

Manual Gazelle with Bosch system



Enjoy the Ride

ROYAL DUTCH
Gazelle



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Warning about potential injury, increased fall or other injury risk.



Reference to potential damage to property or the environment.



Important supplementary information or special information about the use of the bike.

Congratulations on your Gazelle!

Congratulations on your Gazelle with the innovative Bosch Active Line system. This bike provides you with assistance on the move by means of an innovative electric drive system. This will make your cycling a great deal more enjoyable when riding into headwinds and carrying your belongings. You can choose how much of a boost you would like. This manual will help you discover all the advantageous features of your bike and use them correctly as you wish.

We strongly advise you to read through this manual attentively. This manual constitutes a supplement to the general user manual.

This manual is written in general terms. This means that certain articles will apply to your bike while others will not.

You can download the general user manual from the www.gazellebikes.com/en-gb/service/folder-and-manuals website.

1. Safety

1.1 General



Take care when children are around, especially if they are able to insert objects through apertures in the motor housing. There is a risk of a life-threatening electric shock.

If you think the bike is no longer safe to use, you must take it out of use at once, secure it against unintentional switching on or use, as the case may be, and make it available to the dealer for inspection. It is no longer safe to use if current-carrying components or the battery show visible signs of damage.

The walk assist function must only be used when wheeling the bike on foot. There is a risk of injury if the wheels on an e-bike are not in contact with the ground when using walk assist.



Do not make any changes to your electric system or fit any other products to it aimed at increasing the power output from your electric system. As a rule you will shorten the service life of the system and risk damaging the Drive Unit (motor) and the e-bike. In addition there also the danger that you will void the warranty cover on the e-bike you have bought.

Furthermore, as a result of inexpert work on the system you will jeopardise your safety and that of other road users which risks accidents caused by manipulations, high personal liability costs and potentially even the danger of criminal prosecution.

1.2 Legal requirements



Like all cycles, the bike must comply with the requirements of the national highway code.

The legal requirements set out below are applicable to the bike:

- The motor may only be used to assist pedalling, i.e. it must only “help” when the bike user applies effort to the pedals him or herself.
- The average motor power must not exceed 250 W.
- As speed increases motor power must continue to drop progressively.
- The motor must stop at (approximately) 25 km/h.

See also EC Declaration of Conformity in the online manual at www.gazellebikes.com/en-gb/service/folder-and-manuals.

1.2.1 Significance for the user



There is no obligation to wear a helmet. However, for your own safety we advise you not to cycle without a helmet.


A separate driving licence is not required for an electric bike. Insurance is not obligatory for an e-bike.

There is no age restriction on using an e-bike.

Cycling on cycle tracks is regulated in the same way as for conventional bikes.

These regulations apply to your bike when using it within the European Union. Other provisions may apply in countries outside the EU and in isolated cases in Europe as well. Before using your bike abroad be sure to make enquiries about which laws apply.

1.2.2 Safety and warranty

 Read the Gazelle Safety and Warranty manual for all safety instructions and warranty conditions. You will be supplied with this manual included as standard with your bike and you can also access it digitally on our website (www.gazellebikes.com/en-gb/service/folder-and-manuals).

1.2.3 Waste disposal


The motor, display including control unit, battery, speed sensor, accessories and packaging must be recycled in an environmentally sound manner. Do not dispose of an e-bike or its components with household waste!

For EU countries only: Under European Directive 2012/19/EU electrical equipment which is no longer usable and under European Directive 2006/66/EC defective or spent accumulators and batteries must be collected separately and recycled in an environmentally sound manner.

The battery incorporated in the control computer may only be removed if it is needed to be disposed of. Opening the housing may irreparably damage the display.

Hand in batteries and displays which are no longer usable to an accredited cycle shop.


1.3 Battery

 **Remove the battery** from the bike before working on the e-bike (e.g. assembly, maintenance, servicing the chain, etc.), transporting it by car or by air or storing it. There is a risk of injury in the event of accidentally activating the electric system.

- **Do not open** the battery. This risks a short circuit. Opening the battery renders any warranty claim null and void.
- **Protect the battery** against heat (e.g. against sustained exposure to strong sun-

light as well), fire and immersion in liquids. There is a risk of explosion.

- **Avoid touching the** battery with paper clips, coins, keys, nails, screws or any other small metal objects which could cause the contacts to short out. Short circuits between battery contacts can result in burns or fire. Damage arising in this way due to a short circuit will render any warranty claim null and void.
- **Improper use may** cause fluid to leak out of the battery. Avoid contact with it. In the event of inadvertent contact wash off with water. If the fluid comes into contact with the eyes, you must seek medical assistance as well. Battery fluid which has leaked out may cause skin irritation and burns.
- **Fumes may be** released in the event of damage and/or improper use of the battery. Provide fresh air and seek medical help in the event of any complaints. These fumes may irritate the respiratory tract.
- **Use only genuine** Bosch chargers to charge the battery. A fire risk cannot be ruled out if a charger is used which is not a genuine Bosch unit.
- **Use the battery** only in combination with an e-bike with a genuine Bosch motor. This is the only way to protect the battery against hazardous overloading.
- **Use only genuine** Bosch batteries which have been approved by the manufacturer of your e-bike. Use of other batteries may result in injury and/or fire.
- **If other batteries** are used no liability will be accepted by Bosch and no warranty cover provided.
- **Keep the battery** out of children's reach.

 **Take care not to drop the battery when removing it from the bike. This can actually damage the battery housing irreparably.**

- **Batteries must not** be exposed to mechanical impact. This risks damaging the battery.
- **The bike operates** at low voltage (36 V). You must never attempt to use the bike with a power source other than the original battery that goes with it. You will find descriptions of approved batteries further on in this manual.

1.4 Charger



Protect the charger from rain and moisture. In the event of water ingress into a charger there is a risk of electric shock.

- **Charge Bosch Lithium** Ion batteries approved for e-bikes only. The battery voltage must match the voltage on the charger. Otherwise there is a fire and/or explosion risk.
- **Keep the charger** clean. Contamination may give rise to an electric shock hazard.
- **Check the charger**, cable and plug each time before they are used. Do not use the charger if you have noticed any damage. Do not open the charger yourself and have it repaired only by qualified technicians and only with genuine spare parts. Damaged chargers, cables and plugs increase the risk of an electric shock.
- **Do not use** the charger on a readily flammable surface (such as paper or fabric) or in a flammable environment. There is a fire risk to the heat generated in the charger during charging. Fumes may be released in the event of damage and/or improper use of the battery. Provide fresh air and seek medical help in the event of any complaints. These fumes may irritate the respiratory tract.
- **Keep children under** supervision. This will ensure that children do not play with the charger.
- **Children and persons** who, based on their physical, sensory or mental capabilities,

their lack of experience and knowledge are not capable of using the charger safely, must not use this charger without supervision or instruction by a responsible person. Otherwise there is a risk of improper operation and/or physical injury.

- **On the underside** of the charger there is a brief outline of important safety instructions in English, French and Spanish, that reads as follows:
 - Observe the user manual in order to use the unit safely. Risk of electric shock.
 - Use only in a dry environment.
 - Charge Bosch electric system batteries only. Other batteries may explode and cause injury.
 - Do not replace the mains lead. There is a fire and/or explosion risk.

1.5 Motor



Do not open the motor yourself. The motor is maintenance-free and must only be repaired by your Gazelle specialist and with genuine spare parts. This will guarantee that motor safety is maintained. Unauthorised opening of the motor will render any warranty claims null and void.


- **All components fitted** to the motor and other e-bike components (e.g. chain ring, chain ring pick-up, pedals) must only be replaced by components of identical construction or by components specially approved by the cycle manufacturer for your e-bike. This will protect the motor against overloading and damage.
- **Remove the battery** from the bike before working on the e-bike (e.g. assembly, maintenance, servicing the chain, etc.), transporting it by car or by air or storing it. There is a risk on injury in the event of accidentally activating the electric system.
- **The walk assist** function must only be used when wheeling the bike on foot. There is a risk of injury if the wheels on an e-bike

are not in contact with the ground when using walk assist.


Use only genuine Bosch batteries which have been approved by the manufacturer of your e-bike. Use of other batteries may result in injury and/or fire.


If other batteries are used no liability will be accepted by Bosch and no warranty cover provided.

- **Do not make** any changes to your electric system or fit any other products to it aimed at increasing the power output from your e-bike. As a rule you will shorten the service life of the system and risk damaging the Drive Unit (motor) and the e-bike. In addition there also the danger that you will void the warranty cover on the e-bike you have bought. Furthermore, as a result of inexpert work on the system you will jeopardise your safety and that of other road users which risks accidents caused by manipulations, high personal liability costs and potentially even the danger of criminal prosecution.

 The motor is intended exclusively for your e-bike drive and must not be used for any other purpose.

1.6 Maintenance and repair

 When carrying out settings, maintenance or cleaning jobs be aware that cables must not be pinched and/or kinked nor must they be damaged by sharp edges. Have all fitting and setting jobs carried out by your Gazelle specialist.

 Observe operating and storage temperatures for e-bike components see further on in this manual. Protect the motor, display and battery against extreme temperatures (e.g. under intense sunlight without adequate ventilation). These components (especially the battery) can be damaged by extreme temperatures.

1.7 Transporting the bike


1.7.1 Transporting the bike by car

If you intend to transport your bike using a cycle carrier, you will also need to ensure that the carrier is suitable for the added weight of the bike as well. You need to remove the battery when transporting an e-bike on a cycle carrier. Make sure that the bicycle does not obscure the car's compulsory lights.

1.7.2 Transporting the bike by train

You can take your bike in trains displaying a bike sign. If you have any questions you can contact the transporter.

1.7.3 Transporting the bike by air

 Your bike will generally be subject to the cycle provisions of the airline concerned. Batteries are covered by the law on hazardous goods transport. There are specific packaging and marking requirements to be observed for transport by commercial users or transport by third parties (e.g. air freight or a haulage company). For advice on this please contact a hazardous goods expert.

1.8 Warranty and service life

A two-year warranty applies to the battery. Should a fault occur during this period, your Gazelle specialist will replace the battery. Normal ageing as well as wear and tear of the battery do not constitute a material deficiency.


Take care to ensure that the battery does not get too hot. Battery ageing increases sharply with temperatures above 40 °C. Being placed directly in the sun's rays can cause a battery to heat up considerably. Take care to ensure you do not leave the battery in a hot car and park your bike in the


shade during bike rides. If you cannot avoid the heat, make sure you do not charge the battery at the same time.

A fully charged battery ages at an even higher rate at high temperatures than a partially charged one.

If you ride constantly using maximum motor power, your motor will always need a higher current. Higher currents cause the battery to age faster.

You can also increase the service life of your battery by using the assistance judiciously. Cycle using a low assistance setting. Lower discharge current draws will save your battery.

 Charge the battery to around 60% (3 to 4 charge indication LEDs lit), before storing it for a long time. Check charge status after 6 months. If just one charge indication LED is still lit you will need to recharge the battery again to around 60%.

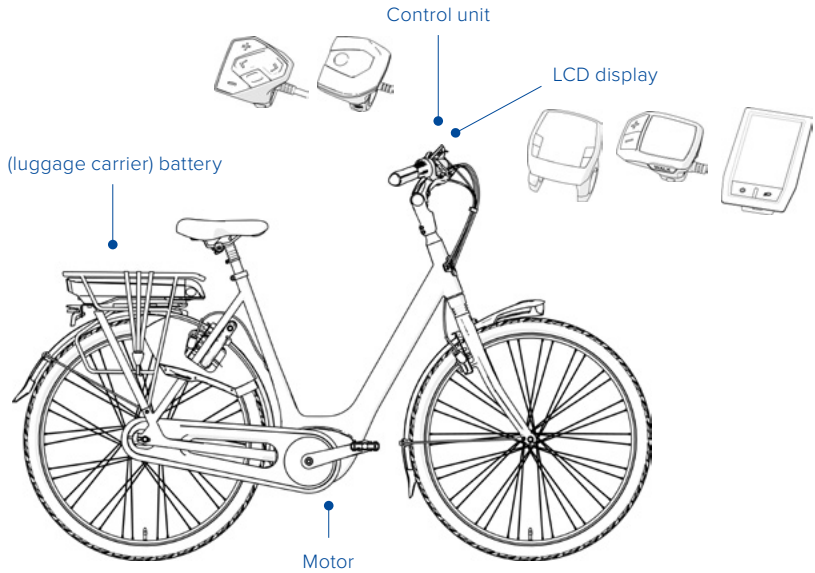
 **If the battery is stored fully discharged for a long time, it may be damaged despite the low self-discharge rate and charge capacity may be substantially reduced.**

It is inadvisable to leave the battery connected to the charger for long periods.

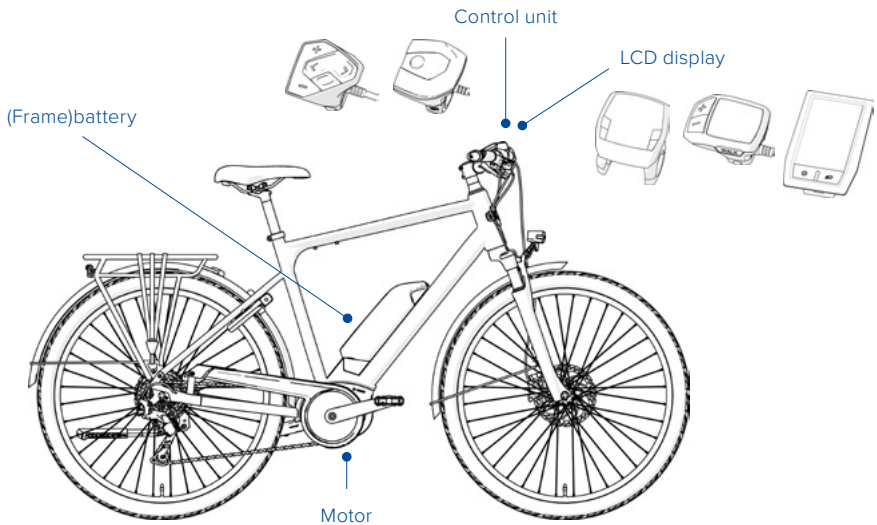
The Bosch mid-mounted motor is a durable and maintenance-free drive unit. It is nevertheless a wearing component which is covered by a two-year warranty. As a result of the added performance, the wearing components such as the drive unit and brakes are subjected to higher loads than on a conventional bike. Components wear faster due to the effect of increased power.

2. Bike configuration

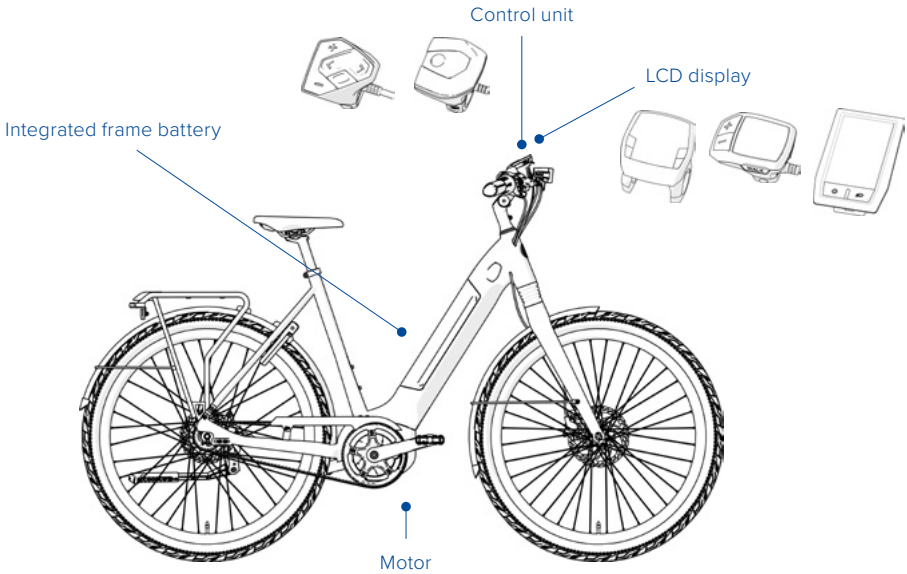
2.1 Bike with Bosch carrier battery



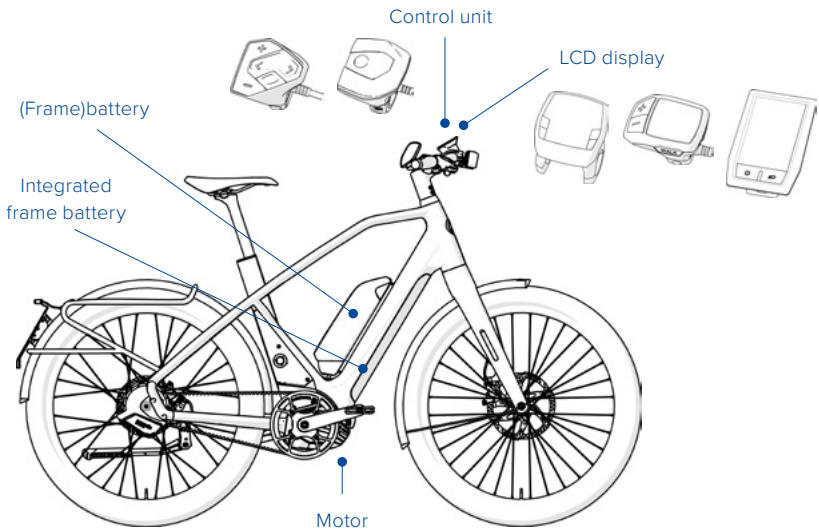
2.2 Bike with Bosch framebattery



2.3 Bike with integrated Bosch frame battery

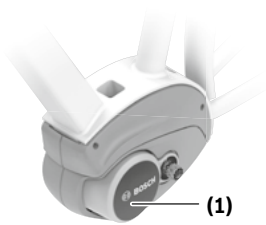


2.4 Bike with a double Bosch battery

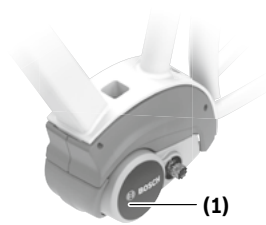


3. Drive unit

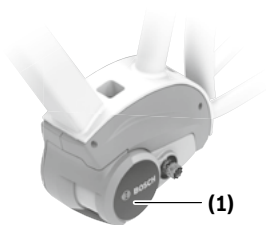
3.1 Active Line/Active Line Plus/Performance Line



Active Line
BDU310



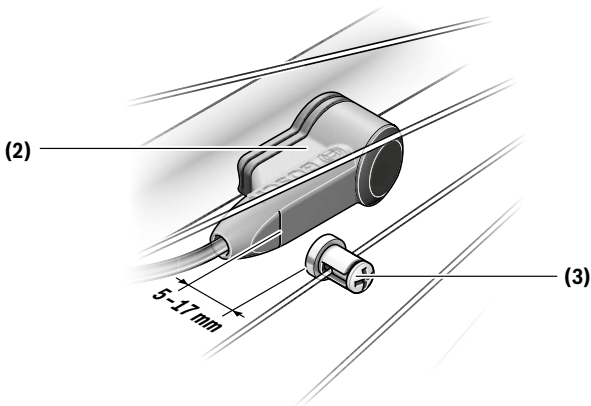
Active Line Plus
BDU350



Performance Line
BDU365

Gazelle

A



Safety instructions



Read all the safety information and instructions. Failure to observe the safety information and follow instructions may result in electric shock, fire and/or serious injury.

Save all safety warnings and instructions for future reference.

The term **battery** is used in these instructions to mean all original Bosch eBike rechargeable battery packs.

- ▶ **Do not attempt to change – and especially increase – the power of your drive or the maximum speed that it supports.** Doing this may put yourself and others at risk, and you may also breach statutory regulations.
- ▶ **Do not open the drive unit yourself. The drive unit must only be repaired by qualified personnel using only original spare parts.** This will ensure that the safety of the drive unit is maintained. Unauthorised opening of the drive unit will render warranty claims null and void.
- ▶ **All components fitted to the drive unit and all other components of the eBike drive (e.g. chainring, chainring receptacle, pedals) must only be replaced with identical components or components that have been specifically approved by the manufacturer for your eBike.** This will protect the drive unit from overloading and becoming damaged.
- ▶ **Remove the battery from the eBike before beginning work (e.g. inspection, repair, assembly, maintenance, work on the chain, etc.) on the eBike, transporting it with a car or aeroplane, or storing it.** Unintentional activation of the eBike system poses a risk of injury.
- ▶ **The eBike system can be activated by pushing the eBike backwards or by turning the pedals backwards.**
- ▶ **The push assistance function must only be used when pushing the eBike.** There is a risk of injury if the wheels of the eBike are not in contact with the ground while using the push assistance.
- ▶ **When the push assistance is activated, the pedals may turn at the same time.** When the push assistance function is activated, make sure that there is enough space between your legs and the turning pedals to avoid the risk of injury.
- ▶ **After a ride, do not allow your unprotected hands or legs to come into contact with the housing of the drive unit.** Under extreme conditions, such as continuously high torques at low travel speeds, or when riding up hills or carrying loads, the housing may reach a very high temperature.

The temperature that the drive unit housing may reach is influenced by the following factors:

- Ambient temperature
- Ride profile (route/gradient)
- Ride duration
- Assistance modes
- User behaviour (personal effort)
- Total weight (rider, eBike, luggage)
- Motor cover on the drive unit

- Heat dissipation properties of the bicycle frame
- Type of drive unit and type of gear-shifting

- ▶ **Use only original Bosch batteries that the manufacturer has approved for your eBike.** Using other batteries can lead to injuries and pose a fire hazard. Bosch accepts no liability or warranty claims if other batteries are used.
- ▶ **Do not make any modifications to your eBike system or fit any other products that might increase the performance of your eBike system.** Doing so will generally reduce the service life of the system and risks damaging the drive unit and the bike. You also run the risk of losing the guarantee and warranty claims on the bicycle you have purchased. By handling the system improperly you are also endangering your safety and that of other road users, thus running the risk of high personal liability costs and possibly even criminal prosecution in the event of accidents that can be attributed to manipulation of the bicycle.



On sections of the drive, temperatures >60 °C may occur in extreme conditions, e.g. when carrying consistently high loads at low speed when riding up hills or transporting loads.

- ▶ **Observe all national regulations which set out the approved use of eBikes.**
- ▶ **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**

Privacy notice

When you connect the eBike to the Bosch DiagnosticTool, data about the eBike drive unit (e.g. energy consumption, temperature, etc.) is transferred to Bosch eBike Systems (Robert Bosch GmbH) for the purpose of product improvement. You can find more information about this on the Bosch eBike website at www.bosch-ebike.com.

Product description and specifications

Intended use

The drive unit is intended exclusively for driving your eBike and must not be used for any other purpose.

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

Product features

Individual illustrations in these operating instructions may differ slightly from the actual conditions depending on the equipment of your eBike.

The numbering of the components shown refers to the illustrations on the graphics pages at the beginning of the manual.

- (1) Drive unit
- (2) Speed sensor
- (3) Speed sensor spoke magnet

Technical data

Drive unit		Active Line	Active Line Plus	Performance Line
Product code		BDU310	BDU350	BDU365
Continuous rated power	W	250	250	250
Torque at drive, max.	Nm	40	50	65
Rated voltage	V=	36	36	36
Operating temperature	°C	-5 to +40	-5 to +40	-5 to +40
Storage temperature	°C	-10 to +50	-10 to +50	-10 to +50
Protection rating		IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)
Weight, approx.	kg	3	3.3	3.5

The Bosch eBike system uses FreeRTOS (see <http://www.freertos.org>).

Bicycle lights ^{A)}			
Voltage approx. ^{B)}		V=	12
Maximum power			
– Front light		W	17.4
– Tail light		W	0.6

A) Depends on legal regulations, not possible in all country-specific models via the eBike battery

B) When changing the bulbs, ensure that they are compatible with the Bosch eBike system (ask your bicycle dealer) and are suitable for the specified voltage. Bulbs must only be replaced with bulbs of the same voltage.

Inserting a bulb incorrectly can cause it to blow.

Assembly

Inserting and removing the battery

For inserting and removing the eBike battery in/from the eBike, please read and observe the battery operating instructions.

Checking the speed sensor (see figure A)

The speed sensor (2) and its spoke magnet (3) must be fitted such that the spoke magnet moves past the speed sensor at a distance of at least 5 mm and at most 17 mm with each rotation of the wheel.

Note: If the distance between the speed sensor (2) and the spoke magnet (3) is too small or too large, or if the speed sensor (2) is not properly connected, the speedometer display will fail and the eBike drive unit will operate in emergency mode.

Should this occur, loosen the screw of the spoke magnet (3) and fasten the spoke magnet to the spoke such that it runs past the marking on the speed sensor at the correct clearance. If the speed is still not being indicated on the speedometer display after doing this, please contact an authorised bicycle dealer.

Operation

Start-up

Requirements

The eBike system can only be activated when the following requirements are met:

- A sufficiently charged battery is inserted (see battery operating instructions).
- The on-board computer is properly inserted in the holder (see on-board computer operating instructions).

- The speed sensor is correctly connected (see "Checking the speed sensor (see figure A)", page English – 2).

Switching the eBike system on/off

The following options are available for **switching on** the eBike system:

- If the on-board computer is already switched on when you insert it into the holder, the eBike system will be activated automatically.
- Once the on-board computer and the eBike battery are fitted, briefly press the on/off button on the on-board computer.
- With the on-board computer inserted, push the on/off button on the eBike battery (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the battery operating instructions).

The drive is activated as soon as you start pedalling (except if you are using the push-assistance function, Switching the push assistance on/off). The motor output depends on the settings of the assistance level on the on-board computer.

As soon as you stop pedalling when in normal operation, or as soon as you have reached a speed of **25 km/h**, the eBike drive switches off the assistance. The drive is automatically reactivated as soon you start pedalling again and the speed is below **25 km/h**.

The following options are available for **switching off** the eBike system:

- Press the on/off button of the on-board computer.
- Switch off the eBike battery using its on/off button (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the bicycle manufacturer operating instructions).
- Remove the on-board computer from its holder.

If the eBike is not moved for approx. 10 min **and** no button is pressed on the on-board computer, the eBike system switches off automatically in order to save energy.

eShift (optional)

eShift is the integration of electronic gear-shifting systems into the eBike system. The eShift components are electrically connected to the drive unit by the manufacturer. The separate operating instructions describe how to operate the electronic gear-shifting systems.

Setting the assistance level

You can set the level at which the eBike drive assists you while pedalling on the on-board computer. The assistance level can be changed at any time, even while cycling.

Note: In some models, the assistance level may be preset and cannot be changed. There may also be fewer assistance levels available than stated here.

The following assistance levels are available as a maximum:

- **OFF:** Motor assistance is switched off. The eBike can just be moved by pedalling, as with a normal bicycle. The push assistance cannot be activated at this assistance level.

- **ECO:** Effective assistance with maximum efficiency, for maximum range

- **TOUR:** Steady assistance, long range for touring

- **SPORT/eMTB:**

SPORT: Powerful assistance, for mountain biking and cycling in urban traffic

eMTB: Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance (**eMTB** only available in combination with the drive units BDU250P CX, BDU365, BDU450 CX and BDU480 CX. A software update may be required.)

- **TURBO:** Maximum assistance even at high pedalling speeds, for sport cycling

The requested motor output appears on the display of the on-board computer. The maximum motor output depends on the selected assistance level.

Assistance level	Assistance factor ^{A)}		
	Active Line (BDU310)	Active Line Plus (BDU350)	Performance Line (BDU365)
ECO	40 %	40 %	55 %
TOUR	100 %	100 %	120 %
SPORT/eMTB	150 %	180 %	200/120 % to 300 % ^{B)}
TURBO	250 %	270 %	300 %

A) The assistance factor may vary in some models.

B) Maximum value

Switching the push assistance on/off

The push assistance aids you when pushing your eBike. The speed in this function depends on the selected gear and can reach a maximum of **6 km/h**. The lower the selected gear, the lower the speed of the push assistance function (at full power).

► **The push assistance function must only be used when pushing the eBike.** There is a risk of injury if the wheels of the eBike are not in contact with the ground while using the push assistance.

To **activate** the push assistance, briefly press the **WALK** button on your on-board computer. After activation, press the **+** button within 3 s and keep it pressed. The eBike drive is switched on.

Note: The push assistance cannot be activated at assistance level **OFF**.

The push assistance is **switched off** as soon as one of the following occurs:

- You release the **+** button;
- The wheels of the eBike are locked (e.g. by applying the brakes or hitting an obstacle);
- The speed exceeds 6 km/h.

The push assistance function is subject to local regulations; the way it works may therefore differ from the description above, or the function may even be deactivated completely.

Switching bicycle lights on/off

On the model where the bike lights are powered by the eBike system, the front light and taillight can be switched on and off at the same time via the on-board computer.

Notes on cycling with the eBike system

When does the eBike drive work?

The eBike drive assists your cycling only when you are pedalling. If you do not pedal, the assistance will not work. The motor output always depends on the pedalling force you apply.

If you apply less force, you will receive less assistance than if you apply a lot of force. This applies irrespective of the assistance level.

The eBike drive automatically switches off at speeds over **25 km/h**. When the speed falls below **25 km/h**, the drive automatically becomes available again.

An exception applies to the push assistance function, in which the eBike can be pushed at low speed without pedalling. The pedals may rotate when the push assistance is in use.

You can also use the eBike as a normal bicycle without assistance at any time, either by switching off the eBike system or by setting the assistance level to **OFF**. The same applies when the battery is drained.

Interaction between the eBike system and gear-shifting

The gear-shifting should be used with an eBike drive in the same way as with a normal bicycle (observe the operating instructions of your eBike on this point).

Irrespective of the type of gear-shifting, it is advisable to briefly stop pedalling when changing gear. This will facilitate the gear change and reduce wear on the powertrain.

By selecting the correct gear, you can increase your speed and range while applying the same amount of force.

Gaining initial experience

We recommend that you gain initial experience with the eBike away from busy roads.

Test the various assistance levels, beginning with the lowest level. As soon as you feel confident, you can ride your eBike in traffic like any other bicycle.

Test the range of your eBike in different conditions before planning longer and more demanding trips.

Influences on range

The range is affected by a number of factors, such as:

- Assistance level
- Speed
- Gear shifting behaviour
- Tyre type and tyre pressure
- Age and condition of the battery
- Route profile (gradients) and conditions (road surface)
- Headwind and ambient temperature
- Weight of eBike, rider and luggage

For this reason, it is not possible to predict the range accurately before and during a trip. However, as a general rule:

- With the **same** assistance level on the eBike drive: The less energy you need to exert in order to reach a certain speed (e.g. by changing gears optimally), the less energy the eBike drive will consume and the higher the range per battery charge will be.
- The **higher** the selected assistance level under otherwise constant conditions, the smaller the range will be.

Taking care of your eBike

Please observe the operating and storage temperatures of the eBike components. Protect the drive unit, on-board computer and battery against extreme temperatures (e.g. from intense sunlight without adequate ventilation). Extreme temperatures can cause the components (especially the battery) to become damaged.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

Please have your eBike serviced and repaired by an authorised bicycle dealer.

Maintenance and servicing

Maintenance and cleaning

When changing the bulbs, ensure that they are compatible with the Bosch eBike system (ask your bicycle dealer) and are suitable for the specified voltage. Bulbs must only be replaced with bulbs of the same voltage.

Do not immerse any components, including the drive unit, in water or clean them with pressurised water.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

Please have your eBike serviced and repaired by an authorised bicycle dealer.

After-sales service and advice on using products

If you have any questions about the eBike system and its components, contact an authorised bicycle dealer.

For contact details of authorised bike dealerships, please visit www.bosch-ebike.com.

Disposal



The drive unit, on-board computer incl. operating unit, battery, speed sensor, accessories and packaging should be disposed of in an environmentally correct manner.

Do not dispose of eBikes and their components with household waste.



In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/drained batteries must be collected separately and recycled in an environmentally friendly manner.

Please return Bosch eBike components that are no longer usable to an authorised bicycle dealer.

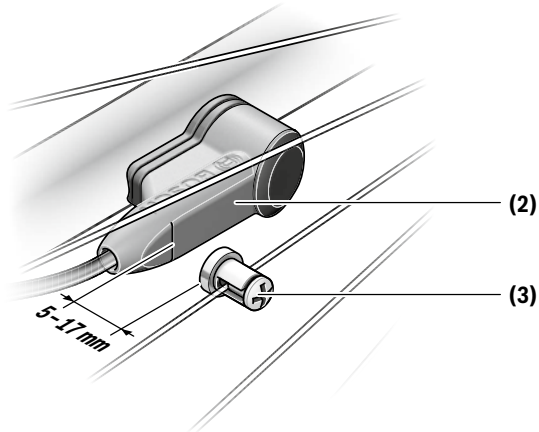
Subject to change without notice.

3.2 Performance Line Speed



Gazelle

A



Safety instructions



Read all the safety information and instructions. Failure to observe the safety information and follow instructions may result in electric shock, fire and/or serious injury.

Save all safety warnings and instructions for future reference.

The term **battery** is used in these instructions to mean all original Bosch eBike rechargeable battery packs.

- ▶ **Do not attempt to change – and especially increase – the power of your drive or the maximum speed that it supports.** Doing this may put yourself and others at risk, and you may also breach statutory regulations.
- ▶ **Do not open the drive unit yourself. The drive unit must only be repaired by qualified personnel using only original spare parts.** This will ensure that the safety of the drive unit is maintained. Unauthorised opening of the drive unit will render warranty claims null and void.
- ▶ **All components fitted to the drive unit and all other components of the eBike drive (e.g. chainring, chainring receptacle, pedals) must only be replaced with identical components or components that have been specifically approved by the manufacturer for your eBike.** This will protect the drive unit from overloading and becoming damaged.
- ▶ **Remove the battery from the eBike before beginning work (e.g. inspection, repair, assembly, maintenance, work on the chain, etc.) on the eBike, transporting it with a car or aeroplane, or storing it.** Unintentional activation of the eBike system poses a risk of injury.
- ▶ **The push assistance function must only be used when pushing the eBike.** There is a risk of injury if the wheels of the eBike are not in contact with the ground while using the push assistance.
- ▶ **When the push assistance is activated, the pedals may turn at the same time.** When the push assistance function is activated, make sure that there is enough space between your legs and the turning pedals to avoid the risk of injury.
- ▶ **After a ride, do not allow your unprotected hands or legs to come into contact with the housing of the drive unit.** Under extreme conditions, such as continuously high torques at low travel speeds, or when riding up hills or carrying loads, the housing may reach a very high temperature.

The temperature that the drive unit housing may reach is influenced by the following factors:

- Ambient temperature
- Ride profile (route/gradient)
- Ride duration
- Assistance modes
- User behaviour (personal effort)
- Total weight (rider, eBike, luggage)
- Motor cover on the drive unit
- Heat dissipation properties of the bicycle frame
- Type of drive unit and type of gear-shifting

- ▶ **Use only original Bosch batteries that the manufacturer has approved for your eBike.** Using other batteries can lead to injuries and pose a fire hazard. Bosch accepts no liability or warranty claims if other batteries are used.
- ▶ **Do not make any modifications to your eBike system or fit any other products that might increase the performance of your eBike system.** Doing so will generally reduce the service life of the system and risks damaging the drive unit and the bike. You also run the risk of losing the guarantee and warranty claims on the bicycle you have purchased. By handling the system improperly you are also endangering your safety and that of other road users, thus running the risk of high personal liability costs and possibly even criminal prosecution in the event of accidents that can be attributed to manipulation of the bicycle.



On sections of the drive, temperatures >60 °C may occur in extreme conditions, e.g. when carrying consistently high loads at low speed when riding up hills or transporting loads.

- ▶ **Observe all national regulations which set out the approved use of eBikes.**
- ▶ **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**

Privacy notice

When you connect the eBike to the Bosch DiagnosticTool, data about the eBike drive unit (e.g. energy consumption, temperature, etc.) is transferred to Bosch eBike Systems (Robert Bosch GmbH) for the purpose of product improvement. You can find more information about this on the Bosch eBike website at www.bosch-ebike.com.

Product description and specifications

Intended use

The drive unit is intended exclusively for driving your eBike and must not be used for any other purpose.

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

Product features

Individual illustrations in these operating instructions may differ slightly from the actual conditions depending on the equipment of your eBike.

The numbering of the components shown refers to the illustrations on the graphics pages at the beginning of the manual.

- (1) Drive unit
- (2) Speed sensor
- (3) Speed sensor spoke magnet

Technical data

Drive unit		Drive Unit Performance Line CX/ Cargo Line	Drive Unit Performance Line Speed/ Cargo Line Speed
Product code		BDU450 CX	BDU490P
Continuous rated power	W	250	250
Torque at drive, max.	Nm	75	75
Rated voltage	V=	36	36
Operating temperature	°C	-5 to +40	-5 to +40
Storage temperature	°C	-10 to +50	-10 to +50
Protection rating		IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)
Weight, approx.	kg	3	3

The Bosch eBike system uses FreeRTOS (see <http://www.freertos.org>).

Bicycle lights ^{A)}			
Voltage approx. ^{B)}		V=	12
Maximum power			
- Front light		W	17.4
- Tail light		W	0.6

A) Depends on legal regulations, not possible in all country-specific models via the eBike battery

B) When changing the bulbs, ensure that they are compatible with the Bosch eBike system (ask your bicycle dealer) and are suitable for the specified voltage. Bulbs must only be replaced with bulbs of the same voltage.

Inserting a bulb incorrectly can cause it to blow.

Assembly

Inserting and removing the battery

For inserting and removing the eBike battery in/from the eBike, please read and observe the battery operating instructions.

Checking the speed sensor (see figure A)

The speed sensor (2) and its spoke magnet (3) must be fitted such that the spoke magnet moves past the speed sensor at a distance of at least 5 mm and at most 17 mm with each rotation of the wheel.

Note: If the distance between the speed sensor (2) and the spoke magnet (3) is too small or too large, or if the speed sensor (2) is not properly connected, the speedometer display will fail and the eBike drive unit will operate in emer-

gency mode.

Should this occur, loosen the screw of the spoke magnet (3) and fasten the spoke magnet to the spoke such that it runs past the marking on the speed sensor at the correct clearance. If the speed is still not being indicated on the speedometer display after doing this, please contact an authorised bicycle dealer.

Operation

Start-up

Requirements

The eBike system can only be activated when the following requirements are met:

- A sufficiently charged battery is inserted (see battery operating instructions).

- The on-board computer is properly inserted in the holder (see on-board computer operating instructions).
- The speed sensor is correctly connected (see "Checking the speed sensor (see figure A)", page English - 2).

Switching the eBike system on/off

The following options are available for **switching on** the eBike system:

- If the on-board computer is already switched on when you insert it into the holder, the eBike system will be activated automatically.
- Once the on-board computer and the eBike battery are fitted, briefly press the on/off button on the on-board computer.
- With the on-board computer inserted, push the on/off button on the eBike battery (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the battery operating instructions).

Note: The eBike system **always** starts in **OFF** mode for drive units with a maximum speed of more than **25 km/h**.

The drive is activated as soon as you start pedalling (except if you are using the push-assistance function, Switching the push assistance on/off). The motor output depends on the settings of the assistance level on the on-board computer.

As soon as you stop pedalling when in normal operation, or as soon as you have reached a speed of **25/45 km/h**, the eBike drive switches off the assistance. The drive is automatically reactivated as soon you start pedalling again and the speed is below **25/45 km/h**.

The following options are available for **switching off** the eBike system:

- Press the on/off button of the on-board computer.
- Switch off the eBike battery using its on/off button (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the bicycle manufacturer operating instructions).
- Remove the on-board computer from its holder.

If the eBike is not moved for approx. 10 min **and** no button is pressed on the on-board computer, the eBike system switches off automatically in order to save energy.

eShift (optional)

eShift is the integration of electronic gear-shifting systems into the eBike system. The eShift components are electrically connected to the drive unit by the manufacturer. The separate operating instructions describe how to operate the electronic gear-shifting systems.

Setting the assistance level

You can set the level at which the eBike drive assists you while pedalling on the on-board computer. The assistance level can be changed at any time, even while cycling.

Note: In some models, the assistance level may be preset and cannot be changed. There may also be fewer assistance levels available than stated here.

The requested motor output appears on the display of the on-board computer. The maximum motor output depends on the selected assistance level.

The following assistance levels are available as a maximum:

- **OFF:** Motor assistance is switched off. The eBike can just be moved by pedalling, as with a normal bicycle. The push assistance cannot be activated at this assistance level.
- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:**
 - SPORT:** Powerful assistance, for mountain biking and cycling in urban traffic
 - eMTB:** Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance (**eMTB** only available in combination with the drive units BDU250P CX, BDU365, BDU450 CX and BDU480 CX. A software update may be required.)
- **TURBO:** Maximum assistance even at high pedalling speeds, for sport cycling

Assistance level	Assistance factor ^{A)}		
	Performance Line (BDU490P)	Performance Line CX (BDU450 CX)	Cargo Line
ECO	60 %	60 %	60 %
TOUR	140 %	140 %	140 %
SPORT/eMTB	240 %	240/140...340 % ^{B)}	240 %
TURBO	340 %	340 %	400 %

A) The assistance factor may vary in some models.

B) Maximum value

Switching the push assistance on/off

The push assistance aids you when pushing your eBike. The speed in this function depends on the selected gear and can reach a maximum of **6 km/h**. The lower the selected gear, the lower the speed of the push assistance function (at full power).

► **The push assistance function must only be used when pushing the eBike.** There is a risk of injury if the wheels of the eBike are not in contact with the ground while using the push assistance.

To **activate** the push assistance, briefly press the **WALK** button on your on-board computer. After activation, press the **+** button within 3 s and keep it pressed. The eBike drive is switched on.

Note: The push assistance cannot be activated at assistance level **OFF**.

The push assistance is **switched off** as soon as one of the following occurs:

- You release the **+** button;
- The wheels of the eBike are locked (e.g. by applying the brakes or hitting an obstacle);
- The speed exceeds 6 km/h.

The push assistance function is subject to local regulations; the way it works may therefore differ from the description above, or the function may even be deactivated completely.

Switching bicycle lights on/off

On the model where the bike lights are powered by the eBike system, the front light and taillight can be switched on and off at the same time via the on-board computer.

Notes on cycling with the eBike system

When does the eBike drive work?

The eBike drive assists your cycling only when you are pedalling. If you do not pedal, the assistance will not work. The motor output always depends on the pedalling force you apply.

If you apply less force, you will receive less assistance than if you apply a lot of force. This applies irrespective of the assistance level.

The eBike drive automatically switches off at speeds over **25/45 km/h**. When the speed falls below **25/45 km/h**, the drive automatically becomes available again.

An exception applies to the push assistance function, in which the eBike can be pushed at low speed without pedalling. The pedals may rotate when the push assistance is in use.

You can also use the eBike as a normal bicycle without assistance at any time, either by switching off the eBike system or by setting the assistance level to **OFF**. The same applies when the battery is drained.

Interaction between the eBike system and gear-shifting

The gear-shifting should be used with an eBike drive in the same way as with a normal bicycle (observe the operating instructions of your eBike on this point).

Irrespective of the type of gear-shifting, it is advisable to briefly stop pedalling when changing gear. This will facilitate the gear change and reduce wear on the powertrain.

By selecting the correct gear, you can increase your speed and range while applying the same amount of force.

Gaining initial experience

We recommend that you gain initial experience with the eBike away from busy roads.

Test the various assistance levels, beginning with the lowest level. As soon as you feel confident, you can ride your eBike in traffic like any other bicycle.

Test the range of your eBike in different conditions before planning longer and more demanding trips.

Influences on range

The range is affected by a number of factors, such as:

- Assistance level
- Speed
- Gear shifting behaviour
- Tyre type and tyre pressure
- Age and condition of the battery
- Route profile (gradients) and conditions (road surface)
- Headwind and ambient temperature
- Weight of eBike, rider and luggage

For this reason, it is not possible to predict the range accurately before and during a trip. However, as a general rule:

- With the **same** assistance level on the eBike drive: The less energy you need to exert in order to reach a certain speed (e.g. by changing gears optimally), the less energy the eBike drive will consume and the higher the range per battery charge will be.
- The **higher** the selected assistance level under otherwise constant conditions, the smaller the range will be.

Taking care of your eBike

Please observe the operating and storage temperatures of the eBike components. Protect the drive unit, on-board computer and battery against extreme temperatures (e.g. from intense sunlight without adequate ventilation). Extreme temperatures can cause the components (especially the battery) to become damaged.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

Please have your eBike serviced and repaired by an authorised bicycle dealer.

Maintenance and servicing

Maintenance and cleaning

When changing the bulbs, ensure that they are compatible with the Bosch eBike system (ask your bicycle dealer) and are suitable for the specified voltage. Bulbs must only be replaced with bulbs of the same voltage.

Do not immerse any components, including the drive unit, in water or clean them with pressurised water.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

Please have your eBike serviced and repaired by an authorised bicycle dealer.

After-sales service and advice on using products

If you have any questions about the eBike system and its components, contact an authorised bicycle dealer.

For contact details of authorised bike dealerships, please visit www.bosch-ebike.com.

Disposal



The drive unit, on-board computer incl. operating unit, battery, speed sensor, accessories and packaging should be disposed of in an environmentally correct manner.

Do not dispose of eBikes and their components with household waste.



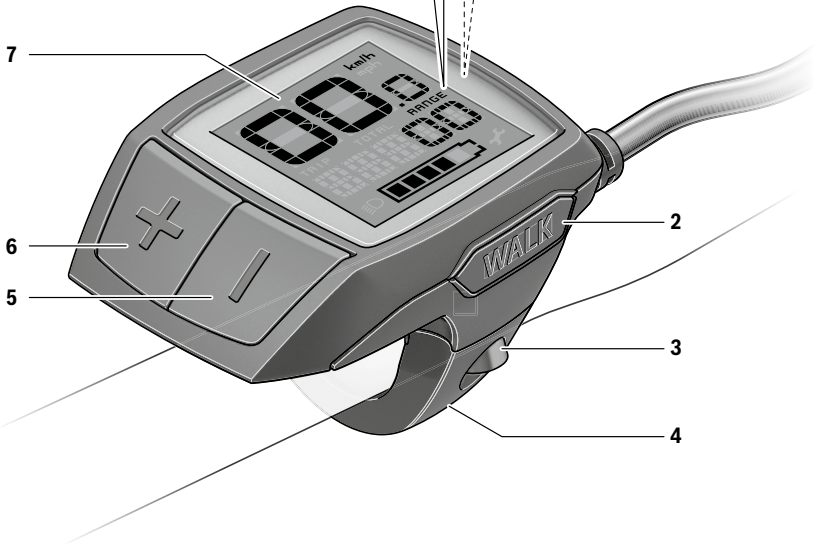
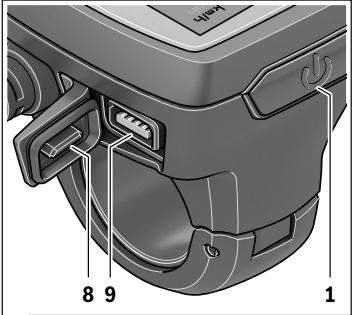
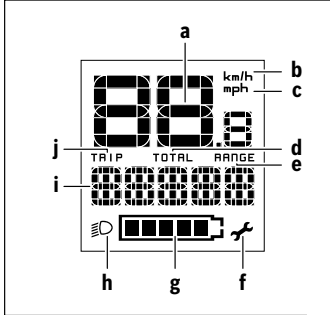
In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/drained batteries must be collected separately and recycled in an environmentally friendly manner.

Please return Bosch eBike components that are no longer usable to an authorised bicycle dealer.

Subject to change without notice.

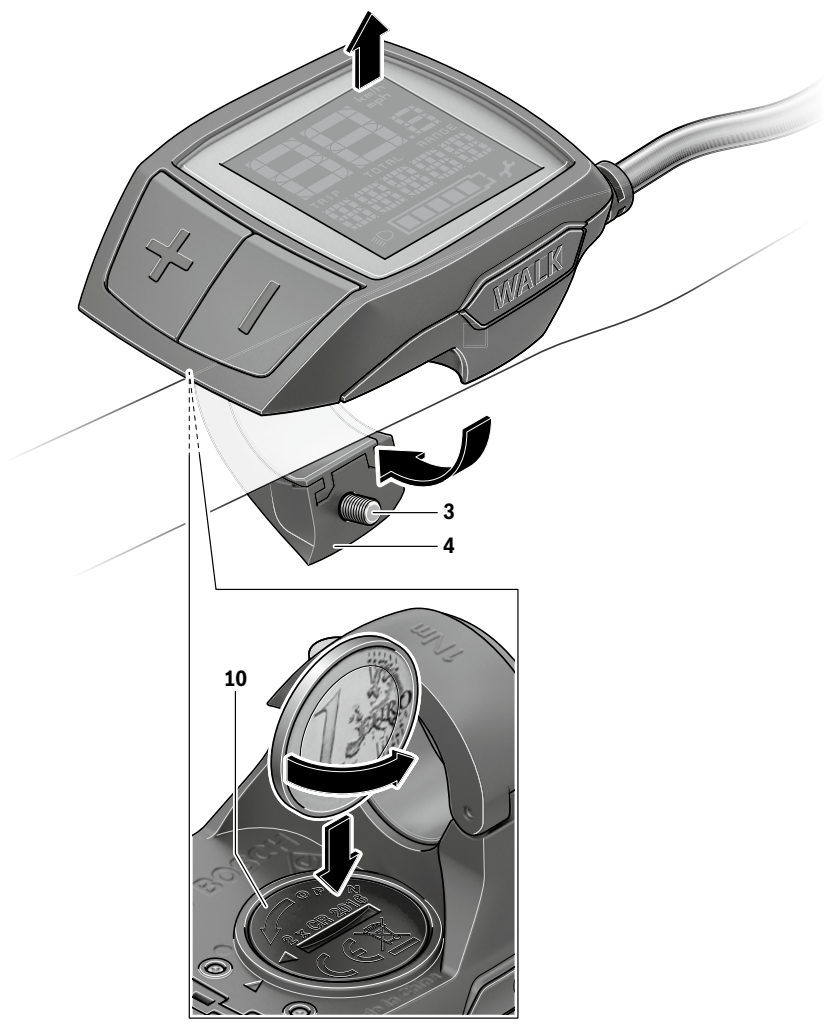
4. Display

4.1 Purion



Gazelle

A



Safety Notes



Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all safety warnings and instructions for future reference.

The term “battery” is used in these instructions to mean all original Bosch eBike rechargeable battery packs.

- ▶ **Make sure to not be distracted by the display of the on-board computer.** If you do not focus exclusively on the traffic, you risk being involved in an accident.
- ▶ **Read and observe the safety warnings and instructions in all operating instructions of the eBike system and in the operating instructions of your eBike.**

Product Description and Specifications

Intended Use

The Purion on-board computer is designed to control Bosch eBike systems and display riding data.

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

Product Features

The numbering of the components shown refers to the illustrations on the graphic pages at the beginning of the manual. Individual illustrations in these operating instructions may differ slightly from the actual circumstances depending on the equipment of your eBike.

- 1 On/Off button for on-board computer
- 2 Push-assistance button “WALK”
- 3 Fastening screw for on-board computer
- 4 Holder for on-board computer
- 5 Decrease assistance level button “-”
- 6 Increase assistance level button “+”
- 7 Display
- 8 Protective cap of USB port
- 9 USB diagnostic socket (for servicing purposes only)
- 10 Battery lid

Display elements of on-board computer

- a Speed indication
- b km/h unit indicator
- c mph unit indicator
- d Total distance indicator “TOTAL”
- e Range indicator “RANGE”
- f Service indicator
- g Battery charge-control indicator
- h Light indicator
- i Assistance level indicator/value indicator
- j Trip distance indicator “TRIP”

Technical Data

On-board computer		Purion
Article number		1 270 020 916/925 1 270 020 917/926
Batteries ¹⁾		2 x 3 V CR2016
Operating temperature	°C	-5 ... +40
Storage temperature	°C	-10 ... +50
Protection type ²⁾		IP 54 (dust and splash water protected)
Weight, approx.	kg	0.1

1) We recommend using the batteries offered by Bosch. You can purchase them from your bicycle dealer (part number: 1 270 016 819).

2) When USB cover is closed

Bosch eBike system uses FreeRTOS (see www.freertos.org)

Operation

Initial Operation

Requirements

The eBike system can only be activated when the following requirements are met:

- A sufficiently charged battery pack is inserted (see battery pack operating instructions).
- The speed sensor is connected properly (see drive unit operating instructions).

Switching the eBike System On/Off

Options for **switching on** the eBike system:

- Press the On/Off button **1** of the on-board computer with the eBike battery pack inserted.
- Press the On/Off button of the eBike battery pack (see battery pack operating instructions).

The drive is activated as soon as you step on the pedals (except for in the push assistance function or in assistance level “OFF”). The motor output depends on the settings of the assistance level on the on-board computer.

As soon as you stop pedaling when in normal operation, or as soon as you have reached a speed of 25/45 km/h, the assistance from the eBike drive is switched off. The drive is automatically re-activated as soon you start pedaling again and the speed is below 25/45 km/h.

Options for **switching off** the eBike system:

- Press the On/Off button **1** of the on-board computer.
- Switch off the eBike battery using its On/Off button (bicycle manufacturer-specific solutions are possible where by there is no access to the battery On/Off button; see the bicycle manufacturer operating instructions).

The system shuts down after being switched off; this takes approximately 3 seconds. It cannot be switched back on immediately until shutdown has been completed.




If the eBike is not moved **and** no button is pressed on the on-board computer for 10 minutes, the eBike system will shut down automatically in order to save energy.

Note: Always switch off the eBike system when you park the eBike.

Note: If the batteries of the on-board computer are empty, you can still switch on your eBike using the bike's battery pack. It is, however, recommended that you replace the internal batteries as soon as possible in order to avoid damage.

Displays and configurations of the on-board computer

Symbols and their meaning

Symbol	Explanation
	short button press (less than 1 second)
	medium button press (between 1 second and 2.5 seconds)
	long button press (longer than 2.5 seconds)

Energy supply of the on-board computer

The on-board computer is supplied with voltage by two CR2016 button cells.

Changing the Batteries (see figure A)

If the on-board computer shows “**LOW BAT**” on the display, remove the on-board computer from the handlebars by unscrewing the fastening screw **3** of the on-board computer. Open the battery lid **10** using a suitable coin, remove the used batteries and insert new CR 2016 batteries. You can obtain the batteries recommended by Bosch from your bicycle dealer.


When inserting batteries, pay attention to the correct polarity.


Close the battery compartment again and fasten the on-board computer to your eBike's handlebars using the fastening screw **3**.


Battery Charge-control Indicator

The battery charge-control indicator **g** displays the charge level of the eBike battery pack. The charge level of the eBike battery pack can also be checked on the LEDs of the battery pack itself.

On indicator **g**, each bar of the battery pack symbol is equivalent to a capacity of approx. 20 %:

 The eBike battery pack is fully charged.

 The eBike battery pack should be recharged.


 The LEDs of the charge-control indicator on the battery extinguish. The capacity for assisting the drive has been used up, and assistance is gently switched off. The remaining capacity is made available for the lighting. The indicator flashes.

The capacity of the eBike battery pack is enough for about 2 hours of lighting.

Switching the Push-assistance mode On/Off

The push-assistance feature makes it easier to push the eBike. The speed in this function depends on the set gear and cannot exceed 6 km/h (max.). The lower the set gear, the lower the speed in the push-assistance function (at full output).

► **The push-assistance function may only be used when pushing the eBike.** Danger of injury when the wheels of the eBike do not have ground contact while using the push-assistance function.

To **activate** the push-assistance function, short-press  the button “**WALK**” on your on-board computer. After activation, press button “**+**” within 3 s and keep it pressed. The eBike drive is switched on.

Note: The push assistance cannot be activated in the “**OFF**” assistance level.

The push assistance is **switched off** as soon as one of the following occurs:

- You release the “**+**” **6** button;
- The wheels of the eBike are prevented from turning (e.g. by braking or being hit by your leg);
- The speed exceeds 6 km/h.

Note: On some systems the push-assistance function can be started directly by pressing the “**WALK**” button.

Setting the Assistance Level



On the on-board computer you can set how much the eBike drive assists you while pedalling. The assistance level can be changed at any time, even while cycling.

Note: For individual versions, it is possible that the assistance level is pre-set and cannot be changed. It is also possible that less assistance levels are available for selection than listed here.



When the eBike is configured in “eMTB Mode” by the manufacturer, the assistance level “SPORT” is replaced by “eMTB”. In “eMTB Mode”, the assistance factor and torque are dynamically adjusted as a function of the force you exert on the pedals. “eMTB Mode” is only available for Performance Line CX drives.

The following assistance levels (max.) are available:

- “OFF”: The motor assistance is switched off, and the eBike can be moved as a normal bicycle only by pedalling. The push assistance cannot be activated in this assistance level.
- “ECO”: Effective assistance at maximum efficiency for maximum cruising range
- “TOUR”: Uniform assistance, for touring with long cruising range
- “SPORT”/“eMTB”:
 “SPORT”: Powerful assistance for sportive riding off road as well as for urban traffic
 “eMTB”: Optimal assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance.
- “TURBO”: Maximum assistance, supporting highest cadence for sportive riding

To **increase** the assistance level, short-press  the button “+” 6 on the on-board computer repeatedly until the required assistance level appears in indicator i. To **decrease** the assistance level, short-press  the button “-” 5.

Switching bike lights on/off

In the version which has the bike lights powered by the eBike system, medium-press  the button “+” to switch on the front and rear lights at the same time. To switch off the bike lights, long-press  the button “+”.



The lighting symbol **h** is displayed when the light is on.


Switching the bike light on and off has no effect on the back lighting of the display.



Displays and configurations of the on-board computer

Speed and Distance Indication

The **speed indication a** always displays the current speed.

Indicator **i** always displays the last setting as standard. Repeatedly medium-press  the button “-” to display the trip distance “TRIP”, the total distance “TOTAL” and the range of the battery pack “RANGE” one after the other. (Short-pressing  the button “-” will decrease the assistance level!)



























The trip distance “TRIP” is reset by simultaneously long-pressing  the buttons “+” and “-”. The display will initially show “RESET”. If you continue to press both buttons, the trip distance “TRIP” will be set to “0”.

You can switch the displayed values from kilometres to miles by holding down button “-”  and briefly pressing the On/Off button 1 .

The versions of the subsystems can be displayed for the purposes of servicing. With the system **switched off**, simultaneously press buttons “-” and “+” and then press the On/Off button 1.

The USB socket is reserved for connecting diagnostic systems. The USB socket does not have any other function.

► **The USB connection must always be completely sealed with the protective cap 8.**

Action	Buttons	Duration
Switch on on-board computer		Any
Switch off on-board computer		Any
Increase assistance	+ 	
Decrease assistance	- 	
Display “TRIP”, “TOTAL”, “RANGE”, assistance modes	- 	
Switch on bike lights	+ 	
Switch off bike lights	+ 	
Reset trip distance	- + 	
Activate push assistance	WALK	1. 
Perform push assistance	+ 	2. Any
Switch from kilometres to miles	- 	1. Hold  2. 
Display the versions ¹⁾²⁾	- + 	1. Hold  2. 
Set display brightness ³⁾	- +   - or +	1. Hold  2. 

1) The eBike system must be switched off.

2) The information is shown as scrolling text.

3) The display must be switched off.

Error Code Indication

The components of the eBike system are continuously and automatically monitored. If an error is detected, the corresponding error code will appear in the speed indication a.

Depending on the type of error, the drive unit is automatically shut off, if required. Continued travel without assistance from the drive unit is possible at any time. However, have the eBike checked before attempting new trips.

► **Have all repairs performed only by an authorised bike dealer.**

Code	Cause	Corrective Measure
410	One or more buttons of the on-board computer are blocked.	Check if any buttons are blocked, e.g. from dirt or debris. Clean the buttons, if required.
414	Connection problem of the operating unit	Have connections and contacts checked.
418	One or more buttons of the operating unit are blocked.	Check if any buttons are blocked, e.g. from dirt or debris. Clean the buttons, if required.
419	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
422	Connection problem of the drive unit	Have connections and contacts checked.
423	Connection problem of the eBike battery pack	Have connections and contacts checked.
424	Communication error among the components	Have connections and contacts checked.
426	Internal time-out error	Restart the system. If the problem persists, contact your Bosch eBike dealer. In this error status, it is not possible to display or adjust the wheel circumference in the basic settings menu.
430	Internal battery pack of the on-board computer is empty.	Charge the on-board computer (in the holder or via the USB port).
431	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
440	Internal error of the drive unit	Restart the system. If the problem persists, contact your Bosch eBike dealer.
450	Internal software error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
460	Error at USB connection	Remove the cable from the USB connection of the on-board computer. If the problem persists, contact your Bosch eBike dealer.
490	Internal error of the on-board computer	Have the on-board computer checked.
500	Internal error of the drive unit	Restart the system. If the problem persists, contact your Bosch eBike dealer.
502	Bike lighting error	Check the light and the associated wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
503	Error of the speed sensor	Restart the system. If the problem persists, contact your Bosch eBike dealer.
510	Internal sensor error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
511	Internal error of the drive unit	Restart the system. If the problem persists, contact your Bosch eBike dealer.
530	Battery pack error	Switch off the eBike, remove the eBike battery pack and reinsert the eBike battery pack. Restart the system. If the problem persists, contact your Bosch eBike dealer.

Code	Cause	Corrective Measure
531	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
540	Temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature. Restart the system. If the problem persists, contact your Bosch eBike dealer.
550	An improper load was detected.	Remove load. Restart the system. If the problem persists, contact your Bosch eBike dealer.
580	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
591	Authentication error	Switch off the eBike system. Remove the battery pack and reinsert it. Restart the system. If the problem persists, contact your Bosch eBike dealer.
592	Incompatible component	Insert a compatible display. If the problem persists, contact your Bosch eBike dealer.
593	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
595, 596	Communication error	Check the wiring to the transmission and restart the system. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery pack error while charging	Unplug the charger from the battery pack. Restart the eBike system. Plug the charger into the battery pack. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery pack error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
603	Internal battery pack error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery pack temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature. Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery pack temperature error while charging	Unplug the charger from the battery pack. Allow the battery pack to cool. If the problem persists, contact your Bosch eBike dealer.
606	External battery pack error	Check the wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
610	Battery pack voltage error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
620	Charging error	Replace the charger. Contact your Bosch eBike dealer.
640	Internal battery pack error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
655	Multiple battery pack errors	Switch off the eBike system. Remove the battery pack and reinsert it. Restart the system. If the problem persists, contact your Bosch eBike dealer.
656	Software version error	Contact your Bosch eBike dealer so that he can perform a software update.
7xx	Transmission error	Please observe the operating instructions provided by the transmission manufacturer.
No display	Internal error of the on-board computer	Restart your eBike system by switching it off and back on.


Maintenance and Service

Maintenance and Cleaning

Do not immerse any components, including the drive unit, in water or clean them with pressurised water.

Clean your on-board computer using a soft cloth dampened only with water. Do not use any detergents.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

The bicycle manufacturer or dealer may also store a distance travelled for the service date in the system. In this case, the on-board computer will show you that the service date is due by displaying **f** “”.

For service or repairs on the eBike, please refer to an authorised bicycle dealer.

After-sales Service and Application Service

In case of questions concerning the eBike system and its components, please refer to an authorised Bosch eBike dealer.

For contact data of authorised Bosch eBike dealers, please refer to **www.bosch-ebike.com**

Disposal



The drive unit, on-board computer including operating unit, battery pack, speed sensor, accessories and packaging should be disposed of in an environmentally correct manner.

Do not dispose of eBikes and their components into household waste!

Only for EC countries:

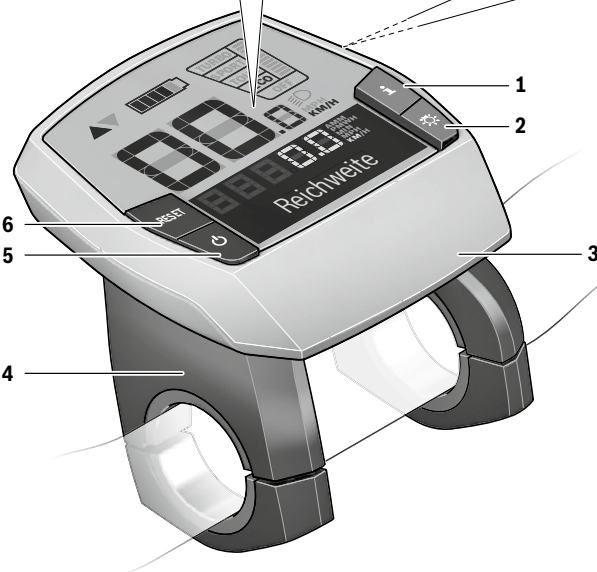
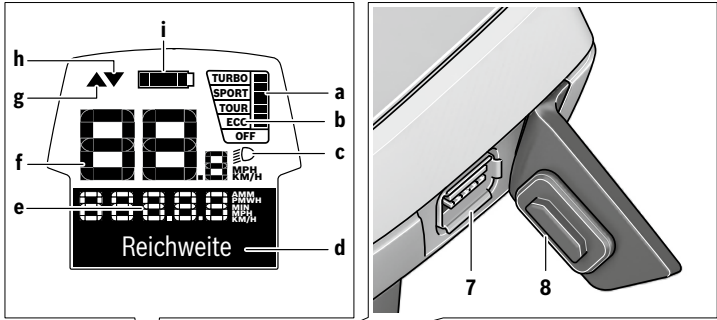


According to the European Guideline 2012/19/EU, electrical devices/tools that are no longer usable, and according to the European Guideline 2006/66/EC, defective or used battery packs/batteries, must be collected separately and disposed of in an environmentally correct manner.

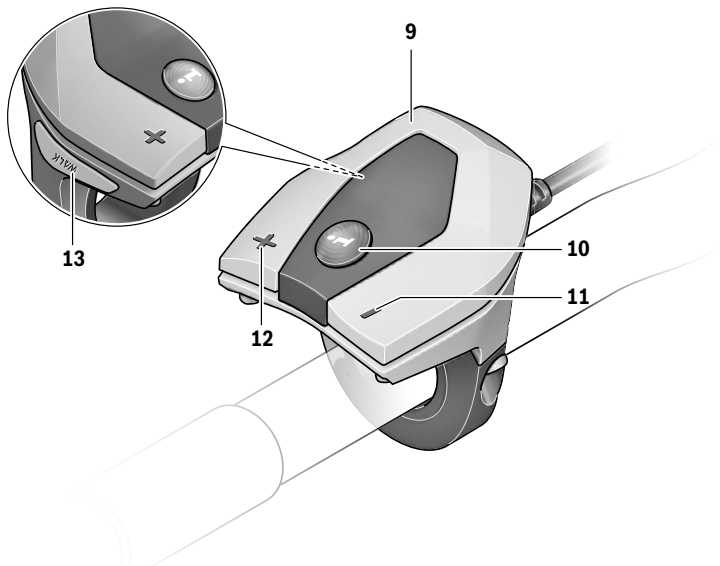
Please return battery packs and on-board computers that are no longer usable to an authorised bicycle dealer.

Subject to change without notice.

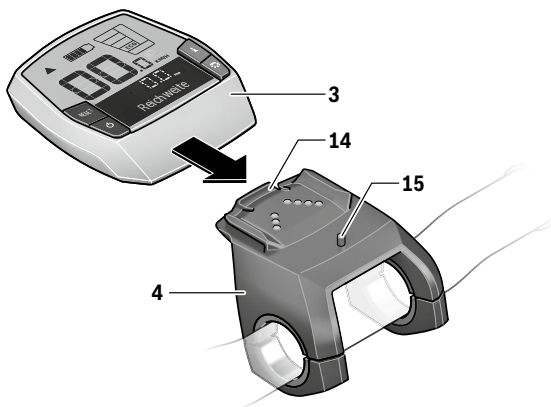
4.2 Intuvia



Gazelle



A



Safety Notes



Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all safety warnings and instructions for future reference.

The term “battery” is used in these instructions to mean all original Bosch eBike rechargeable battery packs.

- ▶ **Do not use the on-board computer as a handle.** Lifting the eBike up by the on-board computer can cause irreparable damage to the on-board computer.
- ▶ **Make sure to not be distracted by the display of the on-board computer.** If you do not focus exclusively on the traffic, you risk being involved in an accident. If you want to make entries in your on-board computer other than switching the assistance level, stop and enter the appropriate data.
- ▶ **Read and observe the safety warnings and instructions in all operating instructions of the eBike system and in the operating instructions of your eBike.**

- 7 USB port
 - 8 Protective cap of USB port
 - 9 Operating unit
 - 10 Display-function button “i” on the operating unit
 - 11 Decrease assistance level/scroll down button “-”
 - 12 Increase assistance level/scroll up button “+”
 - 13 Push-assistance button “WALK”
 - 14 Lock latch for on-board computer
 - 15 Locking screw for on-board computer
- USB charging cable (Micro A – Micro B)*

* not illustrated; available as accessory

Display elements of on-board computer

- a Drive unit assistance indicator
- b Assistance-level indicator
- c Light indicator
- d Text indication
- e Value indication
- f Speed indication
- g Shift recommendation: higher gear
- h Shift recommendation: lower gear
- i Battery charge-control indicator

Product Description and Specifications

Intended Use

The Intuvia on-board computer is designed to control Bosch eBike systems and display riding data.

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

Product Features

The numbering of the components shown refers to the illustrations on the graphic pages at the beginning of the manual. Individual illustrations in these operating instructions may differ slightly from the actual circumstances depending on the equipment of your eBike.

- 1 Display-function button “i”
- 2 Bike lights button
- 3 On-board computer
- 4 Holder for on-board computer
- 5 On/Off button for on-board computer
- 6 “RESET” button

Technical Data

On-board computer		Intuvia
Article number		1 270 020 906/909
Max. charging current, USB connection	mA	500
Charging voltage, USB connection	V	5
USB charging cable ¹⁾		1 270 016 360
Operating temperature	°C	- 5... +40
Storage temperature	°C	- 10... +50
Charging temperature	°C	0... +40
Internal lithium-ion battery	V mAh	3.7 230
Protection type ²⁾		IP 54 (dust and splash water protected)
Weight, approx.	kg	0.15

1) Not included in standard scope of delivery
2) When USB cover is closed

Bosch eBike system uses FreeRTOS (see www.freertos.org)

Assembly

Inserting and removing the battery pack

For inserting and removing the eBike battery pack in/from the eBike, please read and observe the battery pack operating instructions.

Inserting and removing the on-board computer (see figure A)

To **insert** the on-board computer **3**, slide it from the front into the holder **4**.

To **remove** the on-board computer **3**, press the lock latch **14** and slide the on-board computer toward the front out of the holder **4**.

► Remove the on-board computer when you park the eBike.

It is possible to secure the on-board computer against removal in the holder. To do so, remove the holder **4** from the handlebar. Put the on-board computer in the holder. Screw the locking screw **15** (thread M3, 8 mm long) from below into the thread provided in the holder. Mount the holder back onto the handlebar.

Note: The locking screw is not designed to prevent theft.

Operation

Initial Operation

Requirements

The eBike system can only be activated when the following requirements are met:

- A sufficiently charged battery pack is inserted (see battery pack operating instructions).
- The on-board computer is properly inserted in the holder (see “Inserting and removing the on-board computer”, page English – 2).
- The speed sensor is connected properly (see drive unit operating instructions).

Switching the eBike System On/Off

Options for **switching** on the eBike system:

- If the on-board computer is already switched on when you insert it into the holder, then the eBike system will be switched on automatically.
- When the on-board computer and the eBike battery pack are inserted, briefly press the On/Off button **5** of the on-board computer.
- With the on-board computer inserted, push the On/Off button on the eBike battery (bicycle manufacturer solutions are possible whereby there is no access to the battery On/Off button; see the battery operating instructions).

The drive is activated as soon as you step on the pedals (except for in the push assistance function or in assistance level “**OFF**”). The motor output depends on the settings of the assistance level on the on-board computer. As soon as the system is activated, “**Active Line/Performance Line**” will appear briefly on the display.

As soon as you stop pedaling when in normal operation, or as soon as you have reached a speed of 25/45 km/h, the assistance from the eBike drive is switched off. The drive is automatically re-activated as soon you start pedaling again and the speed is below 25/45 km/h.

Options for **switching off** the eBike system:

- Press the On/Off button **5** of the on-board computer.
- Switch off the eBike battery using its On/Off button (bicycle manufacturer-specific solutions are possible whereby there is no access to the battery On/Off button; see the bicycle manufacturer operating instructions).
- Remove the on-board computer out of its holder.

If the eBike is not moved **and** no button is pressed on the on-board computer for 10 minutes, the eBike system will shut down automatically in order to save energy.

eShift (optional)

eShift is the integration of electronic gear shifting systems into the eBike system. The eShift components are electrically connected to the drive unit by the manufacturer. The separate operating instructions describe how to operate the electronic gear-shifting systems.

Displays and configurations of the on-board computer

Energy supply of the on-board computer

If the on-board computer is in the holder **4**, a sufficiently charged battery pack is inserted in the eBike and the eBike system is turned on, then the on-board computer is powered by the battery pack of the eBike.

If the on-board computer is removed from the holder **4**, the energy is supplied via an internal battery pack. If the internal battery pack is weak when the on-board computer is switched on, “**Attach to bike**” will appear in text indication **d** for 3 s. The on-board computer will then turn off again.

To charge the internal battery pack, put the on-board computer back in the holder **4** (when a battery pack is inserted in the eBike). Switch the eBike battery pack on by its On/Off button (see battery pack operating instructions).

You can also charge the on-board computer via the USB port. Open the protective cap **8**. Connect the USB port **7** of the on-board computer via a suitable USB cable to a standard USB charger or the USB port of a computer (5 V charging voltage, max. 500 mA charging current). “**USB connected**” will appear in text indication **d** of the on-board computer.

Switching on/shutting down the on-board computer

To **switch on** the on-board computer, briefly press the On/Off button **5**. The on-board computer can also be switched on when it is not inserted in the holder (if the internal battery pack is sufficiently charged).

To **switch off** the on-board computer, press the On/Off button **5**.

If the on-board computer is not inserted in the holder, it automatically switches off after 1 minute to save energy if no button is pressed.

► **If you are not going to be using your eBike for several weeks, remove the on-board computer from its mount.**


Store the on-board computer in a dry environment at room temperature. Regularly recharge the on-board computer's battery (at least every 3 months).


Battery Charge-control Indicator

The battery charge-control indicator **i** displays the charge level of the eBike battery pack, not that of the on-board computer's internal battery pack. The charge level of the eBike battery pack can also be checked on the LEDs of the battery pack itself.

On indicator **i**, each bar of the battery pack symbol is equivalent to a capacity of approx. 20 %:

 The eBike battery pack is fully charged.


 The eBike battery pack should be recharged.

 The LEDs of the charge-control indicator on the battery pack extinguish. The capacity for assisting the drive has been used up, and assistance is gently switched off. The remaining capacity is made available for the lighting and the on-board computer. The indicator flashes.

The capacity of the eBike battery pack is enough for about 2 hours of lighting. This does not account for other consumers (e.g. automatic gearbox, charging external devices at the USB port).

If the on-board computer is removed from the holder **4**, the last displayed battery charge level is saved.

If an eBike is operated with two battery packs, the battery charge-control indicator **i** displays the level of **both** battery packs.



OF If an eBike has two battery packs inserted into it and both battery packs are charged on the bike, the charging progress of both battery packs will be indicated on the display (the left-hand battery pack is being charged in the illustration). You can tell by the flashing indicator on the battery pack which of the two battery packs is being charged.

Setting the Assistance Level

On the operating unit **9** you can set how much the eBike drive assists you while pedalling. The assistance level can be changed at any time, even while cycling.

Note: For individual versions, it is possible that the assistance level is pre-set and cannot be changed. It is also possible that less assistance levels are available for selection than listed here.

If the manufacturer has configured the eBike with “**eMTB Mode**” and an Intuvia on-board computer is being used on the bicycle, “**eMTB Mode**” will appear briefly on the display when the “**SPORT**” assistance level is selected. In “**eMTB Mode**”, the assistance factor and torque are dynamically adjusted as a function of the force you exert on the pedals. “**eMTB Mode**” is only available for Performance Line CX drives.

The following assistance levels (max.) are available:

- “**OFF**”: The motor assistance is switched off, and the eBike can be moved as a normal bicycle only by pedalling. The push assistance cannot be activated in this assistance level.
- “**ECO**”: Effective assistance at maximum efficiency for maximum cruising range
- “**TOUR**”: Uniform assistance, for touring with long cruising range
- “**SPORT**”/“**eMTB**”: “**SPORT**”: Powerful assistance for sportive riding off road as well as for urban traffic
“**eMTB**”: Optimal assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance.
- “**TURBO**”: Maximum assistance, supporting highest cadence for sportive riding

To **increase** the assistance level, press the “**+**” **12** button on the operating unit until the desired assistance level appears in the display **b**. To **decrease** the assistance level, press the button “**-**” **11**.

The requested motor output is displayed in indicator **a**. The maximum motor output depends on the selected assistance level.

When the on-board computer is removed from the holder **4**, the last indicated assistance level is stored; the motor-output indicator **a** remains empty.

Interaction of the eBike System with the Bicycle Gears

The bicycle gears should be used as with a normal bicycle, even with eBike motor assistance (please observe the operating instructions of your eBike).

Independent of the type of gearing, it is recommended to briefly interrupt the pedaling while changing gears. This makes changing gears easier and reduces the wear of the drive train.

By selecting the right gear, you can increase the speed and range with the same pedaling effort.

For this reason, follow the shift recommendations provided by indications **g** and **h** on your display. If indication **g** is displayed, you should shift to a higher gear with lower cadence. If indication **h** is displayed, you should select a lower gear with higher cadence.

Switching bike lights on/off

In the model in which the lighting is powered by the eBike system, the front and rear lights can be switched on and off at the same time via the on-board computer with button **2**.

When the lighting is switched on “**Lights on**” appears and when the lighting is switched off “**Lights off**” appears for approx. 1 s in text indication **d**. The lighting symbol **c** is displayed when the light is on.

Switching the bike light on and off has no effect on the back lighting of the display.

Switching the Push-assistance mode On/Off

The push-assistance feature makes it easier to push the eBike. The speed in this function depends on the set gear and cannot exceed 6 km/h (max.). The lower the set gear, the lower the speed in the push-assistance function (at full output).

► **The push-assistance function may only be used when pushing the eBike.** Danger of injury when the wheels of the eBike do not have ground contact while using the push-assistance function.

To **activate** the push-assistance function, briefly press button “**WALK**” on your on-board computer. After activation, press button “**+**” within 3 s and keep it pressed. The eBike drive is switched on.

Note: The push assistance cannot be activated in the “**OFF**” assistance level.

The push assistance is **switched off** as soon as one of the following occurs:

- You release the “**+**” **12** button;
- The wheels of the eBike are prevented from turning (e.g. by braking or being hit by your leg);
- The speed exceeds 6 km/h.

Note: On some systems the push-assistance function can be started directly by pressing the “**WALK**” button.

The push-assistance function is subject to local regulations; the way it works may therefore differ from the description above.

Displays and configurations of the on-board computer

Speed and Distance Indication

The **speed indication f** always displays the current speed.

The following functions are available in the **function indication** (combination of text indication **d** and value indication **e**):

- “**Clock**”: Current time
- “**Max. speed**”: Maximum speed achieved since the last reset
- “**Avg. speed**”: Average speed achieved since the last reset

- “**Trip time**”: Trip time since the last reset
- “**Range**”: Estimated range of the available battery-pack charge (for constant conditions such as assistance level, route profile, etc.)
- “**Odometer**”: Display of the total distance travelled with the eBike (cannot be reset)
- “**Trip distance**”: Distance covered since the last reset

To **switch between display functions**, press button “**i**” **1** on the on-board computer or button “**i**” **10** on the operating unit repeatedly until the required function is displayed.

To **reset “Trip distance”, “Trip time” and “Avg. speed”**, switch to any of the three functions and then press and hold the “**RESET**” button **6** until the indication is set to zero. This also resets the values of the other two functions.

To **reset the “Max. speed”**, switch to this function and then press and hold the “**RESET**” button **6** until the indication is set to zero.

To **reset “Range”**, switch to this function and then press the “**RESET**” **6** button until the display is reset to the value of the factory setting.

If the on-board computer is removed from the holder **4**, all values of the features are saved and can still be displayed.

Displaying/Adapting Basic Settings

The basic settings can be displayed and changed regardless of whether the on-board computer is inserted in the holder **4** or not. Some settings are visible and changeable only when the operating computer is inserted. Some menu items may be missing depending on the equipment of your eBike.

To access the basic settings menu, press and hold the “**RESET**” button **6** and the “**i**” button **1** until “**Configuration**” is displayed in text indication **d**.

To **switch between the basic settings**, press button “**i**” **1** on the on-board computer repeatedly until the required basic setting is displayed. If the on-board computer is inserted in the holder **4**, you can also press button “**i**” **10** on the operating unit.



To **change the basic settings**, press the On/Off button **5** next to indication “**-**” to reduce or scroll down, or the lighting button **2** next to indication “**+**” to increase or scroll up.

If the on-board computer is inserted in the holder **4**, it is also possible to change using buttons “**-**” **11** and “**+**” **12** on the operating unit.

To exit the function and save a changed setting, press the “**RESET**” button **6** for 3 s.

The following basic settings are available:

- “**- Clock +**”: The current time can be set here. Pressing and holding the setting buttons fast-forwards the setting speed.
- “**- Wheel circum. +**”: You can change this value pre-set by the manufacturer by $\pm 5\%$. This menu item is displayed only when the on-board computer is in the holder.

- “- **English +**”: You can change the language of the text indications. You can choose between German, English, French, Spanish, Italian, Portuguese, Swedish, Dutch and Danish.
- “- **Unit km/mi +**”: The speed and distance can be displayed either in kilometres or miles.
- “- **Time format +**”: The time can be displayed either in the 12 hour or 24 hour format.
- “- **Shift recom. on/off +**”: You can switch the indication of a shift recommendation on and off.
- “**Power-on hours**”: Indicates the total travel duration with the eBike (not changeable).
- “**Displ. vx.x.x.x**”: This is the software version of the display.
- “**DU vx.x.x.x**”: This is the software version of the drive unit. This menu item is displayed only when the on-board computer is in the holder.
- “**DU# xxxxxxxx**”: This is the serial number of the drive unit. This menu item is displayed only when the on-board computer is in the holder.
- “  **Service MM/YYYY**”: This menu item is displayed when the bike manufacturer has set a fixed service appointment.
- “  **Serv. xx km/mi**”: This menu item is displayed when the bike manufacturer has set a fixed service appointment after a certain mileage has been reached.
- “**Bat. vx.x.x.x**”: This is the software version of the battery pack. This menu item is displayed only when the on-board computer is in the holder.
- “**1. Bat. vx.x.x.x**”: When using 2 battery packs this is the software version of one of the battery packs. This menu item is displayed only when the on-board computer is in the holder.
- “**2. Bat. vx.x.x.x**”: When using 2 battery packs this is the software version of the other battery pack. This menu item is displayed only when the on-board computer is in the holder.

Error Code Indication

The components of the eBike system are continuously and automatically monitored. When an error is detected, the respective error code is indicated in text indication **d**.

Press any button on the on-board computer **3** or on the operating unit **9** to return to the standard indication.

Depending on the type of error, the drive unit is automatically shut off, if required. Continued travel without assistance from the drive unit is possible at any time. However, have the eBike checked before attempting new trips.

► **Have all repairs performed only by an authorised bike dealer.**

Code	Cause	Corrective Measure
410	One or more buttons of the on-board computer are blocked.	Check if any buttons are blocked, e.g. from dirt or debris. Clean the buttons, if required.
414	Connection problem of the operating unit	Have connections and contacts checked.
418	One or more buttons of the operating unit are blocked.	Check if any buttons are blocked, e.g. from dirt or debris. Clean the buttons, if required.
419	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
422	Connection problem of the drive unit	Have connections and contacts checked.
423	Connection problem of the eBike battery pack	Have connections and contacts checked.
424	Communication error among the components	Have connections and contacts checked.
426	Internal time-out error	Restart the system. If the problem persists, contact your Bosch eBike dealer. In this error status, it is not possible to display or adjust the wheel circumference in the basic settings menu.
430	Internal battery pack of the on-board computer is empty.	Charge the on-board computer (in the holder or via the USB port).
431	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
440	Internal error of the drive unit	Restart the system. If the problem persists, contact your Bosch eBike dealer.

Code	Cause	Corrective Measure
450	Internal software error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
460	Error at USB connection	Remove the cable from the USB connection of the on-board computer. If the problem persists, contact your Bosch eBike dealer.
490	Internal error of the on-board computer	Have the on-board computer checked.
500	Internal error of the drive unit	Restart the system. If the problem persists, contact your Bosch eBike dealer.
502	Bike lighting error	Check the light and the associated wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
503	Error of the speed sensor	Restart the system. If the problem persists, contact your Bosch eBike dealer.
510	Internal sensor error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
511	Internal error of the drive unit	Restart the system. If the problem persists, contact your Bosch eBike dealer.
530	Battery pack error	Switch off the eBike, remove the eBike battery pack and reinsert the eBike battery pack. Restart the system. If the problem persists, contact your Bosch eBike dealer.
531	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
540	Temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature. Restart the system. If the problem persists, contact your Bosch eBike dealer.
550	An improper load was detected.	Remove load. Restart the system. If the problem persists, contact your Bosch eBike dealer.
580	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
591	Authentication error	Switch off the eBike system. Remove the battery pack and reinsert it. Restart the system. If the problem persists, contact your Bosch eBike dealer.
592	Incompatible component	Insert a compatible display. If the problem persists, contact your Bosch eBike dealer.
593	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
595, 596	Communication error	Check the wiring to the transmission and restart the system. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery pack error while charging	Unplug the charger from the battery pack. Restart the eBike system. Plug the charger into the battery pack. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery pack error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
603	Internal battery pack error	Restart the system. If the problem persists, contact your Bosch eBike dealer.

Code	Cause	Corrective Measure
605	Battery pack temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature. Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery pack temperature error while charging	Unplug the charger from the battery pack. Allow the battery pack to cool. If the problem persists, contact your Bosch eBike dealer.
606	External battery pack error	Check the wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
610	Battery pack voltage error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
620	Charging error	Replace the charger. Contact your Bosch eBike dealer.
640	Internal battery pack error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
655	Multiple battery pack errors	Switch off the eBike system. Remove the battery pack and reinsert it. Restart the system. If the problem persists, contact your Bosch eBike dealer.
656	Software version error	Contact your Bosch eBike dealer so that he can perform a software update.
7xx	Transmission error	Please observe the operating instructions provided by the transmission manufacturer.
No display	Internal error of the on-board computer	Restart your eBike system by switching it off and back on.

Power Supply of External Devices via USB Connection

With the USB connection, it is possible to operate and charge most devices whose power supply is possible via USB (e.g., various mobile phones).

Prerequisite for charging is that the on-board computer and a sufficiently charged battery pack are inserted in the eBike.

Open the protective cap **8** of the USB port on the on-board computer. Connect the USB connection of the external device to the USB port **7** on the on-board computer using the USB charging cable Micro A – Micro B (available from your Bosch eBike dealer).

Once the consumer has been disconnected, the USB connection must be sealed again carefully with the protective cap **8**.

► **A USB connection is not a waterproof plug-in connection. When riding in the rain, an external device must not be connected and the USB connection must be completely sealed with the protective cap 8.**


Maintenance and Service

Maintenance and Cleaning

Do not immerse any components, including the drive unit, in water or clean them with pressurised water.

Clean your on-board computer using a soft cloth dampened only with water. Do not use any detergents.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

The bicycle manufacturer or dealer may also base the service date on the distance travelled and/or a period of time. In this case, the on-board computer will show you every time it is switched on that the service date is due in the text indication **d** by displaying “ Service” for 4 s.

For service or repairs on the eBike, please refer to an authorised bicycle dealer.

After-sales Service and Application Service

In case of questions concerning the eBike system and its components, please refer to an authorised Bosch eBike dealer.

For contact data of authorised Bosch eBike dealers, please refer to www.bosch-ebike.com

Transport

- ▶ **If you transport your eBike attached to the outside of your car, e.g. on a bike rack, remove the on-board computer and the eBike battery to avoid damaging them.** (If the on-board computer cannot be fitted onto a bracket, it is not possible to remove it from the bicycle. In this case, the on-board computer may remain on the bicycle.)

The battery packs are subject to the Dangerous Goods Legislation requirements. Private users can transport undamaged battery packs by road without further requirements.

When being transported by commercial users or third parties (e.g. air transport or forwarding agency), special requirements on packaging and labelling must be observed (e.g. ADR regulations). If necessary, an expert for hazardous materials can be consulted when preparing the item for shipping.

In case of questions concerning transport of the battery packs, please refer to an authorised Bosch eBike dealer. The Bosch eBike dealers can also provide suitable transport packaging.

Disposal



The drive unit, on-board computer including operating unit, battery pack, speed sensor, accessories and packaging should be disposed of in an environmentally correct manner.

Do not dispose of eBikes and their components into household waste!

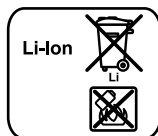
Only for EC countries:



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

The integrated battery pack in the on-board computer may only be removed for disposal. Opening the housing shell can destroy the on-board computer.

Please return battery packs and on-board computers that are no longer usable to an authorised bicycle dealer.

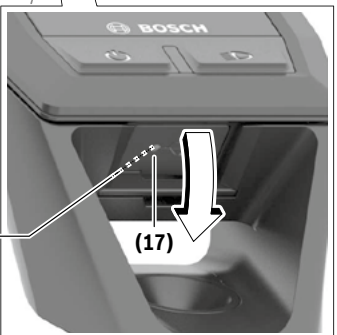
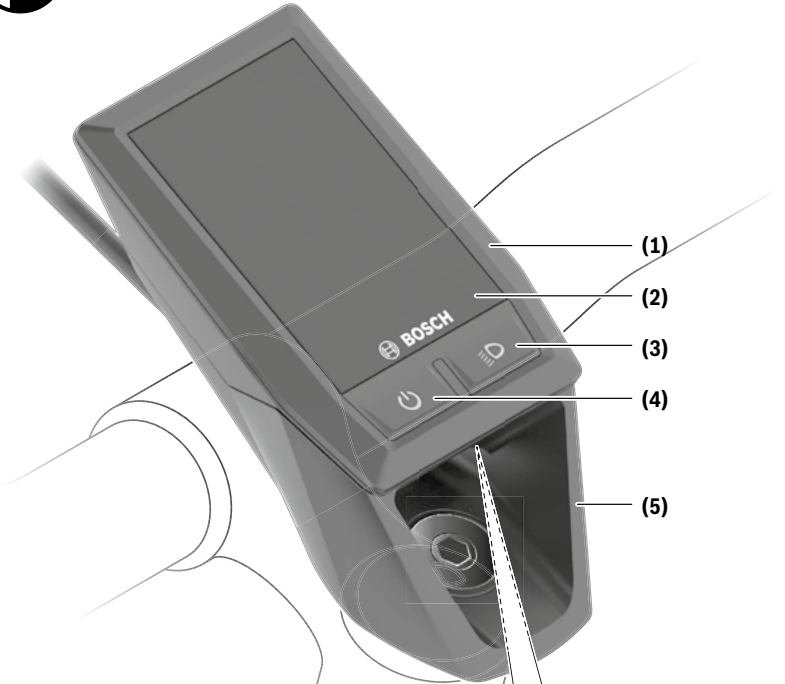


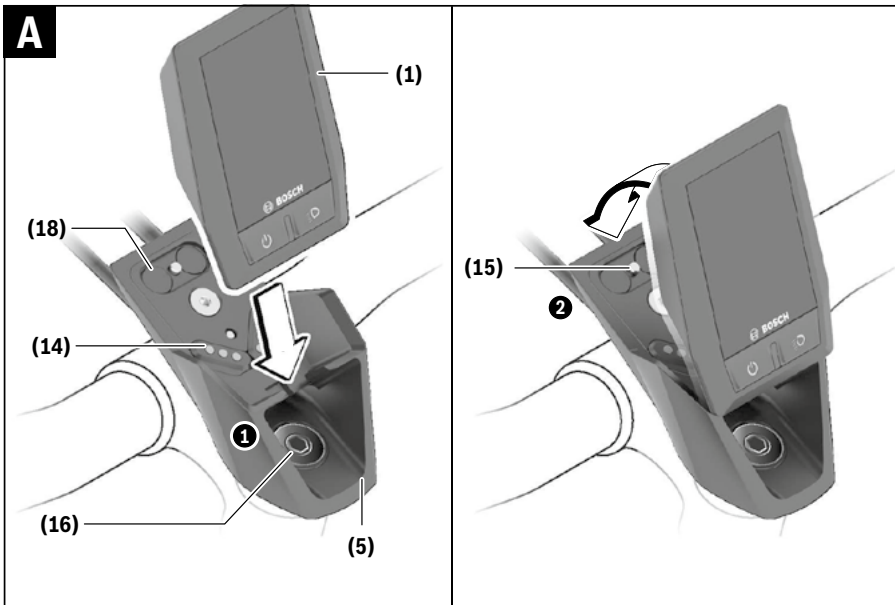
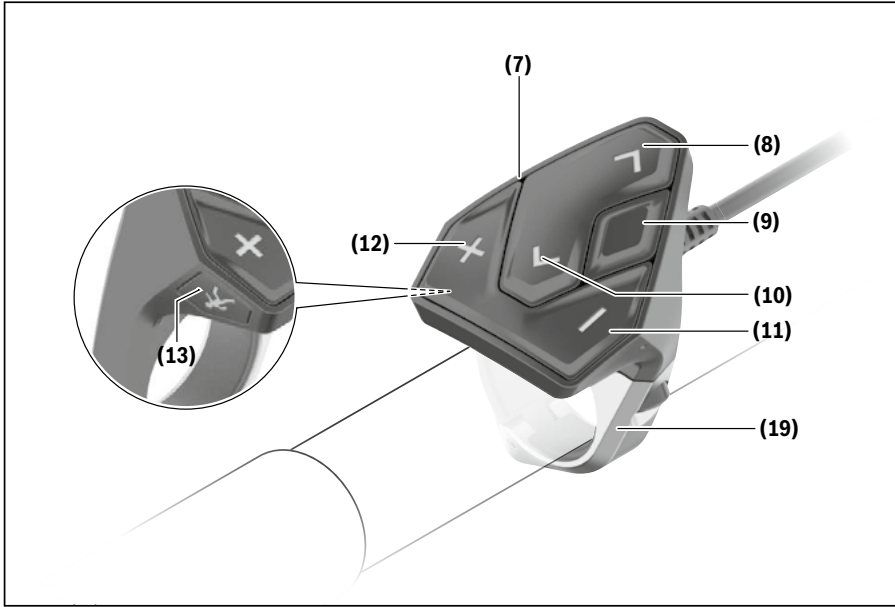
Li-ion:

Please observe the instructions in section "Transport", page English – 8.

Subject to change without notice.

4.3 Kiox





Safety instructions



Read all the safety information and instructions. Failure to observe the safety information and follow instructions may result in electric shock, fire and/or serious injury.

Save all safety warnings and instructions for future reference.

The term **battery** is used in these instructions to mean all original Bosch eBike rechargeable battery packs.

- ▶ **Do not allow yourself to be distracted by the on-board computer's display.** If you do not focus exclusively on the traffic, you risk being involved in an accident. If you want to make entries in your on-board computer other than switching the assistance level, stop and enter the appropriate data.
- ▶ **Do not open the on-board computer.** Opening the on-board computer may damage it beyond repair and void any warranty claims.
- ▶ **Do not use the on-board computer as a handle.** Lifting the eBike up by the on-board computer can cause irreparable damage to the on-board computer.
- ▶ **Do not stand your bicycle upside down on its saddle and handlebars if the on-board computer or its holder protrude from the handlebars.** This may irreparably damage the on-board computer or the holder. Also remove the on-board computer before placing the bicycle on a wall mount to ensure that the on-board computer does not fall off or become damaged.
- ▶ **Caution!** When using the on-board computer with *Bluetooth*[®] and/or WiFi, interference can occur with other devices and equipment, aircraft and medical devices (e.g. pacemakers, hearing aids). Likewise, injury to people and animals in the immediate vicinity cannot be excluded entirely. Do not use the on-board computer with *Bluetooth*[®] in the vicinity of medical devices, petrol stations, chemical plants, areas with a potentially explosive atmosphere or on blast sites. Do not use the on-board computer with *Bluetooth*[®] in aeroplanes. Avoid using the on-board computer near your body for extended periods.
- ▶ The *Bluetooth*[®] word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Bosch eBike Systems is under licence.
- ▶ **The on-board computer is equipped with a wireless interface. Local operating restrictions, e.g. in aeroplanes or hospitals, must be observed.**

Privacy notice

If the on-board computer is sent to Bosch Service because it requires servicing, the data stored on the device may be transmitted to Bosch.

Product description and specifications

Intended use

The Kiox on-board computer is designed to control Bosch eBike systems and display riding data.

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

To access the full functionality of the Kiox on-board computer, you will need a compatible smartphone installed with the eBike Connect app (available from the App Store or Google Play) and a registration with the eBike Connect portal (www.ebike-connect.com).

Product features

The numbering of the components shown refers to the illustrations on the graphics pages at the beginning of the manual.

- (1) On-board computer
- (2) Display
- (3) Bike light button
- (4) On/off button for on-board computer
- (5) Holder for on-board computer
- (6) USB port
- (7) Operating unit
- (8) Next/right page button >
- (9) Select button
- (10) Previous/left page button <
- (11) Decrease assistance level button - / Scroll down button
- (12) Increase assistance level button + / Scroll up button
- (13) Push assistance button
- (14) Drive unit contacts
- (15) Locking screw for on-board computer
- (16) Headset screw
- (17) Protective cover for USB port^{A)}
- (18) Magnetic holder
- (19) Holder for operating unit

A) Available as spare part

Technical data

On-board computer		Kiox
Product code		BUI330
Max. charging current of USB port ^{A)}	mA	1000
USB port charging voltage	V	5
USB charging cable ^{B)}		1 270 016 360
Operating temperature	°C	-5 to +40
Charging temperature	°C	0 to +40
Storage temperature	°C	-10 to +50
Internal lithium-ion battery	V mAh	3.7 230
Protection rating ^{C)}		IP x7 (dustproof, watertight)
Weight, approx.	g	60
<i>Bluetooth® Low Energy</i>		
- Frequency	MHz	2400-2480
- Transmission power	mW	<10

A) At an ambient temperature of <25 °C

B) Not included as part of standard delivery

C) When the USB cover is closed

Declaration of Conformity

Robert Bosch GmbH, Bosch eBike Systems, hereby declares that the **Kiox** radio communication unit complies with Directive 2014/53/EU. The full text of the EU Declaration of Conformity can be accessed at the following Internet address: <https://www.ebike-connect.com/conformity>

Fitting

Fitting and removing the on-board computer (see figure A)

Fit the lower part of the Kiox into the holder (5) first and tilt it forward gently until you can feel that the on-board computer is firmly fixed in the magnetic holder.

To remove the on-board computer, hold it by the top end and pull it towards you until it disengages from the magnetic holder.

► Remove the on-board computer when you park the eBike.

The on-board computer can be secured in place to prevent it from being removed from the holder. To do this, loosen the headset screw (16) until the Kiox holder can be swivelled sideways. Put the on-board computer in the holder. Screw the locking screw (M3 thread, 6 mm long) from below into the thread provided in the on-board computer (using a longer screw may damage the on-board computer). Swivel the holder back into place and tighten the headset screw in accordance with the manufacturer's specifications.

Operation

Before initial commissioning

The **Kiox** is supplied with a partially charged battery. Before using it for the first time, this battery must be charged for at least one hour via the USB port (see "Power supply of the on-board computer", page English – 3) or via the eBike system.

The control unit should be attached such that the buttons are almost perpendicular to the handlebars.

When using the on-board computer for the first time, the language selection page is displayed initially. You can then choose to have essential functions and indications explained via the **<Intro to Kiox>** menu item. The menu item can also be called up at a later time via **<Settings>** → **<Information>**.

Selecting system settings

Fit the on-board computer in the holder and proceed as follows with the bicycle stationary:

Go to the status page (use the **<** button (10) on the control unit to get to the first display) and call up the **<Settings>** with the select button.

You can use the **-** (11) and **+** (12) buttons to select the setting you want. You can open the settings, as well as any additional submenus, using the select button (9). You can use the **<** button (10) to go back to the previous menu from any settings menu.

The following settings can be changed in the **<Sys settings>**:

- **<Brightness>**
- **<Time>**
- **<Date [DD.Mon.YYYY]>**
- **<Time zone>**
- **<24h form (24h time format)>**
- **<Brgh backg. (Bright background)>**
- **<Imp. units (Imperial units)>**
- **<Language>**
- **<Factory reset>**

Starting up the eBike system

Requirements

The eBike system can only be activated when the following requirements are met:

- A sufficiently charged eBike battery is inserted (see operating instructions for the battery).
- The on-board computer is properly fitted to the holder.

Switching the eBike system on/off

The following options are available for **switching on** the eBike system:

- Once the on-board computer and the eBike battery are fitted, briefly press the on/off button (4) on the on-board computer.

- With the on-board computer inserted, push the on/off button on the eBike battery (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the battery operating instructions).

The drive is activated as soon as you start pedalling (except if you are using the push-assistance function or if the assistance level is set to **OFF**). The motor output depends on the settings of the assistance level on the on-board computer. As soon as you stop pedalling when in normal operation, or as soon as you have reached a speed of **25/45 km/h**, the eBike drive switches off the assistance. The drive is automatically reactivated as soon you start pedalling again and the speed is below **25/45 km/h**.

The following options are available for **switching off** the eBike system:

- Briefly press the on/off button **(4)** of the on-board computer.
- Switch off the eBike battery using its on/off button (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the bicycle manufacturer operating instructions).
- Remove the on-board computer from its holder.

If no power is drawn from the eBike drive for about 10 minutes (e.g. because the eBike is not moving) and no button is pressed on the on-board computer or the operating unit of the eBike, the eBike system, and therefore also the battery, will switch off automatically to save energy.

Power supply of the on-board computer

If the on-board computer is in the holder **(5)**, a sufficiently charged eBike battery is inserted into the eBike and the eBike system is switched on, then the on-board computer battery is powered by the eBike battery.

If the on-board computer is removed from the holder **(5)**, the power is supplied by the on-board computer battery. If the on-board computer battery's charge is running low, a warning message appears on the display.

To charge the on-board computer battery, slide the on-board computer back onto the holder **(5)**. Note that if you do not charge the eBike battery straight away, the eBike system will automatically switch off after 10 minutes of inactivity. If this happens, the on-board computer battery will also stop charging.

You can also charge the on-board computer via the USB port. To do this, open the protective cover **(17)**. Use a Micro-USB cable to connect the USB port **(6)** on the on-board computer to a commercially available USB charger (not included with the product as standard) or to the USB port of a computer (max. 5 V charging voltage; max. 500 mA charging current).

If the on-board computer is removed from the holder **(5)**, all values for the functions are saved and can still be scrolled through.

If the Kiox battery is not recharged, the date and time will be retained for up to six months. When the on-board computer is switched on again, the date and time will be reset if a

Bluetooth® connection to the app has been established and the smartphone has successfully identified the current location via GPS.

Note: The Kiox **only** charges while it is switched on.

Note: If the Kiox is switched off during charging via a USB cable, the Kiox can only be switched on again once the USB cable has been disconnected.

Note: To maximise the lifespan of the on-board computer's battery, it should be recharged for one hour every three months.

Storage mode/resetting the Kiox

The on-board computer has an energy-saving storage mode which minimises the rate at which the internal battery discharges. Setting to this mode erases the date and time.

This mode can only be activated by pressing and holding the on/off button **(4)** of the on-board computer for at least eight seconds.

If the on-board computer does not start when the on/off button **(4)** is pressed briefly, the on-board computer is in storage mode.

You can deactivate storage mode by pressing the on/off button **(4)** for at least two seconds.

The on-board computer detects whether it is in a fully functional condition. If you press and hold the on/off button **(4)** for at least eight seconds while in a fully functional condition, the on-board computer will go into storage mode. If, contrary to expectations, the Kiox is not in a fully functional condition and cannot be operated, pressing and holding the on/off button **(4)** (for at least eight seconds) will reset it. After being reset, the on-board computer will restart automatically after approx. five seconds. If the Kiox does not restart, press the on/off button **(4)** for two seconds.

To reset the Kiox to its factory settings, select **<Settings>** → **<Sys settings>** → **<Factory reset>**. All user data will be lost.

Battery charge indicator

The battery charge indicator of the eBike battery **d** (see "Start page", page English – 6) can be read on the status page and in the status bar. The eBike battery's state of charge is also indicated by the LEDs on the eBike battery itself.

Colour of the indicator d	Explanation
White	The eBike battery is over 30 % charged.
Yellow	The eBike battery is over 15 % charged.
Red	The capacity for assisting the drive has been used up, and assistance is switched off. The remaining capacity will be provided for the bike lights and the on-board computer.

If the eBike battery is being charged on the wheel, a corresponding notification will be displayed.

If the on-board computer is removed from the holder **(5)**, the state of charge that was last displayed for the battery is saved.

Setting the assistance level

On the operating unit **(7)**, you can set the level of assistance you want the eBike drive to provide you with while pedalling. The assistance level can be changed at any time, even while cycling.

Note: In some models, the assistance level may be preset and cannot be changed. There may also be fewer assistance levels available than stated here.

The following assistance levels are available as a maximum:

- **OFF:** Motor assistance is switched off. The eBike can just be moved by pedalling, as with a normal bicycle. The push assistance cannot be activated at this assistance level.
- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:**
 - SPORT:** Powerful assistance, for mountain biking and cycling in urban traffic
 - eMTB:** Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance (**eMTB** only available in combination with the drive units BDU250P CX, BDU365, BDU450 CX and BDU480 CX. A software update may be required.)
- **TURBO:** Maximum assistance even at high pedalling speeds, for sport cycling

To **increase** the assistance level, press the **+ (12)** button on the operating unit repeatedly until the desired assistance level appears on the display. To **decrease** the assistance level, press the **- (11)** button.

The requested motor output appears on the display **h**. The maximum motor output depends on the selected assistance level.

If the on-board computer is removed from the holder **(5)**, the assistance level that was last displayed for the battery is saved.

Switching the push assistance on/off

The push assistance aids you when pushing your eBike. The speed in this function depends on the selected gear and can reach a maximum of **6 km/h**. The lower the selected gear, the lower the speed of the push assistance function (at full power).

► **The push assistance function must only be used when pushing the eBike.** There is a risk of injury if the wheels of the eBike are not in contact with the ground while using the push assistance.

To **activate** the push assistance, briefly press the **WALK** button on your on-board computer. After activation, press the **+** button within 3 s and keep it pressed. The eBike drive is switched on.

Note: The push assistance cannot be activated at assistance level **OFF**.

The push assistance is **switched off** as soon as one of the following occurs:

- You release the **+** button;
- The wheels of the eBike are locked (e.g. by applying the brakes or hitting an obstacle);
- The speed exceeds **6 km/h**.

The push assistance function is subject to local regulations; the way it works may therefore differ from the description above, or the function may even be deactivated completely.

Switching bicycle lights on/off

On the model in which the lighting is powered by the eBike system, the front and rear lights can be switched on and off at the same time via the on-board computer using the bike light button **(3)**.

With the light switched on, the lighting **c** indicator (see "Start page", page English – 6) appears in the status bar on the display.

Switching the bike lights on and off has no effect on the backlighting of the display.

Creating a user ID

In order to use all the features of the operating system, you must also register online.

With a user ID, you can analyse your ride data and routes, among other things.

You can set up a user ID via your **Bosch eBike Connect** smartphone app or simply at www.eBike-Connect.com. Enter the details required for registration. The **Bosch eBike Connect** smartphone application is available to download free of charge from the App Store (for Apple iPhones) or from the Google Play store (for Android devices).

Connecting to the on-board computer using the Bosch eBike Connect app

Follow these steps to establish a connection to your smartphone:

- Load the app.
- Select the tab **<My eBike>**.
- Select **<Add new eBike device>**.
- Add **Kiox**.

The app will then display an instruction to press and hold the bike lighting button **(3)** on the on-board computer for five seconds.

Press and hold the button **(3)** for at least five seconds. The on-board computer automatically activates the **Bluetooth® Low Energy** connection and switches to pairing mode.

Follow the instructions on the screen. Once pairing is complete, the user data is synchronised.

Note: The **Bluetooth®** connection does not have to be activated manually.

Activity tracking

In order to record activities, you must be registered with and logged into the eBike Connect portal and the eBike Connect app.

To record activities, you must consent to the storage of your location data either in the portal or the app. Without this, your activities will not be shown in the portal or the app. Your position is only recorded if the on-board computer is connected to the eBike Connect app.

Once synchronisation is complete, the activities will be displayed in the app and in the portal.

eShift (optional)

eShift is the integration of electronic gear-shifting systems into the eBike system. The eShift components are electrically connected to the drive unit by the manufacturer. The separate operating instructions describe how to operate the electronic gear-shifting systems.

eSuspension (optional)

eSuspension is the integration of electronic shock absorption and suspension elements into the eBike system. You can use the **Quick Menu** to select predefined settings for the eSuspension system.

For details of these settings, please refer to the operating instructions provided by the eSuspension manufacturer.

eSuspension is only available in combination with the Kiox on-board computer and can only be used with the BDU450 CX, BDU480 CX and BDU490P drive units.

ABS – anti-lock braking system (optional)

If the wheel is fitted with a Bosch eBike ABS with no external control lights, the control lights will be shown on the display when the system starts and in the event of a fault. For detailed information on the ABS and how it works, please refer to the ABS operating instructions.

Lock (premium function)

You can buy this function from the **<Shop>** in the eBike Connect app. Once the Lock function is switched on, the eBike drive unit assistance is deactivated. It can only then be activated using the on-board computer associated with the eBike.

Detailed operating instructions can be found online at www.Bosch-eBike.com/Kiox-manual.

Software updates

Software updates are transferred to the on-board computer in the background of the app as soon as it is connected to the app. When an update is complete, this will be displayed the next **three times** the on-board computer is restarted.

Alternatively, you can check in the **<Sys settings>** whether an update is available.

Powering external devices via the USB port

The USB port can be used to operate or charge most devices that can be powered via USB (e.g. various mobile phones).

Charging requires the on-board computer to be mounted and a sufficiently charged battery to be inserted in the eBike. Open the protective cover **(17)** for the USB port on the on-board computer. Use a Micro-A – Micro-B USB charging cable (available from your Bosch eBike dealer) to connect the USB port on the external device to the USB port **(6)** on the on-board computer.

Once the electrical load has been disconnected, the USB port must be carefully resealed with the protective cover **(17)**.

USB connections are not waterproof. When cycling in the rain, do not connect any external devices and make sure that the USB port is fully sealed by the protective cover (17).

Important: If electrical loads are connected, this can affect the range of the eBike.

Displays and settings of the on-board computer

Please note: All screenshots showing the display and text on the following pages are from the approved software version. The display and/or text may change slightly following a software update.

Operating logic

You can use the < (10) and > (8) buttons to switch between the different riding value information pages (even while riding). This way, you can keep both hands on the handlebars while cycling.

You can use the + (12) and - (11) buttons to increase or decrease the assistance level. If you are in a list (e.g. the <Settings> menu), you can use these buttons to scroll up or down in the list.

The <Settings> that can be accessed via the status page cannot be changed while riding.

You can use the select button (9) to perform the following functions:

- You can access the quick menu while riding.
- You can access the settings menu from the status page while stationary.
- You can confirm values and acknowledge informative hints.
- You can exit a dialogue.

If the on-board computer is removed from its holder and not switched off, it will display information regarding the last journey, as well as status information, on a loop.

If no button is pressed after the on-board computer is removed from the holder, it will switch itself off after one minute.

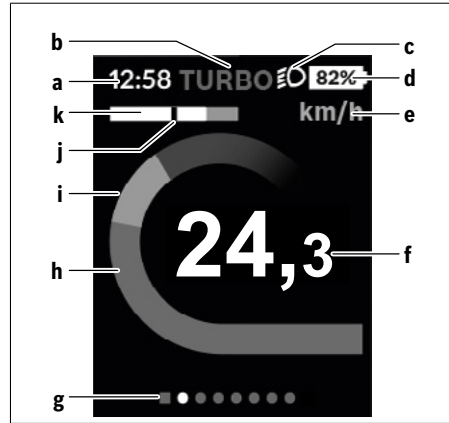
Order of pages

Provided the on-board computer is fitted to the holder, you can view the following displays one after the other:

1. Start page
2. Time and range
3. Distance and journey time
4. Power and cadence
5. Average and maximum speed
6. Distance, range, power and heart rate
7. Heart rate
8. Calories burnt and total distance
9. Status page

Start page

When you insert the on-board computer into the holder while it is switched on, it will display the start page.



- a Time/speed indicator
- b Assistance level indicator
- c Lighting indicator
- d Battery charge indicator of the eBike battery
- e Unit of speed indicator^{A)}
- f Speed
- g Navigation bar
- h Motor output
- i Your performance
- j Average speed
- k Performance evaluation

A) Can be changed via the <Settings> status page.

The **a** and **d** indicators form the status bar and are shown on every page. If the speed is already being displayed on the screen itself, the **a** indicator will change to the current time in hours and minutes. The status bar displays:

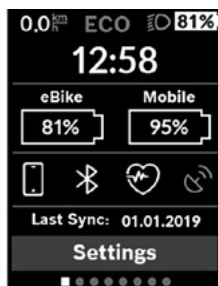
- **Speed/time:** The current speed in km/h or mph or the current time
- **Assistance level:** Indicates the current level of assistance using a colour code
- **Light:** A symbol that indicates whether the light is on
- **eBike battery state of charge:** Indicates the current state of charge as a percentage

The performance evaluation **k** graphically displays your current speed (white bar) in comparison to your average speed **j**. The graphic shows you whether your current speed is faster or slower than your average speed (left of the black line = lower than average value; right of the black line = higher than average value).

The navigation bar **g** indicates which page you are on. Your current page is highlighted. You can use the (10) < and (8) > buttons to go to different pages.

From the initial start page, you can access the status page via the < (10) button.

Status screen



As well as the status bar, the status page also shows you the current time and the state of charge of all your eBike's batteries, as well as the state of charge of your smartphone battery if the smartphone is connected via *Bluetooth*[®].

It may also display symbols to indicate an activated *Bluetooth*[®] function or a device connected via *Bluetooth*[®] (e.g. a heart-rate monitor). You will also be shown the date of the most recent synchronisation between the smartphone and Kiox.

You can access the **<Settings>** from the bottom section.

<Settings>

You can access the settings menu via the status page. The **<Settings>** cannot be accessed or changed while riding.

You can use the – (11) and + (12) buttons to select the setting you want. You can open the settings, as well as any additional submenus, using the select button (9). You can use the < button (10) to go back to the previous menu from any settings menu.

You can find the following superordinate sections on the first navigation level:

- **<Registration>** – Information about registration:
This menu item is only displayed if you have not yet registered with eBike Connect.
- **<My eBike>** – Settings for your eBike
You can reset the counters (such as the number of kilometres travelled that day or average values) to zero either automatically or manually, and you can reset the range. You can change the wheel circumference value that was preset by the manufacturer by $\pm 5\%$. If your eBike features **eShift**, you can also configure your eShift system here. The bicycle manufacturer or dealer may base the service date on the distance travelled and/or a period of time. The due date for the service is displayed under **<Next Service: [DD. Mon. YYYY] or at [xxxxx] [km]>**. The bike component page displays the serial number and hardware and software versions for each component in addition to other key data which is relevant for the components.
- **<My profile>** – Active user data
- **<Bluetooth>** – Switching the *Bluetooth*[®] function on or off:
Connected devices are displayed.

- **<Sys settings>** – A list of setting options for your on-board computer
You can display the speed and distance in kilometres or miles, display the clock in 12- or 24-hour format, adjust the time, date and time zone and select your preferred language. You can reset the Kiox to its factory settings, run a software update (if available) and choose between a black or white design.
- **<Information>** – Information about your Kiox
Information on FAQs (frequently asked questions), certification, contact information, information on licences
You can find a detailed description of each parameter in the online operating instructions at www.Bosch-eBike.com/Kiox-manual.

Quick Menu

Selected settings are displayed on the **Quick Menu**. These settings can be changed even while riding.

You can access the **Quick Menu** via the select button (9). It cannot be accessed from the **Status screen**.

The following settings can be changed via the **Quick Menu**:

- **<Reset trip data?>**
All data on the journey so far is reset to zero.
- **<eShift>**
You can set the cadence here.
- **<eSuspension>**
This is where you can set a manufacturer-defined shock absorption or suspension mode.

Error code display

The eBike system's components are continuously and automatically monitored. If an error is detected, the corresponding error code is displayed on the on-board computer.

The drive may be automatically shut down, depending on the type of error. However, if you wish to continue cycling, you

will always be able to do so without assistance from the drive. Before undertaking any other journeys, the eBike should be checked.

► **Have all repairs performed only by an authorised bike dealer.**

Code	Cause	Corrective measures
410	One or more buttons of the on-board computer are disabled.	Check whether any buttons are stuck, e.g. as a result of dirt finding its way in. Clean the buttons if need be.
414	Operating unit connection problem	Have the connections checked
418	One or more buttons on the operating unit are disabled.	Check whether any buttons are stuck, e.g. as a result of dirt finding its way in. Clean the buttons if need be.
419	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
422	Drive unit connection problem	Have the connections checked
423	eBike battery connection problem	Have the connections checked
424	Communication problem between components	Have the connections checked
426	Internal time-out error	Restart the system. If the problem persists, contact your Bosch eBike dealer. With this error, it is not possible to bring up the wheel circumference in the basic settings menu or to adjust it.
430	Internal battery of the on-board computer is flat	Charge the on-board computer (in the holder or via the USB port)
431	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
440	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
450	Internal software error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
460	Error at USB port	Remove the cable from the USB port of the on-board computer. If the problem persists, contact your Bosch eBike dealer.
490	Internal fault of the on-board computer	Have the on-board computer checked
500	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
502	Bike light fault	Check the light and the associated wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
503	Speed sensor fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
504	Speed signal distortion detected.	Check that the spoke magnet is positioned correctly, and adjust it if necessary. Check that nothing has been tampered with (tuning). Drive assistance is reduced.
510	Internal sensor fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
511	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
530	Battery fault	Switch off the eBike, remove the eBike battery and reinsert the eBike battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
531	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.

Code	Cause	Corrective measures
540	Temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature range. Restart the system. If the problem persists, contact your Bosch eBike dealer.
550	An impermissible load has been detected.	Remove the load. Restart the system. If the problem persists, contact your Bosch eBike dealer.
580	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
591	Authentication error	Switch off the eBike system. Remove then reinsert the battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
592	Incompatible component	Use a compatible display. If the problem persists, contact your Bosch eBike dealer.
593	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
595, 596	Communication error	Check the wiring to the transmission and restart the system. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
603	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery temperature error	The battery is outside of the permissible temperature range. Switch off the eBike system and allow the battery to either cool down or heat up to the permissible temperature range. Restart the system. If the problem persists, contact your Bosch eBike dealer.
606	External battery fault	Check the wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
610	Battery voltage error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
620	Charger fault	Replace the charger. Contact your Bosch eBike dealer.
640	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
655	Multiple battery faults	Switch off the eBike system. Remove then reinsert the battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
656	Software version error	Contact your Bosch eBike dealer so that they can perform a software update.
7xx	Transmission fault	Please observe the operating instructions provided by the transmission manufacturer.
800	Internal ABS fault	Contact your Bosch eBike dealer.
810	Implausible signals from the wheel speed sensor	Contact your Bosch eBike dealer.
820	Fault in the wire to the front wheel speed sensor	Contact your Bosch eBike dealer.
821 to 826	Implausible signals from the front wheel speed sensor The sensor disc may be missing, defective or fitted incorrectly; there is a significant difference in diameter between the front wheel and the rear wheel; extreme riding	Restart the system and carry out a test ride lasting at least two minutes. The ABS indicator light must go out. If the problem persists, contact your Bosch eBike dealer.

Code	Cause	Corrective measures
	situation, e.g. riding solely on the rear wheel	
830	Fault in the wire to the rear wheel speed sensor	Contact your Bosch eBike dealer.
831 833 to 835	Implausible signals from the rear wheel speed sensor The sensor disc may be missing, defective or fitted incorrectly; there is a significant difference in diameter between the front wheel and the rear wheel; extreme riding situation, e.g. riding solely on the rear wheel	Restart the system and carry out a test ride lasting at least two minutes. The ABS indicator light must go out. If the problem persists, contact your Bosch eBike dealer.
840	Internal ABS fault	Contact your Bosch eBike dealer.
850	Internal ABS fault	Contact your Bosch eBike dealer.
860, 861	Fault in the power supply	Restart the system. If the problem persists, contact your Bosch eBike dealer.
870, 871 880 883 to 885	Communication error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
889	Internal ABS fault	Contact your Bosch eBike dealer.
890	ABS indicator light is defective or missing; ABS may not be working.	Contact your Bosch eBike dealer.
No display	Internal fault of the on-board computer	Restart your eBike system by switching it off and back on.

Maintenance and servicing

Maintenance and cleaning

Do not clean any of the components with pressurised water. Keep the screen of your on-board computer clean. Dirt can cause faulty brightness detection.

Clean your on-board computer using a soft cloth dampened only with water. Do not use cleaning products of any kind.

Have your eBike system checked by an expert at least once a year (including mechanical parts, up-to-dateness of system software).

In addition, the bicycle dealer may base the service date on the distance travelled and/or on a period of time. In this case, the on-board computer displays a message telling you when the service date is due each time it is switched on.

Please have your eBike serviced and repaired by an authorised bicycle dealer.

- **Have all repairs performed only by an authorised bike dealer.**

After-sales service and advice on using products

If you have any questions about the eBike system and its components, contact an authorised bicycle dealer.

For contact details of authorised bike dealerships, please visit www.bosch-ebike.com.

Transport

- **If you transport your eBike attached to the outside of your car, e.g. on a bike rack, remove the on-board computer and the eBike battery to avoid damaging them.**

Disposal



The drive unit, on-board computer incl. operating unit, battery, speed sensor, accessories and packaging should be disposed of in an environmentally correct manner.

Do not dispose of eBikes and their components with household waste.

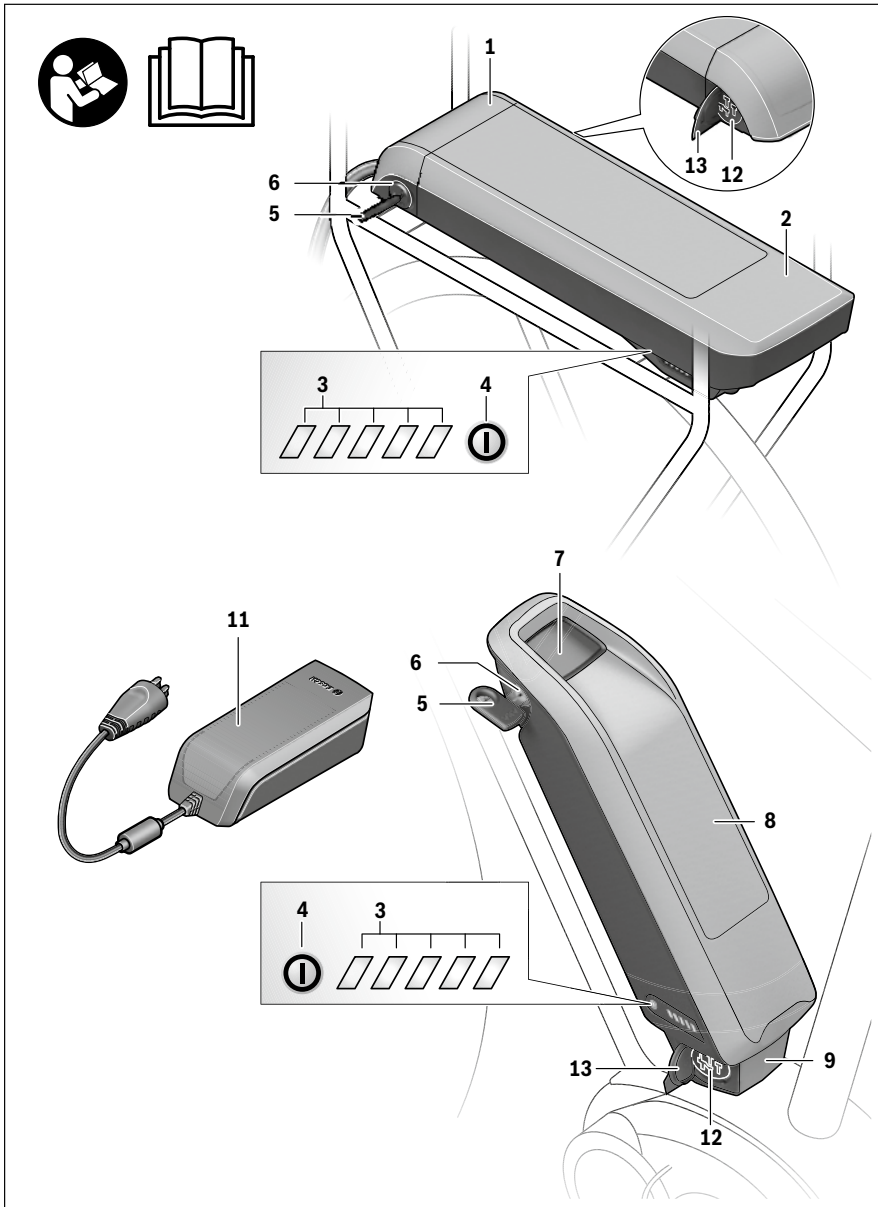


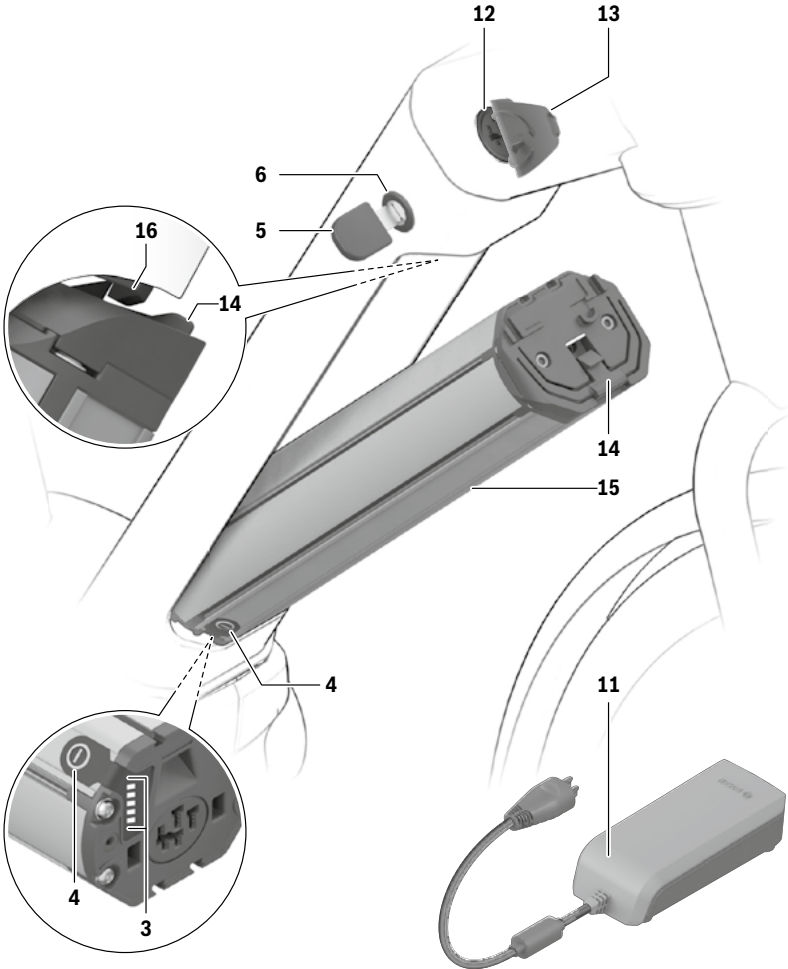
In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/drained batteries must be collected separately and recycled in an environmentally friendly manner.

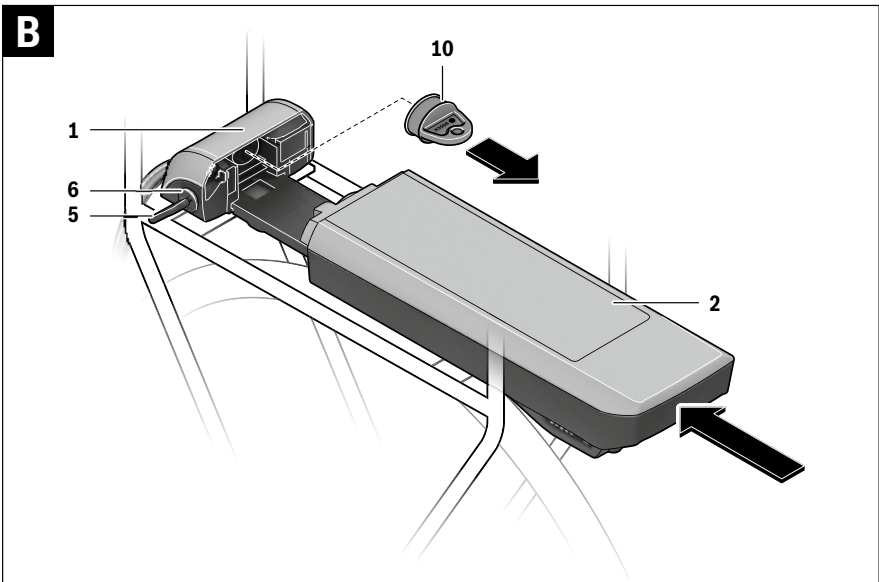
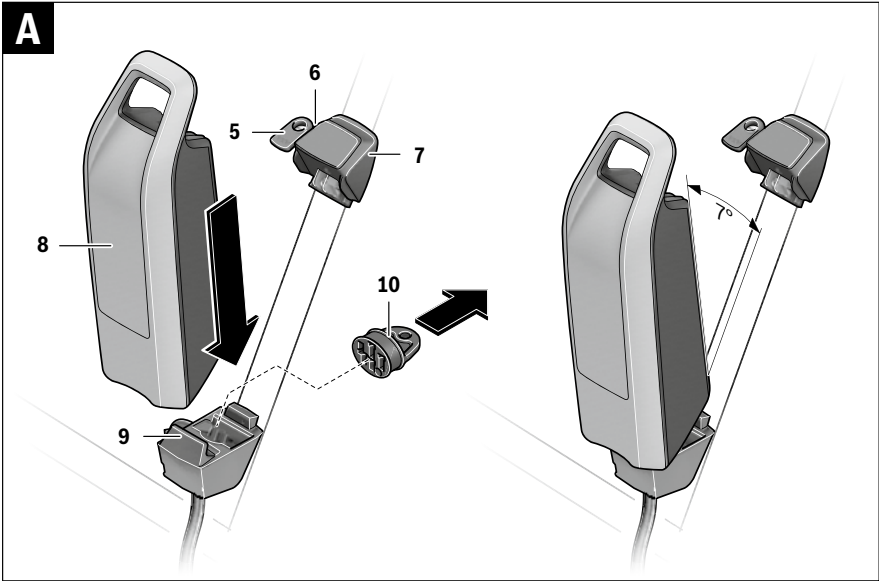
Please return Bosch eBike components that are no longer usable to an authorised bicycle dealer.

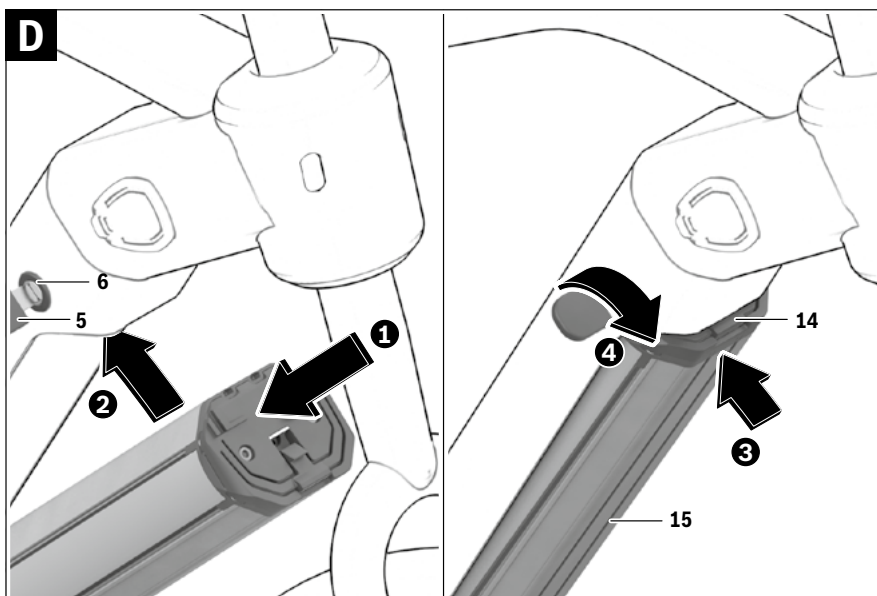
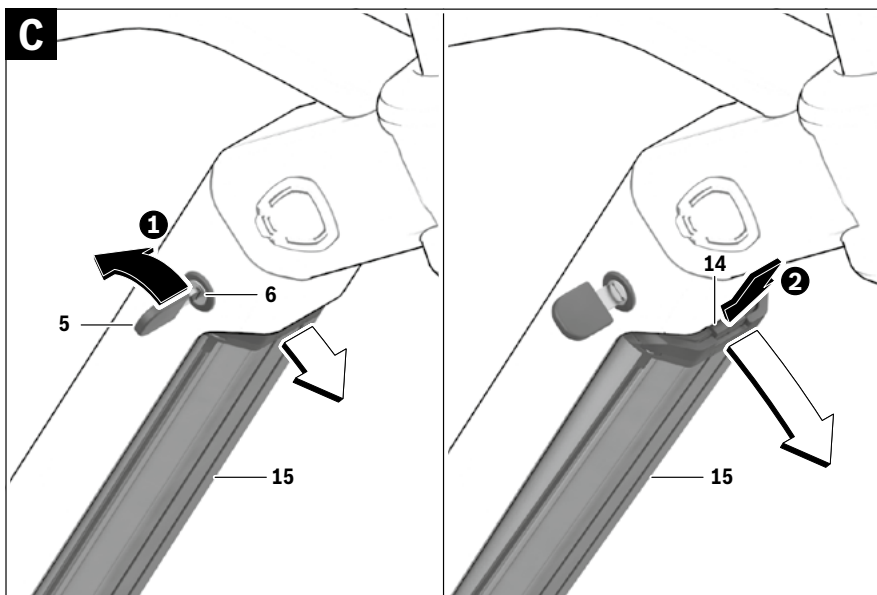
Subject to change without notice.

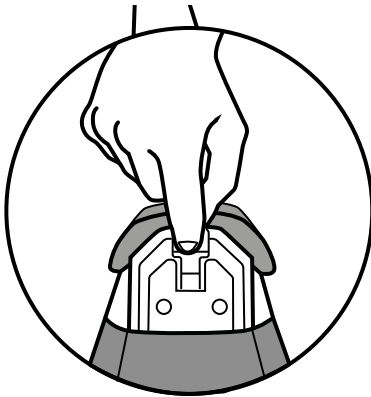
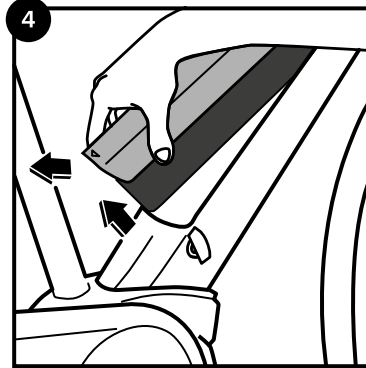
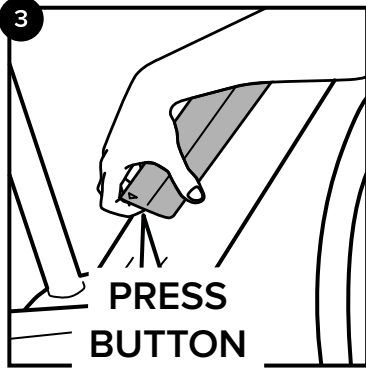
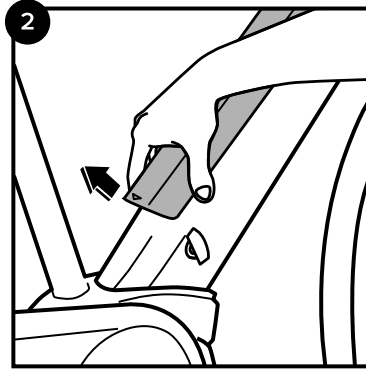
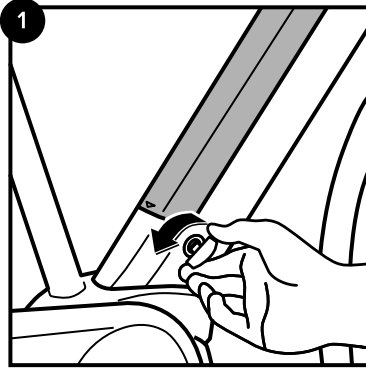
5. Battery











Battery Removal Instruction

- Put the key into the lock and unlock the battery.
- Raise the battery.
- Push the button underneath the battery.
- Take the battery out of the bike.

Safety Notes



Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious

injury. The contents of lithium-ion battery cells are flammable under certain conditions. You must therefore ensure that you have read and understood the rules of conduct set out in these operating instructions.

Save all safety warnings and instructions for future reference.

The term “battery” is used in these instructions to mean all original Bosch eBike rechargeable battery packs.

- ▶ **Remove the battery pack from the eBike before beginning work (e.g. inspection, repair, assembly, maintenance, work on the chain, etc.) on the eBike, transporting it by car or plane, or storing it.** Unintentional activation of the eBike system poses a risk of injury.
- ▶ **Do not open the battery pack.** Danger of short-circuiting. Opening the battery pack voids any and all warranty claims.



Protect the battery against heat (e.g. prolonged sun exposure) and fire and from being submerged in water. Do not store or operate the battery near hot or flammable objects.

There is a risk of explosion.

- ▶ **Keep the battery pack not being used away from paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery-pack terminals together may cause burns or a fire. For short-circuiting damage caused in this manner, any and all warranty claims through Bosch shall be invalid.
- ▶ **Avoid mechanical loads and exposure to high temperatures.** These can damage the battery cells and cause the flammable contents to leak out.
- ▶ **Do not place the charger or battery pack near to flammable materials. Charge battery packs only when dry and in a fireproof area.** There is a risk of fire due to the heat generated during charging.
- ▶ **The eBike battery must not be left unattended while charging.**
- ▶ **Under abusive conditions, liquid may be ejected from the battery pack. Avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery pack may cause skin irritations or burns.
- ▶ **Battery packs must not be subjected to mechanical impacts.** There is a risk that the battery pack will be damaged causing vapours to escape. The vapours can irritate the respiratory system. Provide for fresh air and seek medical attention in case of complaints.
- ▶ **The battery may give off fumes if it becomes damaged or is used incorrectly. Provide a fresh air supply and seek medical advice in the event of pain or discomfort.** These fumes may irritate the respiratory tract.
- ▶ **Charge the battery pack only with original Bosch battery chargers.** When using non-original Bosch chargers, the danger of fire cannot be excluded.
- ▶ **Use the battery pack only together with eBikes that have an original Bosch eBike drive system.** This is the only way to protect the battery pack against dangerous overload.
- ▶ **Use only original Bosch battery packs approved for your eBike by the manufacturer.** Using other battery packs can lead to injuries and pose a fire hazard. When using other battery packs, Bosch shall not assume any liability and warranty.
- ▶ **Do not use the rack-type battery pack as a handle.** Lifting the eBike up by the battery pack can cause damage to the battery pack.
- ▶ **Read and observe the safety warnings and instructions in all operating instructions of the eBike system and in the operating instructions of your eBike.**
- ▶ **Keep the battery pack out of reach of children.**
- ▶ The safety of both our products and customers is important to us. Our PowerPacks are lithium-ion batteries which have been developed and manufactured in accordance with the latest technology. We comply with or exceed the requirements of all relevant safety standards. When charged, these lithium-ion batteries contain a high level of energy. In the case of a fault (which may not be detectable from the outside), lithium-ion batteries can, in very rare cases and under unfavourable conditions, catch fire.

Product Description and Specifications

Product Features

The numbering of the product features refers to the illustrations on the graphics pages.

All representations of bike components, with exception of the battery packs and their holders, are schematic and can deviate from your eBike.

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

- 1 Holder of the rack-type battery pack
- 2 Rack-type battery pack
- 3 Operation and charge-control indicator

- 4 On/Off button
- 5 Key of the battery pack lock
- 6 Battery-pack lock
- 7 Upper holder of the standard battery pack
- 8 Standard battery pack
- 9 Bottom holder of the standard battery pack
- 10 Cover lid (Supplied only on eBikes with 2 battery packs)
- 11 Battery charger
- 12 Socket for charge connector
- 13 Charge socket cover
- 14 PowerTube safety restraint
- 15 PowerTube frame battery
- 16 PowerTube safety hook

Technical Data

Lithium-ion battery pack	PowerPack 300	PowerPack 400	PowerPack 500	PowerTube
Article number	0 275 007 547 ^{S)} * 0 275 007 548 ^{S)} * 0 275 007 549 ^{S)} * 0 275 007 513 ^{R)} *	0 275 007 510 ^{S)} 0 275 007 512 ^{S)} 0 275 007 514 ^{R)} 0 275 007 522 ^{R)} 0 275 007 525 ^{R)} 0 275 007 526 ^{R)}	0 275 007 529 ^{S)} 0 275 007 530 ^{S)} 0 275 007 531 ^{R)} 0 275 007 532 ^{R)}	0 275 007 539 0 275 007 540
Rated voltage	V= 36	36	36	36
Rated capacity	Ah 8.2	11	13.4	13.4
Energy	Wh 300	400	500	500
Operating temperature	°C -10...+40	-10...+40	-10...+40	-10...+40
Storage temperature	°C -10...+60	-10...+60	-10...+60	-10...+60
Allowable charging temperature range	°C 0...+40	0...+40	0...+40	0...+40
Weight, approx.	kg 2.5/2.6	2.5/2.6	2.6/2.7	2.8
Degree of protection	IP 54 (dust and splash water protected)	IP 54 (dust and splash water protected)	IP 54 (dust and splash water protected)	IP 54 (dust and splash water protected)

S) Standard battery pack

R) Rack-type battery pack

* Cannot be used in combination with other batteries in systems with two batteries

Assembly

- **Place down the battery pack only on clean surfaces.** In particular, avoid soiling the charge socket and the contacts, e. g. by means of sand or soil.

Checking the Battery Pack Before Using for the First Time

Check the battery pack before charging it or using it with your eBike for the first time.

For this, press the On/Off button **4** to switch on the battery pack. When no LED of the charge-control indicator **3** lights up, the battery pack may be damaged.

When at least one, but not all LEDs of the charge-control indicator **3** is lit, then fully charge the battery pack before using for the first time.

- **Do not attempt to charge or use a damaged battery pack.** Please refer to an authorised Bosch eBike dealer.

Charging the Battery Pack

► **Use only the Bosch charger provided with your eBike or an identical original Bosch charger.** Only this charger is matched to the lithium-ion battery pack used in your eBike.

Note: The battery pack is supplied partially charged. To ensure full battery pack capacity, completely charge the battery pack in the charger before using for the first time.

For charging the battery pack, read and observe the operating instructions of the charger.

The battery can be charged at any level of charge. Interrupting the charging process does not damage the battery pack.

The battery pack is equipped with a temperature control indicator, which enables charging only within a temperature range between 0 °C and 40 °C.



When the battery pack is not within the charging-temperature range, three LEDs of the charge-control indicator **3** flash. Disconnect the battery pack from the charger until its temperature has adjusted.

Do not connect the battery pack to the charger until it has reached the allowable charging temperature.

Charge-control Indicator

When the battery pack is switched on, the five green LEDs of the charge-control indicator **3** indicate the charge condition of the battery pack.

In this, each LED indicates approx. 20 % capacity. When the battery pack is completely charged, all five LEDs light up.

The charge level of the switched on battery pack is also shown on the display of the on-board computer. When doing so, read and observe the operating instructions of the drive unit and on-board computer.

If the capacity of the battery pack is below 5 %, all LEDs of the charge-control indicator **3** on the battery pack go out. However there is another display function of the on-board computer.

After charging, disconnect the battery from the charger and the charger from the network.

Using Two Battery Packs for One eBike (optional)

An eBike can also be equipped with two battery packs by the manufacturer. In this case, one of the charge sockets is not accessible or is sealed by the bicycle manufacturer with a sealing cap. Charge the battery packs only at the accessible charge socket.

► **Never open charge sockets that have been sealed by the manufacturer.** Charging at a previously sealed charge socket can lead to irreparable damage.

If you have an eBike that is designed for two battery packs and you want to use it with only battery pack, cover off the contacts of the unused socket using the cover lid **10** provided because otherwise the open contacts pose a risk of short-circuiting (see figures A and B).

Charging with Two Battery Packs Inserted

If two battery packs are mounted on one eBike, both battery packs can be charged using the unsealed connection. The charging process will charge both battery packs alternately, automatically switching between both battery packs numerous times. The charging times add up.

Both battery packs are also discharged alternately during operation.

If you take the battery packs out of the holders, you can charge each battery pack individually.

Charging with One Battery Pack Inserted

If only one battery pack is inserted, then you can charge only the battery pack that has the accessible charge socket on the bike. You can charge the battery pack with the sealed charge socket only when you take the battery pack out of the holder.

Inserting and removing the battery pack

► **Always switch off the battery pack and the eBike system when you insert the battery pack into the holder or when you take it out of the holder.**

Inserting and removing a standard battery (see figure A)

In order for the battery pack to be inserted, the key **5** must be inserted into the lock **6** and the lock must be unlocked.

To **insert the standard battery pack 8**, place it with the contacts on the lower holder **9** on the eBike (the battery pack can be inclined up to 7° to the frame). Tilt it into the upper holder **7** until it engages.

Check if the battery pack is tightly seated. Always lock the battery pack with lock **6**, as otherwise the lock can open and the battery pack could fall out of the holder.

After locking, always remove the key **5** from the lock **6**. This prevents the key from falling out and the battery pack from being removed from unauthorised persons when the eBike is parked.

To **remove the standard battery pack 8**, switch it off and unlock the lock with the key **5**. Tilt the battery pack out of the upper holder **7** and pull it out of the lower holder **9**.

Inserting and removing a rack battery (see figure B)

In order for the battery pack to be inserted, the key **5** must be inserted into the lock **6** and the lock must be unlocked.

To **insert the rack-type battery pack 2**, slide it with the contacts facing ahead until it engages in the holder **1** of the rear rack/carrier.

Check if the battery pack is tightly seated. Always lock the battery pack with lock **6**, as otherwise the lock can open and the battery pack could fall out of the holder.

After locking, always remove the key **5** from the lock **6**. This prevents the key from falling out and the battery pack from being removed from unauthorised persons when the eBike is parked.

To **remove the rack-type battery pack 2**, switch it off and unlock the lock with the key **5**. Pull the battery pack out of the holder **1**.

Removing a PowerTube frame battery (see figure C)

- 1 To remove the PowerTube frame battery, **15** open the lock **6** using the key **5**. The battery will be unlocked and fall into the safety restraint **14**.
- 2 Press on the safety restraint from above. The battery will be unlocked completely and fall into your hand. Pull the battery out of the frame.

Note: As a result of **varying** designs, the frame battery may have to be inserted and removed using a different method. In this case, consult the bicycle documentation provided by your bicycle manufacturer.

Inserting a PowerTube frame battery (see figure D)

In order for the battery pack to be inserted, the key **5** must be inserted into the lock **6** and the lock must be unlocked.

- 1 To insert the PowerTube frame battery, **15** place it so that its contacts are in the lower bracket of the frame.
- 2 Push the battery upwards until it is held by the safety restraint **14**.
- 3 Press the battery upwards until you hear it engage. Check that the battery is secure.
- 4 Always secure the battery by closing the lock **6** – otherwise, the lock may open and the battery may fall out of the bracket.

After locking, always remove the key **5** from the lock **6**. This prevents the key from falling out and the battery pack from being removed from unauthorised persons when the eBike is parked.

Operation

Initial Operation

► **Use only original Bosch battery packs approved for your eBike by the manufacturer.** Using other battery packs can lead to injuries and pose a fire hazard. When using other battery packs, Bosch shall not assume any liability and warranty.

Switching On and Off

Switching on the battery pack is one of the ways of switching on the eBike system. When doing so, read and observe the operating instructions of the drive unit and on-board computer.

Before switching on the battery pack or the eBike system, check that the lock **6** is locked.

To **switch on** the battery pack, press the On/Off button **4**. The LEDs of indicator **3** light up and at the same time indicate the charge condition.

Note: If the capacity of the battery pack is below 5 %, no LED on the charge-control indicator **3** lights up. It is only visible on the on-board computer, if the eBike system is switched on.

To **switch off** the battery pack, press the On/Off button **4** again. The LEDs of indicator **3** go out. This also switches off the eBike system.

If no power is drawn from the eBike drive for about 10 minutes (e.g. because the eBike is not moving) and no button is pressed on the on-board computer or the operating unit of the eBike, the eBike system and therefore also the battery pack will shut down automatically to save energy.

The battery pack is protected against deep discharging, overcharging, overheating and short-circuiting through the “Electronic Cell Protection (ECP)”. In case of hazardous situations, a protective circuit automatically switches off the battery pack.



When a defect of the battery pack is detected, two LEDs of the charge-control indicator **3** flash. In this case, please refer to an authorised Bosch eBike dealer.

Notes for Optimum Handling of the Battery Pack

The battery-pack life can be prolonged when being properly maintained and especially when being operated and stored at the right temperatures.

With increasing age, however, the battery-pack capacity will diminish, even when properly maintained.

A significantly reduced operating period after charging indicates that the battery pack is worn out and must be replaced. You can replace the battery pack yourself.

Recharging the Battery Pack prior to and during Storage

When not using the battery pack for a longer period, charge it to approx. 60 % (3 to 4 LEDs lit on the charge-control indicator **3**).

Check the charge condition after 6 months. When only one LED of the charge-control indicator **3** lights up, recharge the battery pack again approx. 60 %.

Note: When the battery pack is stored discharged (empty) for longer periods, it can become damaged despite the low self-discharging feature and the battery-pack capacity may be strongly reduced.

It is not recommended to have the battery pack connected permanently to the charger.

Storage Conditions

Store the battery pack in a dry, well-ventilated location. Protect the battery pack against moisture and water. Under unfavourable weather conditions, it is recommended e. g. to remove the battery pack from the eBike and store it in an enclosed location until being used again.

Store the eBike batteries in the following locations::

- in a room with a smoke alarm
- away from combustible or easily flammable objects
- away from heat sources

Store the batteries at temperatures between 0 °C and 20 °C. Never store them at temperatures below – 10 °C or above +60 °C. To ensure that the lifetime is as long as possible, storage at approx. 20 °C (room temperature) is recommended.

Take care that the maximal storage temperature is not exceeded. As an example, do not leave the battery pack in a vehicle in summer and store it out of direct sunlight.

It is recommended to not store the battery pack on the bike.

Maintenance and Service

Maintenance and Cleaning

- ▶ **The battery must not be submerged in water or cleaned using a jet of water.**

Keep the battery clean. Clean it carefully with a soft, damp cloth.

Clean and lightly grease the connector pins occasionally.

When the battery pack is no longer operative, please refer to an authorised Bosch eBike dealer.

After-sales Service and Application Service

In case of questions concerning the battery packs, please refer to an authorised bicycle dealer.

- ▶ **Note down the manufacturer and the number of the key 5.** In case of loss of the keys, please refer to an authorised bicycle dealer. Please provide the name of the manufacturer and the number of the key.

For contact data of authorised Bosch eBike dealers, please refer to www.bosch-ebike.com

Transport

- ▶ **If you carry your eBike outside of your car, e.g. on a luggage rack, remove the eBike battery pack in order to avoid damaging it.**

The battery packs are subject to the Dangerous Goods Legislation requirements. Private users can transport undamaged battery packs by road without further requirements.

When being transported by commercial users or third parties (e. g. air transport or forwarding agency), special requirements on packaging and labelling must be observed (e. g. ADR regulations). If necessary, an expert for hazardous materials can be consulted when preparing the item for shipping.

Dispatch battery packs only when the housing is undamaged. Tape or mask off open contacts and pack up the battery pack in such a manner that it cannot move around in the packaging. 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 battery packs, please refer to an authorised Bosch eBike dealer. The Bosch eBike dealers can also provide suitable transport packaging.

Disposal



Battery packs, accessories and packaging should be sorted for environmental-friendly recycling.

Do not dispose of the battery packs into household waste!

Tape or mask off the contact surfaces of the battery pack's terminals with adhesive tape before disposing of battery packs.

Do not touch heavily damaged eBike batteries with your bare hands. Electrolyte may escape and cause skin irritation. Store the battery in a safe location outdoors. Cover the pins if necessary and inform your dealer. They will help you to dispose of it properly.

Only for EC countries:



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

Please return battery packs that are no longer usable to an authorised bicycle dealer.

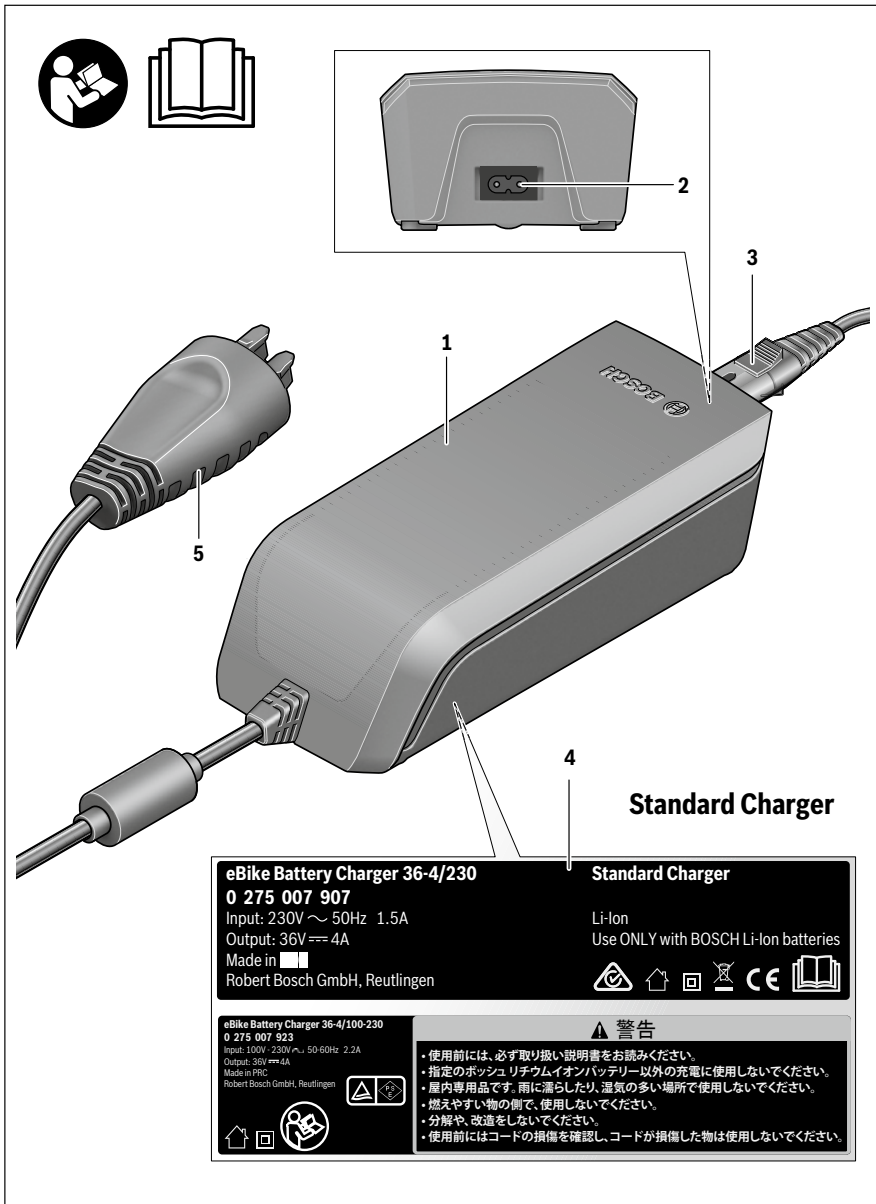


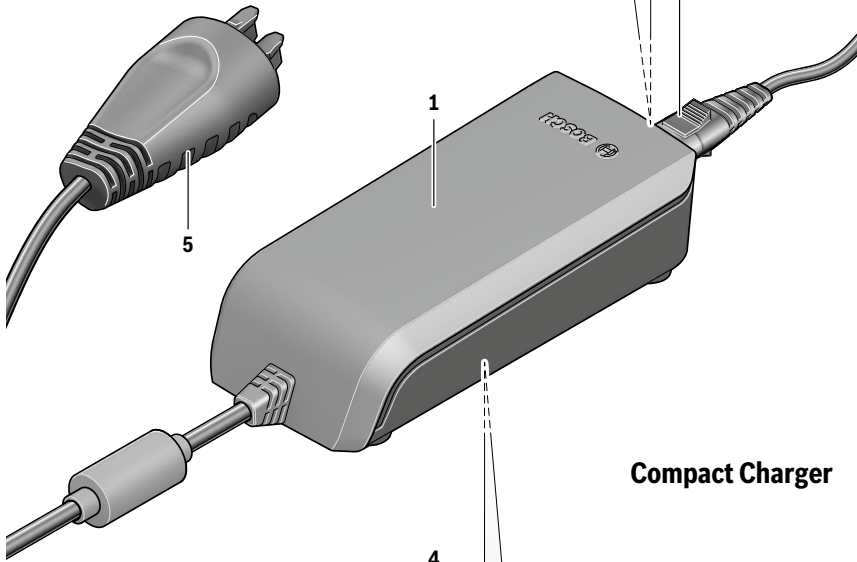
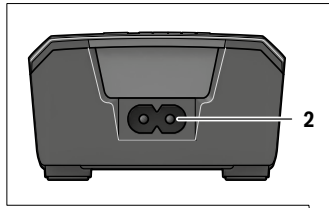
Li-ion:

Please observe the instructions in section "Transport", page English – 5.

Subject to change without notice.

6. Charger





Compact Charger

eBike Battery Charger 36-2/100-240

0 275 007 915

Input: 100-240V ~ 50/60 Hz 1.6A

Output: 36V == 2A

Made in

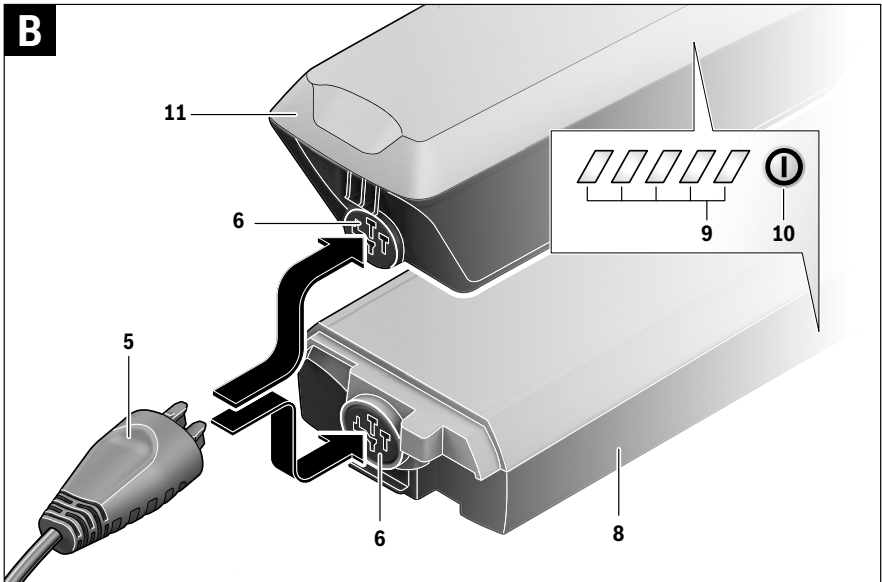
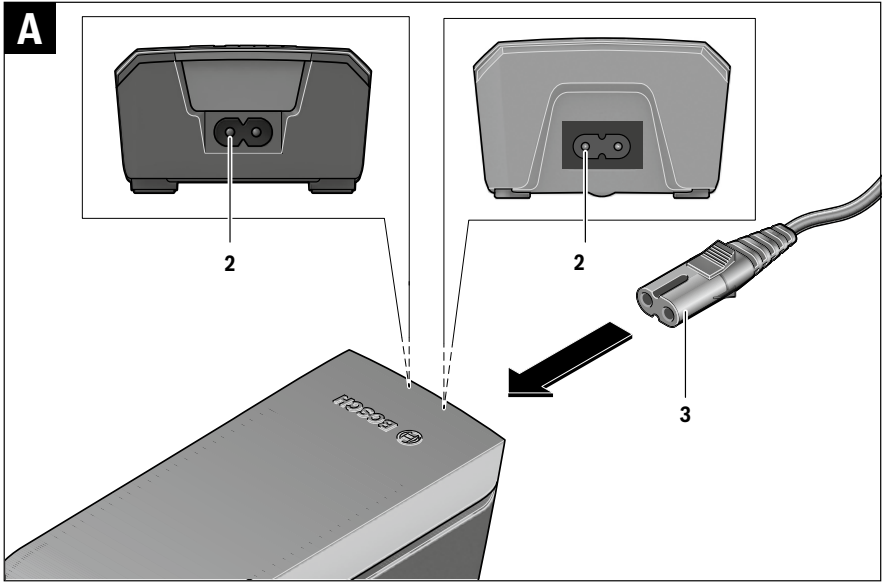
Robert Bosch GmbH, Reutlingen

Active/Performance Line

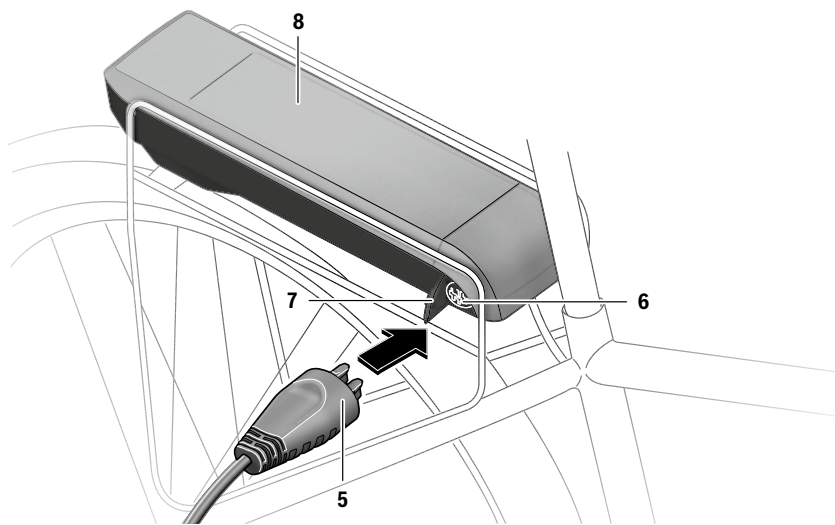
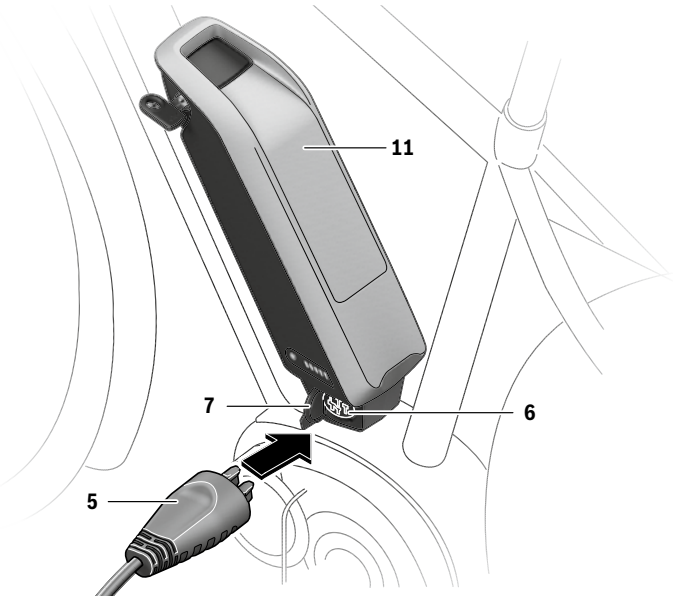
Li-Ion

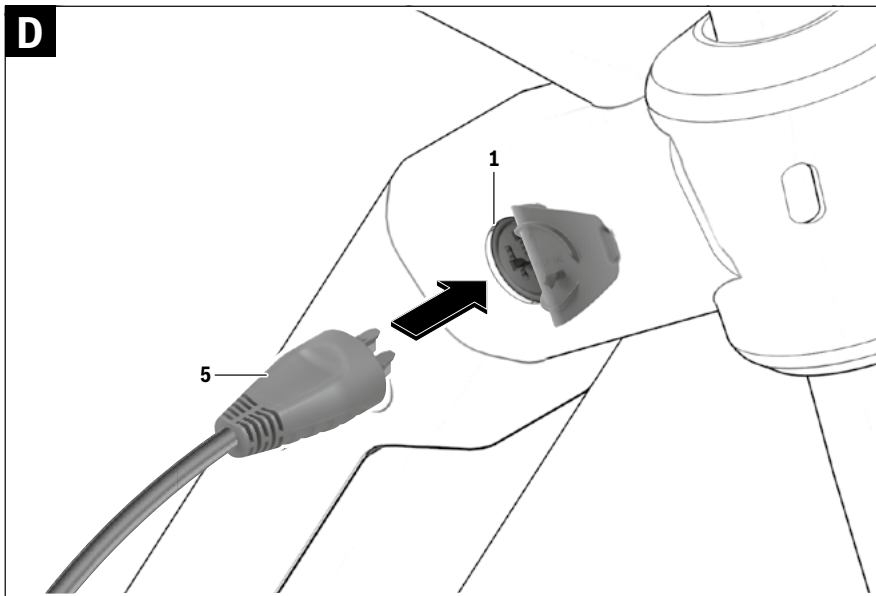
USE ONLY with BOSCH Li-Ion batteries





C





Safety Notes



Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all safety warnings and instructions for future reference.

The term "battery" is used in these instructions to mean all original Bosch eBike rechargeable battery packs.



Keep the charger away from rain or moisture. The penetration of water into a battery charger increases the risk of an electric shock.

- ▶ **Only charge eBike-approved Bosch lithium-ion battery packs. The battery-pack voltage must match the battery-pack charging voltage of the charger.** Otherwise there is danger of fire and explosion.
- ▶ **Keep the battery charger clean.** Contamination can lead to danger of an electric shock.
- ▶ **Always check the charger, cable and plug before use. Do not use the charger if you discover any damage. Do not open the charger.** Damaged chargers, cables and plugs increase the risk of electric shock.
- ▶ **Do not operate the battery charger on easily inflammable surfaces (e. g., paper, textiles, etc.) or surroundings.** The heating of the battery charger during the charging process can pose a fire hazard.
- ▶ **Use caution when touching the charger during the charging procedure. Wear protective gloves.** Especially in high ambient temperatures, the charger can heat up considerably.
- ▶ **The battery may give off fumes if it becomes damaged or is used incorrectly. Provide a fresh air supply and seek medical advice in the event of pain or discomfort.** These fumes may irritate the respiratory tract.
- ▶ **Do not place the charger or battery pack near to flammable materials. Charge battery packs only when dry and in a fireproof area.** There is a risk of fire due to the heat generated during charging.
- ▶ **The eBike battery must not be left unattended while charging.**

- ▶ **Supervise children during use, cleaning and maintenance.** This will ensure that children do not play with the charger.
- ▶ **Children or persons that owing to their physical, sensory or mental limitations or to their lack of experience or knowledge, are not capable of securely operating the charger, may only use this charger under supervision or after having been instructed by a responsible person.** Otherwise, there is danger of operating errors and injuries.
- ▶ **Read and observe the safety warnings and instructions in all operating instructions of the eBike system and in the operating instructions of your eBike.**
- ▶ A sticker in English is adhered to the bottom of the charger (marked 4 in the diagram on the graphics page). This says: Use ONLY with BOSCH lithium-ion batteries.

Product Description and Specifications

In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

Product Features

The numbering of the components shown refers to the illustrations on the graphic pages at the beginning of the manual. Individual illustrations in these operating instructions may differ slightly from the actual circumstances depending on the equipment of your eBike.

- 1 Battery charger
- 2 Charger socket
- 3 Plug-in connector
- 4 Safety warnings, charger
- 5 Charge connector
- 6 Socket for charge connector
- 7 Charge socket cover
- 8 Rack-type battery pack
- 9 Operating/state of charge indicator
- 10 Battery on/off button
- 11 Standard battery pack

Technical Data

Battery Charger		Standard Charger (36 – 4/230)	Standard Charger (36 – 4/100-230)	Compact Charger (36 – 2/100-240)
Article number		0 275 007 907	0 275 007 923	0 275 007 915
Rated voltage	V~	207...264	90...264	90...264
Frequency	Hz	47...63	47...63	47...63
Output voltage	V---	36	36	36
Charging current (max.)	A	4	4	2
Charging time				
– PowerPack 300, approx.	h	2.5	2.5	5
– PowerPack 400, approx.	h	3.5	3.5	6.5
– PowerPack 500, approx.	h	4.5	4.5	7.5
Operating temperature	°C	–5 ... +40	–5 ... +40	–5 ... +40
Storage temperature	°C	–10 ... +50	–10 ... +50	–10 ... +50
Weight, approx.	kg	0.8	0.8	0.6
Degree of protection		IP 40	IP 40	IP 40

The values given are valid for a nominal voltage [U] of 230 V. For different voltages and models for specific countries, these values can vary.

Operation

Initial Operation

Connecting the charger to the mains (see figure A)

► **Observe the mains voltage!** The voltage of the power supply must correspond with the data given on the nameplate of the battery charger. Battery chargers marked with 230 V can also be operated with 220 V.

Plug the charger plug **3** of the power cord into the charger socket **2** of the charger.

Connect the mains cable (country-specific) to the mains supply.

Charging the removed battery (see figure B)

Switch the battery pack off and remove it from the holder of the eBike. For this, read and observe the operating instructions of the battery pack.

► **Place down the battery pack only on clean surfaces.** In particular, avoid soiling the charge socket and the contacts, e. g. by means of sand or soil.

Insert the charger plug **5** of the battery charger into the socket **6** on the battery pack.

Charging the battery on the Bike (see figures C and D)

Switch the battery off. Clean the cover of the charge socket **7**. Prevent especially the charge socket and the contacts from getting dirty, e. g. by sand or soil. Lift the cover of the charge socket **7** and plug the charge connector **5** into the charge socket **6**.

► **Charge the battery only in accordance with all safety instructions.** If this is not possible, remove the battery from the holder and charge it in a more suitable location. When doing so, read and observe the operating instructions of the battery.

Charging with Two Battery Packs Inserted

If two battery packs are mounted on one eBike, both battery packs can be charged using the unsealed connection. The charging process will charge both battery packs alternately, automatically switching between both battery packs numerous times. The charging times add up.

Both battery packs are also discharged alternately during operation.

If you take the battery packs out of the holders, you can charge each battery pack individually.

Charging Procedure

The charging procedure begins as soon as the charger is connected to the battery or the charge socket on the bike and the main power supply.

Note: Charging is only possible if the temperature of the eBike battery is within the permitted charging temperature range.

Note: The drive unit is deactivated during the charging procedure.

The battery can be charged with and without the on-board computer. When charging without the on-board computer, the charging procedure can be observed on the battery charge-control indicator.

When the on-board computer is connected, a corresponding message is shown on the display.

The charging state is displayed by the battery charge-control indicator **9** on the battery and by the bars on the on-board computer.

During the charging procedure, the LEDs of charge-control indicator **9** on the battery pack light up. Each continuously lit LED is equivalent to a charge capacity of approx. 20 %. The flashing LED indicates the charging of the next 20 %.

Once the eBike battery is fully charged, the LEDs extinguish immediately and the on-board computer is switched off. The charging procedure is terminated. The charging state can be displayed for 3 seconds by pressing the on/off button **10** on the eBike battery.




Disconnect the charger from the main power supply and the battery pack from the charger.

When disconnecting the battery pack from the charger, the battery pack is automatically switched off.

Note: If you have charged on the bike, carefully close the charge socket **6** with the cover **7** after the charging procedure so that no dirt or water can get in.

If the charger is not disconnected from the battery after charging, after a few hours the charger will switch itself back on, check the charging state of the battery and begin the charging procedure again if necessary.

Troubleshooting – Causes and Corrective Measures

Cause	Corrective Measure
 <p>Battery pack defective</p>	<p>Two LEDs of the battery pack flashing</p> <p>Refer to an authorised bicycle dealer.</p>
 <p>Battery pack too warm or too cold</p>	<p>Three LEDs of the battery pack flashing</p> <p>Disconnect the battery from the charger until the charging temperature range has been reached.</p> <p>Do not connect the battery pack to the charger until it has reached the allowable charging temperature.</p>
 <p>The charger is not charging.</p>	<p>No LEDs flashing (one or more LEDs will remain permanently lit depending of the state of charge of the eBike battery).</p> <p>Refer to an authorised bicycle dealer.</p>

Cause	Corrective Measure
No charging procedure possible (no indication on battery pack)	
Plug not inserted correctly	Check all plug connections.
Contacts of battery pack soiled	Carefully clean the contacts of the battery pack.
Socket outlet, cable or charger defective	Check mains voltage, have charger checked through bicycle dealer
Battery pack defective	Refer to an authorised bicycle dealer.

Maintenance and Service

Maintenance and Cleaning

If the charger should fail, please refer to an authorised bicycle dealer.

After-sales Service and Application Service

In case of questions concerning the charger, please refer to an authorised bicycle dealer.

For contact data of authorised Bosch eBike dealers, please refer to www.bosch-ebike.com

Disposal

Battery chargers, accessories and packaging should be sorted for environmental-friendly recycling.

Do not dispose of battery chargers into household waste!

Only for EC countries:



According to the European Directive 2012/19/EU on waste electrical and electronic equipment and its transposition into national law, chargers that are no longer usable must be collected separately and sorted for environmental-friendly recycling.

Subject to change without notice.

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6950 AA Dieren
The Netherlands

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