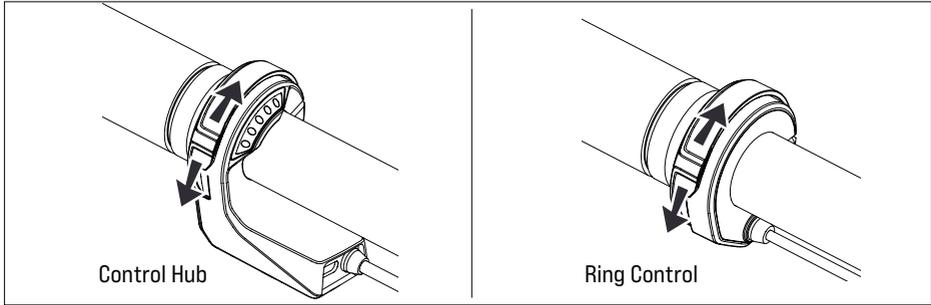


→ To **switch on**, keep the operating switch [B.1] pressed up (for at least 2 seconds).



→ To **switch off**, keep the operating switch [B.1] pressed down (for at least 2 seconds).

## 21.2 Setting the pedal assist



You can set or change the assistance level either while cycling or while stationary.

- To switch to the **next higher** assistance level:  
Press the **operating switch [B.1]** 1× briefly **upwards**.
- To switch to the **next lower** assistance level:  
Press the **operating switch [B.1]** **down**1× briefly.

## 21.3 Assistance levels

**No support (white)** The LED display [B.2] lights up white.

- You are riding without electric pedal assist (like a conventional bicycle).

**Assistance level "Breeze"** The LED display [B.2] lights up green.

- You are riding with minimum, but active pedal assist for maximum range.

**Assistance level "River"** The LED display [B.2] lights up blue.

- You are riding with reliable assistance for most applications.

**Assistance level "Rocket"** The LED display [B.2] lights up pink.

- You are riding with maximum assistance for challenging rides.



The maximum engine power can be checked and individually adjusted via the FAZUA Toolbox or the FAZUA App.

→ For more information on the FAZUA App, see in chapter 5 "FAZUA App".

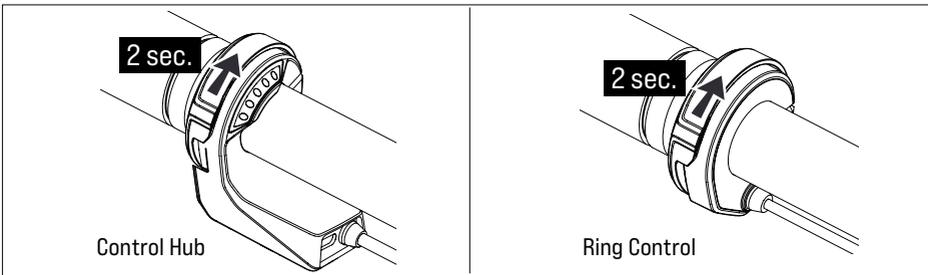
## 21.4 Boost function

In addition to the “regular” assistance levels, which you can use permanently\*, the drive system has an additional function: The Boost function allows you to ride with a (higher) maximum motor power of 450 watts for a short time to momentarily give you an extra push.

The duration of the extra push due to the Boost function depends on the situation in which you activate the Boost function:

- If you activate the Boost function **from a standstill**, you receive an extra push for **4 seconds**.
- If you activate the Boost function **while already riding**, you receive an extra push for **12 seconds**.

**To activate the Boost function:**



→ Press and hold the operating switch **[B.1]** upwards (for at least 2 seconds).

The Boost function is deactivated automatically after 4 or 12 seconds or when you stop pedaling (e.g. to brake).



The Boost function cannot be activated if:

- The e-bike reaches a speed of more than 25 km/h.
- You have not selected an assistance level (the LEDs on the display light up white).

\* depending on the charge level of the battery.

## 21.5 "Push Assist" mode

### WARNING

#### Danger due to distraction during operation!

If the drive system is put into operation in inappropriate situations, this can result in accidents and serious injuries.

- ▶ Use the "Push Assist" function only when pushing the e-bike.
- ▶ Hold the e-bike securely with both hands when push assist is active, and ensure that the wheels are in contact with the ground.

### CAUTION

#### Risk of injury!

If you are pushing the e-bike with push assist activated, the pedals will also turn slowly and you could be injured on them.

- ▶ Be careful not to injure yourself on the rotating pedals when using the "Push Assist" function.



The "Push Assist" mode is a model-dependent function of the control. The following controls have the "Push Assist" mode:

- Control Hub
- Ring Control

### 21.5.1 General information on the mode

Push assist makes it easier to push the e-bike. In "Push Assist" mode, your e-bike can reach a speed of up to 6km/h depending on the gear set.

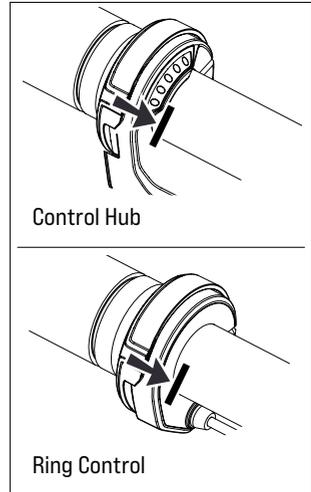
You can brake the speed of the e-bike to your walking pace by holding or restraining the e-bike while pushing.

Push assist is automatically deactivated in the following situations:

- You release the operating switch,
- The wheels on the e-bike are blocked,
- The e-bike reaches a speed of more than 6 km/h.

### 21.5.2 Using "Push Assist" mode

1. Set the assistance level to "none".
2. Press and hold the control switch **[B.2]** towards the centre of the handlebar to use the push assist.  
After 2 seconds, push assist is activated and sets the e-bike in motion as long as you keep the control switch pressed.
3. Guide the e-bike with both hands and brake as necessary to adjust the speed of the e-bike to your own walking pace by holding or restraining the e-bike while pushing.
4. Switch off the push assist by releasing the control switch.

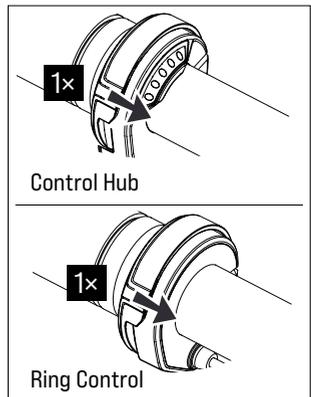


### 21.6 Switching the bicycle lighting on and off



This function depends on the model and is only available when a bicycle light is connected.

- Press the control switch **[B.1]** 1× briefly towards the center of the handlebar to switch on the bike lights.
- Press the control switch **[B.1]** again 1× briefly towards the center of the handlebar to switch the bike lights off again.



### 21.7 Bluetooth® connection

You can connect your mobile phone to your drive system via the FAZUA App. Once the connection has been successfully established, the five LEDs of the LED display **[B.2]** flash blue 3 times.

- For more information on the FAZUA App, see in chapter 5 "FAZUA App".

## 22 **CLEANING AND MAINTAINING THE CONTROL ELEMENT AND DISPLAY**

### **CAUTION** Risk of injury!

If the drive system is set in motion while you are handling it, you may injure yourself.

- ▶ Be careful not to start the drive system unintentionally when cleaning the control element. If necessary, remove the battery before cleaning to prevent unintentional start-up\*.

### **NOTICE** Danger of damage!

Improper cleaning may damage the control element or display.

- ▶ Never immerse the control element and display in water or other liquids for cleaning.
  - ▶ Do not use any aggressive cleaning agents when cleaning.
  - ▶ Do not use any sharp, angular or metallic objects for cleaning.
- Always keep all components of the e-bike and drive system in a clean condition.
- Clean the exterior of the control element and display gently with a cloth or soft brush.
- If necessary, use a mild soap solution for the external removal of coarser soiling.

**IMPORTANT:** Dampen the cloth only slightly or wring it out well to prevent liquid from penetrating the inside of the housing and the connections. If liquid enters the inside of the housing or the connections, the control element and the display may be damaged.

- Wipe all surfaces dry after cleaning.

\* This applies only if your e-bike is equipped with a removable battery (See Chapter 23 "Function and model variants of the battery").

# BATTERY AND CHARGER

## 23 FUNCTION AND MODEL VARIANTS OF THE BATTERY

The battery acts as an energy supply for the electric pedal assist of your e-bike. Use the charger to charge the battery.

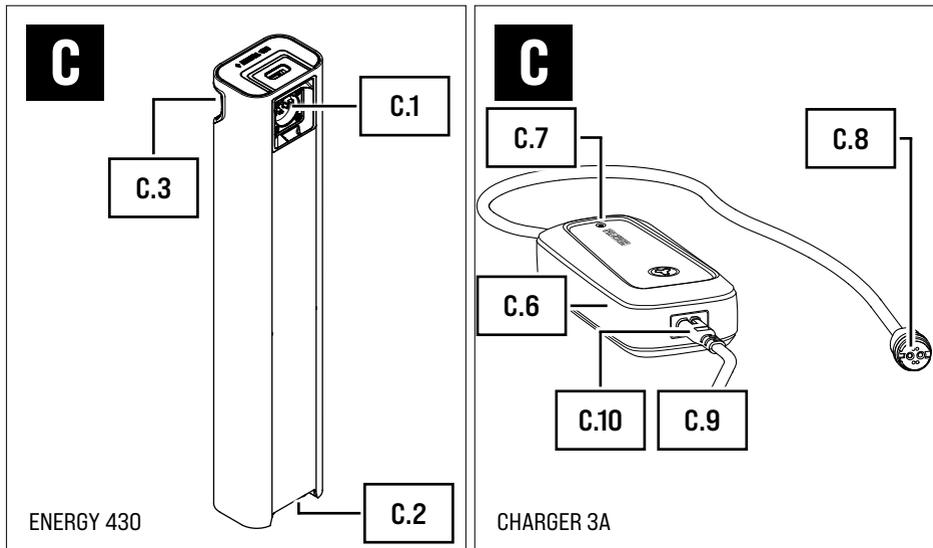


Depending on the model, the battery is either:

- permanently installed in the e-bike and cannot be removed from it; or
- a separate component that can be removed from the e-bike.

## 24 BATTERY AND CHARGER ILLUSTRATIONS

### 24.1 Detailed view and part designations



#### Part designations

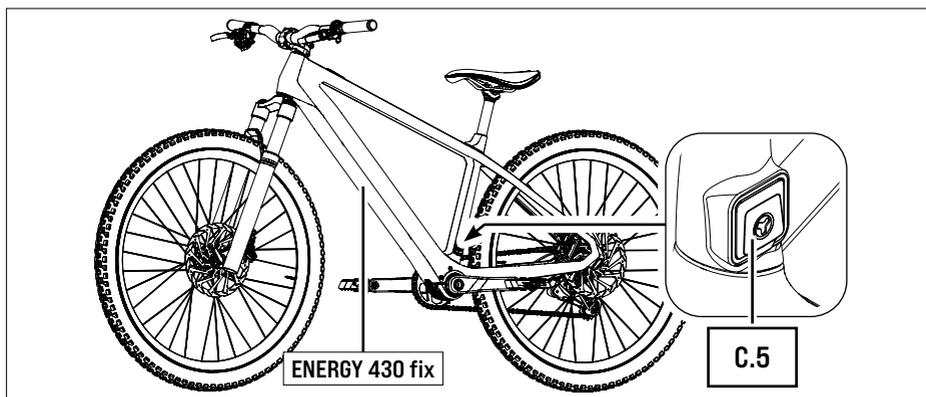
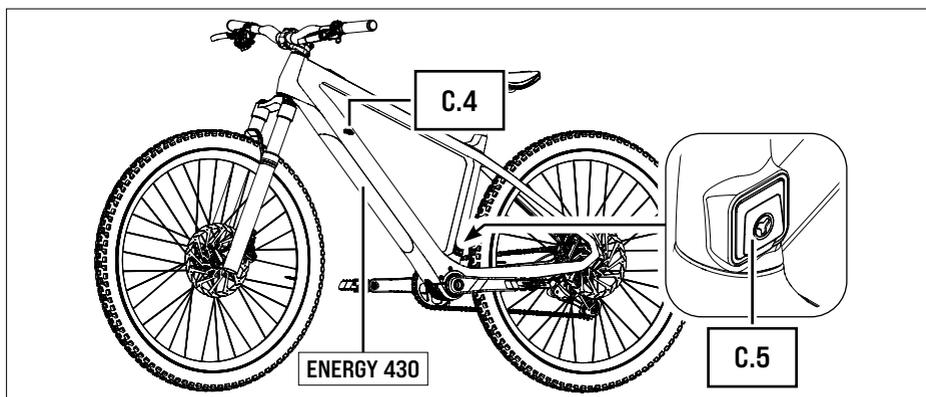
- C.1 → Charging port\* (battery)  
 C.2 → Interface\* (battery interlock)  
 C.3 → Push button\* (battery lock)

\* Applies only to removable batteries, not to permanently installed batteries.

## Part designations

- C.4 → Cylinder lock and key\*
- C.5 → Charging socket with cover flap\*\* (e-bike)
- C.6 → Mains adapter
- C.7 → LED display
- C.8 → Charging plug
- C.9 → Mains cable with mains plug\*\*\* (power connection)
- C.10 → Plug

## 24.2 Position on e-bike



\* Applies only to removable batteries, not to permanently installed batteries.

\*\* Applies to removable and permanently installed batteries. The charging connection is optional. The position could vary depending on the individual manufacturer.

\*\*\* Different from country to country, therefore not pictured.

## 25 TECHNICAL DATA FOR BATTERY AND CHARGER

### 25.1 Technical data on the battery

Model designations	
Permanently installed battery	→ FAZUA ENERGY 430 fix
Removable battery	→ FAZUA ENERGY 430
Weight, approx.	→ 2.2 kg
Operating temperature	→ -5°C to +40°C [ambient temperature]
Storage temperature (< 1 month)*	→ -15°C to +60°C
Storage temperature (> 1 month)*	→ -15°C to +25°C

### 25.2 Technical data on the charger

Model designation	→ CHARGER 3A
Nominal input voltage	→ 100–240 V AC
Frequency	→ 47–63 Hz
Charging current	→ 3 A
Charging time, approx.	→ 3.5 h
Protection class	→ 2 [Symbol: 
Protection type	→ IP54 [when plugged in]
Weight, approx.	→ 0.6 kg
Operating temperature	→ 0°C to +35°C
Storage temperature	→ 0°C to +45°C

\* Please also note the information on the storage time-dependent temperature ranges for the battery in chapter 4 "Storage and transport of e-bikes with the FAZUA drive system".

## 26 GENERAL SAFETY INSTRUCTIONS FOR THE BATTERY AND CHARGER

### WARNING

#### Danger of battery explosion!

If you use inappropriate batteries or do not handle the battery properly, the battery may explode.

- ▶ Only use the original FAZUA charger for charging.
- ▶ Never use a damaged battery!
- ▶ Never attempt to charge a damaged battery!
- ▶ Never open the battery! Attempting to open a battery poses an increased risk of explosion!
- ▶ Keep the battery away from heat (e.g. strong sunlight), open fire or water or other liquids.
- ▶ Only use the battery in e-bikes equipped with an original FAZUA RIDE 60 drive system. Never use the battery for other purposes or in other drive systems.

### WARNING

#### Fire hazard due to incorrect handling!

Improper handling of the battery and/or charger or attempting to charge batteries with an incompatible charger could cause a fire.

- ▶ Only use original and compatible components from FAZUA with each other! Do not attempt to charge an unfamiliar battery with the FAZUA charger and do not attempt to charge the FAZUA battery with an unfamiliar charger.
- ▶ The charger and battery heat up during charging, so keep away from combustible materials and do not leave the two components unattended during charging. During charging place the charger and battery on a well ventilated surface.
- ▶ Never attempt to charge non-rechargeable batteries!
- ▶ Take care not to handle metal objects such as coins, paper clips, screws, etc. in the immediate vicinity of the battery and to store the battery separately from metal objects. Metal objects can close a circuit between the terminals of the battery (i.e. "short-circuit" the battery) and cause a fire as a result.

- ▶ Do not short-circuit the battery.

 **WARNING**

**Danger of chemical burns from battery acid!**

The battery contains battery acid. If you come into contact with this liquid, the affected area of skin and/or mucous membranes may suffer chemical burns. Contact with the eyes may result in a loss of sight.

- ▶ Do not touch any liquid leaking from the battery.
- ▶ If you have come into contact with liquid leaking from the battery, immediately rinse the affected part of the body thoroughly under plenty of running water.
- ▶ After rinsing, seek advice from a doctor immediately, in particular on eye contact and/or if the mucous membranes are affected (e.g. nasal mucous membranes).

 **WARNING**

**Health risk due to irritation of the airways!**

If the battery is damaged, gases may escape which may irritate the respiratory tract.

- ▶ Protect the battery from mechanical influences and any other load.
- ▶ If you notice or suspect that gas is leaking from the battery, immediately ensure a supply of fresh air and seek medical attention as soon as possible.

 **WARNING**

**Danger of interference with medical equipment!**

The magnetic connections in the battery and charger can interfere with the function of pacemakers.

- ▶ Keep the battery and charger away from pacemakers or persons wearing a pacemaker and draw the attention of persons with pacemakers to the danger.

**WARNING****Risk of electric shock!**

Improper handling of the charger or an incorrect mains connection may expose you and others to the risk of electric shock.

- ▶ Only connect the charger to an easily accessible and properly installed earth contact outlet.
- ▶ Make sure that the mains voltage at the mains connection corresponds to the information on the charger.
- ▶ Only use the charger in dry indoor areas.
- ▶ Keep the charger away from all liquids and humidity.
- ▶ Do not pull on the cables, but always grasp the corresponding plug when disconnecting the connectors.
- ▶ Do not handle the plugs of the charger with wet or damp hands.
- ▶ Take care not to bend the charger cable or lay them over sharp edges.
- ▶ Do not open the charger yourself. The charger may only be opened by an authorised specialist and may only be repaired with genuine spare parts.
- ▶ Before each use of the charger, check all individual parts (mains adapter, mains cable, charger cable and all plugs) for damage. If the charger's mains cable is damaged, it must be replaced by the manufacturer, its customer service department or a similarly qualified person to avoid any dangers.
- ▶ Never use a damaged charger. Otherwise, there is a high risk of electric shock!
- ▶ Keep the charger in a clean condition. There is an increased risk of electric shock if the charger is dirty or soiled.

**⚠ WARNING****Dangers due to unauthorised use!**

There is a particular risk to children (younger than 14 years) and people with limited physical, sensory and mental abilities (e.g. physically handicapped, elderly people with limited physical and mental abilities) or a lack of experience and knowledge (e.g. older children)! If children or people with physical or mental impairments handle the battery or charger, there is an increased risk potential as these user groups must not be able to correctly assess certain risks, for example.

- ▶ The charger must not be used by children or persons with limited physical, sensory or mental abilities unless they are supervised or have been instructed in the safe use of the charger and have understood the resulting dangers.
- ▶ Children are not permitted to not play with the charger.
- ▶ Cleaning and user maintenance must not be carried out by children without supervision.
- ▶ Keep the battery and charger out of the reach of children.

**⚠ CAUTION****Risk of burns!**

The cooling unit on the drive unit can become very hot during operation and you may burn yourself when touching it.

- ▶ Be careful when handling the battery. If necessary, allow the drive unit to cool down completely first.

**NOTICE****Danger of damage!**

Improper handling can damage the drive system or individual components.

- ▶ Before inserting the battery, make sure that the contacts inside the drive unit and on the battery are dry. If the contacts are damp or wet when inserted, the battery may be damaged.

- ▶ When charging the battery, make sure that the cable labels of the charger are not trip hazards in order to prevent components from being damaged, e.g. by a fall.
- ▶ Always make sure that the cover flap of the charging socket on the e-bike is closed correctly and completely to ensure that no dust or splash water can enter the charging socket.

## 27 USING THE BATTERY

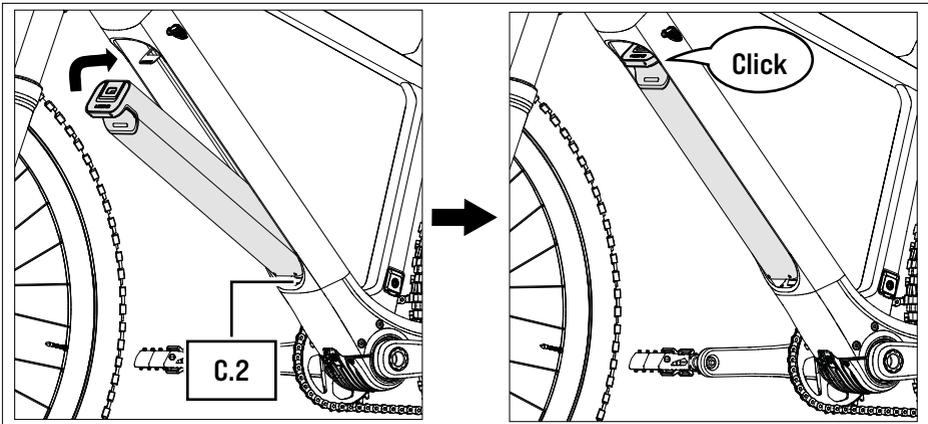
### 27.1 Inserting the battery on the e-bike/removing it from the e-bike



This applies only if your e-bike is equipped with a removable battery [See Chapter 23 "Function and model variants of the battery"].

#### 27.1.1 Inserting the battery

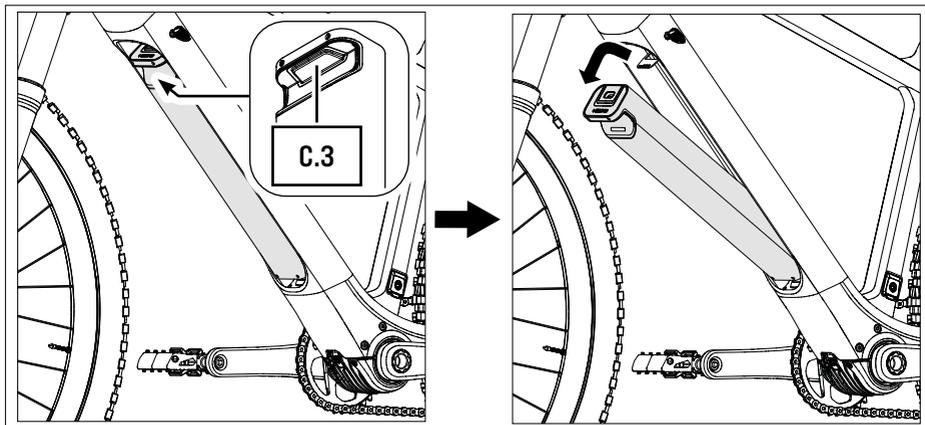
1. Check the battery for visible damage before insertion [visual check].
2. Place the battery with the interface [C.2] first on the corresponding interface on the e-bike.



3. Swing the upper end of the battery into the down tube of the e-bike.  
The battery is automatically locked in place when the two interfaces on the battery and e-bike are correctly interlocked and the battery is swiveled fully into the designated receptacle on the down tube. An audible engagement sound ("click") is heard when the device engages.  
Contact an authorised specialist if the battery cannot be inserted/if the battery does not (audibly) engage on the e-bike.

#### 27.1.2 Removing the battery

1. Secure the battery with one hand.
2. Reach into the cutout on the battery and push the elastic pushbutton [C.3] in as far as it will go.



3. Press and hold the push button and gently pull the battery forwards out of the battery holder.
4. Remove the battery from the interface on the e-bike.

## 27.2 Checking the charge level and SOH of the battery



This applies only if your e-bike is equipped with a removable battery [See Chapter 23 "Function and model variants of the battery"].

### Checking the SOH/current charge level of the battery

→ Tilt the battery back and forth to check the current charge level (e.g., before or during a [longer] trip).

Depending on the charge level, different numbers of LEDs light up on the display in the battery section. Each LED represents 20% of the capacity. If all five LEDs are lit, the battery is fully charged.

**IMPORTANT:** The charge level indicator is not designed to be used during the charging process to ascertain whether the battery has already reached maximum charge or whether it can still be charged. You can use the LED indicator [C.7] on the charger for this purpose.

→ More detailed information can be found in chapter 28.3 "Charging process".

### Querying the SOH

The "ageing state" of the battery, the so-called SOH ("state of health"), can be queried via the FAZUA Service Toolbox and via the FAZUA app.

→ For the query, connect the e-bike (with inserted battery) via the USB socket\* to a computer with access to the FAZUA Service Toolbox or open the FAZUA app\*\*.

\* The USB cable is not included in the scope of delivery.

\*\* See in chapter 5 "FAZUA App" for more information on the FAZUA app.

## 28 CHARGING THE BATTERY

Regularly charge the battery via the charging socket [C.5] on the e-bike (See Chapter 28.2.1 “Charging the (integrated) battery in the e-bike”).

If you have a removable battery, you can alternatively remove it from the e-bike and charge it separately (See Chapter 28.2.2 “Charging the battery separately”).

The charging process can be interrupted at any time.

**IMPORTANT:** Charge the battery **only within the specified temperature range**. Charging outside the specified temperatures may damage the charger or battery.

→ Fully charge the battery prior to initial operation so that you can use the full capacity of the battery.

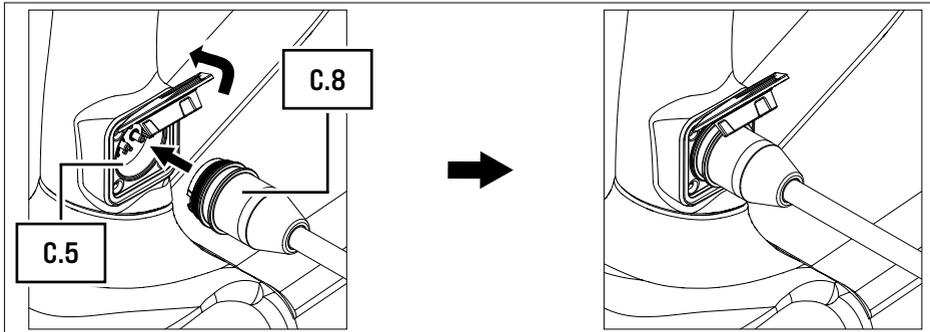
### 28.1 Preparing the charger

1. Take the mains adapter [C.6] and the mains cable [C.9].
2. Plug the appliance plug [C.10] of the mains cable into the corresponding socket on the mains adapter.

### 28.2 Connecting the charger

#### 28.2.1 Charging the (integrated) battery in the e-bike

1. Open the cover flap to access the charging socket [C.5] on the e-bike.
2. Insert the charging plug [C.8] into the charging socket [C.5].

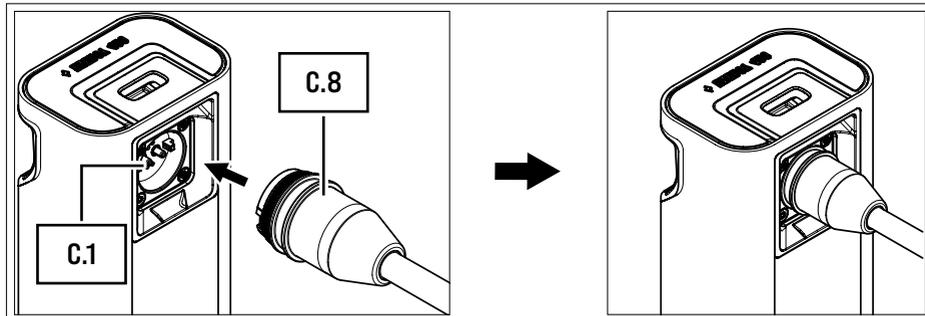


3. Insert the mains plug [C.9] into a suitable wall outlet to establish the power connection.

#### 28.2.2 Charging the battery separately

1. Remove the battery from the e-bike (See Chapter 27.1.2 “Removing the battery”).

2. Insert the charging plug [C.8] into the charging connection [C.1] on the battery.



3. Insert the mains plug [C.9] into a suitable wall outlet to establish the power connection.

### ***28.3 Charging process***

The charging process begins as soon as you have connected the charger to the e-bike or battery on one side and to the power supply on the other.

The flashing LEDs on the battery charge indicator indicate that the battery is being charged.\*

During the charging process, the **LED indicator [C.7]** on the mains adapter lights up **red** to indicate that the **battery is charging**.

When the colour of the **LED indicator [C.7]** switches to **green**, this indicates that the **battery is fully charged**.

### ***28.4 Unplug charger from battery***

1. When charging is complete, unplug the mains plug [C.9] from the outlet to disconnect the charger from the mains.
2. Then disconnect the charger from the e-bike/battery by pulling the charging plug [C.8] out of the charging socket [C.5] on the e-bike or out of the charging connection [C.1] on the battery.

**IMPORTANT:** Close the cover flap of the charging socket again after the charging process and ensure that the charging socket is correctly closed.

3. If necessary, reinsert the battery into the e-bike.\*\*
4. Then disconnect the mains cable [C.9] from the mains adapter [C.6] and keep the two parts separate.

\* Applies only to removable batteries, not to permanently installed batteries.

\*\* Applies only to removable batteries, not to permanently installed batteries.

## 29 CLEANING THE BATTERY AND CHARGER

### NOTICE

Danger of damage!

Improper cleaning can damage the battery or the charger.

- ▶ Never immerse the battery or the charger in water or other liquids. Keep liquids away from the battery and charger.
- ▶ Do not use any aggressive cleaning agents when cleaning.
- ▶ Do not use any sharp, angular or metallic objects for cleaning.
- ▶ Always keep all components of the e-bike and drive system in a clean condition.



**IMPORTANT:** The cleaning instructions for the battery only apply to removable batteries [See Chapter 23 “Function and model variants of the battery”]. If your e-bike is equipped with a permanently installed battery, you do not need to clean it separately!

### 29.1 Cleaning the battery

- Clean the exterior of the battery gently with a cloth or soft brush.
- If necessary, use a mild soap solution for the external removal of coarser soiling.

**IMPORTANT:** Dampen the cloth only slightly or wring it out well to prevent liquid from penetrating the inside of the housing and the contacts/interfaces. If liquid gets into the inside of the housing or into the contacts/interfaces, the battery may be damaged and electrical safety may be impaired.

- Wipe all surfaces dry after cleaning.

**IMPORTANT:** Pay particular attention to the contacts and interfaces between the battery and drive unit\*: The interfaces must not be soiled or contaminated and must be completely dried before inserting the battery to avoid damage.

### 29.2 Cleaning the charger

- Clean the exterior of the charger gently with a cloth or soft brush.
- If necessary, use a mild soap solution for the external removal of coarser soiling.

\* This applies only if your e-bike is equipped with a removable battery [See Chapter 23 “Function and model variants of the battery”].

**IMPORTANT:** Dampen the cloth only slightly or wring it out well to prevent liquid from penetrating the inside of the housing and the connections. If liquid enters the interior of the housing or the connections, the charger may be damaged and electrical safety may be impaired.

→ Wipe all surfaces dry after cleaning.



**Fazua GmbH**  
Marie-Curie-Straße 6  
85521 Ottobrunn, Germany  
[www.fazua.com](http://www.fazua.com)

Dok.ref.: FAZUA RIDE 60 | Original instructions | 20220401

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