



User Manual

English

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RALEIGH



I

General User Manual

English



1 The bike and its components

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2 Preface

Your bike has been delivered to you fully assembled. If parts of your bike have not been installed, please consult your specialist cycle shop.

The purpose of this User Manual is to help you use your bike safely in the manner for which it is intended, and enjoy all its benefits for many years to come. We assume that you have general knowledge on the handling of bikes.

Every person who uses, cleans, maintains or disposes of this bike must have read and understood the entire content of this User Manual.

In addition to texts, tables and lists, the User Manual contains the following symbols that denote important information or dangers.



WARNING about possible physical injury, increased risk of falls or other injuries



IMPORTANT ADDITIONAL INFORMATION or special information on using the bike



NOTE about possible damage to property or the environment

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4 Safety information

4.1 Basic safety information

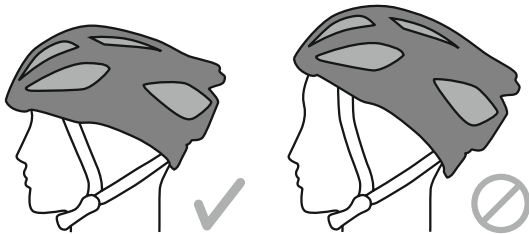
Please read all the warnings and information in this User Manual carefully before using the bike. Keep this User Manual near your bike for ready reference.

If you hand this bike over to someone else, don't forget to give them the User Manual as well.

4.2 For your own safety



- › Always use a suitable bicycle helmet and wear it correctly.



- › Wear bright clothing or reflective elements so that other road users can see you in good time.
- › Wear shoes with a stiff, and whenever possible, non-slip sole.
- › Wear close-fitting clothing on your legs, or wear trouser clips.
- › Wear protective clothing such as robust shoes and gloves.

4.3 Information for parents and legal guardians



- › Make sure that your child has been taught, and also understands, how to handle the bike safely and responsibly in the environment in which it is going to be used.
- › Explain to your child how to operate all the brakes, and also how they work and any special features. For further important information on this matter, refer to **Chapter 21 "Brake, brake levers and brake systems"**.
- › As the legal guardian, you are responsible for the safety of your child and any damage he/she may cause when cycling. You should therefore make absolutely sure that the bike is in technically sound condition and adjust it regularly to the size of the child.

4.4 Safety in road traffic



- › Observe the applicable traffic regulations.
- › Never ride with no hands!
- › In some countries children below a certain age must ride on the pavement and must also dismount when crossing the road. Please familiarise yourself with the applicable regulations.
- › Adjust your handling on wet or slippery roads; ride more slowly and brake carefully and in good time as you will require a much greater braking distance.
- › Adopt a speed that reflects the terrain as well as your riding ability.
- › Do not listen to music through headphones when cycling.
- › Do not cycle when using a mobile phone.
- › Use designated cycle paths when not using public roads.

- › Be ready to brake, especially if you are not sure what lies ahead or are riding downhill.

4.5 Bike safety



- › Only bikes that have been approved for use in public places, as per the applicable regulations (e.g. StVZO in Germany), may be used.
- › Observe the maximum permitted gross weight of the various bike types, as this could otherwise lead to breakage or failure of safety-relevant components. The brake system is also only designed for the maximum permitted gross weight of the bike. For a list of the maximum permitted gross weights, refer to **Chapter 30 "Technical data"**.
- i** The gross weight is the sum of the weight of the bike + weight of the rider + weight of the luggage. The gross weight also includes towed weights such as trailers.
- › If you notice that a part is damaged or warped, do not use the bike until you have had the part replaced as otherwise parts that are important to operation of the bike may fail.
- › Observe the maximum load-carrying capacity of the pannier rack. This is marked on the pannier rack directly (also refer to **Chapter 30 "Technical data"**).
- › Have maintenance and repairs carried out by a professional bike workshop (for maintenance intervals, refer to **Chapter 28 "Regular inspections"**).
- › If you make technical changes to your bike, take the national traffic regulations and applicable standards into account. Bear in mind that this could render your warranty invalid.
- › Only replace electrical components on your bike with type-tested parts.
- › Only ride with suitable lighting in unfavourable lighting conditions such as fog, rain, dawn/twilight or in the dark.



Bear in mind that with intensive use of your bike wear increases accordingly. Many bike parts, particularly on light sports bikes, are only designed for a specific period of use. If this is exceeded, there is a considerable risk that components could fail.

Perform care and maintenance on your bike regularly. In doing so, check important components, particularly the frame, fork, wheel suspension, handlebar, handlebar stem, seatpost and brakes for warping and damage. If you notice changes such as cracks, bulges or warping, have your bike checked by a specialist cycle shop before using again.

5 Legal provisions

If you wish to use your bike in road traffic, make sure that your bike complies with the road traffic regulations. If necessary, observe **Chapter 22.2 "Special regulations for road bikes"**.

5.1 Applicable road traffic licensing regulations

Before you take your bike on the road, find out what the relevant national regulations in your country are – in Germany, these are the Road Traffic Licensing Regulations (StVZO) and the Road Traffic Ordinance (StVO).

In Switzerland, the applicable regulations can be found in the Ordinances relating to Technical Requirements for Road Vehicles, Articles 213 to 218.

If you wish to ride in road traffic in Austria, you must observe Ordinance 146 / Bicycle Ordinance.

Make sure each time you use your bike that it actually is in the prescribed roadworthy condition, that the brakes are properly adjusted and that the bell and lighting set comply with the relevant regulations in your country, in Germany these are the Road Traffic Licensing Regulations (StVZO).

In some EU countries, battery-operated front lights and rear lights may only be used by road bikes weighing less than 11 kg. They must always be carried and have an official approval (sinuous line and K number). All other bikes must use dynamo lighting sets. Every component of the system must carry the official test mark which identifies it as "approved". The applicable regulations in your country apply in this regard, e.g. the Road Traffic Licensing Regu-

lations (StVZO) in Germany. When performing technical modifications, bear in mind that electrical components must only be replaced by type-tested components.

6 Intended use

6.1 General information

Bikes are a means of transportation for one person. In some countries, regulations exist governing the carrying of passengers, such as the Road Traffic Ordinance (StVO) in Germany (tandem or bike child seat).

If you wish to carry luggage, you will require a suitable fixture on your bike. Bear in mind the maximum load-bearing capacity of the carrier (see **Chapter 30 "Technical data"**).

Not every bike type is suitable for every surface. Bikes are not designed to cope with extreme stresses such as jumping or riding over steps.

You must not take part in competitions with your bike. The only exceptions to this are bikes that are offered explicitly for use in competitions.

The information in this User Manual applies for all bike types.

Any deviations for individual bike types are identified accordingly.

Observe the relevant user manual from the individual component manufacturers which can be found on the CD or in the Internet. If you have any questions once you have read the documentation, your specialist cycle shop will be pleased to provide assistance.

Intended use also includes compliance with the operating, maintenance and repair instructions provided in this User Manual.

The manufacturer and cycle shop will not accept liability claims should the bike not be used as intended.

6.2 Trekking bike / all-terrain bike (ATB), if equipped in accordance with the applicable road traffic licensing regulations



You may use these bikes on surfaced routes and in road traffic, providing they are equipped accordingly. They are also suitable for gentle offroad riding, such as on country lanes.

The manufacturer and cycle shop will not accept liability claims should the bike not be used as intended. This particularly applies for non-observance of the safety information and damage resulting for example from:

- overloading or
- incorrect repairs.

6.3 City, touring, sports, child's and youngster's bike, if equipped in accordance with the applicable road traffic licensing regulations



You can use these bikes in road traffic and on surfaced routes.

The manufacturer and cycle shop will not accept liability claims should the bike not be used as intended. This particularly applies for non-observance of the safety information and damage resulting (for example) from:

- offroad use,
- overloading or
- incorrect repairs.

6.4 Mountain bike (MTB) / cross bike



You can use these bikes offroad. You must not use these bikes in road traffic or competitions. If you wish to use your bike on public roads, it must have the requisite equipment features (see ► *Chapter 5 "Legal provisions"*).

The manufacturer and cycle shop will not accept liability claims should the bike not be used as intended.

This particularly applies for non-observance of the safety information and damage resulting for example from:

- use in competitions,
- overloading,
- incorrect repairs.
- riding over steps,
- jumping,
- riding through deep water
- extreme stresses on non-designated MTB routes or MTB courses.

6.5 Road bike / fitness bike



You may use these bikes on public roads for training purposes. You may use road bikes weighing up to 11 kg without permanently fitted dynamo lighting. If you choose to do so, you must carry a battery-operated front light and a rear light. If the light has the required approval, there will be an embossed sinuous line and K-number on it.

When using road bikes that weigh more than 11 kg in road traffic, the required equipment features must be installed. Please familiarise yourself with the applicable regulations.

The bike is exempt from these requirements for the duration of officially approved cycling events.

The manufacturer and cycle shop will not accept liability claims should the bike not be used as intended. This particularly applies for non-observance of the safety information and damage resulting for example from:

- offroad use,
- overloading,
- incorrect repairs or
- use in competitions,

6.6 BMX

These bikes are designed for BMX routes and/or BMX practice facilities.

In some EU countries, they are not approved for use in road traffic, e.g. by the Road Traffic Licensing Regulations (StVZO) in Germany, and in this case must not be used for this purpose (see ► *Chapter 5 "Legal provisions"*). Always wear a helmet and protective clothing, such as elbow and knee pads.

The brakes normally installed on BMX bikes produce a less effective braking action. You should therefore bear in mind that this increases the braking distance, especially in wet conditions. Please test this thoroughly in a safe location and always adjust your handling accordingly.

The manufacturer and cycle shop will not accept liability claims should the bike not be used as intended.

This particularly applies for non-observance of the safety information and damage resulting for example from

- use in competitions,
- overloading,
- incorrect repairs.
- riding over steps or
- jumping.

7 Before the first ride



Make sure that your bike is ready for use and is set up for your body size.

Check the following:

- Positioning and secure fastening of saddle and handlebar
- Installation and correct adjustment of the brakes
- Secure fastening of wheels in frame and fork

Adjust the handlebar and stem until you find a safe and comfortable riding position. Instructions on how to adjust the handlebar are provided in **Chapter 9.3 "Adjusting the handlebar position"**.

Adjust the saddle until you find a safe and comfortable riding position. Instructions on how to adjust the saddle are provided in **Chapter 9.2 "Adjusting the seat position"**.

Make sure the brake levers are always within easy reach and that you know how to operate the right/left brake levers and where to find them. Make a note of which brake lever operates the front and which the rear wheel brake.

Modern brake systems can have a far more powerful and different braking effect than those you are already familiar with. Before setting off, familiarise yourself with the effects of the brakes on a safe traffic-free area.

If you are using a bike with carbon-fibre rims, bear in mind that the braking behaviour of this material is much poorer than aluminium rims.

Make sure that the wheels are securely fastened in the frame and forks. Check that the quick-release device and all important fastening screws and nuts are securely fastened.

Chapter 9.2.2 "Operating the quick-release device" contains instructions on how to operate quick-release devices safely and **Chapter 30 "Technical data"** contains a table of the tightening torques for important screws and nuts.

Check the tyre pressure. Information on the prescribed tyre pressure appears on the tyre sidewall.

Never inflate the tyres to less than the minimum or more than the maximum specified tyre pressure. As a rule of thumb, e.g. when on the road, you can check the tyre pressure as follows: If you press your thumbs into the inflated tyre, there should not be much give in the tyre even if you press hard.

Check the tyres and rims for damage, foreign bodies, e.g. glass fragments or sharp stones and deformation.

If cuts, cracks or holes are visible, do not ride off. Instead, take your bike to a professional bike workshop and have it checked.

8 Before every ride



Although a great deal of care has been taken during production and assembly, parts may still come loose or change function during transportation for example.

You should therefore always check the following before every ride:

- Bell and lighting are working properly and securely fastened
- Brake system is working properly and securely fastened
- If a hydraulic brake is fitted to your bike, make sure the lines and connections are tight
- Check the tyres and rims for damage and foreign bodies and check the wheel runs true, especially after riding offroad
- Sufficient tread depth on the tyres
- The suspension elements are in working order and are securely fastened
- Screws, nuts and quick-release devices are secure
- Frame and fork for deformation and damage
- Handlebar, handlebar stem, seatpost and saddle in the correct position and safely and properly secured

If you are not sure whether your bike is in a technically sound condition, do not ride it and have it checked by a professional bike workshop instead.

9 Setting up the bike for the rider

Road bikes or mountain bikes can also be supplied without pedals.

Proceed as follows if you wish to fit pedals to your bike yourself:

9.1 Fitting the pedals

- › Coat both pedal threads with lubricant (grease).



The left pedal has a left-handed thread which is normally indicated by an "L" embossed on the axle. The right pedal has a right-handed thread which is normally indicated by an embossed "R".



Axle with **right** pedal thread



Axle with **left** pedal thread

- › Screw the left pedal anticlockwise into the left crank.
- › Screw the right pedal clockwise into the right crank (on the side of the bike chain).



- › Tighten both pedals using a suitable size 15 open-ended spanner or Allen key. Tighten all screws to the prescribed torque (→ **Chapter 30 "Technical data"**). If you do not do this, the pedals may come loose.



Make sure you fit or screw in the pedals straight, as otherwise you could damage the thread in the crank arm beyond repair.



- 1 MTB system pedals
- 2 Touring or sports pedals
- 3 Road bike system pedals



Only use the designated cleats and shoes for MTB, racing and system pedals. If you use other cleats/shoes you may slip out of the pedals.

Riders who are inexperienced in the use of MTB system pedals or road system pedals, also referred to as click pedals, are vulnerable to falls with potentially serious consequences. If you use system pedals, practise clicking into the pedal and releasing the shoe from the pedal when the bike is stationary. Never practise this in road traffic.

Read the user manual of the pedal and shoe manufacturer.



You can also find more information on this subject in the Internet. A list of links is provided in **Chapter 29 "Link list"**.

9.2 Adjusting the seat position

9.2.1 Adjusting the bike saddle

The seat position is decisive for your well-being and cycling performance.



- Do not remove or change the seatpost or saddle clamp. If you change or modify components, this renders the warranty invalid.



- Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see **Chapter 30 "Technical data"**).



Only work on the bike if you have the correct tools and requisite knowledge. Always have complex or safety-relevant work carried out by a specialist cycle shop.

9.2.2 Operating the quick-release device



- All quick-release devices must be tightened securely before you set off. Check this before every journey.
- If you leave your bike unattended, check that all quick-release devices are correctly secured before setting off again.
- When closing the quick-release lever to lock it, it must be necessary to apply a force that causes you to make a fist with your hand as otherwise the quick-release device could come loose.

Quick-release device



- 1 Quick-release lever
- 2 Adjusting nut

To open the quick-release device, proceed as follows:

- › Throw back the quick-release lever so that its inner face or the lettering OPEN is visible.



- › Open the quick-release device as far as possible.
- › Turn the adjusting nut anticlockwise to further slacken the quick-release device.

To close the quick-release device, proceed as follows:

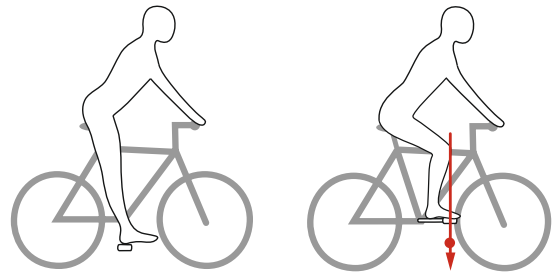
- › Adjust the clamping strength by turning the adjusting nut.
- › If the quick-release device closes too easily, open it again and turn the adjusting nut clockwise.
- › If the quick-release device still closes too easily, repeat the previous step.
- › If the quick-release device is too difficult to close, turn the adjusting nut anticlockwise.
- › Turn back the quick-release lever from the OPEN position so you can see the outer side of the lever or the lettering CLOSE.



- › When closed, quick-release levers must lie flat against the frame, fork and saddle clamp. Make sure that quick-release devices for the hubs point backwards when closed as otherwise they could snag on obstructions when the bike is moving and open. This could lead to serious accidents.

9.2.3 Determining the correct saddle height

- › Sit on the bike saddle.
- › Try to reach the pedal with your heel when it is in the bottom position. Your knee should be more or less fully straightened out.
- › Place the balls of your feet on the centre of the pedal. If your knee is now slightly bent, the saddle height is correct.



Never tighten the seatpost if the maximum mark or stop mark is above the top of the seat tube as otherwise you could injure yourself or damage the seatpost. Always observe the specified tightening torques.

In full-suspension mountain bikes the seat tube is also open at the bottom, so the seatpost should only be inserted a certain distance downwards to ensure the rear swing arm and suspension element never come into contact when the bike is in use.



The minimum insertion depth is marked on the seatpost. If this is not the case, the minimum insertion depth must be 7.5 cm. In frames with long seat tubes that project beyond the top tube, the minimum insertion depth is 10 cm.



9.2.4 Adjusting the saddle angle

- › Your bike saddle should be as close as possible to horizontal.
- › You can make use of longer bike rides to find out what your most comfortable seat position is. If you want to tilt the saddle, try tilting it very slightly forwards. If you tilt the saddle back, this can quickly lead to pain or physical injury.

Adjust the saddle angle as follows:

- › Turn the clamping screw anticlockwise to loosen it.
- › Tilt the bike saddle to the required angle.
- › Turn the clamping screw clockwise to tighten it. (For tightening torques see [Chapter 30 "Technical data"](#)).



Adjusting the saddle angle

9.2.4.1 With a two-bolt seatpost

Some seatposts have two screws for adjusting the saddle angle, one in front of and one behind the seat tube. If you want to tilt the saddle forwards, loosen the rear screw with an Allen key and tighten the front screw by the same number of revolutions. To tilt the saddle backwards, loosen the front screw and tighten the other to the same degree. Then retighten both screws observing the correct tightening torque (see [Chapter 30 "Technical data"](#)).



Two-bolt seatpost

9.2.4.2 With a seatpost saddle clamp

If the saddle is attached to the seatpost by a clamp, the clamping nut will be at the side. Adjust the saddle angle as follows:

- › Turn the clamping nut anticlockwise to loosen it. You may need to counter the nut on the other side using another wrench.
- › Tilt the bike saddle to the required angle.
- › Turn the clamping nut clockwise to tighten it. You may need to counter the nut on the other side using another wrench. Use the correct tightening torque (see [Chapter 30 "Technical data"](#)).



Seatpost saddle clamp

9.2.4.3 With a suspension seatpost

Suspension seatposts reduce vibrations caused by uneven roads thereby reducing stress on the spinal column.

If you need to adjust the suspension elements in the seatpost, consult your specialist cycle shop.



Suspension seatpost

9.3 Adjusting the handlebar position



Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see **Chapter 30 "Technical data"**).

You can also influence your riding position by changing the handlebar height.

The lower you set the handlebar, the further you will have to lean forwards. This increases the strain on your wrists, arms and upper body and you will need to bend your back further.

The higher the handlebar is, the more upright your riding position will be. This increases the stress on your spinal column due to jolting.

You can determine a handlebar height that best suits your body size as follows:

- Sit on the bike saddle.
- Ask another person to hold the bike steady if required.

- Bend your upper body towards the handlebar until you have found a position that is comfortable for your back.
- Stretch out your arms towards the handlebar.
- Note the approximate position of your hands and set the handlebar at this height.

9.3.1 Adjusting / aligning the handlebar height with a conventional handlebar stem

To release the stem shaft in the head tube, proceed as follows:

- Release the stem expander bolt to loosen the handlebar stem. Turn it anticlockwise by two or three revolutions using an Allen key.



- Clamp the front wheel between your legs to prevent the bike fork from turning with the stem shaft.
- Holding the handlebar by the handles, turn it from right to left and vice-versa.
- If it is not possible to do this, tap lightly on the stem expander bolt with a plastic hammer to loosen the clamping fixture inside the stem.
- Set the handlebar stem to the required height.
- Align the handlebar so that it is exactly at right angles to the front wheel.
- To secure the stem shaft again, turn the stem expander bolt clockwise using an Allen key until it is tight (see **Chapter 30 "Technical data"**).



Never tighten the handlebar stem if the maximum mark or stop mark is above the top of the shaft. If you cannot find a mark, insert the handlebar stem into the head tube to a depth of at least 6.5 cm. If you do not do this, the handlebar stem could come loose or break.

9.3.2 Adjusting the handlebar height with A-head systems

With the A-head stems shown here, the handlebar height must be adjusted by a professional bike workshop.

9.3.3 Aligning handlebars with A-head systems in relation to the front wheel

To align the handlebar with the front wheel, proceed as follows:

- › Loosen the hexagon socket screws on the rear of the handlebar stem by turning them anticlockwise with an Allen key.



- › Turn the handlebar so that it is exactly at right angles to the front wheel.
- › Tighten the hexagon socket screw by turning it clockwise with an Allen key (see ► *Chapter 30 "Technical data"*).

9.3.4 Adjusting the handlebar position by turning the handlebar

Loosen the hexagon socket screws on the front of the stem. Turn the handlebar until you find the position that is comfortable for you. Make sure that the handlebar is always exactly in the centre of the stem. Now retighten the hexagon socket screws by turning them clockwise. If the tightening torque is stamped on the stem, use this value, and if not, use the tightening torques in ► *Chapter 30 "Technical data"*.



Once you have adjusted the handlebar, you will also need to adjust the brake levers and gear-shift handles. Loosen the hexagon socket screws on the handle grips. Sit on the saddle and put your finger on the lever. Turn the lever until your hand and lower arm are in a straight line. Retighten the screws in the handle grips by turning them clockwise. (For tightening torques see ► *Chapter 30 "Technical data"*).



9.3.5 Adjusting the handlebar height with an adjustable handlebar stem

With some types of handlebar stems, you can vary the handlebar tilt. The stem angle can be adjusted via the clamping screws which are on the side of the articulation or the top/bottom of the stem. Models equipped with additional stop notches or adjusting screws are available.



Adjusting screw



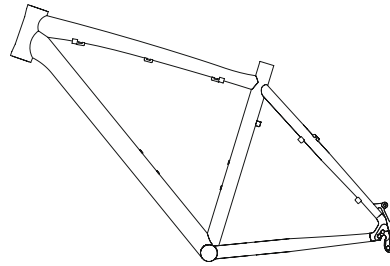
Hexagon socket screw (integrated stop notch)

Adjust the handlebar tilt as follows:

- › Undo the clamping screw by turning it anticlockwise through two or three revolutions using an Allen key.
- › If you own a model that is also equipped with detents, continue turning the clamping screw anticlockwise to disengage the detents.
- › If you own a model with integrated stop notch, loosen the screw of the stop notch. In many stem types this is located on the underside of the stem.
- › Tilt the handlebar stem to the required angle.
- › To fasten the handlebar stem, tighten the clamping screw clockwise using an Allen key. If tightening torques are specified on the stem, use exactly these torques, and if not, refer to the table of tightening torques in **Chapter 30 "Technical data"**.
- › In models with an integrated stop notch, tighten the screw of the stop notch carefully clockwise. In doing so, the stop notch must engage with the teeth.

10 Frame

The form of the frame depends on the bike type and function. Frames are manufactured from different materials – steel or aluminium alloys or carbon (carbon fibre), for example.



The frame number of the bike is stamped on the seat tube, the dropout or the bottom bracket housing.

It may also be found on the motor suspension in Pelecs. The bike can be identified by the frame number if it is stolen. To identify the bike properly, it is important to note down the whole number in the right order.



Never ride your bike if the frame is warped or cracked. On no account should you attempt to repair damaged parts. This can lead to accidents. Replace defective parts before you ride the bike again.

After an accident or crash, have your bike checked by a professional bike workshop before riding it again. If defects on the frame or components go unnoticed this can lead to accidents.

If your bike does not roll forwards easily in a straight line, this could mean that the frame is warped. In this case, have the steering stability checked by a professional bike workshop.

11 Headset



Headset

The headset is the bearing for the bike fork in the frame. If the headset has been properly adjusted, it will turn easily. In doing so, no play should be evident.

The headset is subject to a large amount of stress due to impacts with the road surface. This can cause it to come loose or affect its setting. Have the play and ease of movement of the headset checked regularly by your specialist cycle shop (for inspection intervals see ► **Chapter 28.1 "Inspection schedule"**).



Checking the headset

If you do not adjust the headset properly or tighten it too tightly, this could cause breakages. This should therefore always be carried out by a professional bike workshop.

If you ride with the headset loose, this could damage the bearing shells or fork.

12 Fork

The front wheel is held in place by the bike fork. The bike fork consists of two fork blades, the fork crown and steering tube.



Carbon fork



Suspension fork

The suspension fork is a feature of most mountain bikes, trekking bikes and city bikes. They can be adjusted in different ways and provide a greater degree of riding comfort.

For information on the function, maintenance and care of suspension elements, refer to ► **Chapter 13 "Suspension frame and suspension elements"**. Specific information on your suspension fork is provided in the manufacturer's operating instructions which you can find on the CD or the manufacturer's website.



Never ride with a damaged bike fork. Do not attempt to repair a defective bike fork. This can lead to serious accidents. If you notice that the bike fork is warped or otherwise damaged, replace it before using the bike again.

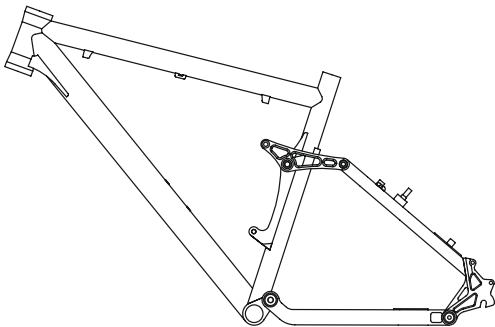
Avoid sudden changes in ground level and riding off high kerb stones. This can damage the fork and lead to serious accidents.

Check regularly that the screws on the bike fork are securely fastened. If screws are allowed to come loose, this can cause serious accidents.

13 Suspension frame and suspension elements

13.1 Frame with rear suspension

If you wish to ride offroad in a particularly sporty manner or with a high degree of comfort, you may have opted for a full-suspension model. In this case, the rear triangle of the main frame is not rigid; instead it can move and is spring mounted and damped by a shock absorber.



Full-suspension frame

Different types of suspension elements are used. These are mainly shock absorbers equipped with a steel spring or an air chamber whose air is compressed due to the action of the suspension. In high-quality shock absorbers, the damping action, that regulates the speed of compression and rebound, can be adjusted. This task is performed by a system of oil chambers and ducts.

Although this type of shock absorber offers a higher degree of riding safety and comfort, it requires special handling. This User Manual contains only general information in this regard. Detailed information and advice is provided in the instructions from the shock absorber manufacturer enclosed with the CD and can also be obtained from your specialist cycle shop.



The website of the relevant suspension element manufacturer may also prove to be a valuable source of information. Informative and helpful links are provided in ► **Chapter 29 "Link list"**.

Your specialist cycle shop should have adjusted the suspension for you before handing over your new bike. Your bike and the seat position may look different to what you are used to, and may also feel different when you are riding. The spring strut must be tuned so that it has a soft

response, but does not strike through if you ride over an obstruction. It must give slightly when you sit on your bike.

13.2 Care and maintenance

You can clean your full-suspension MTB in the usual manner. Hot water with a little washing-up liquid or a gentle detergent which you can obtain from your specialist cycle shop are suitable for this.



You should avoid using a high-pressure cleaner to clean your bike as the cleaning fluid can also enter sealed bearings due to the high pressure and damage them beyond repair.

You should carefully wipe down the piston of the shock absorber and the seal with a soft cloth as part of your regular bike maintenance. If you spray a little spray oil, e.g. from Brunox, on the running surface of the shock absorber and the seal, this increases its performance and service life.

You should regularly check the articulations of the rear triangle for play. To do this, lift the wheel and try to move the rear wheel sideways.

You can detect play in the mounting bushes of the shock absorber by lifting the rear wheel up and setting it back down quickly. If you sense play or hear a rattling noise, have your bike checked immediately by a professional bike workshop.



Your safety depends to a large extent on whether the suspension elements are securely fastened and are working correctly. You should therefore regularly look after and inspect your full-suspension bike.

- Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see ► **Chapter 30 "Technical data"**).

14 Bottom bracket and cranks

Chainrings are wear parts. Their service life depends on various factors, e.g.

- maintenance and care,
- type of use and
- distance travelled.

15 Checking the bottom bracket



The cranks must be securely fastened as this could otherwise damage the crankset.

- The cranks can come loose which is why you should regularly check whether they are securely fastened by attempting to rock them to and fro.
- If there is play in the cranks, have the bike checked and the cranks fastened securely by a professional bike workshop .

If your bike has a carbon frame and a bottom bracket housing for a BB30 bottom bracket please note the following:

In this case you can fit an adapter so that a bottom bracket with conventional BSA thread can be used. However, bear in mind

- You can only install the adapter if the frame is completely undamaged. Repairing a defective BB30 housing serves no purpose. If it is not installed correctly, the bottom bracket housing may be damaged which would render the warranty void. This kind of adapter should only be fitted by a specialist cycle shop.
- Once the adapter has been fitted in the carbon frame it cannot be removed.

16 Wheels

16.1 Checking the wheels

The wheels connect the bike with the surface you are riding on. The wheels are subject to a particularly high level of stress due to unevenness of the riding surface and the weight of the rider.

The wheels are carefully checked and trued prior to delivery. However, the spokes may settle when you ride the first kilometres on your bike.

- Have the wheels checked again and trued if necessary after the first 100 kilometres by a specialist cycle shop.
- You should subsequently regularly check the tension in the spokes and have loose or damaged spokes replaced, and/or have the wheel trued, by a specialist cycle shop.

The wheel can be attached to the frame and fork in a number of different ways. In addition to the standard systems in which the wheel is held on by axle nuts or quick-release devices, different types of floating axles exist. These can be held in place by a screw connection or different types of quick-release devices. If your bike has a floating axle, please also refer to the enclosed manufacturer's user manual or visit the web pages of the relevant manufacturer in the Internet.



Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see ➤ **Chapter 30 "Technical data"**).

16.2 Checking the hubs

To check the hub bearings, proceed as follows:

- Lift the wheel and spin it.
- Check whether the wheel continues to turn through several revolutions before it stops moving. If it stops suddenly, the bearing is damaged. This does not apply for front wheels with hub dynamos.
- To determine whether there is play in the hub bearing, try rocking the wheel in the bike fork or rear

triangle backwards and forwards perpendicular to the direction of travel.

- › If you notice that there is play between the bearings or if you encounter resistance when turning the wheel, have the hub bearing adjusted by a specialist cycle shop.

16.3 Checking the rims

If you are using a rim brake, the rim is subject to a higher degree of wear.



If a rim is worn it loses stability which makes it more susceptible to damage. If the rim is deformed, cracked or broken this can lead to serious accidents. If you notice changes in a rim on your bike, do not ride on it. Have the problem checked by a professional bike workshop.



Rims for bikes with wheel sizes greater than 24" are supplied with a rim wear indicator. These rims have a characteristic curve or groove that runs round the entire circumference.

Replace the rim as soon as you notice marks (grooves, coloured spots) in one location on the rim, if an embossed marking has disappeared or if a coloured marking has worn down.

If the marking consists of a groove or several points on the rim side wall, have the rim replaced as soon as it wears off.

17 Tyres and inner tubes

17.1 Tyres

A large number of different tyre types exist. The bike's offroad capability and rolling resistance depend on tread profile.



Only inflate the tyre to the maximum permissible tyre pressure as otherwise it may burst.

Inflate the tyre at least to the specified minimum air pressure. If the tyre pressure is too low, the tyre may detach from the rim.

The maximum permissible tyre pressure, and normally also the minimum permissible pressure, can be found on the tyre sidewall.

Always replace the tyre with a tyre of the same type, dimension and profile as otherwise the ride characteristics may be adversely affected. This can lead to accidents.



Tyres are wear parts. Check the tread depth, tyre pressure and condition of the tyre sidewalls regularly. Replace worn tyres before using the bike.



Note the dimension of the fitted tyre. Standard designations are used when stating the tyre dimension.

- *Example 1:* "46-622" means the tyre is 46 mm wide and the rim diameter is 622 mm.
- *Example 2:* "28 × 1.60 inches" means that the tyre diameter is 28 inches and the tyre width is 1.60 inches.

The tyre pressure is frequently stated in PSI. ➔ *Chapter 30 "Technical data"* contains a table which you can use to convert tyre pressures from PSI into bar.

17.2 Tubeless tyres

Tubeless tyres are also used nowadays, especially with modern mountain bikes, but also with road bikes to a lesser extent. Although they offer a number of benefits, they must be used and handled with caution.



Only use tubeless tyres on suitable rims. These are identified accordingly, e.g. using the abbreviation "UST".



Only use tubeless tyres of the prescribed type and in the prescribed manner, with the right tyre pressure and, if applicable, using the recommended sealing fluid.

Tools must not be used to remove tubeless tyres from the rim as otherwise leaks may subsequently occur. If the sealing fluid does not remedy the defect, the valve can be removed and a normal inner tube used.

17.3 Tubed tyres

Tubed tyres are also used, particularly on bikes used in sports competitions. With this tyre type, the inner tube is sewn into the casing and this unit is glued firmly to the designated rim using special adhesive. Tubed tyres offer enhanced safety in the event of a puncture and improved emergency-running characteristics



Only use tubed tyres on the designated rims. These do not have turned-up edges (rim flanges) and instead have a smooth inwards-curving surface onto which the tubed tyre is glued.



Only use the tubed tyres of the prescribed type and in the prescribed manner with the correct tyre pressure.



Special skills and a great deal of experience are required to glue on tubed tyres. Always have tubed tyres replaced at a professional bike workshop. Find out how to handle tubed tyres correctly and how to replace them safely.

17.4 Inner tubes

The inner tube is necessary to maintain the pressure inside the tyre. It is inflated via a valve.

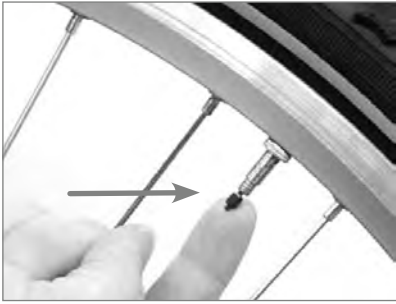
Three valve types exist:



- 1 Sclaverand or road valve
- 2 Schrader or car valve
- 3 Dunlop or Woods valve

All three have a cap to protect them from ingress of dirt.

To inflate an inner tube with a Sclaverand or road valve, proceed as follows:



- › Unscrew the valve cap anticlockwise with your fingers.
- › Unscrew the knurled nut anticlockwise.
- › Push the knurled nut with your finger briefly into the valve until air escapes.
- › Inflate the inner tube using a suitable tyre pump.
- › Screw the knurled nut back down.
- › Screw the cap clockwise back onto the valve.



Ask a specialist cycle shop for advice on which tyre pump is suitable for your valve.

To inflate an inner tube with a Dunlop/Woods valve or Schrader/car valve proceed as follows:

- › Unscrew the valve cap anticlockwise.
- › Inflate the inner tube using a suitable tyre pump.
- › Screw the cap clockwise back onto the valve.

18 Repairing a puncture

To repair a puncture, you will need the following equipment:

- Plastic tyre lever
- Patches
- Rubber solution
- Sandpaper
- Spare inner tube, if required
- Spare valve, if required
- Open-ended spanner (if your bike is not equipped with a quick-release device)
- Tyre pump

We recommend you remove the defective wheel first. Open or remove the brake beforehand. The procedure for this depends on the type of bike brake that is installed.



Read the chapter on brakes before removing the brake as otherwise you could damage the brake system and this could lead to accidents.

18.1 Opening the brake

18.1.1 Opening the cantilever or V-brake

- › Grip the wheel with one hand.
- › Squeeze the brake pads or brake arms against the rim.
- › Detach the brake cable at one of the brake arms.

18.1.2 Removing the hydraulic rim brake

- › If quick-release brake mechanisms are fitted, remove a brake unit (see [Chapter 9.2.2 "Operating the quick-release device"](#)).
- › If no quick-release brake mechanisms are fitted, deflate the tyre.

18.1.3 Opening the side-pull calliper brake

- › Open the quick-release lever on the brake arm or brake lever.
- › If no quick-release brake mechanisms are fitted, deflate the tyre. The wheel can now be pulled out between the brake pads.

18.1.4 Releasing the hub gears, roller, drum or back-pedal brakes

- › Undo the cable clamping screw or quick-release device on the brake arm.
- › With back-pedal brakes, the screw connection of the brake arm on the chain stay must be released.

18.2 Removing the wheel

Please note that the work steps described here are for a specific example.

Please observe the information by the relevant manufacturer or consult your specialist cycle shop.

18.2.1 Removing the front wheel

- › If quick-release devices are fitted to your bike, open them (see [Chapter 9.2.2 "Operating the quick-release device"](#)).
- › If axle nuts are fitted to your bike, release these by turning them anticlockwise using a suitable spanner.
- › If the dropouts are specially formed to prevent the front wheel from falling out, continue loosening the nuts by turning them anticlockwise. Once the washers and nuts are clear of the dropouts, pull the front wheel out of the fork.
- › If your bike is equipped with metal wheel locking devices, continue loosening the nuts by turning them anticlockwise.
- › Pull the metal locking devices apart until they are clear of the dropout.
- › Now pull the front wheel out of the fork.

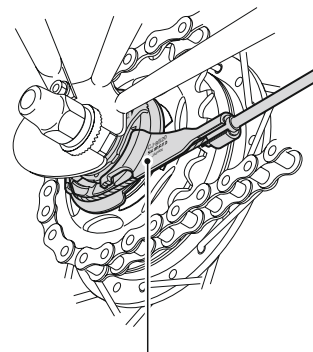
18.2.2 Removing the rear wheel

- › If your bike is equipped with derailleur gears, shift down to the smallest sprocket. The rear derailleur does not prevent the wheel from being removed in this position.
- › If quick-release devices are fitted to your bike, open them (see [Chapter 9.2.2 "Operating the quick-release device"](#)).
- › If axle nuts are fitted to your bike, release these by turning them anticlockwise using a suitable spanner.
- › Fold the rear derailleur backwards slightly.
- › Lift the bike up slightly.
- › Pull the wheel out of the frame.
- › If the rear wheel still does not come out, open the quick-release device further by turning the lock nut anticlockwise.
- › Strike the wheel from above gently with the palm of your hand to shift it.
- › The wheel should drop out.

The example here shows the removal of a Shimano hub gear:

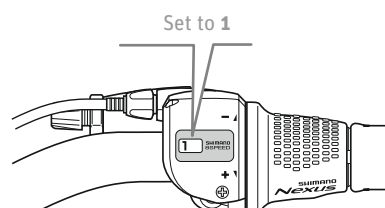
Disconnect the shifting cable to remove the rear wheel

- › Disconnect the cable from the cassette joint to remove the rear wheel from the frame

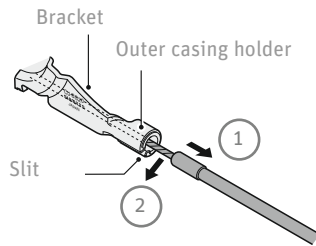


Cassette joint

- › 1. Set the Revo-shift lever to 1.

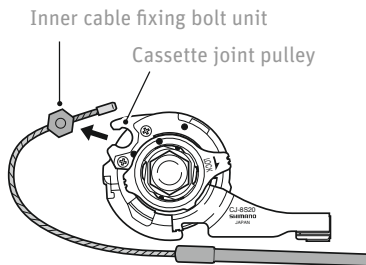


- 2. Pull the outer casing out from the outer casing holder of the cassette joint, and then remove the inner cable from the slit in the bracket.

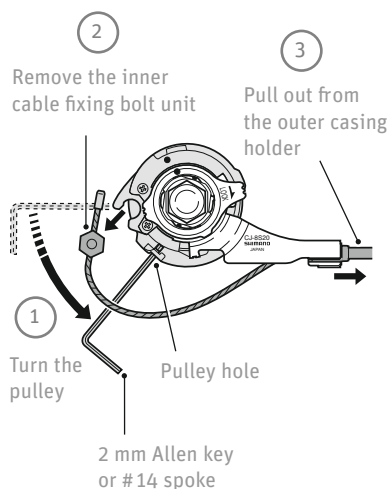


- 1 Pull out from outer casing holder
- 2 Remove from the slit

- 3. Remove the inner cable fixing bolt unit from the cassette joint pulley.



If it is difficult to pull the outer casing out from the outer casing holder of the cassette joint, insert a 2 mm Allen key or #14 spoke into the hole in the cassette joint pulley, and then turn the pulley to loosen the inner cable. Then remove the inner cable fixing bolt unit from the pulley first, and after this remove the outer casing from the outer casing holder.



- 4. Undo the screw of the brake arm and remove it.

- 5. Undo the wheel nuts and put them to one side. Remove the lock washers from the wheel axle.
- 6. Pull the rear wheel out of the dropout slits.

18.3 Removing the tyre and inner tube

- Unscrew the valve cap, fastening nut and the cap nut (if installed) from the valve. Remove the valve insert from Dunlop or Woods valves.
- Allow the remaining air to escape from the inner tube.
- Place the tyre lever on the inner edge of the tyre opposite the valve.
- Lever the tyre sidewall over the rim flange.
- Push the second tyre lever between the rim and tyre approx. 10 cm away from the first one.
- Continue levering the tyre off the rim until the tyre has detached round the entire circumference.
- Take the inner tube out of the tyre.

18.4 Mending the inner tube

- Pump up the inner tube.
- Put the inner tube in a container filled with water to locate the puncture.
- Push the inner tube below the surface of the water. Air bubbles will be visible at the point where the inner tube is torn or perforated.
- If you start losing air from the tyre on the road and cannot find the hole, simply inflate the inner tube hard. The hole will then get bigger as the air will escape with greater force and you will be able to hear more easily where it is coming from.
- Allow the inner tube to dry.
- Carefully roughen the inner tube in the area around the puncture using the sandpaper.
- Coat this area with rubber solution.
- Wait for several minutes until the rubber solution is touch dry.
- Press the rubber patch firmly onto the damaged area.
- Leave the rubber patch to dry for several minutes.

18.5 Fitting the tyre and inner tube



Make sure that foreign bodies do not enter the inside of the tyre. Make sure that the inner tube is crease-free and not pinched at all times. When fitting the tyre, bear in mind the running direction. If the tyre has a running direction, this will be indicated on the tyre sidewall.

- › Make sure that the rim tape covers the spoke nipples and is undamaged.
- › Put the rim with one edge inside the tyre.
- › Push one side of the tyre completely into the rim.
- › Insert the valve through the valve hole in the rim and fit the inner tube inside the tyre.
- › Push the tyre over the rim sidewall.
- › Pull the tyre forcefully into the centre of the rim. The area that has already been fitted will slip into the base of the rim.
- › Check once again that the inner tube is seated correctly.
- › Push the other side of the tyre completely over the rim flange using the heel of your hand.
- › With Dunlop or Woods valves: Put the valve insert back into position and screw the cap nut tight.
- › Inflate the inner tube slightly.
- › Check that the tyre is correctly seated and is true using the indicator ring on the rim sidewall. Adjust the seating of the tyre by hand if it does not run straight.
- › Inflate the inner tube up to the recommended tyre pressure.

18.6 Fitting the wheel

Please note that the work steps described here are for a specific example.

Please observe the information from the relevant manufacturer or consult your specialist cycle shop.

18.6.1 Inserting the front wheel



Bear the running direction of the tyre in mind when fitting the front wheel.



If your bike is equipped with a disc brake, make sure that the brake discs are correctly positioned between the brake pads.

18.6.2 Inserting the rear wheel

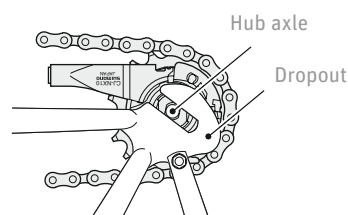
18.6.2.1 Bikes with derailleur gears

- › If your bike is equipped with derailleur gears, put the chain back onto the smallest sprocket when fitting the rear wheel.
- › Insert the wheel as far as it will go so it sits centrally in the dropouts.
- › Tighten the hub nut, or firmly close the quick-release device (see [Chapter 9.2.2 "Operating the quick-release device"](#)).

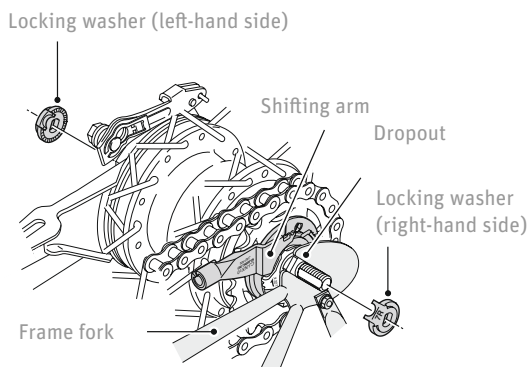
18.6.2.2 Bikes with hub gears

Fitting a wheel with gear hub in the frame

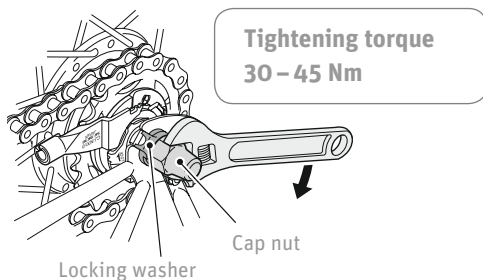
- › 1. Fit the chain on the sprocket and offer up the hub axle to the dropouts.



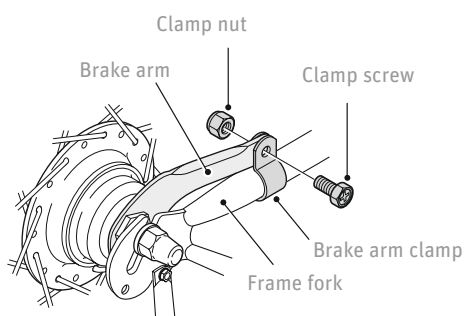
- 2. Fit the fixing washers onto both sides of the hub axle. Turn the shifting arm until the projections on the fixing washers engage with the slits in the dropouts. In this case the shifting arm can be mounted more or less parallel to the frame fork.



- The projecting part must be on the dropout side.
- Fit the fixing washers so the projections precisely engage in the slits in the dropouts on the front or rear of the hub axle.
- 3. Take up the slack in the chain and fasten the wheel onto the frame with the cap nuts.



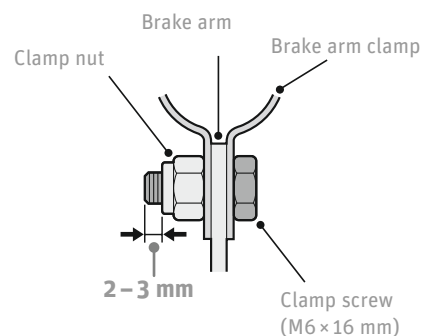
- 4. Fit the brake arm with brake arm clamp correctly onto the frame fork.



Counter the clamp nut with a 10 mm spanner when tightening the clamp screw for assembly of the brake arm clamp.

Tightening torque
2 - 3 Nm

Once you have installed the brake arm clamp, make sure the clamp screw projects roughly 2 to 3 mm beyond the clamp nut.



- 5. Before using the back-pedal brake, make sure the brake is working properly and the wheel turns easily.

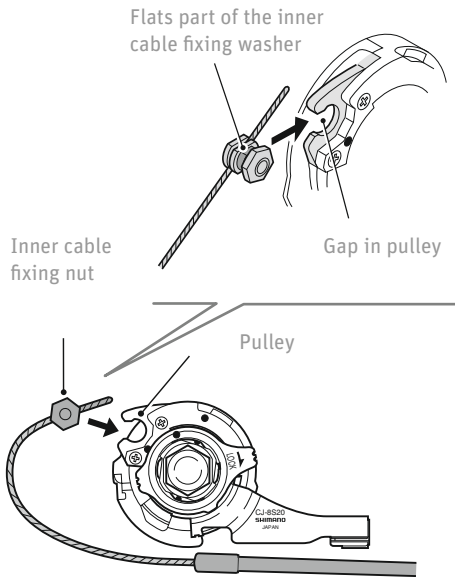


Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see **Chapter 30.3 "Tightening torques for screw connections"**).

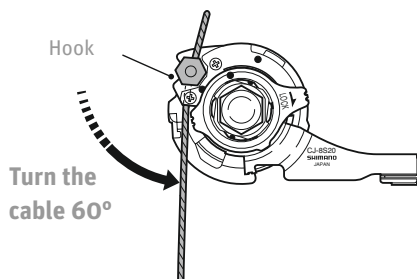
- Thread in the brake cable and secure it or close the quick-release brake mechanism.
- Check that the brake pads make contact with the brake contact surfaces.
- Check that the brake arm is securely fastened.
- Test the brakes.

Installing the shifting cable with hub gears

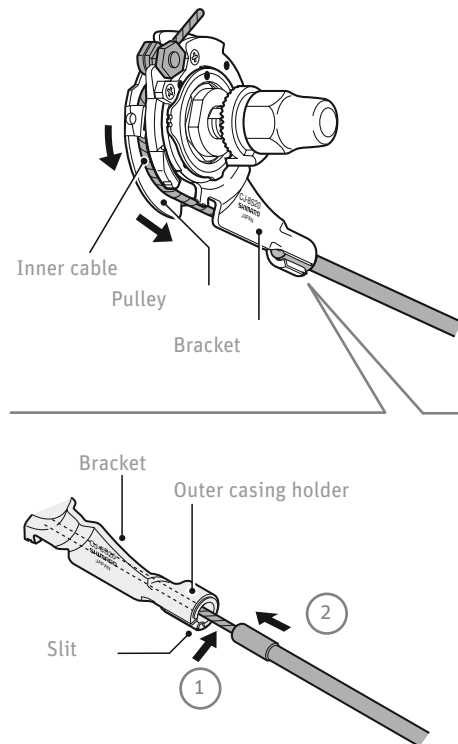
- Bring the cable around to the cassette joint pulley, hold so that the inner cable fixing nut is facing to the outside (toward the dropout), and then slide the flats part of the inner cable fixing washer into the gap in the pulley.



- Turn the cable 60° anticlockwise and attach it on the hook.

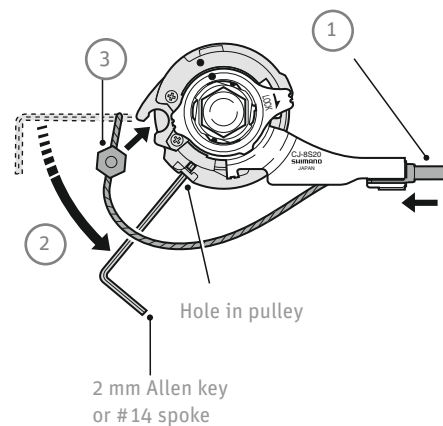


- Attach the inner cable to the pulley as shown in the illustration, pass the inner cable through the slit in the cassette joint bracket, and then insert the end of the outer casing securely into the outer casing holder.



- 1 Pass through the slit
- 2 Insert into the outer casing holder

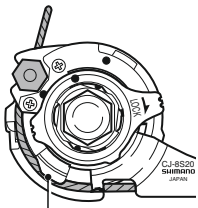
- If first inserting the outer casing into the outer casing holder is easier, then first insert the outer casing into the outer casing holder, and then insert a 2 mm Allen key or a #14 spoke into the hole in the cassette joint pulley, and then turn the pulley so that the inner cable fixing bolt unit fits into the gap in the pulley.



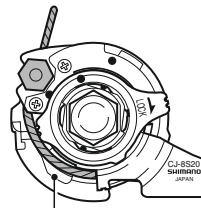
- 1 Insert into the outer casing holder
- 2 Turn the pulley
- 3 Insert the inner cable fixing bolt unit



Check that the inner cable is correctly seated inside the pulley guide.



✓ Guide OK



✗ Guide not OK

19 Bike gears

19.1 Derailleur gears

This User Manual describes the handling of typical, commercially available gear-shift components for MTB, ATB, cross and road bikes. Separate instructions are provided for other components on the CD or on the web pages of the relevant manufacturer in the Internet. If you have questions on installation, adjustment, maintenance and operation, please consult a specialist cycle shop.



If gear-shift components are loose, worn, damaged or adjusted incorrectly, this poses a risk of injury to the rider. Have the derailleur gears adjusted at a professional bike workshop.



- Always contact your specialist cycle shop if the chain jumps off the chainrings or sprockets when riding or
- you hear unusual noises or
- you cannot change gears easily or
- the rear derailleur, front derailleur or other gear-shift components are loose, damaged or distorted or
- chain links are defective or worn.



The bike chain must not be on the smallest chainring at the front and the small outer rear sprocket wheel simultaneously. The bike chain must not be on the largest chainring at the front and large inner sprocket wheel at the rear simultaneously. Otherwise the bike chain could jump off.

Never pedal backwards when changing gears as you could damage the gear-shift mechanism.

Only make changes to the gear-shift system carefully and in small increments. If settings are made incorrectly, the bike chain could jump off the sprocket wheel and cause you to fall off the bike. If you are unsure about what to do, have this work carried out by a professional bike workshop.



Even if the gear system is perfectly adjusted, it can produce noise if the chain is running at an extremely sharp angle. This does not mean it is defective and does not damage the drive. As soon as the chain is at a more shallow angle, the noise will disappear.



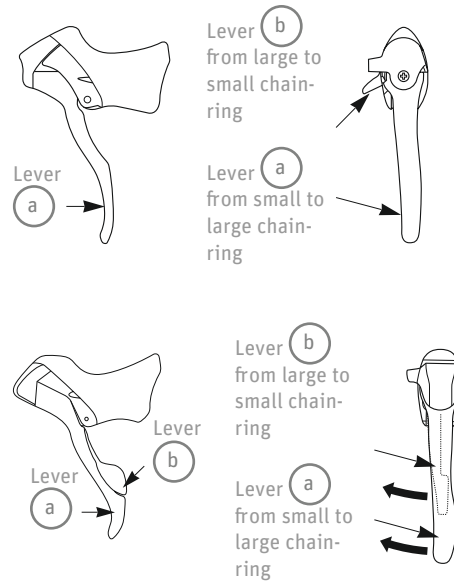
Never ride without a spoke protector. If a spoke protector is not installed, you must have one retrofitted. Otherwise the bike chain or rear derailleur could land in the gap between the sprocket and the spokes.

You should therefore select the lowest gear (largest sprocket wheel) via the gear-shift handle for the rear derailleur carefully as otherwise the rear derailleur could collide with the spokes and damage them.

19.1.1 Operating the shifting lever

19.1.1.1 Shifting lever on road bike

Shimano shifting lever



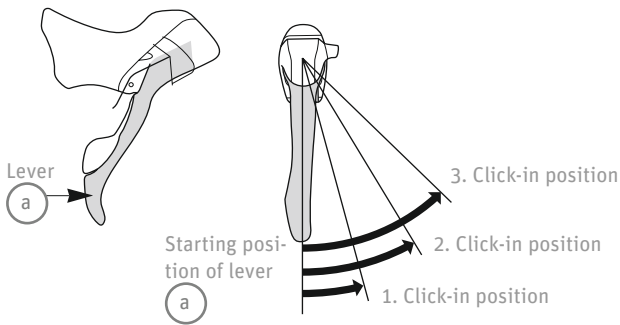
Lever a: Shift to a larger chainring
Lever b: Shift to a smaller chainring

Once released, all levers revert to their initial position.

Operating the rear derailleur shifting lever

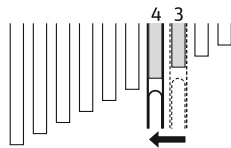
Lever **a**: Shift to a larger sprocket.

Lever **a** engages in positions 1, 2 and 3.



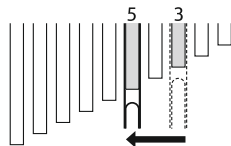
1. Shifting up one gear to next larger sprocket.

Example: shifting from 3rd to 4th gear



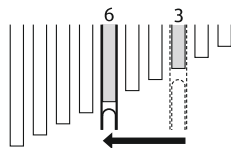
2. Shifting up two gears to a larger sprocket.

Example: shifting from 3rd to 5th gear

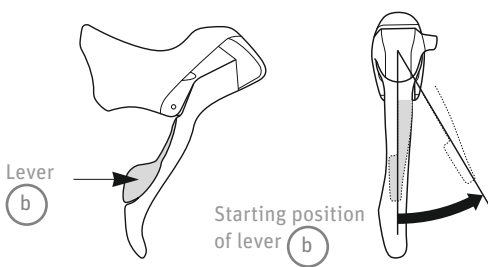


3. Shifting up three gears to a larger sprocket.

Example: shifting from 3rd to 6th gear

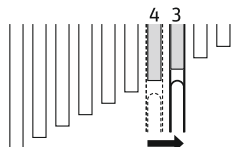


Lever **b**: Shift to a smaller sprocket. Press lever **b** once to change to the next sprocket down (smaller).



1. Shifting up one gear to next smaller sprocket.

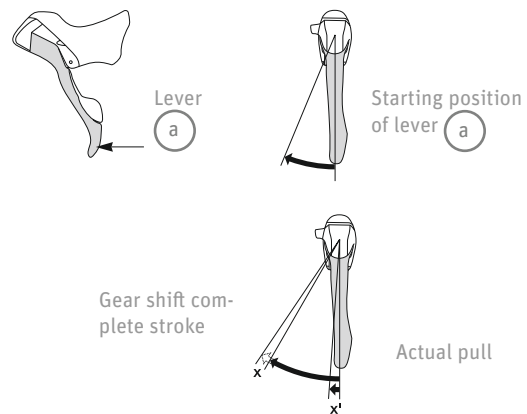
Example: shifting from 4th to 3rd gear



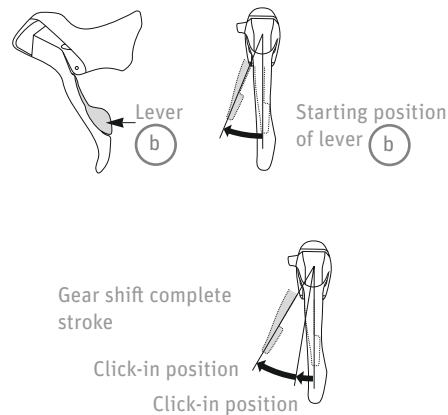
When lever **a** is pressed, lever **b** moves with it. However, you should avoid putting any pressure on lever **b** in doing so. The same applies for lever **a** when pressing lever **b**. The gear will not change if both levers are operated at the same time.

Operating the front derailleur lever (standard)

Lever **a**: Shift to a larger chainring



If the lever movement does not effect a full changeover of chainring, press the lever repeatedly by the amount (X') to move the lever the remaining distance (X) and change gears.



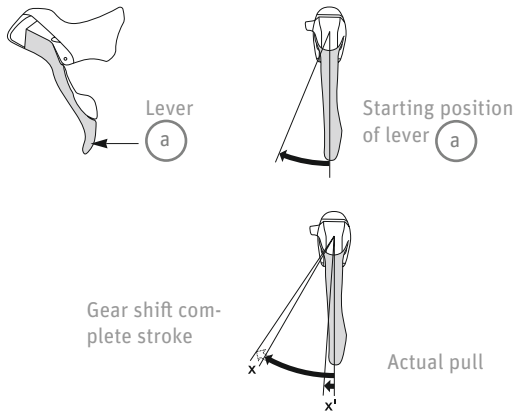
Lever **b**: Shift from intermediate chainring to smallest chainring

When lever **a** is pressed, lever **b** moves with it. However, you should avoid putting any pressure on lever **b** in doing so. The same applies for lever **a** when pressing lever **b**. The gear will not change if both levers are operated at the same time.

Operating the front derailleur lever with trimming (noise prevention), optional

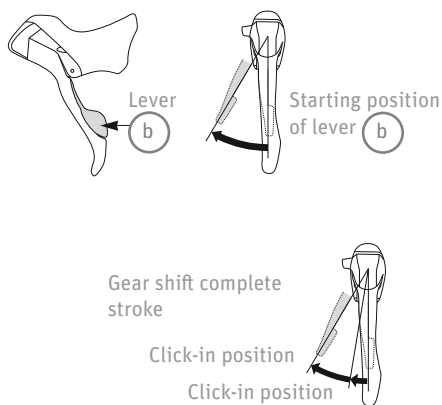
Gear shifting operations

Lever **a**: Shift to a larger chainring



If the lever movement does not effect a full changeover of chainring, press the lever repeatedly by the amount (X') to move the lever the remaining distance (X) and change gears.

Lever **b**: Shift from intermediate chainring to smallest chainring



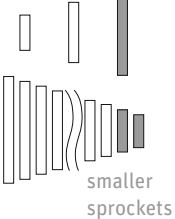
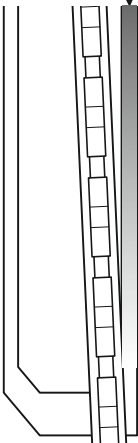

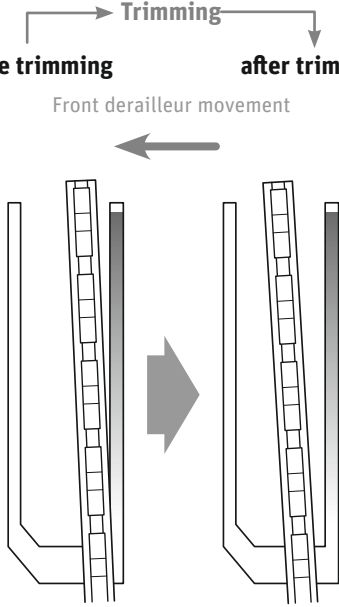
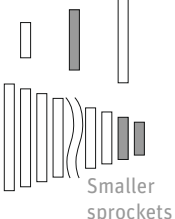
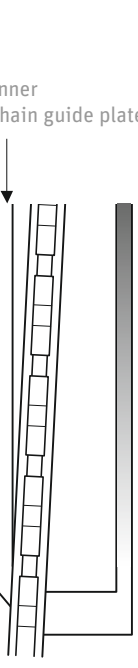
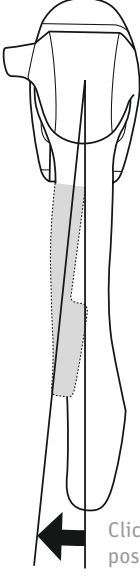
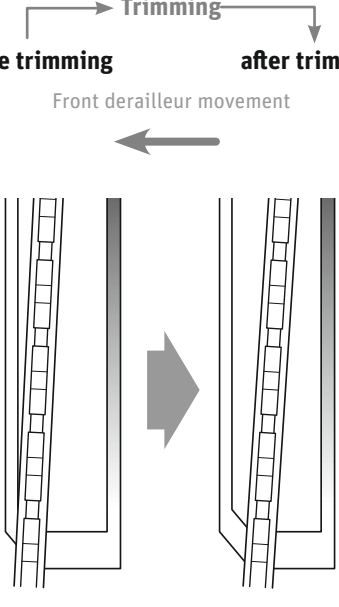
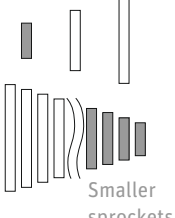
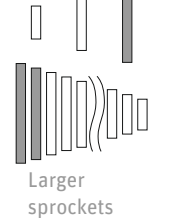
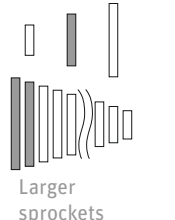
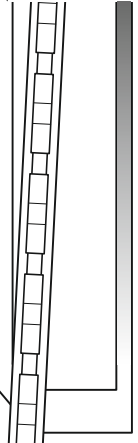
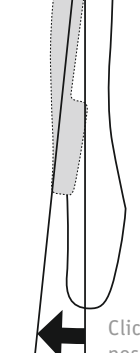
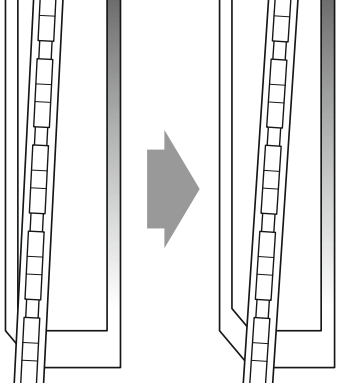
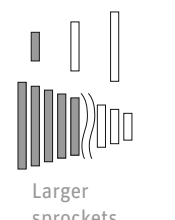
When lever **b** is operated, there is one click where trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke.

Trimming (noise prevention)

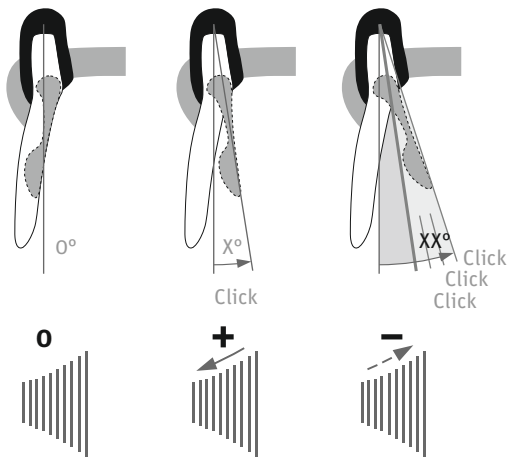
Depending on the position of the chain after shifting, it may rub against the outer chain guide plate or inner chain guide plate of the front derailleur and produce noise. In this case, lightly press lever **a** or lever **b** to move the front derailleur until it is no longer in contact with the chain.

This procedure is known as "trimming". Trimming is possible if the chain is on the large, intermediate or small chainring.

If you perform the trimming operation at one of the following positions, the noises will disappear completely.

CHAIN POSITION	INDICATION	TRIMMING	
		LEVER OPERATION	FRONT DERAILLEUR MOVEMENT
<p>large chainring</p>  <p>smaller sprockets</p>	<p>Chain in contact with outer chain guide plate</p>  <p>Outer chain guide plate</p> <p>Chain</p>	<p>Lever (a)</p>  <p>Click-in position (contact)</p>	<p>Trimming</p> <p>before trimming → after trimming</p> <p>Front derailleur movement</p> 
<p>Middle chainring</p>  <p>Smaller sprockets</p>	<p>Chain in contact with inner chain guide plate</p>  <p>Inner chain guide plate</p> <p>Chain</p>	<p>Lever (b)</p>  <p>Click-in position (contact)</p>	<p>Trimming</p> <p>before trimming → after trimming</p> <p>Front derailleur movement</p> 
<p>Small chainring</p>  <p>Smaller sprockets</p>			
<p>Large chainring</p>  <p>Larger sprockets</p>			
<p>Middle chainring</p>  <p>Larger sprockets</p>	<p>Chain in contact with inner chain guide plate</p>  <p>Inner chain guide plate</p> <p>Chain</p>	<p>Lever (b)</p>  <p>Click-in position (contact)</p>	<p>Trimming</p> <p>before trimming → after trimming</p> <p>Front derailleur movement</p> 
<p>Small chainring</p>  <p>Larger sprockets</p>			

SRAM shifting lever



Rear shifting lever: To shift to a tougher (higher) gear, press the small shifting lever gently inwards until you hear or feel a click. To shift to an easier (lower) gear, press the small shifting lever further inwards until you hear or feel a second click. You can shift down by up to three gears at once.

Front shifting lever: Press the small shifting lever inwards as far as it will go to shift from the small chain wheel to the large chain wheel. To shift from the large chain wheel down to the small chain wheel, press the small shifting lever in the centre until you hear or feel a distinctive click.



To prevent chain rubbing in extreme positions, the shifting lever at the front has a trimming function for the front derailleur. You can use this if the chain is on the large chain wheel.

To shift the front derailleur to the trim position, press the small shifting lever gently inwards until you hear or feel a gentle click.

Setting the swivel range

The range of the shifting and brake lever pivoting movement can be adjusted individually to suit the size of your hand.



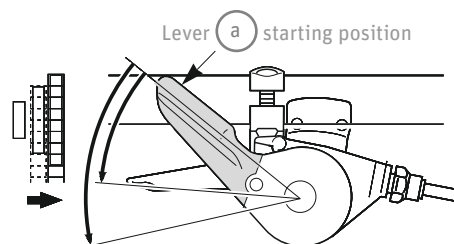
- First, set the shifting lever range then adjust the brake lever until the brake lever limit stop makes contact with the shifting lever. This ensures that the brake lever cannot strike the shifting lever when it springs back.
- To adjust the range of the shifting lever, push it inwards to reach the range adjustment screw. Push the adjustment screw inwards using a mandrel or your fingernail and turn it anticlockwise to move the shifting lever closer to the handlebars.

19.1.1.2 Shifting lever on MTB, trekking and touring bike

Standard shifting lever

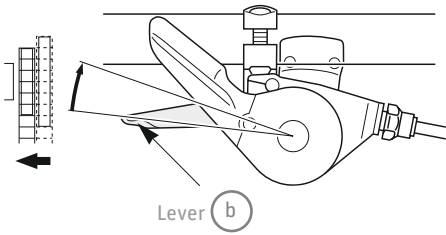
Both levers **a** and **b** always revert to the initial position after they are pressed. The crank must always be turned when a lever is pressed.

Operating the front derailleur shifting lever



Shifting from a small to a large chainring

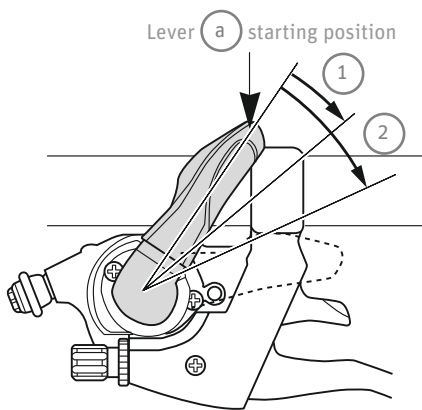
Press lever **a** once to move the chain from a small to a larger chainring.



Shifting from a large to a smaller chainring

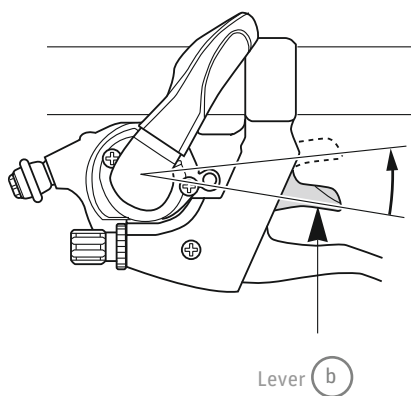
Press lever **b** once to move the chain from a large to a smaller chainring.

Operating the standard rear derailleur shifting lever



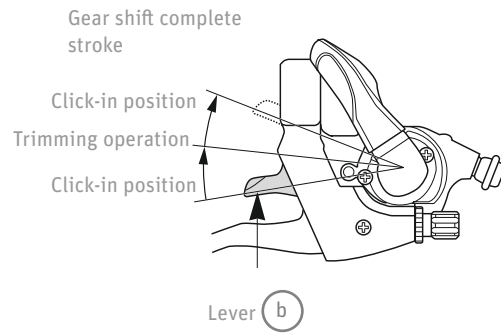
Shifting from a small to a larger sprocket

To shift by one gear only, push lever **a** to position **1**. To shift by two gears, push the shifting lever to position **2**. You can shift a maximum of 3 gears using this method.

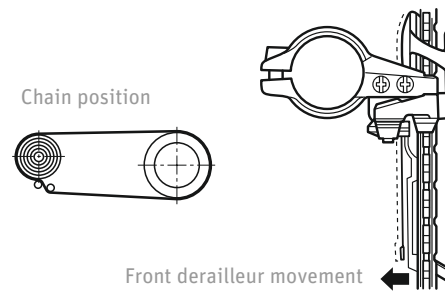


Shifting from a large to a smaller sprocket

Push once to shift to a smaller sprocket.



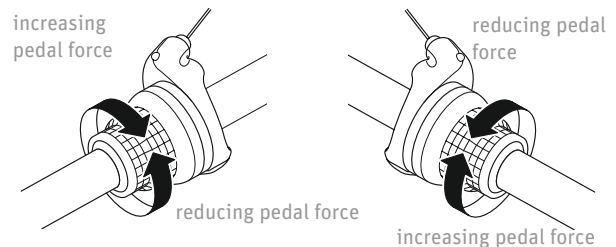
When lever **b** is operated, there is one click where trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is complete. The noise prevention mechanism no longer clicks once the trimming operation is complete which means that only the click-in positions will be heard when shifting between sprockets.



If the chain is on the large chainring and the large sprocket, the chain will rub the front derailleur producing a characteristic noise. When this happens, press lever **b** lightly to the point where it clicks, this causes the front derailleur to move slightly towards the smaller chainring, thereby eliminating the noise.

Twist-grip shifters

To shift up or down one gear only, turn the twist-grip shifter by one increment forwards or backwards.



If you wish to shift up or down several gears at once, continue turning the shifting lever by the required number of shift positions and in the required direction.

Rear derailleur

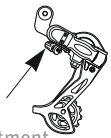
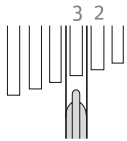


Have your specialist cycle shop carry out maintenance on the derailleur gears, or replace or adjust them.

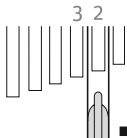
Precision adjustment/rear derailleur

Operate the shifting lever to shift the chain from the smallest sprocket to the second sprocket. Then take up the slack in the shifting cable with the shifting lever and turn the crank.

If the chain jumps to the third sprocket:

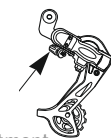
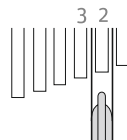


Adjustment screw

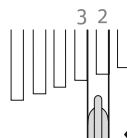


- Turn the adjustment screw clockwise until the chain moves back onto the second sprocket.

If noises cannot be heard:



Adjustment screw

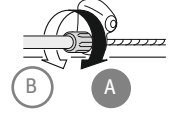
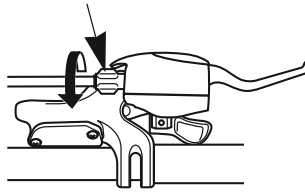


- Turn the screw anticlockwise until the chain rubs against the third sprocket.



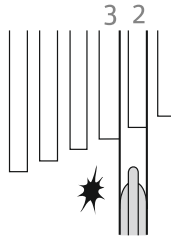
The adjustment screw may also be on the shifting lever or on the frame.

Adjustment screw



Cable housing adjustment screw

Optimum adjustment



Once the slack in the shifting cable has been taken up by the shifting lever, the chain should ideally rub the third sprocket and produce a noise.

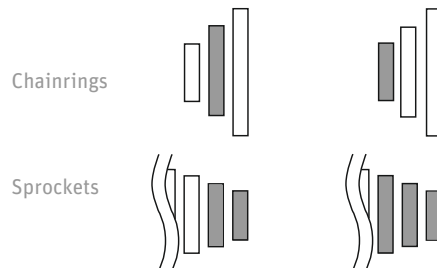
Release the shifting lever in second gear and turn the crank.

If the chain rubs the third sprocket, turn the adjustment screw clockwise slightly until the grinding noise stops.

To ensure problem-free SIS operation, you will need to lubricate all power-transmitting parts.



If the chain is in the position shown, it could rub against the chainrings or the front derailleur and make a noise. If this is the case, you can shift the chain onto the second or next largest sprocket.



Cleaning

- › Whenever possible, avoid using cleaning agents on the chain. If you use cleaning agents, such as rust remover, this may wash lubricant out of the chain which could lead to malfunctions.
- › The chainrings and sprockets should be cleaned regularly using a neutral cleaning agent.
- › You should clean the derailleur and lubricate the moving parts (mechanism and rollers) at regular intervals.

19.2 Hub gears

This User Manual describes the handling of typical, commercially available gear-shift components of a gear hub on a city or trekking bike. For other components, refer to the separate information or enclosed instructions.

If you have questions on installation, adjustment, maintenance and operation, please consult a specialist cycle shop.



If the hub is mounted on the frame, the correct fixing washers must be used on both sides and the hub nuts must be tightened to the prescribed torque (see **Chapter 30 "Technical data"**).

If the fixing washers are used on one side only or the hub nuts are tightened incorrectly, the hub may malfunction: It could rotate. This could cause the shifting cable to pull the handlebar to one side and cause a serious accident.



The gears can be changed when the pedals are turning. Very occasionally, the hub may produce a harmless noise which is caused by its internal cogs and stop notches.

If you encounter resistance when turning the wheel, the brake pads will need to be replaced or the hub will need to be lubricated. This should be done by a professional bike workshop.

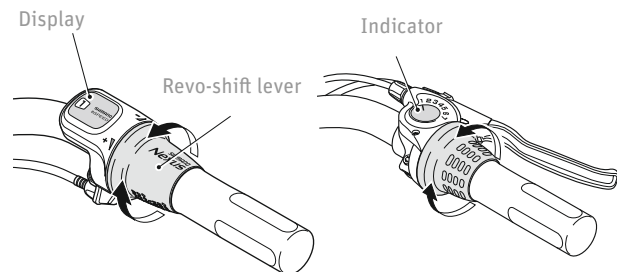
If the chain jumps off the sprockets when you are riding, the slack in the chain must be taken up immediately. If there is no further scope for adjustment, the sprockets and chain must be replaced.

19.2.1 Operating the hub gears

19.2.1.1 Shimano 7/8-speed shift lever

- › Turn the twist-shift lever to select all 8 (7) gears.

- Increasing pedal force (increasing resistance)
→ indicator towards **8 (7)**



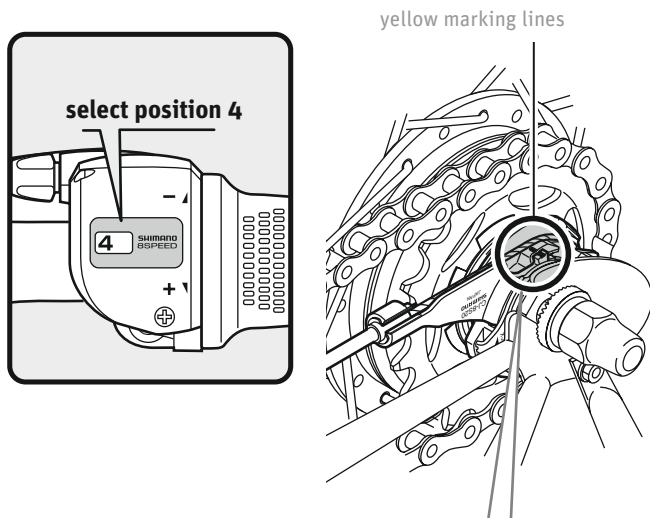
- Decreasing pedal force (decreasing resistance)
→ indicator towards **1**

These instructions on operation of the Shimano twist-shift grips also apply to other makes of twist-shift grips.

19.2.2 Adjusting gears with Shimano hub gears

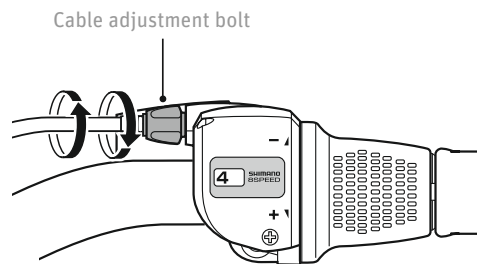
Example shown is a 7/8-speed hub.

- Select shift lever position **4**.
- Check whether the yellow marking lines on the bracket and cassette joint pulley line up.



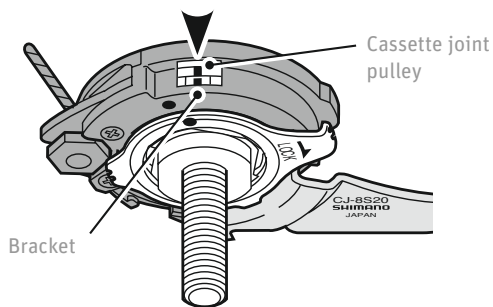
Yellow marking lines appear at two points on the cassette joint. Use the line which is most clearly visible.

- Turn the cable adjustment bolt on the shift lever to align the marking lines. Next, set the Revo-shift lever from position **4** to position **1** then back to position **4**. Check that the yellow marking lines still line up.



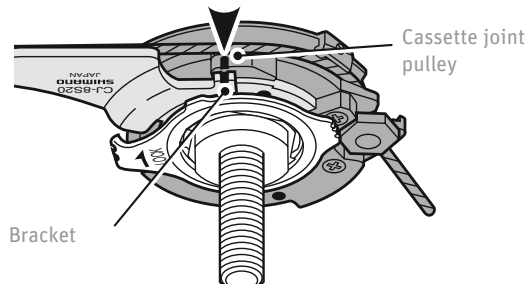
Bike in normal position

line up markings



Bike in inverted position

line up markings



20 Bike chain

There are two types of bike chain:

- A wide bike chain ($\frac{1}{2} \times 1/8''$) for hub gears and
 - A narrow bike chain for derailleur gears. These are available in different widths, depending on how many sprockets are on the cassette. Only use chains that are approved for precisely the number of sprocket wheels on your bike.
- › Clean and lubricate your bike chain regularly.
- › To prevent premature wear of the bike chain when using derailleur gears, select gears that keep the chain skew as marginal as possible.

To check the wear in the bike chain, proceed as follows:

- › Take the section of the chain that rests on the front chainring between your thumb and forefinger.
- › Pull the bike chain off the chainring. If the bike chain can be lifted by a significant amount, it is worn and must be replaced by a new one.
- › With hub gears, the chain tension must be adjusted so that vertical play of one to two centimetres is present in the unsupported chain span between the chainring and sprocket wheel.

To take up the slack in the bike chain, proceed as follows:

- › Loosen the rear wheel nuts.
- › Pull the wheel back into the dropouts until only the permissible amount of play is present in the bike chain.
- › Tighten all screw connections carefully clockwise.



Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see **Chapter 30 "Technical data"**).

20.1 Maintenance of bike chains

Bike chains are wear parts. Bike chains with hub gears wear out after roughly 3000 km, and after roughly 2000 km with derailleur gears.



If the bike chain is worn, it can break and cause a crash. If your bike chain is worn, have it replaced by your specialist cycle shop before using the bike again.

21 Brake, brake levers and brake systems

This User Manual describes the maintenance and handling of typical, commercially available brake components for MTB, ATB, cross and road bikes. For other components, refer to the separate information or enclosed instructions. If you have questions on installation, adjustment, maintenance and operation, please consult a specialist cycle shop.

21.1 Important information and precautionary measures



"Bicycles must be equipped with 2 brakes that operate independently of one another."
Paragraph 65 of the German Road Traffic Licensing Regulation (StVZO), similar rules apply in all other EU countries.



Have maintenance work on the brakes carried out by a professional bike workshop.

Do not allow fluids containing oils to come into contact with the brake pads, brake contact surfaces on the rim, brake blocks or brake disc as this could otherwise impair the effectiveness of the brake.

Brake blocks and brake pads are wear parts. Check the wear condition of these parts regularly. This can be identified by a marking. On the brake block, for example, the grooves will no longer be visible. Always replace both brake blocks at the same time.

Use genuine spare parts only as otherwise you could impair the functions of the bike or damage it.

To obtain correct friction pairing, only use brake pads that are suitable for the rim as otherwise the braking distance would be extended and wear increased. With carbon rims in particular, only brake pads that are expressly intended for this purpose should be used.

Rubber brake blocks and brake pads must not come into contact with oil or grease. If the rubber brake blocks and brake pads come into contact with oil or grease, this drastically reduces their braking performance and they must be replaced.



Tighten all screws to the prescribed torque as otherwise screws could shear off and components could come loose or detach altogether (see [Chapter 30 "Technical data"](#)).



Brake cables are wear parts. You should check the wear condition of the brake cables regularly and replace these if necessary.

Check the brake cable for rust and fraying and replace the cable if it is faulty. If you do not, the brakes could malfunction.

There are different types of brakes, the type of brake depends on what it is used for:

- hub brakes,
- disc brakes and
- rim brakes.

The brakes can be operated mechanically or hydraulically.



With hub gears, the brake lever that operates the front wheel brake is normally on the right-hand side, and with derailleur gears it is on the left. Remind yourself of the position of the brake lever before you ride off.

If you wish to attach the brake lever on the opposite side of the handlebar, follow the manufacturer's user manual or ask your specialist cycle shop to do this.

21.2 Brake lever

21.2.1 Standard brake lever

The bike is equipped as standard with a suitable brake lever. Check regularly that when you operate the brake lever it does not reach the handlebar and make contact with it. With the brake lever pulled, push the bike forward and check whether the braking performance is sufficient. If the bike rolls slightly forwards, you will need to have the brake cable readjusted or the brake pads replaced.



21.3 Hub brakes

Hub brakes are virtually maintenance-free as the brake block is inside the hub.



If applied continuously for an extended period, hub brakes become very hot. This reduces the braking performance and ultimately complete failure of the brake. You should adapt your handling accordingly.

21.3.1 Drum and roller brakes

With the roller brake or drum brake, the braking force is transmitted via a cable from the hand brake lever to the brake system. If applied continuously for an extended period, roller brakes or drum brakes become very hot. This reduces the braking performance and can result in complete failure of the brake. You should adapt your handling accordingly.



The brake lever of roller and drum brakes requires special tuning.

- › Check regularly that the screws on the brake lever are tight.
- › Turn them clockwise to retighten if necessary. For the correct tightening torque, refer to **Chapter 30 "Technical data"**.
- › Pull on the front wheel or rear wheel hand brake lever with the same amount of force as you would apply when braking sharply during a ride. Then push the bike forwards. The rear wheel should lock. The front wheel should decelerate so rapidly that the bike starts to tip forwards.
- › Lubricate the cable-pull regularly.

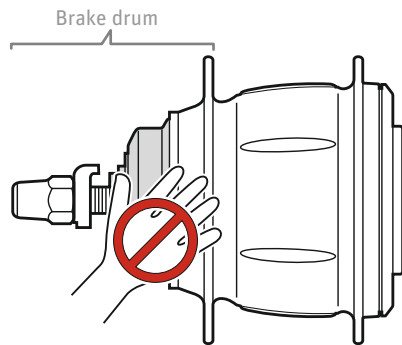


Brake pads are wear parts. Have the brake pads for back-pedal, roller and drum brakes checked regularly, and replaced if necessary, by a professional bike workshop.

If you have not used your bike for a while, there may be surface rust in the brake drum which can increase the braking force. You should therefore brake gently several times when riding off to remove the surface rust. This prevents sudden blocking of the brake.



Avoid operating the back-pedal brake continuously on long descents as the internal components of the brake system can become extremely hot which reduces braking performance. On long steep descents, always alternate between the rear wheel brake and the second brake (front wheel brake) to allow the rear wheel brake to cool down. As the brake drum can become extremely hot when braking for prolonged periods, you should not touch it for at least 30 minutes after riding.



21.3.2 Back-pedal brake

With back-pedal brakes the braking force is transmitted by the foot via the chain to the brake system. If applied continuously for an extended period, back-pedal brakes become very hot. This reduces the braking performance and can result in complete failure of the brake. You should adapt your handling accordingly.



The back-pedal brake is operated by pedalling backwards. The force applied by the back-pedal brake varies depending on the position of your feet/pedals. If the crank arms are vertical, i.e. one of your feet is in the highest position and the other is in the lowest position, you cannot brake hard. Move the crank arms into a horizontal position if you think you may want/have to brake.



The back-pedal brake is easy to apply in a controlled manner. The maximum braking performance is only reached after a certain run-in period.

Operate the back-pedal brake carefully to familiarise yourself with it and get a feel for its retarding effect.

If you have not used your bike for a while, there may be surface rust in the brake drum which can increase the braking force. If you have not used your bike for some time, you should brake gently several times when riding off to remove the surface rust. This prevents sudden blocking of the brake.

If excessive overheating of the hub occurs, this can lead to loss of lubricant and a sharper braking effect. In these cases, have the brake checked by a professional bike workshop.

21.4 Rim brakes



V-brakes produce an extremely high braking force. You should therefore familiarise yourself with the V-brake and only apply the brake gradually. Practise emergency braking until you are sure you will be able to remain fully in control of your bike if you have to apply the brakes with force.

If additional suspension elements in the brake system (power modulators) are used improperly, this can lead to serious accidents. The required spring strength of the power modulator depends on the gross weight of the bike.

If the brake blocks are so worn that you can no longer see notches, have them replaced by a professional bike workshop.

21.4.1 Readjusting the brake

The brakes on your bike are set correctly at the factory or by your cycle dealer. The gap between the brake block and the rim is roughly 1–1.5 mm. However, as the brake blocks wear down the gap steadily increases and the brake lever must travel a greater distance to achieve the same braking effect. You should therefore inspect the brake at regular intervals and adjust it if the brake lever travel distance is too great or the brake is not working properly.

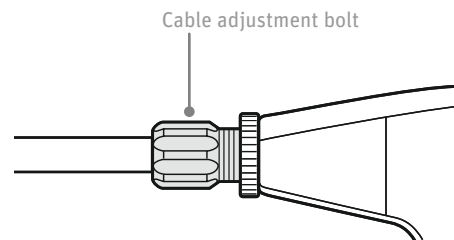
Check the brake as follows:

- Pull the front wheel and then the rear wheel hand brake lever with the same amount of force as you would apply when braking sharply during a ride. Then push the bike forwards.
- The rear wheel should lock and
- the front wheel should decelerate so rapidly that the bike starts to tip forwards.

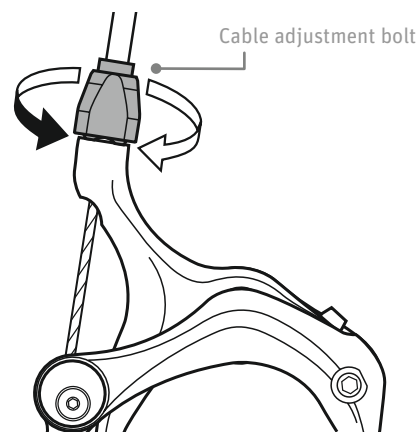
21.4.2 Adjusting the brake-pad clearance in relation to the rim

Turn the cable adjustment bolt to adjust the clearance between the brake pad and the rim. Turn the bolt inwards (clockwise) to increase the brake-pad clearance. Turn the bolt outwards (anticlockwise) to reduce the brake-pad clearance. The clearance between the brake blocks and rim should be roughly 1 mm.

Adjusting the cable-pull



With V-brakes



With side pull brakes

21.4.3 Wear of brake pad

Most brake pads for rim brakes come with grooves or notches.



New brake pad

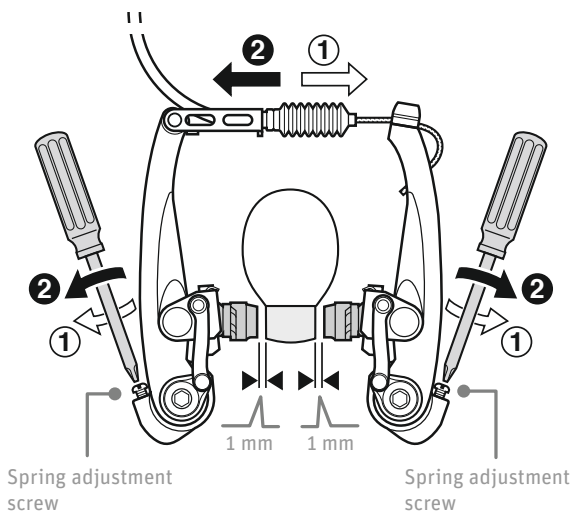
If these grooves are worn and can no longer be seen, this is normally a sign that the brake pad is worn.



Worn brake pad



Do not ride your bike if the brake pads are worn. Have them replaced by a professional bike workshop instead.



If required, you can readjust the rebound force via the spring adjustment screw so that both brake arms move symmetrically. Once you have done this, check that the brake is working properly (see [Chapter 21.4.1 "Readjusting the brake"](#)).



If the brake is still not working properly, or the brake pad is so worn that it is not possible to readjust it, have your bike checked at a professional bike workshop and replace the brake block.

21.5 Disc brakes



Disc brake

With this brake type, the brake discs are on the hub and the brake calliper is on the frame or fork.



Have your disc brakes adjusted by a specialist cycle shop. If this is done incorrectly, an accident may occur.

Once the brakes have been adjusted, always perform a brake test by pushing the bike quickly forwards and operating the brake lever. You should only use your bike if you can safely stop it using the brakes.

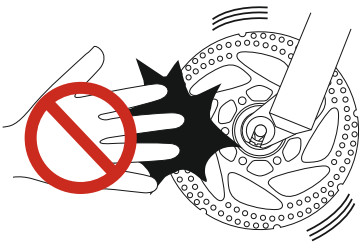
Disc brakes require a brake lead time during which the braking force increases. Bear this in mind throughout the entire brake lead time. The same effect also occurs after replacing the brake block or disc.

If you hear unusual noises when braking, the brake blocks may have reached their wear limit. Allow the brakes to cool down then check the brake block depth. Have the brake blocks replaced if necessary.



When installing, removing and carrying out maintenance on the wheel, do not touch the brake disc with your fingers when it is turning. You could be seriously injured if you catch your fingers in the cutouts of the brake disc.

The brake calliper and the disc can become extremely hot when braking. You should therefore not touch these parts when riding the bike or immediately after dismounting as you could burn yourself. Before adjusting the brakes, check that the parts have cooled down sufficiently.



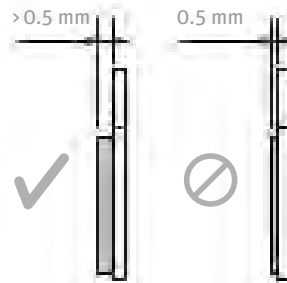
You must only fit a disc brake on your bike providing suitable mounting devices are installed on the frame and the bike fork. If in doubt, consult a specialist cycle shop.

If the brake blocks come into contact with oil or grease, they must be replaced. If the brake disc comes into contact with oil or grease, it must be cleaned as otherwise its braking performance will be drastically reduced.

Check whether the quick-release lever for the wheel is on the side opposite the brake disc. If the quick-release lever is on the same side as the brake disc, there is a danger you could burn yourself when operating the lever. The heat in the brake disc could also reduce the clamping force of the quick-release device.

If the brake disc is worn, cracked or bent it must be replaced. Have this work carried out by a professional bike workshop.

If the depth of the brake blocks is less than 0.5 mm, they must be replaced.



21.5.1 Hydraulic disc brake

The hand brake lever of the hydraulic disc brake is equipped with a master cylinder. The hydraulic fluid is fed through a tube to the brake cylinders. This actuates the brake pistons which push the brake blocks against the brake disc. This type of brake requires little maintenance and can be very powerful.



Once the brakes have been adjusted, always perform a brake test by pushing the bike quickly forwards and operating the brake lever. You should only use your bike if you can safely stop it using the brakes.

Check regularly, also before each journey, that the lines and connections are tight. If lines and connections are not tight, brake fluid may escape from the brake system. The brake may not work properly as a result.

If fluid escapes from the braking system, do not use the bike and have the necessary repair work carried out immediately by a professional bike workshop.

If you continue riding the bike in this condition, the risk of brake failure is extremely likely.

If the brake blocks come into contact with oil or grease, they must be replaced. If the brake disc comes into contact with oil or grease, it must be cleaned as otherwise its braking performance will be drastically reduced.

21.5.2 Vapour bubble formation

- › Vapour bubble formation can occur if the brakes are operated continuously for some time, e.g. during a long steep descent. Instead of applying gentle pressure continuously with the brakes, operate them for shorter periods, with more force if necessary, releasing the brake lever intermittently.
- › Vapour bubbles form if water in the brake fluid heats up, evaporates and forms bubbles in the brake system.

As these are easily compressed, the brake lever travel distance increases.



When transporting or storing the bike upside down, air bubbles can form in the brake system fluid reservoir.

If you then use the bike, the brakes could fail and cause a serious accident.

Once the bike is in the correct riding position, pull the brake lever several times to check whether the brakes respond normally.

If not, adjust them as follows:

- › Adjust the brake lever so it is parallel to the ground and operate it slowly several times so the bubbles return to the reservoir.
- › If the response is still poor, the brake system must be vented. Have this work carried out by a specialist cycle shop.



Brake pads and brake blocks are wear parts. Have the brake pads of hydraulic disc brakes checked regularly, and replaced if necessary, by a professional bike workshop.

21.5.3 Cleaning the brake system

If the brake blocks come into contact with oil or grease, they must be replaced. If the brake disc comes into contact with oil or grease, it must be cleaned as otherwise its braking performance will be drastically reduced.

- › Clean and maintain the brake system using isopropyl alcohol, soapy water or a dry cloth. Do not use commercially available brake cleaning agents or agents to prevent braking noises as these can damage components such as the seals.

21.5.4 Fitting/removing the wheel

- › When removing the wheel, we recommend you use a brake block spacer. This prevents the piston from being pushed out if the brake lever is operated once the wheel has been removed. This also prevents air bubbles in the expansion vessel from entering the system.
- › If the brake lever is operated and the brake block spacer is not inserted, the pistons may extend further than normal. Put the bike in an upright position to push back the brake blocks. Use a clean, flat screw driver or tyre lever and be careful not to scratch the brake blocks. If the brake blocks are not fitted, push the piston back carefully without damaging it. If you have trouble pushing back the brake blocks or piston, remove the reservoir cap and try again. Note that some oil may flow out the reservoir.
- › After fitting the wheel, check that the quick-release lever is on the side opposite the brake disc. If it is on the same side as the brake disc, there is a danger of the lever and brake disc obstructing one another and this could also reduce the clamping force of the quick-release device.

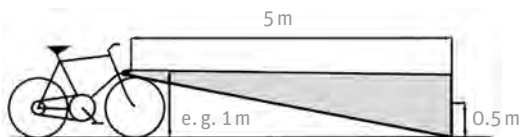
22 Lighting system



In some EU countries, only lighting systems that are prescribed by national legislation (the Road Traffic Licensing Regulations (StVZO) in Germany for example) and have been approved for use may be installed on bikes. If in doubt, ask your specialist cycle shop.

22.1 Specifications for lighting system

- At a distance of five metres, the cone of light thrown by the front light must be at half the height of its exit point. The centre of the cone of light determines its height.



Aligning the front light

- The cone of light thrown by the front light must only light the road for ten metres at the most. The centre of the cone of light determines its distance.

22.2 Special regulations for road bikes



- You can fit battery-operated front lights and rear lights to sports bikes with a maximum weight of 11 kg (road bike). Please familiarise yourself with the applicable regulations and, if applicable, have the bike refitted.
- Always carry these with you.
- Dynamo-operated lighting systems must be used with bikes that weight more than 11 kg. The lighting system must come with an official test mark. Please familiarise yourself with the applicable regulations and, if applicable, have the bike refitted.

22.3 Generator/dynamo

The dynamo produces the energy required to operate the front and rear lights. There are different types of dynamos.

22.3.1 Sidewall dynamo



Sidewall dynamo

The dynamo must be positioned so its longitudinal axis is perpendicular to the wheel axle. The roller must be in contact with the designated traction surface on the tyre across its entire width.



Only switch the dynamo on and off when the bike is stationary as otherwise you could put yourself and other road users in danger. The sidewall dynamo is less effective in wet conditions. Provide additional lighting if necessary.

22.3.1.1 Switching the sidewall dynamo on and off

- Switch the dynamo on/off via the pushbutton or the lever. The traction roller is now on the tyre sidewall.
- To switch the dynamo off, pull it away from the tyre and guide it into its starting position. The dynamo engages in the starting position.

22.3.2 Hub dynamo

The hub dynamo is inside the hub of the front wheel. The hub dynamo is highly efficient, and the wear is extremely low.



Hub dynamo

There is a switch or a sensor on the back of the front light on some bikes with a hub dynamo. The sensor switches the light on automatically in the twilight or when passing through a tunnel. Other models have a switch on the handlebar that switches the lighting on and off.



If you want to remove the front wheel, you first need to remove the connecting terminal for the light cable.

When you put the front wheel back on, turn it so that the connecting terminal for the light cable is on the right-hand side (facing in the direction of travel). If the connecting terminal is on the left, the dynamo will not be able to turn properly or the lighting system may stop working. Ensure correct polarity of the connections.

22.4 Failure of the lighting system



If the lighting system fails or develops a fault when riding in the dark this could cause a serious accident. Have the fault repaired at a professional bike workshop before you continue your journey.

Extremely powerful (rechargeable) battery-operated bicycle and outdoor lights are available from some retail outlets. With some exceptions, use of these lights on public roads is not permitted.

23 Add-on components

23.1 Pannier rack

The pannier racks on the bike satisfy the standard EN 14873.

The load-carrying capacity of the pannier rack falls into one of four possible categories: 5 kg, 10 kg, 18 kg and 25 kg.

The information on load-carrying capacity is embossed on the pannier rack.

The maximum load it can handle may be higher, depending on its design. This is stated separately.



If you carry luggage, this changes the ride characteristics of your bike. It increases the braking distance for one thing. This can lead to serious accidents. Adapt your handling to the different ride characteristics. Apply the brakes in good time and bear in mind that the bike's steering response will be more sluggish.

Only carry luggage on the pannier rack provided for this purpose. Do not attach carriers to the seatpost. It is not designed for this purpose. Overloading by a carrier can lead to component breakages and serious accidents.

If you carry luggage on your bike, it is extremely important that you do not exceed the maximum permissible loading (see ► **Chapter 30 "Technical data"**).

If you fit another carrier, it must comply with standard EN 14873.

The maximum permissible load must be stated on the carrier (see ► **Chapter 30 "Technical data"**).

23.1.1 Front pannier rack



Front pannier rack

Front pannier racks are attached to the front axle or the front fork. They are designed to carry smaller loads than rear pannier racks. If you carry luggage on this pannier rack, you must familiarise yourself with the changed steering response.



Only use suitable pannier bags.
Consult a specialised dealer.

23.1.2 Rear pannier rack



Rear pannier rack

This type of luggage carrier attaches to the rear triangle of the bike.



If you attach a rear pannier rack to a full-suspension frame, the proportion of unsprung weight increases which changes the suspension behaviour. You will therefore have to readjust your suspension/damping accordingly.



If you carry pannier bags or other loads on the pannier racks, make sure they are securely attached. Make sure that nothing can become caught in the spokes and the turning wheels.



Only fit child seats to rear pannier racks if suitable fixtures are provided. In doing so, be careful not to exceed the permissible weight category.

23.2 Wheel guards / mudguards

Additional struts are mounted to hold the mudguards in the correct position. The strut is at its ideal length if the inner edge of the wheel guard runs more or less concentrically and parallel to the tyre.



The wheel guard cannot detach when you are riding normally. If a foreign object lodges between the front wheel guard and the tyre and blocks it, the mudguard struts immediately detach from their mountings on the fork. This allows the mudguard to deflect and the wheel will not block.

If this happens, the struts must be securely reattached. Have a specialist cycle shop check that the mudguard, struts and plastic mounts are still in a serviceable condition.



Never ride with the strut detached, it must be reattached. If this is not possible, have the strut replaced by a professional bike workshop.

Check regularly that the struts are securely fastened in the safety-release mechanisms.

If you notice that a wheel guard is damaged, always replace it before using the bike again.

23.2.1 Re-engaging the safety-release mechanism



Safety mechanism released *Safety mechanism engaged*

A plastic clip is attached to the end of the strut.

- › Insert this clip on the strut into the easy-clip mount on the fork until it engages.
- › Align the wheel guard so that the tyre and front wheel guard do not touch.



To securely reattach the safety-release mechanism, you may need to push the strut and plastic mount slightly together by pressing hard.

24 Accessories and equipment



Always install enclosed accessories according to the instructions. Use the correct tightening torques for screw connections (see ► **Chapter 30 "Technical data"**).

- › Only use accessory parts that meet the requirements of the national road traffic licensing regulations (these are the Road Traffic Licensing Regulations (StVZO) in Germany for example).
- › Non-approved accessory parts are not safe for use in traffic and can cause accidents. All accessories or add-on components must be compatible with your bike
- › Otherwise accidents could occur or the bike could be damaged. Ask your specialist cycle shop for advice.

24.1 Child seat



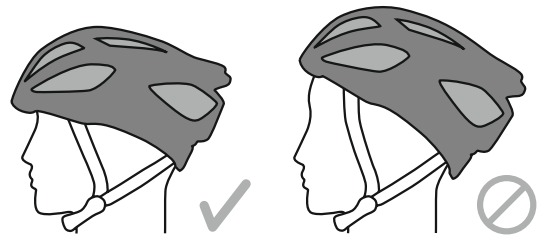
You can carry a child up to the age of seven years on the child seat. The rider must be at least 16 years old in Germany.



A child seat must not be mounted on a carbon frame as this could damage the frame.

- › Only use child seats that satisfy the standard EN 14344.
- › These child seats must safely support the child's feet.
- › Never leave your child sitting unattended in the child seat when you park your bike. The bike could fall over and severely injure the child.

- › Never attach the child seat to the bike handlebars directly as it will not be possible to steer the bike safely.
- › Do not use a suspension saddle if you are carrying a child in a child seat behind the saddle. The child's fingers could be crushed. The coil springs under the seat must always be completely wrapped or covered in such a way that it is impossible to insert fingers into the coils of the springs.
- › Always strap the child into the child seat as otherwise it could fall out and be severely injured.
- › Make sure that children wear a snug fitting bicycle helmet as otherwise a severe head injury may result in the event of a crash.



When using a child seat, this adversely affects the handling of the bike. The additional weight can cause the bike to sway and significantly increases the braking distance. Adapt your handling accordingly.

Not all bikes equipped with a suspension system are suitable for transporting child seats

Check the mounting options or consult your specialist cycle shop. If the child seat is mounted incorrectly, a serious accident may occur.

Do not exceed the maximum permissible gross weight of the bike and the maximum load-carrying capacity of the pannier rack (see ► **Chapter 30 "Technical data"**). If you do, this could damage the pannier rack and frame and cause a serious accident.

24.2 Bike stand



- › Never leave your child sitting unattended in the child seat when you park your bike. The bike could fall over and severely injure the child.
- › Never ride with the stand folded out.

24.3 Bike trailer



Not all bikes are suitable for trailers. Ask your specialist cycle shop if your bike is designed and suitable for this.

- › Only use trailers that meet the requirements of the road traffic licensing regulations in your country (the Road Traffic Licensing Regulations (StVZO) in Germany for example). Non-approved trailers can cause accidents.
- › Trailers adversely affect the handling. Adapt your handling accordingly as otherwise the bike trailer may tip up or detach and cause an accident.
- › Practise starting off, braking, cornering and riding on hills with an unladen trailer.
- › Bear in mind that the gross weight of the bike also includes the trailer.
- › A bike trailer may increase the braking distance considerably. Failure to observe these points could result in an accident.

24.4 Bike basket



The fixing for the basket must not damage the handlebar or handlebar stem.

- › Attach the basket so as not to cover the front light and front reflector.
- › In doing so, be careful not to bend the brake and shifting cables.
- › Do not carry more than five kilogrammes of luggage in the basket.
- › Bear in mind that the steering characteristics change when you use a basket.

24.5 Bar ends



Always attach bar ends securely to the handlebars as otherwise you could have an accident.



If a thin-walled handlebar is fitted to your bike, you may require additional accessory parts to protect the handlebar from damage. Read the manufacturer's instructions for use carefully.

If a carbon handlebar is fitted to your bike, find out from your specialist cycle shop whether this handlebar is approved for use with bar ends.

25 Bike carriers for mounting on roof and rear of car



- Only use roof and rear-mounted bike carriers that meet the requirements of the road traffic licensing regulations in your country (the Road Traffic Licensing Regulations (StVZO) in Germany for example). Non-approved roof and rear-mounted bike carriers are not safe for use in traffic and can cause accidents.
- Adjust your driving to take the load on your car roof into account. Bear in mind that your car's overall height has changed.

The bike could come off the carrier and cause a serious accident. When transporting the bike, check regularly that it is still securely fastened.

Loose parts such as tools, luggage and tool kits, child seats, tyre pump, etc. could detach in transit and endanger other road users. Remove all loose parts from the bike before setting off.



- Avoid transporting the bike upside down. Only attach the bike by the handlebar, handlebar stem, bike saddle or seatpost if so intended by the manufacturer of the carrier. Do not use mountings that could damage the bike fork or frame.
- Do not attach your bike to the roof or rear-mounted carrier by its pedal cranks. Always attach bikes by their wheels when transporting them, unless the carrier is designed for something else, as otherwise the frame and fork of the bike could be damaged.

You can also find important information on using and fitting add-on components and accessories in the Internet on the pages of the relevant manufacturer.

➡ **Chapter 29** contains a link list.

26 Carbon components

Carbon is a specific material that requires special handling and care when setting up and carrying out maintenance on the bike as well as when riding and also during transportation and storage.

26.1 Properties



Carbon parts must not be deformed, dented or bent following an accident or crash. It is possible that fibres have been destroyed or have detached although this is not evident externally.

You should therefore inspect the carbon frame and all other carbon components very carefully if you come off the bike or if it falls over. If you are not absolutely sure that the bike is still in a sound condition, have the carbon components in question checked by an expert.

26.2 Torques



Some carbon components require lower tightening torques than metal components. If the tightening torques are too high, this can lead to hidden damage that may not be visible externally. Frames or other components can break or change to the extent that they could fall off. You should therefore always observe the information enclosed by the manufacturer with the component(s) or ask a specialist dealer for advice. Use a torque wrench to ensure the right tightness is maintained.

If your bike has a carbon frame and a bottom bracket housing for a BB30 bottom bracket please note the following:

In this case you can fit an adapter so that a bottom bracket with conventional BSA thread can be used. However, bear in mind

- You can only install the adapter if the frame is completely undamaged. Repairing a defective BB30 housing serves no purpose. If it is not installed correctly, the bottom bracket housing may be damaged which would render the war-

ranty void. This kind of adapter should only be fitted by a specialist cycle shop.

- Once the adapter has been fitted in the carbon frame it cannot be removed.

26.3 Visual inspection



If your carbon component has pre-existing damage, it could suddenly fail completely with potentially disastrous consequences. You should therefore inspect your carbon frame and components thoroughly on a regular basis.

- › Look for splitting, deep scratches, holes or other changes in the carbon surface.
- › Check whether the components feel softer or have more give in them than usual.
- › Check whether individual layers (paint, finish or fibres) are flaking off.

If you suspect a component is no longer sound, you should definitely replace it before riding your bike again. You should ideally hand over your bike to a specialist dealer for inspection.

Inspect the following components and areas regularly (at least every 100 km) for cracks, fractures or changes in surface appearance. Furthermore, if you come off the bike or if it falls over, these components must always subsequently be inspected:

26.4 Carbon frame

Front derailleur clamp area, derailleur hanger, saddle clamp, headset spacers, bottom bracket spacers, brake boss or disc brake mount, dropout slots, suspension mounts on main frame and rear triangle, bearing mounts with full-suspension frame, transition areas around threaded bushes for drinking bottles



Mounting of a child seat to a carbon frame is not permitted. There is a danger of the frame breaking with serious consequences.

26.5 Carbon handlebar

Transition area at handlebar stem, handles, clamping areas of other components



If your bike falls on its handlebar, the best thing you can do is replace it. Always have bar ends retrofitted by your specialist cycle shop.

26.6 Carbon handlebar stem

Clamping area of all screws, head tube inside and outside



If you have changed the handlebar position, bear in mind that the stem must extensively enclose the head tube.

26.7 Carbon wheels

Surface wear, change of surface, e.g. due to heat produced when braking, abrasion of brake blocks, wheel hub or their flanks

If you are using a bike with carbon rims, bear in mind that the braking behaviour of this material is much poorer than aluminium rims.



Note that only approved brake blocks may be used.

26.8 Carbon fork

Fork blades on fork head, dropouts and clamping area of quick-release device, fork head below fork cone, clamping area of A-head stem on inside and outside



If you have changed the handlebar position, bear in mind that the stem must extensively enclose the carbon section.

26.9 Carbon seatpost

Transition area between seatpost and seat tube, transition area at head of seatpost, contact area of all screws

If other carbon parts are installed on your bike, inspect them regularly for cracks, fractures or changes in surface appearance.



Retapping of the thread and bearing shells and reaming of the seat tube is not permitted.

As a basic rule, if a fixture is not already provided on a carbon frame or component for an object (e.g. threaded inserts for bottle cage), it must not be fitted. The attach-

ment of pannier racks, trailers and other fixtures are not permitted due to the risk of breakage.

26.10 Splinters



Carbon fibres are extremely thin and hard. You should therefore handle damaged carbon parts very carefully. Individual fibres may detach and stick out. If these projecting fibres come into contact with your skin, there is a danger of them splintering off and causing an injury.

26.11 Fastening in mounting stand

Only clamp your carbon frame at the seatpost when fastening your carbon frame in a mounting stand, as otherwise the clamping mechanism may cause visible or concealed damage to the frame. If your bike has a carbon seatpost, we recommend you replace it provisionally with an aluminium or steel seatpost when carrying out this work.

26.12 Transportation by car

When transporting the bike on the roof rack or on a tow-bar cycle carrier, never attach it by its frame. Always attach the bike at the seatpost, and never at the down tube, top tube, seat tube, fork blades, steering tube, chain stay, cranks or seat stay.

The clamping mechanism could cause visible or concealed damage to the frame that may affect your safety. If your bike has a carbon seatpost, we recommend you replace it provisionally with an aluminium or steel seatpost when transporting it.

27 Care and maintenance of the bike

27.1 Care



Do not allow care products or oils to come into contact with brake pads, brake discs and the rim's brake contact surfaces. This could reduce the effectiveness of the brake.



Do not use a powerful water jet or high-pressure cleaner. If water under high pressure is directed at the bike, it can enter the bearings. This can dilute the lubricant which increases friction. This leads to rusting and irreparable damage to the bearings.

Do not clean your bike with

- acids,
- grease,
- hot oil,
- brake cleaners (apart from brake discs) or
- fluids containing solvents.

These substances attack the surface of the bike and accelerate wear.

Dispose of used lubricants, cleaning agents and care products in an environmentally sound manner. Do not pour these substances into the domestic waste, down the drain or into natural water bodies or the soil.

How well the bike works and how long it lasts depends on how well you look after it.

- › Clean your bike regularly using hot water, a small amount of cleaning agent and a sponge.
- › You should also always take this opportunity to check your bike for cracks, dents or material deformation.

- › Have defective parts replaced before you ride the bike again.
- › Touch up damaged paintwork.

Treat all parts that are susceptible to corrosion more frequently than other parts with preservatives and care products, especially during the winter and in aggressive environments such as coastal regions as otherwise your bike will corrode (rust) more powerfully and quickly.

- › Clean all galvanised and chrome-plated parts as well as stainless-steel components regularly.
- › Preserve these parts after cleaning with spray wax. Make sure that wax does not come into contact with brake discs and rims.
- › If you stop using your bike for a while, in the winter for example, store it in a dry place at a constant temperature.
- › Before putting your bike into storage, inflate both tyres to the prescribed tyre pressure.

To find out more important information on looking after your bike, visit the Internet pages of the relevant component manufacturer. The link list in ► **Chapter 29** provides an overview with links.

27.2 Wear parts

Your bike is a technical product that must be regularly checked.

Many parts on your bike are subject to a higher degree of wear due to their function and depending on their use.



Have your bike checked regularly at a professional bike workshop and have the wear parts replaced.

27.3 Tyres

Due to their function, bike tyres are subject to wear. This depends on how the bike is used and the rider can influence this significantly.

- › Do not brake so sharply that the wheels lock.
- › Check the tyre pressure regularly. The maximum permissible tyre pressure, and normally also the minimum permissible pressure, can be found on the tyre wall.
- › If necessary, inflate the tyre up to the specified value. This reduces wear.
- › Do not expose the tyres to things that can damage them such as sunlight, petrol, oil, etc.

27.4 Rims in conjunction with rim brakes

Owing to the interaction of the rim brake with the rim, not only the brake pad but also the rim is subject to function-related wear. If fine cracks appear or the rim flanges deform when the tyre pressure increases, this indicates increased wear. Wear indicators on the rim allow its wear condition to be easily identified.

- › Check the wear condition of the rim at regular intervals (see [Chapter 16.3 "Checking the rims"](#)).

27.5 Brake pads

The brake pads on rim, roller, drum and disc brakes are subject to wear, the extent of which depends on how the bike is used. If the bike is ridden in hilly regions, or used in a sporty manner, the brake pads may need to be replaced more often. Check the wear condition of the pads regularly and, if necessary, have them replaced by a professional bike workshop.

27.6 Brake discs

Brake discs also wear out as a result of intensive braking, or during the course of time. Find out from the manufacturer of your brakes or your specialist cycle shop about the respective wear limits. You can have worn brake discs replaced at a professional bike workshop.

27.7 Bike chains or toothed belts

The bike chain is subject to function-related wear the extent of which depends on care/maintenance and how the bike is used (mileage, rain, dirt, salt, etc.).

- › To increase the service life of the bike, clean the bike chains and toothed belts regularly and lubricate the chain.
- › Have the chain replaced by a professional bike workshop once its wear limit has been reached (see [Chapter 20 "Bike chain"](#)).

27.8 Chainrings, sprocket wheels and jockey wheels

In bikes with derailleur gears, the sprocket wheels, chainrings and jockey wheels are subject to function-related wear. The extent of the wear depends on care/maintenance and how the bike is used (mileage, rain, dirt, salt, etc.).

- › To increase the service life of the bike, you should clean and lubricate these parts regularly.
- › Have them replaced by a professional bike workshop once their wear limit has been reached.

27.9 Lamps of lighting set

Bulbs and other lamps are subject to function-related wear and therefore may need to be replaced.

- › In case you need to replace damaged bulbs, always carry spare ones with you.

27.10 Handlebar tapes and handle grips

Handlebar tapes and handle grips are subject to function-related wear and therefore may need to be replaced.

- › Check regularly that the handles are securely seated.

27.11 Hydraulic oils and lubricants

The effectiveness of hydraulic oils and lubricants decreases over time. If lubricants are not replaced, this increases the wear of the relevant components and bearings.

- › Clean and relubricate all relevant components and bearings regularly.
- › Have the brake fluid for disc brakes checked regularly, and replaced if necessary.

27.12 Gear-shift and brake cables

- › Carry out regular maintenance on all Bowden cables.
- › Have defective parts replaced at a professional bike workshop. This may be necessary especially if the bike is often left outdoors and is exposed to the effects of the weather.

27.13 Paint finishes

Paint finishes require regular care, this also ensures that your bike looks good.

- › Check all painted surfaces regularly for damage and touch up immediately if required.
- › Consult your specialist cycle shop for advice on how to care for your bike's surface finishes.

27.14 Bearings

All bearings on the bike, such as the headset, wheel hubs, pedals and bottom brackets, are subject to function-related wear which depends on the intensity and duration of use and how well the bike is looked after.

- › Check these parts regularly.
- › Clean and lubricate them regularly.

27.15 Sliding bearings and bearings for full-suspension frames, suspension forks or other suspension elements

The suspension components on the bike, particularly the sliding bearings, bearings and suspension elements, must cope with very high stresses compared to the other bearings. They are therefore subject to a high degree of wear.

- › Check these parts regularly and thoroughly.
- › Observe the enclosed user manual from the manufacturer.
- › Your specialist cycle shop can advise on how to look after these sensitive components, and also on how to replace them if necessary.

To find out more important information on maintenance of wear parts, visit the Internet pages of the relevant component manufacturer. The link list in **Chapter 29** provides an overview with links.

28 Regular inspections

As the spokes settle, the length of the brake and shifting cables increases and the bearings will run in during the first kilometres on the bike, you will have to have an initial inspection carried out by your specialist cycle shop after the first 200 kilometres, or after four to six weeks. This is also important for the acceptance of claims made under the terms of the warranty.

- › Clean your bike after every offroad ride and check it for damage.
- › Have the initial inspection carried out.
- › Inspect your bike roughly every 300 to 500 km, or every three to six months.
- › During this inspection, check that all screws, nuts and quick-release devices are securely fastened.
- › Clean your bike.
- › Grease moving parts (apart from brake contact surfaces) according to instructions.
- › Have paint damage and rust spots touched up.
- › Apply corrosion inhibitor to bare metal parts (apart from brake contact surfaces).
- › Have inoperative or damaged parts replaced.

28.1 Inspection schedule

28.1.1 Maintenance / checks

After the first 200 kilometres following purchase, and subsequently at least once a year

- › Have the following checked:
 - tyres and wheels.
- › Have the tightening torques of the following checked:
 - handlebar,
 - pedals,
 - pedal cranks,
 - bike saddle,
 - seatpost and
 - fastening screws.

- › Have the following components readjusted:
 - headset,
 - gearshift,
 - brakes,
 - suspension elements.

after every ride

- › Check the following:
 - spokes,
 - rims for wear and true running,
 - tyres for damage and foreign objects,
 - quick-release devices,
 - function of gearshift and suspension,
 - brakes, hydraulic brakes for leaks,
 - lighting and
 - bell.

after 300 to 500 kilometres

- › Have the following checked for wear and replaced if necessary:
 - bike chain,
 - sprocket,
 - sprocket wheel,
 - rims and
 - brake pads.

- › Clean the bike chain, chainring and sprocket wheel.
- › Lubricate the chain using a suitable lubricant.
- › Check that all screw connections are secure.

after 1000 kilometres

- › Have the brake hub checked and, if necessary, lubricate the brake sleeve with brake sleeve grease or replace it.

after 3000 kilometres

- › If necessary, the
 - hubs,
 - headset,
 - pedals,
 - shifting cables * and
 - brake cables
- › should be
 - dismantled,
 - checked,
 - cleaned,
 - lubricated and,
 - if necessary, replaced by a professional bike workshop.

* Do not apply lubricants or oils to teflon-coated cable casings.

Following each ride in the rain

- › Clean and lubricate the following:
 - gearshift,
 - brake (apart from brake contact surfaces) and
 - bike chain.



Not all lubricants and care products are suitable for your bike. Ask your specialist cycle shop which product you should use in each case. If you use unsuitable lubricants and care products, this can damage or impair the performance of your bike.

29 Link list

You can obtain important information on your bike and its components via these links. The relevant user manual is normally provided on the manufacturer's web pages, in addition to important tips for use and making settings.

www.rohloff.de

www.speedlifter.com

www.brooksengland.com

www.paul-lange.de/produkte/shimano

www.ritcheylogic.com

www.schwalbe.de

www.srsuntour-cycling.com

www.magura.com

www.sram.com

www.dtswiss.com

www.fullspeedahead.com

www.paul-lange.de/produkte/selle_italia

www.bike-magazin.de

www.tour-magazin.de

www.radfahren.de

www.tekro.com

www.fallbrooktech.com/nuvinci.asp

www.hebie.de

30 Technical data

30.1 Maximum permitted gross weight of bike

The maximum permitted gross weight of the bike comprises the weight of the bike, the weight of the rider and the weight of the luggage. It also includes the laden weight of a trailer.

BIKE TYPE	MAXIMUM PERMITTED GROSS WEIGHT	WEIGHT OF RIDER:
20" trailer	50 kg	
20" child's bike:	60 kg	
24" child's bike:	80 kg	
Urban bike, city/trekking	130 kg	max. 115 kg
Urban bike, semi XXL	150 kg	max. 135 kg
Urban bike, XXL	170 kg	max. 155 kg
E-Bike	130 kg	max. 105 kg
E-Bike semi XXL	150 kg	max. 125 kg
E-Bike XXL	170 kg	max. 145 kg
MTB (hardtail)	110 kg	max. 100 kg
MTB (hardtail), semi XXL	140 kg	max. 125 kg
MTB (dirt)	110 kg	max. 100 kg
MTB (full-suspension)	110 kg	max. 100 kg
MTB (full-suspension), semi XXL	140 kg	max. 125 kg
Road bike	110 kg	max. 100 kg
Road bike, semi XXL	135 kg	max. 125 kg
Cyclo Cross / Cyclo Cross Trekking	110 kg	max. 100 kg

The maximum permitted gross weights of carbon frames also apply for aluminium frames.

If other gross weights are approved, for lightweight construction components for example, this will be indicated on the bike or component.

30.2 Maximum permitted loading of pannier rack



Note that the data on your pannier rack or in the manufacturer's user manual may be different.

Maximum weight loading of front pannier rack:

- Loading area above wheel: 10 kg
- Low loading area: 18 kg

Maximum weight loading of rear pannier rack:

- 20" child's bike and trailer: 10 kg
- 24" child's bike: 18 kg
- Touring bike, city bike, trekking bike, ATB: 25 kg

30.3 Tightening torques for screw connections



Only use a suitable tool, a torque wrench for example, to tighten the screw connections as otherwise the screws could shear off or break.



If you tighten screws too tightly, this could damage the components

You should therefore always observe the prescribed tightening torque.

Observe the minimum screw-in depth. For hard aluminium alloys this is at least 1.4 times the screw diameter (e.g. nominal diameter M5 \times 1.4 = 7 mm).

Whenever possible, you should tighten all safety-relevant screw connections using a torque wrench. This indicates the tightening torque in Nm (Newton metres) in each case.

- › If no values are indicated on the component, use the tightening torques in the following table.
- › If the torque has been specified by the manufacturer of the component, this has priority.
- › Carbon parts must be mounted using a special mounting paste.



Also note other information or markings on carbon components regarding the recommended torques.

	SCREW CONNECTION	THREAD	TIGHTENING TORQUE (NM)
General	Crank arm, steel	M8x1	30
	Crank arm, alu	M8x1	30
	Pedal	9 / 16"	30
	Axle nuts, front	gen.	25
	Axle nuts, rear	gen.	30
	Stem expander bolt wedge	M8	23
	Stem, A-head, angle adjustment	M6	10
	Stem, A-head, handlebar clamping fixture	M5 / M6 / M7	M5: 5 / M6: 10 / M7: 14
	Stem, A-head, head tube	M5 / M6 / M7	M5: 5 / M6: 10 / M7: 14
	Bar end, outer clamp	M5 / M6	M5: 5 / M6: 10
	Seatpost, clamp	M8	20
	Seatpost, clamp	M6	10
	Seatpost, saddle clamping bracket	M7 / M8	M7: 14 / M8: 20
	Front derailleur clamp	M5	5
	Brake, pad	M6	10
	Brake, cable clamp	M6	10
	Sidewall dynamo, fixing	M6	10
	Derailleur hanger	M10x1	16
	Bottom bracket	BSA	according to manufacturer's instructions
	Disc brake calliper, Shimano, IS and PM	M6	6 to 8
	Disc brake calliper, AVID, IS and PM	M6	8 to 10
	Disc brake calliper, Magura, IS and PM	M6	6
	Shifting lever clamp	M5	5
	Brake lever clamp	M5	5
	V-brake, fastening screw	M6	10
	Road bike brake	M6	10
	Freewheel fastening screw	n. a.	40
	Cassette, lock ring	n. a.	30
	Handles, screw-on type	M4 / M5	M4: 3 / M5: 5
	Carbon	Carbon frame, saddle clamp	M5 / M6
Carbon frame, water bottle holder		M5	5
Carbon frame, front derailleur clamp		M5	4
Carbon handlebar, shifting lever clamp		M5	3
Carbon handlebar, brake lever clamp		M5	3
Carbon handlebar, handlebar clamp		M5	5
Carbon handlebar, stem clamp		M5 / M6	5

Overview of torques, values apply for standard screws

30.3.1 General tightening torques for screw connections

The screw grade, e.g. 8.8, is embossed in the screw head.

Unless otherwise specified by the manufacturer, the following tightening torques (average values) apply depending on the screw grade:

THREAD \ GRADE	V2A / V4A	8.8	10.9	12.9
M4	3	2.7	3.8	4.6
M5	5	5.5	8	9.5
M6	8	9.5	13	16
M8	20	23	32	39
M10	40	46	64	77

30.4 Tyres and tyre pressure

The recommended tyre pressure is stated in either bar or PSI.

The following table shows standard values converted, and also information on which tyre widths these pressures normally apply.

TYRE WIDTH in mm	PSI	BAR
25 HD*	80 – 110	5.5 – 7.6
28 HD*	70 – 80	4.8 – 5.5
28	60	4.1
32	60 – 70	4.1 – 4.8
37	50	3.5
40	60	4.1
42	60	4.1
47	40 – 50	3.5 – 4.1
57 – 62	30 – 40	2.1 – 2.8

* HD = high-pressure tyre



Note that the manufacturer's specifications may differ and must be observed as otherwise you could damage the tyres and inner tubes.

30.5 Lighting set

Depending on which type of lighting set is fitted on your bike you may require different spare lamps. The following table shows which bulbs you require.

TYPE OF LIGHTING SET USED	POWER SUPPLY	
Front light	6 V	2.4 W
Front light, halogen	6 V	2.4 W
Rear light	6 V	0.6 W
Rear light with stand light	6 V	0.6 W
Lighting with LED lights	LED lights cannot be replaced	
Dynamo	6 V	3 W
Hub dynamo	6 V	3 W

31 Warranty conditions

Read ► *Chapter 27 "Care and maintenance of the bike"* carefully. Comply with the inspection and maintenance intervals specified in ► *Chapter 28 "Regular inspections"*. Compliance with the service intervals is a prerequisite for the assertion of warranty claims.

The statutory warranty period is two years. This starts when the bike is handed over by the specialist cycle shop who is also your contact partner for warranty claims.

As proof of purchase and date of handover, please retain the handover document signed by both parties and record of purchase, such as the invoice and/or sales receipt, for the duration of the warranty period.

- Non-compatible add-on components that were not part of the scope of delivery at the time the product was handed over, or damage caused by unprofessional installation of these add-on components.

31.1 Prerequisites for the validity of warranty claims

- Manufacturing, material or information error.
- The problem or error already existed at the time of handover to the customer.

31.2 Warranty exclusions

A warranty claim applies only for the initial faultiness of the defective part. The following are excluded from the warranty:

- Damage caused by use in competitions, improper use and force majeure (see ► *Chapter 6 "Intended use"*).
- All parts that are subject to function-related wear, providing this is not a production or material fault (see ► *Chapter 27.2 "Wear parts"*).
- Damage caused by incorrect or insufficient care and unprofessional repairs, conversions or replacement of components on the bike. This User Manual contains detailed information on how to look after your bike.
- Accident damage or damage caused by other external factors, providing this is not attributable to incorrect information or a product error.
- Repairs carried out with used parts or damage that occurs as a consequence of this.
- Special equipment or accessories or non-standard equipment; especially technical changes, i.e. to the gearshift system or the bike fork and frame geometries.

We hope you thoroughly enjoy using your new bike!

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RALEIGH

II

User Manual Fast Pedelec

English





Charger



LCD control panel



- 1 Battery
- 2 Battery lock
- 3 Motor unit
- 4 Control panel
- 5 Charger

Dear Customer,

Thank you for choosing a Pedelec (pedal electric cycle) from us. This bike is equipped with an electric drive that assists you when you are cycling. This will make your trip much more enjoyable if you are riding up hills, carrying loads or riding into the wind. You can decide yourself how much you want to use it. The purpose of this User Manual is to help you get the most out of your fast Pedelec and use it correctly.

Although this vehicle looks like a normal bike and can also be used as such, there are a number of important differences. It is for example viewed from a legal point of view as a L1e moped. You must have a moped test certificate and an insurance plate in order to ride it.

Structure of User Manual

If you want to get started right away, refer to the brief introduction in ➡ **Chapter 1 “Quick start”**

The individual steps are subsequently explained in detail, supplemented by illustrations and diagrams.

For more detailed information on your fast Pedelec, refer to ➡ **Chapter 11 “Technical data”**.

The information in this User Manual specifically refers to your fast Pedelec only. For general information, on the bike technology that features in your Pedelec for example, refer to the General User Manual.



Even if you can't wait to go for your first ride, in the interest of your own safety you should read ➡ **Chapter 1 “Quick start”** carefully without fail before use.

In addition to texts and tables, the User Manual contains the following symbols that denote important information or dangers.



WARNING about possible physical injury, increased risk of falls or other injuries






IMPORTANT ADDITIONAL INFORMATION or special information on using the bike



NOTE about possible damage to property or the environment

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1 Quick start

- › 1. Charge the battery completely before riding for the first time.



Unlocking the battery

- › 2. To remove the battery, grip the handle, insert the key into the lock and turn it anticlockwise. The battery is now unlocked.
- › 3. Tilt the battery sideways and lift it with both hands out of the holder.



Tilt to remove

- › 4. Put the battery in the docking station of the charger. The battery LEDs light up or flash. You must fully charge the battery before using it for the first time.
- › 5. Once all LEDs have gone out, take the battery out of the docking station.
- › 6. Reinsert the battery into the holder on the Pedelec from the left-hand side. Move the battery outwards at an angle of roughly 45° as you do so, as you did when you took it out of the holder. Move the battery into the upright position until the locking mechanism engages. If the key is still in the lock, you will need to turn it clockwise and pull it out to allow the battery to lock in place.
- › 7. Make sure that the battery is securely positioned and that the key is no longer in the lock.
- › 8. Push the "On / Off" button on the control panel on the handlebar. **Wait for 2 seconds before turning the pedals.** The drive system requires this time

when no force is applied to the pedals to adjust the power sensor correctly.

Press the "Assist" button to select the power assist mode. This works in both directions. The assistance output increases or decreases depending on which "Assist" button you press. If you select the most powerful setting then press the button again, you return to a mode without assistance.



Always operate one of the brakes before putting one of your feet on a pedal as the motor pulls your bike away immediately. This starting assistance is very convenient, especially when starting on hills. If you start off in road traffic or on unsurfaced roads without controlling your speed, you could come off your bike and seriously injure yourself.

- › 9. You can now ride off.

2 Fast Pedelec / fundamental legal principles

The essential idea behind the fast Pedelec is not only to be able to cover greater distances more quickly, but also more comfortably. You can choose to relax and let the bike do the work, exert yourself more physically, or simply get from A to B as fast as possible. You can decide this yourself by choosing an appropriate assist level.

This gives you more confidence on the road, as the powerful acceleration gives you more control and a greater degree of security. Your fast Pedelec assists you with 300 watts of power which takes you up to a speed of 45 km/h.

2.1 Legal principles

The fast Pedelec is classed from a legal point of view as a L1e moped. In some EU countries, like all other bikes, it must comply with certain regulations, the Road Traffic Licensing Regulation in Germany (StVZO) for example. Please observe the relevant explanations and general information provided in the General User Manual.

- When riding with the power assist only, the fast Pedelec must not travel faster than 20km/h. You will therefore reach a speed of between 15 and 18 km/h on the flat.
- The power assist switches itself off once you have reached a speed of roughly 45 km/h. You will require 700 watts to reach this speed and you cannot do this with the assistance of the electric motor alone. You can reach speeds of 35–45 km/h by combining a motor output of 300 watts with your own physical effort.

2.1.1 Meaning for the rider

- You do not legally have to wear a helmet. In the interest of your own safety, however, you should never ride without a helmet.
- You legally have to have a driving license. The moped test certificate is mandatory.
- If you have a German driving licence, you are automatically exempt from this requirement.
- In Germany, if you were born before 01.04.1965, you may also ride a fast Pedelec without a driving licence.

- You legally have to have insurance. In Germany, you can obtain the small registration mark from any insurance company.
- Use on cycle paths is restricted.



These regulations apply to you wherever you are in the European Union. It is possible that different regulations exist in other countries, also inside the EU in individual cases. Before using your fast Pedelec abroad, find out about the legal situation in the relevant country.

2.1.2 Fast Pedelecs and cycle paths

If you use your fast Pedelec as you would use a bike, i.e. without assistance from the electric motor, you can use all cycle paths without restriction. In some EU countries, restrictions apply if you use the motor on a cycle path. In Germany an amendment to the Road Traffic Ordinance (StVO) states that: You must use your fast Pedelec on cycle paths outside built-up areas, as is the case with mopeds. In exceptional cases where this is not permitted, the cycle path will also be marked with the sign "No mopeds" in accordance with Paragraph 2 Section 4 of the Road Traffic Ordinance (StVO). Inside built-up areas on the other hand, you can only use your Pedelec on cycle paths if the cycle path is marked accordingly in accordance with Paragraph 41, Sctn. 2, No. 5.

2.1.3 Travel speed switch

Your fast Pedelec is equipped with a travel speed switch. The bike is designed so that it cannot go faster than 20 km/h when you press the travel speed switch without pushing the pedals. This is why wearing a helmet is not mandatory for the fast Pedelec.



Travel speed switch

3 Charging the battery

To charge the battery, you have to take it out of the holder on the Pedelec.



Grip the battery by the handle, insert the key into the lock and turn it anticlockwise. The battery is now unlocked and can be removed from the Pedelec by tilting it sideways. In doing so, hold on tight to the battery to prevent it from being dropped.



Unlocking the battery



Tilt to remove

You should now remove the key and keep it in a safe place to prevent it from breaking off or being lost.

3.1 Charging operation

Before charging the battery, read the information on the charger carefully.

- 1. Take the charger provided out of its packaging and plug the mains plug into a socket (230 V, observe type plate on the charger).



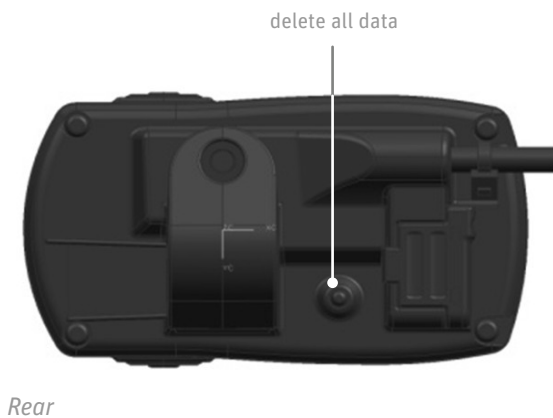
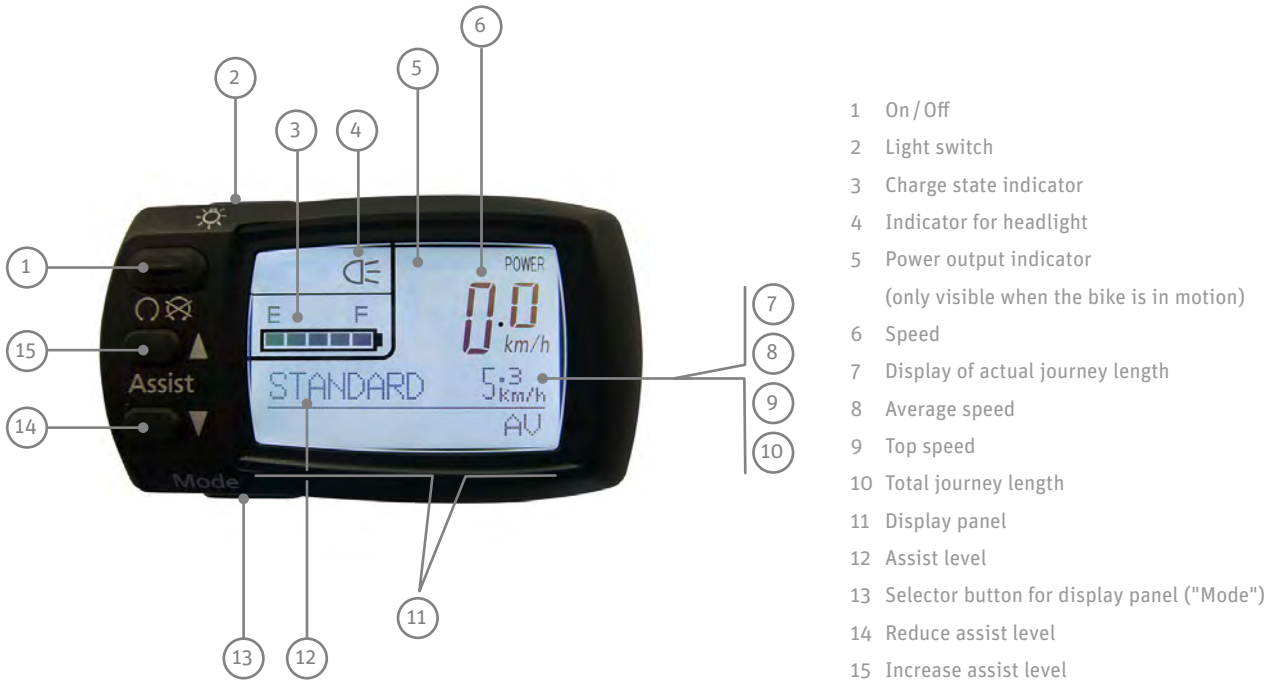
Type plate on charger: Front and back

- 2. Put the battery in the docking station of the charger.
- 3. The charging operation starts. The battery LEDs light up or flash. Once all five LEDs have gone out, the battery is fully charged. You can leave the battery standing in the charger. However, the charger always draws some current if you leave it plugged in.
- 4. To save power, pull the charger plug out of the socket once the charging operation is complete.

3.2 Fitting the battery

- 1. Insert the battery into the battery holder of the Pedelec from the left by tilting it outwards at roughly 45°.
- 2. In doing so, you must insert the lateral guides at the bottom of the battery into the guides of the holder.
- 3. Tilt the battery towards the bike until it engages in the locking mechanism. If the key is still in the lock, turn it clockwise then pull it out to lock the battery in place.
- 4. Make sure the battery is firmly in place.

4 LCD control panel



Display switched off



Display switched on

4.1 Function of control panel

4.1.1 On/Off button

Press the "On/Off" button to switch on the control panel and drive.

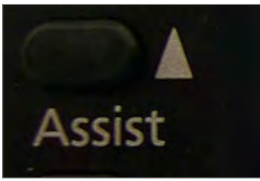
The assist level that was active at the time the control panel was switched off is automatically reinstated. The back-lit display is turned on briefly then goes out. All recording of data (trip, actual journey length, average speed, top speed, total journey length) starts as soon as you switch the control panel on and stops when you switch it off.

4.1.2 Selector button for display panel

You can display the information "Trip", "Average speed", "Top speed" and "Total journey length" consecutively by pressing the selector button for the display panel ("Mode").

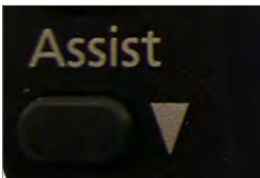
The setting that was selected when you switched off is also displayed first in this case.

4.1.3 Changing the assist level



Increase power assist

The following assist levels are displayed one by one when you press the button for selecting a more powerful assist level: "NO ASSIST/no assistance", "ECO/low assist level", "STANDARD/medium assist level", "HIGH/high assist level", followed once again by "NO ASSIST/no assistance". This means that the assistance increases each time you press the button until you reach the highest power level. If you subsequently press the button, the assistance switches off.



Reduce power assist

If you press the button that reduces the assist level, the assistance reduces each time the button is pressed and returns to the most powerful assist level when it reaches the end of the loop.

In the "NO ASSIST/no assistance" mode, you ride the bike normally without the assistance of the motor.

4.1.4 Resetting recorded data

If you press the selector button for the display panel for longer than three seconds with the control panel switched on, this resets the trip, average speed and top speed to zero. You cannot delete the total journey length using this method.

4.1.5 Switching the display on and off

The back-lit display and LCD control panel display can also be switched on even if the drive is not enabled. To do this, press the button that switches the lights on. The drive remains in "NO ASSIST/no assistance" mode. Now you cannot change the assist level.

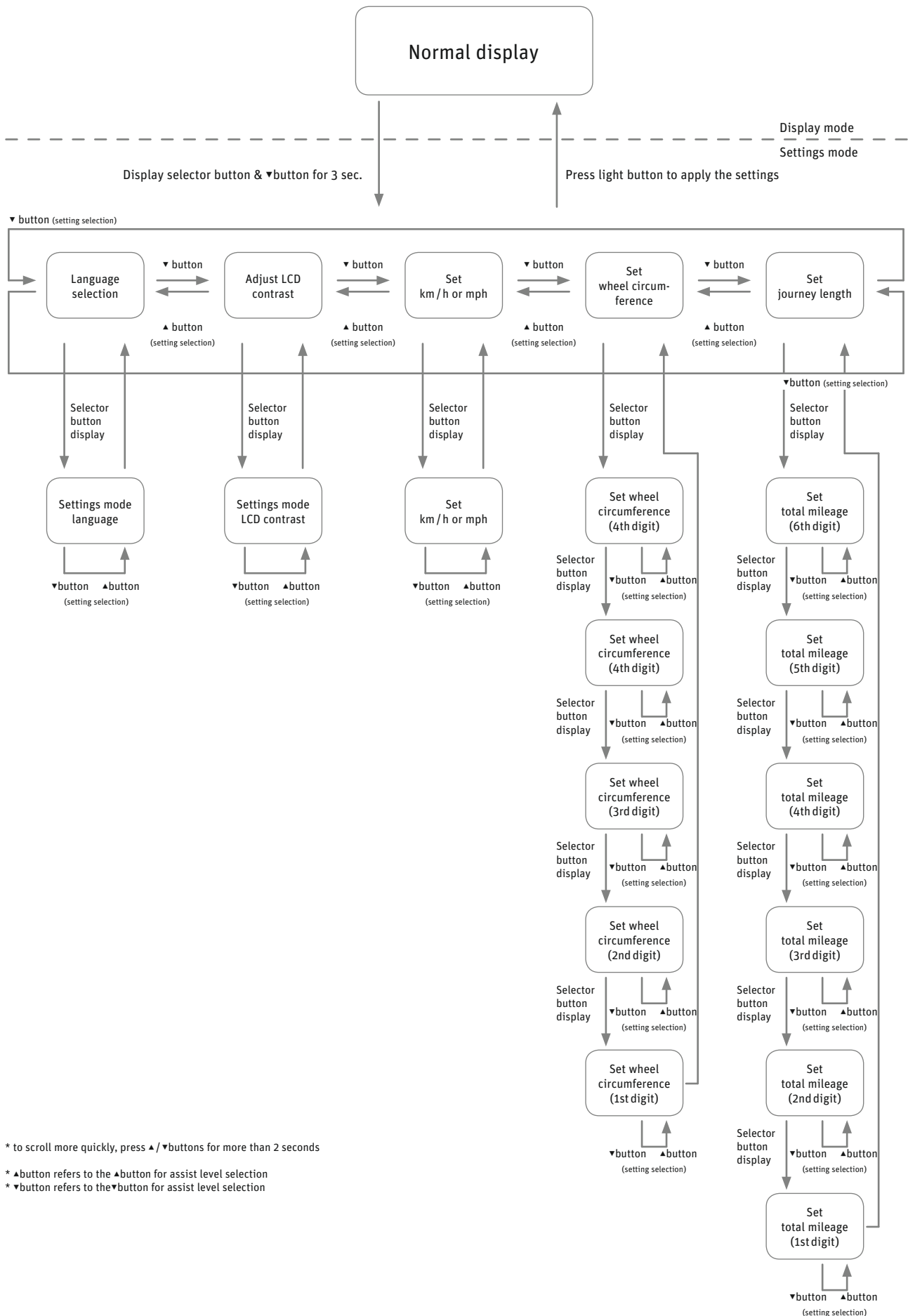
If you press the light button when the control panel is switched on, the back-lit display turns on.

If you press the light switch when the light is on, the back-lit display turns off. The power assist is still available and you can change the assist level.

4.1.6 Deleting all data

Press the display ("Mode") selector button and the button that deletes all data on the rear of the control panel at the same time to delete all the data stored, including the total journey length. The display then automatically switches to settings mode for language, LCD contrast and wheel circumference.

4.1.7 Reprogramming the language, wheel circumference and LCD contrast



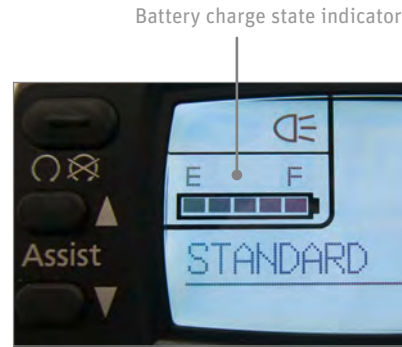
4.1.8 Automatic switch-off

If you stop your Pedelec and it does not move for 10 minutes, the system switches off automatically. If you want to use the assistance again, you will have to switch it back on via the control panel.

4.1.9 Measurement and display ranges

DESCRIPTION	DISPLAY RANGE
Speed	0.0 – 99.9 km / h
Journey length	0.0 – 99999 km (once the distance reaches 9999.9 km, this is displayed without a decimal place.)
Average speed	0 – 99.9 km / h
Top speed	0.0 – 99.9 km / h
Total journey length	0.0 – 99999 km (once the distance reaches 9999.9 km, this is displayed without a decimal place.)

4.1.10 Battery charge state indicator



This indicator helps you save power when riding which means you can travel further. The remaining battery charge is shown in 5 stages.

DISPLAY	BATTERY CHARGE STATE
5 LEDs light up •••••	80 – 100%
4 LEDs light up ••••	60 – 80%
3 LEDs light up •••	40 – 60%
2 LEDs light up ••	20 – 40%
1 LED lights up •	10 – 20%
1 LED flashes ◦	< 10%
no display –	0%

E: Battery is empty
F: Battery is full

4.1.11 Power output indicator



The power output indicator shows the actual power output being requested and the actual power consumption in 6 stages (bars).

This indicator helps you save power when riding which means you can travel further.

The fewer of the 6 bars that are displayed, the lower the actual power output of the motor and the consumption. If more bars are visible, the power output and consumption of the motor is higher.

IF YOU CAN SEE...	THE BATTERY IS SUPPLYING A CURRENT OF
6 bars	more than 20 amperes
5 bars	up to 16 – 20 A
4 bars	up to 12 – 16 A
3 bars	up to 8 – 12 A
2 bars	up to 2 – 8 A
1 bar	up to 0 – 2 A



If the power consumption is very low, no bars are displayed.

4.1.12 Switching the light on and off

If you are using the assistance and press the light switch, this switches the lighting of the fast Pedelec on and off.

If you are riding with the lights on and switch off the system, the lights also switch off automatically. You must therefore switch the lights on again.



You must always take the battery with you, even if you want to ride without assistance as the lights will only work with the battery.

5 Assistance by the electric motor



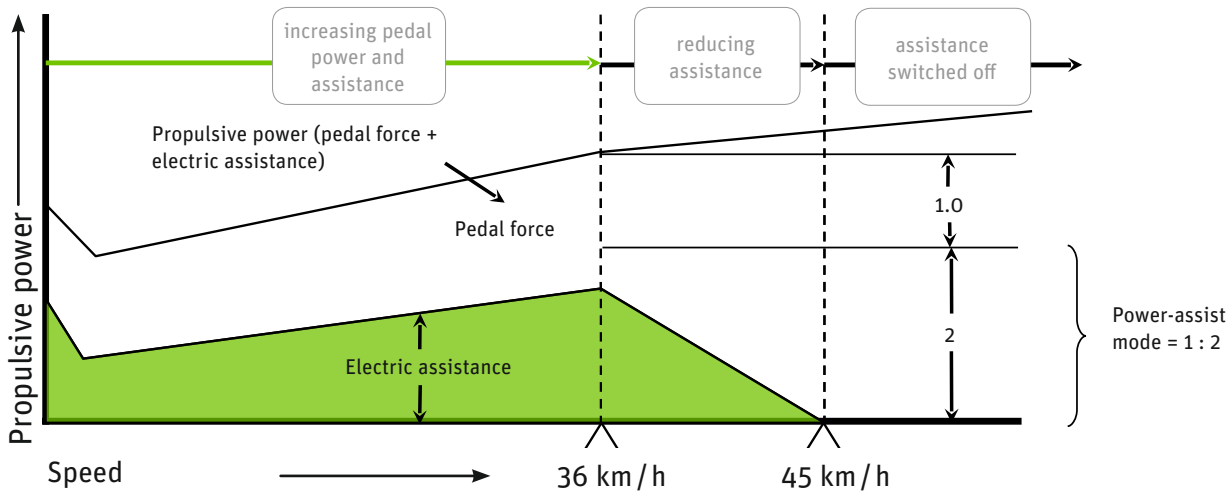
If your Pedelec is equipped with hub gears, you may have to take more load off the pedals when changing gears than you would normally do when riding your conventional bike. This is due to the additional power output of the electric motor. The hub gear system contains a device that protects it against gear shifting operations under excessive loads in order to preserve the gear unit in the hub.

5.1 Operating principle of assistance

The motor provides support as soon as you switch the assistance on and start pedalling.

The thrust delivered by the motor depends on three factors:

- Your own pedalling effort**
 The motor adapts to the force you apply. If you pedal harder, e.g. uphill or when setting off, the power sensor detects this and increases the thrust accordingly. However, the thrust is limited by the maximum motor output.
- The assist level you have selected**
 With the "*high assist level / HIGH*" setting, the power delivered by the motor is double your own effort (1 : 2).
 With the "*medium assist level / Standard*" setting, the power delivered by the motor increases your effort in a ratio of 1 : 1.3.
 With the "*low assist level / ECO*" setting, the power delivered by the motor is more than half your own effort (1 : 0.75).
- The speed at which you are currently travelling**
 When you set off on your Pedelec, the assistance increases as you build up speed until the bike reaches its maximum speed of roughly 36 km/h. The assistance then reduces automatically until you reach a speed of 45 km/h when it switches off. This applies for the largest gear only. In all other gears, the motor switches off earlier, depending on the gear ratio.



Variation in electric assistance

5.2 Distance

The distance you can travel using the power assist with the battery fully charged depends on several factors:

- **Ambient temperature**

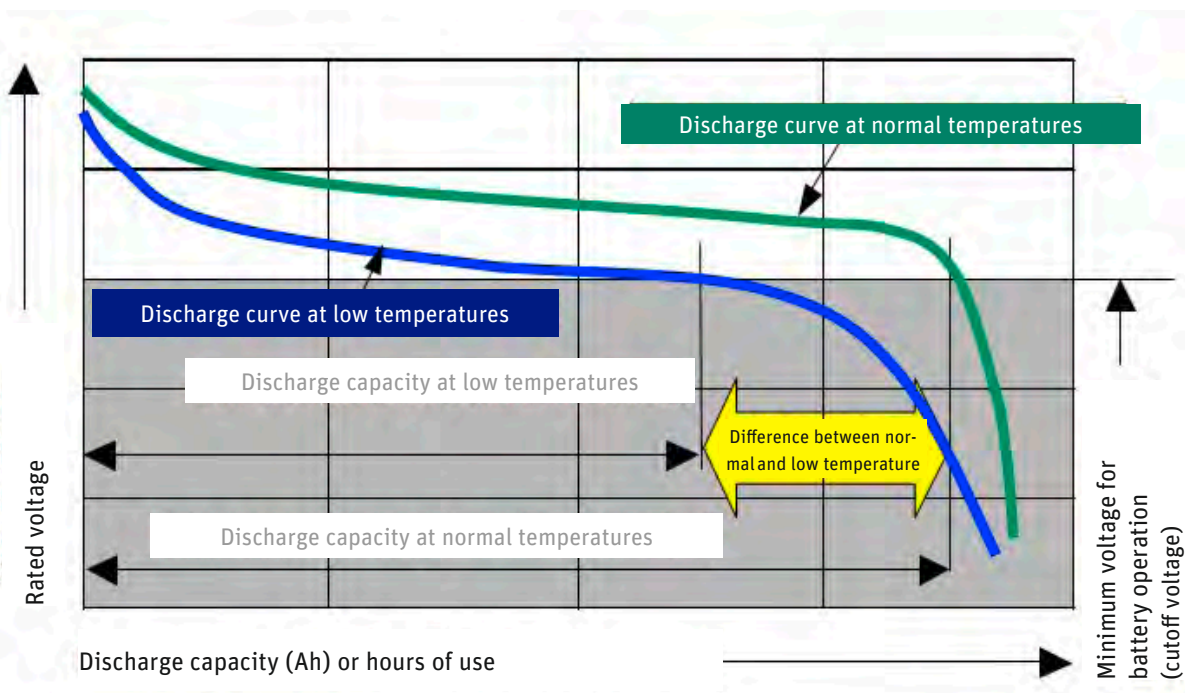
If it is colder, you will travel a shorter distance with the same battery charge.

To maximise the distance you can travel, keep the battery in a heated room so that it is at room temperature when you fit it on your Pedelec.

As the battery discharges when the motor is in use, it generates enough heat to not lose too much of its power at low ambient temperatures.

- **Selected assist level**

If you want to cover a large distance assisted by the motor, select the lower gears, i.e. the ones that are easier to pedal. Also select a low assist level. "ECO" then appears on the control panel.



Rate of discharge at different temperatures

- **Handling**

If you are riding in gears that are harder to pedal and select a high assist level, e. g. when riding uphill, the motor will support you with plenty of power. However, this leads to higher consumption, as with driving a car at high speed on the motorway. You will therefore have to recharge the battery sooner. You can conserve energy when riding your bike not just by turning the pedals, but also by applying even pressure throughout each crank revolution.

- **Technical condition of your fast Pedelec**

Make sure the tyre pressure is correct. If you ride your bike with too little air in the tyres, this can significantly increase the rolling resistance. The distance you can travel also decreases if the brakes are rubbing.

- **Ascents**

You pedal harder when riding uphill. This is detected by the power sensor which then allows the motor to work harder.

Under ideal conditions, you can cover roughly 60 kilometres with the battery fully charged (18 Ah). You can expect to cover a distance of roughly 35 kilometres using different modes of operation.

DISTANCE COVERED (1 : 2 ASSISTANCE, 32 KM/H ON AVERAGE UNDER FAVOURABLE CONDITIONS)

8 Ah battery	22 km
12 Ah battery	35 km
18 Ah battery	60 km

Distance covered using different batteries

5.3 Riding your Pedelec efficiently

You can monitor and influence the cost of your journeys with the Pedelec yourself. You can reduce your consumption and therefore costs by following the tips for increasing the travel distance.

The operating costs for power assist with an 18 Ah battery are calculated as follows:

- A new battery costs roughly 599 euros.
- You can cover 48 km on average with one battery charge.
- You can charge the battery roughly 1,100 times.
- 1100 charging cycles x 48 km = 82,800 km
- 599 euros: 82,800 km = 1.13 euro cents / km
- You use roughly 0.620 kWh to fully charge the battery. Assuming a unit price of 20 euro cents / kWh, it costs you 12.4 euro cents to fully charge the battery and cover a journey length of 60 km.
- It costs you 0.20 euro cents / km to travel a distance of 60 km.
- This means the cost of consumption and the battery is a maximum of 1.33 euro cents / km.

As *Derby Cycle* is a German manufacturer, the sample calculation is based on German energy prices. The operating costs may therefore be different in locations where other energy prices apply.

6 Battery

Your battery is a lithium cobalt battery, the ideal type of lithium-ion (Li-ion) battery for this application. One of the main benefits of this type of battery is its low weight combined with a high capacity. Li-ion batteries only weigh half as much as comparable nickel metal hydride or nickel-cadmium batteries.

This means you carry less battery weight and more battery power.

6.1 Straightforward charging

- › There is no memory effect. You can therefore fully recharge your battery after every trip.
- › Recharge the battery after every trip. This means you can set off immediately the next time you use your bike and you also increase the service life of the battery.
- › If you are not using the battery, you must recharge it after 6 months at the latest.

6.2 High degree of safety due to battery management

- › The battery cannot be damaged as a result of a short-circuit. If this were to happen, the battery management would switch off the battery.
- › You can simply leave the battery standing in the charger as it prevents overcharging.

6.3 Straightforward storage

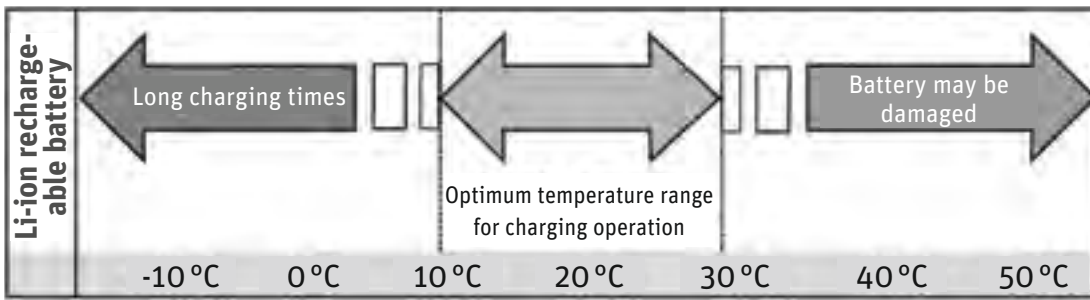
- › If you do not need your battery for a while, store it at a temperature of +10 °C at three quarters of its full charge capacity.
- › The battery enters sleep mode to prevent it from totally discharging.

These benefits are available due to highly effective battery management that has been adapted to this specific application and by tuning the battery for operation with a 300 watt motor.



Observe the following points to increase the service life of your Pedelec battery:

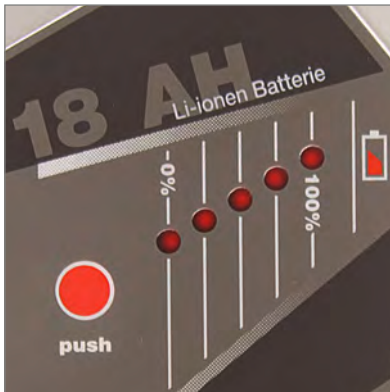
- › Make sure that the battery is fully charged before you ride your bike for the first time or after you have not used it for a while.
- › You should run the battery all the way down to empty for the first three charging cycles. This allows the battery to reach its maximum capacity. If you continuously run the battery to empty during normal operation, this reduces its service life.
- › If you partially recharge the battery frequently during normal operation, this has a favourable effect on its service life.
You should therefore partially recharge the battery whenever possible: Do not run the battery all the way down to empty and recharge it even after a short period of operation.
- › In the as-delivered condition, the battery is not fully charged and is in what is referred to as sleep mode. Sleep mode minimises the rate at which the battery discharges itself. If the battery is allowed to discharge unchecked for an extended period this can lead to total discharging which damages the battery. To "wake up" the battery, simply place it in the charger for one minute.
- › If you are having problems with the battery, place it in the charger for one minute. A reset occurs, during which the battery management disables sleep mode for example. After this, the battery will work again.
- › Ideally you should charge the battery at a temperature of between +10 °C and +30 °C. It takes longer to charge the battery at low temperatures, the battery will not charge up at temperatures higher than +30 °C. Ideally, you should charge and store the battery inside your house or in a warm garage when the outside temperature is low. In this case you should only fit the battery on your bike just before using it.
- › If you are transporting your Pedelec by car, take the battery out of its holder and transport it separately.
- › The battery should ideally be stored for longer periods charged to 75% of its capacity at a temperature of +10 °C.



Charging times at different temperatures

6.4 Battery information system

There is a control panel with five LEDs and a button ("Push") on the side of the battery that faces outwards. The LEDs light up if you press the "Push" button. Information about the battery and its charge state is provided based on the number of LEDs that light up and the way in which they light up.



Charge state and battery capacity indicator

6.4.1 Checking the battery charge state

Press the "Push" button briefly, the LEDs light up and display the current battery charge.

DISPLAY	BATTERY CHARGE STATE
5 LEDs light up •••••	80 – 100%
4 LEDs light up ••••	60 – 80%
3 LEDs light up •••	40 – 60%
2 LEDs light up ••	20 – 40%
1 LED lights up •	10 – 20%
1 LED flashes ◦	< 10%
no display –	0%
E: Battery is empty	
F: Battery is full	

6.4.2 Checking the battery capacity

If you press the "Push" button for longer than five seconds, the LEDs show the current capacity of the battery.

DISPLAY	CAPACITY
5 LEDs light up •••••	100 – 80%
4 LEDs light up ••••	80 – 60%
3 LEDs light up •••	60 – 40%
2 LEDs light up ••	40 – 20%
1 LED lights up •	20 – 0%

Capacity indicator

- › Check there is sufficient charge in the battery for the journey you intend to make before setting off.
- › In winter the distance you can normally cover with the battery operating normally is less. Only move the battery from the warm room where you store it and fit it on your Pedelec just before you set off. This prevents low temperatures from reducing the distance you can normally travel. A corresponding diagram is provided in ► **Chapter 11 “Technical data”**.
- › The distance you can cover can vary depending on the topography, your handling, the condition of the battery and the assist level you are using.
- › If all diodes flash consecutively, or several flash at the same time (2–3 diodes), the battery is damaged.



Before taking the battery to your specialist cycle shop to have it checked, put the battery in the charger for one minute then test it again.

6.5 Service life and warranty

The Panasonic centre motor is a fully-developed durable and maintenance-free drive. It is a wear part with a two-year warranty. As its power output is higher, wear parts such as the drive and brakes are subject to higher loads than they would be on a normal bike which is why they wear out more quickly.

6.5.1 of battery

Batteries are wear parts. Wear parts also come with a two-year warranty.

If the battery develops a fault during this period, your specialist cycle shop will of course replace it. Normal ageing and battery wear do not constitute a fault.

The service life of the battery depends on different factors. The most important wear-relevant factors are

- the **number of charge cycles** and
- the **age** of the battery.

When you have fully charged and discharged your battery 1,100 times, it will still have 60% of its initial capacity, providing it has been well looked after:

BATTERY	REMAINING CAPACITY	~ DISTANCE COVERED
8 Ah	4.8 Ah	19,360 km
12 Ah	7.2 Ah	30,800 km
18 Ah	10.8 Ah	52,800 km

From the technical standpoint above therefore, the battery is exhausted at this point. It also goes without saying that the battery ages. Even if you do not use your battery, its capacity reduces.

Providing you can still cover the journey distances with this remaining battery capacity, you can of course continue using it. If the capacity is no longer sufficient, you can take your battery to a specialist cycle shop who will dispose of your battery and sell you a new one.

- › You can extend the service life of the battery by fully recharging it after every journey, however short. The Panasonic li-ion cobalt battery has no memory effect.
- › You can also extend the service life of the battery by using the assistance selectively. Avoid, for example, using gears that make pedalling difficult with the highest assist level activated.

7 Charger

Read the two stickers on the charger before using it for the first time.



Do not use other chargers. Only charge the battery using the charger provided, or a charger approved by *Derby Cycle*.

If a fault develops or if the battery is in sleep mode, you might be able to solve this problem by placing the battery in the charger for one minute. The battery management then checks the battery and can eliminate any faults that have occurred.



If used incorrectly, the device may be damaged or inflict injuries.

- › Before cleaning the charger, always pull the plug out of the socket to avoid a short-circuit and/or physical injury.
- › Only use the charger in dry rooms.
- › Only place the charger in a secure stable position on a suitable surface.
- › Do not cover the charger or place any objects on it as otherwise it could overheat and catch fire.

8 Troubleshooting

The control panel also indicates when faults and technical errors are present. A fault code appears in the LCD display.



Control panel display



Have the electric drive inspected regularly by your specialist cycle shop. Do not carry out any work on the electric drive or battery yourself. Unless you have sufficient expertise this could lead to a serious accident. As a basic rule, always consult your specialist cycle shop if you have a problem with the electric drive or the battery.



You should only have the electrical components of your Pedelec replaced with genuine parts. This makes it safer for you and avoids problems when processing warranty claims.

8.1 Problems / solutions: Flash patterns and their meaning

If a problem occurs in the electrical system of your Pe-delec, you should initially try to solve it by referring to the following list which describes possible causes of errors and provides corresponding solutions.

If you cannot solve the problem, consult your specialist cycle shop.

8.1.1 No display

If nothing is shown in the LCD display, one of the following reasons/solutions may apply:

- Is the battery sufficiently charged?
Charge the battery if necessary.
- Is the battery capacity still sufficient?
Check the capacity. If the remaining capacity is not enough, the battery must be replaced.

Check the actual battery capacity

If you press the "Push" button for longer than five seconds, the LEDs show the capacity of the battery at present.

DISPLAY	CAPACITY
5 LEDs light up •••••	100 – 80%
4 LEDs light up ••••	80 – 60%
3 LEDs light up •••	60 – 40%
2 LEDs light up ••	40 – 20%
1 LED lights up •	20 – 0%

Capacity of 18 Ah battery (example)

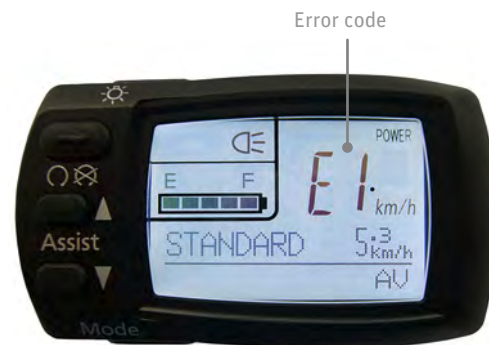
8.1.2 Battery charge state indicator flashing or not visible

If the battery charge state indicator is flashing or not visible at all, one of the following causes/solutions may apply:

- Is the battery sufficiently charged?
Charge the battery if necessary.
- The second and fourth LEDs of the battery indicator flash when you press the button on the battery. The battery management has switched the battery off. Put the battery in the charger and charge it.
- If you continue to press the button on the battery (test for battery capacity) and no LED lights up, the battery management has switched the battery off. Put the battery in the charger and charge it.

8.1.3 Display "E1"

If "E1" is displayed, the following cause/solution may apply:



- You have pushed down on the pedals shortly after pressing the "Power" button. Switch the display off then switch it back on and **do not push down on the pedals for roughly 2 seconds.**

If "E1" is displayed the distance covered will not be recorded. It will therefore no longer be possible to adjust the assistance control and the power assist will no longer work.

8.1.4 Display "E9"

If "E9" is displayed, the following cause/solution may apply:



- A problem occurred with the drive unit. Contact your specialist cycle shop if this occurs.

If "E9" is displayed the distance covered will not be recorded. It will therefore no longer be possible to adjust the assistance control and the power assist will no longer work.

8.1.5 Assistance control indicator flashing

If the assistance control indicator is flashing although the battery charge is sufficient, the following cause and solution may apply:

- The drive unit is overloaded /overheated. The battery management has switched itself on and reduced the assistance. A short period follows in which the drive recovers after which the full assistance output is available once again.

If this does not happen, contact your specialist cycle shop.

8.1.6 Additional possible sources of errors

- If you only pedal very gently, the power assist is not enabled.
- If the motor is not running and you cannot pinpoint the cause, check the buttons, cables and plugs of the electrical system.



If you find a break or a crack, do not try to repair the fault yourself. Take your Pedelec to a specialist cycle shop.

9 Cleaning



Remove the battery before you clean your Pedelec.

We recommend you clean your Pedelec with a damp cloth, a sponge or a brush. You can obtain suitable cleaning agents and additional information from your specialist cycle shop.

Make sure when cleaning that water does not enter the battery. Although the electrical components are sealed, it is not advisable to clean the bike by spraying it with a hose or a high-pressure cleaner. This could damage your bike.

When wiping down the battery, be careful not to touch and connect the contacts on the underside. This could cause the battery to switch off.

10 Warnings



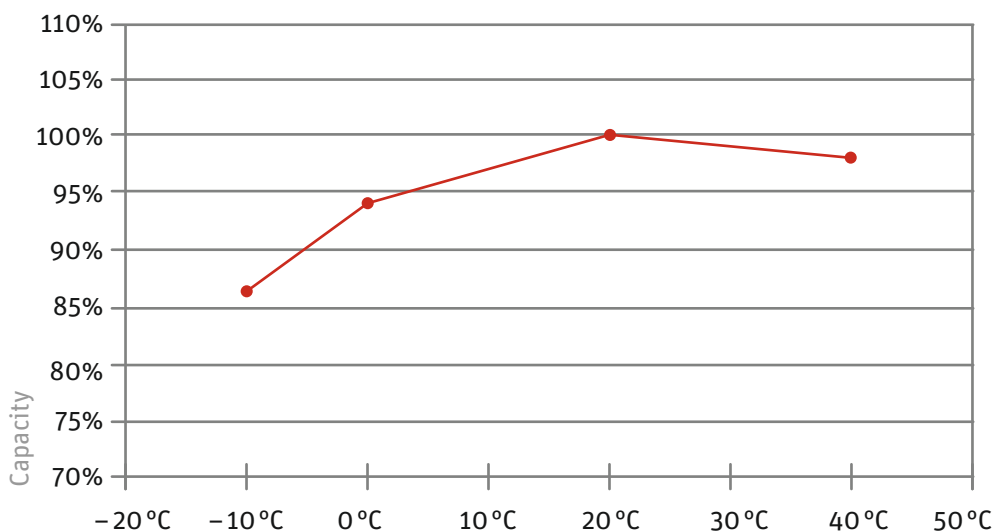
- › As this motor is more powerful, you may be riding at a much higher speed than you are used to on your normal bike. Take this into account when familiarising yourself with your fast Pedelec.
- › Bear in mind that the Pedelec motor can heat up on long ascents. Be careful not to touch it with your hands, feet or legs as you could burn yourself.
- › The Pedelec operates using low voltage (25.2 volts). Never attempt to operate the Pedelec using power from a source other than a suitable genuine battery. The designations of approved batteries are listed in Chapter 11 "Technical data".
- › Live parts may be exposed when you open covers or remove parts. Connection points may also be live. Maintenance or repairs on the device when it is open and connected to the power supply must only be carried out by the specialist cycle shop.
- › When carrying out adjustments and maintenance or when cleaning the Pedelec, avoid crushing cables or damaging them with sharp edges.
- › If risk-free operation of your Pedelec cannot be assumed, take it out of operation and make sure it cannot be used until you have it checked by a specialist cycle shop. Risk-free operation is no longer possible if live parts or the rechargeable battery show signs of damage.
- › Keep children away from electrical appliances. If children are present, keep a close eye on them, especially if they could insert objects into the appliance through apertures in the housing as this poses the danger of fatal electric shock.

11 Technical data

MOTOR		PANASONIC LI-ION BATTERY	
Brushless electric motor		Voltage	25.2 V
Output	300 watts	Capacities	8 / 10 / 12 / 18 Ah
Maximum torque at drive pinion	17 Nm	Energy quantity	200 / 250 / 300 / 450 Wh
Gross weight of electric drive, battery, control unit	7.8 kg (12 Ah battery)		
Control	via power sensor		
Maximum speed only possible with travel speed switch	20 km / h		
Assist levels	1:0.75 1:1.3 1:2		

DCW ITEM NO.	ITEM NO.	CAPACITY [AH]	WEIGHT [KG]	POSSIBLE APPLICATION		
				CENTRE	FAST	FRONT
17017002	NKY226B02	10	2.4	X	250W	-
17017012	NKY226B02	10	2.4	X	250W	-
17019018	NKY252B02	10	2.4	-	-	X
17019103	NKY252B02	10	2.4	-	-	X
KD170110010	NKY266B02	10	2.4	X	250W	-
170110010	NKY266B02	10	2.4	X	250W	-
170110003	NKY265B02	10	2.4	-	300W	-
170110016	NKY267B02	10	2.4	-	-	X
170111002	NKY284B2	10	2.4	X	300W	X
170111200	NKY306B2	8	1.9	X	300W	X
170111201	NKY304B2	12	2.6	X	300W	X
170111202	14069	18	3.1	X	300W	X

Possible applications of batteries



Capacity curve at different temperatures

12 Replacing components of the fast Pedelec

As your fast Pedelec is a Category L1e moped. As is the case with other motor vehicles in Germany, it is necessary to obtain a permit from the Federal Motor Transport Authority and the technical inspection authority (TÜV). This fast Pedelec has such a permit.

During the approval process, specific components were defined as being suitable for use with this vehicle. This means that the permit for your fast Pedelec only remains valid if exactly the same components in the approved model are used.

If components are subsequently modified, the same requirements that apply with other motor vehicles take effect. You must only use replacement parts that are certified as approved for your fast Pedelec. Alternatively, you can have components approved individually by the technical inspection authority (TÜV).

The following lists show which components of your fast Pedelec can be replaced and what provisions apply.

12.1 Components that can only be replaced by equivalent parts or approved parts

- Frame
- Fork
- Motor unit
- Battery
- Tyres
- Rims
- Brake system
- Front light
- Back light
- Licence plate holder
- Side stand
- Handlebar
- Stem

12.2 Spare tyres

To make it easier for you to choose a suitable spare tyre if you need to, refer to the following list by the German manufacturer *Schwalbe*. These tyres can be fitted on a low-power category L1e moped:

MODEL	LINE	VERSION	SIZE	MAX. LOAD*
Marathon Supreme	Evolution	folding / wired	37-622	110 kg (6 bar)
Marathon Supreme	Evolution	folding / wired	50-559	140 kg (5 bar)
Marathon Dureme	Evolution	folding / wired	37-622	110 kg (6 bar)
Marathon Dureme	Evolution	folding / wired	50-559	140 kg (5 bar)
Marathon Extreme	Evolution	folding	37-622	115 kg (6 bar)
Marathon Extreme	Evolution	folding	50-559	140 kg (5 bar)
Marathon Plus	Performance	wired	37-622	110 kg (6 bar)
Marathon Plus	Performance	wired	47-559	125 kg (5 bar)
Marathon	Performance	wired	37-622	110 kg (6 bar)
Marathon	Performance	wired	50-559	140 kg (5 bar)
Big Apple	Performance	folding / wired	50-622	150 kg (5 bar)
Big Apple	Performance	folding / wired	50-559	125 kg (5 bar)
Big Apple	Performance	wired	50-305	70 kg (5 bar)
Big Apple	Performance	wired	50-203	70 kg (4 bar)
Kojak	Performance	folding / wired	35-622	110 kg (6.5 bar)
Smart Sam	Performance	wired	42-622	120 kg (6 bar)
Smart Sam	Performance	wired	54-559	140 kg (4 bar)
Crazy Bob	Performance	wired	60-507	130 kg (4.5 bar)
Energizer	Active	wired	37-622	85 kg (6 bar)
Energizer	Active	wired	40-622	95 kg (6 bar)
Energizer	Active	wired	47-559	90 kg (5 bar)

* max. load with specified tyre pressure

12.3 Components that do not require a certificate of approval

- Cranks
- Pedals:
providing type-approved pedal reflectors are used.
- Mudguard:
the front edge of the front mudguard must be rounded.
- Pannier rack
- Saddle
- Handlebar grip
- Gear-shift components:
Only if the largest gear ratio is not modified.
- Seatpost
- Bell:
Can be replaced with an equivalent bright-sounding bell.
- Rear-view mirror:
Can be replaced with a different type-approved rear-view mirror.
- Chain
- Headset
- Inner tube
- Hubs

We hope you thoroughly enjoy using your new fast Pedelec.

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RALEIGH

III

User Manual

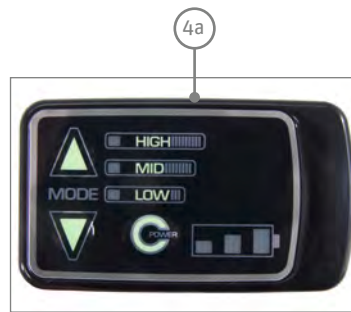
Pedelec with centre motor

English





Charger



LED control panel



LCD control panel



- 1 Battery
- 2 Battery lock
- 3 Motor unit
- 4 Control panel
- 4a LED
- 4b LCD
- 5 Charger

Dear Customer,

Thank you for choosing a Pedelec (pedal electric cycle) from us. This bike is equipped with an electric drive that assists you when you are cycling. This will make your trip much more enjoyable if you are riding up hills, carrying loads or riding into the wind. You can decide yourself how much you want to use it. The purpose of this User Manual is to help you get the most out of your Pedelec and use it correctly.

Structure of User Manual

If you want to get started right away, refer to the brief introduction in ➡ **Chapter 1 “Quick start”**.

The individual steps are subsequently explained in detail, supplemented by illustrations and diagrams.

For more detailed information on your Pedelec, refer to ➡ **Chapter 11 “Technical data”**.

The information in this User Manual specifically refers to your Pedelec only. For general information, on the bike technology that features in your Pedelec for example, refer to the General User Manual.



Even if you can't wait to go for your first ride, in the interest of your own safety you should read ➡ **Chapter 1 “Quick start”** carefully without fail before use.

In addition to texts and tables, the User Manual contains the following symbols that denote important information or dangers.



WARNING about possible physical injury, increased risk of falls or other injuries






IMPORTANT ADDITIONAL INFORMATION or special information on using the bike



NOTE about possible damage to property or the environment

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EC Declaration of Conformity 2012

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71/9234-0

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe 7G, Dover de Luxe 8G, Dover 3G, Dover Premium 8G, Leeds Sport 11G, Leeds HS 8G, Leeds Roller, Leeds Tour 7G, Stoker Lite Premium, Stoker 360, Stoker Lite 8G, Stoker DD, Dover LTD, Dover XXL LTD

Product description: Raleigh Impulse

Model designation: Dover 125th Impulse, Dover Premium Impulse, Dover XXL Impulse, Dover HS Impulse, Impulse XXL, Impulse, Impulse HS, Impulse Compact, Leeds Compact, Dover Impulse

Product description: Raleigh Groove

Model designation: Groove F3, Groove F8

Product description: Raleigh BionX

Model designation: Blackburn 7, Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B

Year of manufacture: 2012

comply with all of the relevant requirements of the **Machinery Directive (2006/42/EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004/108/EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles


DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
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Karl-Heinz Lange
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21.09.2011

EC Declaration of Conformity 2013

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71 / 92 34-111

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe P8 36V, Dover de Luxe P8R 36V, Dover de Luxe P8 26V, Dover de Luxe 8G 26V, Dover de Luxe 7G 26V, Dover de Luxe 2x8 8G, Leeds Sport

Product description: Raleigh Impulse Pedelec

Model designation: Impulse iR, Impulse iR HS, Impulse iR Classic, Impulse iR Premium, Impulse iR XXL, Impulse iR Compact, Stocker i11 Di2, Stocker i Light Premium, Stocker iR Light, Stocker IDD, Leeds i Light, Leeds i HS, Leeds iR HS, Leeds i Roller, Leeds iR Tour, Leeds I Compact, Dundee iR Cargo, Dundee i Compact, Dover i, Dover I HS, Dover i XXL, Dover i Premium, Dover i360, Dover i360 Harmony

Product description: Raleigh Groove Pedelec

Model designation: Groove F8

Product description: Raleigh Xion Pedelec

Model designation: Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B8, Stoker B9

Year of manufacture: 2013

comply with all of the relevant requirements of the **Machinery Directive (2006 / 42 / EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004 / 108 / EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles

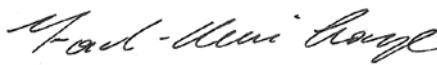
DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

1 Quick start

- › 1. Charge the battery completely before riding for the first time.



Unlocking the battery

- › 2. To remove the battery, grip the handle, insert the key into the lock and turn it anticlockwise. The battery is now unlocked.
- › 3. Tilt the battery sideways and lift it with both hands out of the holder.



Tilt to remove

- › 4. Put the battery in the docking station of the charger. The battery LEDs light up or flash during charging. You must fully charge the battery before using it for the first time.
- › 5. Once all LEDs have gone out, take the battery out of the docking station.
- › 6. Reinsert the battery into the holder on the Pedelec from the left-hand side. Move the battery outwards at an angle of roughly 45° as you do so, as you did when you took it out of the holder. Move the battery into the upright position until the locking mechanism engages. If the key is still in the lock, you will need to turn it clockwise and pull it out to allow the battery to lock in place.
- › 7. Make sure that the battery is securely positioned and that the key is no longer in the lock.
- › 8. **If your Pedelec is equipped with a LCD control panel:** Continue at 10.

- › **If your Pedelec is equipped with an LED control panel:**

Push the "Power" button on the control panel on the handlebar. **Wait for 2 seconds before turning the pedals.** The drive system requires this time when no force is applied to the pedals to adjust the power sensor correctly.

- › 9. The intermediate power-assist mode appears on the display panel of the LED control panel. Press the "Mode" buttons to select the level of assistance: "gentle / LOW", "intermediate / MID" or "powerful / HIGH". Press this button once to change the assist level by one level. You can increase or reduce the assistance, depending on which "Mode" button you press.

- › **10. If your Pedelec is equipped with a LCD control panel:**

Push the "On / Off" button on the control panel on the handlebar. **Wait for 2 seconds before turning the pedals.** The drive system requires this period after switching on during which no force is applied to the pedals to adjust the power sensor correctly.

Press the "Assist" button to select the power assist mode. This works in both directions. The assistance output increases or decreases depending on which "Assist" button you press. If you are using the most powerful setting then press the button again, you return to a mode without assistance.



Always operate one of the brakes before putting one of your feet on a pedal as the motor pulls your bike away immediately. This starting assistance is very convenient, especially when starting on hills. If you start off in road traffic or on unsurfaced roads without controlling your speed, you could come off your bike and seriously injure yourself.

- › 11. You can now ride off.

2 Pedelec / fundamental legal principles

The essential idea behind the Pedelec is not only to be able to cover greater distances more quickly, but also more comfortably. You can choose to relax and let the bike do the work, exert yourself more physically, or simply get from A to B as fast as possible. You can decide this yourself by choosing an appropriate assist level.

This gives you more confidence on the road, as the powerful acceleration gives you more control and a greater degree of security. Your Pedelec assists you with up to 250 watts of power which takes you up to a speed of 25 km/h.

In some EU countries, the Pedelec, like all other bikes, must comply with certain regulations, the Road Traffic Licensing Regulations (StVZO) in Germany for example. Please observe the relevant explanations and general information provided in the General User Manual.

These statutory requirements apply for a Pedelec:

- The motor is designed only to provide pedalling assistance, i.e. it can only "assist" the rider when he/she turns the pedals.
- The average motor output must not exceed 250 W.
- As the speed increases, the rate at which the motor output reduces must also increase more intensely.
- The motor must switch off once the bike reaches a speed of 25 km/h.

2.1 Meaning for the rider

- You do not legally have to wear a helmet. In the interest of your own safety, however, you should never ride without a helmet.
- You do not legally have to have a driving licence.
- You do not legally have to have insurance.
- No age restriction applies for a Pedelec.
- The regulations governing the use of cycle paths are the same as for normal bikes.

These regulations apply to you wherever you are in the European Union. It is possible that different regulations exist in other countries, also inside the EU in individual cases. Before using your Pedelec abroad, find out about the legal situation in the relevant country.

2.2 Pushing assistance

You can have your specialist cycle shop fit what is known as "pushing assistance" to your bike.



Button for pushing assistance

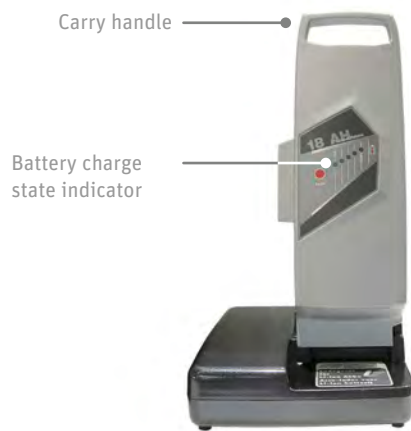
The pushing assistance moves the Pedelec slowly at a maximum speed of 6 km/h without you having to turn the pedals, e.g. if you are manoeuvring in a tight space or are pushing your Pedelec out of a basement garage.

In Germany, if you were born later than 01.04.1965, you must have a moped test certificate before you can fit the pushing assistance. If you already have another type of driving licence, this automatically includes the moped test certificate.

The pushing assistance is not suitable for use as starting assistance.

3 Charging the battery

To charge the battery, you have to take it out of the holder on the Pedelec.



Grip the battery by the handle, insert the key into the lock and turn it anticlockwise. The battery is now unlocked and can be removed from the Pedelec by tilting it sideways. In doing so, hold on tight to the battery to prevent it from being dropped.



Unlocking the battery



Tilt to remove

You should now remove the key and keep it in a safe place to prevent it from breaking off or being lost.

3.1 Charging operation

Before charging the battery, read the information on the charger carefully.

- 1. Take the charger provided out of its packaging and plug the mains plug into a socket (230 V, observe type plate on the charger).



Type plate on charger: Front and back

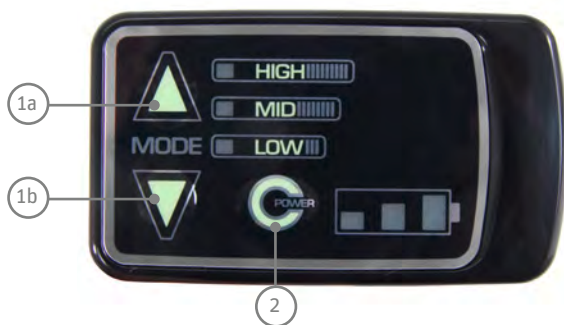
- 2. Put the battery in the docking station of the charger.
- 3. The charging operation starts. The battery LEDs light up or flash. Once all 5 LEDs have gone out, the battery is fully charged. You can leave the battery standing in the charger. However, the charger always draws some current if you leave it plugged in.
- 4. To save power, pull the charger plug out of the socket once the charging operation is complete.

3.2 Fitting the battery

- 1. Insert the battery into the battery holder of the Pedelec from the left by tilting it outwards at roughly 45°.
- 2. In doing so, you must insert the lateral guides at the bottom of the battery into the guides of the holder.
- 3. Tilt the battery towards the bike until it engages in the locking mechanism. If the key is still in the lock, turn it clockwise then pull it out to lock the battery in place.
- 4. Make sure the battery is firmly in place.

4 Control panel (display)

4.1 LED control panel



- 1 Power assist mode selection buttons
- 2 On/off (power) button

The control panel on the handlebar has three buttons and several display panels.

The display panel on the right next to the upper "Mode" button shows the assist level being used via LEDs.

The "Power" button and corresponding display panel is below this.

Press the "Power" button to switch the power assist on and off.

The battery charge state is indicated by the LEDs next to this button. All three LEDs light up for two seconds when the power is switched on.

DISPLAY (AFTER 2 SECONDS)	BATTERY CHARGE STATE
3 LEDs light up •••	70 – 100%
2 LEDs light up ••	40 – 70%
1 LED lights up •	10 – 40%
1 LED flashes slowly ◦	< 10% At this point you notice a slight loss of power.
1 LED flashes quickly ◦	~ 0% The system shuts down shortly afterwards.

You can specify the power assist level via the "Mode" buttons. The LEDs next to the top button show how much assistance the motor is currently providing.

All three LEDs light up for two seconds when the power is switched on.

Please do not put your feet on the pedals during this time.

The power sensor is reset each time the power is switched on in order for the power supply to the motor to be precisely controlled. A load must not be applied to the sensor during these two seconds.

The intermediate assist level is subsequently selected automatically.

DISPLAY LEDs	ASSIST LEVEL	RATIO
HIGH	powerful	1 : 2
MID	intermediate	1 : 1
LOW	gentle	1 : 0.5

Each time you press the "Mode" button the power assist changes by one level. If you require more assistance, press the "Mode" arrow that points upwards. If you require less assistance, press the "Mode" arrow that points downwards.



Increase power assist

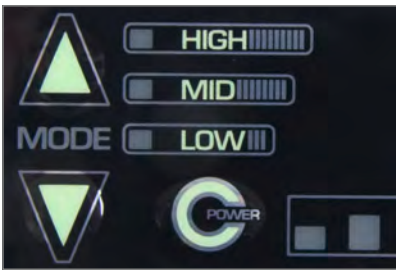
Once the highest assist level has been reached, the system jumps to the lowest assist level the next time the button is pressed and then moves back up through the levels.

If you require less assistance, press the "Mode" arrow that points downwards.



Reduce power assist

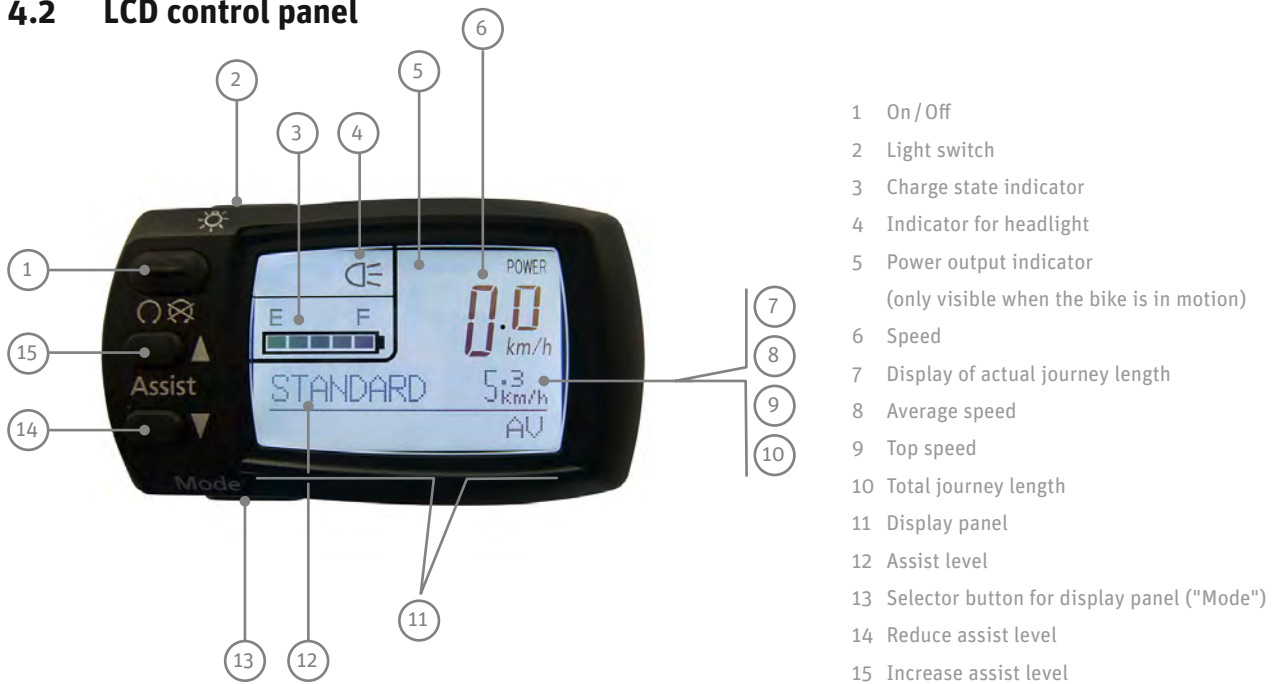
The assistance reduces in stages; when you reach "LOW" (the lowest assist level) it jumps back to "HIGH" (the highest assist level).



4.1.1 Automatic switch-off

If you stop and do not move your Pedelec for 10 minutes, the system switches off automatically. If you subsequently want to ride using the assistance, you will have to switch it back on via the control panel.

4.2 LCD control panel



delete all data



Rear



Display switched off



Display switched on

4.2.1 Function of LCD control panel

4.2.1.1 On/Off button

Press the "On/Off" button to switch on the control panel and drive.

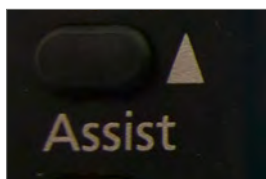
The assist level that was active at the time the control panel was switched off is automatically reinstated. The back-lit display is turned on briefly then goes out. All recording of data (trip, actual journey length, average speed, top speed, total journey length) starts as soon as you switch the control panel on and stops when you switch it off.

4.2.1.2 Selector button for display panel

You can display the information "Trip", "Average speed", "Top speed" and "Total journey length" consecutively by pressing the selector button for the display panel ("Mode").

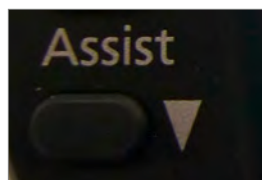
The setting that was selected when you switched off is also displayed first in this case.

4.2.1.3 Changing the assist level



Increase power assist

The following assist levels are displayed one by one when you press the button that increases the assist level: "NO ASSIST/no assistance", "ECO/low assist level", "STANDARD/medium assist level", "HIGH/high assist level", followed once again by "NO ASSIST/no assistance". This means that the amount of assistance increases each time you press the button until you reach the highest level. If you subsequently press the button, the assistance switches off.



Reduce power assist

If you press the button that reduces the assist level, the assistance reduces each time the button is pressed and returns to the most powerful assist level when it reaches the end of the loop.

In the "NO ASSIST/no assistance" mode, you ride the bike normally without the assistance of the motor.

4.2.1.4 Resetting recorded data

If you press the selector button for the display panel for longer than three seconds with the control panel switched on, this resets the trip, average speed and top speed readings to zero. You cannot delete the total journey length using this method.

4.2.1.5 Switching the display on and off

The back-lit display and LCD control panel display can also be switched on even if the drive is not enabled. To do this, press the button that switches the lights on. The drive remains in "NO ASSIST/no assistance" mode. Now you cannot change the assist level.

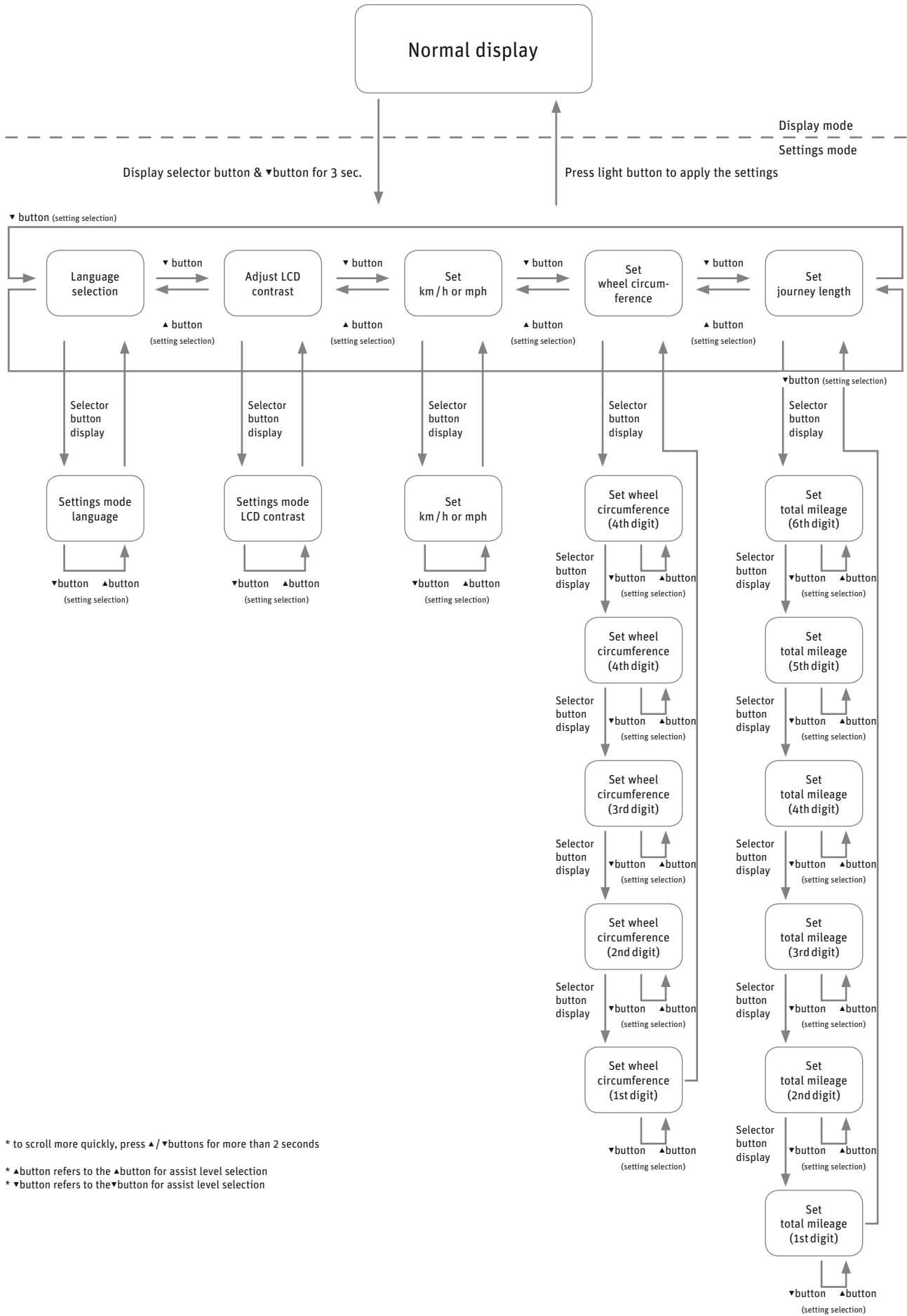
If you press the light button when the control panel is switched on, the back-lit display turns on.

If you press the light button when the light is on, the back-lit display turns off. The power assist is still available and you can change the assist level.

4.2.1.6 Deleting all data

Press the display ("Mode") selector button and the button that deletes all data on the rear of the control panel at the same time to delete all the data stored, including the total journey length. The display then automatically switches to settings mode for language, LCD contrast and wheel circumference.

4.2.1.7 Reprogramming the language, wheel circumference and LCD contrast



4.2.1.8 Automatic switch-off

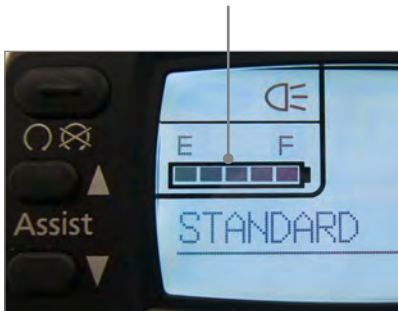
If you stop your Pedelec and it does not move for 10 minutes, the system switches off automatically. If you want to use the assistance again, you will have to switch it back on via the control panel.

4.2.1.9 Measurement and display ranges

DESCRIPTION	DISPLAY RANGE
Speed	0.0 – 99.9 km / h
Journey length	0.0 – 99999 km (once the distance reaches 9999.9 km, this is displayed without a decimal place.)
Average speed	0 – 99.9 km / h
Top speed	0.0 – 99.9 km / h
Total journey length	0.0 – 99999 km (once the distance reaches 9999.9 km, this is displayed without a decimal place.)

4.2.1.10 Battery charge state indicator

Battery charge state indicator



This indicator helps you save power when riding which means you can travel further. The remaining battery charge is shown in 5 stages.

DISPLAY	BATTERY CHARGE STATE
5 LEDs light up •••••	80 – 100%
4 LEDs light up ••••	60 – 80%
3 LEDs light up •••	40 – 60%
2 LEDs light up ••	20 – 40%
1 LED lights up •	10 – 20%
1 LED flashes ◦	< 10%
no display –	0%
E: Battery is empty	
F: Battery is full	

4.2.1.11 Power output indicator



The power output indicator shows the actual power output being requested and the actual power consumption in 6 stages (bars). This indicator helps you save power when riding which means you can travel further. The fewer of the 6 bars that are displayed, the lower the actual power output of the motor and the consumption. If more bars are visible, the power output and consumption of the motor is higher.

IF YOU CAN SEE...	THE BATTERY IS SUPPLYING A CURRENT OF
6 bars	more than 20 amperes
5 bars	up to 16 – 20 A
4 bars	up to 12 – 16 A
3 bars	up to 8 – 12 A
2 bars	up to 2 – 8 A
1 bar	up to 0 – 2 A



If the power consumption is very low, no bars are displayed.

5 Assistance by the electric motor



If your Pedelec is equipped with hub gears, you may have to take more load off the pedals when changing gears than you would normally do when riding your conventional bike. This is due to the additional power output of the electric motor. The hub gear system contains a device that protects it against gear shifting operations under excessive loads in order to preserve the gear unit in the hub.

5.1 Operating principle of assistance

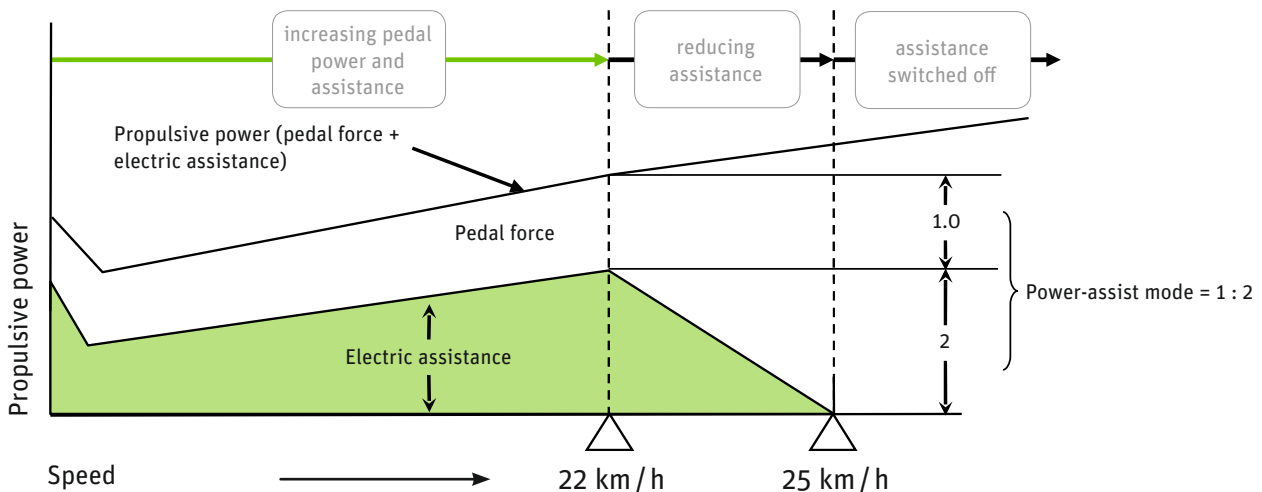
The motor provides support as soon as you switch the assistance on and start pedalling.

The thrust delivered by the motor depends on three factors:

- **Your own pedalling effort**
The motor adapts to the force you apply. If you pedal harder, e.g. uphill or when setting off, the power sensor detects this and increases the thrust accordingly. However, the thrust is limited by the maximum motor output.

- **The assist level you have selected**
With the "high assist level /HIGH" the power delivered by the motor is double your own effort (1 : 2). With the "medium assist level /MID", the power delivered by the motor matches your own effort (1 : 1). With the "low assist level /LOW/ECO", the power delivered by the motor is half your own effort (1 : 0.5).
- **The speed at which you are currently travelling**
When you set off on your Pedelec, the assistance increases as you build up speed until your bike reaches its maximum speed of roughly 22 km/h. The assistance then reduces automatically until you reach a speed of roughly 25 km/h when it switches off. This applies for the largest gear only. In all other gears, the motor switches off earlier, depending on the gear ratio.

Pedelec 28" • 8-speed • Shimano



Variation in electric assistance

5.2 Distance

The distance you can travel using the power assist with the battery fully charged depends on several factors:

- **Ambient temperature**

If it is colder, you will travel a shorter distance with the same battery charge.

To maximise the distance you can travel, keep the battery in a heated room so that it is at room temperature when you fit it on your Pedelec.

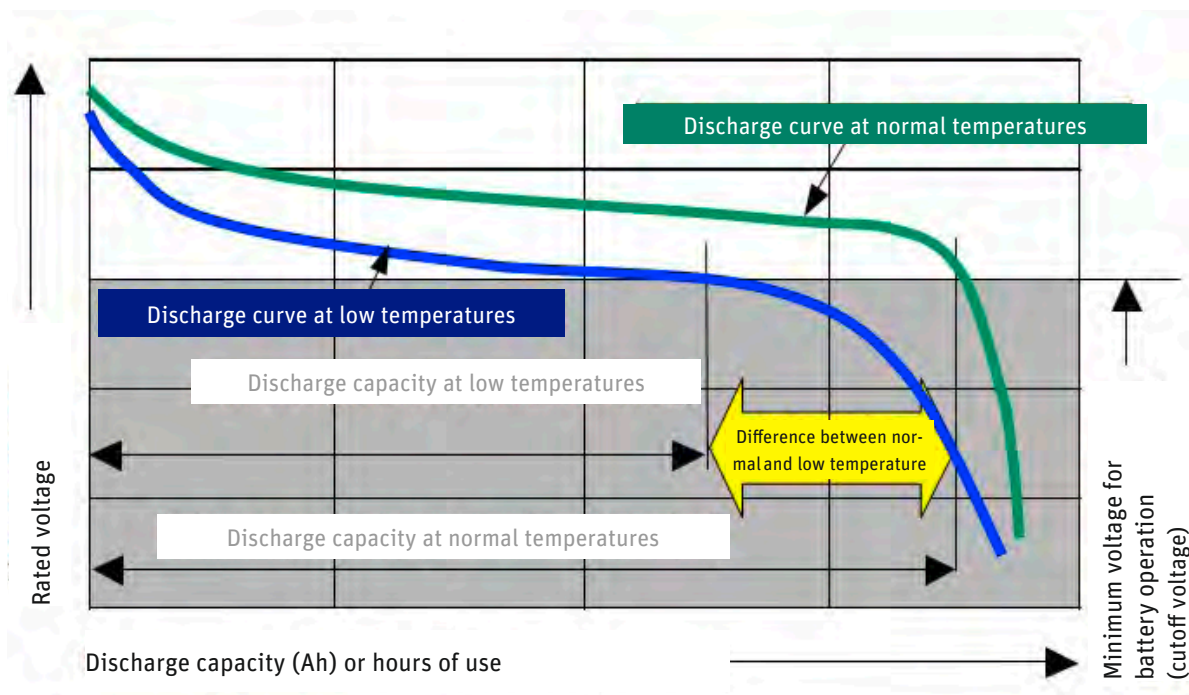
As the battery discharges when the motor is in use, it generates enough heat to not lose too much of its power at low ambient temperatures.

- **Selected assist level**

If you want to cover a large distance assisted by the motor, select the lower gears, i.e. the ones that are easier to pedal. Also change to "low assist level/LOW/ECO".

- **Handling**

If you are riding in gears that are harder to pedal and select a high assist level, e.g. when riding uphill, the motor will provide support with plenty of power. However, this leads to higher consumption, as with driving a car at high speed on the motorway. You will therefore have to recharge the battery sooner. You can conserve energy when riding your bike not just by turning the pedals, but also by applying even pressure throughout each crank revolution.



Rate of discharge at different temperatures

- **Technical condition of your Pedelec**
Make sure the tyre pressure is correct. If you ride your bike with too little air in the tyres, this can significantly increase the rolling resistance. The distance you can travel also decreases if the brakes are rubbing.
- **Ascents**
You pedal harder when riding uphill. This is detected by the power sensor which then allows the motor to work harder.

Under ideal conditions, you can cover roughly 140 km with the battery fully charged (18 Ah). You can expect to cover a distance of roughly 85 km using different modes of operation.

DISTANCE COVERED (1 : 1 ASSISTANCE, 22 KM/H ON AVERAGE UNDER FAVOURABLE CONDITIONS)

8 Ah battery	60 km
12 Ah battery	90 km
18 Ah battery	140 km

Distance covered using different batteries

5.3 Riding your Pedelec efficiently

You can monitor and influence the cost of your journeys with the Pedelec yourself. You can reduce your consumption and therefore costs by following the tips for increasing the travel distance.

The operating costs for power assist with an 18 Ah battery are calculated as follows:

- A new battery costs roughly 599 euros.
- You can cover 112 km on average with one battery charge.
- You can charge the battery roughly 1,100 times.
- 1100 charging cycles x 112 km = 123,200 km
- 599 euros: 123,200 km = 0.47 euro cents / km
- You use roughly 0.620 kWh to fully charge the battery. Assuming a unit price of 20 euro cents / kWh, it costs you 12.4 euro cents to fully charge the battery and cover a journey length of 112 km.
- It costs you 0.20 euro cents / km to travel the minimum distance of 60 km.
- It costs you 0.09 euro cents / km to travel the maximum distance of 140 km.
- This means the cost of consumption and the battery is a maximum of 0.67 euro cents / km.

As *Derby Cycle* is a German manufacturer, the sample calculation is based on German energy prices. The operating costs may therefore be different in locations where other energy prices apply.

6 Battery

Your battery is a lithium cobalt battery, the ideal type of lithium-ion (Li-ion) battery for this application. One of the main benefits of this type of battery is its low weight combined with a high capacity. Li-ion batteries only weigh half as much as comparable nickel metal hydride or nickel-cadmium batteries. This means you carry less battery weight and more battery power.

6.1 Straightforward charging

- › There is no memory effect. You can therefore fully recharge your battery after every trip.
- › Recharge the battery after every trip. This means you can set off immediately the next time you use your bike and you also increase the service life of the battery.
- › If you are not using the battery, you must recharge it after 6 months at the latest.

6.2 High degree of safety due to battery management

- › The battery cannot be damaged as a result of a short-circuit. If this were to happen, the battery management would switch off the battery.
- › You can simply leave the battery standing in the charger as it prevents overcharging.

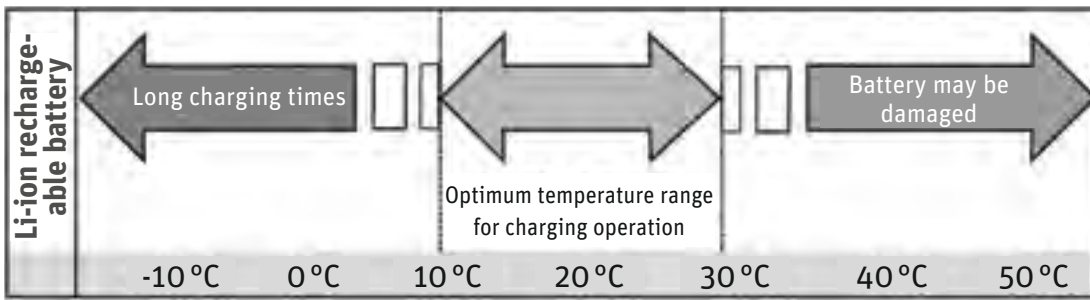
6.3 Straightforward storage

- › If you do not need your battery for a while, store it at a temperature of +10 °C at three quarters of its full charge capacity.
- › The battery enters sleep mode to prevent it from totally discharging.
- › These benefits are available due to highly effective battery management that has been adapted to this specific application and by tuning the battery for operation with a 250 watt motor.



Observe the following points to increase the service life of your Pedelec battery:

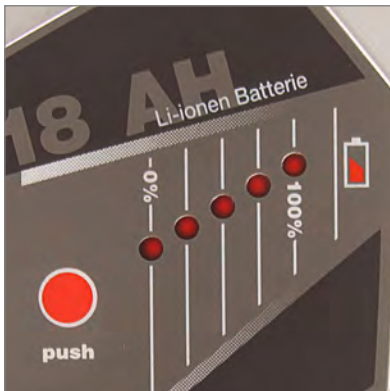
- › Make sure that the battery is fully charged before you ride your bike for the first time or after you have not used it for a while.
- › You should run the battery all the way down to empty for the first three charging cycles. This allows the battery to reach its maximum capacity.
- › If you continuously run the battery to empty during normal operation, this reduces its service life.
- › If you partially recharge the battery frequently during normal operation, this has a favourable effect on its service life.
- › You should therefore partially recharge the battery whenever possible: Try not to run the battery all the way down to empty and recharge it even after a short period of operation.
- › In the as-delivered condition, the battery is not fully charged and is in what is referred to as sleep mode. Sleep mode minimises the rate at which the battery discharges itself. If the battery is allowed to discharge unchecked for an extended period this can lead to total discharging which damages the battery. To "wake up" the battery, simply place it in the charger for one minute.
- › If you are having problems with the battery, place it in the charger for one minute. A reset occurs, during which the battery management disables sleep mode for example. After this, the battery will work again.
- › Ideally you should charge the battery at a temperature of between +10 °C and +30 °C. It takes longer to charge the battery at low temperatures, the battery will not charge up at temperatures higher than +30 °C. Ideally, you should charge and store the battery inside your house or in a warm garage when the outside temperature is low. In this case you should only fit the battery on your bike just before using it.
- › If you are transporting your Pedelec by car, take the battery out of its holder and transport it separately.
- › The battery should ideally be stored for longer periods charged to 75% of its capacity at a temperature of +10°C.



Charging times at different temperatures

6.4 Battery information system

There is a control panel with five LEDs and a button ("Push") on the side of the battery that faces outwards. The LEDs light up if you press the "Push" button. Information about the battery and its charge state is provided based on the number of LEDs that light up and the way in which they light up.



Charge state and battery capacity indicator

6.4.1 Checking the battery charge state

Press the "Push" button briefly, the LEDs light up and display the current battery charge state.

DISPLAY	BATTERY CHARGE STATE
5 LEDs light up •••••	80 – 100%
4 LEDs light up ••••	60 – 80%
3 LEDs light up •••	40 – 60%
2 LEDs light up ••	20 – 40%
1 LED lights up •	10 – 20%
1 LED flashes ◦	< 10%
no display –	0%
E: Battery is empty	
F: Battery is full	

6.4.2 Checking the battery capacity

If you press the "Push" button for longer than five seconds, the LEDs show the current capacity of the battery.

DISPLAY	CAPACITY
5 LEDs light up •••••	100 – 80%
4 LEDs light up ••••	80 – 60%
3 LEDs light up •••	60 – 40%
2 LEDs light up ••	40 – 20%
1 LED lights up •	20 – 0%

Capacity indicator

- › Check there is sufficient charge in the battery for the journey you intend to make before setting off.
- › In winter the distance you can normally cover with the battery operating normally is less. Only move the battery from the warm room where you store it and fit it on your Pedelec just before you set off. This prevents low temperatures from reducing the distance you can normally travel. A corresponding diagram is provided in ➡ **Chapter 11 “Technical data”**.
- › The distance you can cover can vary depending on the topography, your handling, the condition of the battery and the assist level you are using.
- › If all diodes flash consecutively, or several flash at the same time (2–3 diodes), the battery is damaged.



Before taking the battery to your specialist cycle shop to have it checked, put the battery in the charger for one minute then test it again.

6.5 Service life and warranty

6.5.1 of drive

The Panasonic centre motor is a fully-developed durable and maintenance-free drive. It is a wear part with a two-year warranty. As its power output is higher, wear parts such as the drive and brakes are subject to higher loads than they would be on a normal bike which is why they wear out more quickly.

6.5.2 of battery

Batteries are wear parts. Wear parts also come with a two-year warranty.

If the battery develops a fault during this period, your specialist cycle shop will of course replace it. Normal ageing and battery wear do not constitute a fault.

The service life of the battery depends on different factors. The most important wear-relevant factors are

- the **number of charge cycles** and
- the **age** of the battery.

When you have fully charged and discharged your battery 1,100 times, it will still have 60% of its initial capacity, providing it has been well looked after:

BATTERY	REMAINING CAPACITY	~ DISTANCE COVERED
8 Ah	4.8 Ah	19,360 km
12 Ah	7.2 Ah	30,800 km
18 Ah	10.8 Ah	52,800 km

From the technical standpoint above therefore, the battery is exhausted at this point. It also goes without saying that the battery ages. Even if you do not use your battery, its capacity reduces.

Providing you can still cover the journey distances with this remaining battery capacity, you can of course continue using it. If the capacity is no longer sufficient, you can take your battery to a specialist cycle shop who will dispose of your battery and sell you a new one.

- › You can extend the service life of the battery by fully recharging it after every journey, however short. The Panasonic Li-cobalt battery has no memory effect.
- › You can also extend the service life of the battery by using the assistance selectively. Avoid, for example, using gears that make pedalling difficult with the highest assist level activated.

7 Charger

Read the two stickers on the charger before using it for the first time.



Do not use other chargers. Only charge the battery using the charger provided, or a charger approved by Derby Cycle.

If a fault develops or if the battery is in sleep mode, you might be able to solve this problem by placing the battery in the charger for one minute. The battery management then checks the battery and can eliminate any faults that have occurred.



If used incorrectly, the device may be damaged or inflict injuries.

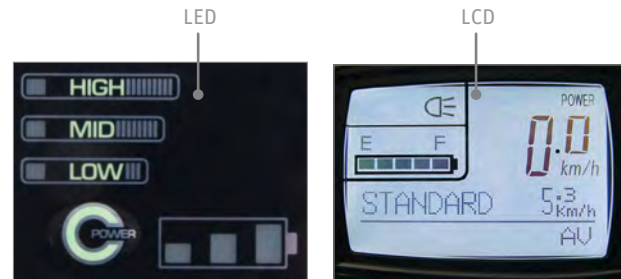
- › Before cleaning the charger, always pull the plug out of the socket to avoid a short-circuit and/or physical injury.
- › Only use the charger in dry rooms.
- › Only place the charger in a secure stable position on a suitable surface.
- › Do not cover the charger or place any objects on it as otherwise it could overheat and catch fire.

8 Troubleshooting

The control panel also indicates when faults and technical errors are present.

If a fault occurs, the LEDs flash in a specific pattern and with a specific rhythm. This indicates the cause of the problem and makes it easier for you to find a solution.

A fault code appears in the LCD display.



Control panel displays



Have the electric drive inspected regularly by your specialist cycle shop. Do not carry out any work on the electric drive or battery yourself. Unless you have sufficient expertise this could lead to a serious accident. As a basic rule, always consult your specialist cycle shop if you have a problem with the electric drive or the battery.



You should only have the electrical components of your Pedelec replaced with genuine parts. This makes it safer for you and avoids problems when processing warranty claims.

8.1 Problems / solutions: Flash patterns and their meaning

If a problem occurs in the electrical system of your Pe-delec, you should initially try to solve it by referring to the following list which describes possible causes of errors and offers solutions. If the fault persists, consult your specialist cycle shop.

8.1.1 Pedelec with LED control panel

ERROR CODE	CAUSE	SOLUTION
	No power assist. The power sensor could not set itself correctly.	Perform restart. The system performs the calibration again. No force should be applied to the pedals during this procedure which takes roughly two seconds.
	No power assist. A problem occurred in the drive unit.	Motor, sensor unit or cable defective. Contact your specialist cycle shop.
	The motor output is less. The motor is overloaded.	Allow the motor to cool down and reduce the assistance.
	The motor switches off. The motor is extremely overloaded.	Allow the motor to cool down and reduce the assistance.
	No power assist. The battery is nearly empty.	Charge the battery immediately.

8.1.2 Pedelec with LCD control panel

8.1.2.1 No display

If nothing is shown in the LCD display, one of the following reasons/solutions may apply:

- Is the battery sufficiently charged?
Charge the battery.
- Is the battery capacity still sufficient?
Check the capacity. If the remaining capacity is not enough, the battery must be replaced.

Check the actual battery capacity

If you press the "Push" button for longer than five seconds, the LEDs show the capacity of the battery at present.

DISPLAY	CAPACITY
5 LEDs light up •••••	100 – 80%
4 LEDs light up ••••	80 – 60%
3 LEDs light up •••	60 – 40%
2 LEDs light up ••	40 – 20%
1 LED lights up •	20 – 0%

Capacity of 18 Ah battery (example)

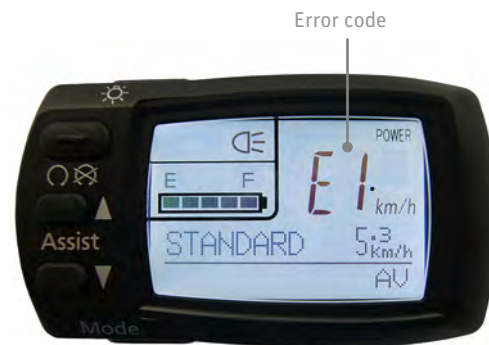
8.1.2.2 Battery charge state indicator flashing or not visible

If the battery charge state indicator is flashing or not visible at all, one of the following causes/solutions may apply:

- Is the battery sufficiently charged?
Charge the battery if necessary.
- The second and fourth LEDs of the battery indicator flash when you press the button on the battery. The battery management has switched the battery off. Put the battery in the charger and charge it.
- If you continue to press the button on the battery (test for battery capacity) and no LED lights up, the battery management has switched the battery off. Put the battery in the charger and charge it.

8.1.2.3 Display "E1"

If "E1" is displayed, the following cause/solution may apply:



- You have pushed down on the pedals shortly after pressing the "Power" button. Switch the display off then switch it back on and do not push down on the pedals for roughly 2 seconds.

If "E1" is displayed the distance covered will not be recorded. It will therefore no longer be possible to adjust the assistance control and the power assist will no longer work.

8.1.2.4 Display "E9"

If "E9" is displayed, the following cause/solution may apply:



- A problem occurred with the drive unit. Contact your specialist cycle shop if this occurs.

If "E9" is displayed the distance covered will not be recorded. It will therefore no longer be possible to adjust the assistance control and the power assist will no longer work.

8.1.2.5 Assistance control indicator flashing

If the **assistance control indicator is flashing** although the battery charge is sufficient, the following cause and solution may apply:

- The drive unit is overloaded / overheated. The battery management has switched itself on and reduced the assistance. A short period follows in which the drive recovers after which the full assistance output is available once again.

If this does not happen, contact your specialist cycle shop.

8.1.2.6 Additional possible sources of errors

- If you only pedal very gently, the power assist is not enabled.
- If the motor is not running and you cannot pinpoint the cause, check the buttons, cables and plugs of the electrical system.



If you find a break or a crack, do *not* try to repair the fault yourself. Take your Pedelec to a specialist cycle shop.

9 Cleaning



Remove the battery before you clean your Pedelec.

We recommend you clean your Pedelec with a damp cloth, a sponge or a brush. You can obtain suitable cleaning agents and additional information from your specialist cycle shop.

Make sure when cleaning that water does not enter the battery. Although the electrical components are sealed, it is not advisable to clean the bike by spraying it with a hose or a high-pressure cleaner. This could damage your bike.

When wiping down the battery, be careful not to touch and connect the contacts on the underside. This could cause the battery to switch off.

10 Warnings



- Bear in mind that the Pedelec motor can heat up on long ascents. Be careful not to touch it with your hands, feet or legs as you could burn yourself.
- The Pedelec operates using low voltage (25.2 volts). Never attempt to operate the Pedelec using power from a source other than a suitable genuine battery. The designations of approved batteries are listed in ➤ **Chapter 11 “Technical data”**.
- Live parts may be exposed when you open covers or remove parts. Connection points may also be live. Maintenance or repairs on the device when it is open and connected to the power supply must only be carried out by the specialist cycle shop.
- When carrying out adjustments and maintenance or when cleaning the Pedelec, avoid crushing cables or damaging them with sharp edges.
- If risk-free operation of your Pedelec cannot be assumed, take it out of operation and make sure it cannot be used until you have it checked by a specialist cycle shop. Risk-free operation is no longer possible if live parts or the rechargeable battery show signs of damage.
- Keep children away from electrical appliances. If children are present, keep a close eye on them, especially if they could insert objects into the appliance through apertures in the housing as this poses the danger of fatal electric shock.

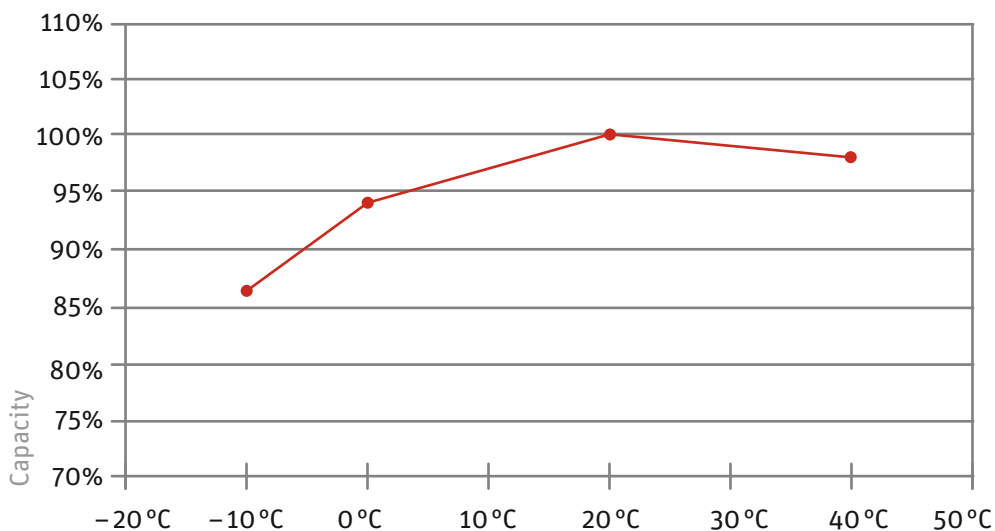
11 Technical data

MOTOR	
Brushless electric motor	
Output	250 watts
Maximum torque at drive pinion	13 Nm
Gross weight of electric drive, battery, control unit	7.8 kg (12 Ah battery)
Control	via power sensor
Assist levels	1:0.5 1:1 1:2

PANASONIC LI-ION BATTERY	
Voltage	25.2 V
Capacities	8/10/12/18 Ah
Energy quantity	200/250/300/450 Wh

DCW ITEM NO.	ITEM NO.	CAPACITY [AH]	WEIGHT [KG]	POSSIBLE APPLICATION		
				CENTRE	FAST	FRONT
17017002	NKY226B02	10	2.4	X	250 W	-
17017012	NKY226B02	10	2.4	X	250 W	-
17019018	NKY252B02	10	2.4	-	-	X
17019103	NKY252B02	10	2.4	-	-	X
KD170110010	NKY266B02	10	2.4	X	250 W	-
170110010	NKY266B02	10	2.4	X	250 W	-
170110003	NKY265B02	10	2.4	-	300 W	-
170110016	NKY267B02	10	2.4	-	-	X
170111002	NKY284B2	10	2.4	X	300 W	X
170111200	NKY306B2	8	1.9	X	300 W	X
170111201	NKY304B2	12	2.6	X	300 W	X
170111202	14069	18	3.1	X	300 W	X

Possible applications of batteries



Capacity curve at different temperatures

We hope you thoroughly enjoy using your new Pedelec!

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RALEIGH

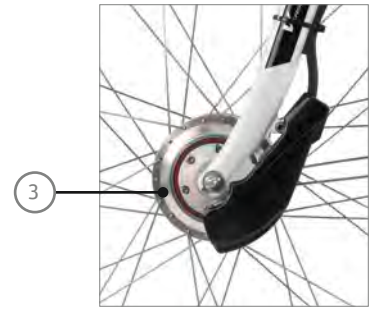
IV

User Manual

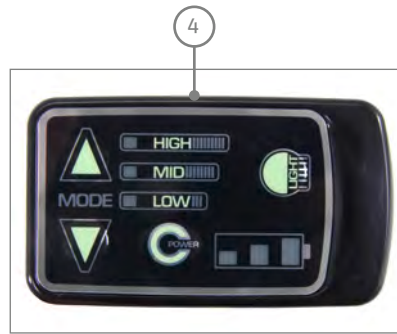
Pedelec with front motor

English





Motor



LED control panel



Charger



- 1 Battery
- 2 Battery lock
- 3 Motor unit
- 4 Control panel
- 5 Charger

Dear Customer,

Thank you for choosing a Pedelec (pedal electric cycle) from us. This bike is equipped with an electric drive that assists you when you are cycling. This will make your trip much more enjoyable if you are riding up hills, carrying loads or riding into the wind. You can decide yourself how much you want to use it. The purpose of this User Manual is to help you get the most out of your Pedelec and use it correctly.

Structure of User Manual

If you want to get started right away, refer to the brief introduction in ➡ **Chapter 1 “Quick start”**

The individual steps are subsequently explained in detail, supplemented by illustrations and diagrams.

For more detailed information on your Pedelec, refer to ➡ **Chapter 12 “Technical data”**.

The information in this User Manual specifically refers to your Pedelec only. For general information, on the bike technology that features in your Pedelec for example, refer to the General User Manual.



Even if you can't wait to go for your first ride, in the interest of your own safety you should read ➡ **Chapter 1 “Quick start”** carefully without fail before use.

In addition to texts and tables, the User Manual contains the following symbols that denote important information or dangers.



WARNING about possible physical injury, increased risk of falls or other injuries







IMPORTANT ADDITIONAL INFORMATION or special information on using the bike



NOTE about possible damage to property or the environment

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EC Declaration of Conformity 2012

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71/9234-0

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe 7G, Dover de Luxe 8G, Dover 3G, Dover Premium 8G, Leeds Sport 11G, Leeds HS 8G, Leeds Roller, Leeds Tour 7G, Stoker Lite Premium, Stoker 360, Stoker Lite 8G, Stoker DD, Dover LTD, Dover XXL LTD

Product description: Raleigh Impulse

Model designation: Dover 125th Impulse, Dover Premium Impulse, Dover XXL Impulse, Dover HS Impulse, Impulse XXL, Impulse, Impulse HS, Impulse Compact, Leeds Compact, Dover Impulse

Product description: Raleigh Groove

Model designation: Groove F3, Groove F8

Product description: Raleigh BionX

Model designation: Blackburn 7, Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B

Year of manufacture: 2012

comply with all of the relevant requirements of the **Machinery Directive (2006/42/EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004/108/EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles


DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

Raleigh Univega GmbH
49661 Cloppenburg, Germany
21.09.2011

EC Declaration of Conformity 2013

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71 / 92 34-111

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe P8 36V, Dover de Luxe P8R 36V, Dover de Luxe P8 26V, Dover de Luxe 8G 26V, Dover de Luxe 7G 26V, Dover de Luxe 2x8 8G, Leeds Sport

Product description: Raleigh Impulse Pedelec

Model designation: Impulse iR, Impulse iR HS, Impulse iR Classic, Impulse iR Premium, Impulse iR XXL, Impulse iR Compact, Stocker i11 Di2, Stocker i Light Premium, Stocker iR Light, Stocker IDD, Leeds i Light, Leeds i HS, Leeds iR HS, Leeds i Roller, Leeds iR Tour, Leeds I Compact, Dundee iR Cargo, Dundee i Compact, Dover i, Dover I HS, Dover i XXL, Dover i Premium, Dover i360, Dover i360 Harmony

Product description: Raleigh Groove Pedelec

Model designation: Groove F8

Product description: Raleigh Xion Pedelec

Model designation: Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B8, Stoker B9

Year of manufacture: 2013

comply with all of the relevant requirements of the **Machinery Directive (2006 / 42 / EC)**.

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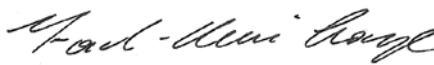
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Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

1 Quick start

- › 1. Charge the battery completely before riding for the first time.



Unlocking the battery

- › 2. To remove the battery, grip the handle, insert the key into the lock and turn it anticlockwise. The battery is now unlocked.
- › 3. Tilt the battery sideways and lift it with both hands out of the holder.



Tilt when removing

- › 4. Put the battery in the docking station of the charger. The battery LEDs light up or flash. You must fully charge the battery before using it for the first time.
- › 5. Once all LEDs have gone out, take the battery out of the docking station.
- › 6. Reinsert the battery into the holder on the Pedelec from the left-hand side. Move the battery outwards at an angle of roughly 45° as you do so, as you did when you took it out of the holder. Move the battery into the upright position until the locking mechanism engages. If the key is still in the lock, you will need to turn it clockwise and pull it out to allow the battery to lock in place.
- › 7. Make sure that the battery is securely positioned and that the key is no longer in the lock.
- › 8. Push the "Power" button on the control panel on the handlebar. **Wait for 2 seconds before turning the pedals.** The drive system requires this time

when no force is applied to the pedals to adjust the power sensor correctly.

- › 9. The intermediate power-assist mode appears on the display panel of the LED control panel. Press the "Mode" buttons to select the amount of assistance: "gentle/LOW", "intermediate/MID" or "powerful/HIGH". Press this button once to change the assist level by one level. You can increase or reduce the assistance, depending on which "Mode" button you press.



Always operate one of the brakes before putting one of your feet on a pedal as the motor pulls your bike away immediately. This starting assistance is very convenient, especially when starting on hills. If you start off in road traffic or on unsurfaced roads without controlling your speed, you could come off your bike and seriously injure yourself.

- › 10. You can now ride off.

2 Pedelec / fundamental legal principles

The fundamental idea behind the Pedelec is not only to be able to cover greater distances more quickly, but also to do this comfortably. You can choose to relax and let the bike do the work, exert yourself more physically, or simply to get from A to B as fast as possible. You can decide this yourself by choosing an appropriate assist level.

This gives you more confidence on the road, as the powerful acceleration gives you more control and a greater degree of security. Your Pedelec assists you with up to 250 watts of power which takes you up to the speed of 25 km/h.

In some EU countries, the Pedelec, like all other bikes, must comply with certain regulations, the Road Traffic Licensing Regulations (StVZO) in Germany for example. Please observe the relevant explanations and general information provided in the General User Manual.

These statutory requirements apply for a Pedelec:

- The motor is designed only to provide pedalling assistance, i.e. it can only "assist" the rider when he/she turns the pedals.
- The average motor output must not exceed 250 W.
- As the speed increases, the rate at which the motor output reduces must also increase more intensely.
- The motor must switch off once the bike reaches a speed of 25 km/h.

2.1 Meaning for the rider

You do not legally have to wear a helmet. In the interest of your own safety, however, you should never ride without a helmet.

- You do not legally have to have a driving licence.
- You do not legally have to have insurance.
- No age restriction applies for a Pedelec.
- The regulations governing the use of cycle paths are the same as for normal bikes.

These regulations apply to you wherever you are in the European Union. It is possible that different regulations exist in other countries, also inside the EU in individual cases. Before using your Pedelec abroad, find out about the legal situation in the relevant country.

2.2 Pushing assistance

You can have your specialist cycle shop fit what is known as "pushing assistance" to your bike.



Button for pushing assistance

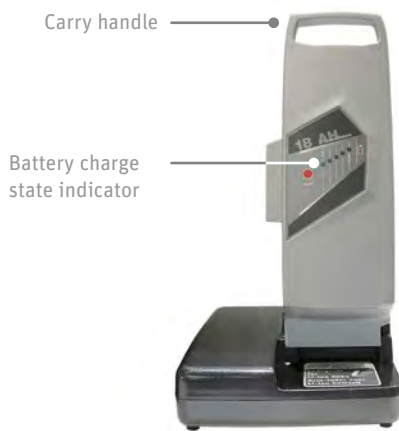
The pushing assistance moves the Pedelec slowly at a maximum speed of 6 km/h without you having to turn the pedals, e.g. if you are manoeuvring in a tight space or are pushing your Pedelec out of a basement garage.

In Germany, if you were born later than 01.04.1965, you must have a moped test certificate before you can fit the pushing assistance. If you already have another type of driving licence, this automatically includes the moped test certificate.

The pushing assistance is not suitable for use as starting assistance.

3 Charging the battery

To charge the battery, you have to take it out of the holder on the Pedelec.



Grip the battery by the handle, insert the key into the lock and turn it anticlockwise. The battery is now unlocked and can be removed from the Pedelec by tilting it sideways. In doing so, hold on tight to the battery to prevent it from being dropped.



Unlocking the battery



Tilt to remove

You should now remove the key and keep it in a safe place to prevent it from breaking off or being lost.

3.1 Charging operation

Before charging the battery, read the information on the charger carefully.

- 1. Take the charger provided out of its packaging and plug the mains plug into a socket (230 V, observe type plate on the charger).



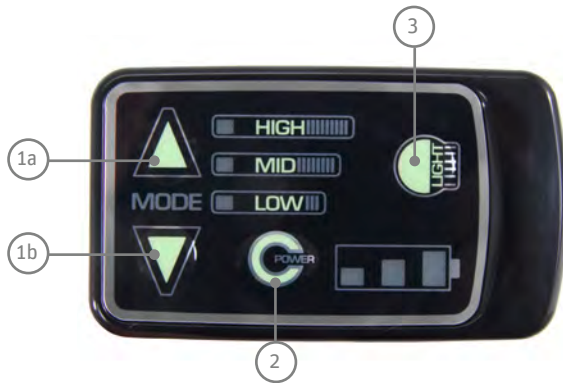
Type plate on charger: Front and back

- 2. Put the battery in the docking station of the charger.
- 3. The charging operation starts. The battery LEDs light up or flash. Once all 5 LEDs have gone out, the battery is fully charged. You can leave the battery standing in the charger. However, the charger always draws some current if you leave it plugged in.
- 4. To save power, pull the charger plug out of the socket once the charging operation is complete.

3.2 Fitting the battery

- 1. Insert the battery into the battery holder of the Pedelec from the left by tilting it outwards at roughly 45°.
- 2. In doing so, you must insert the lateral guides at the bottom of the battery into the guides of the holder.
- 3. Tilt the battery towards the bike until it engages in the locking mechanism. If the key is still in the lock, turn it clockwise then pull it out to lock the battery in place.
- 4. Make sure the battery is firmly in place.

4 LED control panel (display)



- 1 Power assist mode selection buttons
- 2 On/off (power) button
- 3 Button for lights

The control panel on the handlebar has three buttons and several display panels.

The display panel on the right next to the upper "Mode" button shows the level of active assistance via LEDs.

The "Power" button and corresponding display panel is below this.

Press the "Power" button to switch the power assist on and off.

The battery charge state is indicated by the LEDs next to this button. All three LEDs light up when the power is switched on.

DISPLAY (AFTER 2 SECONDS)	BATTERY CHARGE STATE
3 LEDs light up ●●●	70 – 100%
2 LEDs light up ●●	40 – 70%
1 LED lights up ●	10 – 40%
1 LED flashes slowly ○	< 10% At this point you notice a slight loss of power.
1 LED flashes quickly ○	~ 0% The system shuts down shortly afterwards.

You can specify the power assist level via the "Mode" buttons. The LEDs next to the top button show the level of assistance you are currently receiving from the motor.

All three LEDs light up for two seconds when the power is switched on.

Please do not put your feet on the pedals during this time. The power sensor is reset each time the power is switched on in order for the power supply to the motor to be precisely controlled. A load must not be applied to the sensor during this two second period.

The intermediate assist level is subsequently selected automatically.

DISPLAY LEDs	ASSIST LEVEL	RATIO
HIGH	powerful	1:2
MID	intermediate	1:1
LOW	gentle	1:0.5

Each time you press the **"Mode" button** the power assist changes by one level. If you require more assistance, press the "Mode" arrow that points upwards. If you require less assistance, press the "Mode" arrow that points downwards.



Increase power assist

Once the highest level has been reached, the system jumps to the lowest assist level the next time the button is pressed and then moves back up through the levels.

If you require less assistance, press the "Mode" arrow that points downwards.



Reduce power assist

The assistance reduces in stages; when you reach "LOW" (the lowest assistance level) it jumps back "HIGH" (the highest assistance level).



4.1 Switching the light on and off



Button for lights

Press the button shown above to switch the Pedelec lighting on and off.

If you are riding with the lights on and switch off the assistance, the lights also switch off automatically. You must therefore switch the lights on again.



You must always take the battery with you, even if you want to ride without assistance as the lights will only work with the battery.

4.2 Automatic switch-off

If you stop and do not move your Pedelec for 10 minutes, the system switches off automatically. If you subsequently want to ride using the assistance, you will have to switch it back on via the control panel.

5 Assistance by the electric motor

5.1 Operating principle of assistance

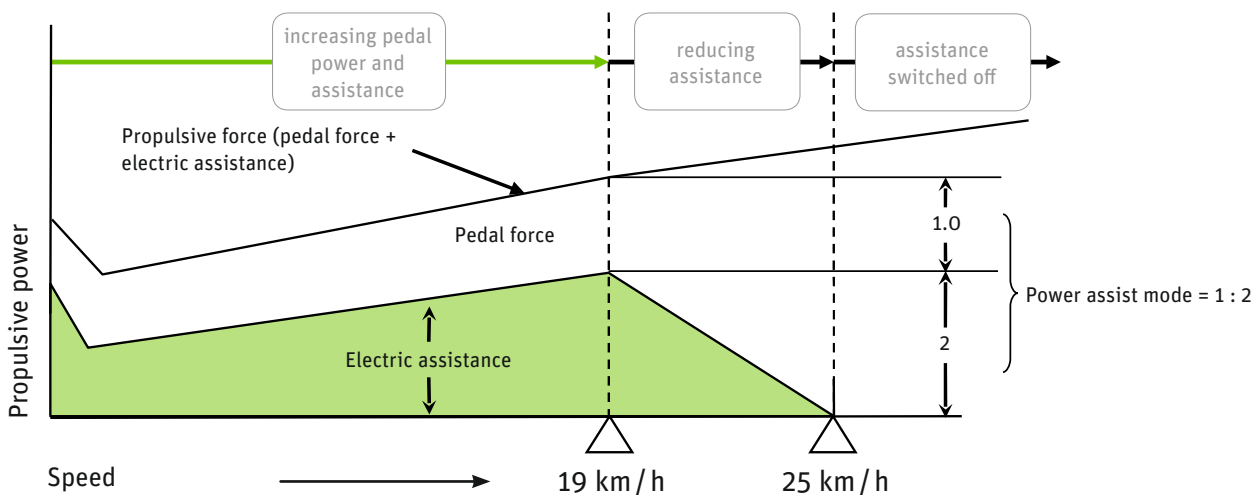
The motor provides support as soon as you switch the assistance on and start pedalling.

The thrust delivered by the motor depends on three factors:

- **Your own pedalling effort**
The motor adapts to the force you apply. If you pedal harder, e.g. uphill or when setting off, the power sensor detects this and increases the thrust accordingly. However, the thrust is limited by the maximum motor output.
- **The assist level you have selected**
With the "high assist level/HIGH" the power delivered by the motor is double your own effort (1 : 2). With the "medium assist level/MID", the power delivered by the motor matches your own effort (1 : 1). With the "low assist level/LOW/ECO", the power delivered by the motor is half your own effort (1 : 0.5).

The speed at which you are currently travelling

When you set off on your Pedelec, the assistance increases as you build up your speed until your bike reaches its maximum speed of roughly 19 km/h. The assistance then reduces automatically and switches off at roughly 25 km/h. This happens irrespective of the gear you are using.



Variation in electric assistance

Distance

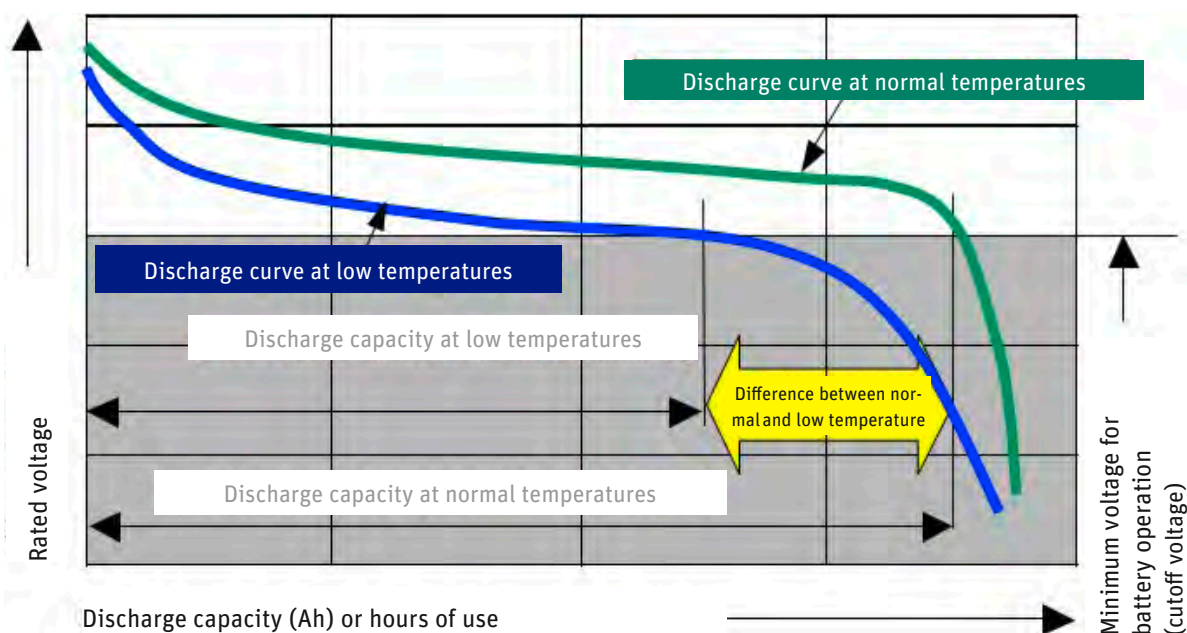
The distance you can travel using the power assist with the battery fully charged depends on several factors:

- **Ambient temperature**
If it is colder, you will travel a shorter distance with the same battery charge.

To maximise the distance you can travel, keep the battery in a heated room so that it is at room temperature when you fit it on your Pedelec.

As the battery discharges when the motor is in use, it generates enough of its own heat to not lose too much of its power at low temperatures.

- **Selected assist level**
If you want to cover a large distance assisted by the motor, select the lower gears, i.e. the ones that are easier to pedal. Also change to "low assist level/LOW".
- **Handling**
If you are riding in gears that are harder to pedal and select a high level of assistance, e.g. when riding uphill, the motor will provide support with plenty of power. However, this leads to higher consumption, as with driving a car at high speed on the motorway. You will therefore have to recharge the battery sooner. You can conserve energy when riding your bike not just by turning the pedals, but also by applying even pressure throughout each crank revolution.



Rate of discharge at different temperatures

- **Technical condition of your Pedelec**

Make sure the tyre pressure is correct. If you ride your bike with too little air in the tyres, this can significantly increase the rolling resistance. The distance you can travel also decreases if the brakes are rubbing.

- **Ascents**

You pedal harder when riding uphill. This is detected by the power sensor which then allows the motor to work harder.

Under ideal conditions, you can cover roughly 140 km with the battery fully charged (18 Ah). You can expect to cover a distance of roughly 85 km using different modes of operation.

DISTANCE COVERED (1 : 1 ASSISTANCE, 22 KM/H ON AVERAGE UNDER FAVOURABLE CONDITIONS)

8 Ah battery	60 km
12 Ah battery	90 km
18 Ah battery	140 km

Distance covered using different batteries

5.2 Riding your Pedelec efficiently

You can monitor and influence the cost of your journeys with the Pedelec yourself. You can reduce your consumption and therefore costs by following the tips for increasing the travel distance.

The operating costs of power assist with an 18 Ah battery work out as follows:

- A new battery costs around 599 euro.
- You can cover 112 km on average with one battery charge. You can charge the battery roughly 1,100 times.
- 1,100 charging cycles x 112 km = 123,200 km
- 599 euros: 123,200 km = 0.47 euro cents / km
- You use roughly 0.620 kWh to fully charge the battery. Assuming a unit price of 20 euro cents / kWh, it costs you 12.4 euro cents to fully charge the battery and cover a journey length of 112 km.
- It costs you 0.20 euro cents / km to travel the minimum distance of 60 km.
- It costs you 0.09 euro cents / km to travel the maximum distance of 140 km.
- This means the cost of consumption and the battery is a maximum of 0.67 euro cents / km.

As Derby Cycle is a German manufacturer, the sample calculation is based on German energy prices. The operating costs may therefore be different in locations where other energy prices apply.

6 Battery

Your battery is a lithium cobalt battery, the ideal type of lithium-ion (Li-ion) battery for this application. One of the main benefits of this type of battery is its low weight combined with a high capacity. Li-ion batteries only weigh half as much as comparable nickel metal hydride or nickel-cadmium batteries. This means you carry less battery weight and more battery power.

6.1 Straightforward charging

- › There is no memory effect. You can therefore fully recharge your battery after every trip.
- › Recharge the battery after every trip. This means you can set off immediately the next time you use your bike and you also increase the service life of the battery.
- › If you are not using the battery, you must recharge it after 6 months at the latest.

6.2 High degree of safety due to battery management

- › The battery cannot be damaged as a result of a short-circuit. If this were to happen, the battery management would switch off the battery.
- › You can simply leave the battery standing in the charger as it prevents overcharging.

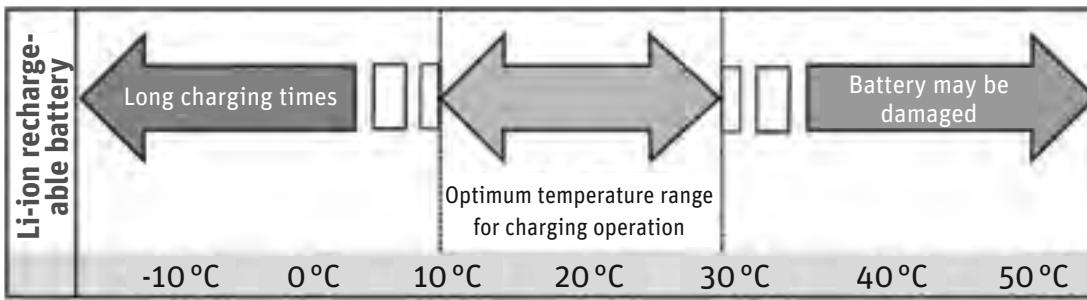
6.3 Straightforward storage

- › If you do not need your battery for a while, store it at a temperature of +10 °C at three quarters of its full charge capacity.
- › The battery enters sleep mode to prevent it from totally discharging.
- › These benefits are available due to highly effective battery management that has been adapted to this specific application and by tuning the battery for operation with a 250 watt motor.



Observe the following points to increase the service life of your Pedelec battery:

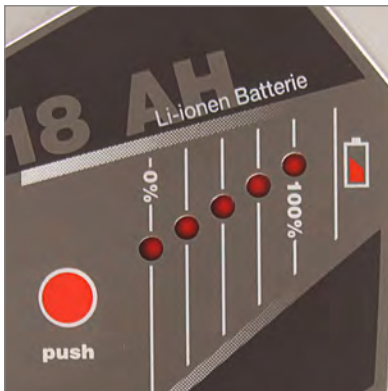
- › Make sure that the battery is fully charged before you ride your bike for the first time or after you have not used it for a while.
- › You should run the battery all the way down to empty for the first three charging cycles. This allows the battery to reach its maximum capacity.
- › If you continuously run the battery to empty during normal operation, this reduces its service life.
- › If you partially recharge the battery frequently during normal operation, this has a favourable effect on its service life.
- › You should therefore partially recharge the battery whenever possible: Try not to run the battery all the way down to empty and recharge it even after a short period of operation.
- › In the as-delivered condition, the battery is not fully charged and is in what is referred to as sleep mode. Sleep mode minimises the rate at which the battery discharges itself. If the battery is allowed to discharge unchecked for an extended period this can lead to total discharging which damages the battery. To "wake up" the battery, simply place it in the charger for one minute.
- › If you are having problems with the battery, place it in the charger for one minute. A reset occurs, during which the battery management disables sleep mode for example. After this, the battery will work again.
- › Ideally you should charge the battery at a temperature of between +10 °C and +30 °C. It takes longer to charge the battery at low temperatures, the battery will not charge up at temperatures higher than +30 °C. Ideally, you should charge and store the battery inside your house or in a warm garage when the outside temperature is low. In this case you should only fit the battery on your bike just before using it.
- › If you are transporting your Pedelec by car, take the battery out of its holder and transport it separately.
- › The battery is ideally stored for longer periods charged to 75% of its capacity at a temperature of +10 °C.



Charging times at different temperatures

6.4 Battery information system

There is a control panel with five LEDs and a button ("Push") on the side of the battery that faces outwards. The LEDs light up if you press the "Push" button. Information about the battery and its charge state is provided based on the number of LEDs that light up and the way in which they light up.



Charge state and battery capacity indicator

6.4.1 Checking the battery charge state

Press the "Push" button briefly, the LEDs light up and display the current battery charge state.

DISPLAY	BATTERY CHARGE STATE
5 LEDs light up •••••	80 – 100%
4 LEDs light up ••••	60 – 80%
3 LEDs light up •••	40 – 60%
2 LEDs light up ••	20 – 40%
1 LED lights up •	10 – 20%
1 LED flashes ◦	< 10%
no display –	0%
E: Battery is empty	
F: Battery is full	

6.4.2 Checking the battery capacity

If you press the "Push" button for longer than five seconds, the LEDs show the current capacity of the battery.

DISPLAY	CAPACITY
5 LEDs light up •••••	100 – 80%
4 LEDs light up ••••	80 – 60%
3 LEDs light up •••	60 – 40%
2 LEDs light up ••	40 – 20%
1 LED lights up •	20 – 0%

Capacity of 18 Ah battery (example)

- › Check there is sufficient charge in the battery for the journey you intend to make before setting off.
- › In winter the distance you can normally cover with the battery operating normally is less. Only move the battery from the warm room where you store it and fit it on your Pedelec just before you set off. This prevents low temperatures from reducing the distance you can normally travel. A corresponding diagram is provided in *Chapter 12 "Technical data"*.
- › The distance you cover can vary depending on the topography, your handling, the condition of the battery and the assist level you are using.
- › If all diodes flash consecutively, or several flash at the same time (2–3 diodes), the battery is damaged.



Before taking the battery to your specialist cycle shop to have it checked, put the battery in the charger for one minute then test it again.

6.5 Service life and warranty

6.5.1 the electric drive

The Panasonic front electric drive is a fully-developed durable and maintenance-free electric drive. It is a wear part for which a two-year warranty applies.

6.5.2 the battery

Batteries are wear parts. Wear parts also come with a two-year warranty.

If the battery develops a fault during this period, your specialist cycle shop will of course replace it. A fault does not constitute normal ageing and battery wear.

The service life of the battery depends on different factors. The most important wear-relevant factors are

- the **number of charge cycles** and
- the **age** of the battery.

When you have fully charged and discharged your battery 1,100 times, it will still have 60% of its initial capacity, providing it has been well looked after:

BATTERY	REMAINING CAPACITY	~ DISTANCE COVERED
8 Ah	4.8 Ah	19,360 km
12 Ah	7.2 Ah	30,800 km
18 Ah	10.8 Ah	52,800 km

From a technical standpoint therefore, the battery is "used" at this point. It also goes without saying that the battery ages. Even if you do not use your battery, its capacity reduces.

Providing you can still cover the journey distances with this remaining battery capacity, you can of course continue using it. If the capacity is no longer sufficient, you can take your battery to a specialist cycle shop who will dispose of your battery and supply you with a new one.

- › You can extend the service life of the battery by fully recharging it after every journey, even if it is small. The Panasonic li-ion cobalt battery has no memory effect.
- › You can also extend the service life of the battery by using the assistance selectively. Avoid, for example, using gears that make pedalling difficult with the most powerful assist level.

7 Charger

Read the two stickers on the charger before using it for the first time.



Do not use other chargers. Only charge the battery using the charger provided, or a charger approved by Derby Cycle.

If a fault develops or if the battery is in sleep mode, you might be able to solve this problem by placing the battery in the charger for one minute. The battery management then checks the battery and can eliminate any faults that have occurred.



If used incorrectly, the device may be damaged or inflict injuries.

- Before cleaning the charger, always pull the plug out of the socket to avoid a short-circuit and/or physical injury.
- Only use the charger in dry rooms.
- Only place the charger in a secure stable position on a suitable surface.
- Do not cover the charger or place any objects on it as otherwise it could overheat and catch fire.

8 Troubleshooting

The control panel also indicates when faults and technical errors are present. If a fault occurs, the LEDs flash in a specific pattern and with a specific rhythm. This indicates the cause of the problem and makes it easier for you to find a solution.



Control panel display



Have the electric drive inspected regularly by your specialist cycle shop. Do not carry out any work on the electric drive or battery yourself. Unless you have sufficient expertise this could lead to a serious accident. As a basic rule, always consult your specialist cycle shop if you have a problem with the electric drive or the battery.



You should only have the electrical components of your Pedelec replaced with genuine parts. This makes it safer for you and avoids problems when processing warranty claims.

8.1 Problems / solutions: Flash patterns and their meaning

If a problem occurs in the electrical system of your Pe-delec, you should initially try to solve it by referring to the following list which describes possible causes of errors and offers solutions. If the fault persists, consult your specialist cycle shop.

ERROR CODE	CAUSE	SOLUTION
	No power assist. The power sensor could not set itself correctly.	Perform restart. The system performs the calibration again. No force should be applied to the pedals during this procedure which takes roughly two seconds.
	No power assist. A problem occurred in the drive unit.	Motor, sensor unit or cable defective. Contact your specialist cycle shop.
	The motor output is less. The motor is overloaded.	Allow the motor to cool down and reduce the assistance.
	The motor switches off. The motor is extremely overloaded.	Allow the motor to cool down and reduce the assistance.
	No power assist. The battery is nearly empty.	Charge the battery immediately.

8.1.1 Additional possible sources of errors

- › If you only pedal very gently, the power assist is not enabled.
- › If the motor is not running and you cannot pinpoint the cause, check the buttons, cables and plugs of the electrical system.



If you find a break or a crack, do *not* try to repair the fault yourself. Take your Pe-delec to a specialist cycle shop.

9 Removing the front wheel

As the motor is built into the front wheel, you must perform the following steps before you can remove the front wheel:

- › Take the battery out of the Pedelec.



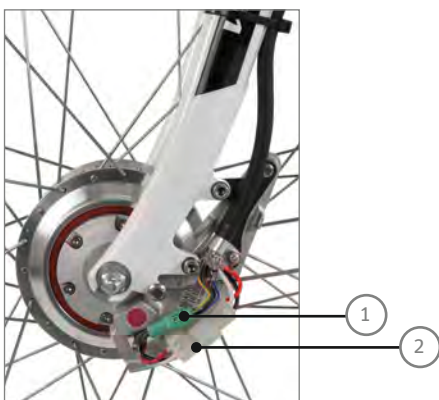
Always remove the battery before removing the front wheel and carrying out any subsequent work on the motor as otherwise you could injure yourself.

- › Undo the two small hexagon socket screws on the plastic cover that is fitted to the left of the front wheel by turning them anticlockwise using a 3 mm Allen key. Keep these in a safe place. Slide the cover to the left and take it off the fork.



1 + 2 Hexagon socket screws

- › Once the cover is removed, you should now be able to see one white and one green cable connector. Open these connectors and pull them apart.



1 Green connector
2 White connector

- › To open the white connector, push a sharp object (tip of a key or ball point pen) down onto the angled surface of the snap-in mechanism, as shown below. You can pull the two connector halves apart when pushing this surface back.



White connector

- › To open the green connector, push a flat pointed object (small screwdriver or small point of a key) under the small tab. You can disconnect the two connector halves while lifting the tab.



Green connector

- › The cables leading to the two connectors, exit from a black plastic tube just in front of the two connectors. At this point, they are joined together with metal braiding inside a metal clamp and fastened with a crosshead screw. Unscrew and remove the small screw by turning it anticlockwise.

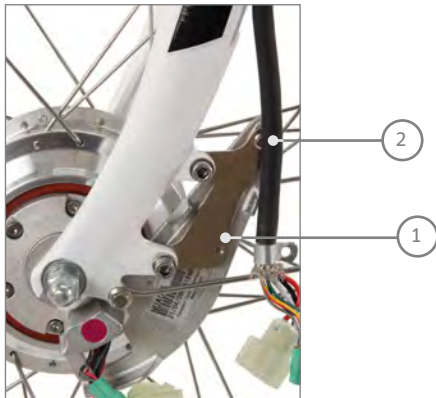


Base plate with cables and connectors

- › Undo the two hexagon socket screws on the left behind the fork using a 5 mm Allen key. You need to turn them anticlockwise.



Apply a max. tightening torque of 9.5 Nm to these screws when putting the wheel back on



1 + 2 Hexagon socket screws on the fork

- › You can now start removing the front wheel.
- › Once you have put the front wheel back on, repeat these steps in reverse. This ensures that your Pedelec will work properly.

For a detailed description on how to remove and install the front wheel, refer to the General User Manual.

The General User Manual also contains all other bicycle-related information on your Pedelec.

10 Cleaning



Remove the battery before you clean your Pedelec.

We recommend you clean your Pedelec with a damp cloth, a sponge or a brush. You can obtain suitable cleaning agents and additional information from your specialist cycle shop.

Make sure when cleaning that water does not enter the battery. Although the electrical components are sealed, it is not advisable to clean the bike by spraying it with a hose or a high-pressure cleaner. This could damage your bike.

When wiping down the battery, be careful not to touch and connect the contacts on the underside. This could cause the battery to switch off.

11 Warnings



- › Bear in mind that the Pedelec motor can heat up on long ascents. Be careful not to touch it with your hands, feet or legs as you could burn yourself.
- › The Pedelec operates using low voltage (25.2 volts). Never attempt to operate the Pedelec using power from a source other than a suitable genuine battery. The designations of approved batteries are listed in **Chapter 12 “Technical data”**.
- › Live parts may be exposed when you open covers or remove parts. Connection points may also be live. Maintenance or repairs on the device when it is open and connected to the power supply must only be carried out by the specialist cycle shop.
- › When carrying out adjustments and maintenance or when cleaning the Pedelec, avoid crushing cables or damaging them with sharp edges.
- › If risk-free operation of your Pedelec cannot be assumed, take it out of operation and make sure it cannot be used until you have it checked by a specialist cycle shop. Risk-free operation is no longer possible if live parts or the rechargeable battery show signs of damage.
- › Keep children away from electrical appliances. If children are present, keep a close eye on them, especially if they could insert objects into the appliance through apertures in the housing as this poses the danger of fatal electric shock.

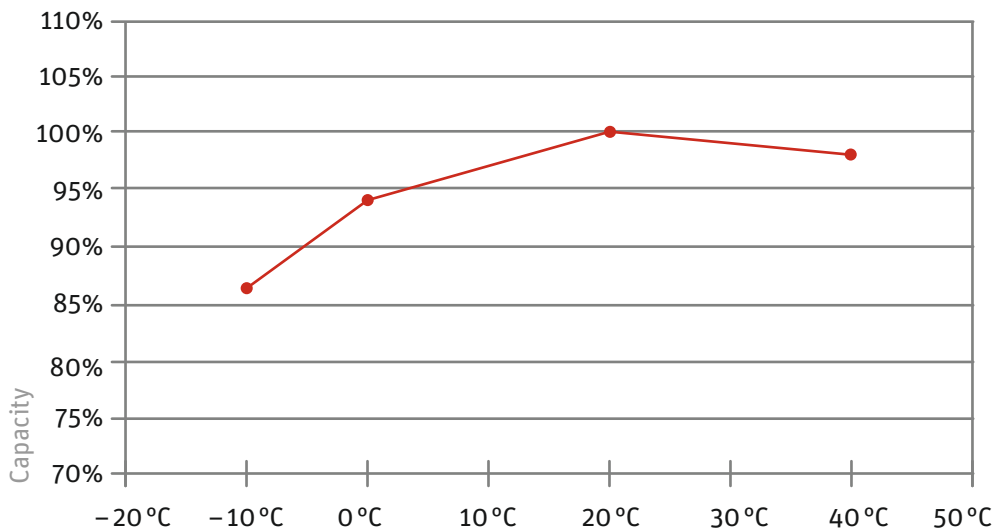
12 Technical data

MOTOR	
Hub motor with planetary gear	
Output	250 watts
Maximum torque	16 Nm
Gross weight of electric drive, battery, control unit	7.0 kg (12 Ah battery)
Control	via power sensor
Assist levels	1:0.5 1:1 1:2
Speed of front wheel , at which the assistance switches off	202 rpm

PANASONIC LI-ION BATTERY	
Voltage	25.2 V
Capacities	8/10/12/18 Ah
Energy quantity	200/250/300/450 Wh

DCW ITEM NO.	ITEM NO.	CAPACITY [AH]	WEIGHT [KG]	POSSIBLE APPLICATION		
				CENTRE	FAST	FRONT
17017002	NKY226B02	10	2.4	X	250 W	-
17017012	NKY226B02	10	2.4	X	250 W	-
17019018	NKY252B02	10	2.4	-	-	X
17019103	NKY252B02	10	2.4	-	-	X
KD170110010	NKY266B02	10	2.4	X	250 W	-
170110010	NKY266B02	10	2.4	X	250 W	-
170110003	NKY265B02	10	2.4	-	300 W	-
170110016	NKY267B02	10	2.4	-	-	X
170111002	NKY284B2	10	2.4	X	300 W	X
170111200	NKY306B2	8	1.9	X	300 W	X
170111201	NKY304B2	12	2.6	X	300 W	X
170111202	14069	18	3.1	X	300 W	X

Possible applications of batteries



Capacity curve at different temperatures

We hope you thoroughly enjoy using your new Pedelec!

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RALEIGH

V

User Manual Impulse Pedelec

English





4

LED control panel



5a

LCD control panel



5b

LCD display



6

Charger



- 1 Battery
- 2 Battery lock
- 3 Motor unit
- 4 LED control panel
- 5a LCD control panel
- 5b LCD display
- 6 Charger

Dear Customer,

Thank you for choosing a Pedelec (pedal electric cycle) featuring the innovative Impulse drive from our company. This bike is equipped with an electric drive that assists you when you are cycling. This will make your trip much more enjoyable if you are riding up hills, carrying loads or riding into the wind. You can decide yourself how much you want to use it. Your Pedelec is the first in the world to feature a combination of centre motor and back-pedal brake. The purpose of this User Manual is to help you get the most out of your Pedelec and use it correctly.

Structure of User Manual

If you want to get started right away, refer to the brief introduction in ➡ *Chapter 1 “Quick start”*.

The individual steps are subsequently explained in detail, supplemented by illustrations and diagrams.

More detailed information on your Pedelec is provided in ➡ *Chapter 11 “Technical data”*.

The information in this User Manual specifically refers to your Pedelec only. For general information, on the bike technology that features in your Pedelec for example, refer to the General User Manual.



Even if you can't wait to go for your first ride, in the interest of your own safety you should read ➡ *Chapter 1 “Quick start”* carefully without fail before use.

In addition to texts and tables, the User Manual contains the following symbols that denote important information or dangers.



WARNING about possible physical injury, increased risk of falls or other injuries







IMPORTANT ADDITIONAL INFORMATION or special information on using the bike



NOTE regarding possible damage to property or the environment

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EC Declaration of Conformity			
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EC Declaration of Conformity 2012

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71/9234-0

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe 7G, Dover de Luxe 8G, Dover 3G, Dover Premium 8G, Leeds Sport 11G, Leeds HS 8G, Leeds Roller, Leeds Tour 7G, Stoker Lite Premium, Stoker 360, Stoker Lite 8G, Stoker DD, Dover LTD, Dover XXL LTD

Product description: Raleigh Impulse

Model designation: Dover 125th Impulse, Dover Premium Impulse, Dover XXL Impulse, Dover HS Impulse, Impulse XXL, Impulse, Impulse HS, Impulse Compact, Leeds Compact, Dover Impulse

Product description: Raleigh Groove

Model designation: Groove F3, Groove F8

Product description: Raleigh BionX

Model designation: Blackburn 7, Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B

Year of manufacture: 2012

comply with all of the relevant requirements of the **Machinery Directive (2006/42/EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004/108/EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles

DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany



Olaf Flunkert
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Design and Development Manager

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21.09.2011

EC Declaration of Conformity 2013

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1 – 3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71 / 92 34 -111

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe P8 36V, Dover de Luxe P8R 36V, Dover de Luxe P8 26V, Dover de Luxe 8G 26V, Dover de Luxe 7G 26V, Dover de Luxe 2x8 8G, Leeds Sport

Product description: Raleigh Impulse Pedelec

Model designation: Impulse iR, Impulse iR HS, Impulse iR Classic, Impulse iR Premium, Impulse iR XXL, Impulse iR Compact, Stocker i11 Di2, Stocker i Light Premium, Stocker iR Light, Stocker IDD, Leeds i Light, Leeds i HS, Leeds iR HS, Leeds i Roller, Leeds iR Tour, Leeds I Compact, Dundee iR Cargo, Dundee i Compact, Dover i, Dover I HS, Dover i XXL, Dover i Premium, Dover i360, Dover i360 Harmony

Product description: Raleigh Groove Pedelec

Model designation: Groove F8

Product description: Raleigh Xion Pedelec

Model designation: Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B8, Stoker B9

Year of manufacture: 2013

comply with all of the relevant requirements of the **Machinery Directive (2006 / 42 / EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004 / 108 / EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles

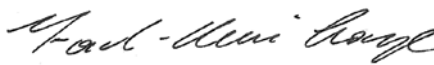
DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

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Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

1 Quick start

- › 1. Charge the battery completely before riding for the first time. Charge temperature: 0 – 45°C
- › 2. Swivel the round charging socket cover on the battery to one side.



Now insert the four-pole plug of the charger into the battery charging socket.



Charging the battery

- › 3. Insert the mains plug for the charger into the socket.
You must fully charge the battery before using it for the first time.
- › 4. Once all LEDs on the battery have gone out, pull the charger plug out of the battery socket. Swivel the cover back over the charging socket.

You can also remove the battery from your Pedelec and charge it in the docking station. For more information, refer to ► Chapter 4 “Charging the battery”.

- › 5. If you have charged the battery in the docking station, reinsert the battery into the holder on the Pedelec from the left-hand side. Tilt the battery outwards at an angle of roughly 45° as you do so, as you did when you took it out of the holder. Move the battery into the upright position until the locking mechanism engages. If the key is still in the lock, you will need to turn it clockwise and pull it out as otherwise the battery will not lock in place.
- › 6. Make sure that the battery is securely positioned and that the key is no longer in the lock.

If your Pedelec is equipped with an LCD control panel:

- › 7. Push the Power button on the control panel on the handlebar.
- › 8. The display panel now displays the medium power-assist mode *SPORT*. Press the arrow buttons to select the level of assistance: *STAND BY* (off), *ECO* (low), *SPORT* (medium) or *POWER* (high). Press this button once to change the level of assistance by one level. This works both ways, depending on which arrow button you press.

The following applies for bikes which are equipped with a back-pedal brake:

- › 9. The system will now perform a system check. “Please move the pedals” will appear on the screen. If you set off now the system will normally detect a pedal movement in the “drive” and “back-pedal brake” directions. This completes the safety check, and you can ride as normal with assistance.

If you cannot feel any assistance, simply back-pedal briefly and then pedal forwards again to trigger the system check. If there is still no assistance being delivered, the instruction “Please move the pedals” will continue to be displayed. In this case you should consult a specialist dealer.



You can now ride off just as you would if you were riding a normal bike. The motor starts providing assistance as soon as the rear wheel starts turning.

2 Legal principles

The essential idea behind the Pedelec is not only to be able to cover greater distances more quickly, but also more comfortably. You can choose to relax and let the bike do the work, exert yourself more physically, or simply get from A to B as fast as possible. You can decide this yourself by choosing an appropriate assist level.

This gives you more confidence on the road, as the powerful acceleration gives you more control and a greater degree of security. Your Pedelec assists you with an output that adapts to your pedalling force up to roughly 25 km/h.

In some EU countries, the Pedelec, like all other bikes, must comply with certain regulations, the Road Traffic Licensing Regulations (StVZO) in Germany for example. Please observe the relevant explanations and general information provided in the General User Manual.

These statutory requirements apply for a Pedelec:

- The motor is designed only to provide pedalling assistance, i.e. it can only “assist” the rider when he/she turns the pedals.
- The average motor output must not exceed 250 W.
- As the speed increases, the rate at which the motor output reduces must also increase more intensely.
- The motor must switch off once the bike reaches a speed of 25 km/h.

2.1 Meaning for the rider

- You do not legally have to wear a helmet. In the interest of your own safety, however, you should **never** ride without a helmet.
- You do not legally have to have a driving license (unless you own a model with pushing assistance, ➔ *Chapter 2.2 “Pushing assistance”*).
- You do not legally have to have insurance.
- No age restriction applies for a Pedelec.
- The regulations governing the use of cycle paths are the same as for normal bikes.

These regulations apply to you wherever you are in the European Union. It is possible that different regulations exist in other countries, also inside the EU in individual cases. Before using your Pedelec abroad, find out about the legal situation in the relevant country.

2.2 Pushing assistance

Your Pedelec is available in a version with or without pushing assistance. Your specialist cycle shop can retrofit a control panel with pushing assistance if required.



Button for pushing assistance

The pushing assistance moves the Pedelec slowly (at a maximum speed of 6 km/h) without you having to turn the pedals, e.g. if you are manoeuvring in a tight space or are pushing your Pedelec out of a basement garage.

If you were born after 01.04.1965, you will need a moped test certificate for the version with pushing assistance. If you already have another type of driving licence, this automatically includes the moped test certificate.

The pushing assistance is not suitable for use as starting assistance.

3 Special features of the Pedelec with Impulse drive

Your Pedelec has special features that are designed to enhance your safety and comfort, some of which are unique worldwide.

- The Impulse drive has been developed exclusively to allow a centre motor to be installed without having to dispense with the safety and convenience of a back-pedal function.

This means you can rely on three brakes; the familiar back-pedal brake and the powerful, modern rim brakes.

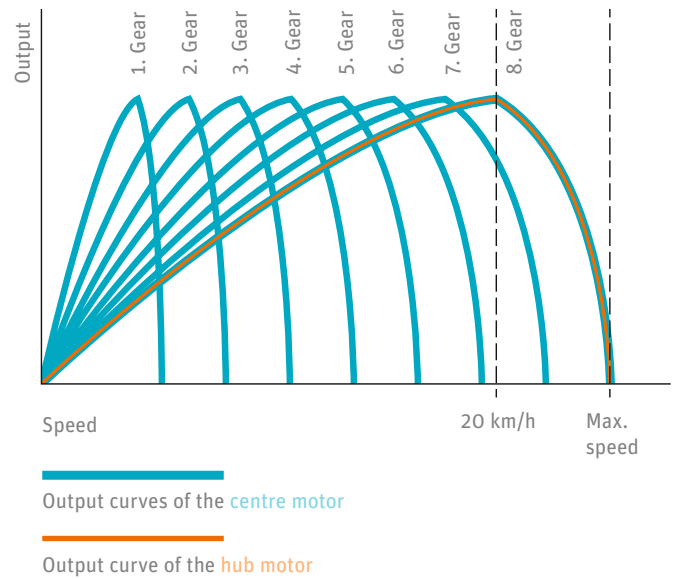


- 1 Rim brake, front
- 2 Back-pedal brake
- 3 Rim brake, rear

- › With the Impulse drive, the amount of assistance can be increased by selecting easier gears, when starting or riding uphill for example. The motor produces more power when your pedalling cadence is higher.
- › You can conveniently use the same key to lock/unlock your battery and, where present, your frame lock.



- › In contrast to a hub motor, the Impulse centre motor centre motor drive allows you to ride within the motor range that saves the most power or, if required, the range in which the highest output is available.



- › You can decide how you wish to put in your effort:

In the three highest gears, you can ride up to a maximum speed of 25 km/h assisted by the motor. You can, for example, go for a relaxed ride on the flat with a low pedalling cadence. However, you can also ride uphill using an easier gear and less energy, simply by making the most of the highest assisted speed. You should therefore either turn the pedals more slowly (low cadence) with more effort or turn them more quickly (high cadence) with less effort.

GEAR	OTHER CENTRE MOTOR			IMPULSE DRIVE		
	CRANK REVOLUTIONS/MIN.	SPEED (KM/H)	MOTOR SPEED	CRANK REVOLUTIONS/MIN.	SPEED (KM/H)	MOTOR SPEED
1	71	8	3,000	86	12	4,300
2	71	10	3,000	86	13	4,300
3	71	12	3,000	86	15	4,300
4	71	13	3,000	86	19	4,300
5	71	16	3,000	86	22	4,300
6	71	19	3,000	85	25	4,200
7	71	22	3,000	73	25	3,650
8	71	25	3,000	64	25	3,200

The data provided is an example for the assistance function. The data may vary depending on the model.

4 Charging the battery

- › You can charge the battery whilst it is on the Pedelec (as described in ► Chapter 1 “Quick start”).



- › You can also remove the battery from the holder and charge it in the docking station. This is recommended if it is cold outside, in order to charge the battery in a warm room. The battery can be charged at temperatures between 0 and 45°C.



- › 1. Grip the battery by the handle, insert the key into the lock and turn it anticlockwise.



Unlocking the battery

- › 2. Now the battery is unlocked and can be removed. To remove it, tilt the Pedelec to one side. In doing so, hold on tight to the battery to prevent it from being dropped.



Tilt when removing

- › 3. You should now remove the key and keep it in a safe place to prevent it from breaking off or being lost.

4.1 Learning cycle



After fully charging the battery for the first time and thereafter roughly once every six months, you must run the battery down until the system switches off. This procedure (a so-called “learning cycle”) is necessary so that the battery management recognises the changes in the capacity caused by age and wear and tear, in other words, the performance level of the battery. Afterwards, the capacity of the battery is calculated anew and correctly represented. With this procedure, you can prevent a sudden loss of electrical assistance during an extended trip.

4.2 Charging operation

Before charging the battery, read the information on the charger carefully.

- › 1. Take the charger and docking station provided out of its packaging and plug the mains plug into a socket (230V, please observe type plate on the charger).



Type plates on charger and docking station

To charge the battery safely, the charger must be placed on a suitable surface resting on its four feet with the LED facing upwards. This is the only way to ensure that the hot air around the battery warmed during the charging operation can dissipate via the surrounding ventilation slots.

- › 2. Connect the charger to the docking station. The LED in the docking station now lights up briefly in red and then permanently in green.
- › 3. Put the battery in the holder of the docking station. The battery and charger are connected. The LED in the charger lights up in green.



Battery in the docking station

- › 4. The charging operation starts. The LED in the charger now lights up green. The battery LEDs light up one by one to indicate the progress of the charging operation. The battery is charged in five stages. When charging of one stage is in progress, the cor-

responding LED flashes. If this stage has been fully charged, the LED will light up permanently. Now the next LED will begin to flash.

After all five LEDs have gone out, the battery is fully charged.

- › 5. If the LED of the charger flashes red permanently, a charging fault has developed.



Take the battery out of the charger, then put it back in. The charger tests the battery and performs readjustments, if required. If the LED on the charger still flashes, take the charger and battery to your specialist dealer. He will test the devices and replace them, if required.

- › 6. To save power, pull the charger plug out of the socket once the charging operation is complete.

4.3 Fitting the battery

- › 1. Insert the battery into the battery holder of the Pedelec from the left by tilting it outwards at roughly 45°.



Reinstalling the battery

- › 2. Make sure in doing so that the lateral guides at the bottom of the battery are also inserted into the guides in the holder.
- › 3. Tilt the battery towards the bike until it engages in the locking mechanism. If the key is still in the lock, turn it clockwise then pull it out to lock the battery in place.
- › 4. Make sure the battery is firmly in place.

5 Control panels

When buying your Impulse Pedelec, there are two different control panels to choose from: with an LED or LCD display. With the LED display, lit diodes display the information for you, while more information is displayed with the LCD element. In addition, text and digits are shown on the display.

5.1 LED control panel



- 1 Buttons for power assist level
- 2 On/Off switch
- 3 Battery charge state indicator
- 4 Power-assist mode indicator
- 5 Button for pushing assistance (optional)

The control panel on the handlebar has three or four buttons (depending on the model) and two rows of LED indicators. The buttons used to control the level of assistance are located on the left-hand side of the control panel.

Above and to the right you can see the row of LED indicators that shows which level of assistance has been activated and the current battery charge state.



Row of LED indicators for charge state and assistance

The “Power” button is located below the LEDs. Press this button to switch the control panel on and off.



On/Off button

If the model features pushing assistance, the switch for this will be on the underside of the control panel.



Button for pushing assistance

5.1.1 On/Off button

Press the “Power” button to switch the control panel on and off.

After it has been switched on, the system is always in the medium power-assist mode *SPORT*.

The following applies only to bikes which are equipped with a back-pedal brake:

The system will now perform a system check. At this time, the LED on the left will now come on for approx. two seconds, followed by all LEDs for approx. one second. If you set off now, the system will normally detect a pedal movement in the “drive” and “back-pedal brake” directions. This completes the system check, and you can ride as normal with assistance.



If you cannot feel any assistance, simply back-pedal briefly and then pedal forwards again to trigger the system check. In the event that the LEDs continue to flash in the pattern described above and the motor is not providing any assistance, then you should consult a specialist dealer.

5.1.2 Buttons for power-assist level

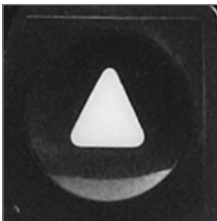
You can specify the power-assist level via the arrow buttons.



Buttons for power-assist level

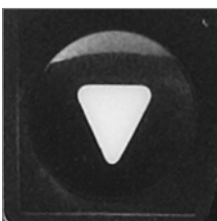
Each time you press an arrow button the power assist changes by one level.

Each time you press the button with the arrow pointing upwards, the assistance increases by one level from “no assistance/stand by” through to the highest level: *POWER*.



Increase power assist

Each time you press the button with the arrow pointing downwards, the assistance decreases by one level from *POWER* through to the no assistance level *STAND BY*.



Reduce power assist

5.1.3 Display of the power-assist mode

The bottom row of LEDs on the right of the display next to the buttons for selecting the power-assist level shows you how much assistance the motor is currently providing.



Display of power-assist mode

DISPLAY	ASSIST LEVEL
	<i>POWER</i> : The LED on the right of the display will light up. This means the assistance is working hard.
	<i>SPORT</i> : The LED in the middle of the display will light up. This means the assistance is working with a medium level of effort.
	<i>ECO</i> : The LED on the left of the display will light up. This means the assistance is working with a low level of effort.
	<i>STANDBY</i> : battery indicator still lights up ()

Assist level

- The LED on the right of the display lights up when the highest level of assistance (*POWER*) is activated. This means the assistance is working hard.
- The LED in the centre of the display lights up when the medium assist level (*SPORT*) is activated. This means the assistance is working with a medium level of effort.
- The LED on the left of the display lights up when the lowest assist level (*ECO*) is activated. This means the assistance is only working with a low level of effort.
- If the assistance is switched off (*STAND BY*), only the charge state indicator LEDs remain lit. You now receive no assistance at all from the motor.

5.1.4 Battery charge state indicator

The battery charge state indicator is located above the row of LEDs that displays the power-assist mode.



Battery charge state indicator

DISPLAY	BATTERY CHARGE STATE
	100% – 80%
	80% – 60%
	60% – 40%
	40% – 20%
	20% – 10%
	< 10%

LED lights up LED flashes LED off

Battery charge state

If the battery charge state falls below a minimum level, the system switches off. No LEDs light up on the control panel.



If you do not move your Pedelec for 10 minutes, the system switches off automatically. If you subsequently want to ride using the assistance, you will have to switch it back on via the control panel.

5.1.5 Troubleshooting

The control panel shows you when faults occur. In such a situation, the LEDs on the battery display will show a particular flash pattern:

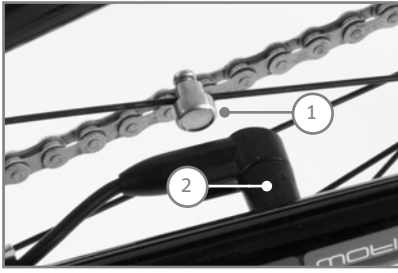


If all of the LEDs on the battery display flash simultaneously immediately after switching the system on, this means that there is a **problem with the battery communication**.

- In that case, switch the system off and then back on again.
- If the problem occurs again, put the battery in the charger, so that the battery management can eliminate an existing problem. You can also use another approved battery.
- If the flashing signal persists, have the system checked by a specialist dealer.

If, shortly after setting off or during a journey, the left-hand LED blinks briefly and then all LEDs flash, this means that one of the problems described below is present:

CAUSE	SOLUTION
Spoke magnet has slipped out of position	Make sure the spoke magnet has not slipped. It should be as close as possible to the sensor on the chain stay (max. 5 mm clearance).
Speed sensor defective	Have your specialist cycle shop check and, if necessary, repair it.
Cable connection defective	Have your specialist cycle shop check and, if necessary, repair it.
No connection between motor unit and battery	<ul style="list-style-type: none"> ➤ Connect the battery to the charger. ➤ Use a different battery. ➤ Have your specialist cycle shop check the control cable that runs from the battery plug to the motor unit.



- 1 Spoke magnet
- 2 Sensor on chain stay

Only for bikes which are equipped with a back-pedal brake:

If the left-hand LED begins to flash with a long flash, followed by short flashes from all LEDs, this means that you have still to carry out the **safety test for the “drive” or “back-pedal brake” pedal positions or that the **positions were not recognised correctly.****

- › In this case, move the pedals forward once and then back once, until you can feel some resistance. If the flashing signal disappears you can ride off normally. If the flashing signal continues, you can ride as if you were riding a bike without power assist. Have a specialist dealer check your error message and rectify the problem.



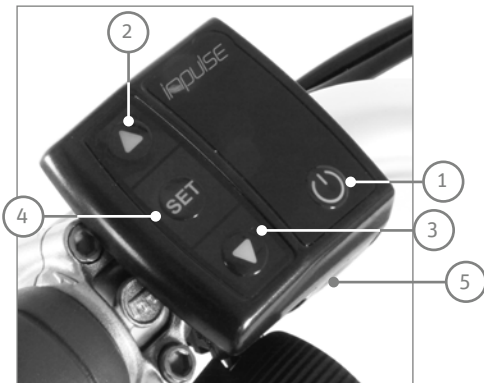
Have the electric drive inspected regularly by your specialist cycle shop. Do not carry out any work on the electric drive or battery yourself. Unless you have sufficient expertise this could lead to a serious accident. As a basic rule, always consult your specialist cycle shop if you have a problem with the electric drive or the battery.



You should only have the electrical components of your Pedelec replaced with genuine parts. This makes it safer for you and avoids problems when processing warranty claims.

5.2 LCD control panel with display

LCD control panel



- 1 Power
- 2 More powerful assistance
- 3 Less powerful assistance
- 4 Set
- 5 Pushing assistance

- ① The “Power” button is located on the right-hand side. Press once to switch the system on and press a second time to switch it off.
- ② ③ The arrow buttons used to control the level of assistance are located on the left-hand side of the control panel.
- ④ The “Set” button is located between the arrow buttons. Using this button, different displays can be called up. Program the system with your desired data.
- ⑤ If the model features pushing assistance, the switch for this will be on the underside of the control panel.

LCD display



- 1 Speed
- 2 Power-assist mode
- 3 Battery charge state
- 4 Remaining distance display
- 5 Information area

The LCD display in the middle of the handlebar is divided into five different display panels.

- ① At the top on the left is your current speed.
- ② Next to current speed on the right is a display showing the selected power-assist mode.
- ③ At the top on the right is the battery symbol which tells you the current charge state of your Pedelec’s battery.
- ④ Below this, you can see the remaining distance over which you will still receive assistance from the current battery charge.
- ⑤ Along the bottom section of the display is a long **information area** that can be used to display the following information:
 - How much of its potential output the motor is currently delivering.
 - The costs that have been incurred in the course of the current trip and during the Pedelec’s entire service life.
 - The savings achieved in both euros and CO₂ in comparison with the same journey by car.
 - The total number of kilometres covered by this system.
 - Display of kilometres covered during the day and overall.

- Display of journey time during the current trip and the top speed reached on this trip.
- The average speed during the current trip and the total distance covered.

5.2.1 On/Off button

Press the button to switch the LCD control panel on and off.

After switching on, the system is always in the display mode in which you switched it off.

The following applies for bikes which are equipped with a back-pedal brake:

The system will now perform a system check. “Please move the pedals” will appear on the screen. If you set off now the system will normally detect a pedal movement in the “drive” and “back-pedal brake” directions. This completes the safety check, and you can ride as normal with assistance.

If you cannot feel any assistance, simply back-pedal briefly and then pedal forwards again to trigger the system check. If there is still no assistance being delivered, the instruction “Please move the pedals” will continue to be displayed. In this case you should consult a specialist dealer.

5.2.2 Buttons for power-assist level

You can specify the power-assist level via the arrow buttons.














Each time you press an arrow button the power assist changes by one level.

Each time you press the button with the arrow pointing upwards, the assistance increases by one level from “no assistance/stand by” through to the highest level: *POWER*.

Each time you press the button with the arrow pointing downwards, the assistance decreases by one level from *POWER* through to the lowest assistance level “no assistance/stand by”.

5.2.3 Display of the power-assist mode







The LCD display shows you how much assistance the motor is currently providing.

DISPLAY	ASSIST LEVEL
  	<i>POWER</i> : This means the assistance is working hard.
  	<i>SPORT</i> : This means the assistance is working with a medium level of effort.
  	<i>ECO</i> : This means the assistance is only working with a low level of effort.
  	<i>STANDBY</i> : Battery indicator still lights up ()

Assist level

5.2.4 Battery charge state indicator

The battery charge state display is located in the top right-hand corner of the LCD display. Using a stylised battery divided into segments, it shows the charge remaining in the battery.

DISPLAY	BATTERY CHARGE STATE
	100 – 85.5%
	85.5 – 71.5%
	71.5 – 57.5%
	57.5 – 42.4%
	42.5 – 28.5%
	28.5 – 14.5%

If the battery charge state falls below a minimum level, the system switches off. Then the entire display fades and goes off.

If you do not move your Pedelec for 10 minutes, the system switches off automatically. If you subsequently want to ride using the assistance, you will have to switch it back on via the control panel.

5.2.5 Remaining range indicator

Below and to the right of the charge state indicator, the distance in km over which you can still travel with power assist is displayed.



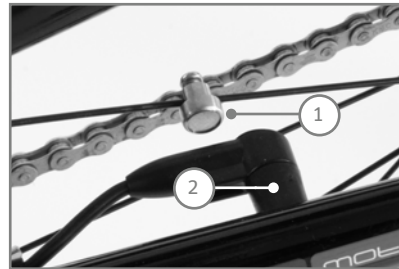
This “remaining range” is calculated using two measurements taken during the current journey. One short and one long measurement give a representative average value. If the conditions of the journey change, for example, by riding up an incline after a long, flat stretch, the value displayed can also change at short notice. Please consider this factor when planning your trips.

5.2.6 Troubleshooting

5.2.6.1 Condensation appearing on the LCD display



If your bike has been exposed to wet conditions for an extended period, e.g. after a trip in heavy rain, or if there have been large differences in temperature, the screen of the LCD display may steam up. This moisture does not impair the function of the display. It is comparable with the steam on a pair of glasses when you enter a warmer room having been outside. After a short time in drier and warmer conditions, this condensation will vanish leaving no trace.



- 1 Spoke magnet
- 2 Sensor on chain stay

If all three LEDs flash simultaneously when switching on or during a journey, the following fault is present:

TEXT	CAUSE	SOLUTION
Speed sensor signal missing	Spoke magnet has slipped out of position	➤ Make sure the spoke magnet has not slipped. It should be as close as possible to the sensor on the chain stay (max. 5 mm clearance).
	Speed sensor defective	➤ Have your specialist cycle shop check and, if necessary, repair it.
	Cable connection defective	➤ Have your specialist cycle shop check and, if necessary, repair it.
Battery communication error	No connection between motor unit and battery	<ul style="list-style-type: none"> ➤ Connect the battery to the charger. ➤ Use a different battery. ➤ Have your specialist cycle shop check the control cable that runs from the battery plug to the motor unit.
Motor temperature is too high	The motor has become too hot, e.g. as a result of a long, steep incline ridden in a high gear.	➤ Allow the motor to cool down for a while before resuming your journey.
Battery temperature is too high	The battery has become too hot.	➤ Allow the battery to cool down for a while by not riding or by riding without assist. If necessary place the battery in the charger for a minute.

5.3 Setting and programming the LCD display

By pressing the Set button, you can switch between the various displays within the information area (named “main menu” in the illustration). Pressing and holding the Set button will take you from any display in the information area/main menu to the menu sub-items

- Delete trip data
- Delete overall data
- Device settings
- Target cost
- Back

You can select the menu sub-items using the two arrow keys on the control panel. You can confirm your selection by pressing the Set button. The respective contents are then displayed for you. You can also make changes to the settings. In order to return to the information area/main menu display from the menu sub-items, you must select the menu item “Back” and confirm by pressing the Set button.

5.3.1 Delete trip data / Delete overall data

Under the menu sub-items “Delete trip data” and “Delete overall data”, you can delete the kilometres indicated for the current day trip and the total kilometres covered. If you wish to do so, select the option “Yes” using the arrow keys on the control panel and then press the Set button to confirm your selection. Then you will be taken back to the menu sub-item display once more. If you select and confirm the option “No”, the information remains in place and you are, likewise, taken back to the menu sub-item display.

5.3.2 Device settings

Under the menu sub-item “Device settings”, you can change the following display settings:

- Contrast (➡ 5.3.2.1)
- Brightness (➡ 5.3.2.2)
- Language (➡ 5.3.2.3)
- Wheel circumference (➡ 5.3.2.4)
- Unit (➡ 5.3.2.5)

- Name (➡ 5.3.2.6)
- Factory settings (➡ 5.3.2.7)
- Software (➡ 5.3.2.8)

Using the two arrow keys on the control panel, you can select the sub-items and confirm by pressing the Set button. The menu item “Back” will take you back to the main menu.

5.3.2.1 Contrast

You can leave the contrast of the display at its preset level or adjust it in 5% steps to between -35% to +20% by pressing the two arrow keys. The change in contrast is implemented immediately. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.

5.3.2.2 Brightness

You can leave the brightness of the display at its preset level or adjust it in 5% steps to between 0% and 50% by pressing the two arrow keys. The change in brightness is implemented immediately. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.

5.3.2.3 Language

You can choose to have the information shown on the display in the following languages:

- Deutsch
- English
- Francais
- Nederlands
- Espanol
- Italiano
- Suomi
- Dansk

You can select the relevant language using the two arrow keys. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.

5.3.2.4 Wheel circumference

Pressing the Set button will take you to the section for adjusting the wheel circumference. This can be set to any value between 1510 mm and 2330 mm by pressing the two arrow keys. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.



A change to the setting becomes necessary, for example, when you have the tyres on your Pedelec exchanged for some of a different size. In order to continue to display the correct data, the new wheel circumference must be entered.

5.3.2.5 Unit

Under the sub-item “Unit”, you can choose whether information relating to distance travelled and speed is displayed in kilometres (km) or miles (mi). Using the arrow keys on the control panel, select the option “km” or “mi”. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.

5.3.2.6 Name

Under the sub-item “Name”, you can enter a name or some text with a maximum of 21 characters which will be displayed when the LCD display is turned on or off.

- › To **write**, select one letter at a time from the alphabet displayed using the arrow keys and confirm your selection by pressing the Set button. The letter then appears in the text line above the row of letters. At the end of the row of letters, you can select a hyphen or an underscore and confirm by pressing the Set button.
- › **Errors** can be corrected by selecting the right-hand arrow and pressing the Set button. You can only delete one letter each time.

- › You can switch between **lower case and capital letters** by selecting “abc ... / ABC ...” on the right of the display panel and pressing the Set button to confirm. The letters then immediately appear as lower case or capital letters.
- › The **use of spaces is not possible** and **underscores** must be used in their place.
- › By selecting “OK” using the two arrow keys on the control panel and confirming using the Set button, your entry is accepted and you are then taken back to the menu sub-item display.

5.3.2.7 Factory settings

Under the sub-item “Factory settings”, you are asked whether you want to restore the settings which were pre-set upon leaving the factory. If you wish to do so, select the option “Yes” using the arrow keys on the control panel and then press the Set button to confirm your selection. Then you will be taken back to the menu sub-item display once more. If you select and confirm the option “No”, the amended specifications remain in effect and you are, likewise, taken to the menu sub-item display once more.

5.3.2.8 Software

Via the sub-item “Software” you can access the sub-items “Version” and “Update”, which can be selected using the arrow keys on the control panel.

- › Pressing the Set button takes you to the respective sub-item.
- › By selecting the sub-item “Back” and pressing the Set button to confirm, you are taken to the menu sub-item display once more.
- › The version of the motor software which is currently installed is displayed under the item “Version”. By pressing the Set button once again, you are taken back to the menu sub-item display.
- › Under the sub-item “Update”, you can bring the software up to date. A memory card is essential for carrying out an update. If this is not present, a message will be displayed to say that you need a memory card. By pressing the Set button, you return to the menu sub-item display.

5.3.3 Cost specifications

Via the menu sub-item “Target cost”, you can access the sub-items:

- Fuel price (→ 5.3.3.1)
- Power cost (→ 5.3.3.2)
- Fuel consumption Ø (→ 5.3.3.3)
- Fuel type (→ 5.3.3.4)

You can select the sub-items using the two arrow keys on the control panel. Pressing the Set button takes you to the respective sub-item. By selecting the sub-item “Back” and pressing the Set button to confirm, you are taken to the menu sub-item display once more.

5.3.3.1 Fuel price

Under the sub-item “Fuel price”, you can specify the price of the fuels petrol or diesel in euros (Eur) and cents (ct). You can set this to a value in euros between 0 and 9 euros and a value in cents between 0 and 99 cents by using the two arrow keys on the control panel to move in 1 euro- and 1 cent-steps respectively. Once you have confirmed both values by pressing the Set button, you are taken back to the menu sub-item display.

The price information is necessary to enable calculation of the money and CO₂ saved in comparison with the use of a car. This is displayed in the main menu of the information area under “Overall system savings”.

5.3.3.2 Electricity costs

Under the sub-item “Power cost”, you can specify the price of electricity in cents (ct). You can set this to a value of between 0 and 99 cents by using the two arrow keys on the control panel to move in 1 cent steps. Pressing the Set button confirms your selection and then takes you back to the display of menu sub-items.

5.3.3.3 Fuel consumption

You can enter the average fuel consumption which would arise from the use of a car. You can set the consumption in half-litre steps to between 0 and 20 litres. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.

The information regarding the average consumption is necessary to enable calculation of the money and CO₂ saved in comparison with the use of a car. This is displayed in the main menu of the information area under “Overall system savings”.

5.3.3.4 Fuel type

Under the sub-item “Fuel type”, you can choose between the options “Petrol” and “Diesel” by pressing the arrow keys on the control panel. Pressing the Set button confirms your selection and then takes you back to the menu sub-item display.

The information regarding fuel type is necessary to enable calculation of the money and CO₂ saved in comparison with the use of a car. This is displayed in the main menu of the information area under “Overall system savings”.

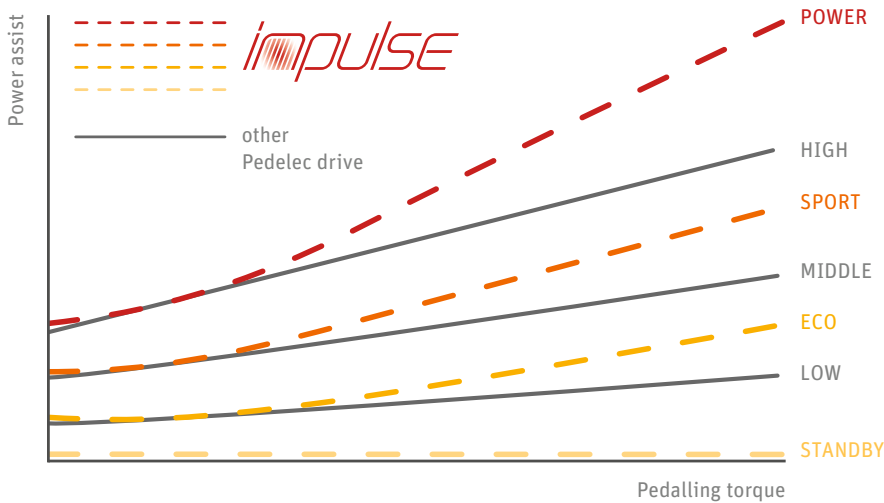
5.3.3.5 Back

In order to return to the information area/main menu display from the menu sub-items, you must select the menu item “Back” and confirm by pressing the Set button.

6 Assistance by the electric motor

6.1 Operating principle of assistance

If you switch on the assistance and start pedalling, the motor starts as soon as the rear wheel is turning.



- **The level of assistance you have selected**

With the *POWER* assist level, the motor assists you by producing its maximum output, which also consumes the most energy. With the *SPORT* assist level, the motor produces slightly less power. If you have selected *ECO*, you receive the least amount of assistance but have the battery's maximum range at your disposal.

The thrust produced by the motor depends on three factors:

- **Your own pedalling effort**

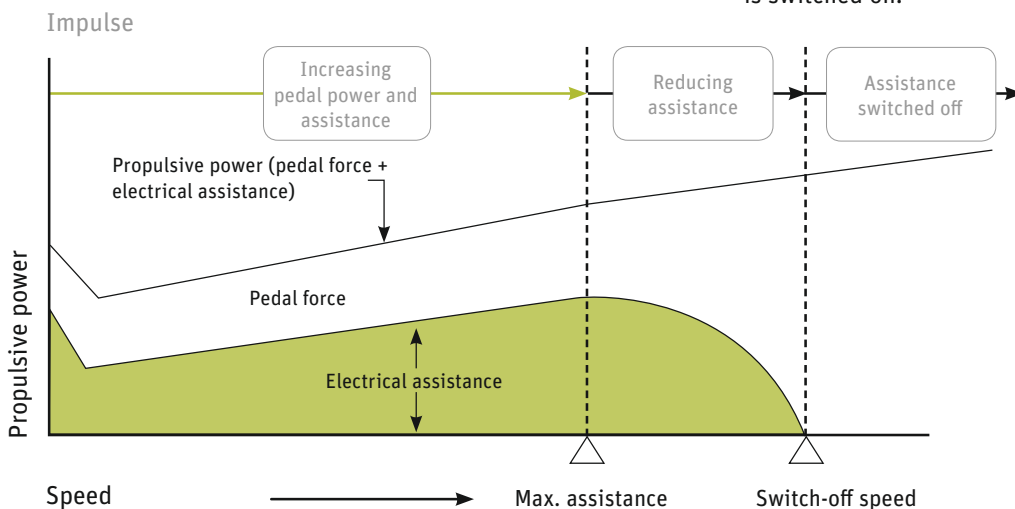
The motor adapts to the force you apply. If you pedal harder, e.g. uphill or when setting off, the power sensor detects this and delivers more power than if you were only pedalling gently.

The assistance increases disproportionately if you pedal harder. This increase is more pronounced in the *POWER* mode than in the *SPORT* and *ECO* modes.

The thrust is limited by the maximum motor output.

- **How fast you ride**

When you set off on your Pedelec, the assistance increases as you build up speed until it reaches its maximum, just before the highest assisted speed is achieved. The assistance then reduces automatically until you reach a speed of roughly 25 km/h when it switches off. This gradual reduction makes the transition to riding without power assist seem less abrupt. This applies for the three highest gears. In all other gears, the motor switches off earlier, depending on the gear ratio. ➔ Chapter 3 "Special features of the Pedelec with Impulse drive" contains a table which shows the speeds at which the motor is switched off.



6.2 Distance

The distance you can travel using the power assist with the battery fully charged depends on several factors:

- **Ambient temperature**

If it is colder, you will travel a shorter distance with the same battery charge.

To maximise the distance you can travel, keep the battery in a heated room so that it is at room temperature when you fit it on your Pedelec.

As the battery discharges when the motor is in use, it generates enough heat to not lose too much of its power at low ambient temperatures.

- **Selected assist level**

If you want to cover a large distance with power assist, select the smaller gears, i.e. the ones that are easier to pedal. Also select a low assist level (*ECO*).

- **Handling**

If you are riding in gears that are harder to pedal and select a high assist level, the motor will produce plenty of power to help you along. However, just as with driving a car at high speed, this leads to higher consumption. You will therefore have to recharge the battery sooner. You can conserve energy by keeping the load on the pedals even throughout the entire crank revolution.

- **Technical condition of your Pedelec** Make sure the tyre pressure is correct. If you ride your bike with too little air in the tyres, this can significantly increase the rolling resistance. This applies to smooth surfaces in particular, e. g. tarmac. If the ground is uneven, as on a country path or gravel track, rather low tyre pressure can lead to less rolling resistance. This also increases the risk of a puncture. Please consult your specialist cycle shop about this.

The distance you can travel also decreases if the brakes are rubbing.

- **Battery capacity**

The current battery capacity

➡ *Chapter 7.4.2 "Checking the battery capacity"*

- **Topography**

You pedal harder when riding uphill. This is detected by the power sensor which then allows the motor to work harder.

Under ideal conditions, the range may reach 130 km with the 11 Ah battery and 180 km with the 15 Ah battery.

These ranges have been achieved under the conditions listed below.

IMPULSE BATTERY	11 AH	15 AH
Range	130 km	180 km
Temperature	10 – 15°C	10 – 15°C
Wind speed	windless	windless
Average speed	22 km/h	22 km/h
Assist level	ECO	ECO
Weight	105 – 110 kg	105 – 110 kg

6.3 Riding your Pedelec efficiently

You can monitor and influence the cost of your journeys with the Pedelec yourself. You can reduce your consumption and therefore costs by following the tips for increasing the travel distance.

The operating costs for battery-operated power assist are calculated as follows:

- A new battery costs roughly 599 euros.
- You can cover 80 km on average with one battery charge.
- You can charge the battery roughly 1,100 times.
- 1,100 charging cycles x 80 km = 88,000 km
- 599 euros: 88,000 km = 0.68 euro cents/km
- You use roughly 0.565 kWh to fully charge the battery. Assuming a unit price of 20 euro cents/kWh, it costs you 11.3 euro cents to fully charge the battery.
- It costs you 0.14 euro cents/km to cover the average range of 80 km.
- This means that the maximum cost of consumption and the battery is 0.82 euro cents/km.

The sample calculation has been carried out based on German energy prices. The operating costs may therefore be different in locations where other energy prices apply.

7 Battery

Your battery is a lithium cobalt battery, the ideal type of lithium-ion (Li-ion) battery for this application. One of the main benefits of this type of battery is its low weight combined with a high capacity. Li-ion batteries only weigh half as much as comparable nickel metal hydride or nickel-cadmium batteries. This means you carry less battery weight and more battery power.

7.1 Straightforward charging

- › There is no memory effect. You can therefore fully recharge your battery after every trip.
- › Recharge the battery after every trip. This means you can set off immediately the next time you use your bike and you also increase the service life of the battery.
- › If you are not using the battery, you only have to recharge it after 6 months.

7.1.1 Learning cycle



Once you have fully charged the battery for the first time, you must run it down until the system switches off. This procedure (a so-called “learning cycle”) is necessary so that the battery management recognises the changes in the capacity caused by age and wear and tear, in other words, the performance level of the battery.

Afterwards, the capacity of the battery is calculated anew and correctly represented.

With this procedure, you can prevent a sudden loss of electrical assistance during an extended trip.

7.2 High degree of safety due to battery management

- › The battery cannot be damaged as a result of a short-circuit. If this were to happen, the battery management would switch off the battery.
- › You can simply leave the battery standing in the charger as it has in-built overcharging protection.

7.3 Straightforward storage

- › If you do not need your battery for a while, store it at a temperature of +10°C at three quarters of its full charge capacity.
- › The battery management switches the battery to sleep mode to prevent it from totally discharging. This can occur after different lengths of time without being used. Depending on the charge state of the battery, this can occur earlier with a lower charge and later with a higher charge. At the latest, the management system activates the sleep mode after 10 days without using the battery. The system exits sleep mode when you connect the battery to the charger or press the “Push” button on the battery.

These benefits are available due to highly effective battery management that has been adapted to this specific application and by tuning the battery for operation with a 250 watt motor.



Observe the following points to increase the service life of your Pedelec battery:

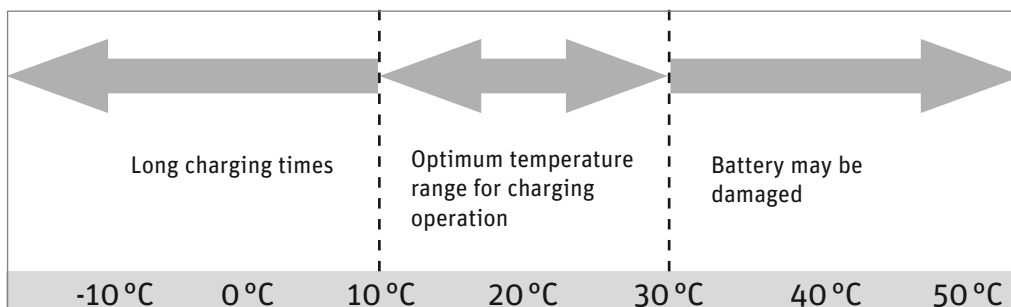
- Make sure that the battery is fully charged before you ride your bike for the first time or if you have not used it for a while.
- You should run the battery all the way down to empty for the first three charging cycles. This allows the battery to reach its maximum capacity.

If you continuously run the battery to empty during normal operation, this reduces its service life.

If you partially recharge the battery frequently during normal operation, this has a favourable effect on its service life.

- You should therefore partially recharge the battery whenever possible: Try not to run the battery all the way down to empty and recharge it even after a short period of operation.
- In the as-delivered condition, the battery is not fully charged and is in what is referred to as sleep mode. Sleep mode minimises the rate at which the battery discharges itself. If the battery is allowed to discharge unchecked for an extended period this can lead to total discharging which damages the battery. To “wake up” the battery, simply place it in the charger for one minute.

- If you are having problems with the battery, place it in the charger for one minute. A reset occurs, during which the battery management disables sleep mode for example. After this, the battery will work again.
- Ideally you should charge the battery at a temperature of between +10°C and +30°C. It takes longer to charge the battery at low temperatures, the battery will not charge up at temperatures higher than +30°C. Ideally, you should charge and store the battery inside your house or in a warm garage when the outside temperature is low. In this case you should only fit the battery on your bike just before using it.
- If you are transporting your Pedelec by car, take the battery out of its holder and transport it separately.
- The battery should ideally be stored for longer periods with a charge of between 50% and 75% at a temperature of +10°C.



Charging times at different temperatures

7.4 Battery information system

There is a display panel on the outer face of the battery which includes five LEDs and a button with an LED (*Push*). When you press the *Push* button, the LEDs light up. Information about the battery and its charge state is provided based on the number of LEDs that light up and the way in which they light up.



Charge state and battery capacity indicator

7.4.1 Checking the battery charge state

Press the *Push* button **briefly**; the LEDs light up and display the current **battery charge state**.

DISPLAY	BATTERY CHARGE STATE
••••• 5 LEDs light up	100 – 84%
•••• 4 LEDs light up	83 – 68%
••• 3 LEDs light up	67 – 51%
•• 2 LEDs light up	50 – 34%
• 1 LED lights up	33 – 17%
○ 1 LED flashes	16 – 0%
••••• 5 LEDs flash quickly	0% or overloaded *
○ 1. LED flashes quickly	Charging fault **

* All 5 LEDs flash quickly: The battery is empty and is being switched off, or is overloaded.

- If the battery is overloaded, it will switch back on after a short idle period and can then be used normally.
- If the battery is empty, it will work once again briefly following a short period of rejuvenation and will then switch back off. It must now be charged.

** The 1st LED flashes quickly: A charging fault is present.

- If this occurs, put the battery in the docking station for a short period of time or insert the plug of the charger into the battery. The charger performs a readjustment. If the LED still flashes, take the battery to your specialist cycle shop and have it checked.

7.4.2 Checking the battery capacity

If you press the “Push” button for **five seconds**, the LEDs show the current **capacity** of the battery.

DISPLAY	CAPACITY
••••• 5 LEDs light up	100 – 97%
•••• 4 LEDs light up	96 – 80%
••• 3 LEDs light up	79 – 60%
•• 2 LEDs light up	59 – 40%
• 1 LED lights up	39 – 20%
○ 1 LED flashes	< 20%

- The range of the battery is less in winter due to the lower temperatures. Only move the battery (from the warm room where you store it) and fit it on your Pedelec just before you set off. This will help to prevent the effect of the low temperature on the range of the battery. ➡ *Chapter 7.5.2 “Service life and warranty of the battery”*

7.5 Service life and warranty

7.5.1 of the drive

The Impulse centre motor is a durable maintenance-free drive. It is a wear part with a two-year warranty. As its power output is higher, wear parts such as the drive and brakes are subject to higher loads than they would be on a normal bike. Due to the greater force acting on these components, wear is more pronounced.

7.5.2 of the battery

Batteries are wear parts. Wear parts come with a two-year warranty.

If the battery develops a fault during this period, your specialist cycle shop will of course replace it. Normal ageing and battery wear do not constitute a fault.

The service life of the battery depends on different factors. The most important wear-relevant factors are

- the **number of charging processes**

After 1,100 charging cycles, your battery will still have 60% of its initial capacity, providing it has been well looked after. This means 6.6 Ah in an 11 Ah battery and 7.2 Ah in a 15 Ah battery. A charging cycle is defined as the sum of the individual charges until the charges reach the overall capacity of the battery.

For example: You charge the battery with 5 Ah on the first day, 2 Ah on the second day and 4 Ah on the third day; the sum is 11 Ah. The battery has thereby completed one charge cycle.

From the technical standpoint therefore, the battery is exhausted at this point. Providing you can still cover the journey distances with the remaining battery capacity, you can of course continue using it. If the capacity is no longer sufficient, you can take your battery to a specialist cycle shop who will dispose of your battery and sell you a new one.

- the **age** of the battery.

A battery also ages during storage.

A lithium-nickel-cobalt-manganese battery loses approx. 4-5% of its initial capacity per year and a lithium-nickel-cobalt-aluminium-oxygen battery approx 2-3%.

This means: Even if you do not use your battery, its capacity reduces. With everyday use, you can expect the battery to age by approximately 3-5% per year as a result of ageing and charging processes.

- You can extend the service life of the battery by fully recharging it after every journey, however short. The Impulse Li-ion battery has no memory effect.
- You can also extend the service life of the battery by using the assistance selectively.

8 Charger

Read the two type plates on the charger before using it for the first time.

You can charge your Pedelec with Impulse drive directly via a charging socket in the battery. The battery can remain on the Pedelec when the charging operation is in progress.



You can also take the battery out of the holder and charge it in the docking station. This is recommended if it is cold outside, in order to charge the battery in a warm room.



Battery in the docking station



Do not use other chargers. Only charge the battery using the charger provided, or a charger approved by us.

- › If a charging fault occurs, the LED in the charger flashes red. In this case, the charging current is too high.



- › Take the battery out of the charger, then put it back in again.
- › If the error message appears again, the battery and charger must be checked by a specialist dealer.



If used incorrectly, the device may be damaged or inflict injuries.

- › Before cleaning the charger, always pull the plug out of the socket to avoid a short-circuit and/or physical injury.
- › Only use the charger in dry rooms.
- › Only place the charger in a secure stable position on a suitable surface.
- › Do not cover the charger or place any objects on it as otherwise it could overheat and catch fire.

9 Cleaning



Remove the battery before you clean your Pedelec.

We recommend you clean your Pedelec with a damp cloth, a sponge or a brush. You can obtain suitable cleaning agents and additional information from your specialist cycle shop.

Make sure when cleaning that water does not enter the battery. Although the electrical components are sealed, it is not advisable to clean the bike by spraying it with a hose or a high-pressure cleaner. This could damage your bike.

When wiping down the battery, be careful not to touch and connect the contacts on the underside. This could cause the battery to switch off.

10 Warnings



- › Bear in mind that the Pedelec motor can heat up on long ascents. Be careful not to touch it with your hands, feet or legs. You could burn yourself.
- › If you are transporting your Pedelec by car, remove the battery beforehand. Transport the battery in a safe receptacle separately to the Pedelec.
- › The Pedelec operates using low voltage (36 volts). Never attempt to operate the Pedelec using power from a source other than a suitable genuine battery. The designations of approved batteries are listed in ➡ *Chapter 11 "Technical data"*.

- › Live parts may be exposed when you open covers or remove parts. Connection points may also be live. Maintenance or repairs on the device when it is open and connected to the power supply must only be carried out by the specialist cycle shop.
- › When carrying out adjustments and maintenance or when cleaning the Pedelec, avoid crushing cables or damaging them with sharp edges.
- › If risk-free operation of your Pedelec cannot be assumed, take it out of operation and make sure it cannot be used until you have it checked by a specialist cycle shop. Risk-free operation is no longer possible if live parts or the rechargeable battery show signs of damage.
- › Keep children away from electrical appliances. If children are present, keep a close eye on them, especially if there is a possibility they could insert objects into the appliance through apertures in the housing. This poses the danger of fatal electric shock.
- › When charging the battery, make absolutely sure the charger is correctly supported on its four feet. It must not be covered when in operation. It must be possible for the heat produced to dissipate via the surrounding ventilation slots on the top and bottom.

11 Technical data

MOTOR			
Brushless electric motor with gear unit and freewheel			
Output	250 watts		
Maximum torque at chainring	40 Nm		
Gross weight of electric drive, battery, control unit	Freewheel motor		Back-pedal motor
	11 Ah	15 Ah	11 Ah 15 Ah
	6.65 kg	6.75 kg	6.75 kg 6.85 kg
Control	via torque sensor and rotational speed sensor in motor and speed sensor (on rear wheel)		

IMPULSE LI-ION BATTERY		
Capacities	11 Ah	15 Ah
Voltage	36 V	36 V
Weight	2.85 kg	2.95 kg

**We hope you thoroughly enjoy using your new Pedelec
with Impulse drive.**

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RALEIGH

VI

User Manual Groove Pedelec

English





Battery and charger



Battery lock



Control panel



Motor unit



- 1 Battery
- 2 Battery lock
- 3 Motor unit
- 4 Control panel
- 5 Charger

Dear Customer,

Thank you for choosing a Pedelec (pedal electric cycle) featuring the innovative Groove drive from our company. This bike is equipped with an electric drive that assists you when you are cycling. This will make your trip much more enjoyable if you are riding up hills, carrying loads or riding into the wind. You can decide yourself how much you want to use it. The purpose of this User Manual is to help you get the most out of your Pedelec and use it correctly.

Structure of User Manual

If you want to get started right away, refer to the brief introduction in ➡ **Chapter 1 “Quick start”**.

The individual steps are subsequently explained in detail, supplemented by illustrations and diagrams.

More detailed information on your Pedelec is provided in ➡ **Chapter 12 “Technical data”**.

The information in this User Manual specifically refers to your Pedelec only. For general information, on the bike technology that features in your Pedelec for example, refer to the General User Manual.



Even if you can't wait to go for your first ride, in the interest of your own safety you should read ➡ **Chapter 1 “Quick start”** carefully without fail before use.

In addition to texts and tables, the User Manual contains the following symbols that denote important information or dangers.



WARNING about possible physical injury, increased risk of falls or other injuries







IMPORTANT ADDITIONAL INFORMATION or special information on using the bike



NOTE about possible damage to property or the environment

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2013	6		
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EC Declaration of Conformity 2012

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1 – 3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71/9234-0

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe 7G, Dover de Luxe 8G, Dover 3G, Dover Premium 8G, Leeds Sport 11G, Leeds HS 8G, Leeds Roller, Leeds Tour 7G, Stoker Lite Premium, Stoker 360, Stoker Lite 8G, Stoker DD, Dover LTD, Dover XXL LTD

Product description: Raleigh Impulse

Model designation: Dover 125th Impulse, Dover Premium Impulse, Dover XXL Impulse, Dover HS Impulse, Impulse XXL, Impulse, Impulse HS, Impulse Compact, Leeds Compact, Dover Impulse

Product description: Raleigh Groove

Model designation: Groove F3, Groove F8

Product description: Raleigh BionX

Model designation: Blackburn 7, Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B

Year of manufacture: 2012

comply with all of the relevant requirements of the **Machinery Directive (2006/42/EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004/108/EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles


DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
Siemensstraße 1 – 3
49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
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Karl-Heinz Lange
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21.09.2011

EC Declaration of Conformity 2013

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71 / 92 34-111

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe P8 36V, Dover de Luxe P8R 36V, Dover de Luxe P8 26V, Dover de Luxe 8G 26V, Dover de Luxe 7G 26V, Dover de Luxe 2x8 8G, Leeds Sport

Product description: Raleigh Impulse Pedelec

Model designation: Impulse iR, Impulse iR HS, Impulse iR Classic, Impulse iR Premium, Impulse iR XXL, Impulse iR Compact, Stocker i11 Di2, Stocker i Light Premium, Stocker iR Light, Stocker IDD, Leeds i Light, Leeds i HS, Leeds iR HS, Leeds i Roller, Leeds iR Tour, Leeds I Compact, Dundee iR Cargo, Dundee i Compact, Dover i, Dover I HS, Dover i XXL, Dover i Premium, Dover i360, Dover i360 Harmony

Product description: Raleigh Groove Pedelec

Model designation: Groove F8

Product description: Raleigh Xion Pedelec

Model designation: Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B8, Stoker B9

Year of manufacture: 2013

comply with all of the relevant requirements of the **Machinery Directive (2006 / 42 / EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004 / 108 / EC)**.

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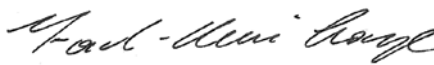
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49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

1 Quick start

- › 1. Charge the battery completely before riding for the first time.
- › 2. Open the round charging socket cover on the back of the battery.



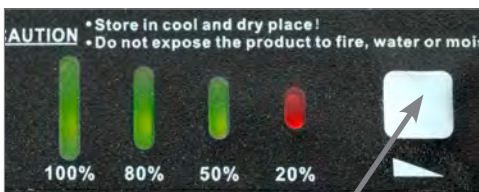
Charging socket

Now insert the plug of the charger into the battery charging socket.



Charging the battery

- › 3. Insert the mains plug for the charger into the socket.
You must fully charge the battery before using it for the first time.
- › 4. The battery is fully charged if all green LEDs on the back of the battery light up when you press the adjacent button.



Button on the battery

Pull the charger plug out of the battery socket.
Close the charging socket cover

You can also remove the battery from your Pedelec and charge it somewhere else. For more information, refer to [Chapter 4 "Charging the battery"](#).

- › 5. If you have charged the battery somewhere other than on the Pedelec, place the battery back into the holder in the pannier rack by reinserting it from behind. Once you have inserted the battery, turn the key clockwise and then remove it, otherwise the battery will not lock into position.
- › 6. Make sure that the battery is securely positioned and that the key is no longer in the lock.
- › 7. Press the round switch on the side of the battery housing. The red LED inside it lights up.



Switch, battery housing

- › 8. Push the **POWER** button on the control panel on the handlebar.
- › 9. The display panel now displays the medium power-assist mode **SPORT**. Press the Mode button to select the level of assistance: **ECO** (low), **SPORT** (medium) or **POWER** (high). Press this button once to change the level of assistance by one level. Once the **POWER** assist level has been activated, the assistance jumps back to **ECO** the next time the button is pressed.



You can ride off just as you would if you were riding a normal bike. The power assist starts after roughly two complete crank revolutions.

- › 10. You can now ride off.

2 Legal principles

The essential idea behind the Pedelec is not only to be able to cover greater distances more quickly, but also more comfortably. You can choose to relax and let the bike do the work, exert yourself more physically, or simply get from A to B as fast as possible. You can decide this yourself by choosing an appropriate assist level.

This gives you more confidence on the road, as the powerful acceleration gives you more control and a greater degree of security. Your Pedelec provides you with power assistance, the level of which you can vary at the control panel.

In some EU countries, the Pedelec, like all other bikes, must comply with certain regulations, the Road Traffic Licensing Regulations (StVZO) in Germany for example. Please observe the relevant explanations and general information provided in the General User Manual.

These statutory requirements apply for a Pedelec:

- The motor is designed only to provide pedalling assistance, i.e. it can only "assist" the rider when he/she turns the pedals.
- The average motor output must not exceed 250 W.
- As the speed increases, the rate at which the motor output reduces must also increase more intensely.
- The motor must switch off once the bike reaches a speed of 25 km/h.

2.1 Meaning for the rider

- You do not legally have to wear a helmet. In the interest of your own safety, however, you should **never** ride without a helmet.
- You do not legally have to have a driving license (unless you own a model with pushing assistance, ➔ *Chapter 2.2 "Pushing assistance"*).
- You do not legally have to have insurance.
- No age restriction applies for a Pedelec.
- The regulations governing the use of cycle paths are the same as for normal bikes.

These regulations apply to you wherever you are in the European Union. It is possible that different regulations exist in other countries, also inside the EU in individual cases. Before using your Pedelec abroad, find out about the legal situation in the relevant country.

2.2 Pushing assistance

Your Pedelec is available in a version with or without pushing assistance.



Button for pushing assistance

The pushing assistance moves the Pedelec slowly (at a maximum speed of 6 km/h) without you having to turn the pedals, e.g. if you are manoeuvring in a tight space or are pushing your Pedelec out of a basement garage.

If you were born after 01.04.1965, you will need a moped test certificate for the version with pushing assistance. If you already have another type of driving licence, this automatically includes the moped test certificate.

The pushing assistance is not suitable for use as starting assistance.

3 Special features of Pedelec with Groove drive

Your Pedelec is equipped with special features that are designed to enhance your safety and comfort.

- › With the Groove drive, you can ride your Pedelec, and also benefit from the convenience and safety of a back-pedal function.

This means that you can rely on three brakes; the familiar back-pedal brake and the powerful, modern rim brakes.



- 1 Rim brake, front
- 2 Back-pedal brake
- 3 Rim brake, rear

- › The Groove drive also makes it possible to ride with power assistance even if you are only gently turning the cranks.



If you decide to use the power assistance when only gently turning the cranks, you will use a much greater amount of power than if you were actively pedalling at the same time.

4 Charging the battery

- › You can charge the battery whilst it is on the Pe-delec (as described in ➔ *Chapter 1 “Quick start”*).



- › You can also remove the battery from the holder and charge it in the docking station. This is recommended if it is cold outside, in order to charge the battery in a warm room.



- › Hold the battery by the recessed grip at the back of the battery and turn the key anticlockwise.
- › This unlocks the battery and you can now remove it by pulling it backwards out of the Pe-delec. In doing so, hold on tight to the battery to prevent it from being dropped.



Unlocking the battery



Removing the battery

- › You should now remove the key and keep it in a safe place to prevent it from breaking off or being lost.

4.1 Charging operation

Before charging the battery, read the directions on the charger carefully.



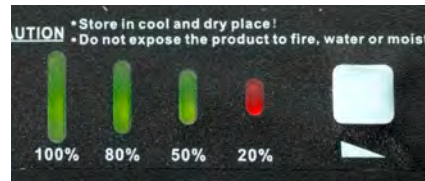
Sticker on the underside of the charger

1. Take the charger provided out of its packaging and plug the mains plug into a socket (230 V, please observe type plate on the charger).
To charge the battery safely, the charger must be placed on a suitable surface resting on its four feet with the LED facing upwards.
2. The LED in the charger now lights up green.
3. Insert the plug of the charger into the battery charging socket. The battery and charger are connected.



Battery with charging cable plugged in

4. The charging process starts.
- The LED in the charger now lights up red. You can check the battery's charge state by pressing the square button on the battery to the right of the LEDs. The greater the number of LEDs that light up the higher the charge state is.



LEDs on the battery

5. If the LED on the charger lights up green, the battery is fully charged.
6. To save power, pull the charger plug out of the socket once the charging operation is complete. You can also leave the charging cable plugged in once the charging operation is complete. However, the charger always draws some current if you leave it plugged in.

4.2 Fitting the battery

1. Push the battery into the rear of the battery housing under the pannier rack. To do this, the battery key must be inserted and turned clockwise.



Reinstalling the battery

2. Push the battery fully into the battery housing. Now turn the key anticlockwise and then remove it to lock the battery.
3. Make sure the battery is firmly in place.
4. Push down the round rocker switch on the left-hand side of the battery housing. A red LED lights up.
5. The Pedelec is now ready for operation.

5 Control panel



- 1 Button for power assist level
- 2 On/Off switch
- 3 Power-assist mode display
- 4 Battery charge state indicator

The control panel on the handlebar has two or three buttons (depending on the model) and two rows of LED indicators. The button used to control the level of assistance is located on the left-hand side of the control panel.

To the right at the bottom you can see the LED display bar which indicates the level of assistance which has been activated and the current battery charge state.

The *POWER* button is located above the LEDs. Press this button to switch the control panel on and off.



On/Off button

If the model features pushing assistance, the switch for this will be on the underside of the control panel.



Button for pushing assistance

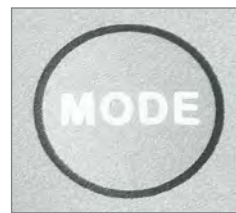
5.1 On/Off button

Press the *POWER* button to switch the control panel on and off.

After it has been switched on, the system is always in the medium power-assist mode *SPORT*.

5.2 Switches for power-assist level

You can specify the power assist level via the Mode button.



Buttons for power assist level

Each time you press the Mode button the power assist changes by one level.

Each time you press the Mode button, the assistance changes by one level from *ECO* through to the highest level *POWER*.










If you require less assistance, press the Mode button until the level of assistance moves from the highest back to the lowest level.

5.3 Display of power-assist mode

The upper row of LED indicators on the right next to the Mode button shows how much assistance the motor is currently providing.



Display of power-assist mode

DISPLAY	ASSIST LEVEL
  	POWER
  	SPORT
  	ECO

Assist level

- The LED on the right of the display lights up when the highest level of assistance (*POWER*) is activated. This means the assistance is working hard.
- The LED in the centre of the display lights up when the medium assist level (*SPORT*) is activated. This means the assistance is working with a medium level of effort.
- The LED on the left of the display lights up when the lowest level (*ECO*) is activated and the assistance is working only with a low level of effort.













5.4 Battery charge state indicator

The battery charge state indicator is located below the row of LED indicators that displays the power-assist mode.



Battery charge state indicator

- If all three battery charge state indicator LEDs are lit, the battery charge is between 100 and 65%.
- If two LEDs are lit, the battery charge is still between 65 and 35%.
- If only one LED is lit, the battery charge is between only 35 and 10%.
- If only one LED is flashing, the battery charge is less than 10%. At this point you will notice a slight loss of power.
- If the battery charge state falls below a minimum level, the system switches off. No LEDs light up on the control panel.

DISPLAY	BATTERY CHARGE STATE
  	100% – 65%
  	65% – 35%
  	35% – 10%
  	below 10%

 LED lights up  LED flashes  LED off

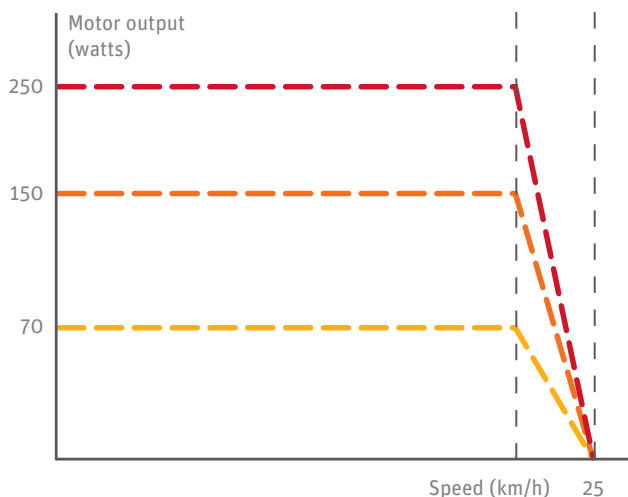
Battery charge state

6 Assistance by the electric motor

6.1 Operating principle of assistance

If you switch on the assistance and start pedalling, the motor starts up once the cranks have completed roughly two complete revolutions.

The amount of propulsion provided by the motor depends on which level of assistance you have selected.



The motor can operate with three different power output levels.

- The motor delivers a continuous output of 70 watts at the lowest level *ECO*, 150 watts at the medium level *SPORT*, and 250 watts at the highest level *POWER*.
- When the switch is in the *POWER* position, the motor assists you with the highest output and therefore also uses the most energy. If you select the *SPORT* assist level, the motor output is slightly lower. If you select *ECO*, you will receive the lowest level of assistance but will be able to use the maximum range of the battery.
- The motor provides assistance until the Pedelec reaches a speed of 25 km/h. It then switches off.

6.2 Distance

The distance you can travel using the power assist with the battery fully charged depends on several factors:

- **Ambient temperature**

If it is colder, you will travel a shorter distance with the same battery charge.

To maximise the distance you can travel, keep the battery in a heated room so that it is at room temperature when you fit it on your Pedelec.

As the battery discharges when the motor is in use, it generates enough heat to not lose too much of its power at low ambient temperatures.

- **Level of assistance selected**

If you wish to ride a long distance assisted by the motor, select a low level of assistance (*ECO*).

- **Riding approach**

You can ride assisted almost entirely by the motor by turning the pedals very gently. However, this uses more battery power. You can save power by putting in more effort when turning the pedals.

- **Technical condition of your Pedelec**

Make sure that the tyre pressure is correct. If you ride your bike with too little air in the tyres, this can significantly increase the rolling resistance. This applies to smooth surfaces in particular, e. g. tarmac. If the ground is uneven, as on a country path or gravel track, rather low tyre pressure can lead to less rolling resistance. This also increases the risk of a puncture. Please consult your specialist dealer about this.

The distance you can travel also decreases if the brakes are rubbing.

- **Topography**

The motor uses more power when riding in hilly rather than flat terrain.

6.3 Riding your Pedelec efficiently

You can monitor and influence the cost of your journeys with the Pedelec yourself. You can reduce your consumption and therefore costs by following the tips for achieving a long range.

The operating costs for battery-operated power assist are calculated as follows:

- A new battery costs roughly 359 euros.
- You can cover 45 km on average with one battery charge.
- You can charge the battery roughly 1,100 times.
- $1,100 \text{ charging cycles} \times 45 \text{ km} = 49,500 \text{ km}$
- $359 \text{ euros} : 49,500 \text{ km} = 0.7 \text{ euro cents / km}$
- You use roughly 0.47 kWh to fully charge the battery. Assuming a unit price of 20 euro cents / kWh, it costs you 9.4 euro cents to fully charge the battery.
- It costs you 0.2 euro cents / km to cover the average range of 45 km.
- This means that the maximum cost of consumption and the battery is 0.9 euro cents/km.

The sample calculation has been carried out based on German energy prices. The operating costs may therefore be different in locations where other energy prices apply.

7 Battery

Your battery is a lithium cobalt battery, the ideal lithium-ion (Li-Ion) battery type for this application. One of the main benefits of this type of battery is its low weight combined with a high capacity. Li-Ion batteries only weigh half as much as comparable nickel metal hydride or nickel-cadmium batteries. This means you carry less battery weight and more battery power.

7.1 Straightforward charging

- › There is no memory effect. You can therefore fully recharge your battery after every trip.
- › Recharge the battery after every trip. This means you can set off immediately the next time you use your bike and you also increase the service life of the battery.
- › If you are not using the battery, you only have to recharge it after 6 months.

7.2 High degree of safety due to battery management

- › The battery cannot be damaged as a result of a short-circuit. If this were to happen, the battery management would switch off the battery.
- › You can simply leave the battery standing in the charger as the device has in-built overcharging protection.

7.3 Straightforward storage

- › If you do not need your battery for a while, store it at a temperature of +10°C when the battery charge is between 50 and 75%.

These benefits are available due to highly effective battery management that has been adapted to this specific application and by tuning the battery for operation with a 250 watt motor.



Observe the following points to increase the service life of your Pedelec battery:

- › Make sure that the battery is fully charged before you ride your bike for the first time or if you have not used it for a while.
- › You should run the battery all the way down to empty for the first three charging cycles. This allows the battery to reach its maximum capacity.

If you continuously run the battery to empty during normal operation, this reduces its service life.

If you partially recharge the battery frequently during normal operation, this has a favourable effect on its service life.

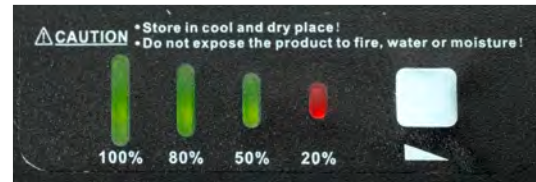
- › You should therefore partially recharge the battery whenever possible: Try not to run the battery all the way down to empty and recharge it even after short periods of operation.
- › If you are having problems with the battery, place it in the charger for one minute. This resets the battery. After this, the battery will work again.
- › Ideally you should charge the battery at a temperature of between +10°C and +30°C. It takes longer to charge the battery at low temperatures, the battery will not charge up at temperatures higher than +30°C. Ideally, you should charge and store the battery inside your house or in a warm garage when the outside temperature is low. In this case you should only fit the battery on your bike just before using it.
- › If you are transporting your Pedelec by car, take the battery out of its holder and transport it separately.
- › The battery should ideally be stored for longer periods with a charge of between 50% and 75% at a temperature of +10°C.

7.4 Battery information system

There is a display panel on the top of the battery which contains four LEDs and a button. The LEDs light up if you press the button. Information about the battery and its charge state is provided based on the number of LEDs that light up and the way in which they light up.

7.5 Battery charge state

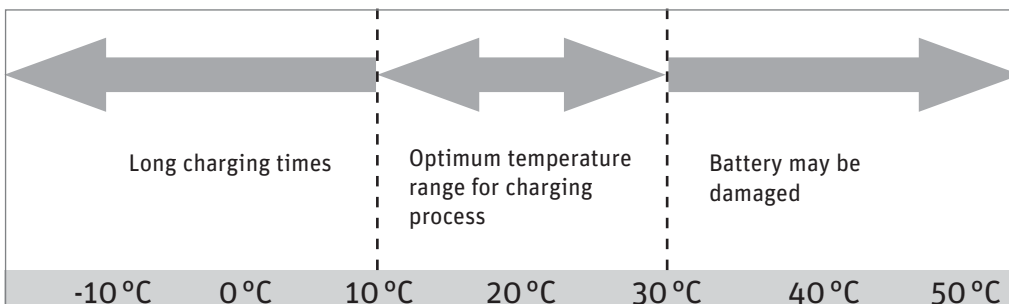
Press the switch on the battery **briefly** to activate the LEDs and see the current **battery charge state**.



Charge state indicator

DISPLAY	BATTERY CHARGE STATE
....	4 LEDs light up 100 – 75%
...	3 LEDs light up 75 – 50%
..	2 LEDs light up 50 – 25%
.	1 LED lights up 25 – 0%

- › If the battery is empty, it will work once again briefly following a short period of rejuvenation and will then switch back off. It must now be charged.
- › Check the battery charge before every trip to make sure it is sufficient for the planned journey.



Charging times at different temperatures

- › The range of the battery is less in winter due to the lower temperatures. Only move the battery from the warm room where you store it and fit it on your Pedelec just before you set off. This will help reduce the effect of the low temperature on the range of the battery.
- › The distance you can cover can vary depending on the topography, the condition of the battery and the assist level you are using.

7.6 Service life and warranty

7.6.1 of the drive

The Groove hub motor is a durable maintenance-free drive. It is a wear part with a two-year warranty. As its power output is higher, wear parts such as the tyres and brakes are subject to higher loads than they would be on a normal bike. Due to the greater force acting on these components, wear is more pronounced.

7.6.2 of the battery

Batteries are wear parts. Wear parts come with a two-year warranty.

If the battery develops a fault during this period, your specialist cycle shop will of course replace it. Normal ageing and battery wear do not constitute a fault.

The service life of the battery depends on different factors. The most important wear-relevant factors are

- the **number of charging cycles** and
- the **age** of the battery.

According to the technical definition, the battery is used if its capacity is only 60% in the new condition.

The battery of course also ages over time. Even if you do not use your battery, its capacity reduces. In general, the battery is expected to age at a rate of 5% per year.

Providing you can still cover the journey distances with the remaining battery capacity, you can of course continue using it. If the capacity is no longer sufficient, you can take your battery to a specialist cycle shop who will dispose of your battery and sell you a new one.

- › You can extend the service life of the battery by fully recharging it after every journey, however short. The Groove Li-Ion battery has no memory effect.
- › You can also extend the service life of the battery by using the assist levels selectively. Avoid riding with a high assist level when you are only gently turning the pedals.

8 Charger

Read the two identification plates on the charger before using it for the first time.

You can charge your Pedelec with Groove drive directly by connecting the plug of the charger to the battery.



Charging the battery

The battery can remain on the Pedelec during the charging process.

You can also remove the battery from the holder on the Pedelec and charge it somewhere else. This is recommended if it is cold outside, in order to charge the battery in a warm room.



Battery with charging cable plugged in



Do not use other chargers. Only charge the battery using the charger provided, or a charger approved by us.

If a problem occurs, remove the battery from the Pe-delec and place it briefly in the charger. The charger tests the battery and corrects any faults that may be present.



If used incorrectly, the device may be damaged or inflict injuries.

- › Before cleaning the charger, always pull the plug out of the socket to avoid a short-circuit and/or physical injury.
- › Only use the charger in dry rooms.
- › Only place the charger in an upright, secure and stable position on a suitable surface.
- › Do not cover the charger or place any objects on it as otherwise it could overheat and catch fire.

9 Removing the front wheel

If you need to remove the front wheel, to repair a puncture for example, this can be done in the same way as removing the front wheel of a normal bike, excluding one procedure.

- › The first thing you must do before releasing the front wheel is to open the connection to the front wheel motor.
- › Undo the locking nut for the electrical connector which is located on the back of the fork. Take the upper half of the connector in one hand and the lower half in the other and pull the two halves apart.



1 Locking nut
2 Cable tie

The lower half of the connector and the power cable are fastened to the fork with two cable ties.

- › Slide the cable ties down and off the fork. You can now remove the front wheel. You can find corresponding instructions in the section of this User Manual that deals with general bike technology. If you take the front wheel out of the fork, also pull the cable and cable tie off the fork.
- › To reinstall the front wheel, slide the cable tie with cable onto the fork leg before positioning the wheel in the fork. Install the front wheel as described in the general section of this User Manual.
- › Next, reattach the two halves of the connector and screw the lock nut firmly back on. Slide the two cable ties back up the fork until they remain in place of their own accord and cannot slip.

10 Cleaning



Remove the battery before you clean your Pedelec.

We recommend you clean your Pedelec with a damp cloth, a sponge or a brush. You can obtain suitable cleaning agents and additional information from your specialist cycle shop.

Make sure when cleaning that water does not enter the battery. Although the electrical components are sealed, it is not advisable to clean the bike by spraying it with a hose or a high-pressure cleaner. This could damage your bike.

When wiping down the battery, be careful not to touch and connect the contacts on the underside. This could cause the battery to switch off.

- › If risk free operation of your Pedelec cannot be assumed, take it out of operation and make sure it cannot be used until you have it checked by a specialist cycle shop. Risk-free operation is no longer possible if live parts or the rechargeable battery show signs of damage.
- › Keep children away from electrical appliances. If children are present, keep a close eye on them, especially if there is a possibility they could insert objects into the appliance through apertures in the housing. This poses the danger of fatal electric shock.
- › When charging the battery, make absolutely sure the charger is correctly supported on its four feet. It must not be covered when in operation. The heat produced by the battery must be able to dissipate.
- › Always engage the brake if you are at a traffic light. If you move the pedals by accident, this could start up the motor and cause the bike to set off.

11 Warnings



- › Bear in mind that the Pedelec motor can heat up on long ascents. Be careful not to touch it with your hands, feet or legs. You could burn yourself.
- › If you are transporting your Pedelec by car, remove the battery beforehand. Transport the battery in a safe receptacle, separately to the Pedelec.
- › The Pedelec operates using low voltage (36 volts). Never attempt to operate the Pedelec using power from a source other than a suitable genuine battery.
- › Live parts may be exposed when you open covers or remove parts. Connection points may also be live. Maintenance or repairs on the device when it is open and connected to the power supply must only be carried out by the specialist cycle shop.
- › When carrying out adjustments and maintenance or when cleaning the Pedelec, avoid crushing cables or damaging them with sharp edges.

12 Technical data

MOTOR

Brushless electric motor with planetary gear unit and freewheel

Output 250 watts

Maximum torque 35 Nm

Weight of motor 2.88 kg

Assist levels 70, 150, 250 watts

Switch-off speed 25 km/h at all assist levels

Control via speed sensor

GROOVE LI-ION BATTERY

Voltage 36 V

Capacities 9 Ah

Watt hours 324 Wh

Weight 2.4 kg

**We hope you thoroughly enjoy using
your new Pedelec with Groove drive.**

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DERBY CYCLE

powered by

BionX[™]

BionX
User Manual

EC Declaration of Conformity 2012

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Siemensstraße 1–3
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Model designation: Dover de Luxe 7G, Dover de Luxe 8G, Dover 3G, Dover Premium 8G, Leeds Sport 11G, Leeds HS 8G, Leeds Roller, Leeds Tour 7G, Stoker Lite Premium, Stoker 360, Stoker Lite 8G, Stoker DD, Dover LTD, Dover XXL LTD

Product description: Raleigh Impulse

Model designation: Dover 125th Impulse, Dover Premium Impulse, Dover XXL Impulse, Dover HS Impulse, Impulse XXL, Impulse, Impulse HS, Impulse Compact, Leeds Compact, Dover Impulse

Product description: Raleigh Groove

Model designation: Groove F3, Groove F8

Product description: Raleigh BionX

Model designation: Blackburn 7, Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B

Year of manufacture: 2012

comply with all of the relevant requirements of the **Machinery Directive (2006/42/EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004/108/EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles


DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

Raleigh Univega GmbH
49661 Cloppenburg, Germany
21.09.2011

EC Declaration of Conformity 2013

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71 / 92 34-111

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe P8 36V, Dover de Luxe P8R 36V, Dover de Luxe P8 26V, Dover de Luxe 8G 26V, Dover de Luxe 7G 26V, Dover de Luxe 2x8 8G, Leeds Sport

Product description: Raleigh Impulse Pedelec

Model designation: Impulse iR, Impulse iR HS, Impulse iR Classic, Impulse iR Premium, Impulse iR XXL, Impulse iR Compact, Stocker i11 Di2, Stocker i Light Premium, Stocker iR Light, Stocker IDD, Leeds i Light, Leeds i HS, Leeds iR HS, Leeds i Roller, Leeds iR Tour, Leeds I Compact, Dundee iR Cargo, Dundee i Compact, Dover i, Dover I HS, Dover i XXL, Dover i Premium, Dover i360, Dover i360 Harmony

Product description: Raleigh Groove Pedelec

Model designation: Groove F8

Product description: Raleigh Xion Pedelec

Model designation: Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B8, Stoker B9

Year of manufacture: 2013

comply with all of the relevant requirements of the **Machinery Directive (2006 / 42 / EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004 / 108 / EC)**.

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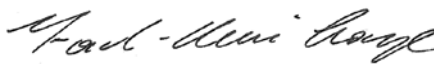
DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
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49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

Congratulations

Congratulations on your decision to purchase a product *powered by BionX™*. We are sure that your new electric bicycle will exceed your expectations in terms of function, design, and quality. All bicycles powered by the BionX system are manufactured with the latest production methods and high-quality materials. Please read this manual thoroughly so that you will enjoy your new electric bicycle for years to come.

Please make sure that your new electric bicycle was professionally assembled and adjusted by your authorized dealer, and handed over to you with the instructions. This manual serves as a supplement to the bicycle user manual. Should you have any questions after you have studied the manual, please contact your dealer.

User Precautions

We want you to have a fun ride, but also a safe one. Carefully read the following information, even if you are an experienced rider. Please familiarize yourself with your electric bicycle powered by the BionX system before you take your first trip.

1. Read all of the enclosed installation and operating instructions from the manufacturer and follow the instructions, if any, prior to its first use.
2. Familiarize yourself with your electric bicycle and the functions of the BionX system in a safe environment before participating in road traffic for the first time.
3. Always wear a helmet when riding an electric bicycle for your own safety.
4. Make sure that the tires have correct pressure before riding the bike.
5. Make sure that the brakes are operating properly before riding the bike.
6. Make sure that the quick-release on the front wheel is securely fastened before riding the bike.
7. Do not use a mobile phone or any other electronic devices while riding an electric bicycle; it is imperative that you pay attention to traffic.
8. If possible, ride in bike lanes and always in the correct direction of traffic.
9. Adhere to all valid traffic regulations.
10. Keep in mind that other traffic participants may underestimate the speed of an electric bicycle.
11. Ride with both hands on the handlebars when riding your electric bicycle.
12. Ride as defensively as possible.

Thank you very much for your attention and we hope you enjoy your new electric bicycle *powered by BionX*.

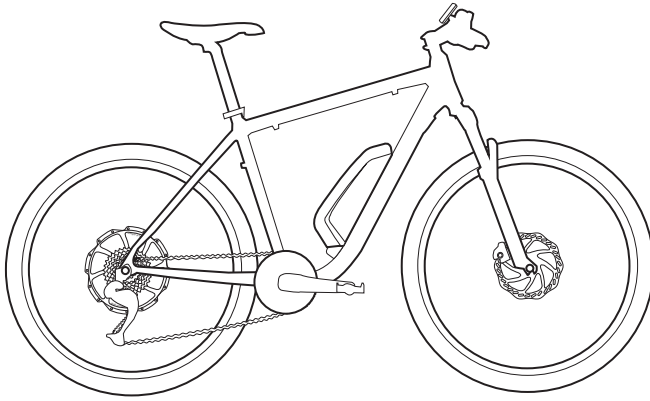
Your BionX Team

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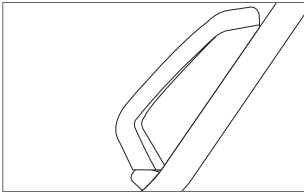
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Description of the BionX Propulsion System

Your electric bicycle is an EPAC (Electrically Power Assisted Cycle) in accordance with EN 15194 and differs from a bicycle that isn't electrically assisted.

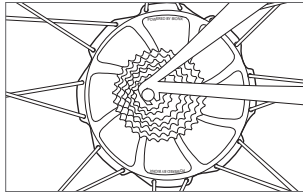


BionX Propulsion System Components



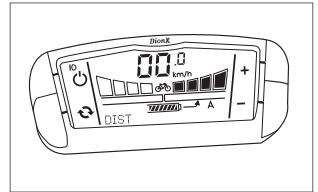
1 Battery

- Lithium Manganese (LiMn), 48V, 6.6Ah, 317Wh
- Removable, lockable
- Fully charged in: 3-4h



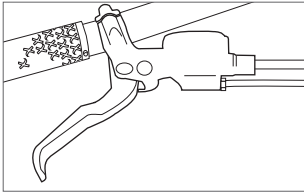
2 Motor

- DC rear hub motor
- Black, nom. 250W, nom. 9Nm / max. 40Nm, 4.7kg
- Brushless, gearless
- Generate mode for energy recuperation
- Integrated torque sensor



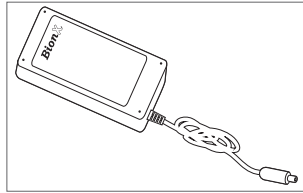
3 Console

- Removable
- Illuminated LCD display with battery state of charge
- 4 assistance levels
- 4 generate levels
- Backlight controls
- Offers cycle computer functions (speed, odometer, average speed, total distance)



4 Brake switch

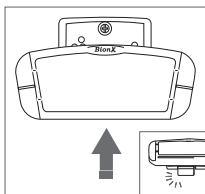
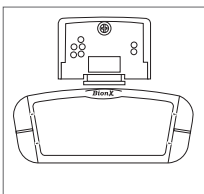
- A sensor integrated with the brake lever – connected to the BionX console
- Upon activation assistance is shut off (“kill switch”) generate mode is activated



Power Supply

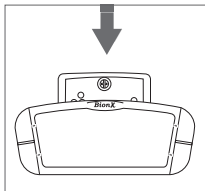
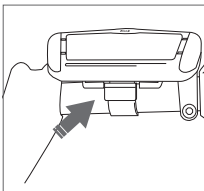
- Power supply to recharge the LiMn-battery
- Input voltage: 100-240V
- Output voltage: 26V
- Max. charge current: 3.45A
- Output: 90W

Inserting or Removing the Console



Inserting the console

- Slide the console into the console mount on the handlebar
- Make sure that the console engages securely. When inserted correctly, you will hear an audible “click”.



Removing the console

- Release the console by pushing the release lever on the console mount
- Slide the console out of the console mount

Inserting and Removing the Battery

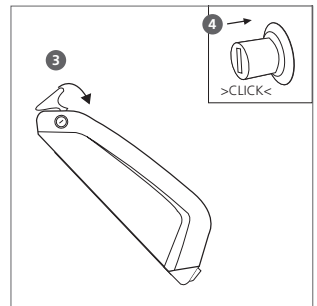
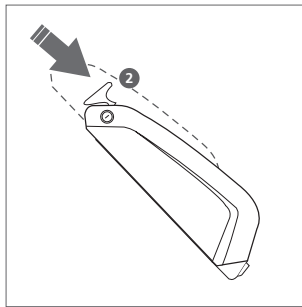
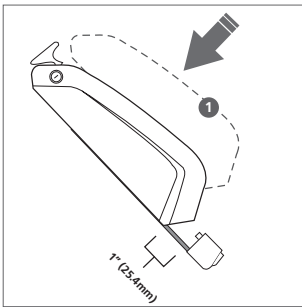
Inserting the battery

- 1 Place battery onto the docking station
- 2 Slide the battery down the rail gently towards connector
- 3 The release arm will close automatically as battery slides towards connector



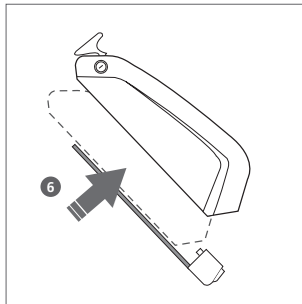
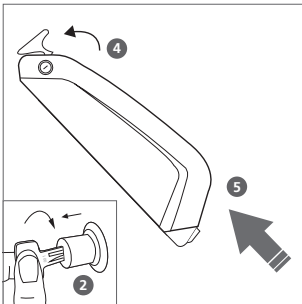
Do not force the battery arm closed, this can bend the battery connector

- 4 With the release arm almost closed, hold it in place and simultaneously press in the lock cylinder – you will hear an audible >click< when the battery is properly inserted



Removing the battery

- 1 Turn off the BionX propulsion system (no illustration)
- 2 Lightly press on the battery release arm, insert the key and turn clockwise
- 3 The lock cylinder will protract, freeing battery release arm (no illustration)
- 4 Remove the battery by opening release arm
- 5 Lift the battery from dock by sliding upwards
- 6 Remove the battery



Handling and Charging the Battery



WARNING

BionX batteries shall only be recharged with BionX chargers or BionX power supplies.

Never short circuit the battery by connecting the contacts of the battery. Never open the battery. This could damage the battery and possibly lead to overheating or ignition of the battery. The battery cannot be serviced by the user. Opening the battery case voids all warranty and product liability claims. Never use a battery which has obvious damage to the housing or the connector.

Make sure that the battery is no longer connected to the power supply once the charging operation is complete. The Lithium Manganese battery cells have a low self-discharge rate, therefore a continuous connection of the battery to the power supply is not necessary. We recommend that you fully charge the battery when it will not be used for a longer period of time, for example, before storing it for the winter, and then recharge the battery at minimum every three months.

It is best to store the battery in a cool location at temperatures between 10 °C and 25 °C. Never store the battery in locations where the temperatures can reach more than 45 °C or fall below -10 °C. The battery should never be exposed to extreme temperature fluctuations or humidity, and always protect the battery during storage from humidity to prevent corrosion on the connectors. Never drop the battery, and protect it from physical damage. Damage may lead to short-circuits, and as a result cause overheating or ignition of the battery.



Used batteries may not be disposed of in regular household trash!

Be aware that used batteries must be disposed of properly!

DERBY BionX batteries can be returned at DERBY dealerships free of charge.

Charging the battery:



WARNING

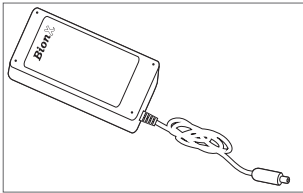
Only use the BionX power supply that was supplied with the bicycle to charge the battery. The use of other power supplies can damage the battery.

The BionX power supply should be used exclusively for rechargeable batteries of the specified type. The use of the BionX power supply with batteries that are not rechargeable may damage those and could lead to overheating, or ignition of the battery. Keep the power supply away from water or moisture when charging and/or connected to prevent electrical shock or short-circuits.

Do not use a power supply that has obvious signs of damage to the cable, housing or the connector.

Extreme temperatures will affect battery life, especially during charging. Avoid charging in direct sunlight or in very hot or cold temperatures. This will reduce the life of the battery considerably. We recommend charging the battery at temperatures around 20 °C (room temperature). The battery should be warmed to room temperature before it is charged, particularly when it was exposed to cold temperatures during a ride.

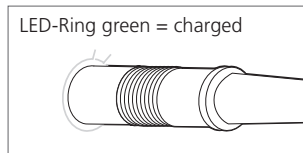
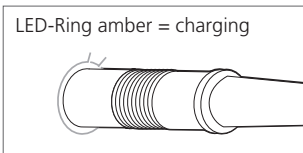
The battery can be charged when mounted on the bicycle or removed from the battery docking station. A Lithium Manganese battery does not have a memory effect, which means that the battery's maximum energy capacity is not affected if it is repeatedly recharged after only being partially discharged. The battery does not need to be completely drained before charging. We recommend charging the battery after every ride, preferably when the battery state of charge display shows less than 50%. **We recommend that you fully charge the battery when it will not be used for a longer period of time, for example, before storing it for the winter, and then recharge the battery at minimum every three months.** When the battery is depleted to the level where there is risk it could fall into deep discharge, the battery will signal that a recharge is needed by beeping.



Power Supply

The delivered power supply is suitable for the voltage ranges 110-115V or 220-230V. There is no need to manually set the voltage range.

Charging procedure

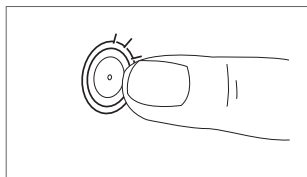


- Connect power supply and battery by inserting the charge connector into the touch port – the system can be turned on or off
- Connect the plug of the power supply with the power outlet
- The battery touch port (LED ring around the charging connector) lights up according to the actual state of charge of the battery and then turns to AMBER during the charging process
- After a complete charge the colour of the LED ring changes to GREEN. The battery is then fully charged and the charging process is complete
- Following this procedure the charging connector should be disconnected
- During the charging process you can check the battery state of charge through the console if the battery is connected to the system - system can be switched on while it is charged

The battery is fully charged after about 3 to 4 hours. Make sure that a completely charged battery is no longer connected to the charger after the charging procedure is completed.

Checking Battery State of Charge

- Swipe your finger slowly over the touch port.
- Battery state of charge LED will illuminate.



Battery state	Colour
100-85 %	green
85-25 %	amber
< 25 %	red

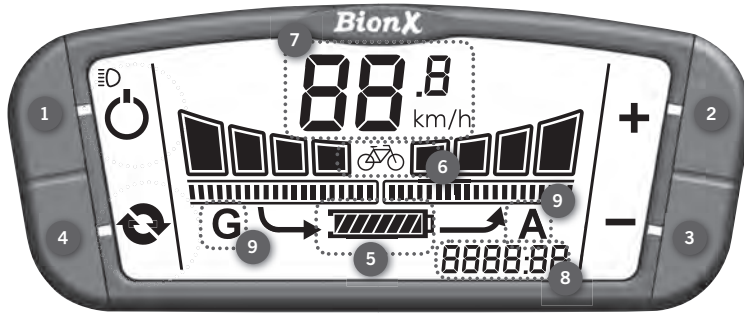
Assist Mode / Generate Mode

The BionX propulsion system operates in four assist levels in the assistance mode, and in four charging levels in the generate mode. In the assistance mode, your pedalling is assisted proportionally by an electric motor that drives the rear wheel. A torque sensor is located on the axle of the electric motor and measures the effort provided by the rider; this produces natural feeling assistance from the motor.

When in generate mode the electric motor functions as a generator and recharges the battery. When going downhill, you can regulate your speed by varying the generate level. This generate function provides a certain braking effect, however it does not replace legally required brakes. If either one of the two brake levers (depending on bike model) is pulled, the drive system automatically enters generate mode. The range can therefore be extended up to 15%, depending on the road conditions.

Assistance Level (A)	Degree of Assist	Riding Situation
1	35%	Riding on level ground
2	75%	Slight inclines, head wind
3	150%	Steep hills, strong head wind
4	300%	Very steep roads
Generation Level (G)		
1	Slight downhill grade, tailwind	
2	Significant downhill grade, tailwind	
3	Steep descent	
4	Very steep descent	

Operating the BionX Propulsion System

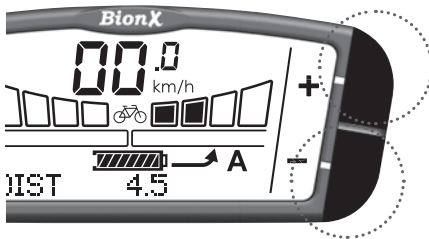


1. Power
2. + Key
3. - Key
4. Cycle
5. State of charge indicator
6. (bicycle) mode
7. Speedometer
8. Trip distance/odometer/chronometer/average speed
9. Assist (A) or generate level (G)



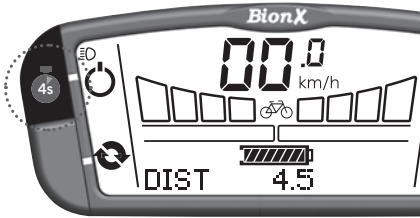
Turn the system on

Briefly push either the key or key. The battery will beep 4 times and you will see a countdown, this is the system performing a self check. After startup, the system is always in mode (no motor assist/bike operation). To turn the system off, briefly push . The battery will beep 5 times. After 10 minutes of “no operation” the system turns off automatically.




Select assistance/generate level

Push / key for more/less assist (see bar “fields 1-4” above display “A”). From mode push key to enter continuous generate mode.

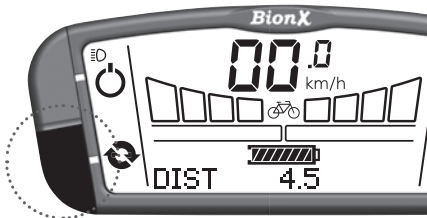


Turn on display backlight

Push and hold  key for 4 seconds - display backlight is turned on.

Turn off display backlight

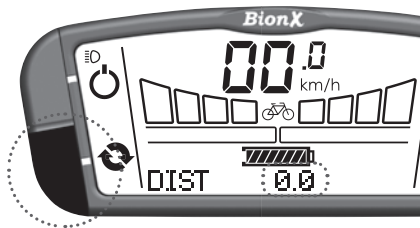
Push and hold  key again for 4 seconds.




Select the cycling computer functions

Briefly push the  key to change between:

Trip Distance	DIST
Odometer	ODO
Chronometer	CHRONO
Average Speed	AVSPD








To reset cycle computer functions

Hold the  key for a few seconds to reset the distance, chronometer, and average speed values to zero.

Programming the Basic Settings







In general, all basic settings for your electric bicycle are pre-set. If you happen to change tire sizes, during service, for example, you can reset the tire circumference to ensure the precise function of your speedometer. Furthermore, you can set the unit to display the speed, the strength of the recharge when triggering one of the two brake levers and the arrangement of the main functions. This is done by entering programming codes.





Turn on the programming mode

Simultaneously push  and  until the display shows "0000". The first zero blinks. Change the value of the selection with  or  and confirm with . Select the other digits in the same manner until the desired program is displayed.



Code	Description
2001	Select km/h or mph
2002	Regeneration/brake output (for magnetic switch) 0-40 (ideally 30-40)
2005	Tire circumference (millimeters)
2009	Flip Display Plus/Minus 0 = power left, 1 = power right

Code 2001	Code 2002
Select unit - km/h or mph. Select with  or  and confirm with  .	Default value: 30: adapt with  and  . Confirm with  .

Code 2005	Code 2009
Set tire size (in mm) - Select digits one after another with  or  and confirm with  .	Current setting of main functions is displayed. Flip = 0, assist toggle is on the right side of console; Flip = 1, assist toggle is on the left side of console. Confirm with  .



WARNING

Please do not use other programming codes without consulting your authorized dealer. If you type the wrong code, please push  key to exit programming mode.

Installing/Removing the Rear Wheel

We recommended the removal and installation of the rear wheel to be done by a qualified dealer. Should you have to do this yourself, please follow the instructions below:



WARNING

Always turn off the propulsion system prior to plugging in or unplugging the motor cables.



CAUTION

It is absolutely essential that the axle nuts are tightened with a torque of 40Nm/30lb-ft; this ensures that the propulsion system functions properly. Ensure the torque reaction collar is fully inserted into the dropout.

Hydraulic disc brake: Do not pull the brake lever with the brake disc on the rear wheel removed from the caliper. Insertion of the wheel can be difficult or impossible as the brake pads will prevent brake disc from sliding in place.

To Remove the rear wheel

- Make sure that the system is turned off
- Remove the neoprene covers (Fig. 1)
- Unplug the two cable connections that lead to the motor (Fig. 2)
First COMMUNICATION ①, then POWER ②
- Disconnect the cable guide from the rear wheel brake (only on bicycles with V-brakes)
- Loosen the axle nut on the rear wheel using a 15mm ring wrench (Fig. 3)
- Slide the rear wheel downwards out of the drop out

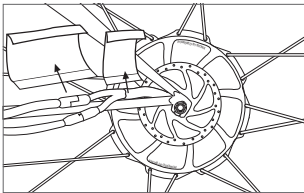


Fig. 1

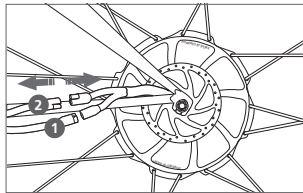


Fig. 2

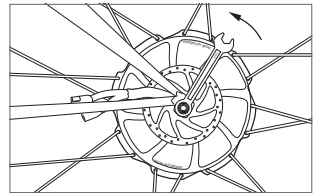
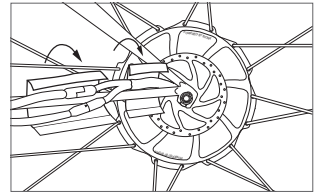
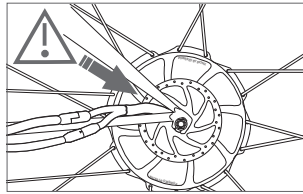
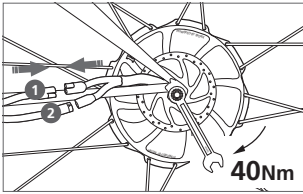


Fig. 3



Installing the rear wheel

- Guide the rear wheel axle into the two dropouts and make sure that the brake disc (on models with disc brakes) is inserted between the brake pads
- Also make sure that the flat area at the left of the rear axle (torque reaction collar) is aligned so that it fits into the left dropout
- Install the rear wheel with both sides of the axle inserted all the way in the dropouts
- Tighten the axle nuts on the rear wheel with 40Nm/ 30lb-ft (= VERY TIGHT!). This torque is essential for the correct function of the propulsion system. If you do not have a torque wrench, use a normal ring wrench. Have your dealer check the torque of the axle nuts as quickly as possible. Use only the original axle nuts; otherwise you run the risk of damaging the axle threads.
- Keep the motor cables clear of the brake disc (on models with disc brakes)
- Plug in the cable connections (POWER ① before COMMUNICATION ②) and place the larger neoprene cover over the plug-in connections, and the smaller neoprene cover closer to the disc to prevent the cables from wear.
- Now replace the cable pull. Re-install the cable guide of the rear wheel brake (V-brakes only), and correctly adjust the rear wheel brake.

Maintenance and Care

We recommend to have the spoke tension of the rear wheel and the torque of all screws checked by your qualified dealer after the first 200km.

In order to ensure extended use of the propulsion system, all plug-in contacts of the system should be checked every two to three months and cleaned with a soft and dry brush, if necessary. It must be ensured that no dirt or humidity penetrates the battery docking station when the battery is removed. The electric motor is a brushless DC-motor that does not have to be serviced.

Cleaning



CAUTION

Never use a high pressure washer or a garden hose to clean the propulsion system. The force of a water jet could damage the electrical components of the propulsion system.

We recommend a soft sponge or a soft brush to clean the bicycle. Use a moist rag to clean the battery's docking station. Always use very little water and keep water away from the electrical contacts. Check the plug-in connections for moisture after cleaning and let these dry, if necessary, before reusing the bicycle.

Transporting an Electric Bicycle on a Car



WARNING

Make absolutely sure that the bike rack on your car is suitable for the increased weight and the unique frame style of your electric bicycle. A rack that is not suitable can be damaged or even break during the transport of the electric bicycle. The electric bicycle can be damaged by an unsuitable bike rack.

For transportation of the electric bicycle on a bike rack always remove the battery and the console.

Repair and Spare Parts

For repair of your electric bicycle consult your qualified dealer. All of the original spare parts for your electric bicycle can be purchased through your dealer. If you need spare keys for the battery, please contact your dealer. Please retain the key number for your records.



BionX Key Number

Troubleshooting

The system does not turn on

Check the battery and make sure that it is charged. The battery must be correctly inserted in the docking station and the lock must be completely closed. Also check that all connectors of your wiring harness are properly engaged. If the problem persists, contact your authorized dealer.

The system can be turned on but there is no assist

Check that the cables running from the battery to the motor are properly connected. If the problem persists, contact your authorized dealer.

The system is continuously in generate mode

When the propulsion system is continuously in generate mode and cannot be switched back to assist mode by pushing the **+** key, the problem most likely lies with the brake switches that are located at the brake levers. In this case try to “repair” the system by turning it off and then on again. If that does not solve the problem, you can temporarily bypass it by removing the plug-in connection from the console to the brake-switch.



WARNING

If you bypass the brake switches you also disable regenerative braking.

In doing so your system will not provide any brake support.

We recommend that you contact your dealer as soon as possible.

The motor is not as powerful after a repair or service

Tighten the nuts of the rear axle with the specified torque (40Nm/30lb-ft). If the problem is not solved please contact your dealer.

The battery state of charge display on the console does not show “full” after a complete charging procedure

Make sure that you have followed all of the instructions for the charging procedure. Let the battery cool off for a few hours and then recharge it again. If the problem's still not solved, let the battery cool again, fully deplete the battery and charge it again. If the problem persists, contact your authorized dealer.

Warranty Information and Guarantee

- 1.** The BionX warranty covers a two-year period for BionX propulsion system(s) within the framework of the following conditions.
- 2.** This warranty exclusively covers systems provided by BionX excluding all the other bicycle components provided by other bicycle manufacturers.
- 3.** This warranty covers the repair and/or the replacement of BionX propulsion systems provided that the equipment concerned loses its functionality within the agreed warranty period and also provided that the claim is not related to any of the following cases expressly excluded under this warranty.
- 4.** Any other legal provisions, particularly with respect to warranty regulations, are not restricted by this warranty.
- 5.** This warranty only covers material and manufacturing defects. It is only effective with a valid proof of purchase consisting of the original purchase document or receipt indicating the date of purchase, the dealer's name and the designation of the bicycle model. BionX reserves the right to reject the coverage of this warranty if the accompanying documentation of BionX components is not accurate or complete.
- 6.** In the case of a warranty claim, BionX undertakes to either repair faulty system components and/or to replace such components, at BionX discretion (Service Replacement Unit).
- 7.** Warranty repairs have to be exclusively performed by BionX. Any component to be repaired under the framework of this warranty has to be transferred to BionX at the client's own expenses and risks, and, after the completion of such repair, has to be picked up at BionX, or, it has to be shipped (at the request of the client) to the client's address at the client's own expenses and risks. In the case of rightful warranty claims, BionX reserves the right to bear or repay transportation expenses. In order to have a previous determination whether a warranty claim is justified or not, the end user has to submit his claim to the dealer from whom he purchased the product so that the respective dealer handles the shipment to BionX.
- 8.** Costs for repair work performed in advance by persons who have not been authorized by BionX will not be reimbursed. In such a case, any warranty claim will cease.
- 9.** Repair work and/or replacement of components during the warranty period do not lead to an extension and/or a new start of the warranty period. Repair work and direct replacement during the warranty period may be performed with functional replacement components of equal value.
- 10.** The two-year warranty period starts with the date of purchase. Warranty claims must be reported immediately.

- 11.** No warranty claims are accepted - without limitation to other reasons - in the case of damages due to the following:
- a) External influences, particularly falling rocks, collision, accident and other external events with an immediate external effect due to mechanical powers.
 - b) Purpose and/or malevolent acts, theft and robbery as well as natural hazard events and/or acts of mischief.
 - c) Test, maintenance, repair and replacement work due to normal use.
 - d) If the battery/cell pack does not provide full capacity in the course of normal use or for batteries going through a normal aging process or reduction of performance, BionX warranty only covers that within the two-year warranty period or after 600 charging cycles, whichever event occurs first, to the condition that the battery still provides at least 70% of its initial capacity.
 - e) In the case of inappropriate use, e.g. the product was exposed to liquids, chemicals of any type and/or extreme temperatures, wetness and humidity and/or if the battery suffers damages due to non-compliance with the special instructions set forth in the chapter "Handling and Charging of the Battery".
 - f) The model, serial or product number on BionX product has been changed, deleted, blurred or removed. The seal (serial number sticker) on the battery housing has been broken or obviously manipulated.
 - g) Use of the battery in systems that are not approved for such use with this particular product.
 - h) Operation of the BionX system with batteries other than the batteries designed for the BionX system.
 - i) Damages to the battery due to overcharging or not adhering to the instructions of battery handling (refer to user manual).

12. This warranty only covers the above mentioned repair work and/or the replacement of defective or compromised components. It excludes any claims as to the reimbursement of property damages, downtimes, expenses for renting or leasing equipment, travel expenses, lost profit or any other claims. BionX liability in connection with this warranty is limited to the respective acquisition value of the product.

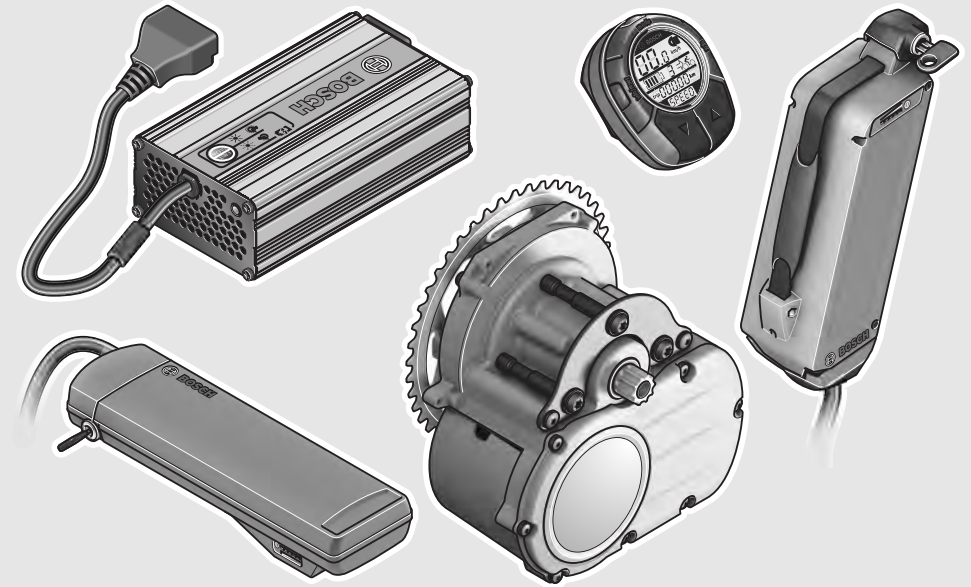
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DERBY CYCLE

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BionX

Your dealer

bionxinternational.com



Robert Bosch GmbH
Bosch eBike Systems
72703 Reutlingen
Germany

www.bosch-ebike.com

0 276 001 X45 (2011.09) T / 172

HMI | Drive Unit 45 | Battery Pack | Charger

1 270 020 900 | 0 275 007 003 |
1 270 020 500 | 1 270 020 501 | 1 270 020 502 | 1 270 020 503 |
1 270 020 504 | 1 270 020 505 | 1 270 020 506 | 1 270 020 507 |
0 275 007 900



de Originalbetriebsanleitung
en Original instructions
fr Notice originale
es Manual original
it Istruzioni originali
nl Oorspronkelijke gebruiksaanwijzing
da Original brugsanvisning
sv Bruksanvisning i original
no Original driftsinstruks
fi Alkuperäiset ohjeet



EC Declaration of Conformity 2012

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71/9234-0

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe 7G, Dover de Luxe 8G, Dover 3G, Dover Premium 8G, Leeds Sport 11G, Leeds HS 8G, Leeds Roller, Leeds Tour 7G, Stoker Lite Premium, Stoker 360, Stoker Lite 8G, Stoker DD, Dover LTD, Dover XXL LTD

Product description: Raleigh Impulse

Model designation: Dover 125th Impulse, Dover Premium Impulse, Dover XXL Impulse, Dover HS Impulse, Impulse XXL, Impulse, Impulse HS, Impulse Compact, Leeds Compact, Dover Impulse

Product description: Raleigh Groove

Model designation: Groove F3, Groove F8

Product description: Raleigh BionX

Model designation: Blackburn 7, Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B

Year of manufacture: 2012

comply with all of the relevant requirements of the **Machinery Directive (2006/42/EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004/108/EC)**.

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles


DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

Raleigh Univega GmbH
Siemensstraße 1–3
49661 Cloppenburg, Germany



Olaf Flunkert
Production, Purchasing and
Technology Manager



Karl-Heinz Lange
Design and Development Manager

Raleigh Univega GmbH
49661 Cloppenburg, Germany
21.09.2011

EC Declaration of Conformity 2013

The manufacturer: Raleigh Univega GmbH
Siemensstraße 1 – 3
49661 Cloppenburg, Germany
Telephone: +49 (0) 44 71 / 92 34 -111

hereby declares that the following products:

Product description: Raleigh Pedelec Panasonic

Model designation: Dover de Luxe P8 36V, Dover de Luxe P8R 36V, Dover de Luxe P8 26V, Dover de Luxe 8G 26V, Dover de Luxe 7G 26V, Dover de Luxe 2x8 8G, Leeds Sport

Product description: Raleigh Impulse Pedelec

Model designation: Impulse iR, Impulse iR HS, Impulse iR Classic, Impulse iR Premium, Impulse iR XXL, Impulse iR Compact, Stocker i11 Di2, Stocker i Light Premium, Stocker iR Light, Stocker IDD, Leeds i Light, Leeds i HS, Leeds iR HS, Leeds i Roller, Leeds iR Tour, Leeds I Compact, Dundee iR Cargo, Dundee i Compact, Dover i, Dover I HS, Dover i XXL, Dover i Premium, Dover i360, Dover i360 Harmony

Product description: Raleigh Groove Pedelec

Model designation: Groove F8

Product description: Raleigh Xion Pedelec

Model designation: Blackburn 5, Blackburn 3

Product description: Raleigh Bosch Pedelec

Model designation: Stoker B8, Stoker B9

Year of manufacture: 2013

comply with all of the relevant requirements of the **Machinery Directive (2006 / 42 / EC)**.

Furthermore, the machine complies with all of the requirements of the **Electromagnetic Compatibility Directive (2004 / 108 / EC)**.

The following harmonized standards have been applied:

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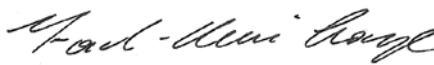
DIN EN 14764 City and trekking bikes – Safety requirements and test methods

Technical documentation filed at:

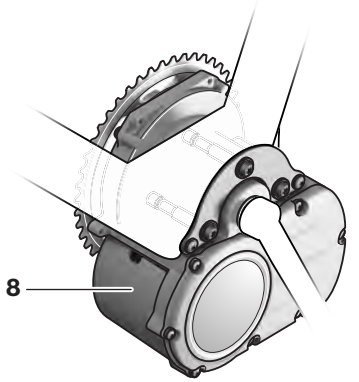
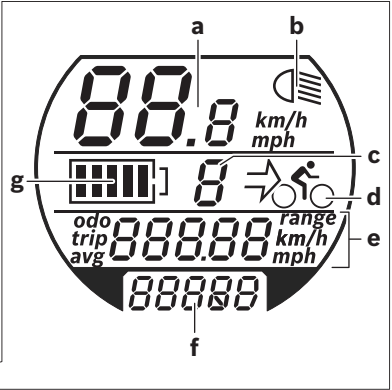
Raleigh Univega GmbH
Siemensstraße 1 – 3
49661 Cloppenburg, Germany

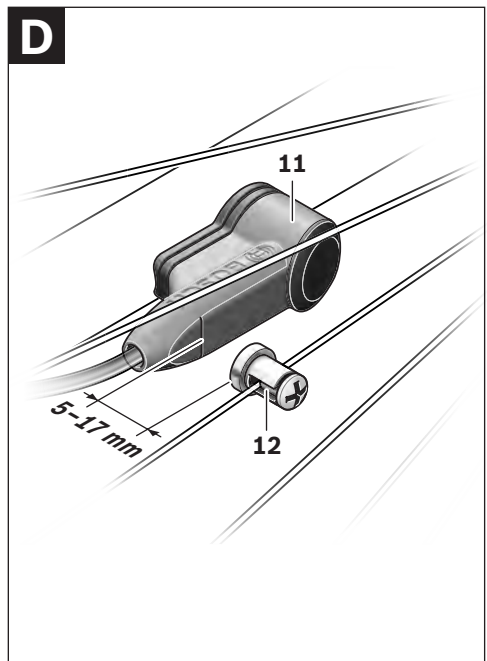
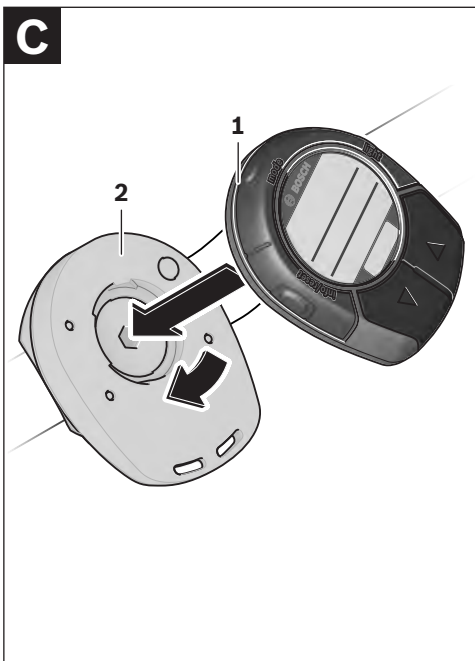
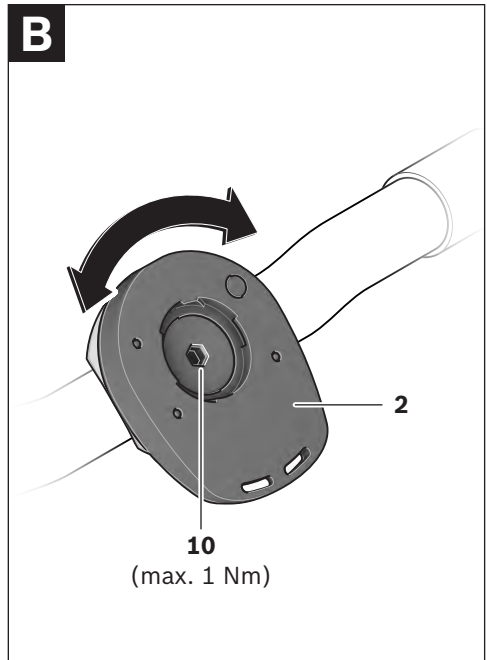
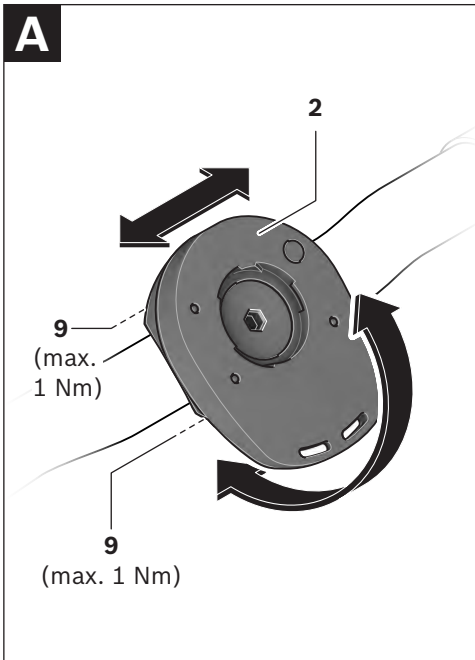


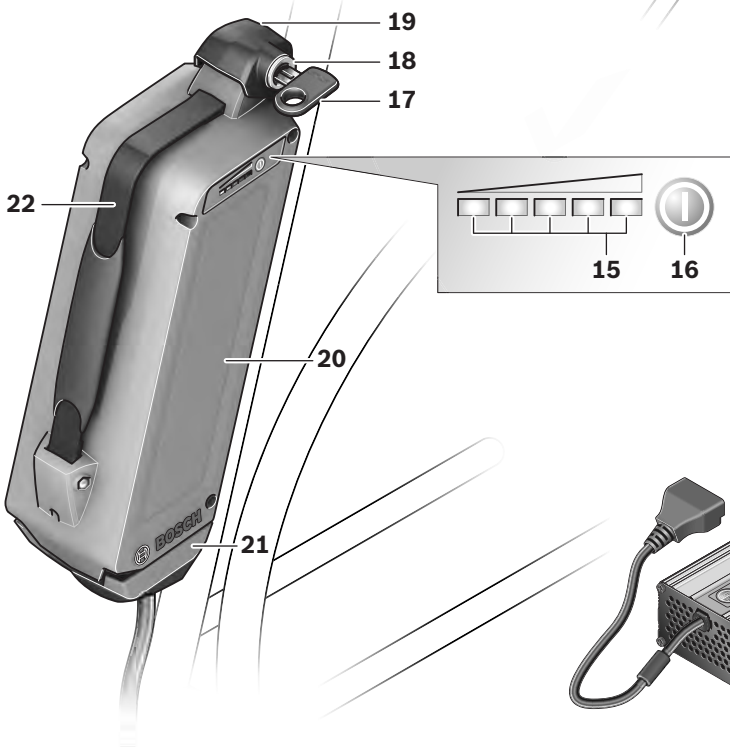
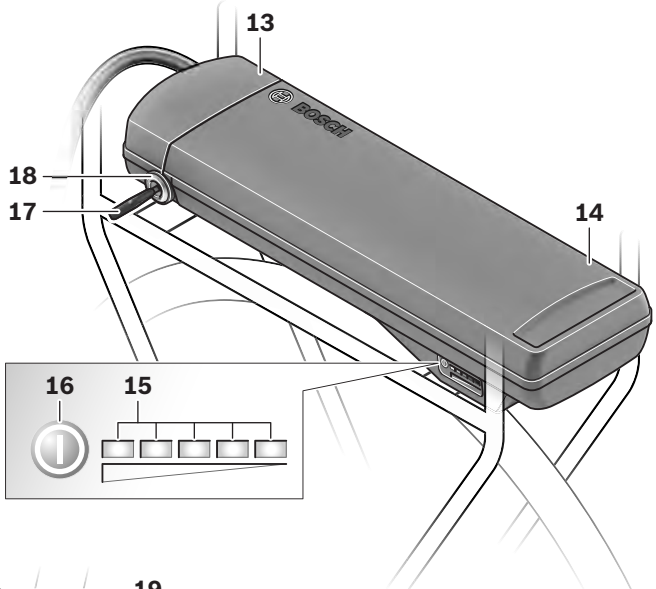
Olaf Flunkert
Production, Purchasing and
Technology Manager

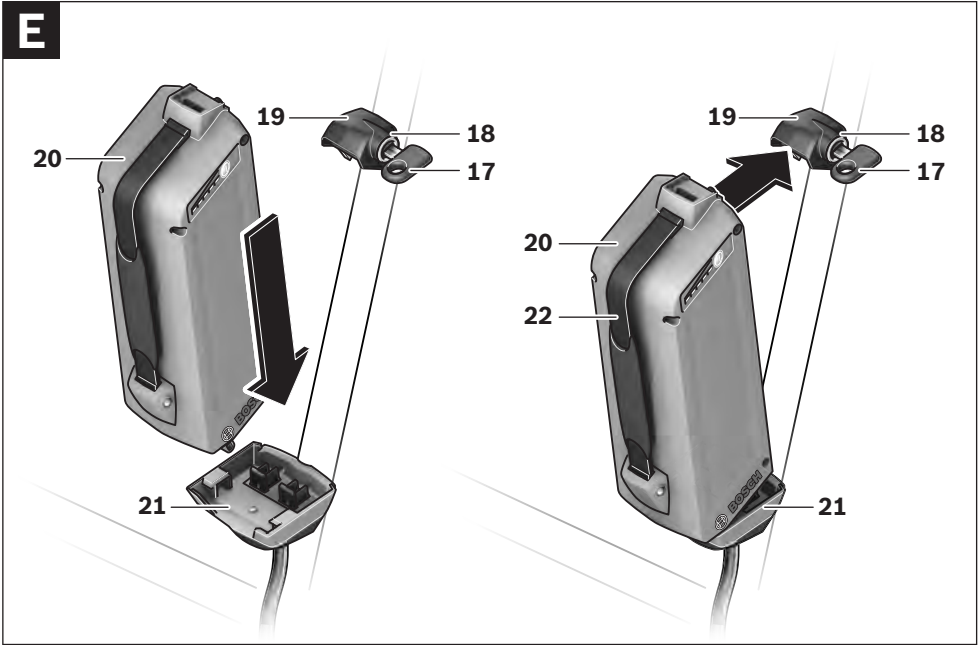
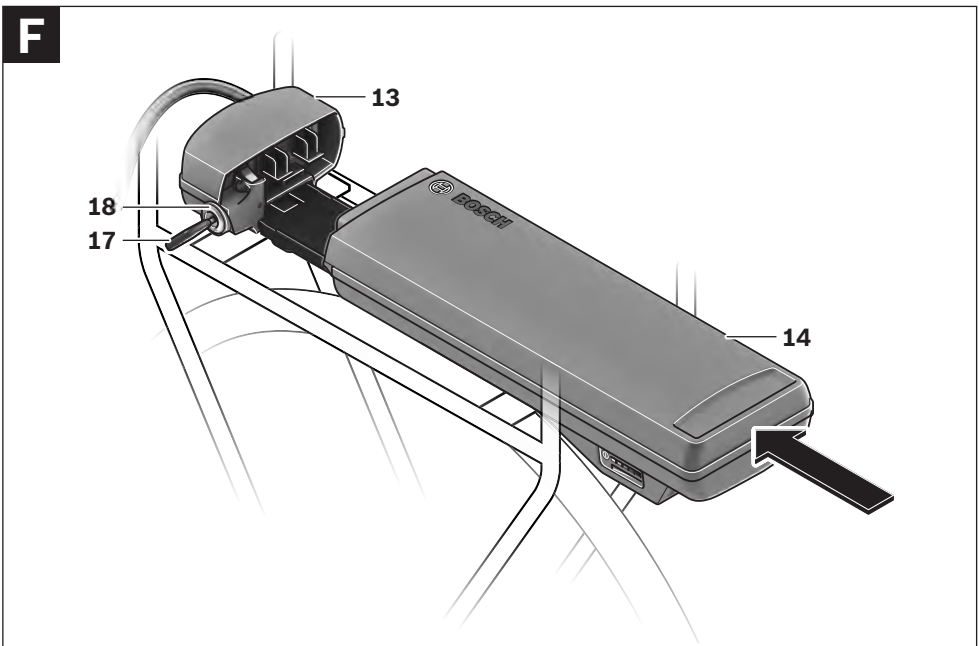


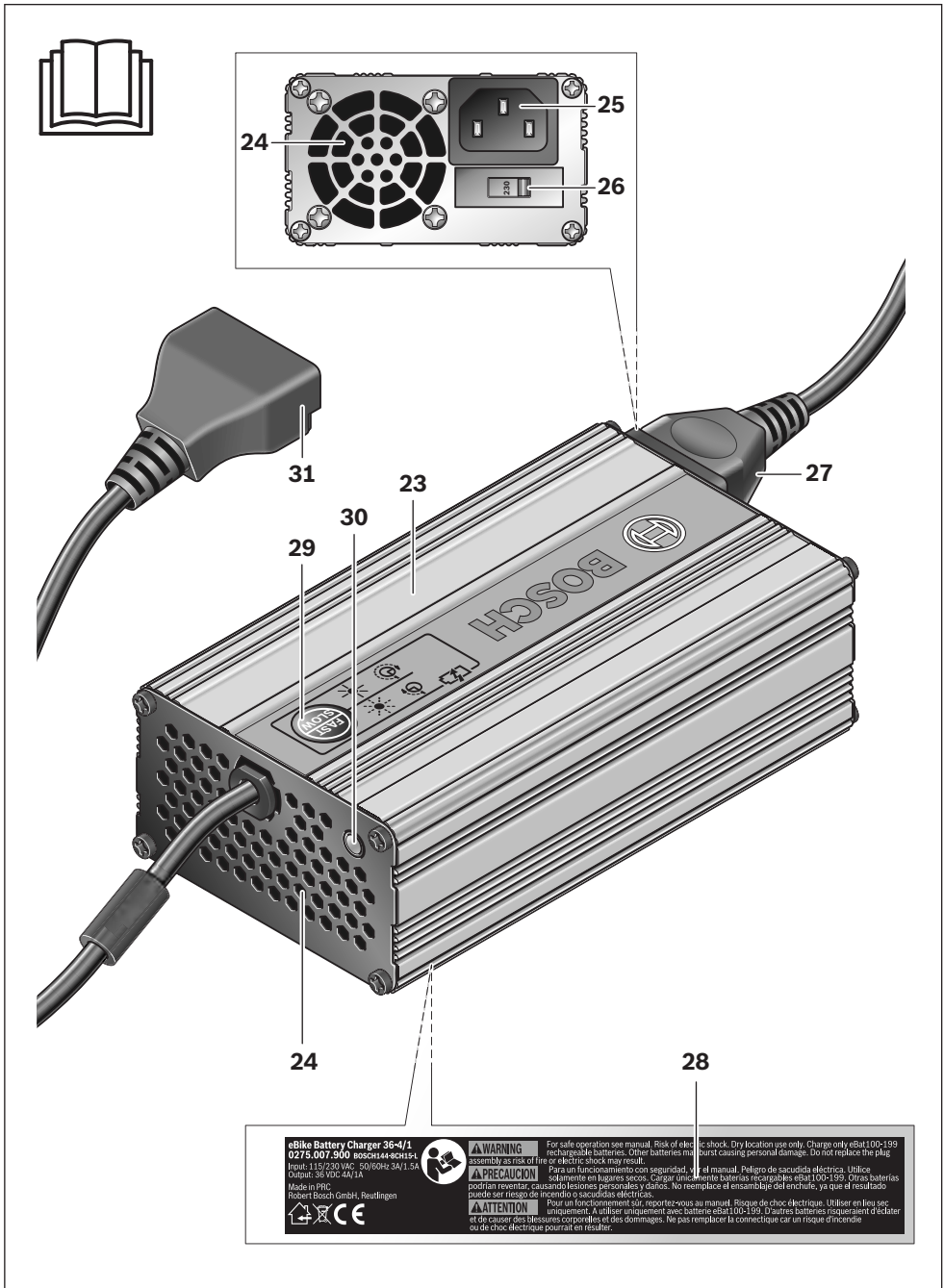
Karl-Heinz Lange
Design and Development Manager

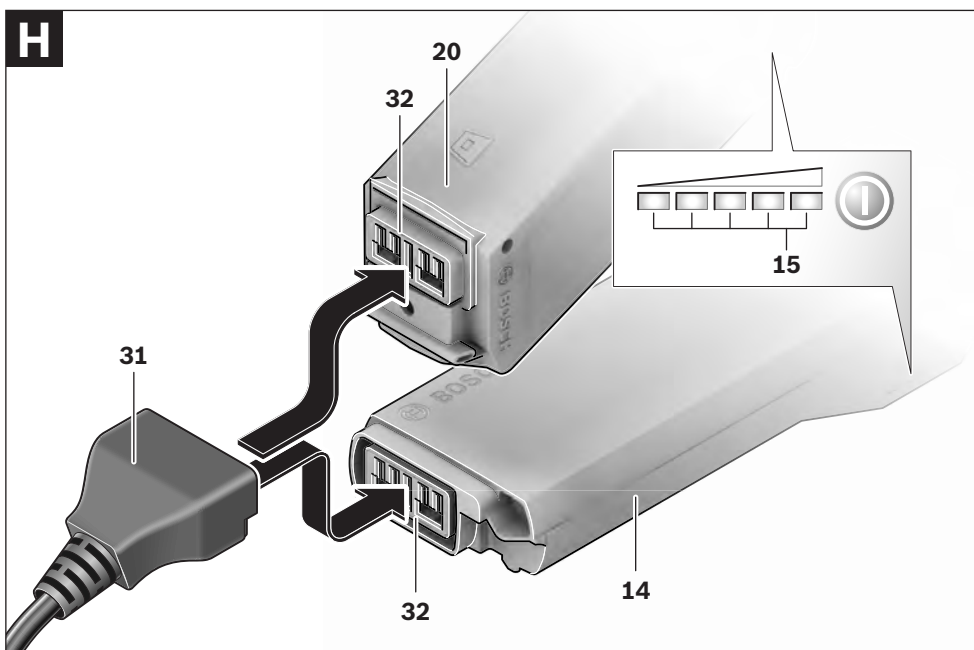
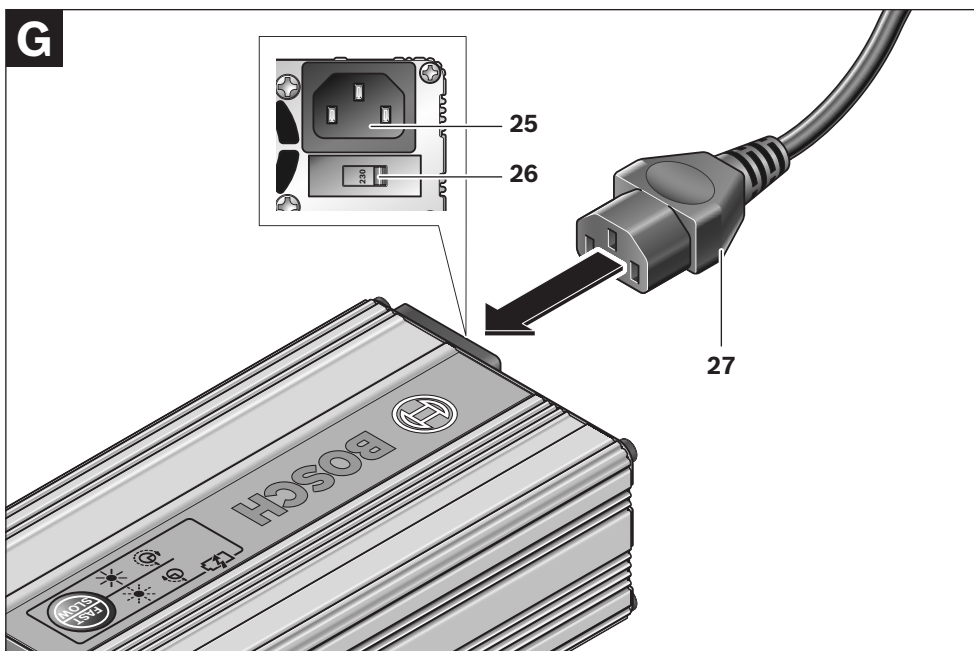






E**F**





Bediencomputer HMI/ Antriebseinheit Drive Unit 45

Sicherheitshinweise



Lesen Sie alle Sicherheitshinweise und Anweisungen. Versäumnisse bei der Einhaltung der Sicherheitshinweise und Anweisungen können elektrischen Schlag, Brand und/oder schwere Verletzungen verursachen.

Bewahren Sie alle Sicherheitshinweise und Anweisungen für die Zukunft auf.

Der in dieser Betriebsanleitung verwendete Begriff „Batterie“ bezieht sich gleichermaßen auf Standard-Batterien (Batterien mit Halterung am Fahrradrahmen) und Gepäckträger-Batterien (Batterien mit Halterung unter dem Gepäckträger).

- ▶ **Öffnen Sie die Antriebseinheit nicht selbst. Die Antriebseinheit ist wartungsfrei und darf nur von qualifiziertem Fachpersonal und nur mit Original-Ersatzteilen repariert werden.** Damit wird sichergestellt, dass die Sicherheit der Antriebseinheit erhalten bleibt. Beim unberechtigten Öffnen der Antriebseinheit erlischt der Gewährleistungsanspruch.
- ▶ **Alle an der Antriebseinheit montierten Komponenten und alle anderen Komponenten des eBike-Antriebs (z. B. Kettenblatt, Aufnahme des Kettenblatts, Pedale) dürfen nur gegen baugleiche oder vom Fahrradhersteller speziell für Ihr eBike zugelassene Komponenten ausgetauscht werden.** Damit wird die Antriebseinheit vor Überlastung und Beschädigung geschützt.
- ▶ **Nehmen Sie die Batterie aus dem eBike, bevor Sie Arbeiten (z. B. Montage, Wartung etc.) am eBike beginnen, es mit dem Auto oder dem Flugzeug transportieren oder es aufbewahren.** Bei unbeabsichtigtem Betätigen des Ein-/Ausschalters besteht Verletzungsgefahr.
- ▶ **Die Funktion Anfahrhilfe darf ausschließlich beim Anfahren bzw. Schieben des eBikes verwendet werden.** Haben die Räder

des eBikes beim Benutzen der Anfahrhilfe keinen Bodenkontakt, besteht Verletzungsgefahr.

- ▶ **Verwenden Sie nur original Bosch Batterien, die vom Hersteller für Ihr eBike zugelassen wurden.** Der Gebrauch anderer Batterien kann zu Verletzungen und Brandgefahr führen. Bei Gebrauch anderer Batterien übernimmt Bosch keine Haftung und Gewährleistung.
- ▶ **Beachten Sie alle nationalen Vorschriften zur Zulassung und Verwendung von eBikes.**
- ▶ **Lesen und beachten Sie die Sicherheitshinweise und Anweisungen in der Betriebsanleitung der Batterie sowie in der Betriebsanleitung Ihres eBikes.**

Produkt- und Leistungsbeschreibung

Bestimmungsgemäßer Gebrauch

Die Antriebseinheit ist ausschließlich zum Antrieb Ihres eBikes bestimmt und darf nicht für andere Zwecke verwendet werden. Das eBike ist zur Verwendung auf befestigten Wegen bestimmt. Es ist nicht für den Wettbewerbsbetrieb zugelassen.

Abgebildete Komponenten (siehe Seite 2-3)

Die Nummerierung der abgebildeten Komponenten bezieht sich auf die Darstellungen auf der Grafikseite.

Alle Darstellungen von Fahrradteilen außer Antriebseinheit, Bediencomputer, Geschwindigkeitssensor und dazugehörigen Halterungen sind schematisch und können bei Ihrem eBike abweichen.

- 1 Bediencomputer
- 2 Halterung Bediencomputer
- 3 Taste „info/reset“ für Multifunktionsanzeige

- 4 Taste Unterstützungsmodus „mode“
- 5 Taste Beleuchtung „light“
- 6 Taste Unterstützungsstufe erhöhen/Anfahrhilfe ein- und ausschalten ▲
- 7 Taste Unterstützungsstufe senken ▼
- 8 Antriebseinheit
- 9 Untere Schrauben der Halterung
- 10 Obere Schraube der Halterung
- 11 Geschwindigkeitssensor
- 12 Speichenmagnet des Geschwindigkeitsensors

Anzeigenelemente Bediencomputer

- a Tachometeranzeige
- b Anzeige Beleuchtung
- c Anzeige Unterstützungsstufe
- d Anzeige Anfahrhilfe
- e Multifunktionsanzeige
- f Anzeige Unterstützungsmodus und Fehlercode
- g Batterie-Ladezustandsanzeige

Technische Daten

Antriebseinheit		Drive Unit 45
Sachnummer		0 275 007 003
Nenndauerleistung	W	350
Drehmoment am Abtrieb max.	Nm	50
Nennspannung	V=	36
Betriebstemperatur	°C	-5...+40
Lagertemperatur	°C	-10...+50
Schutzart		IP 54 (staub- und spritzwassergeschützt)
Gewicht, ca.	kg	4

Bediencomputer		HMI
Sachnummer		1 270 020 900
Betriebstemperatur	°C	-5...+40
Lagertemperatur	°C	-10...+50
Schutzart		IP 54 (staub- und spritzwassergeschützt)
Gewicht, ca.	kg	0,15

Beleuchtung*		
Nennspannung	V=	6
Leistung		
- Vorderlicht	W	2,7
- Rücklicht	W	0,3

* abhängig von gesetzlichen Regelungen nicht in allen länderspezifischen Ausführungen über die eBike-Batterie möglich

Montage

Batterie einsetzen und entnehmen

Zum Einsetzen der Batterie in das eBike und zum Entnehmen lesen und beachten Sie die Betriebsanleitung der Batterie.

Halterung des Bediencomputers positionieren

- **Drehen Sie die Schrauben 10 bzw. 9 mit einem Anzugsdrehmoment von maximal 1 Nm fest.** Die Halterung 2 kann sonst beschädigt werden.

Halterung verschieben/kippen (siehe Bild A)

Lösen Sie die beiden Schrauben 9 an der Unterseite der Halterung 2. Verschieben Sie die Halterung auf dem Lenker oder ändern Sie den Kippwinkel. Drehen Sie die beiden Schrauben 9 mit einem Anzugsdrehmoment von maximal 1 Nm wieder fest.

Halterung drehen (siehe Bild B)

Lösen Sie die Schraube **10** an der Oberseite der Halterung **2**. Drehen Sie den oberen Teil der Halterung so, dass Sie den Bediencomputer **1** nach dem Einsetzen (siehe „Bediencomputer einsetzen und entnehmen“) gut im Blick haben. Drehen Sie die Schraube **10** mit einem Anzugsdrehmoment von maximal 1 Nm wieder fest.

Bediencomputer einsetzen und entnehmen (siehe Bild C)

Zum **Einsetzen** des Bediencomputers setzen Sie ihn um etwa 30° gedreht auf die Halterung **2** und drehen ihn im Uhrzeigersinn bis zum Anschlag fest.

Zum **Entnehmen** drehen Sie den Bediencomputer um etwa 30° gegen den Uhrzeigersinn und ziehen ihn aus der Halterung **2**.

- ▶ **Entnehmen Sie den Bediencomputer bei abgestelltem eBike, damit der Antrieb nicht durch unberechtigte Dritte benutzt werden kann.** Ohne Bediencomputer kann der Antrieb nicht eingeschaltet werden.

Geschwindigkeitssensor überprüfen (siehe Bild D)

Der Geschwindigkeitssensor **11** und der dazugehörige Speichenmagnet **12** müssen so montiert sein, dass sich der Speichenmagnet bei einer Umdrehung des Rades in einem Abstand von mindestens 5 mm und höchstens 17 mm am Geschwindigkeitssensor vorbeibewegt.

Hinweis: Ist der Abstand zwischen Geschwindigkeitssensor **11** und Speichenmagnet **12** zu klein oder zu groß, oder ist der Geschwindigkeitssensor **11** nicht richtig angeschlossen, fällt die Tachometeranzeige **a** aus, und der eBike-Antrieb arbeitet im Notlaufprogramm.

Lösen Sie in diesem Fall die Schraube des Speichenmagnets **12** und befestigen Sie den Speichenmagnet so an der Speiche, dass er in der richtigen Entfernung an der Markierung des Geschwindigkeitssensors vorbeiläuft. Erscheint auch danach keine Geschwindigkeit in der Tachometeranzeige **a**, wenden Sie sich bitte an einen autorisierten Fahrradhändler.

Betrieb

Inbetriebnahme

Voraussetzungen

Der Antrieb Ihres eBikes kann nur aktiviert werden, wenn folgende Voraussetzungen erfüllt sind:

- Eine ausreichend geladene Batterie ist eingesetzt (siehe Betriebsanleitung der Batterie).
- Der Bediencomputer ist richtig in die Halterung eingesetzt (siehe „Bediencomputer einsetzen und entnehmen“, Seite Deutsch-3).
- Der Geschwindigkeitssensor ist richtig angeschlossen (siehe „Geschwindigkeitssensor überprüfen“, Seite Deutsch-3).

Antrieb ein-/ausschalten

Setzen Sie die Batterie in die Halterung und schalten Sie sie an der Ein-Aus-Taste ein (siehe Betriebsanleitung der Batterie).

Hinweis: Die Pedale des eBikes dürfen beim Einschalten der Batterie nicht belastet sein, weil sonst die Leistung des Antriebs eingeschränkt wird.

Wurde die Batterie versehentlich mit belasteten Pedalen eingeschaltet, dann schalten Sie sie aus und ohne Belastung erneut ein.

Mit der Batterie wird gleichzeitig auch das Display des Bediencomputers eingeschaltet. Der Bediencomputer zeigt den Ladezustand der Batterie sowie die Einstellungen der Antriebseinheit an.

Der Antrieb wird aktiviert, sobald Sie in die Pedale treten (außer in der Funktion Anfahrhilfe, siehe „Anfahrhilfe ein-/ausschalten“, Seite Deutsch-5). Der Unterstützungsgrad richtet sich nach den Einstellungen am Bediencomputer.

Sobald Sie im Normalbetrieb aufhören, in die Pedale zu treten, oder sobald Sie eine Geschwindigkeit von 45 km/h erreicht haben, wird die Unterstützung durch den eBike-Antrieb abgeschaltet. Der Antrieb wird automatisch wieder aktiviert, sobald Sie in die Pedale treten und die Geschwindigkeit unter 45 km/h liegt.

Um den Antrieb auszuschalten, schalten Sie die Batterie an der Ein-Aus-Taste aus (siehe Betriebsanleitung der Batterie).

Wird etwa 10 min lang keine Leistung des Antriebs abgerufen (z.B., weil das eBike steht), schaltet sich die Batterie aus Energiespargründen automatisch ab.




Anzeigen und Einstellungen des Bediencomputers

Hinweis: Anzeigen und Einstellungen am Bediencomputer sind nur möglich, wenn die eBike-Batterie eingeschaltet ist. Der Bediencomputer besitzt keine eigene Stromversorgung.

Ladezustandsanzeige der Batterie

Außer an der Ladezustandsanzeige, die sich an der Batterie selbst befindet, kann der Ladezustand auch in der Anzeige **g** des Bediencomputers abgelesen werden.

In der Anzeige **g** entspricht jeder Balken im Batteriesymbol etwa 20 % Kapazität:

-  100 % bis 80 % Kapazität
-  20 % bis 5 % Kapazität, die Batterie sollte nachgeladen werden.
-  Weniger als 5 % Kapazität, die Unterstützung des Antriebs ist nicht mehr

möglich. Die LEDs der Ladezustandsanzeige an der Batterie erlöschen.

Wenn die eBike-Beleuchtung über die Batterie betrieben wird (länderspezifisch), dann reicht die Kapazität beim ersten Auftauchen des leeren Batteriesymbols noch für etwa 2 Stunden Beleuchtung. Wenn das Symbol zu blinken beginnt, ist auch die Beleuchtung nur noch für kurze Zeit möglich.

Unterstützungsmodus einstellen

Sie können am Bediencomputer einstellen, wie stark Sie der eBike-Antrieb beim Treten unterstützt.

Hinweis: In einzelnen Ausführungen ist es möglich, dass der Unterstützungsmodus voreingestellt ist und nicht geändert werden kann. Es ist auch möglich, dass weniger Modi zur Auswahl stehen als hier angegeben.

Maximal vier Unterstützungsmodi stehen zur Verfügung:

- ECO** „ECO“: wirksame Unterstützung bei maximaler Effizienz, für maximale Reichweite
- FOUR** „TOUR“: gleichmäßige Unterstützung, für Touren mit großer Reichweite

SPORT „SPORT“: kraftvolle Unterstützung, für sportives Fahren auf bergigen Strecken sowie für Stadtverkehr

SPEED „SPEED“: maximale Unterstützung bis in hohe Trittfrequenzen, für sportives Fahren

Zum **Wechsel des Unterstützungsmodus** drücken Sie die Taste „mode“ **4** so oft, bis der gewünschte Modus in der Anzeige **f** erscheint.

Während der Benutzung der Anfahrhilfe erlischt die Anzeige **f**, der eingestellte Unterstützungsmodus wird gespeichert.

Unterstützungsstufe einstellen

Im eingestellten Unterstützungsmodus können Sie jederzeit, auch während der Fahrt, die Unterstützungsstufe ändern.

Hinweis: In einzelnen Ausführungen ist es möglich, dass die Unterstützungsstufe voreingestellt ist und nicht geändert werden kann.

Maximal drei Unterstützungsstufen sowie das Abschalten der Unterstützung sind möglich.

Unterstützungsgrad* bei:	Unterstützungsstufe		
	„1“	„2“	„3“
„ECO“	30 %	60 %	100 %
„TOUR“	45 %	80 %	120 %
„SPORT“	70 %	140 %	180 %
„SPEED“	90 %	160 %	250 %

* Der Unterstützungsgrad kann bei einzelnen Ausführungen abweichen.

Zum **Erhöhen der Unterstützungsstufe** drücken Sie die Taste **▲ 6** so oft, bis die gewünschte Stufe in der Anzeige **c** erscheint.

Zum **Senken der Unterstützungsstufe** drücken Sie die Taste **▼ 7** so oft, bis die gewünschte Stufe in der Anzeige **c** erscheint.

Bei Unterstützungsstufe „0“ wird der Antrieb abgeschaltet. Das eBike kann wie ein normales Fahrrad allein durch Treten fortbewegt werden.

Während der Benutzung der Anfahrhilfe erlischt die Anzeige **c**, die eingestellte Unterstützungsstufe wird gespeichert.

Anfahrhilfe ein-/ausschalten

Die Anfahrhilfe kann als zusätzliche Unterstützung auf den ersten Metern dienen, wenn das Anfahren erschwert ist (wie z.B. an der Ampel oder am Berg). Sie kann auch als Schiebehilfe im kleinsten Gang genutzt werden.

- **Die Funktion Anfahrhilfe darf ausschließlich beim Anfahren bzw. Schieben des eBikes verwendet werden.** Haben die Räder des eBikes beim Benutzen der Anfahrhilfe keinen Bodenkontakt, besteht Verletzungsgefahr.

Zum **Einschalten** der Anfahrhilfe drücken Sie die Taste **▲ 6** länger als 1 s und halten sie gedrückt. Der Antrieb des eBikes wird eingeschaltet, die Anzeige **d** blinkt und die Anzeigen **c**, **e** und **f** erlöschen.

Die Anfahrhilfe wird **ausgeschaltet**, sobald ein beliebiger der folgenden Punkte eintritt:

- Sie lassen die Taste **▲ 6** los,
- Sie drücken eine andere Taste am Bediencomputer,
- Sie treten vorwärts oder schnell rückwärts in die Pedale,
- die Räder des eBikes werden blockiert (z.B. durch Bremsen oder Anstoßen an ein Hindernis),
- bei einer Geschwindigkeit von 16 km/h.

Beleuchtung ein-/ausschalten

Je nach länderspezifischen Vorschriften sind zwei Ausführungen der Beleuchtung möglich:

- Über den Bediencomputer können gleichzeitig Vorderlicht, Rücklicht und Displaybeleuchtung ein- und ausgeschaltet werden.
- Es kann nur die Displaybeleuchtung ein- und ausgeschaltet werden, Vorder- und Rücklicht des eBikes sind unabhängig vom Bediencomputer.

Bei beiden Ausführungen drücken Sie zum **Einschalten der Beleuchtung** die Taste „**light**“ **5**. Im Display erscheint die Beleuchtungsanzeige **b**.

Zum **Ausschalten der Beleuchtung** drücken Sie die Taste „**light**“ **5** erneut, die Beleuchtungsanzeige **b** erlischt.

Geschwindigkeits- und Entfernungsanzeigen

Hinweis: Je nach länderspezifischer Ausführung können Entfernung und Geschwindigkeit entweder in „**km**“ und „**km/h**“ oder in „**mi**“ und „**mph**“ angezeigt werden. Die Handhabung des Bediencomputers und die Auswahl der Anzeigemöglichkeiten sind für die Kilometer- und die Meilen-Version gleich.

In der **Tachometeranzeige a** wird immer die aktuelle Geschwindigkeit angezeigt.

In der **Multifunktionsanzeige e** stehen folgende Anzeigen zur Auswahl:

odo **0 1635** km

Gesamtdistanz „**odo**“: gesamte bisher mit dem eBike zurückgelegte Entfernung

trip **06850** km

Tagesdistanz „**trip**“: seit dem letzten Reset zurückgelegte Entfernung

avg **002 17** km/h

Durchschnittsgeschwindigkeit „**avg**“: seit dem letzten Reset erreichte Durchschnittsgeschwindigkeit

000 72 ^{range} km

Reichweite „**range**“: voraussichtliche Reichweite

der vorhandenen Batterieladung (bei gleichbleibenden Bedingungen wie Unterstützungsmodus, Unterstützungsstufe, Streckenprofil usw.)

Drücken Sie zum **Wechsel in der Multifunktionsanzeige** die Taste „**info/reset**“ **3** so oft, bis die gewünschte Funktion angezeigt wird.

Zum **Reset** von Tagesdistanz „**trip**“ und Durchschnittsgeschwindigkeit „**avg**“ wechseln Sie zu einer der beiden Anzeigen und drücken dann die Taste „**info/reset**“ **3** so lange, bis die Anzeige auf Null gesetzt ist.

Während der Benutzung der Anfahrhilfe erlischt die Multifunktionsanzeige **e**.

Anzeige Fehlercode

Die Komponenten des eBike-Antriebs werden ständig automatisch überprüft. Wird ein Fehler festgestellt, erscheint der entsprechende Fehlercode in der Anzeige **f**.

Abhängig von der Art des Fehlers wird der Antrieb gegebenenfalls automatisch abgeschaltet. Die Weiterfahrt ohne Unterstützung durch den Antrieb ist aber jederzeit möglich. Vor weiteren Fahrten sollte das eBike überprüft werden.

- **Lassen Sie alle Überprüfungen und Reparaturen ausschließlich von einem autorisierten Fahrradhändler ausführen.** Wird ein Fehler trotz Ihrer Abhilfe weiterhin angezeigt, wenden Sie sich ebenfalls an einen autorisierten Fahrradhändler.

Code	Ursache	Abhilfe
001	interner Fehler des Bediencomputers	Bediencomputer überprüfen lassen
002	Eine oder mehrere Tasten des Bediencomputers sind blockiert.	Prüfen Sie, ob Tasten verklemmt sind, z.B. durch eingedrungenen Schmutz. Reinigen Sie die Tasten gegebenenfalls.
003	Verbindungsproblem des Bediencomputers	Anschlüsse und Verbindungen überprüfen lassen
100	interner Fehler der Antriebseinheit	Antriebseinheit überprüfen lassen
101	Verbindungsproblem der Antriebseinheit	Anschlüsse und Verbindungen überprüfen lassen
102	Fehler des Geschwindigkeitssensors	Geschwindigkeitssensor überprüfen lassen
103*	Verbindungsproblem der Beleuchtung	Anschlüsse und Verbindungen überprüfen lassen
104	Verbindungsproblem des Bediencomputers	Anschlüsse und Verbindungen überprüfen lassen
105	Temperatur der Antriebseinheit zu hoch (über 40 °C)	Lassen Sie die Antriebseinheit abkühlen. Die Weiterfahrt ohne eBike-Antrieb ist möglich und beschleunigt die Abkühlung der Antriebseinheit.
200	interner Elektronikfehler der Batterie	Batterie überprüfen lassen
201	Temperatur der Batterie zu hoch (über 40 °C)	Lassen Sie die Batterie abkühlen. Die Weiterfahrt ohne eBike-Antrieb ist möglich und beschleunigt die Abkühlung der Batterie.
202	Temperatur der Batterie zu niedrig (unter -10 °C)	Lassen Sie die Batterie in einem warmen Raum langsam aufwärmen.
203	Verbindungsproblem der Batterie	Anschlüsse und Verbindungen überprüfen lassen
204	falsche Batteriepolung	Laden Sie die Batterie mit dem original Bosch Ladegerät wie in dessen Betriebsanleitung beschrieben auf.

* nur bei eBike-Beleuchtung über die Batterie (länderspezifisch)

Hinweise zum Fahren mit dem eBike-Antrieb

Wann arbeitet der eBike-Antrieb?

Der eBike-Antrieb unterstützt Sie beim Fahren, solange Sie in die Pedale treten. Ohne Pedaltreten erfolgt keine Unterstützung. Der Unterstützungsgrad ist immer abhängig von der von Ihnen beim Treten eingesetzten Kraft.

Setzen Sie wenig Kraft ein, wird die Unterstützung geringer sein, als wenn Sie viel Kraft einsetzen. Das gilt unabhängig von Unterstützungsmodus und -stufe.

Der eBike-Antrieb schaltet sich automatisch bei Geschwindigkeiten über 45 km/h ab. Fällt die Geschwindigkeit unter 45 km/h, steht der Antrieb automatisch wieder zur Verfügung.

Eine Ausnahme gilt für die Funktion Anfahrhilfe, in der das eBike ohne Pedaltreten mit geringer Geschwindigkeit gefahren werden kann.

Sie können das eBike jederzeit auch ohne Unterstützung wie ein normales Fahrrad fahren, indem Sie entweder die Batterie ausschalten oder die Unterstützungsstufe auf „0“ stellen. Das Gleiche gilt bei leerer Batterie.

Zusammenspiel des eBike-Antriebs mit der Schaltung

Auch mit eBike-Antrieb sollten Sie die Schaltung wie bei einem normalen Fahrrad benutzen (beachten Sie dazu die Betriebsanleitung Ihres eBikes).

Unabhängig von der Art der Schaltung ist es ratsam, während des Schaltvorganges das Treten kurz zu unterbrechen. Dadurch wird das Schalten erleichtert und die Abnutzung des Antriebsstranges reduziert.

Durch die Wahl des richtigen Ganges können Sie bei gleichem Krafteinsatz die Geschwindigkeit und die Reichweite erhöhen.

Erste Erfahrungen sammeln

Es ist empfehlenswert, die ersten Erfahrungen mit dem eBike abseits vielbefahrener Straßen zu sammeln.

Probieren Sie unterschiedliche Unterstützungsmodi und Unterstützungsstufen aus. Sobald Sie sich sicher fühlen, können Sie mit dem eBike wie mit jedem Fahrrad am Verkehr teilnehmen.

Testen Sie die Reichweite Ihres eBikes unter unterschiedlichen Bedingungen, bevor Sie längere, anspruchsvolle Fahrten planen.

Einflüsse auf die Reichweite

Mit voll geladener Batterie und sparsamer Fahrweise ist eine Reichweite bis zu 105 km möglich.

Die Reichweite wird jedoch von vielen Faktoren beeinflusst, wie zum Beispiel:

- Unterstützungsmodus und -stufe,
- Schaltverhalten,
- Art der Reifen und Reifendruck,
- Alter und Pflegezustand der Batterie,
- Streckenprofil (Steigungen) und -beschaffenheit (Fahrbahnbelag),
- Gegenwind und Umgebungstemperatur,
- Gewicht von eBike, Fahrer und Gepäck.

Deshalb ist es nicht möglich, die Reichweite vor Antritt einer Fahrt konkret vorherzusagen. Allgemein gilt jedoch:

- Bei **gleichem** Unterstützungsgrad durch den eBike-Antrieb: Umso weniger Kraft Sie einsetzen müssen, um eine bestimmte Geschwindigkeit zu erreichen (z.B. durch optimales Benutzen der Schaltung), umso weniger Energie wird der eBike-Antrieb verbrauchen und umso größer wird die Reichweite einer Batterieladung sein.
- Umso **höher** der Unterstützungsgrad (Unterstützungsmodus und -stufe) bei ansonsten gleichen Bedingungen gewählt wird, umso geringer ist die Reichweite.

Pfleglicher Umgang mit dem eBike

Beachten Sie die Betriebs- und Lagertemperaturen der eBike-Komponenten. Schützen Sie Antriebseinheit, Bediencomputer und Batterie vor extremen Temperaturen (z.B. durch intensive Sonneneinstrahlung ohne gleichzeitige Belüftung). Die Komponenten (besonders die Batterie) können durch extreme Temperaturen beschädigt werden.

Wartung und Service

Wartung und Reinigung

Halten Sie alle Komponenten Ihres eBikes sauber, insbesondere die Kontakte von Batterie und dazugehöriger Halterung. Reinigen Sie sie vorsichtig mit einem feuchten, weichen Tuch.

Alle Komponenten inklusive der Antriebseinheit dürfen nicht ins Wasser getaucht oder mit einem Hochdruckreiniger gereinigt werden.

Für Service oder Reparaturen am eBike wenden Sie sich bitte an einen autorisierten Fahrradhändler.

Kundendienst und Kundenberatung

Bei allen Fragen zum eBike-Antrieb und seinen Komponenten wenden Sie sich an einen autorisierten Fahrradhändler.

Kontaktdaten autorisierter Fahrradhändler finden Sie auf der Internetseite www.bosch-ebike.com

Transport

Die Batterien unterliegen den Anforderungen des Gefahrgutrechts. Die Batterien können durch den privaten Benutzer ohne weitere Auflagen auf der Straße transportiert werden.

Beim Transport durch gewerbliche Benutzer oder beim Transport durch Dritte (z.B. Lufttransport oder Spedition) sind besondere Anforderungen an Verpackung und Kennzeichnung zu beachten (z.B. Vorschriften des ADR). Bei Bedarf kann bei der Vorbereitung des Versandstückes ein Gefahrgut-Experte hinzugezogen werden.

Versenden Sie die Batterien nur, wenn das Gehäuse unbeschädigt ist. Kleben Sie offene Kontakte ab und verpacken Sie die Batterie so, dass sie sich nicht in der Verpackung bewegt. Bitte beachten Sie auch eventuelle weiterführende nationale Vorschriften.

Bei Fragen zum Transport der Batterien wenden Sie sich an einen autorisierten Fahrradhändler. Beim Händler können Sie auch eine geeignete Transportverpackung bestellen.

Entsorgung



Antriebseinheit, Bediencomputer, Batterie, Geschwindigkeitssensor, Zubehör und Verpackungen sollen einer umweltgerechten Wiederverwertung zugeführt werden.

Werfen Sie eBikes und ihre Komponenten nicht in den Hausmüll!

Nur für EU-Länder:



Gemäß der europäischen Richtlinie 2002/96/EG müssen nicht mehr gebrauchsfähige Elektrogeräte und gemäß der europäischen Richtlinie 2006/66/EG müssen defekte oder verbrauchte Akkus/Batterien getrennt gesammelt und einer umweltgerechten Wiederverwertung zugeführt werden.

Geben Sie nicht mehr gebrauchsfähige Batterien bitte bei einem autorisierten Fahrradhändler ab.



Li-Ion:

Bitte beachten Sie die Hinweise im Abschnitt „Transport“, Seite Deutsch-8.

Änderungen vorbehalten.

Li-Ionen-Batterie Battery Pack

Sicherheitshinweise



Lesen Sie alle Sicherheitshinweise und Anweisungen. Versäumnisse bei der Einhaltung der Sicherheitshinweise und Anweisungen können elektrischen Schlag, Brand und/oder schwere Verletzungen verursachen.

Bewahren Sie alle Sicherheitshinweise und Anweisungen für die Zukunft auf.

Der in dieser Betriebsanleitung verwendete Begriff „Batterie“ bezieht sich gleichermaßen auf Standard-Batterien (Batterien mit Halterung am Fahrradrahmen) und Gepäckträger-Batterien (Batterien mit Halterung unter dem Gepäckträger), es sei denn, es wird ausdrücklich auf die Bauform Bezug genommen.

- ▶ **Nehmen Sie die Batterie aus dem eBike, bevor Sie Arbeiten (z.B. Montage, Wartung etc.) am eBike beginnen, es mit dem Auto oder dem Flugzeug transportieren oder es aufbewahren.** Bei unbeabsichtigtem Betätigen des Ein-/Ausschalters besteht Verletzungsgefahr.
- ▶ **Öffnen Sie die Batterie nicht.** Es besteht die Gefahr eines Kurzschlusses. Bei geöffneter Batterie entfällt jeglicher Anspruch auf Garantie durch Bosch.



Schützen Sie die Batterie vor Hitze (z.B. auch vor dauernder Sonneneinstrahlung), Feuer und das Eintauchen in Wasser. Es besteht Explosionsgefahr.

- ▶ **Halten Sie die nicht benutzte Batterie fern von Büroklammern, Münzen, Schlüsseln, Nägeln, Schrauben oder anderen kleinen Metallgegenständen, die eine Überbrückung der Kontakte verursachen könnten.** Ein Kurzschluss zwischen den Batteriekontakten kann Verbrennungen oder Feuer zur Folge haben. Bei in diesem Zusammenhang entstandenen Kurzschlusschäden entfällt jeglicher Anspruch auf Garantie durch Bosch.

- ▶ **Bei falscher Anwendung kann Flüssigkeit aus der Batterie austreten. Vermeiden Sie den Kontakt damit. Bei zufälligem Kontakt mit Wasser abspülen. Wenn die Flüssigkeit in die Augen kommt, nehmen Sie zusätzlich ärztliche Hilfe in Anspruch.** Austretende Batterieflüssigkeit kann zu Hautreizungen oder Verbrennungen führen.
- ▶ **Bei Beschädigung und unsachgemäßem Gebrauch der Batterie können Dämpfe austreten. Führen Sie Frischluft zu und suchen Sie bei Beschwerden einen Arzt auf.** Die Dämpfe können die Atemwege reizen.
- ▶ **Laden Sie die Batterie nur mit Ladegeräten auf, die vom Hersteller empfohlen werden.** Für ein Ladegerät, das für eine bestimmte Art von Batterien geeignet ist, besteht Brandgefahr, wenn es mit anderen Batterien verwendet wird.
- ▶ **Verwenden Sie die Batterie nur in Verbindung mit eBikes, für die sie vom Hersteller empfohlen wird.** Nur so wird die Batterie vor gefährlicher Überlastung geschützt.
- ▶ **Verwenden Sie nur original Bosch Batterien, die vom Hersteller für Ihr eBike zugelassen wurden.** Der Gebrauch anderer Batterien kann zu Verletzungen und Brandgefahr führen. Bei Gebrauch anderer Batterien übernimmt Bosch keine Haftung und Gewährleistung.
- ▶ **Lesen und beachten Sie die Sicherheitshinweise und Anweisungen in den Betriebsanleitungen von Ladegerät und Antriebseinheit/Bediencomputer sowie in der Betriebsanleitung Ihres eBikes.**

Produkt- und Leistungsbeschreibung

Abgebildete Komponenten (siehe Seite 4-5)

Die Nummerierung der abgebildeten Komponenten bezieht sich auf die Darstellungen auf den Grafikseiten.

Alle Darstellungen von Fahrradteilen außer den Batterien und ihren Halterungen sind schematisch und können bei Ihrem eBike abweichen.

- 13** Halterung der Gepäckträger-Batterie
- 14** Gepäckträger-Batterie
- 15** Betriebs- und Ladezustandsanzeige
- 16** Ein-Aus-Taste
- 17** Schlüssel des Batterieschlusses
- 18** Batterieschloss
- 19** Obere Halterung der Standard-Batterie
- 20** Standard-Batterie
- 21** Untere Halterung der Standard-Batterie
- 22** Tragegurt
- 23** Ladegerät

Technische Daten

Li-Ionen-Batterie	Battery Pack	
Sachnummer		
– Standard-Batterie schwarz	1 270 020 500/	
– Standard-Batterie weiß	1 270 020 501/	
– Standard-Batterie silber	1 270 020 502/	
– Gepäckträger-Batterie	1 270 020 503/	
	1 270 020 507	
Nennspannung	V=	36
Nennkapazität	Ah	8
Energie	Wh	288
Betriebstemperatur	°C	–10...+40
Lagertemperatur	°C	–10...+60
Zulässiger Lade-temperaturbereich	°C	0...+40
Gewicht	kg	2,5
Schutzart		IP 54 (staub- und spritzwassergeschützt)

Montage

- ▶ **Stellen Sie die Batterie nur auf sauberen Flächen auf.** Vermeiden Sie insbesondere die Verschmutzung der Ladebuchse und der Kontakte, z. B. durch Sand oder Erde.

Batterie vor der ersten Benutzung prüfen

Prüfen Sie die Batterie, bevor Sie sie das erste Mal aufladen oder mit Ihrem eBike benutzen.

Drücken Sie dazu die Ein-Aus-Taste **16** zum Einschalten der Batterie. Leuchtet keine LED der Ladezustandsanzeige **15** auf, dann ist die Batterie möglicherweise beschädigt.

Leuchtet mindestens eine, aber nicht alle LEDs der Ladezustandsanzeige **15**, dann laden Sie die Batterie vor der ersten Benutzung voll auf.

- ▶ **Laden Sie eine beschädigte Batterie nicht auf und benutzen Sie sie nicht.** Wenden Sie sich an einen autorisierten Fahrradhändler.

Batterie laden

- ▶ **Benutzen Sie nur das auf der Grafikkarte aufgeführte Ladegerät.** Nur dieses Ladegerät ist auf die bei Ihrem eBike verwendete Lithium-Batterie abgestimmt.

Hinweis: Die Batterie wird teilgeladen ausgeliefert. Um die volle Leistung der Batterie zu gewährleisten, laden Sie sie vor dem ersten Einsatz vollständig mit dem Ladegerät auf.

Die Batterie muss zum Laden aus dem eBike entnommen werden.

Lesen und beachten Sie zum Laden der Batterie die Betriebsanleitung des Ladegerätes.

Die Batterie kann jederzeit aufgeladen werden, ohne die Lebensdauer zu verkürzen. Eine Unterbrechung des Ladevorganges schädigt die Batterie nicht.

Die Batterie ist mit einer Temperaturüberwachung ausgestattet, welche ein Aufladen nur im Temperaturbereich zwischen 0 °C und 40 °C zulässt. Dadurch wird eine hohe Lebensdauer der Batterie erreicht.

Ladezustandsanzeige

Die fünf grünen LEDs der Ladezustandsanzeige **15** zeigen bei eingeschalteter Batterie den Ladezustand der Batterie an.

Dabei entspricht jede LED etwa 20 % Kapazität. Bei vollständig geladener Batterie leuchten alle fünf LEDs.

Der Ladezustand der eingeschalteten Batterie wird außerdem im Bediencomputer angezeigt. Lesen und beachten Sie dazu die Betriebsanleitung von Antriebseinheit und Bediencomputer.

Liegt die Kapazität der Batterie unter 5 %, erlöschen alle LEDs der Ladezustandsanzeige **15** an der Batterie, es gibt aber noch eine Anzeige im Bediencomputer.

Batterie einsetzen und entnehmen (siehe Bilder E-F)

- ▶ **Schalten Sie die Batterie immer aus, wenn Sie sie in die Halterung einsetzen oder aus der Halterung entnehmen. Beachten Sie bei eingesetzter, aber leerer Batterie dazu auch die Anzeige im Bediencomputer.** Die Batterie kann sonst beschädigt werden.

Damit die Batterie eingesetzt werden kann, muss der Schlüssel **17** im Schloss **18** stecken und das Schloss muss aufgeschlossen sein.

Zum **Einsetzen der Standard-Batterie 20** setzen Sie sie mit den Kontakten auf die untere Halterung **21** am eBike. Kippen Sie sie bis zum Anschlag in die obere Halterung **19**.

Zum **Einsetzen der Gepäckträger-Batterie 14** schieben Sie sie mit den Kontakten voran bis zum Einrasten in die Halterung **13** am Gepäckträger.

Prüfen Sie, ob die Batterie fest sitzt. Schließen Sie die Batterie immer am Schloss **18** ab, weil sich sonst das Schloss öffnen und die Batterie aus der Halterung fallen kann.

Ziehen Sie den Schlüssel **17** nach dem Abschließen immer aus dem Schloss **18**. Damit verhindern Sie, dass der Schlüssel herausfällt bzw. dass die Batterie bei abgestelltem eBike durch unberechtigte Dritte entnommen wird.

Zum **Entnehmen der Standard-Batterie 20** schalten Sie sie aus und schließen das Schloss mit dem Schlüssel **17** auf. Kippen Sie die Batterie aus der oberen Halterung **19** und ziehen Sie sie am Tragegurt **22** aus der unteren Halterung **21**.

Zum **Entnehmen der Gepäckträger-Batterie 14** schalten Sie sie aus und schließen das Schloss mit dem Schlüssel **17** auf. Ziehen Sie die Batterie aus der Halterung **13**.

Betrieb

Inbetriebnahme

► **Verwenden Sie nur original Bosch Batterien, die vom Hersteller für Ihr eBike zugelassen wurden.** Der Gebrauch anderer Batterien kann zu Verletzungen und Brandgefahr führen. Bei Gebrauch anderer Batterien übernimmt Bosch keine Haftung und Gewährleistung.

Ein-/Ausschalten

Überprüfen Sie vor dem Einschalten der Batterie, dass das Schloss **18** abgeschlossen ist.

Hinweis: Die Pedale des eBikes dürfen beim Einschalten der Batterie nicht belastet sein, weil sonst die Leistung des Antriebs eingeschränkt wird.

Zum **Einschalten** der Batterie drücken Sie die Ein-Aus-Taste **16**. Die LEDs der Anzeige **15** leuchten auf und zeigen gleichzeitig den Ladezustand an.

Hinweis: Liegt die Kapazität der Batterie unter 5 %, leuchtet an der Batterie keine LED der Ladezustandsanzeige **15**. Es ist nur am Bediencomputer erkennbar, ob die Batterie eingeschaltet ist.

Das Einschalten der Batterie ist eine der Voraussetzungen für die Inbetriebnahme des eBike-Antriebs. Lesen und beachten Sie dazu die Betriebsanleitung von Antriebseinheit und Bediencomputer.

Zum **Ausschalten** der Batterie drücken Sie die Ein-Aus-Taste **16** erneut. Die LEDs der Anzeige **15** erlöschen. Der eBike-Antrieb wird damit ebenfalls ausgeschaltet.

Wird etwa 10 min lang keine Leistung des Antriebs abgerufen (z. B., weil das eBike steht), schaltet sich die Batterie aus Energiespargründen automatisch ab.

Die Batterie ist durch die „Electronic Cell Protection (ECP)“ gegen Tiefentladung, Überladung, Überhitzung und Kurzschluss geschützt. Bei Gefährdung schaltet sich die Batterie durch eine Schutzschaltung automatisch ab.

Hinweise für den optimalen Umgang mit der Batterie

Für die Batterie werden mindestens 500 Voll-ladezyklen garantiert.

Die Lebensdauer der Batterie kann verlängert werden, wenn sie gut gepflegt und vor allem bei den richtigen Temperaturen betrieben und geladert wird. Empfohlen werden Betriebstemperaturen zwischen +5 °C und +35 °C.

Mit zunehmender Alterung wird sich die Kapazität der Batterie aber auch bei guter Pflege verringern.

Eine wesentlich verkürzte Betriebszeit nach der Aufladung zeigt an, dass die Batterie verbraucht ist und ersetzt werden muss.

Sollte sich der Tragegurt **22** der Standard-Batterie weiten, dann lassen Sie ihn von einem Fahrradhändler austauschen.

Batterie vor und während der Lagerung nachladen

Laden Sie die Batterie vor längerer Nichtbenutzung auf etwa 60 % auf (3 bis 4 LEDs der Ladezustandsanzeige **15** leuchten).

Prüfen Sie nach 6 Monaten den Ladezustand. Leuchtet nur noch eine LED der Ladezustandsanzeige **15**, dann laden Sie die Batterie wieder auf etwa 60 % auf.

Hinweis: Wird die Batterie längere Zeit in leerem Zustand aufbewahrt, kann sie trotz der geringen Selbstentladung beschädigt und die Speicherkapazität stark verringert werden.

Es ist nicht empfehlenswert, die Batterie dauerhaft am Ladegerät angeschlossen zu lassen.

Lagerungsbedingungen

Lagern Sie die Batterie möglichst an einem trockenen, gut belüfteten Platz. Schützen Sie sie vor Feuchtigkeit und Wasser. Bei ungünstigen Witterungsbedingungen ist es z. B. empfehlenswert, die Batterie vom eBike abzunehmen und bis zum nächsten Einsatz in geschlossenen Räumen aufzubewahren.

Die Batterie kann bei Temperaturen von $-10\text{ }^{\circ}\text{C}$ bis $+60\text{ }^{\circ}\text{C}$ gelagert werden. Für eine lange Lebensdauer ist jedoch eine Lagerung bei ca. $20\text{ }^{\circ}\text{C}$ Raumtemperatur vorteilhaft.

Achten Sie darauf, dass die maximale Lagertemperatur nicht überschritten wird. Lassen Sie die Batterie z. B. im Sommer nicht im Auto liegen und lagern Sie sie außerhalb direkter Sonneneinstrahlung.

Wartung und Service

Wartung und Reinigung

Halten Sie die Batterie sauber. Reinigen Sie sie vorsichtig mit einem feuchten, weichen Tuch. Die Batterie darf nicht ins Wasser getaucht oder mit Wasserstrahl gereinigt werden.

Ist die Batterie nicht mehr funktionsfähig, wenden Sie sich bitte an einen autorisierten Fahrradhändler.

Kundendienst und Kundenberatung

Bei allen Fragen zu den Batterien wenden Sie sich an einen autorisierten Fahrradhändler.

- **Notieren Sie sich die Nummer auf dem Schlüssel 17.** Bei Verlust der Schlüssel wenden Sie sich an einen autorisierten Fahrradhändler. Geben Sie dabei die Schlüsselnummer an.

Kontaktdaten autorisierter Fahrradhändler finden Sie auf der Internetseite www.bosch-ebike.com

Transport

Die Batterien unterliegen den Anforderungen des Gefahrgutrechts. Die Batterien können durch den privaten Benutzer ohne weitere Auflagen auf der Straße transportiert werden.

Beim Transport durch gewerbliche Benutzer oder beim Transport durch Dritte (z. B. Lufttransport oder Spedition) sind besondere Anforderungen an Verpackung und Kennzeichnung zu beachten (z. B. Vorschriften des ADR). Bei Bedarf kann bei der Vorbereitung des Versandstückes ein Gefahrgut-Experte hinzugezogen werden.

Versenden Sie die Batterien nur, wenn das Gehäuse unbeschädigt ist. Kleben Sie offene Kontakte ab und verpacken Sie die Batterie so, dass sie sich nicht in der Verpackung bewegt. Bitte beachten Sie auch eventuelle weiterführende nationale Vorschriften.

Bei Fragen zum Transport der Batterien wenden Sie sich an einen autorisierten Fahrradhändler. Beim Händler können Sie auch eine geeignete Transportverpackung bestellen.

Entsorgung



Batterien, Zubehör und Verpackungen sollen einer umweltgerechten Wiederverwertung zugeführt werden.

Werfen Sie die Batterien nicht in den Hausmüll!

Nur für EU-Länder:



Gemäß der europäischen Richtlinie 2002/96/EG müssen nicht mehr gebrauchsfähige Elektrogeräte und gemäß der europäischen Richtlinie 2006/66/EG müssen defekte oder verbrauchte Akkus/Batterien getrennt gesammelt und einer umweltgerechten Wiederverwertung zugeführt werden.

Geben Sie nicht mehr gebrauchsfähige Batterien bitte bei einem autorisierten Fahrradhändler ab.



Li-Ion:

Bitte beachten Sie die Hinweise im Abschnitt „Transport“, Seite Deutsch-13.

Änderungen vorbehalten.

Ladegerät Charger

Sicherheitshinweise



Lesen Sie alle Sicherheitshinweise und Anweisungen. Versäumnisse bei der Einhaltung der Sicherheitshinweise und Anweisungen können elektrischen Schlag, Brand und/oder schwere Verletzungen verursachen.

Bewahren Sie alle Sicherheitshinweise und Anweisungen für die Zukunft auf.

Der in dieser Betriebsanleitung verwendete Begriff „Batterie“ bezieht sich gleichermaßen auf Standard-Batterien (Batterien mit Halterung am Fahrradrahmen) und Gepäckträger-Batterien (Batterien mit Halterung unter dem Gepäckträger).



Halten Sie das Ladegerät von Regen oder Nässe fern. Beim Eindringen von Wasser in ein Ladegerät besteht das Risiko eines elektrischen Schlages.

- ▶ **Laden Sie nur für eBikes zugelassene Bosch Li-Ionen-Batterien mit den in den technischen Daten angegebenen Spannungen.** Ansonsten besteht Brand- und Explosionsgefahr.
- ▶ **Halten Sie das Ladegerät sauber.** Durch Verschmutzung besteht die Gefahr eines elektrischen Schlages.
- ▶ **Überprüfen Sie vor jeder Benutzung Ladegerät, Kabel und Stecker. Benutzen Sie das Ladegerät nicht, sofern Sie Schäden feststellen. Öffnen Sie das Ladegerät nicht selbst und lassen Sie es nur von qualifiziertem Fachpersonal und nur mit Original-Ersatzteilen reparieren.** Beschädigte Ladegeräte, Kabel und Stecker erhöhen das Risiko eines elektrischen Schlages.
- ▶ **Betreiben Sie das Ladegerät nicht auf leicht brennbarem Untergrund (z. B. Papier, Textilien etc.) bzw. in brennbarer Umgebung.** Wegen der beim Laden auftretenden Erwärmung des Ladegerätes besteht Brandgefahr.
- ▶ **Bei Beschädigung und unsachgemäßem Gebrauch der Batterie können Dämpfe austreten. Führen Sie Frischluft zu und suchen Sie bei Beschwerden einen Arzt auf.** Die Dämpfe können die Atemwege reizen.
- ▶ **Beaufsichtigen Sie Kinder.** Damit wird sichergestellt, dass Kinder nicht mit dem Ladegerät spielen.
- ▶ **Kinder und Personen, die aufgrund ihrer physischen, sensorischen oder geistigen Fähigkeiten oder ihrer Unerfahrenheit oder Unkenntnis nicht in der Lage sind, das Ladegerät sicher zu bedienen, dürfen dieses Ladegerät nicht ohne Aufsicht oder Anweisung durch eine verantwortliche Person benutzen.** Andernfalls besteht die Gefahr von Fehlbedienung und Verletzungen.
- ▶ **Schließen Sie das Ladegerät an ein ordnungsgemäß geerdetes Stromnetz an.** Steckdose und Verlängerungskabel müssen einen funktionsfähigen Schutzleiter besitzen.
- ▶ **Lesen und beachten Sie die Sicherheitshinweise und Anweisungen in den Betriebsanleitungen von Batterie und Antriebseinheit/Bediencomputer sowie in der Betriebsanleitung Ihres eBikes.**
- ▶ Auf der Unterseite des Ladegerätes befindet sich eine Kurzfassung wichtiger Sicherheitshinweise in englischer, französischer und spanischer Sprache (in der Darstellung auf der Grafikseite mit Nummer **28** gekennzeichnet) und mit folgendem Inhalt:
 - Für eine sichere Benutzung beachten Sie die Betriebsanleitung. Risiko eines elektrischen Schocks.
 - Nur in trockener Umgebung benutzen.
 - Laden Sie nur wiederaufladbare Batterien eBat100-199 auf. Andere Batterien können explodieren und Verletzungen verursachen.
 - Ersetzen Sie das Netzkabel nicht. Es besteht Brand- und Explosionsgefahr.

Produkt- und Leistungsbeschreibung

Technische Daten

Ladegerät		Charger
Sachnummer		0 275 007 900
Nennspannung	V $\overline{\text{~}}$	115/230
Frequenz	Hz	50/60
Batterie-Lade- spannung	V=	36
Ladestrom		
– Normalladebetrieb	A	4
– Lautlosladebetrieb	A	1
Zulässiger Ladetem- peraturbereich	°C	0...+40
Ladezeit (bei 8 Ah Batterie-Kapazität) ca.		
– Normalladebetrieb	h	2,5
– Lautlosladebetrieb	h	8
Anzahl der Akkuzellen		10–80
Gewicht entspre- chend EPTA-Proce- dure 01/2003	kg	0,8
Schutzklasse		⊕/I

Die Angaben gelten für eine Nennspannung [U] von 230 V. Bei abweichenden Spannungen und in länderspezifischen Ausführungen können diese Angaben variieren.

Abgebildete Komponenten (siehe Seite 6–7)

Die Nummerierung der abgebildeten Komponenten bezieht sich auf die Darstellung des Ladegerätes auf der Grafikkarte.

- 14 Gepäckträger-Batterie
- 15 Batterie-Ladezustandsanzeige
- 20 Standard-Batterie
- 23 Ladegerät
- 24 Lüftungsöffnungen
- 25 Gerätebuchse

- 26 Wahlschalter Netzspannung
- 27 Gerätestecker
- 28 Sicherheitshinweise Ladegerät
- 29 Taste Ladebetrieb
- 30 Betriebsanzeige
- 31 Ladestecker
- 32 Buchse für Ladestecker

Betrieb

- ▶ **Stellen Sie die Batterie nur auf sauberen Flächen auf.** Vermeiden Sie insbesondere die Verschmutzung der Ladebuchse und der Kontakte, z.B. durch Sand oder Erde.

Inbetriebnahme

Ladegerät anschließen (siehe Bilder G–H)

Stellen Sie am Netzspannungsschalter **26** des Ladegerätes die Spannung Ihrer Stromquelle ein. Sie können zwischen 115 V und 230 V wählen.

- ▶ **Beachten Sie die Netzspannung!** Die Spannung der Stromquelle muss mit den Angaben auf dem Typenschild des Ladegerätes übereinstimmen. Mit 230 V gekennzeichnete Ladegeräte können auch an 220 V betrieben werden.

Stecken Sie dann den Gerätestecker **27** des Netzkabels in die Gerätebuchse **25** am Ladegerät.

Schließen Sie das Netzkabel (länderspezifisch) an das Stromnetz an. Die Betriebsanzeige **30** am Ladegerät leuchtet auf.

- ▶ **Verbinden Sie das Ladegerät erst mit dem Stromnetz, wenn am Netzspannungsschalter 26 die richtige Netzspannung eingestellt ist.** Das Ladegerät kann sonst beschädigt werden.

Schalten Sie die Batterie aus und entnehmen Sie sie aus der Halterung am eBike. Lesen und beachten Sie dazu die Betriebsanleitung der Batterie.

Stecken Sie den Ladestecker **31** des Ladegerätes in die Buchse **32** an der Batterie. Die Betriebsanzeige **30** am Ladegerät blinkt.

Ladevorgang

Der Ladevorgang beginnt, sobald das Ladegerät mit der Batterie und dem Stromnetz verbunden ist.

Hinweis: Der Ladevorgang ist nur möglich, wenn sich die Temperatur der Batterie im zulässigen Ladetemperaturbereich befindet.

Sie können zwischen zwei Ladebetriebsarten wählen: Normalladebetrieb „**FAST**“ und Lautlosladebetrieb „**SLOW**“. In der Betriebsart „**SLOW**“ erfolgt das Laden geräuschlos.

Ladebetrieb	Normalladebetrieb „ FAST “	Lautlosladebetrieb „ SLOW “
Ladestrom	4 A	1 A
Betriebsanzeige 30	blinkt	leuchtet dauerhaft
Lüftung Ladegerät	ein	aus

Bei Inbetriebnahme des Ladegerätes ist Normalladebetrieb voreingestellt. Zum Wechsel der Ladebetriebsart drücken Sie die Taste **29**.

► **Seien Sie vorsichtig, wenn Sie das Ladegerät während des Ladevorgangs berühren. Tragen Sie Schutzhandschuhe.** Das Ladegerät kann sich insbesondere bei Normalladebetrieb und hohen Umgebungstemperaturen stark erhitzen.

Hinweis: Achten Sie darauf, dass das Ladegerät während des Ladevorgangs gut belüftet ist und die Lüftungsöffnungen **24** auf beiden Seiten nicht verdeckt sind.

Während des Ladevorgangs leuchten die LEDs der Ladezustandsanzeige **15** an der Batterie. Jede dauerhaft leuchtende LED entspricht etwa 20 % Kapazität Aufladung. Die blinkende LED zeigt die Aufladung der nächsten 20 % an.

Die Batterie ist vollständig geladen, wenn alle fünf LEDs der Anzeige **15** dauerhaft leuchten. Der Ladevorgang wird automatisch unterbrochen.

Trennen Sie das Ladegerät vom Stromnetz und die Batterie vom Ladegerät.

Beim Trennen der Batterie vom Ladegerät wird die Batterie automatisch abgeschaltet.

Sie können die Batterie jetzt in das eBike einsetzen.

Fehler - Ursachen und Abhilfe

Ursache	Abhilfe
Betriebsanzeige 30 leuchtet nicht, kein Ladevorgang möglich	
falsche Netzspannung am Schalter 26 ausgewählt	richtige Netzspannung wählen
Stecker nicht richtig eingesteckt	alle Steckverbindungen überprüfen
Kontakte an der Batterie verschmutzt	Kontakte an der Batterie vorsichtig reinigen
Batterie zu warm oder zu kalt	Batterie austemperieren lassen, bis der Ladetemperaturbereich erreicht ist
Lüftungsöffnungen 24 des Ladegerätes verstopft oder verdeckt	Lüftungsöffnungen 24 reinigen und Ladegerät gut belüftet aufstellen
Steckdose, Kabel oder Ladegerät defekt	Netzspannung überprüfen, Ladegerät vom Fahrradhändler überprüfen lassen
Batterie defekt	Batterie ersetzen

Wartung und Service

Wartung und Reinigung

Sorgen Sie dafür, dass die Lüftungsöffnungen **24** am Ladegerät während des Gebrauchs frei und sauber sind. Reinigen Sie die Lüftungsöffnungen bei Bedarf mit einem Staubsauger.

Sollte das Ladegerät ausfallen, wenden Sie sich bitte an einen autorisierten Fahrradhändler.

Kundendienst und Kundenberatung

Bei allen Fragen zum Ladegerät wenden Sie sich an einen autorisierten Fahrradhändler.

Kontaktdaten autorisierter Fahrradhändler finden Sie auf der Internetseite

www.bosch-ebike.com

Entsorgung

Ladegeräte, Zubehör und Verpackungen sollen einer umweltgerechten Wiederverwertung zugeführt werden.

Werfen Sie Ladegeräte nicht in den Hausmüll!

Nur für EU-Länder:



Gemäß der Europäischen Richtlinie 2002/96/EG über Elektro- und Elektronik-Altgeräte und ihrer Umsetzung in nationales Recht müssen nicht mehr gebrauchsfähige Ladegeräte getrennt gesammelt und einer umweltgerechten Wiederverwertung zugeführt werden.

Änderungen vorbehalten.

Drive HMI/Drive Unit 45

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” used in these operating instructions refers both to standard batteries (batteries with holder on the bike frame) and to rear rack batteries (batteries with holder under the rear rack).

- ▶ **Do not open the drive unit yourself. The drive unit is maintenance-free and may be repaired only through a qualified repair person and only using original spare parts.** This will ensure that the safety of the drive unit is maintained. Unauthorised opening of the drive unit will void any and all warranty claims.
- ▶ **All components mounted to the drive unit and all other components of the eBike drive (e.g., the chainwheel, chainwheel seat, pedals) may be replaced only against identical components or components specifically approved for your eBike by the bicycle manufacturer.** This protects the drive unit against overload and damage.
- ▶ **Remove the battery from the eBike before working on the eBike (e.g., assembling, maintenance, etc.), transporting it via car or plane or storing it.** Danger of injury when accidentally actuating the On/Off switch.
- ▶ **The start-assistance function may only be used when starting or pushing the eBike.** Danger of injury when the wheels of the eBike do not have ground contact while using the start-assistance function.
- ▶ **Use only original Bosch batteries approved for your eBike by the manufacturer.** Using other batteries can lead to injuries and pose a fire hazard. When using other batteries, Bosch shall not assume any liability and warranty.

- ▶ **Please observe all national regulations on registering and using eBikes.**
- ▶ **Please read and observe the safety warnings and instructions enclosed in the operating instructions of the battery as well as in the operating instructions of your eBike.**

Product Description and Specifications

Intended Use

The drive unit is intended exclusively for your eBike and may not be used for other purposes. The eBike is intended for use on paved paths. It is not permitted for use in competition.

Product Features (see page 2–3)

The numbering of the product features refers to the illustrations on the graphics page. All representations of bike components, with exception of the drive unit, drive HMI, speed sensor and corresponding holders, are schematic and can deviate from your eBike.

- 1 Drive HMI
- 2 Holder for drive HMI
- 3 “info/reset” button for multi-function indicator
- 4 “mode” assistance button
- 5 “light” button
- 6 Increase-assistance-level button/Start-assistance On/Off button ▲
- 7 Decrease-assistance-level button ▼
- 8 Drive unit
- 9 Bottom holder screw
- 10 Upper holder screw
- 11 Speed sensor
- 12 Spoke magnet of the speed sensor

Indication Elements, Drive HMI

- a Speed indication
- b Light indicator
- c Assistance-level indicator
- d Start-assistance indicator
- e Multi-function indicator
- f Assistance-mode and error code indicator
- g Battery charge control indicator

Technical Data

Drive Unit	Drive Unit 45	
Article number		0 275 007 003
Rated continuous output	W	350
Output torque, max.	Nm	50
Rated voltage	V=	36
Operating temperature	°C	-5...+40
Storage temperature	°C	-10...+50
Degree of protection		IP 54 (dust and splash water protected)
Weight, approx.	kg	4

Drive HMI	HMI	
Article number		1 270 020 900
Operating temperature	°C	-5...+40
Storage temperature	°C	-10...+50
Degree of protection		IP 54 (dust and splash water protected)
Weight, approx.	kg	0.15

Lighting*		
Rated voltage	V=	6
Power output		
– Front light	W	2.7
– Rear light	W	0.3

* Not possible via the eBike battery in all country-specific versions, depending on the statutory regulations

Assembly

Inserting and Removing the Battery

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

Positioning the Holder of the Drive HMI

- ▶ **Tighten screws 10 and 9 with a tightening torque of 1 Nm (max.).** Otherwise, the holder 2 can become damaged.

Moving/Tilting the Holder (see figure A)

Loosen both screws **9** on the bottom side of holder **2**. Move the holder on the handlebar or change the holder angle. Retighten both screws **9** again with a tightening torque of 1 Nm (max.).

Turning the Holder (see figure B)

Loosen screw **10** on the top side of holder **2**. Turn the top part of the holder in such a manner that the drive HMI **1** is well in your view after inserting it (see “Inserting and Removing the Drive HMI”). Retighten screw **10** again with a tightening torque of 1 Nm (max.).

Inserting and Removing the Drive HMI (see figure C)

To **insert** the drive HMI, place it turned by approx. 30° onto holder **2** and then turn it clockwise to the stop.

To **remove** the drive HMI, turn it approx. 30° anticlockwise and pull it out of the holder **2**.

- ▶ **Remove the drive HMI when parking the eBike, so that the drive cannot be used by unauthorised persons.** Without the drive HMI, the drive cannot be switched on.

Checking the Speed Sensor (see figure D)

The speed sensor **11** and its spoke magnet **12** must be mounted in such a manner that the spoke magnet, after a turn of the wheel, moves past the speed sensor with a clearance of at least 5 mm, yet no more than 17 mm.

Note: If the clearance between speed sensor **11** and spoke magnet **12** is too small or too large, or if the speed sensor **11** is not properly connected, the speed indication **a** will fail, and the eBike drive will operate in emergency mode. In this case, loosen the screw of the spoke magnet **12** and fasten the spoke magnet to the spoke in such a manner that it runs past the mark of the speed sensor at the correct clearance. When the speed is still not being indicated in the speed indication **a** after this, please refer to an authorised bicycle dealer.

Operation

Initial Operation

Requirements

The drive of your eBike can only be activated when the following requirements are met:

- A sufficiently charged battery is inserted (see operating instructions of the battery).
- The drive HMI is properly inserted in the holder (see “Inserting and Removing the Drive HMI”, page English–2).
- The drive HMI is properly connected (see “Checking the Speed Sensor”, page English–3).

Switching the Drive On/Off

Insert the battery into the holder and switch it on via the On/Off button (see operating instructions of the battery).

Note: When switching on the battery, the pedals of the eBike may not be subject to load, as otherwise the output capacity of the drive will be limited.

If the battery was inadvertently switched on with load applied to the pedals, then switch it off and then on again without load.

Switching on the battery also switches on the display of the drive HMI. The drive HMI indicates the charge condition of the battery as well as the settings of the drive unit.

The drive is activated as soon as you step into the pedals (except when in start-assistance mode, see “Switching Start-assistance On/Off”, page English–4). The assistance level depends on the settings of the drive HMI.

As soon as you stop pedaling when in normal operation, or as soon as you have reached a speed of 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 45 km/h.

To switch off the drive, switch the battery off via the On/Off button (see operating instructions of the battery).

When no power output of the drive is requested for approx. 10 minutes, (e.g., because the eBike is parked), the battery automatically switches off to save energy.

Indications and Settings of the Drive HMI

Note: Indications and settings on the drive HMI are only possible when the eBike battery is switched on. The drive HMI does not have an own power supply.

Charge Condition of the Battery

Besides on the charge-control indicator on the battery itself, the charge condition can also be read from indicator **g** of the drive HMI.

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



100 % to 80 % capacity



20 % to 5 % capacity; the battery should be recharged.



Less than 5 % capacity; drive assistance is no longer possible. The LEDs of the charge-control indicator on the battery go out.

When the eBike lighting is powered via the battery (country-specific), the capacity upon first indication of the empty battery symbol will be sufficient for approx. 2 hours of lighting. When the symbol begins to flash, the lighting will continue to operate only for a short period.

Adjusting the Assistance Mode

The level of assistance of the eBike drive when pedaling can be adjusted via the drive HMI.

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

A maximum of four assistance modes are available:

ECO	“ECO”: Effective assistance at maximum efficiency for maximum cruising range
FOUR	“TOUR”: Uniform assistance, for touring with long cruising range
SPORT	“SPORT”: Powerful assistance for sportive riding off road as well as for urban traffic
SPEED	“SPEED”: Maximum assistance, supporting highest cadence for sportive riding

To **change the assistance mode**, press the **“mode”** button **4** until the desired mode is displayed in indicator **f**.

While using the start-assistance function, indication **f** goes out; the set assistance mode is stored.

Adjusting the Assistance Level

In the set assistance mode, the assistance level can be adjusted anytime, even during riding.

Note: For individual versions, it is possible that the assistance level is pre-set and cannot be changed.

A maximum of three assistance levels as well as the assistance shut-off are possible.

Assistance degree* at:	Assistance level		
	“1”	“2”	“3”
“ECO”	30 %	60 %	100 %
“TOUR”	45 %	80 %	120 %
“SPORT”	70 %	140 %	180 %
“SPEED”	90 %	160 %	250 %

* The assistance degree can vary for individual versions.

To **increase the assistance level**, press the **▲** button **6** until the desired level is displayed in indicator **c**.

To **decrease the assistance level**, press the **▼** button **7** until the desired level is displayed in indicator **c**.

In assistance level **“0”**, the drive is switched off. The eBike can be operated as a normal bicycle through pedaling.

While using the start-assistance function, indication **c** goes out; the set assistance level is stored.

Switching Start-assistance On/Off

Start-assistance can be used for additional support on the first meters when starting is difficult (e.g., at a traffic light or when starting uphill). It can also be used as a pushing aid when in the lowest gear.

► **The start-assistance function may only be used when starting or pushing the eBike.**

Danger of injury when the wheels of the eBike do not have ground contact while using the start-assistance function.

To **activate** the start-assistance function, press the **▲** button **6** longer than 1 second and continue to hold. The eBike drive is activated, indicator **d** flashes and indicators **c**, **e** and **f** go out.

Start-assistance is **switched off** as soon as any of the following points occur:

- You release button **▲ 6**,
- You press another button on the drive HMI,
- You pedal in forward or quickly in backward direction,
- The wheels of the eBike are blocked (e.g., through braking or running against an obstruction),
- After achieving a speed of 16 km/h.

Switching the Lighting On/Off

Depending on country-specific regulations, two lighting versions are possible:

- The front light, rear light and display lighting can be switched on and off at the same time via the drive HMI.
- Only the display lighting can be switched on and off; the front and rear light of the eBike are independent of the drive HMI.

For both versions, the **lighting is switched on** by pressing the “**light**” button **5**. The lighting indicator **b** appears on the display.

To **switch off the lighting**, press the “**light**” button **5** again; the lighting indicator **b** goes out.

Speed and Distance Indicators

Note: Depending on country-specific version, distance and speed can either be displayed in “**km**” and “**km/h**” or in “**mi**” and “**mph**”. Adjustment of the drive HMI and the selection of the display possibilities for the km and mile version are identical. The **speed indication a** always displays the current speed.

The following indications are available in **multi-function indicator e**:

odo **0 1635 km** Total distance “**odo**”: Indicates the total distance covered with the eBike

trip **068.50 km** Trip distance “**trip**”: Distance covered since the last reset

avg **002 17 km/h** Average speed “**avg**”: Average speed achieved since the last reset

000 72 km Range “**range**”: Estimated range of the available battery charge (for constant conditions such as assistance mode, assistance level, route profile etc.)

To **switch within the multi-function indicator**, press the “**info/reset**” button **3** until the desired function is displayed.

To **reset** the trip distance “**trip**” and the average speed “**avg**”, switch to one of both indications and then press the “**info/reset**” button **3** until the indication is reset to zero.

While using the start-assistance function, multi-function indicator **e** goes out.

Error Code Indication

The components of the eBike drive are continuously and automatically monitored. When an error is detected, the respective error code is indicated in display **f**.

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

► **Have all inspections and repairs carried out only by an authorised bicycle dealer.** When an error is still displayed despite corrective measures, please also refer to an authorised bicycle dealer.

Code	Cause	Corrective Measure
001	Internal error of the drive HMI	Have the drive HMI checked
002	One or more buttons of the drive HMI are blocked.	Check if any buttons are blocked, e.g. from dirt or debris. Clean the buttons, if required.
003	Connection problem of the drive HMI	Have connections and contacts checked
100	Internal error of the drive unit	Have the drive unit checked
101	Connection problem of the drive unit	Have connections and contacts checked
102	Error of the speed sensor	Have the speed sensor checked
103*	Connection problem of the lighting system	Have connections and contacts checked

* only for eBike lighting via battery (country-specific)

Code	Cause	Corrective Measure
104	Connection problem of the drive HMI	Have connections and contacts checked
105	Temperature of the drive unit too high (above 40 °C)	Allow the drive unit to cool down. Continued travel without assistance from the eBike drive is possible and speeds up the cooling of the drive unit.
200	Internal electronics error of the battery	Have the battery checked
201	Temperature of the battery too high (above 40 °C)	Allow the battery to cool down. Continued travel without assistance from the eBike drive is possible and speeds up the cooling of the battery.
202	Temperature of the battery too low (below -10 °C)	Allow the battery to warm up slowly in a warm location.
203	Connection problem of battery	Have connections and contacts checked
204	Incorrect battery polarity	Charge the battery with the original Bosch charger as described in the operating instructions.

* only for eBike lighting via battery (country-specific)

Notes on Riding with the eBike Drive

When does the eBike Drive Operate?

The eBike drive supports you when riding, as long as you step into the pedals. Without pedaling, there is no assistance. The degree of assistance always depends on the amount of your pedaling power.

When applying less pedaling power, the assistance or support will be lower than when applying a lot of pedaling power. This applies independent of the assistance mode and level.

The eBike drive automatically switches off at speeds in excess of 45 km/h. When the speed falls below 45 km/h, the drive is automatically available again.

An exception applies for the start-assistance function, in which the eBike can be driven at low speed without pedaling.

The eBike can also be ridden as a normal bicycle without assistance at any time, by either switching off the battery or setting the assistance level to “0”. The same applies when the battery is empty.

Interaction of the eBike Drive with the Bicycle Gears

The bicycle gears should be used as with a normal bicycle, even with eBike drive (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.

Gathering First Experience

It is recommended to gather first experience with the eBike away from roads with heavy traffic.

Try out the different assistance modes and assistance levels. As soon as you feel safe, you can participate in traffic with the eBike as with any other bicycle.

Test the operating range of your eBike under different conditions before planning longer and more challenging rides.

Influences on the Operating Range

With a fully charged battery and an efficient riding manner, an operating range of up to 105 km is possible.

However, the operating range depends on many factors, such as:

- Assistance mode and level
- Gear-switching behaviour,
- Bicycle tires and tire pressure,
- Age and condition of the battery,
- Route profile (inclines) and road or path conditions (road or path surface),
- Head wind and ambient temperature,
- Weight of the eBike, rider and equipment/luggage

For these reasons, it is not possible to predict an accurate operating range before starting your ride. General rules:

- For the **same** assistance level of the eBike drive: The less power or force that you have to bring about to reach a certain speed (e.g. through optimal use of the gears), the less energy the eBike drive will consume, and the greater the range for a battery charge.
- The **higher** the selected assistance degree (assistance mode and level) under otherwise same conditions, the lower the range.

Careful Handling of the eBike

Please observe the operating and storage temperatures of the eBike components. Protect the drive unit, drive HMI and battery against extreme temperatures (e.g. from intense sunlight without adequate ventilation). The components (especially the battery) can become damaged through extreme temperatures.

Maintenance and Service

Maintenance and Cleaning

Keep all components of your eBike clean, especially the battery contacts and corresponding holders. Clean them carefully with a soft, damp cloth.

All components including the drive unit may not be immersed in water or cleaned with a high-pressure cleaner.

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

After-sales Service and Customer Assistance

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

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

Transport

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

When being transported by commercial users or third parties (e.g. via air transport or forwarding agency), special requirements on packaging and labelling must be observed (e.g. ADR Regulations). For preparation of the item being shipped, an expert for hazardous material can be consulted as required.

Use the batteries only when the housing is undamaged. Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging. Please also observe possibly more detailed national regulations.

In case of questions concerning transport of the batteries, please refer to an authorised bicycle dealer. Bicycle dealers can also provide suitable transport packaging.

Disposal



The drive unit, drive HMI, battery, speed sensor, accessories and packaging should be sorted for environmental-friendly recycling.

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

Only for EC countries:



According to the European Guideline 2002/96/EC, 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 batteries that are no longer usable to an authorised bicycle dealer.



Li-ion:

Please observe the instructions in section "Transport", page English-7.

Subject to change without notice.

Lithium-ion Battery Pack

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” used in these operating instructions refers both to standard batteries (batteries with holder on the bike frame) and to rear rack batteries (batteries with holder under the rear rack), except when explicitly referring to the design type.

- ▶ **Remove the battery from the eBike before working on the eBike (e.g., assembling, maintenance, etc.), transporting it via car or plane or storing it.** Danger of injury when accidentally actuating the On/Off switch.
- ▶ **Do not open the battery.** Danger of short-circuiting. When the battery has been opened, any and all warranty claims through Bosch shall be invalid.



Protect the battery against heat (e.g., also against continuous intense sunlight), fire and immersing into water. Danger of explosion.

- ▶ **Keep the battery when not being used away from paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one contact to another.** Shorting the battery contacts may cause burns or a fire. For short-circuiting damage caused in this manner, any and all warranty claims through Bosch shall be invalid.
- ▶ **Under abusive conditions, liquid may be ejected from the battery. Avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause skin irritations or burns.

- ▶ **Vapours can escape in case of damage and improper use of the battery. Provide for fresh air and seek medical attention in case of complaints.** The vapours can irritate the respiratory system.
- ▶ **Charge the battery only with chargers recommended by the manufacturer.** A charger that is suitable for one type of batteries may create a risk of fire when used with other batteries.
- ▶ **Use the battery only in conjunction with eBikes as recommended by the manufacturer.** This is the only way to protect the battery against dangerous overload.
- ▶ **Use only original Bosch batteries approved for your eBike by the manufacturer.** Using other batteries can lead to injuries and pose a fire hazard. When using other batteries, Bosch shall not assume any liability and warranty.
- ▶ **Please read and observe the safety warnings and instructions enclosed in the operating instructions of the charger and drive unit/drive HMI (Human Machine Interface), as well as in the operating instructions of your eBike.**

Product Description and Specifications

Product Features (see page 4–5)

The numbering of the product features refers to the illustrations on the graphics pages. All representations of bike components, with exception of the batteries and their holders, are schematic and can deviate from your eBike.

- 13** Holder of the rear rack battery
- 14** Rear rack battery
- 15** Operation and charge-control indicator
- 16** On/Off button
- 17** Key of the battery lock
- 18** Battery lock
- 19** Upper holder of the standard battery

- 20** Standard battery
- 21** Bottom holder of the standard battery
- 22** Carrying strap
- 23** Battery charger

Technical Data

Lithium-ion battery	Battery Pack	
Article number		
– Standard battery, black		1 270 020 500/ 1 270 020 504
– Standard battery, white		1 270 020 501/ 1 270 020 505
– Standard battery, silver		1 270 020 502/ 1 270 020 506
– Rear rack battery		1 270 020 503/ 1 270 020 507
Rated voltage	V=	36
Rated capacity	Ah	8
Energy	Wh	288
Operating temperature	°C	–10...+40
Storage temperature	°C	–10...+60
Allowable charging temperature range	°C	0...+40
Weight	kg	2.5
Degree of protection		IP 54 (dust and splash water protected)

Assembly

- ▶ **Place the battery only on clean surfaces.** In particular, avoid contaminating the charge socket and the contacts, e.g. by means of sand or ground.

Checking the Battery Before Using for the First Time

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

For this, press the On/Off button **16** to switch on the battery. When no LED of the charge-control indicator **15** lights up, the battery may be damaged.

When at least one, but not all LEDs of the charge-control indicator **15** is lit, then fully charge the battery before using for the first time.

- ▶ **Do not charge a damaged battery and do not use it.** Please refer to an authorised bicycle dealer.

Charging the Battery

- ▶ **Use only the charger listed on the graphics page.** Only this charger is matched to the lithium-ion battery used in your eBike.

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

The battery must be removed from the eBike for charging.

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

The battery can be charged any time without reducing the battery life. Interrupting the charging procedure does not cause damage to the battery.

The battery is equipped with a temperature control indicator, which enables charging only within a temperature range between 0 °C and 40 °C. This provides for a long life of the battery.

Charge-control Indicator

When the battery is switched on, the five green LEDs of the charge-control indicator **15** indicate the charge condition of the battery.

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

Additionally, the charge condition of the switched on battery is indicated on the drive HMI. Read and observe the and operating instructions of the drive unit and the drive HMI.

When the capacity of the battery is below 5 %, all LEDs of charge-control indicator **15** on the battery go out; however, the drive HMI does provide an additional indication.

Inserting and Removing the Battery (see figures E–F)

- ▶ **Always switch the battery off when inserting or removing it from the holder. When the battery is inserted yet empty, please also observe the drive HMI indication.** Otherwise, the battery can become damaged.

In order for the battery to be inserted, the key **17** must be inserted into the lock **18** and the lock must be unlocked.

To **insert the standard battery 20**, place it via the contacts onto the bottom holder **21** on the eBike. Pivot the battery to the stop into the upper holder **19**.

To **insert the rear rack battery 14**, slide it forwards with the contacts facing ahead until it engages in holder **13** on the rear rack.

Check if the battery is tightly seated. Always lock the battery with lock **18**, as otherwise the lock can open and the battery can fall out of the holder.

After locking, always remove the key **17** from the lock **18**. This prevents the key from falling out and the battery from being removed from unauthorised persons when the eBike is parked.

To **remove the standard battery 20**, switch it off and unlock the lock with the key **17**. Pivot the battery out of the upper holder **19** and pull it by the carrying strap **22** out of the bottom holder **21**.

To **remove the rear rack battery 14**, switch it off and unlock the lock with the key **17**. Pull the battery out of the holder **13**.

Operation

Initial Operation

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

Switching On and Off

Before switching on the battery, check that the lock **18** is locked.

Note: When switching on the battery, the pedals of the eBike may not be subject to load, as otherwise the output capacity of the drive will be limited.

To **switch on** the battery, press the On/Off button **16**. The LEDs of indicator **15** light up and at the same time indicate the charge condition.

Note: When the battery capacity is below 5 %, none of the LEDs of charge-control indicator **15** will light up. Only the drive HMI will indicate if the battery is switched on.

Switching on the battery is one of the requirements for starting up the eBike drive. Read and observe the operating instructions of the drive unit and the drive HMI.

To **switch off** the battery, press the On/Off button **16** again. The LEDs of indicator **15** go out. This also switches off the eBike drive.

When no power output of the drive is requested for approx. 10 minutes, (e.g., because the eBike is parked), the battery automatically switches off to save energy.

The battery 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.

Notes for Optimum Handling of the Battery

At least 500 full charging cycles are guaranteed for the battery.

The battery life can be prolonged when being properly maintained and especially when being operated and stored at the right temperatures. Operating temperatures between +5 °C and +35 °C are recommended.

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

A significantly reduced operating period after charging indicates that the battery is worn out and must be replaced.

In case the carrying strap **22** of the standard battery widens, please have it replaced by a bicycle dealer.

Recharging the Battery prior to and during Storage

When not using the battery for a longer period, charge it to approx. 60 % (3 to 4 LEDs lit on the charge-control indicator **15**).

Check the charge condition after 6 months.

When only one LED of the charge-control indicator **15** lights up, recharge the battery again approx. 60 %.

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

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

Storage Conditions

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

The battery can be stored at temperatures between –10 °C and +60 °C. For a long battery life, however, storing the battery at a room temperature of approx. 20 °C is of advantage.

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

Maintenance and Service

Maintenance and Cleaning

Keep the battery clean. Clean it carefully with a soft, damp cloth. The battery may not be immersed in water or cleaned with a water jet.

When the battery is no longer operative, please refer to an authorised bicycle dealer.

After-sales Service and Customer Assistance

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

- ▶ **Note down the number on the key 17.** In case of loss of the keys, please refer to an authorised bicycle dealer, and provide the key number.

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

Transport

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

When being transported by commercial users or third parties (e.g. via air transport or forwarding agency), special requirements on packaging and labelling must be observed (e.g. ADR Regulations). For preparation of the item being shipped, an expert for hazardous material can be consulted as required.

Use the batteries only when the housing is undamaged. Tape or mask off open contacts and pack up the battery in such a manner that it cannot move around in the packaging. Please also observe possibly more detailed national regulations.

In case of questions concerning transport of the batteries, please refer to an authorised bicycle dealer. Bicycle dealers can also provide suitable transport packaging.

Disposal



The batteries, accessories and packaging should be sorted for environmental-friendly recycling.

Do not dispose of batteries into household waste!

Only for EC countries:



According to the European Guideline 2002/96/EC, 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 batteries that are no longer usable to an authorised bicycle dealer.



Li-ion:

Please observe the instructions in section "Transport", page English-13.

Subject to change without notice.

Charger

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 “Batterie” used in these operating instructions refers both to standard batteries (batteries with holder on the bike frame) and to rear rack batteries (batteries with holder under the rear rack).



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 Bosch lithium-ion batteries approved for eBikes with the voltages listed in the technical data.** Otherwise there is danger of fire and explosion.
- ▶ **Keep the battery charger clean.** Contamination can lead to danger of an electric shock.
- ▶ **Before each use, check the battery charger, cable and plug. If damage is detected, do not use the battery charger. Never open the battery charger yourself. Have repairs performed only by a qualified technician and only using original spare parts.** Damaged battery chargers, cables and plugs increase the risk of an 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.
- ▶ **Vapours can escape in case of damage and improper use of the battery. Provide for fresh air and seek medical attention in case of complaints.** The vapours can irritate the respiratory system.
- ▶ **Supervise children.** 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.
- ▶ **Connect the battery charger to a mains supply that is properly connected to earth.** Socket and extension cord must have an operative protective conductor.
- ▶ **Please read and observe the safety warnings and instructions enclosed in the operating instructions of the battery and drive unit/drive HMI, as well as in the operating instructions of your eBike.**
- ▶ A short version of important safety warnings in English, French and Spanish with the following content can be found on the bottom side of the charger (marked with number **28** in the representation on the graphics page):
 - For safe operation see manual. Risk of electric shock.
 - Dry location use only.
 - Charge only eBat100-199 rechargeable batteries. Other batteries may burst causing personal damage.
 - Do not replace the plug assembly as risk of fire or electric shock may result.
- ▶ **Products sold in GB only:** Your product is fitted with an BS 1363/A approved electric plug with internal fuse (ASTA approved to BS 1362).
If the plug is not suitable for your socket outlets, it should be cut off and an appropriate plug fitted in its place by an authorised customer service agent. The replacement plug should have the same fuse rating as the original plug.
The severed plug must be disposed of to avoid a possible shock hazard and should never be inserted into a mains socket elsewhere.

Product Description and Specifications

Technical Data

Battery Charger		Charger
Article number		0 275 007 900
Rated voltage	V \equiv	115/230
Frequency	Hz	50/60
Battery charging voltage	V=	36
Charging current		
– Normal-charging operation	A	4
– Silent-charging operation	A	1
Allowable charging temperature range	°C	0...+40
Charge duration (for 8 Ah battery capacity) approx.		
– Normal-charging operation	h	2.5
– Silent-charging operation	h	8
Number of battery cells		10–80
Weight according to EPTA-Procedure 01/2003	kg	0.8
Protection class		⊕/I

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.

Product Features (see page 6–7)

The numbering of the product features refers to the illustration of the battery charger on the graphics page.

- 14** Rear rack battery
- 15** Battery charge control indicator
- 20** Standard battery
- 23** Battery charger

- 24** Ventilation openings
- 25** Charger socket
- 26** Mains voltage selector switch
- 27** Charger plug
- 28** Safety warnings, charger
- 29** Button for charge operation
- 30** Operation indicator
- 31** Charge connector
- 32** Socket for charge connector

Operation

- ▶ **Place the battery only on clean surfaces.**
In particular, avoid contaminating the charge socket and the contacts, e.g. by means of sand or ground.

Initial Operation

Connecting the Charger (see figures G–H)

Set the voltage of your power source on the mains voltage selector switch **26** of the charger. You can select between 115 V and 230 V.

- ▶ **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.

Then, insert the charger plug **27** of the power cord into the charger socket **25** of the charger.

Connect the mains cable (country-specific) to the mains supply. The operation indicator **30** on the charger lights up.

- ▶ **Do not connect the charger to the mains supply until after the correct mains voltage has been set on the mains voltage selector switch 26.** Otherwise, the charger can become damaged.

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

Insert the charge connector **31** of the battery charger into the socket **32** on the battery. The operation indicator **30** on the charger flashes.

Charging Procedure

The charging procedure begins as soon as the charger is connected with the battery and the mains supply.

Note: The charging procedure is only possible when the temperature of the battery is within the allowable charge-temperature range.

It is possible to select between two charging modes: Normal-charging operation “**FAST**” and silent-charging operation “**SLOW**”. In the “**SLOW**” mode, the charging takes place silently.

Charge Operation	Normal-charging operation “ FAST ”	Silent-charging operation “ SLOW ”
Charging current	4 A	1 A
Operation indicator 30	flashes	continuously lit
Charger ventilation	on	off

When starting the operation of the charger, normal-charging operation is preset. To change the charging mode, press button **29**.

► **Use caution when touching the charger during the charging procedure. Wear protective gloves.** Especially in normal-charging operation with high ambient temperatures, the charger can heat up considerably.

Note: Pay attention that the charger is well ventilated during the charging procedure and that the ventilation openings **24** on both sides are not clogged or contaminated.

During the charging procedure, the LEDs of charge-control indicator **15** on the battery 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 %.

The battery is completely charged when all five LEDs of indicator **15** light up continuously. The charge procedure is automatically ended.

Disconnect the charger from the mains supply and the battery from the charger.

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

The battery can now be inserted into the eBike.

Troubleshooting – Causes and Corrective Measures

Cause	Corrective Measure
Operation indicator 30 not lit, no charging possible	
Incorrect mains voltage selected at switch 26	Select correct mains voltage
Plug not inserted correctly	Check all plug connections
Contacts of the battery contaminated	Carefully clean the contacts of the battery
Battery too warm or too cold	Allow battery to adjust to the ambient temperature until the charge-temperature range is reached
Ventilation openings 24 of the charger clogged or contaminated	Clean ventilation openings 24 and set up charger well ventilated
Socket outlet, cable or charger defective	Check mains voltage, have charger checked through bicycle dealer
Battery defective	Replace battery

Maintenance and Service

Maintenance and Cleaning

Make sure that the ventilation openings **24** of the charger are not obstructed and clean during use. If required, clean the ventilation openings with a vacuum cleaner.

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

After-sales Service and Customer Assistance

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

For contact data of authorised bicycle 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 Guideline 2002/96/EC for Waste Electrical and Electronic Equipment and its implementation into national right, battery chargers that are no longer usable must be collected separately and disposed of in an environmental correct manner.

Subject to change without notice.

Ordinateur de commande HMI / unité d'entraînement Drive Unit 45

Avertissements de sécurité



Lisez tous les avertissements de sécurité et toutes les instructions. Le non respect des consignes de sécurité et instructions indiquées ci-après peut provoquer un choc électrique, un incendie et/ou de graves blessures.

Conservez toutes les consignes de sécurité et toutes les instructions pour pouvoir vous y reporter ultérieurement.

Le terme « batterie » utilisé dans cette notice d'utilisation se réfère également aux batteries standard (batteries avec fixation sur le cadre de vélo) et batteries de porte-bagages (batteries avec fixation au-dessous du porte-bagages).

- ▶ **N'ouvrez pas l'unité d'entraînement vous-même. L'unité d'entraînement ne nécessite pas d'entretien ne doit être réparée que par une personne qualifiée et seulement avec des pièces de rechange d'origine.** Ceci permet d'assurer la sécurité de l'unité d'entraînement. Une ouverture non autorisée de l'unité d'entraînement annule tous droits de garantie.
- ▶ **Tous les éléments montés sur l'unité d'entraînement et tous les autres éléments de l'entraînement du vélo électrique (par ex. plateau, fixation du plateau, pédales) ne doivent être remplacés que par des éléments d'un type similaire ou spécialement autorisés par le fabricant de vélo pour votre vélo électrique.** Ceci permet de protéger l'unité d'entraînement d'une surcharge et de dommages.
- ▶ **Retirez la batterie du vélo électrique avant d'effectuer des travaux (par ex. montage, entretien etc.) sur le vélo électrique, avant de le transporter en voiture ou en avion ou de le stocker.** Appuyer par mégarde sur l'interrupteur Marche/Arrêt peut provoquer des blessures.
- ▶ **La fonction aide au démarrage ne doit être utilisée que quand vous démarrez ou poussez le vélo électrique.** Les roues du vélo

électrique doivent être en contact avec le sol lorsque l'aide au démarrage est utilisé, sinon il y a danger de blessures.

- ▶ **N'utilisez que les batteries d'origine Bosch autorisées par le fabricant pour votre vélo électrique.** L'utilisation de toute autre batterie peut entraîner des blessures et un incendie. Bosch décline toute responsabilité et garantie dans le cas d'utilisation d'autres batteries.
- ▶ **Respectez tous les réglementations nationales spécifiques à l'autorisation et l'utilisation de vélos électriques.**
- ▶ **Lisez et respectez les consignes de sécurité et les instructions de la notice d'utilisation de la batterie ainsi que celles de la notice d'utilisation de votre vélo électrique.**

Description et performances du produit

Utilisation conforme

L'unité d'entraînement est conçue exclusivement pour l'entraînement de votre vélo électrique et ne doit pas être utilisée à d'autres fins. Le vélo électrique est conçu pour une utilisation sur des chemins à sol stabilisé. Il n'est pas agréé pour être utilisé dans des compétitions.

Éléments de l'appareil (voir page 2-3)

La numérotation des éléments se réfère à la représentation sur la page graphique.

Toutes les représentations d'éléments de vélo à l'exception de l'unité d'entraînement, de l'ordinateur de commande, du capteur de vitesse et leurs fixations sont schématiques et peuvent différer pour votre vélo électrique.

- 1 Ordinateur de commande
- 2 Fixation de l'ordinateur de commande
- 3 Touche « info/reset » pour afficheur multifonctions

- 4 Touche mode assistance « **mode** »
- 5 Touche d'éclairage « **light** »
- 6 Touche augmentation du niveau d'assistance/
mise en marche/arrêt de l'aide au démarrage
▲
- 7 Touche diminution du niveau d'assistance
▼
- 8 Unité d'entraînement
- 9 Vis inférieures de la fixation
- 10 Vis supérieure de la fixation
- 11 Capteur de vitesse
- 12 Aimant de rayon du capteur de vitesse

Éléments d'affichage de l'ordinateur de commande

- a Indicateur tachymétrique
- b Eclairage
- c Niveau d'assistance
- d Aide au démarrage
- e Afficheur multifonctions
- f Mode assistance et code d'erreur
- g Voyant lumineux indiquant l'état de charge des piles

Caractéristiques techniques

Unité d'entraînement		Drive Unit 45
N° d'article		0 275 007 003
Puissance permanente nominale	W	350
Couple max. de l'entraînement	Nm	50
Tension nominale	V=	36
Température de fonctionnement	°C	-5...+40
Température de stockage	°C	-10...+50
Type de protection		IP 54 (étanche à la poussière et aux projections d'eau)
Poids, env.	kg	4

Ordinateur de commande		HMI
N° d'article		1 270 020 900
Température de fonctionnement	°C	-5...+40
Température de stockage	°C	-10...+50
Type de protection		IP 54 (étanche à la poussière et aux projections d'eau)
Poids, env.	kg	0,15

Eclairage*		
Tension nominale	V=	6
Puissance		
- Lampe avant	W	2,7
- Lampe arrière	W	0,3

* en fonction des réglementations légales pas possible via la batterie du vélo électrique dans toutes les versions nationales

Montage

Mise en place et retrait de la batterie

Pour monter la batterie dans le vélo électrique, lisez et respectez la notice d'utilisation de la batterie.

Positionnement de l'ordinateur de commande

- **Serrez les vis 10 ou 9 avec un couple de serrage de 1 Nm max.** La fixation 2 risque autrement d'être endommagée.

Déplacer/basculer la fixation (voir figure A)

Desserrez les deux vis 9 se trouvant sur la face inférieure de la fixation 2. Déplacez la fixation sur le guidon ou modifiez l'angle d'inclinaison. Resserrez les deux vis 9 avec un couple de serrage de 1 Nm max.

Orientation de la fixation (voir figure B)

Desserrez la vis **10** se trouvant sur la face supérieure de la fixation **2**. Tournez la partie supérieure de la fixation de sorte à pouvoir facilement voir l'ordinateur de commande **1** après l'avoir monté (voir « Insérer et retirer l'ordinateur de commande »). Resserrez la vis **10** avec un couple de serrage de 1 Nm max.

Insérer et retirer l'ordinateur de commande (voir figure C)

Pour **insérer** l'ordinateur de commande, montez-le tourné de 30° environ sur la fixation **2** et serrez-le à fond dans le sens des aiguilles d'une montre.

Pour **retirer** l'ordinateur de commande, tournez-le de 30° environ dans le sens inverse des aiguilles d'une montre et retirez-le de la fixation **2**.

► Retirez l'ordinateur de commande lorsque le vélo électrique est garé pour éviter que des tiers non autorisés n'utilisent l'entraînement.

Sans ordinateur de commande il n'est pas possible de mettre en marche l'entraînement.

Contrôle du capteur de vitesse (voir figure D)

Le capteur de vitesse **11** et l'aimant de rayon **12** doivent être montés de sorte à ce que l'aimant du rayon dépasse le capteur de vitesse à une distance de 5 mm min. et de 17 mm max. lorsque la roue tourne.

Note : Si la distance entre le capteur de vitesse **11** et l'aimant de rayon **12** est trop faible ou trop élevée ou si le capteur de vitesse **11** n'est pas correctement branché, l'indicateur tachymétrique **a** ne fonctionne pas, et l'entraînement du vélo électrique travaille en mode d'urgence.

Dans un tel cas, desserrez la vis de l'aimant de rayon **12** et fixez l'aimant de rayon sur le rayon de sorte à ce qu'il dépasse le marquage du capteur de vitesse à la distance correcte. Si l'indicateur tachymétrique **a** n'affiche toujours pas de vitesse, adressez-vous à un vélociste autorisé.

Fonctionnement

Mise en service

Conditions préalables

L'entraînement de votre vélo électrique ne peut être activé que si les conditions suivantes sont remplies :

- Une batterie suffisamment chargée est insérée (voir notice d'utilisation de la batterie).
- L'ordinateur de commande est correctement inséré dans la fixation (voir « Insérer et retirer l'ordinateur de commande », page Français-3).
- Le capteur de vitesse est correctement branché (voir « Contrôle du capteur de vitesse », page Français-3).

Mise en marche/arrêt de l'entraînement

Insérez la batterie dans la fixation et mettez-la en marche au moyen de la touche Marche/Arrêt (voir notice d'utilisation de la batterie).

Note : Les pédales du vélo électrique ne doivent pas être chargées lorsque la batterie est mise en marche, sinon la puissance de l'entraînement est réduite.

Si la batterie est mise en marche par mégarde quand les pédales sont chargées, éteignez-la et remettez-la en marche sans charge.

L'écran de l'ordinateur de commande est mis en marche en même temps que la batterie. L'ordinateur de commande affiche l'état de charge de la batterie ainsi que les réglages de l'unité d'entraînement.

L'entraînement est activé dès que l'on pédale (sauf si vous êtes en fonction aide au démarrage, voir « Mise en marche/arrêt de l'aide au démarrage », page Français-5). Le degré d'assistance dépend des réglages de l'ordinateur de commande.

Dès que vous arrêtez de pédaler en mode normal ou dès que vous avez atteint une vitesse de 45 km/h, l'entraînement du vélo électrique éteint l'assistance. L'entraînement est automatiquement activé à nouveau dès que vous pédalez et que la vitesse est inférieure à 45 km/h.

Pour arrêter l'entraînement, arrêtez la batterie au moyen de la touche Marche/Arrêt (voir notice d'utilisation de la batterie).

Si l'entraînement n'est pas sollicité pendant 10 min. (par ex. parce que le vélo électrique est arrêté), la batterie s'éteint automatiquement pour économiser l'énergie.




Affichages et réglages de l'ordinateur de commande

Note : Les affichages et réglages sur l'ordinateur de commande ne sont possibles que si la batterie du vélo électrique est allumée. L'ordinateur de commande lui-même ne dispose pas d'une alimentation électrique.

Voyant lumineux indiquant l'état de charge de la batterie

Outre que sur le voyant lumineux se trouvant sur la batterie, il est également possible de lire l'état de charge sur le voyant lumineux **g** de l'ordinateur de commande.

Dans le voyant lumineux **g**, chaque barre dans le symbole de batterie correspond à environ 20 % de capacité :

-  100 % à 80 % de capacité
-  20 % à 5 % de capacité, il faut recharger la batterie
-  Moins de 5 % de capacité, l'assistance de l'entraînement n'est plus possible.

Les LED du voyant lumineux indiquant l'état de charge de la batterie s'éteignent.

Si l'éclairage du vélo électrique se fait au moyen de la batterie (en fonction des versions des différents pays), la capacité sera suffisante pour 2 heures d'éclairage environ après la première apparition du symbole de batterie vide. Quand le symbole commence à clignoter, l'éclairage n'est plus possible que pendant une courte durée.

Réglage du mode d'assistance

Vous pouvez régler sur l'ordinateur de commande la puissance de l'entraînement du vélo électrique selon vos besoins.

Note : Dans des versions individuelles, le mode assistance est préréglé et ne peut pas être modifié. Il est également possible que moins de modes soient disponibles qu'indiqués ici.

Quatre modes assistance sont disponibles au maximum :

ECO

« **ECO** » : assistance effective avec efficacité maximale, pour portée maximale

TOUR

« **TOUR** » : assistance régulière, pour des tours de grande portée

SPORT

« **SPORT** » : assistance puissante, pour parcours sportifs sur des chemins montagneux ainsi que pour la circulation urbaine

SPEED

« **SPEED** » : assistance maximale jusqu'à des fréquences de pédalage élevées, pour parcours sportifs

Pour **commuter le mode assistance**, appuyez plusieurs fois sur la touche « **mode** » **4** jusqu'à ce que le mode souhaité apparaisse sur l'affichage **f**. Lorsque vous êtes en mode aide au démarrage, l'affichage **f** s'éteint, le mode d'assistance réglé est mémorisé.

Réglage du niveau d'assistance

Il est à tout temps possible, même pendant que le vélo roule, de modifier le niveau d'assistance en mode assistance réglé.

Note : Dans des versions individuelles, le niveau d'assistance est préréglé et ne peut pas être modifié.

Trois niveaux d'assistance maximum ainsi que la désactivation de l'assistance sont possibles.

Degré d'assistance* pour :	Niveau d'assistance		
Mode assistance	« 1 »	« 2 »	« 3 »
« ECO »	30 %	60 %	100 %
« TOUR »	45 %	80 %	120 %
« SPORT »	70 %	140 %	180 %
« SPEED »	90 %	160 %	250 %

* Le degré d'assistance peut différer pour certaines versions.

Pour **augmenter le niveau d'assistance**, appuyez plusieurs fois sur la touche ▲ **6** jusqu'à ce que le niveau souhaité apparaisse sur l'affichage **c**.

Pour **diminuer le niveau d'assistance**, appuyez plusieurs fois sur la touche ▼ **7** jusqu'à ce que le niveau souhaité apparaisse sur l'affichage **c**.

En niveau d'assistance « 0 », l'entraînement est arrêté. Le vélo électrique peut être utilisé comme un vélo normal en pédalant.

Pendant que l'aide au démarrage est activé, l'affichage **c** s'éteint, le niveau d'assistance réglé est mémorisé.

Mise en marche/arrêt de l'aide au démarrage

L'aide au démarrage peut servir d'assistance supplémentaire sur les premiers mètres si le démarrage est difficile (tel que par ex. aux feux de circulation ou en montagne). Il peut également être utilisé en tant qu'assistance de poussée en plus petite vitesse.

► **La fonction aide au démarrage ne doit être utilisée que quand vous démarrez ou posez le vélo électrique.** Les roues du vélo électrique doivent être en contact avec le sol lorsque l'aide au démarrage est utilisé, sinon il y a danger de blessures.

Pour **mettre en marche** l'aide au démarrage, appuyez sur la touche ▲ **6** pendant plus d'une seconde et maintenez-la appuyée. L'entraînement du vélo électrique est mis en marche, l'affichage **d** clignote et les affichages **c**, **e** et **f** s'éteignent.

L'aide au démarrage est **éteint** dans les cas suivants :

- vous relâchez la touche ▲ **6**,
- vous appuyez sur une autre touche de l'ordinateur de commande,
- vous pédalez en avant ou rapidement en arrière,
- les roues du vélo électrique sont bloquées (par ex. par les freins ou si vous heurtez un obstacle),
- à une vitesse de 16 km/h.

Allumer/éteindre l'éclairage

En fonction des régulations nationales, deux versions d'éclairage sont possibles :

- L'ordinateur de commande permet de mettre en marche ou d'éteindre simultanément la lampe avant, la lampe arrière et l'éclairage de l'écran.
- Seul l'éclairage de l'écran peut être allumé ou éteint, la lampe avant et la lampe arrière du vélo électrique sont indépendantes de l'ordinateur de commande.

Pour les deux versions, appuyez sur la touche « **light** » **5** pour **allumer l'éclairage**. L'affichage d'éclairage **b** apparaît sur l'écran.

Pour **éteindre l'éclairage**, appuyez à nouveau sur la touche « **light** » **5**, l'affichage d'éclairage **b** s'éteint.

Affichages de vitesse et de distance

Note : Suivant la version des différents pays, la distance et la vitesse peuvent être affichées en « **km** » et « **km/h** » ou en « **mi** » et « **mph** ». Le maniement de l'ordinateur de commande et la sélection des possibilités d'affichage sont les mêmes pour la version kilomètres et miles.

L'**indicateur tachymétrique a** affiche toujours la vitesse actuelle.

Dans l'**affichage multifonctions e**, les affichages suivants sont possibles :

odo 0 1635 km

Distance totale « **odo** » : la distance totale parcourue avec le vélo électrique

trip 06850 km

Distance journalière « **trip** » : la distance parcourue depuis la dernière remise à zéro

avg 002 17 km/h

Distance moyenne « **avg** » : la distance moyenne atteinte depuis la dernière remise à zéro

000 72 ^{range} km

Portée « **range** » : portée prévue de la charge de batterie (dans des conditions constantes telles que mode assistance, niveau d'assistance, profils des parcours etc.).

Pour **modifier l'affichage multifonctions**, appuyez plusieurs fois sur la touche « **info/reset** » **3** jusqu'à ce que la fonction souhaitée soit affichée.

Pour **Reset** (la remise à zéro) de la distance journalière « **trip** » et de la vitesse moyenne « **avg** », changer un des deux affichages et appuyez ensuite sur la touche « **info/reset** » **3** jusqu'à ce que l'affichage soit remis sur zéro.

Pendant l'utilisation de l'aide au démarrage, l'afficheur multi-fonctions **e** s'éteint.

Affichage code d'erreur

Le éléments de l'entraînement du vélo électrique sont contrôlés automatiquement en permanence. Si une erreur est détectée, le code d'erreur correspondant apparaît sur l'affichage **f**.

En fonction du type d'erreur, l'entraînement est éventuellement automatiquement arrêté. Il est cependant à tout temps possible de continuer à rouler sans être assisté par l'entraînement. Il est recommandé de faire contrôler le vélo électrique avant d'autres parcours.

► **Ne faites effectuer tous les travaux de contrôle et de réparation que par un vélociste autorisé.** Si une erreur est toujours affichée malgré vos soins pour remédier au problème, adressez-vous alors à un vélociste autorisé.

Code	Cause	Remède
001	Erreur interne de l'ordinateur de commande	Faire contrôler l'ordinateur de commande
002	Une ou plusieurs touches de l'ordinateur de commande sont bloquées.	Contrôlez si les touches sont coincées, par ex. par des encrassements profonds. Le cas échéant, nettoyez les touches.
003	Problème de connexion de l'ordinateur de commande	Faire contrôler les raccords et connexions
100	Erreur interne de l'unité d'entraînement	Faire contrôler l'unité d'entraînement
101	Problème de connexion de l'unité d'entraînement	Faire contrôler les raccords et connexions
102	Erreur du capteur de vitesse	Faire contrôler le capteur de vitesse
103*	Problème de connexion de l'éclairage	Faire contrôler les raccords et connexions
104	Problème de connexion de l'ordinateur de commande	Faire contrôler les raccords et connexions
105	Température de l'unité d'entraînement trop élevée (supérieure à 40 °C)	Laissez refroidir l'unité d'entraînement. La continuation de la course sans entraînement du vélo électrique est possible et accélère le refroidissement de l'unité d'entraînement.
200	Erreur électronique interne de la batterie	Faire contrôler la batterie
201	Température de la batterie trop élevée (supérieure à 40 °C)	Laissez refroidir la batterie. La continuation de la course sans entraînement du vélo électrique est possible et accélère le refroidissement de la batterie.
202	Température de la batterie trop basse (inférieure à -10 °C)	Laissez la batterie se chauffer lentement dans un endroit chaud.
203	Problème de connexion de la batterie	Faire contrôler les raccords et connexions
204	Fausse polarisation de la batterie	Chargez la batterie au moyen du chargeur d'origine Bosch suivant les informations données dans la notice d'utilisation de ce dernier.

* seulement pour éclairage par batterie du vélo électrique (en fonction de la version des différents pays)

Instructions pour utiliser l'entraînement du vélo électrique

Quand est-ce que l'entraînement du vélo électrique travaille ?

L'entraînement du vélo électrique vous aide pendant votre course tant que vous pédalez. Sans pédaler, aucune assistance. Le degré d'assistance dépend toujours de la force que vous appliquez lorsque vous pédalez.

Si vous appliquez peu de force, l'assistance est moins forte que lorsque vous appliquez beaucoup de force. Ceci est indépendant du mode et du niveau d'assistance.

L'entraînement du vélo électrique s'arrête automatiquement à une vitesse supérieure à 45 km/h. Si la vitesse tombe au-dessous de 45 km/h, l'entraînement est automatiquement à nouveau disponible.

La fonction aide au démarrage est une exception ; dans cette fonction, le vélo électrique peut être utilisé sans pédaler en faible vitesse.

Vous pouvez à tout temps utiliser le vélo électrique comme un vélo normal sans assistance, si vous éteignez la batterie ou si vous réglez le niveau d'assistance sur « 0 ». Il en va de même si la batterie est vide.

Interaction entre l'entraînement du vélo électrique et la vitesse

Même avec entraînement de vélo électrique vous devriez utiliser la vitesse comme pour un vélo normal (respectez la notice d'utilisation de votre vélo électrique).

Indépendamment du type de vitesse, il est recommandé d'arrêter brièvement de pédaler pendant que vous changez de vitesse. Ceci facilite le changement de vitesse et réduit l'usure de l'arbre d'entraînement.

En choisissant la vitesse appropriée, vous pouvez augmenter la vitesse et la portée en appliquant la même force.

Faire les premières expériences

Il est recommandé de faire les premières expériences avec le vélo électrique à l'écart de rues fortement fréquentées.

Essayez les différents modes d'assistance et niveaux d'assistance. Dès que vous vous sentez sûr de vous, vous pouvez circuler avec le vélo électrique comme avec tout autre vélo.

Essayez la portée de votre vélo électrique dans différentes conditions avant de planifier un parcours long et exigeant.

Influences sur la portée

Une portée de jusqu'à 105 km/h est possible avec une batterie complètement chargée et une conduite économe.

La portée est cependant influencée par beaucoup de facteurs, tels que :

- mode et niveau d'assistance,
- manière de changer les vitesses,
- type et pression des pneus,
- âge et état de la batterie,
- profil du parcours (montées) et caractéristiques de la course (surface de la route),
- vent de face et température ambiante,
- poids du vélo électrique, du conducteur et des bagages.

Pour cette raison il n'est pas possible de prédire concrètement la portée avant un parcours. Mais en général vaut :

- Pour un **même** degré d'assistance par l'entraînement du vélo électrique : Plus la force que vous devez appliquer pour atteindre une certaine vitesse sera basse (par ex. par une utilisation optimale de la vitesse), plus l'énergie consommée par l'entraînement sera faible et plus grande sera la portée d'une charge de batterie.
- Plus le degré d'assistance sélectionné est **élevé** (mode et niveau d'assistance) dans des conditions constantes, moins grande sera la portée.

Maniement soigneux du vélo électrique

Respectez les températures de fonctionnement et de stockage des éléments du vélo électrique. Protégez l'unité d'entraînement, l'ordinateur de commande et la batterie de températures extrêmes (par ex. exposition intensive au soleil sans aération). Les éléments (surtout la batterie) peuvent être endommagés par des températures extrêmes.

Entretien et Service Après-Vente

Nettoyage et entretien

Maintenez tous les éléments de votre vélo électrique propres, surtout les contacts de batterie et leur fixation. Nettoyez-les avec précaution à l'aide d'un chiffon humidifié et doux.

Ne plongez pas dans l'eau les éléments, y compris l'unité de l'entraînement et ne les nettoyez pas à l'aide d'un nettoyeur haute pression.

Pour le Service Après-Vente ou des réparations sur votre vélo électrique, adressez-vous à un vélociste autorisé.

Service Après-Vente et Assistance Des Clients

Pour toutes les questions concernant l'entraînement du vélo électrique et ses éléments, adressez-vous à un vélociste autorisé.

Vous trouverez les données de contact de vélocistes autorisés sur le site internet www.bosch-ebike.com

Transport

Les batteries sont soumises aux règlements de transport des matières dangereuses. L'utilisateur privé peut transporter les batteries sur la route sans conditions supplémentaires. Lors d'un transport par utilisateurs commerciaux ou par tiers (par ex. transport aérien ou entreprise de transport), les exigences spécifiques à l'emballage et au marquage doivent être

respectées (par ex. prescriptions de l'ADR). Le cas échéant, lors de la préparation de l'envoi, il faut faire appel à un expert en transport de matières dangereuses.

N'expédiez pas les batteries si le carter présente des dommages. Recouvrez les contacts à l'air libre et emballez la batterie de manière à ce qu'elle ne puisse pas se déplacer dans l'emballage. Veuillez également respecter des réglementations supplémentaires nationales éventuellement en vigueur.

Pour toute question concernant le transport des batteries, adressez-vous à un vélociste autorisé. Vous pouvez également commander un emballage de transport approprié auprès d'un commerçant spécialisé.

Élimination des déchets



L'unité d'entraînement, l'ordinateur de commande, la batterie, le capteur de vitesse, ainsi que leurs accessoires et emballages, doivent pouvoir suivre chacun une voie de recyclage appropriée.

Ne jetez pas les vélos électriques et leurs éléments dans les ordures ménagères !

Seulement pour les pays de l'Union Européenne :



Conformément à la directive européenne 2002/96/CE, les équipements électriques dont on ne peut plus se servir, et conformément à la directive européenne 2006/66/CE, les accus/piles usés ou défectueux doivent être isolés et suivre une voie de recyclage appropriée.

Déposez les batteries dont on ne peut plus se servir auprès d'un vélociste autorisé.



Lithium ion :

Respectez les indications données dans le chapitre « Transport », page Français-8.

Sous réserve de modifications.

Pack de batteries Lithium-ion Battery Pack

Avertissements de sécurité



Lisez tous les avertissements de sécurité et toutes les instructions.

Le non respect des consignes de sécurité et instructions indiquées ci-après peut provoquer un choc électrique, un incendie et/ou de graves blessures.

Conservez toutes les consignes de sécurité et toutes les instructions pour pouvoir vous y reporter ultérieurement.

Le terme « batterie » utilisé dans cette notice d'utilisation se réfère également aux batteries standard (batteries avec fixation sur le cadre de vélo) et batteries de porte-bagages (batteries avec fixation au-dessous du porte-bagages), à moins que référence ne soit faite au modèle.

- ▶ **Retirez la batterie du vélo électrique avant d'effectuer des travaux (par ex. montage, entretien etc.) sur le vélo électrique, avant de le transporter en voiture ou en avion ou de le stocker.** Appuyer par mégarde sur l'interrupteur Marche/Arrêt peut provoquer des blessures.
- ▶ **N'ouvrez pas la batterie.** Il y a risque de court-circuit. Ouvrir la batterie annule toute garantie par Bosch.



Protégez la batterie de toute source de chaleur (par ex. d'une exposition permanente au soleil) de feu, et ne la plongez pas dans l'eau. Il y a risque d'explosion.

- ▶ **Lorsqu'une batterie n'est pas utilisée, la maintenir à l'écart de tout autre objet métallique, par exemple trombones, pièces de monnaie, clés, clous, vis ou autres objets de petite taille qui pourraient provoquer la connexion d'une borne à une autre.** Un court-circuit entre les contacts de batterie peut provoquer des brûlures ou un incendie. La garantie de Bosch est annulée dans en cas de dommages provoqués par un court-circuit survenant dans ce contexte.

- ▶ **En cas d'une utilisation incorrecte, du liquide pourrait s'écouler de la batterie. Evitez tout contact. En cas de contact accidentel, nettoyez à l'eau. Si le liquide entre en contact avec les yeux, veuillez alors consulter un médecin.** Le liquide qui s'écoule de la batterie peut irriter ou brûler la peau.
- ▶ **En cas d'endommagement et d'utilisation non conforme de la batterie, des vapeurs peuvent s'échapper. Ventilez le lieu de travail et, en cas de malaises, consultez un médecin.** Les vapeurs peuvent irriter les voies respiratoires.
- ▶ **Ne rechargez la batterie qu'avec le chargeur spécifié par le fabricant.** Un chargeur adapté à un type de batterie peut provoquer un incendie s'il est utilisé avec un autre type de batteries.
- ▶ **N'utilisez la batterie qu'avec les vélos électriques recommandés par le fabricant.** Ceci protège la batterie contre une surcharge dangereuse.
- ▶ **N'utilisez que les batteries d'origine Bosch autorisées par le fabricant pour votre vélo électrique.** L'utilisation de toute autre batterie peut entraîner des blessures et un incendie. Bosch décline toute responsabilité et garantie dans le cas d'utilisation d'autres batteries.
- ▶ **Lisez et respectez les consignes de sécurité et les instructions se trouvant dans les notices d'utilisation du chargeur et de l'unité d'entraînement/de l'ordinateur de commande ainsi que dans la notice d'utilisation de votre vélo électrique.**

Description et performances du produit

Éléments de l'appareil (voir page 4–5)

La numérotation des éléments se réfère à la représentation sur les pages graphiques. Toutes les représentations d'éléments de vélo à l'exception des batteries et leurs fixations sont schématiques et peuvent différer pour votre vélo électrique.

- 13** Fixation de la batterie de porte-bagages
- 14** Batterie de porte-bagages
- 15** Voyant de fonctionnement et d'état de charge
- 16** Touche Marche/Arrêt
- 17** Clé de la serrure de batterie
- 18** Serrure de batterie
- 19** Fixation supérieure de la batterie standard
- 20** Batterie standard
- 21** Fixation inférieure de la batterie standard
- 22** Sangle
- 23** Chargeur

Caractéristiques techniques

Batterie à ions lithium	Battery Pack	
N° d'article		
– Batterie standard noir	1 270 020 500/	1 270 020 504
– Batterie standard blanche	1 270 020 501/	1 270 020 505
– Batterie standard argentée	1 270 020 502/	1 270 020 506
– Batterie de porte-bagages	1 270 020 503/	1 270 020 507
Tension nominale	V=	36
Capacité nominale	Ah	8
Énergie	Wh	288
Température de fonctionnement	°C	–10...+40
Température de stockage	°C	–10...+60
Plage de température de charge admissible	°C	0...+40
Poids	kg	2,5
Type de protection		IP 54 (étanche à la poussière et aux projections d'eau)

Montage

- **Ne positionnez la batterie que sur des surfaces propres.** Évitez tout encrassement de la douille de charge et des contacts, par ex. par du sable ou de la terre.

Contrôler la batterie avant la première utilisation

Contrôlez la batterie avant de la charger ou de l'utiliser avec votre vélo électrique la première fois.

Appuyer à cet effet sur la touche Marche/Arrêt **16** pour mettre en marche la batterie. Si aucune LED du voyant lumineux indiquant l'état de charge de la batterie **15** ne s'allume, c'est que la batterie est éventuellement endommagée.

Si au moins une, mais pas toutes les LED du voyant lumineux indiquant l'état de charge de la batterie **15** s'allument, chargez la batterie complètement avant la première utilisation.

- **Ne chargez pas une batterie endommagée et ne l'utilisez pas.** Adressez-vous à un vélociste autorisé.

Recharger la batterie

- **N'utilisez que le chargeur indiqué sur la page des graphiques.** Seul ce chargeur est adapté à la batterie à ions lithium utilisé dans votre appareil.

Note : La batterie est fournie en état de charge faible. Afin de garantir la puissance complète de la batterie, chargez-la complètement dans le chargeur avant la première mise en service.

Pour charger la batterie, il faut la retirer du vélo électrique.

Pour charger la batterie, lisez et respectez la notice d'utilisation du chargeur.

La batterie peut être rechargée à tout moment, sans que sa durée de vie n'en soit réduite. Interrompre le processus de charge n'endommage pas la batterie.

La batterie est équipée d'un contrôle de température qui ne permet de la charger que dans la plage de température entre 0 °C et 40 °C. Ceci permet d'obtenir une longue durée de vie de la batterie.

Voyant lumineux indiquant l'état de charge

Les cinq LED vertes du voyant lumineux **15** indiquent l'état de charge de la batterie lorsque la batterie est mise en marche.

Chaque LED correspond à environ 20 % de capacité. Si la batterie est complètement déchargée, les cinq LED s'allument.

L'état de charge de la batterie mise en marche est également indiqué par l'ordinateur de commande. Lisez et respectez la notice d'utilisation de l'unité d'entraînement et de l'ordinateur de commande.

Si la capacité de la batterie est inférieure à 5 %, toutes les LED du voyant lumineux indiquant l'état de charge de la batterie **15** s'éteignent, mais il y a toujours l'affichage dans l'ordinateur de commande.

Mise en place et retrait de la batterie (voir figures E – F)

- **Eteignez toujours la batterie pour la monter dans la fixation ou pour la retirer de la fixation. Respectez également l'affichage dans l'ordinateur de commande, si la batterie est mise en place mais vide.** La batterie risque autrement d'être endommagée.

Pour pouvoir mettre en place la batterie, la clé **17** doit se trouver dans la serrure **18**, et la serrure doit être ouverte.

Pour **mettre en place la batterie standard 20**, montez les contacts sur la fixation inférieure **21** du vélo électrique. Basculez-la jusqu'à la butée dans la fixation supérieure **19**.

Pour **mettre en place la batterie du porte-bagages 14**, enfoncez-la, côté contact, dans la fixation **13** du porte-bagages.

Contrôlez le bon positionnement de la batterie. Fermez toujours la serrure de la batterie **18**, sinon cette dernière pourrait s'ouvrir et la batterie pourrait tomber.

Retirer la clé **17** de la serrure après avoir fermé la serrure **18**. Ceci permet d'éviter que la clé ne tombe ou que la batterie ne soit retirée par une tierce personne non autorisée, lorsque le vélo électrique est garé.

Pour **retirer la batterie standard 20**, arrêtez-la et ouvrez la serrure à l'aide de la clé **17**. Basculez la pile pour la sortir de la fixation supérieure **19** et tirez-la par la sangle **22** de la fixation inférieure **21**.

Pour **retirer la batterie du porte-bagages 14**, arrêtez-la et ouvrez la serrure à l'aide de la clé **17**. Retirez la batterie de la fixation **13**.

Fonctionnement

Mise en service

► **N'utilisez que les batteries d'origine Bosch autorisées par le fabricant pour votre vélo électrique.** L'utilisation de toute autre batterie peut entraîner des blessures et un incendie. Bosch décline toute responsabilité et garantie dans le cas d'utilisation d'autres batteries.

Mise en marche/arrêt

Avant de mettre la batterie en marche assurez-vous que la serrure **18** est fermée à clé.

Note : Les pédales du vélo électrique ne doivent pas être chargées lorsque la batterie est mise en marche, sinon la puissance de l'entraînement est réduite.

Pour **mettre en marche** la batterie, appuyez sur la touche Marche/Arrêt **16**. Les LED de l'affichage **15** s'allument et indiquent en même temps l'état de charge de la batterie.

Note : Si la capacité de la batterie est inférieure à 5 %, aucune LED du voyant lumineux indiquant l'état de charge **15** ne s'allume. Seul l'ordinateur de commande indique si la batterie est mise en marche.

La mise en marche de la batterie et une des conditions pour la mise en marche de l'entraînement du vélo électrique. Lisez et respectez la notice d'utilisation de l'unité d'entraînement et de l'ordinateur de commande.

Pour **éteindre** la batterie, appuyez sur la touche Marche/Arrêt **16**. Les LED de l'affichage **15** s'éteignent. L'entraînement du vélo électrique est en même temps également éteint.

Si l'entraînement n'est pas sollicité pendant 10 min. (par ex. parce que le vélo électrique est arrêté), la batterie s'éteint automatiquement pour économiser l'énergie.

La batterie est protégée par la « Electronic Cell Protection (ECP) » contre décharge profonde, surcharge, surchauffe et court-circuit. En cas de danger, la batterie s'éteint automatiquement grâce à un dispositif d'arrêt de protection.

Indications pour le maniement optimal de la batterie

Pour la batterie, 500 cycles de charge complète sont garantis.

La durée de vie de la batterie peut être augmentée si elle est bien entretenue et surtout si elle est utilisée et stockée aux températures appropriées. Des températures de service situées entre +5 °C et +35 °C sont recommandées.

Toutefois, en dépit d'un bon entretien, la capacité de la batterie se réduira avec l'âge.

Si le temps de service de la batterie se diminue considérablement après les recharges effectuées, cela signifie que la batterie est usagée et qu'elle doit être remplacée.

Au cas où la sangle **22** de la batterie standard s'écarterait, faites-la remplacer par un vélociste.

Recharger la batterie avant et pendant le stockage

Quand vous n'utilisez pas le vélo électrique pendant une période prolongée, rechargez la batterie de 60 % environ (3 à 4 LED du voyant lumineux indiquant l'état de charge **15** sont allumées).

Contrôlez après 6 mois l'état de charge. Si seule une LED du voyant lumineux indiquant l'état de charge **15** s'allume, rechargez la batterie de 60 % environ.

Note : Si une batterie vide est stockée pendant une durée prolongée, elle peut être endommagée malgré la faible autodécharge et sa capacité peut être considérablement réduite.

Il n'est pas recommandé de laisser la batterie raccordée en permanence au chargeur.

Conditions de stockage

Stockez la batterie, si possible, à un endroit sec, bien aéré. Protégez-la de l'humidité et de l'eau. Dans des conditions météorologiques défavorables, il est par ex. recommandé de retirer la batterie du vélo électrique et de la stocker jusqu'à la prochaine utilisation dans des locaux fermés.

La batterie peut être stockée à des températures situées entre -10 °C et $+60\text{ °C}$. Pour une longue durée de vie, un stockage à une température ambiante de 20 °C est recommandé.

Veillez à ne pas dépasser la température maximale de stockage. Ne stockez pas la batterie trop longtemps dans une voiture surtout en été et gardez-la à l'abri d'un rayonnement solaire direct.

Entretien et Service Après-Vente

Nettoyage et entretien

Maintenez la batterie toujours propre. Nettoyez-la avec précaution à l'aide d'un chiffon humidifié et doux. Ne plongez pas la batterie dans l'eau et ne la nettoyez pas avec un jet d'eau.

Si la batterie ne peut plus fonctionner, adressez-vous à un vélociste autorisé.

Service Après-Vente et Assistance Des Clients

Pour toute question concernant les batteries, adressez-vous à un vélociste autorisé.

► **Notez le numéro figurant sur la clé 17.** Au cas où vous perdriez la clé, adressez-vous à un vélociste autorisé. Indiquez le numéro de clé.

Vous trouverez les données de contact de vélocistes autorisés sur le site internet www.bosch-ebike.com


Transport

Les batteries sont soumises aux règlements de transport des matières dangereuses. L'utilisateur privé peut transporter les batteries sur la route sans conditions supplémentaires.

Lors d'un transport par utilisateurs commerciaux ou par tiers (par ex. transport aérien ou entreprise de transport), les exigences spécifiques à l'emballage et au marquage doivent être respectées (par ex. prescriptions de l'ADR). Le cas échéant, lors de la préparation de l'envoi, il faut faire appel à un expert en transport de matières dangereuses. N'expédiez pas les batteries si le carter présente des dommages. Recouvrez les contacts à l'air libre et emballez la batterie de manière à ce qu'elle ne puisse pas se déplacer dans l'emballage. Veuillez également respecter des réglementations supplémentaires nationales éventuellement en vigueur.

Pour toute question concernant le transport des batteries, adressez-vous à un vélociste autorisé. Vous pouvez également commander un emballage de transport approprié auprès d'un commerçant spécialisé.

Élimination des déchets

 Les batteries, ainsi que leurs accessoires et emballages, doivent pouvoir suivre chacun une voie de recyclage appropriée.

Ne jetez pas les batteries dans les ordures ménagères !

Seulement pour les pays de l'Union Européenne :



Conformément à la directive européenne 2002/96/CE, les équipements électriques dont on ne peut plus se servir, et conformément à la directive européenne 2006/66/CE, les accus/piles usés ou défectueux doivent être isolés et suivre une voie de recyclage appropriée.

Déposez les batteries dont on ne peut plus se servir auprès d'un vélociste autorisé.



Lithium ion :

Respectez les indications données dans le chapitre « Transport », page Français-13.

Sous réserve de modifications.

Chargeur Charger

Avertissements de sécurité



Lisez tous les avertissements de sécurité et toutes les instructions. Le non respect des consignes de sécurité et instructions indiquées ci-après peut provoquer un choc électrique, un incendie et/ou de graves blessures.

Conservez toutes les consignes de sécurité et toutes les instructions pour pouvoir vous y reporter ultérieurement.

Le terme « batterie » utilisé dans cette notice d'utilisation se réfère également aux batteries standard (batteries avec fixation sur le cadre de vélo) et batteries de porte-bagages (batteries avec fixation au-dessous du porte-bagages).



N'exposez pas le chargeur à la pluie ou à des conditions humides. Dans le cas de pénétration d'eau dans un chargeur il y a le risque d'un choc électrique.

- ▶ **Ne chargez que les batteries à ions lithium d'origine Bosch autorisées pour les vélos électriques dont les tensions correspondent à celles indiquées dans les Caractéristiques Techniques.** Sinon, il y a risque d'incendie et d'explosion.
- ▶ **Maintenir le chargeur propre.** Un encrassement augmente le risque de choc électrique.
- ▶ **Avant toute utilisation, contrôler le chargeur, la fiche et le câble. Ne pas utiliser le chargeur si des défauts sont constatés. Ne pas démonter le chargeur soi-même et ne le faire réparer que par une personne qualifiée et seulement avec des pièces de rechange d'origine.** Des chargeurs, câbles et fiches endommagés augmentent le risque d'un choc électrique.
- ▶ **Ne pas utiliser le chargeur sur un support facilement inflammable (tel que papier, textiles etc.) ou dans un environnement inflammable.** L'échauffement du chargeur lors du processus de charge augmente le risque d'incendie.
- ▶ **En cas d'endommagement et d'utilisation non conforme de la batterie, des vapeurs peuvent s'échapper. Ventilez le lieu de travail, et, en cas de malaises, consultez un médecin.** Les vapeurs peuvent irriter les voies respiratoires.
- ▶ **Ne laissez pas les enfants sans surveillance.** Veillez à ce que les enfants ne jouent pas avec le chargeur.
- ▶ **Les enfants et les personnes souffrant d'un handicap physique, sensoriel ou mental ou n'ayant pas l'expérience et/ou les connaissances nécessaires, ne doivent pas utiliser le chargeur à moins qu'elles ne soient surveillées par une personne responsable de leur sécurité ou qu'elles aient été instruites quant au maniement du chargeur.** Sinon, il y a un risque de mauvaise utilisation et de blessures.
- ▶ **Branchez le chargeur sur le réseau de courant électrique correctement relié à la terre.** La prise de courant ainsi que la rallonge électrique doivent être munies d'un conducteur de protection en bon état.
- ▶ **Lisez et respectez les consignes de sécurité et les instructions se trouvant dans les notices d'utilisation de la batterie et de l'unité d'entraînement/de l'ordinateur de commande ainsi que dans la notice d'utilisation de votre vélo électrique.**
- ▶ Une version abrégée des consignes de sécurité en langue anglaise, française et espagnole se trouve sur la face inférieure du chargeur (elle est marquée du numéro **28** dans la représentation sur la page des graphiques) avec le contenu suivant :
 - Pour un fonctionnement sûr, reportez-vous au manuel. Risque de choc électrique.
 - Utiliser en lieu sec uniquement.
 - A utiliser uniquement avec batterie eBat100-199. D'autres batteries risqueraient d'éclater et de causer des blessures corporelles et des dommages.
 - Ne pas remplacer la connectique car un risque d'incendie ou de choc électrique pourrait en résulter.

Description et performances du produit

Caractéristiques techniques

Chargeur		Charger
N° d'article		0 275 007 900
Tension nominale	V=	115/230
Fréquence	Hz	50/60
Tension de charge de la batterie	V=	36
Courant de charge		
– Mode de charge normal	A	4
– Mode de charge silencieux	A	1
Plage de température de charge admissible	°C	0...+40
Durée de charge (pour une capacité de batterie de 8 Ah), env.		
– Mode de charge normal	h	2,5
– Mode de charge silencieux	h	8
Nombre cellules de batteries rechargeables		10–80
Poids suivant EPTA-Procédure 01/2003	kg	0,8
Classe de protection		⊕/I

Ces indications sont valables pour une tension nominale de [U] 230 V. Ces indications peuvent varier pour des tensions plus basses ainsi que pour des versions spécifiques à certains pays.

Éléments de l'appareil (voir page 6–7)

La numérotation des éléments de l'appareil se réfère à la représentation du chargeur sur la page graphique.

- 14** Batterie de porte-bagages
- 15** Voyant lumineux indiquant l'état de charge des piles
- 20** Batterie standard
- 23** Chargeur

- 24** Orifices d'aération
- 25** Prise d'appareil
- 26** Commutateur de la tension d'alimentation
- 27** Fiche de l'appareil
- 28** Consignes de sécurité du chargeur
- 29** Touche du mode de charge
- 30** Voyant de fonctionnement
- 31** Fiche de charge
- 32** Prise pour fiche de charge

Fonctionnement

- **Ne positionnez la batterie que sur des surfaces propres.** Évitez tout encrassement de la douille de charge et des contacts, par ex. par du sable ou de la terre.

Mise en service

Raccordement du chargeur (voir images G–H)

Réglez la tension de votre source électrique sur le commutateur de la tension d'alimentation **26** du chargeur. Vous pouvez choisir entre 115 V et 230 V.

- **Tenez compte de la tension du réseau !** La tension de la source de courant doit correspondre aux indications se trouvant sur la plaque signalétique du chargeur. Les chargeurs marqués 230 V peuvent également fonctionner sous 220 V.

Introduisez ensuite la fiche de l'appareil **27** du câble de secteur dans la prise de l'appareil **25**.

Branchez le câble de secteur (différent selon le pays) sur le réseau d'alimentation électrique. Le voyant de fonctionnement **30** du chargeur s'allume.

- **Ne raccordez le chargeur au réseau électrique que si la tension de secteur correcte et réglée sur le commutateur 26.** Sinon, le chargeur pourrait être endommagé.

Eteignez la batterie et retirez-la de la fixation sur le vélo électrique. Lisez et respectez la notice d'utilisation de la batterie.

Introduisez la fiche de charge **31** du chargeur dans la prise **32** de la batterie. Le voyant de fonctionnement **30** du chargeur clignote.

Processus de charge

Le processus de charge commence dès que le chargeur est raccordé à la batterie et au réseau électrique.

Note : Le processus de charge n'est possible que si la température de la batterie se trouve dans la plage de température de charge admissible.

Vous pouvez choisir entre deux modes de charge : mode de charge normal « **FAST** » et mode de charge silencieux « **SLOW** ». Dans le mode « **SLOW** » le processus de charge se fait silencieusement.

Mode de charge	Mode de charge normal « FAST »	Mode de charge silencieux « SLOW »
Courant de charge	4 A	1 A
Voyant de fonctionnement 30	clignote	est allumé en permanence
Aération du chargeur	activé	désactivé

Lors de la mise en fonctionnement du chargeur, le mode de charge normal est préréglé. Pour commuter le mode de charge, appuyez sur la touche **29**.

► **Soyez prudent lorsque vous touchez le chargeur pendant le processus de charge. Portez des gants de protection.** Le chargeur peut s'échauffer fortement surtout en mode de charge normal et par des températures ambiantes élevées.

Note : Veillez à ce que le chargeur soit bien aéré pendant le processus de charge et que les orifices d'aération **24** des deux côtés ne soient pas couverts.

Pendant le processus de charge, les LED du voyant lumineux indiquant l'état de charge **15** de la batterie sont allumées. Chaque LED allumée en permanence correspond à environ 20 % de capacité de charge. La LED clignotante indique le processus de charge des 20 % suivants.

La batterie est complètement chargée quand les cinq LED du voyant lumineux **15** sont allumées en permanence. Le processus de charge est automatiquement interrompu.

Déconnectez le chargeur du réseau électrique et la batterie du chargeur.

Lorsque la batterie est déconnectée du chargeur, elle est automatiquement éteinte.

Vous pouvez maintenant monter la batterie dans le vélo électrique.

Défaut – Causes et remèdes

Cause	Remède
le voyant de fonctionnement 30 n'est pas allumé, le processus de charge n'est pas possible	
sélection de la fausse tension de secteur sur le commutateur 26	choisir la tension de secteur correcte
la fiche n'est pas correctement enfichée	contrôler toutes les connexions
les contacts de la batterie sont encrassés	nettoyer avec précaution les contacts de la batterie
la batterie est trop chaude ou trop froide	laisser la batterie revenir à la température ambiante jusqu'à ce que la plage de température de charge soit atteinte
les orifices d'aération 24 du chargeur sont obturés ou couverts	nettoyer les orifices d'aération 24 et positionner le chargeur de sorte à ce qu'il soit bien aéré
prise de courant, câble ou chargeur défectueux	vérifier la tension du secteur, faire contrôler le chargeur par un vélociste
batterie défectueuse	remplacer la batterie

Entretien et Service Après-Vente

Nettoyage et entretien

Veillez à ce que les orifices d'aération **24** du chargeur soient dégagés et propres pendant l'utilisation. Le cas échéant, nettoyez les orifices d'aération à l'aide d'un aspirateur.

Au cas où le chargeur tomberait en panne, adressez-vous à un vélociste autorisé.

Service Après-Vente et Assistance Des Clients

Pour toute question concernant le chargeur, adressez-vous à un vélociste autorisé.

Vous trouverez les données de contact de vélocistes autorisés sur le site internet

www.bosch-ebike.com

Élimination des déchets

Les chargeurs ainsi que leurs accessoires et emballages, doivent pouvoir suivre chacun une voie de recyclage appropriée.

Ne jetez pas les chargeurs avec les ordures ménagères !

Seulement pour les pays de l'Union Européenne :



Conformément à la directive européenne 2002/96/CE relative aux déchets d'équipements électriques et électroniques et la mise en vigueur conformément aux législations nationales, les chargeurs dont on ne peut plus se servir doivent être isolés et suivre une voie de recyclage appropriée.

Sous réserve de modifications.

Ordenador de control HMI/ Unidad motriz Drive Unit 45

Instrucciones de seguridad



Lea íntegramente las indicaciones de seguridad e instrucciones. En caso de no atenerse a las indicaciones de seguridad e instrucciones, ello puede ocasionar una descarga eléctrica, incendio y/o lesión grave.

Guarde todas las indicaciones de seguridad e instrucciones para posibles consultas futuras.

El término “batería” empleado en estas instrucciones de uso se refiere indistintamente tanto a las baterías estándar (baterías de fijación al cuadro de la bicicleta) como a las baterías para portaequipajes (baterías de fijación al portaequipajes).

- ▶ **No abra la unidad motriz por su propia cuenta, y solamente déjela reparar por un profesional, empleando para ello piezas de recambio originales.** Solamente así se mantiene la seguridad de la unidad motriz. La apertura no autorizada de la unidad motriz anula el derecho de garantía.
- ▶ **Todos los componentes montados en la unidad motriz, así como todos los demás componentes del accionamiento de la eBike (p. ej., el plato, portaplatos, pedales) solamente deberán sustituirse por componentes de iguales dimensiones o por componentes especialmente homologados por el fabricante de su eBike.** Con ello se evita una sobrecarga o deterioro de la unidad motriz.
- ▶ **Desmonte la batería de la eBike antes de realizar trabajos en esta última (p. ej. montaje, mantenimiento, etc.) al transportarla en el coche o avión, o al guardarla.** En caso contrario podría accidentarse al accionar fortuitamente el interruptor de conexión/desconexión.
- ▶ **La función de Asistencia al arrancar deberá usarse exclusivamente al poner a rodar la eBike o al empujarla.** Puede llegar a lesionar-

se si las ruedas de la eBike no están tocando el firme en el momento de utilizar la Asistencia al arrancar.

- ▶ **Únicamente utilice baterías originales Bosch homologadas por el fabricante de su eBike.** El uso de otro tipo de baterías puede acarrear lesiones e incluso un incendio. Si se aplican baterías de otro tipo Bosch declina cualquier responsabilidad y el derecho a garantía.
- ▶ **Observe la prescripciones nacionales en cuanto al permiso de circulación y uso de la eBike.**
- ▶ **Lea y atégase a las indicaciones de seguridad e instrucciones que figuran en las instrucciones de uso de la batería y de la eBike.**

Descripción y prestaciones del producto

Utilización reglamentaria

La unidad motriz ha sido diseñada exclusivamente para accionar su eBike y no deberá utilizarse con otro fin.

La eBike ha sido diseñada para circular en caminos afirmados. No es apta para participar en competiciones.

Componentes principales (ver página 2-3)

La numeración de los componentes está referida a las imágenes en la página ilustrada.

A excepción de la unidad motriz, ordenador de control, captador de velocidad y soportes pertinentes, las piezas de la bicicleta solamente se representan de forma esquemática y pueden ser diferentes en su eBike.

- 1 Ordenador de control
- 2 Soporte del ordenador de control
- 3 Tecla “**info/reset**” del indicador multifuncional

- 4 Tecla del modo asistencia “**mode**”
- 5 Tecla de iluminación “**light**”
- 6 Selector para aumentar el nivel de asistencia/ conexión y desconexión de la Asistencia al arrancar ▲
- 7 Tecla para reducir el nivel de asistencia ▼
- 8 Unidad motriz
- 9 Tornillos inferiores del soporte
- 10 Tornillo superior del soporte
- 11 Captador de velocidad
- 12 Imán de fijación a los radios para el captador de velocidad

Elementos de indicación del ordenador de control

- a Velocímetro
- b Indicador de iluminación
- c Indicador del nivel de asistencia
- d Indicador de Asistencia al arrancar
- e Indicador multifuncional
- f Indicador del modo de asistencia y código de fallos
- g Indicador del estado de carga de la pila

Datos técnicos

Unidad motriz	Drive Unit 45	
Nº de artículo		0 275 007 003
Potencia nominal continua	W	350
Par de giro en eje de salida, máx.	Nm	50
Tensión nominal	V=	36
Temperatura de operación	°C	-5...+40
Temperatura de almacenamiento	°C	-10...+50
Grado de protección		IP 54 (protección contra polvo y salpicaduras de agua)
Peso, aprox.	kg	4

Ordenador de control	HMI	
Nº de artículo		1 270 020 900
Temperatura de operación	°C	-5...+40
Temperatura de almacenamiento	°C	-10...+50
Grado de protección		IP 54 (protección contra polvo y salpicaduras de agua)
Peso, aprox.	kg	0,15

Iluminación*		
Tensión nominal	V=	6
Potencia		
- Luz delantera	W	2,7
- Luz trasera	W	0,3

* dependiente de la legislación vigente, alimentación a través de la batería de la eBike no disponible en la ejecución para ciertos países

Montaje

Montaje y desmontaje de la batería

Para montar y desmontar la batería de la eBike lea y atégase a las instrucciones de uso de la batería.

Posicionamiento del soporte del ordenador de control

- **Apriete los tornillos 10 o 9 con un par de apriete máximo de 1 Nm.** En caso contrario podría dañarse el soporte 2.

Desplazamiento o inclinación del soporte (ver figura A)

Afloje ambos tornillos 9 en la parte inferior del soporte 2. Desplace el soporte sobre el manillar o varíe su inclinación. A continuación, apriete de nuevo ambos tornillos 9 con un par de apriete máximo de 1 Nm.

Giro del soporte (ver figura B)

Afloje el tornillo **10** en la parte superior del soporte **2**. Gire la parte superior del soporte de manera que pueda observar cómodamente el ordenador de control **1** una vez montado (ver “Montaje y desmontaje del ordenador de control”). A continuación, apriete de nuevo el tornillo **10** con un par de apriete máximo de 1 Nm.

Montaje y desmontaje del ordenador de control (ver figura C)

Para **montar** el ordenador de control posiciónelo desfasado aprox. 30° respecto al centro del soporte **2** y gírelo hasta el tope en el sentido de las agujas del reloj.

Para **desmontar** el ordenador de control gírelo en sentido contrario a las agujas del reloj aprox. 30° y sáquelo entonces del soporte **2**.

- **Desmante el ordenador de control al estacionar la eBike para evitar que el accionamiento sea utilizado por terceros.** Sin el ordenador de control no es posible conectar el accionamiento.

Comprobación del captador de velocidad (ver figura D)

El captador de velocidad **11** y el imán de fijación a los radios **12** deberán montarse de forma que éste se encuentre a una distancia entre 5 mm y máximo 17 mm al quedar encarado con el captador de velocidad.

Observación: Si la separación entre el captador de velocidad **11** y el imán **12** fuese demasiado pequeña o demasiado grande, o si el captador de velocidad **11** no estuviese correctamente conectado, el velocímetro **a** no funciona y el accionamiento de la eBike trabaja entonces con el programa de emergencia.

En ese caso afloje el tornillo del imán **12** y sujete este último al radio de manera que mantenga la distancia correcta respecto a la marca que lleva el captador de velocidad. Si tras este ajuste el velocímetro **a** sigue sin indicar la velocidad, diríjase a una tienda de bicicletas autorizada.

Operación

Puesta en marcha

Requisitos

El accionamiento de su eBike solamente puede activarse si se cumplen los siguientes requisitos:

- Aplicación de una batería suficientemente cargada (ver instrucciones de uso de la batería).
- Ordenador de control correctamente fijado a su soporte (ver “Montaje y desmontaje del ordenador de control”, página Español-3).
- Captador de velocidad correctamente conectado y ajustado (ver “Comprobación del captador de velocidad”, página Español-3)

Conexión/desconexión del accionamiento

Monte la batería en el soporte y conéctela con la tecla de conexión/desconexión (ver instrucciones de uso de la batería).

Observación: Al conectar la batería no deberán presionarse los pedales de la eBike ya que ello reduciría la potencia del accionamiento.

Si la batería se conectó en el momento de presionar los pedales, desconéctela y vuélvala a conectar sin ejercer ahora ninguna presión.

Al conectar la batería se conecta también la pantalla del ordenador de control. En el ordenador de control se muestra el estado de carga de la batería así como los ajustes de la unidad motriz.

El accionamiento se activa en el momento en que Ud. comience a pedalear (excepto en la función de Asistencia al arrancar, ver “Conexión/desconexión de la Asistencia al arrancar”, página Español-5). El grado de asistencia depende de los ajustes realizados en su ordenador de control. Durante el funcionamiento normal de la eBike el accionamiento de la misma se desactiva en el momento de que Ud. deje de pedalear o alcance una velocidad de 45 km/h. El accionamiento vuelve a reactivarse automáticamente al volver a pedalear, siempre que la velocidad de marcha sea inferior a 45 km/h.

Para desconectar el accionamiento desconecte la batería con la tecla de conexión/desconexión (ver instrucciones de uso de la batería).

Si en el transcurso de 10 min el accionamiento sigue inactivo (p.ej., al estar detenida la eBike) la batería se desconecta automáticamente con el fin de ahorrar energía.




Indicadores y ajuste del ordenador de control

Observación: La indicación y ajuste del ordenador de control solamente es posible estando conectado la batería de la eBike. El ordenador de control no dispone de una alimentación propia.

Indicador de estado de carga de la batería

Además de poder visualizar el estado de carga en el indicador de la batería es posible efectuar también la lectura del estado de carga en el indicador **g** del ordenador de control.

En el indicador **g** cada segmento del símbolo de batería corresponde aprox. a un 20 % de capacidad:

-  80 % a 100 % de capacidad
-  5 % a 20 % de capacidad; la batería debe recargarse.
-  Capacidad menor a un 5 %, no es posible la asistencia con el accionamiento.

Los LED del indicador de estado de carga de la batería se apagan.

Si la iluminación de la eBike es alimentada por la batería (según país) desde el momento en que se presenta por primera vez el símbolo de la batería vacío, la autonomía de iluminación es de aprox. 2 horas. Si el símbolo comienza a parpadear la iluminación solamente puede utilizarse todavía un corto tiempo.

Ajuste del modo de asistencia

Ud. puede fijar en el ordenador de control el nivel de asistencia del accionamiento de la eBike al pedalear.

Observación: En ciertas ejecuciones es posible preajustar el modo de asistencia y evitar que éste sea modificado. También es posible que estén disponibles para la selección menos modalidades de las aquí indicadas.

Como máximo puede seleccionarse entre cuatro modos de asistencia:

- ECO** “ECO”: eficaz asistencia de gran rendimiento para una autonomía máxima
- FOUR** “TOUR”: asistencia uniforme para recorridos de gran alcance

SPORT “SPORT”: enérgica asistencia para una conducción deportiva en trayectos montañosos o para circular en ciudad

SPEED “SPEED”: asistencia máxima incluso con un veloz pedaleo para una conducción deportiva

Para el **cambio del modo de asistencia** pulse la tecla “**mode**” **4** tantas veces como sea necesario hasta visualizar el modo deseado en el indicador **f**.

Al utilizar la Asistencia al arrancar, el indicador **f** se apaga y se memoriza el modo de asistencia ajustado.

Ajuste del nivel de asistencia

En el modo de asistencia seleccionado puede Ud. alterar en todo momento el nivel de asistencia, incluso durante la marcha.

Observación: En ciertas ejecuciones es posible que el modo de asistencia venga preajustado y no pueda modificarse.

Como máximo puede fijarse tres niveles de asistencia y su desactivación.

Grado de asistencia* en:	Nivel de asistencia		
Modo de asistencia	“1”	“2”	“3”
“ECO”	30 %	60 %	100 %
“TOUR”	45 %	80 %	120 %
“SPORT”	70 %	140 %	180 %
“SPEED”	90 %	160 %	250 %

* El grado de asistencia puede variar en las diversas ejecuciones.

Para **aumentar el nivel de asistencia** pulse la tecla ▲ **6** tantas veces como sea necesario hasta visualizar el nivel deseado en el indicador **c**.

Para **reducir el nivel de asistencia** pulse la tecla ▼ **7** tantas veces como sea necesario hasta visualizar el nivel deseado en el indicador **c**.

En el nivel de asistencia “**0**” se desconecta el accionamiento. La eBike solamente puede desplazarse entonces pedaleando como en una bicicleta convencional.

Al utilizar la Asistencia al arrancar, el indicador **c** se apaga y se memoriza el nivel de asistencia ajustado.

Conexión/desconexión de la Asistencia al arrancar

La Asistencia al arrancar puede emplearse como ayuda adicional en los primeros metros de recorrido en situaciones de salida más difíciles (p. ej. en un semáforo o en una subida). También puede usarse como ayuda en el cambio de marcha más bajo para empujar la bicicleta.

► **La función de Asistencia al arrancar deberá usarse exclusivamente al poner a rodar la eBike o al empujarla.** Puede llegar a lesionarse si las ruedas de la eBike no están tocando el firme en el momento de utilizar la Asistencia al arrancar.

Para **conectar** la Asistencia al arrancar mantenga accionado el selector ▲ **6** durante más de 1 s y siga presionándolo. El accionamiento de la eBike se conecta, el indicador **d** parpadea y los indicadores **c**, **e** y **f** se apagan.

La Asistencia al arrancar se **desconecta** en caso de presentarse una de las siguientes situaciones:

- Si suelta el selector ▲ **6**,
- Si pulsa otra tecla en el ordenador de control,
- Si pedalea hacia delante o si pedalea rápidamente hacia atrás,
- Si se bloquean las ruedas de la eBike (p. ej. al frenar o al chocar contra un obstáculo),
- Si la velocidad es de 16 km/h.

Conexión/desconexión de la iluminación

Según las prescripciones vigentes en el respectivo país existen dos formas de iluminación:

- Con el ordenador de control pueden conectarse y desconectarse simultáneamente la luz delantera y trasera y la iluminación de la pantalla.
- Solamente puede conectarse y desconectarse la iluminación de la pantalla; la luz delantera y trasera de la eBike se conectan independientemente del ordenador de control.

En ambas ejecuciones pulse la tecla **“light” 5** para **conectar la iluminación**. En el display aparece el indicador de iluminación **b**.

Para **apagar la iluminación** vuelva a pulsar la tecla **“light” 5**, el indicador de iluminación **b** se apaga.

Indicadores de velocidad y distancia

Observación: Según la ejecución de país puede que la distancia y la velocidad se indiquen en **“km”** y **“km/h”**, o en **“mi”** y **“mph”**. El manejo del ordenador de control y la selección de las posibilidades de indicación son idénticas en la versión para kilómetros o millas.

En el **velocímetro a** se indica siempre la velocidad actual.

En el **indicador multifuncional e** puede seleccionarse entre las siguientes indicaciones:

odo 0 1635 km

Recorrido total **“odo”**: recorrido total cubierto hasta ahora con la eBike

trip 06850 km

Recorrido parcial **“trip”**: recorrido cubierto desde la última puesta a cero (reset)

avg 002 17 km/h

Velocidad promedio **“avg”**: velocidad promedio alcanzada desde la última puesta a cero (reset)

000 72 ^{range} km

Autonomía **“range”**: autonomía previsible con la carga actual de batería (manteniendo las mismas condiciones como el modo y nivel de asistencia, características del terreno, etc.)

Para la **selección en el indicador multifuncional** pulse la tecla **“info/reset” 3** tantas veces como sea necesario hasta visualizar la función deseada.

Para el **reset** del recorrido parcial **“trip”** y de la velocidad promedio **“avg”** seleccione una de ambas indicaciones y mantenga pulsada la tecla **“info/reset” 3** hasta poner a cero el valor del indicador.

Durante el uso de la Asistencia al arrancar se apaga el indicador multifuncional **e**.

Indicador de código de fallos

Los componentes del accionamiento de la eBike son permanentemente controlados de forma automática. En caso de detectarse un fallo aparece el respectivo código de fallos en el indicador f.

Según el tipo de fallo puede que se desactive automáticamente el accionamiento. Sin embargo, es posible continuar la marcha en todo momento sin recurrir al accionamiento. Antes de volver a circular con ella deberá hacerse controlar la eBike.

- **Deje que todas las comprobaciones y reparaciones sean realizadas exclusivamente en una tienda de bicicletas autorizada.** Si a pesar de que Ud. haya subsanado el fallo éste se sigue visualizando, diríjase asimismo a una tienda de bicicletas autorizada.

Código	Causa	Solución
001	Fallo interno del ordenador de control	Haga verificar el ordenador de control
002	Bloqueo de una o varias teclas del ordenador de control	Verifique si las teclas están atascadas, p.ej., al haber penetrado suciedad. Si procede, limpie las teclas.
003	Problema de conexión del ordenador de control	Deje verificar las conexiones y las uniones
100	Fallo interno de la unidad motriz	Haga verificar la unidad motriz
101	Problema de conexión en la unidad motriz	Deje verificar las conexiones y las uniones
102	Fallo en captador de velocidad	Haga verificar el captador de velocidad
103*	Problema de conexión en la iluminación	Deje verificar las conexiones y las uniones
104	Problema de conexión del ordenador de control	Deje verificar las conexiones y las uniones
105	Temperatura excesiva en la unidad motriz (más de 40 °C)	Deje que se enfríe la unidad motriz. Es posible continuar circulando sin el accionamiento de la eBike lo cual además agiliza el enfriamiento de la unidad motriz.
200	Fallo interno en el sistema electrónico de la batería	Haga verificar la batería
201	Temperatura excesiva en la batería (más de 40 °C)	Deje que se enfríe la batería. Es posible continuar circulando sin el accionamiento de la eBike lo cual además agiliza el enfriamiento de la batería
202	Temperatura demasiado baja en la batería (inferior a -10 °C)	Mantenga la batería en un cuarto caliente para permitir que se caliente lentamente
203	Problema de conexión en la batería	Deje verificar las conexiones y las uniones
204	Polaridad incorrecta de la batería	Cargue la batería con el cargador original Bosch según se describe en sus instrucciones de uso

* solamente en la iluminación de la eBike a través de la batería (según ejecución país)

Instrucciones para la conducción con el accionamiento de la eBike

¿Cuándo trabaja el accionamiento de la eBike?

El accionamiento de la eBike le ayuda siempre que Ud. vaya pedaleando. La asistencia cesa cuando deja de pedalear. El grado de asistencia depende siempre de la fuerza aplicada al pedalear.

Si la fuerza aplicada es baja la asistencia es menor que al aplicar gran fuerza. Esto es válido independientemente del modo y del nivel de asistencia ajustado.

El accionamiento de la eBike se desactiva automáticamente a velocidades superiores a 45 km/h. Si la velocidad queda por debajo de 45 km/h el accionamiento se activa nuevamente de forma automática.

Queda exceptuado de ello la función de Asistencia al arrancar en la que la eBike puede circular a baja velocidad sin pedalear.

Siempre que Ud. lo desee puede circular también sin la asistencia motorizada con la eBike, igual que con una bicicleta convencional, ya sea desconectando la batería o colocando el nivel de asistencia a “0”. Lo mismo es válido con una batería vacía.

Interacción entre el accionamiento de la eBike y el cambio

También con el accionamiento de la eBike el cambio deberá utilizarse igual que en una bicicleta convencional (consulte al respecto las instrucciones de uso de su eBike).

Independientemente del tipo de cambio empleado es recomendable dejar de pedalear brevemente antes de efectuar un cambio de marcha. Ello no sólo facilita el cambio de marcha sino que también reduce el desgaste del mecanismo de accionamiento.

Seleccionando el cambio de marcha correcto Ud. puede aumentar la velocidad y el alcance aplicando la misma fuerza muscular.

Acumulación de experiencia

Se recomienda ir adquiriendo experiencia con la eBike en lugares alejados de carreteras con mucho tráfico.

Pruebe diferentes modos y niveles de asistencia. Cuando se sienta seguro Ud. podrá circular con su eBike en el tráfico igual que con cualquier otra bicicleta.

Compruebe la autonomía de eBike bajo condiciones diferentes antes de realizar unos recorridos más largos y difíciles.

Influencias sobre la autonomía

Con la batería completamente cargada y un modo de conducción economizador puede lograrse una autonomía de 105 km.

Sin embargo, la autonomía se ve afectada por múltiples factores como, por ejemplo:

- Modo y nivel de asistencia
- Comportamiento en el cambio de marchas
- Tipo y presión del neumático
- Antigüedad y estado de la batería
- Características del terreno (pendientes) y del firme (tipo de pavimento)
- Viento de frente y temperatura ambiente
- Peso de la eBike, del ciclista y del equipaje.

Por ello es imposible predecir con certeza la autonomía para un recorrido específico. Sin embargo, en términos generales puede decirse:

- Con un **mismo** grado de asistencia motorizada de la eBike: Cuanto menor sea el esfuerzo que Ud. tenga que realizar para alcanzar una velocidad concreta (p.ej. utilizando de forma óptima el cambio de marchas) tanto menor será la energía consumida por el accionamiento de la eBike y tanto mayor la autonomía con un carga de la batería.
- Cuanto **mayor** sea el grado de asistencia (modo y nivel de asistencia) manteniendo iguales las demás condiciones, tanto menor será la autonomía obtenida.

Trato cuidadoso de la eBike

Tenga en cuenta las temperaturas de servicio y de almacenaje de los componentes de la eBike. Proteja la unidad motriz, el ordenador de control y la batería de temperaturas extremas (p.ej. de una exposición a sol intenso y sin ventilación). Los componentes (especialmente la batería) pueden dañarse si se exponen a temperaturas extremas.

Mantenimiento y servicio

Mantenimiento y limpieza

Mantenga limpios los componentes de su eBike, especialmente los contactos de la batería y del respectivo soporte. Límpielos con cuidado con un paño húmedo y suave.

Todos los componentes inclusive la unidad motriz no deberán sumergirse en agua ni tratarse con una limpiadora de alta presión.

Para el servicio técnico o la reparación de la eBike diríjase a una tienda de bicicletas autorizada.

Servicio técnico y atención al cliente

En todas las consultas sobre el accionamiento de la eBike y sus componentes diríjase a una tienda de bicicletas autorizada.

Las direcciones de tiendas de bicicletas autorizadas las encuentra en la página de internet www.bosch-ebike.com

Transporte

Las baterías están sujetas a los requerimientos fijados en la legislación sobre mercancías peligrosas. Las baterías pueden ser transportadas por carretera por usuarios particulares sin más imposiciones.

En caso de transporte por usuarios comerciales o envío por terceros (p.ej., transporte aéreo o agencia de transportes) deberán considerarse las exigencias especiales en cuanto a su embalaje e identificación (p.ej. prescripciones ADR). Si fuese preciso, puede recurrirse a un experto en mercancías peligrosas al preparar la pieza para su envío.

Únicamente envíe las baterías si su carcasa no está dañada. Si los contactos no van protegidos cúbralos con cinta adhesiva y embale la batería de manera que ésta no se pueda mover dentro del embalaje. Observe también las prescripciones adicionales que pudieran existir al respecto en su país.

En todas las consultas referentes al transporte de las baterías diríjase a una tienda de bicicletas autorizada. En dichas tiendas puede Ud. adquirir también un embalaje de transporte apropiado.

Eliminación



La unidad motriz, el ordenador de control, la batería, el captador de velocidad, los accesorios y embalajes deberán someterse a un proceso de recuperación que respete el medio ambiente.

¡No arroje las eBike ni sus componentes a la basura!

Sólo para los países de la UE:



Los aparatos eléctricos inservibles, así como los acumuladores/pilas defectuosos o agotados deberán acumularse por separado para ser sometidos a un reciclaje ecológico tal como lo marcan las Directivas Europeas 2002/96/CE y 2006/66/CE, respectivamente.

Entregue las baterías inservibles en una tienda de bicicletas autorizada.



Iones de Litio:

Observe las indicaciones comprendidas en el apartado "Transporte", página Español-8.

Reservado el derecho de modificación.

Bloque batería de Iones de Litio

Battery Pack

Instrucciones de seguridad



Lea íntegramente las indicaciones de seguridad e instrucciones. En caso de no atenerse a las indicaciones de seguridad e instrucciones, ello puede ocasionar una descarga eléctrica, incendio y/o lesión grave.

Guarde todas las indicaciones de seguridad e instrucciones para posibles consultas futuras.

El término “batería” empleado en estas instrucciones de uso se refiere indistintamente tanto a las baterías estándar (baterías de fijación al cuadro de la bicicleta) como a las baterías para portaequipajes (baterías de fijación al portaequipajes), excepto en aquellos casos en los que se haga referencia expresa a la forma constructiva.

- ▶ **Desmonte la batería de la eBike antes de realizar trabajos en esta última (p.ej. montaje, mantenimiento, etc.) al transportarla en el coche o avión, o al guardarla.** En caso contrario podría accidentarse al accionar fortuitamente el interruptor de conexión/desconexión.
- ▶ **No abra la batería.** De lo contrario, podría producirse un cortocircuito. En caso de una apertura de la batería Bosch anula el derecho de garantía.



Proteja la batería del calor excesivo (p.ej. también de una exposición prolongada al sol), del fuego y de una inmersión en agua. Existe el riesgo de explosión.

- ▶ **Si no utiliza la batería, guárdela separada de clips, monedas, llaves, clavos, tornillos o demás objetos metálicos que pudieran puentear sus contactos.** El cortocircuito de los contactos de la batería puede causar quemaduras o un incendio. En los daños derivados de un cortocircuito por los motivos antedichos Bosch anula cualquier derecho a garantía.

- ▶ **La utilización inadecuada de la batería puede provocar fugas de líquido. Evite el contacto con él. En caso de un contacto accidental enjuagar el área afectada con abundante agua. Si ha penetrado líquido en los ojos recurra además inmediatamente a un médico.** El líquido de la batería puede irritar la piel o producir quemaduras.
- ▶ **Si la batería se daña o usa de forma inapropiada puede que ésta emane vapores. Ventile con aire fresco el recinto y acuda a un médico si nota alguna molestia.** Los vapores pueden irritar las vías respiratorias.
- ▶ **Solamente cargue la batería con los cargadores recomendados por el fabricante.** Existe el riesgo de incendio al intentar cargar baterías de un tipo diferente al previsto para el cargador.
- ▶ **Solamente utilice la batería en combinación con las eBikes que el fabricante recomienda.** Solamente así queda protegida la batería contra sobrecargas peligrosas.
- ▶ **Únicamente utilice baterías originales Bosch homologadas por el fabricante de su eBike.** El uso de otro tipo de baterías puede acarrear lesiones e incluso un incendio. Si se aplican baterías de otro tipo Bosch declina cualquier responsabilidad y el derecho a garantía.
- ▶ **Lea y atégase a las indicaciones de seguridad e instrucciones que figuran en las instrucciones de uso del cargador y de la unidad motriz/ordenador de control, así como en las instrucciones de uso de su eBike.**

Descripción y prestaciones del producto

Componentes principales (ver página 4–5)

La numeración de los componentes está referida a las imágenes en las páginas ilustradas.

A excepción de las baterías y sus soportes, las piezas de la bicicleta solamente se representan de forma esquemática y pueden ser diferentes en su eBike.

- 13** Soporte de la batería para portaequipajes
- 14** Batería para portaequipajes
- 15** Indicador de funcionamiento y estado de carga
- 16** Tecla de conexión/desconexión
- 17** Llave de la cerradura de la batería
- 18** Cerradura de la batería
- 19** Soporte superior de la batería estándar
- 20** Batería estándar
- 21** Soporte inferior de la batería estándar
- 22** Correa de transporte
- 23** Cargador

Datos técnicos

Batería de Iones de Litio	Battery Pack	
Nº de artículo		
– Batería estándar negra	1 270 020 500/	1 270 020 504
– Batería estándar blanca	1 270 020 501/	1 270 020 505
– Batería estándar plateada	1 270 020 502/	1 270 020 506
– Batería para portaequipajes	1 270 020 503/	1 270 020 507
Tensión nominal	V=	36
Capacidad nominal	Ah	8
Energía	Wh	288
Temperatura de operación	°C	–10...+40
Temperatura de almacenamiento	°C	–10...+60
Margen admisible de la temperatura de carga	°C	0...+40
Peso	kg	2,5
Grado de protección	IP 54 (protección contra polvo y salpicaduras de agua)	

Montaje

- ▶ **Únicamente deposite la batería sobre superficies limpias.** Ponga especial cuidado de no ensuciar el conector hembra para carga ni los contactos, p.ej., con arena o tierra.

Control de la batería antes del primer uso

Compruebe la batería antes de cargarla o utilizarla por primera vez en su eBike.

Para ello conecte la batería pulsando la tecla de conexión/desconexión **16**. Si no se enciende ningún LED del indicador de estado de carga **15**, es probable que la batería esté dañada.

Si se enciende uno o algunos de los LED (pero no todos ellos) del indicador de estado de carga **15** recargue completamente la batería antes de su primer uso.

- ▶ **No recargue ni utilice una batería dañada.** Diríjase a una tienda de bicicletas autorizada.

Carga de la batería

- ▶ **Únicamente use el cargador detallado en la página ilustrada.** Solamente este cargador ha sido especialmente adaptado a la batería de iones de litio empleada en su eBike.

Observación: La batería se suministra parcialmente cargada. Con el fin de obtener la plena potencia de la batería, antes de su primer uso, cárguela completamente con el cargador.

Para recargar la batería es necesario desmontar la de la eBike.

Lea y atégase a las instrucciones de uso del cargador al cargar la batería.

La batería puede recargarse siempre que se quiera, sin que ello merme su vida útil. Una interrupción del proceso de carga no afecta a la batería.

La batería viene equipada con un control de temperatura que únicamente permite su recarga dentro de un margen de temperatura entre 0 °C y 40 °C. De esta manera se consigue una elevada vida útil de la batería.

Indicador de estado de carga

El nivel de carga de la batería se señala mediante los cinco LED verdes del indicador de carga **15**.

Cada uno de los LED corresponde por lo tanto a una capacidad aprox. de 20 %. Estando completamente cargada la batería se encienden los cinco LED.

El nivel de carga de la batería conectada se muestra además en el ordenador de control. Lea y considere al respecto las instrucciones de uso de la unidad motriz y del ordenador de control.

Si la capacidad de la batería es inferior a un 5 % se apagan todos los LED del indicador de estado de carga **15**, pero queda encendida la pantalla del ordenador de control.

Montaje y desmontaje de la batería (ver figuras E-F)

- ▶ **Siempre desconecte la batería al montarla o desmontarla del soporte. Si tiene montada la batería observe también la indicación en el ordenador de control para ver si ésta está vacía.** En caso contrario podría deteriorarse la batería.

Para poder montar la batería es necesario que la llave **17** esté metida en la cerradura **18** y que ésta esté abierta.

Para **montar la batería estándar 20** colóquela con los contactos orientados hacia el soporte inferior **21** en la eBike. Abátala hasta el tope hacia el soporte superior **19**.

Para **montar la batería para portaequipajes 14** empújela con los contactos mirando hacia el frente hasta enclavarla en el soporte **13** del portaequipajes.

Controle si la batería ha quedado firmemente sujeta. Siempre cierre la batería con la cerradura **18** para evitar que la batería se salga del soporte.

Saque siempre la llave **17** de la cerradura **18** después de cerrarla. Así evita que pierda la llave o que al tener estacionada la eBike la batería ésta le sea sustraída.

Para **desmontar la batería estándar 20** desconéctela primero y abra entonces la cerradura con la llave **17**. Abata hacia atrás la batería para desprenderla del soporte superior **19** y sáquela del soporte inferior **21** agarrándola por la correa de transporte **22**.

Para **desmontar la batería para portaequipajes 14** desconéctela primero y abra entonces la cerradura con la llave **17**. Tire de la batería para sacarla del soporte **13**.

Operación

Puesta en marcha

► Únicamente utilice baterías originales Bosch homologadas por el fabricante de su eBike.

El uso de otro tipo de baterías puede acarrear lesiones e incluso un incendio. Si se aplican baterías de otro tipo Bosch declina cualquier responsabilidad y el derecho a garantía.

Conexión/desconexión

Antes de conectar la batería asegúrese de que la cerradura **18** esté cerrada.

Observación: Al conectar la batería no deberán presionarse los pedales de la eBike ya que ello reduciría la potencia del accionamiento.

Para **conectar** la batería pulse la tecla de conexión/desconexión **16**. Los LED de la pantalla **15** se iluminan e indican seguidamente el nivel de carga.

Observación: Si la capacidad de la batería fuese inferior a un 5 %, en el indicador de estado de carga **15** de la batería no se enciende ningún LED. Solamente en el ordenador de control es posible apreciar en ese caso si la batería está conectada.

La conexión de la batería es uno de los requisitos para la puesta en marcha del accionamiento de la eBike. Lea y considere al respecto las instrucciones de uso de la unidad motriz y del ordenador de control.

Para **desconectar** la batería pulse nuevamente la tecla de conexión/desconexión **16**. Los LED de la pantalla **15** se apagan. Con ello se desconecta asimismo el accionamiento de la eBike.

Si en el transcurso de 10 min el accionamiento sigue inactivo (p.ej., al estar detenida la eBike) la batería se desconecta automáticamente con el fin de ahorrar energía.

La batería va protegida contra alta descarga, sobrecarga, sobretemperatura y cortocircuito por “Electronic Cell Protection (ECP) (Protección Electrónica de Celdas)”. En esos casos un circuito de protección se encarga de desconectar automáticamente la batería.

Indicaciones para el trato óptimo de la batería

Para la batería se garantizan como mínimo 500 ciclos de recarga total.

La vida útil de la batería puede prolongarse si ésta se trata apropiadamente y ante todo si se deja funcionar y se almacena respetando el margen de temperatura prescrito. Se recomienda un margen de temperatura de operación entre +5 °C y +35 °C.

Aún así, a medida que va envejeciendo la batería, su capacidad irá mermando.

Si después de haberla recargado, el tiempo de funcionamiento de la batería fuese muy corto, ello es síntoma de que está agotada y debe sustituirse.

Si la correa de transporte **22** de la batería estándar llega a dar de sí deje sustituirla en una tienda de bicicletas.

Recarga de la batería antes y durante su almacenaje

Si pretende no utilizar la batería durante largo tiempo, recárguela a aprox. un 60 % (deberán estar encendidos 3 a 4 LED del indicador de estado de carga **15**).

Controle el nivel de carga pasados 6 meses. Si sólo se enciende un LED del indicador de estado de carga **15** vuelva a recargar la batería un 60 %, aprox.

Observación: Si la batería se guarda durante largo tiempo estando descargada, a pesar de su baja autodescarga, ésta puede llegar a dañarse y reducirse considerablemente su capacidad.

No se recomienda dejar permanentemente conectada la batería al cargador.

Condiciones para el almacenaje

A ser posible, guarde la batería en un lugar seco y bien ventilado. Protéjala de la humedad y del agua. Si las condiciones atmosféricas son adversas se recomienda, p.ej., desmontar la batería del eBike y guardarla hasta su próxima utilización en un recinto cerrado.

Es posible almacenar la batería dentro de un margen de temperatura de $-10\text{ }^{\circ}\text{C}$ a $+60\text{ }^{\circ}\text{C}$. Sin embargo, para lograr un larga vida útil es recomendable almacenarla a una temperatura ambiente aprox. de $20\text{ }^{\circ}\text{C}$.

Preste atención a no rebasar la temperatura de almacenaje máxima. P.ej., no deje la batería en el coche en verano y guárdela de manera que no quede directamente expuesta al sol.

Mantenimiento y servicio

Mantenimiento y limpieza

Mantenga limpia la batería. Límpiela con cuidado con un paño húmedo y suave. La batería no deberá sumergirse en agua ni limpiarse con un chorro de agua.

Si su batería ya no funciona diríjase por favor a una tienda de bicicletas autorizada.

Servicio técnico y atención al cliente

En todas las consultas sobre las baterías diríjase a una tienda de bicicletas autorizada.

- **Anote y guarde en un lugar seguro el número de la llave 17.** En caso de pérdida de la llave diríjase a una tienda de bicicletas autorizada. Deberá indicar entonces el número de la llave.

Las direcciones de tiendas de bicicletas autorizadas las encuentra en la página de internet www.bosch-ebike.com

Transporte

Las baterías están sujetas a los requerimientos fijados en la legislación sobre mercancías peligrosas. Las baterías pueden ser transportadas por carretera por usuarios particulares sin más imposiciones.

En caso de transporte por usuarios comerciales o envío por terceros (p.ej., transporte aéreo o agencia de transportes) deberán considerarse las exigencias especiales en cuanto a su embalaje e identificación (p.ej. prescripciones ADR). Si fuese preciso, puede recurrirse a un experto en mercancías peligrosas al preparar la pieza para su envío. Únicamente envíe las baterías si su carcasa no está dañada. Si los contactos no van protegidos cúbralos con cinta adhesiva y embale la batería de manera que ésta no se pueda mover dentro del embalaje. Observe también las prescripciones adicionales que pudieran existir al respecto en su país.

En todas las consultas referentes al transporte de las baterías diríjase a una tienda de bicicletas autorizada. En dichas tiendas puede Ud. adquirir también un embalaje de transporte apropiado.

Eliminación



Las baterías, accesorios y embalajes deberán someterse a un proceso de recuperación que respete el medio ambiente.

¡No arroje las baterías a la basura!

Sólo para los países de la UE:



Los aparatos eléctricos inservibles, así como los acumuladores/pilas defectuosos o agotados deberán acumularse por separado para ser sometidos a un reciclaje ecológico tal como lo marcan las Directivas Europeas 2002/96/CE y 2006/66/CE, respectivamente.

Entregue las baterías inservibles en una tienda de bicicletas autorizada.



Iones de Litio:

Observe las indicaciones comprendidas en el apartado "Transporte", página Español-13.

Reservado el derecho de modificación.

Cargador Charger

Instrucciones de seguridad



Lea íntegramente las indicaciones de seguridad e instrucciones. En caso de no atenerse a las indicaciones de seguridad e instrucciones, ello puede ocasionar una descarga eléctrica, incendio y/o lesión grave.

Guarde todas las indicaciones de seguridad e instrucciones para posibles consultas futuras.

El término “batería” empleado en estas instrucciones de uso se refiere indistintamente tanto a las baterías estándar (baterías de fijación al cuadro de la bicicleta) como a las baterías para portaequipajes (baterías de fijación al portaequipajes).



No exponga el cargador a la lluvia y evite que penetren líquidos en su interior. La penetración de agua en el cargador comporta un mayor riesgo de electrocución.

- ▶ **El cargador solamente es adecuado para cargar baterías de iones de litio Bosch de las tensiones indicadas en los datos técnicos.** En caso de no atenerse a ello podría originarse un incendio o explosión.
- ▶ **Siempre mantenga limpio el cargador.** La suciedad puede comportar un riesgo de electrocución.
- ▶ **Antes de cada utilización verificar el estado del cargador, cable y enchufe. No utilice el cargador en caso de detectar algún desperfecto. Jamás intente abrir el cargador por su propia cuenta, y solamente hágalo reparar por personal técnico cualificado empleando exclusivamente piezas de repuesto originales.** Un cargador, cable y enchufe deteriorados comportan un mayor riesgo de electrocución.
- ▶ **No utilice el cargador sobre una base fácilmente inflamable (p.ej. papel, tela, etc.) ni en un entorno inflamable.** Puesto que el cargador se calienta durante el proceso de carga existe un peligro de incendio.
- ▶ **Si la batería se daña o usa de forma inapropiada puede que ésta emane vapores. Ventile con aire fresco el recinto y acuda a un médico si nota alguna molestia.** Los vapores pueden irritar las vías respiratorias.
- ▶ **Vigile a los niños.** Con ello se evita que los niños jueguen con el cargador.
- ▶ **Los niños y personas que por sus condiciones físicas, sensoriales o mentales, o por su falta de experiencia o conocimientos no estén en disposición de manejar el cargador de forma segura, no deberán utilizar este cargador sin ser supervisados o instruidos por una persona responsable.** En caso contrario existe el riesgo de un manejo incorrecto y de lesión.
- ▶ **Conecte el cargador a una red eléctrica conectada a tierra de forma reglamentaria.** La toma de corriente y los cables de prolongación deberán disponer de un conductor de protección que actúe correctamente.
- ▶ **Lea y atégase a las indicaciones de seguridad e instrucciones que figuran en las instrucciones de uso de la batería y de la unidad motriz/ordenador de control, así como en las instrucciones de uso de su eBike.**
- ▶ En la parte inferior del cargador figuran de forma abreviada importantes instrucciones de seguridad en inglés, español y francés (ver posición **28** en la ilustración) con el siguiente contenido:
 - Para un funcionamiento con seguridad, ver el manual. Peligro de sacudida eléctrica.
 - Utilice solamente en lugares secos.
 - Cargar únicamente baterías recargables eBat100-199. Otras baterías podrían reventar, causando lesiones personales y daños.
 - No reemplace el ensamblaje del enchufe, ya que el resultado puede ser riesgo de incendio o sacudidas eléctricas.

Descripción y prestaciones del producto

Datos técnicos

Cargador		Charger
Nº de artículo		0 275 007 900
Tensión nominal	V~	115/230
Frecuencia	Hz	50/60
Tensión de carga de la batería	V=	36
Corriente de carga		
– Carga normal	A	4
– Carga silenciosa	A	1
Margen admisible de la temperatura de carga	°C	0...+40
Tiempo de carga (con una capacidad de batería de 8 Ah), aprox.		
– Carga normal	h	2,5
– Carga silenciosa	h	8
Nº de celdas		10–80
Peso según EPTA-Procedure 01/2003	kg	0,8
Clase de protección		⊕/I

Estos datos son válidos para una tensión nominal de [U] 230 V. Los valores pueden variar para otras tensiones y en ejecuciones específicas para ciertos países.

Componentes principales (ver página 6–7)

La numeración de los componentes está referida a la imagen del cargador en la página ilustrada.

- 14** Batería para portaequipajes
- 15** Indicador del estado de carga de la pila
- 20** Batería estándar
- 23** Cargador
- 24** Rejillas de refrigeración
- 25** Conector hembra del aparato

- 26** Selector de tensión de red
- 27** Enchufe del aparato
- 28** Instrucciones de seguridad del cargador
- 29** Tecla para modo de carga
- 30** Indicador de operación
- 31** Conector del cargador
- 32** Conector hembra para el cargador

Operación

- ▶ **Únicamente deposite la batería sobre superficies limpias.** Ponga especial cuidado de no ensuciar el conector hembra para carga ni los contactos, p.ej., con arena o tierra.

Puesta en marcha

Conexión del cargador (ver figuras G–H)

Fije en el selector de tensión **26** del cargador la tensión de alimentación a aplicar. Ud. puede optar entre 115 V y 230 V.

- ▶ **¡Preste atención a la tensión de red!** La tensión de alimentación deberá coincidir con aquella indicada en la placa de características del cargador. Los cargadores para 230 V pueden funcionar también a 220 V.

Introduzca entonces el enchufe **27** del cable de red en el conector hembra **25** del cargador.

Conecte el enchufe (específico de cada país) a la red. El indicador de operación **30** del cargador se enciende.

- ▶ **Únicamente conecte el cargador a la red tras haber ajustado la tensión de red correcta en el selector de tensión 26.** En caso contrario podría dañarse el cargador.

Desconecte la batería y desmóntela del soporte de la eBike. Para ello lea y atégase a las instrucciones de uso de la batería.

Conecte el conector macho del cargador **31** al conector hembra **32** de la batería. El indicador de operación **30** del cargador parpadea.

Proceso de carga

El proceso de carga comienza nada más conectar a la batería el cargador teniendo éste conectado a la red.

Observación: El proceso de carga solamente puede llevarse a cabo si la temperatura de la batería se encuentra dentro del campo admisible.

Puede seleccionar entre dos modos de carga diferentes: Carga normal “**FAST**” y carga silenciosa “**SLOW**”. En el modo de operación “**SLOW**” la carga se realiza sin ruido.

Modo de carga	Carga normal “ FAST ”	Carga silenciosa “ SLOW ”
Corriente de carga	4 A	1 A
El indicador de operación 30	parpadea	permanentemente encendido
Ventilación del cargador	enc.	apag.

Al poner en marcha el cargador se preajusta automáticamente el modo de carga normal. Para cambiar el modo de carga presione la tecla **29**.

► **Tenga cuidado al tocar el cargador durante el proceso de carga. Utilice guantes de protección.** El cargador puede llegar a calentarse fuertemente, especialmente durante la carga normal a altas temperaturas ambiente.

Observación: Preste atención a que el cargador esté bien ventilado durante el proceso de carga y que no estén obstruidas las rejillas de refrigeración **24** en ambos lados.

Durante el proceso de carga se encienden los LED del indicador de estado de carga **15** de la batería. Cada LED permanentemente encendido señala una capacidad aprox. de un 20 %. El LED parpadeante señala la carga del 20 % siguiente.

La batería se encuentra completamente cargada al encenderse permanentemente los cinco LED del indicador **15**. El proceso de carga es interrumpido automáticamente.

Desconecte el cargador de la red y la batería del cargador.

Al desconectar del cargador la batería ésta se desconecta automáticamente.

Acto seguido puede Ud. montar la batería en la eBike.

Fallos – causas y soluciones

Causa	Solución
El indicador de operación 30 no se enciende; no es posible llevar a cabo el proceso de carga	
Selección incorrecta de la tensión de red con el selector 26	Seleccionar la tensión de red correcta
Enchufe incorrectamente introducido	Verificar todas las conexiones por enchufe
Contactos de la batería sucios	Limpiar con cuidado los contactos de la batería
Batería demasiado caliente o fría	Deje atemperar la batería hasta alcanzar la temperatura de carga admisible
Rejillas de refrigeración 24 del cargador obstruidas o cubiertas	Limpiar las rejillas de refrigeración 24 y colocar el cargador de manera pueda ventilarse bien
Toma de corriente, cable o cargador defectuoso	Verificar la tensión de red, dejar comprobar el cargador en la tienda de bicicletas
Batería defectuosa	Sustituir la batería

Mantenimiento y servicio

Mantenimiento y limpieza

Cuide que durante el uso del cargador las rejillas de refrigeración **24** estén libres y limpias. Si fuese preciso limpie las rejillas de refrigeración con un aspirador.

Si el cargador llegase a averiarse dirjase a una tienda de bicicletas autorizada.

Servicio técnico y atención al cliente

En todas las consultas sobre el cargador dirjase a una tienda de bicicletas autorizada.

Las direcciones de tiendas de bicicletas autorizadas las encuentra en la página de internet

www.bosch-ebike.com

Eliminación

Los cargadores, accesorios y embalajes deberán someterse a un proceso de recuperación que respete el medio ambiente.

¡No arroje los cargadores a la basura!

Sólo para los países de la UE:



Conforme a la Directiva Europea 2002/96/CE sobre aparatos eléctricos y electrónicos inservibles, tras su transposición en ley nacional, deberán acumularse por separado los cargadores para ser sometidos a un reciclaje ecológico.

Reservado el derecho de modificación.

Computer di controllo HMI/ Unità di azionamento Drive Unit 45

Norme di sicurezza



Leggere tutte le indicazioni di sicurezza e le istruzioni operative. In caso di mancato rispetto delle indicazioni di sicurezza e delle istruzioni operative si potrà creare il pericolo di scosse elettriche, incendi e/o lesioni gravi.

Conservare tutte le indicazioni di sicurezza e le istruzioni operative per ogni esigenza futura.

Il termine utilizzato nelle presenti istruzioni per l'uso «batteria» si riferisce allo stesso modo a batterie standard (batterie con supporto sul telaio della bicicletta) e batterie per montaggio al portapacchi (batterie con supporto sotto al portapacchi).

- ▶ **Non aprire da soli l'unità di azionamento. L'unità di azionamento non necessita di manutenzione e può essere riparata esclusivamente da personale specializzato ed impiegando solo pezzi di ricambio originali.** In questo modo viene garantita la salvaguardia della sicurezza dell'unità di azionamento. In caso di apertura non autorizzata dell'unità di azionamento decadrà qualsiasi pretesa di garanzia.
- ▶ **Tutti i componenti montati sull'unità di azionamento e tutti gli altri componenti dell'azionamento dell'eBike (p.es. ingranaggio catena, supporto dell'ingranaggio catena, pedali) possono essere sostituiti esclusivamente da componenti uguali strutturalmente oppure omologati dal produttore della bicicletta specificatamente per la Vostra eBike.** In questo modo l'unità di azionamento viene protetta da sovraccarico e danneggiamento.

- ▶ **Rimuovere la batteria dalla eBike prima di iniziare interventi (p.es. montaggio, manutenzione ecc.) alla eBike, prima di trasportarla con l'auto o l'aereo oppure prima di conservarla.** In caso di azionamento accidentale dell'interruttore di accensione/spengimento esiste pericolo di lesioni.
- ▶ **La funzione aiuto all'avviamento deve essere utilizzata esclusivamente all'avviamento oppure mentre si spinge l'eBike.** Se durante l'impiego dell'aiuto all'avviamento le ruote non hanno alcun contatto con il terreno esiste il pericolo di lesioni.
- ▶ **Utilizzare esclusivamente batterie originali Bosch che sono state omologate dal produttore per l'eBike.** L'uso di batterie diverse può causare lesioni e pericolo di incendio. In caso di impiego di batterie diverse Bosch non si assumerà alcuna responsabilità civile e garanzia.
- ▶ **Osservare tutte le norme nazionali relative all'immatricolazione ed impiego di eBike.**
- ▶ **Leggere ed osservare le indicazioni di sicurezza e le istruzioni operative indicate nelle istruzioni per l'uso della batteria e nelle istruzioni per l'uso dell'eBike.**

Descrizione del prodotto e caratteristiche

Uso conforme alle norme

L'unità di azionamento è destinata esclusivamente all'azionamento della Vostra eBike e non deve essere utilizzata per altri scopi. L'eBike è prevista per impiego su percorsi pavimentati. La stessa non è omologata per gare.

Componenti illustrati (vedi pagina 2-3)

La numerazione dei componenti si riferisce alle illustrazioni riportate sulla pagina con la rappresentazione grafica.

Tutte le illustrazioni delle parti della bicicletta ad eccezione dell'unità di azionamento, del computer di controllo, del sensore della velocità ed i rispettivi supporti sono riportate in modo schematico e possono essere differenti dalla Vostra eBike.

- 1 Computer di controllo
- 2 Supporto del computer di controllo
- 3 Tasto «**info/reset**» per visualizzazione multi-funzione
- 4 Tasto modo di assistenza «**mode**»
- 5 Tasto illuminazione «**light**»
- 6 Tasto per aumentare il grado di assistenza/Attivazione e disattivazione dell'aiuto all'avviamento ▲
- 7 Tasto per ridurre il grado di assistenza ▼
- 8 Unità di azionamento
- 9 Viti inferiori del supporto
- 10 Vite superiore del supporto
- 11 Sensore di velocità
- 12 Magnete per raggi del sensore di velocità

Elementi di visualizzazione computer di controllo

- a Visualizzazione tachimetro
- b Visualizzazione illuminazione
- c Visualizzazione grado di assistenza
- d Visualizzazione aiuto all'avviamento
- e Visualizzazione multifunzione
- f Visualizzazione modo di assistenza e codice errore
- g Indicatore dello stato di ricarica della batteria

Dati tecnici

Unità di azionamento	Drive Unit 45	
Codice prodotto		0 275 007 003
Potenza continua nominale	W	350
Coppia sull'azionamento max.	Nm	50
Tensione nominale	V=	36
Temperatura di esercizio	°C	-5...+40
Temperatura di magazzino	°C	-10...+50
Tipo di protezione		IP 54 (protezione contro la polvere e contro gli spruzzi dell'acqua)
Peso ca.	kg	4

Computer di controllo	HMI	
Codice prodotto		1 270 020 900
Temperatura di esercizio	°C	-5...+40
Temperatura di magazzino	°C	-10...+50
Tipo di protezione		IP 54 (protezione contro la polvere e contro gli spruzzi dell'acqua)
Peso ca.	kg	0,15

Illuminazione*		
Tensione nominale	V=	6
Potenza		
- Luce anteriore	W	2,7
- Luce posteriore	W	0,3

* in funzione delle norme di legge, non è possibile in tutti i modelli specifici dei paesi di impiego tramite la batteria eBike

Montaggio

Inserimento e rimozione della batteria

Per l'inserimento e la rimozione della batteria nell'eBike leggere ed osservare le istruzioni per l'uso della batteria.

Posizionamento del supporto del computer di controllo

- ▶ **Serrare saldamente le viti 10 e 9 con una coppia di serraggio al massimo di 1 Nm.** In caso contrario il supporto **2** potrebbe venire danneggiato.

Spostamento/inclinazione del supporto (vedi figura A)

Allentare le due viti **9** sul lato inferiore del supporto **2**. Spostare il supporto sul manubrio oppure modificare l'angolo di inclinazione. Serrare di nuovo entrambe le viti **9** con una coppia di serraggio al massimo di 1 Nm.

Rotazione del supporto (vedi figura B)

Allentare la vite **10** sul lato superiore del supporto **2**. Ruotare la parte superiore del supporto in modo tale che il computer di controllo **1**, dopo l'inserimento (vedi «Inserimento e rimozione del computer di controllo») sia ben visibile. Serrare di nuovo la vite **10** con una coppia di serraggio al massimo di 1 Nm.

Inserimento e rimozione del computer di controllo (vedi figura C)

Per l'**inserimento** del computer di controllo inserirlo ruotato di circa 30° nel supporto **2** e girarlo in senso orario fino all'arresto.

Per la **rimozione** ruotare il computer di controllo per circa 30° in senso antiorario e toglierlo dal supporto **2**.

- ▶ **Togliere il computer di controllo quando l'eBike è parcheggiata affinché l'azionamento non possa essere utilizzato da terzi non autorizzati.** Senza il computer di controllo l'azionamento non può essere inserito.

Controllo del sensore di velocità (vedi figura D)

Il sensore di velocità **11** ed il relativo magnete per raggi **12** devono essere montati in modo tale che durante un giro della ruota il magnete per raggi si muova davanti al sensore di velocità ad una distanza minima di 5 mm e massima di 17 mm.

Nota bene: Se la distanza tra il sensore di velocità **11** ed il magnete per raggi **12** è troppo piccola o troppo grande oppure se il sensore di velocità **11** non è collegato correttamente, non avviene alcuna visualizzazione tachimetro **a** e l'azionamento dell'eBike lavora nel programma funzionamento d'emergenza.

In questo caso allentare la vite del magnete per raggi **12** e fissare il magnete ai raggi in modo tale che lo stesso passi davanti alla marcatura del sensore di velocità alla distanza corretta. Se anche dopo queste operazioni non compare alcuna velocità sulla visualizzazione tachimetro **a**, rivolgersi ad un rivenditore autorizzato per biciclette.

Uso

Messa in funzione

Presupposti

L'azionamento dell'eBike può essere attivato solamente se sono soddisfatti i seguenti presupposti:

- È inserita una batteria sufficientemente carica (vedi istruzioni per l'uso della batteria).
- Il computer di controllo è inserito correttamente nel supporto (vedi «Inserimento e rimozione del computer di controllo», pagina Italiano-3).
- Il sensore di velocità è collegato correttamente (vedi «Controllo del sensore di velocità», pagina Italiano-3).

Attivazione/disattivazione dell'azionamento

Inserire la batteria nel supporto ed attivarla al tasto di accensione/spegnimento (vedi istruzioni per l'uso della batteria).

Nota bene: All'attivazione della batteria i pedali dell'eBike non devono essere caricati poiché altrimenti la potenza dell'azionamento verrebbe limitata.

Se la batteria è stata attivata accidentalmente con pedali caricati, disattivarla ed inserirla di nuovo senza carico.

Con la batteria viene acceso contemporaneamente anche il display del computer di controllo. Il computer di controllo visualizza lo stato di carica della batteria e le regolazioni dell'unità di azionamento.

L'azionamento viene attivato non appena si inizia a pedalare (ad eccezione che nella funzione aiuto all'avviamento, vedi «Attivazione/disattivazione dell'aiuto all'avviamento», pagina Italiano-5). Il grado di assistenza dipende dalle regolazioni sul computer di controllo.

Nel funzionamento normale non appena si smette di pedalare oppure non appena viene raggiunta una velocità di 45 km/h, l'assistenza tramite l'azionamento eBike viene disattivata. L'azionamento viene attivato di nuovo automaticamente non appena si ricomincia a pedalare e la velocità è inferiore a 45 km/h.

Per disattivare l'azionamento, disinserire la batteria al tasto di accensione/spegnimento (vedi istruzioni per l'uso della batteria).

Se per ca. 10 min non viene richiesto alcun intervento dell'azionamento (p.es. poiché l'eBike è ferma), la batteria di spegne automaticamente per ragioni di risparmio energetico.

Visualizzazioni e regolazioni del computer di controllo

Nota bene: Visualizzazioni e regolazioni al computer di controllo sono possibili solamente se la batteria eBike è attivata. Il computer di controllo non è dotato di una propria alimentazione di corrente.

Indicatore dello stato di carica della batteria

Oltre che sull'indicatore dello stato di carica che si trova sulla batteria stessa, lo stato di carica può essere letto anche nella visualizzazione **g** del computer di controllo.

Nella visualizzazione **g** ogni barretta nel simbolo della batteria corrisponde a circa il 20 % della capacità.



da 100 % a 80 % della capacità



da 20 % a 5 % della capacità, la batteria dovrebbe essere ricaricata



Inferiore al 5 % della capacità, non è più possibile l'assistenza dell'azionamento.

I LED dell'indicatore dello stato di carica sulla batteria si spengono.

Se l'illuminazione dell'eBike viene fatta funzionare tramite la batteria (specifico del paese di impiego), la capacità è sufficiente poi, a partire dalla prima comparsa del simbolo vuoto della batteria, per ancora circa 2 ore di illuminazione. Quando il simbolo inizia a lampeggiare, anche l'illuminazione è possibile ancora per un breve periodo di tempo.

Regolazione del modo di assistenza

È possibile regolare al computer di controllo, quanto intensa dovrà essere l'assistenza dell'azionamento eBike durante la pedalata.

Nota bene: In singoli modelli è possibile che il modo di assistenza sia preimpostato e che non possa essere cambiato. È anche possibile che non vi siano a disposizione tutti i modi che sono indicati nelle presenti istruzioni.

Sono a disposizione al massimo quattro modi di assistenza.

ECO

«**ECO**»: assistenza efficace alla massima efficienza, per massima autonomia

FOUR

«**TOUR**»: assistenza regolare, per percorsi con grande autonomia

SPORT

«**SPORT**»: assistenza energica, per guida sportiva su percorsi di montagna nonché per traffico cittadino

SPEED

«**SPEED**»: assistenza massima fino alle massime frequenze di pedalata, per guida sportiva

Per il **cambio del modo di assistenza** premere il tasto **«mode» 4** fino a quando compare nella visualizzazione **f** il modo desiderato.

Durante l'impiego dell'aiuto all'avviamento si spegne la visualizzazione **f**, il modo di assistenza regolato viene memorizzato.

Regolazione del livello di assistenza

Nel modo di assistenza regolato è possibile in ogni momento, anche durante la guida, modificare il livello di assistenza.

Nota bene: In singoli modelli è possibile che il livello di assistenza sia preimpostato e che non possa essere cambiato.

Sono possibili al massimo tre livelli di assistenza nonché la disattivazione dell'assistenza.

Grado di assistenza* nel: Modo di assistenza	Livello di assistenza		
	«1»	«2»	«3»
«ECO»	30 %	60 %	100 %
«TOUR»	45 %	80 %	120 %
«SPORT»	70 %	140 %	180 %
«SPEED»	90 %	160 %	250 %

* In singoli modelli il grado di assistenza può differire.

Per **umentare il livello di assistenza** premere il tasto **▲ 6** fino a quando compare nella visualizzazione **c** il livello desiderato.

Per **ridurre il livello di assistenza** premere il tasto **▼ 7** fino a quando compare nella visualizzazione **c** il livello desiderato.

Nel livello di assistenza **«0»** l'azionamento viene disattivato. L'eBike può essere mossa come una bicicletta normale semplicemente pedalando.

Durante l'impiego dell'aiuto all'avviamento si spegne la visualizzazione **c**, il modo di assistenza regolato viene memorizzato.

Attivazione/disattivazione dell'aiuto all'avviamento

L'aiuto all'avviamento può servire quale ulteriore assistenza per i primi metri quando l'avviamento è più difficoltoso (come ad. es. al semaforo oppure in salita). Lo stesso può essere utilizzato anche come ausilio per spingere la bicicletta nella marcia inferiore.

► **La funzione aiuto all'avviamento deve essere utilizzata esclusivamente all'avviamento oppure mentre si spinge l'eBike.** Se durante l'impiego dell'aiuto all'avviamento le ruote non hanno alcun contatto con il terreno esiste il pericolo di lesioni.

Per l'**attivazione** dell'aiuto all'avviamento premere il tasto **▲ 6** per più di 1 s e tenerlo premuto. L'azionamento dell'eBike viene attivato, la visualizzazione **d** lampeggia e le visualizzazioni **c**, **e** e **f** si spengono.

L'aiuto all'avviamento viene **disattivato** non appena viene effettuata una delle seguenti operazioni a scelta:

- Viene rilasciato il tasto **▲ 6**,
- Viene premuto un altro tasto sul computer di controllo,
- Si pedala in avanti oppure velocemente indietro,
- Le ruote dell'eBike vengono bloccate (ad es. frenando oppure urtando contro un ostacolo),
- Ad una velocità di 16 km/h.

Accensione/spengimento dell'illuminazione

A seconda delle norme specifiche del paese di impiego sono possibili due tipi di illuminazione:

- Tramite il computer di controllo possono essere accese e spente contemporaneamente la luce anteriore, la luce posteriore e l'illuminazione del display.
- È possibile accendere e spegnere solamente l'illuminazione del display, la luce anteriore e la luce posteriore dell'eBike sono indipendenti dal computer di controllo.

Per entrambi i tipi di illuminazione premere l'**accensione dell'illuminazione** il tasto **«light» 5**. Sul display compare la visualizzazione illuminazione **b**.

Per lo **spengimento dell'illuminazione** premere nuovamente il tasto **«light» 5**, la visualizzazione illuminazione **b** si spegne.

Visualizzazioni della velocità e della distanza

Nota bene: A seconda del modello specifico del paese di impiego la distanza e la velocità possono essere visualizzate o in «km» e «km/h» oppure in «mi» e «mph». L'uso del computer di controllo e la selezione delle possibilità di visualizzazione sono uguali per la versione in chilometri e per quella in miglia.

Nella **visualizzazione tachimetro a** viene sempre visualizzata la velocità attuale.

Nella **visualizzazione multifunzione e** è possibile selezionare tra le seguenti visualizzazioni:

odo 0 1635 km	Distanza complessiva «odo»: distanza complessiva per corsa fino ad ora con l'eBike
trip 06850 km	distanza giornaliera «trip»: distanza percorsa dall'ulti- mo reset

avg 002 17 km/h velocità media «avg»: velocità media raggiunta dall'ultimo reset

000 72 range km Autonomia «range»: probabile autonomia della carica presente della batteria (a condizioni, come modo di assistenza, livello di assistenza, profilo del percorso ecc., immutate)

Per **cambiare nella visualizzazione multifunzione e** premere il tasto «info/reset» 3 fino a quando viene visualizzata la funzione desiderata.

Per il **reset** della distanza giornaliera «trip» e della velocità intermedia «avg» passare su una delle due visualizzazioni e premere il tasto «info/reset» 3 fino a quando la visualizzazione viene azzerata.

Durante l'impiego dell'aiuto all'avviamento si spegne la visualizzazione multifunzione e.

Visualizzazione codice errore

I componenti dell'azionamento dell'eBike vengono costantemente controllati automaticamente. Se viene individuato un errore, compare nella visualizzazione **f** il relativo codice di errore.

In funzione del tipo di errore, l'azionamento viene eventualmente disattivato automaticamente. Il proseguimento della corsa senza assistenza tramite l'azionamento è tuttavia possibile in ogni momento. Prima di ulteriori corse l'eBike dovrebbe essere controllata.

► **Lasciare effettuare tutti i controlli e le riparazioni esclusivamente da un rivenditore autorizzato di biciclette.** Se nonostante il rimedio continua ad essere visualizzato un errore, anche in questo caso rivolgersi ad un rivenditore autorizzato di biciclette.

Codice	Causa	Rimedi
001	Errore interno del computer di controllo	Fare controllare il computer di controllo
002	Uno o più tasti del computer di controllo sono bloccati.	Controllare se i tasti sono incastrati ad es. a causa di sporcizia che è penetrata. Se necessario, pulire i tasti.
003	Problemi di collegamento del computer di controllo	Fare controllare raccordi e collegamenti
100	Errore interno dell'unità di azionamento	Fare controllare l'unità di azionamento
101	Problema di collegamento dell'unità di azionamento	Fare controllare raccordi e collegamenti
102	Errore del sensore di velocità	Fare controllare il sensore di velocità

* solo per l'illuminazione dell'eBike tramite la batteria (specifico del paese di impiego)

Codice	Causa	Rimedi
103*	Problema di collegamento dell'illuminazione	Fare controllare raccordi e collegamenti
104	Problemi di collegamento del computer di controllo	Fare controllare raccordi e collegamenti
105	Temperatura dell'unità di azionamento troppo alta (superiore a 40 °C)	Lasciare raffreddare l'unità di azionamento. Il proseguimento della corsa senza azionamento dell'eBike è possibile ed accelera il raffreddamento dell'unità di azionamento.
200	Errore interno dell'elettronica della batteria	Fare controllare la batteria
201	Temperatura della batteria troppo alta (superiore a 40 °C)	Lasciare raffreddare la batteria. Il proseguimento della corsa senza azionamento eBike è possibile ed accelera il raffreddamento della batteria.
202	Temperatura della batteria troppo bassa (inferiore a -10 °C)	Lasciare riscaldare lentamente la batteria in un ambiente caldo.
203	Problema di collegamento della batteria	Fare controllare raccordi e collegamenti
204	Polarizzazione errata della batteria	Ricaricare la batteria con la stazione di ricarica originale Bosch come descritto nelle sue istruzioni per l'uso.

* solo per l'illuminazione dell'eBike tramite la batteria (specifico del paese di impiego)

Indicazioni per la guida con l'azionamento eBike

Quando lavora l'azionamento eBike?

L'azionamento eBike assiste durante la guida fintanto che si pedala. Senza pedalata non avviene alcuna assistenza. Il grado di assistenza dipende sempre dalla forza impiegata durante la pedalata.

Impiegando poca forza, l'assistenza sarà inferiore rispetto all'impiego di molta forza. Questo vale indipendentemente dal modo e dal livello di assistenza.

L'azionamento eBike si disattiva automaticamente in caso di velocità superiori a 45 km/h. Se la velocità si abbassa sotto 45 km/h, l'azionamento è di nuovo disponibile automaticamente.

Vi è un'eccezione per la funzione aiuto all'avviamento ovvero quella in cui l'eBike può muoversi a bassa velocità senza azionamento dei pedali. È possibile utilizzare in qualsiasi momento l'eBike come una bicicletta normale anche senza l'assistenza disattivando la batteria oppure posizionando il livello di assistenza su «0». La stessa cosa vale in caso di batteria scarica.

Interazione dell'azionamento eBike con il cambio

Anche con l'azionamento eBike il cambio dovrebbe essere utilizzato come in una bicicletta normale (osservare a riguardo le istruzioni per l'uso dell'eBike).

Indipendentemente dal tipo del cambio è consigliabile durante il cambio di marcia interrompere brevemente di pedalare. In questo modo il cambio di marcia diventa più facile e si riduce l'usura degli organi di azionamento.

Grazie alla selezione della marcia corretta è possibile con lo stesso impiego di forza aumentare la velocità e l'autonomia.

Prime corse di prova

Si consiglia di effettuare le prime esperienze con l'eBike lontano da strade con molto traffico. Provare differenti modi di assistenza e livelli di assistenza. Non appena Vi sentirete sicuri potrete guidare con l'eBike nel traffico come con ogni bicicletta.

Provare l'autonomia dell'eBike con differenti condizioni prima di organizzare corse più lunghe ed impegnative.

Influssi sull'autonomia

Con batteria completamente carica e modo di guida parsimonioso è possibile un'autonomia fino a 105 km.

L'autonomia viene tuttavia influenzata da molti fattori, come ad esempio:

- modo di assistenza e livello di assistenza,
- comportamento nel cambio di marcia,
- tipo di pneumatici e pressione dei pneumatici,
- invecchiamento e condizioni della batteria,
- profilo del percorso (salite) e condizione del percorso (rivestimento della carreggiata),
- vento contrario e temperatura ambientale,
- peso dell'eBike, ciclista e bagaglio.

Per questa ragione non è possibile prevedere concretamente l'autonomia prima della presenza di un fattore. In linea di massima vale tuttavia:

- Con grado di assistenza **uguale** tramite l'azionamento dell'eBike: tanto inferiore sarà la forza da impiegare per raggiungere una determinata velocità (p.es. tramite l'uso ottimale del cambio marcia), tanto inferiore sarà l'energia che l'azionamento dell'eBike consumerà e tanto maggiore sarà l'autonomia di una carica della batteria.
- Tanto **maggiore** sarà selezionato il grado di assistenza (modo e livello di assistenza), a condizioni altrimenti uguali, tanto più limitata sarà l'autonomia.

Trattamento e cura dell'eBike

Osservare le temperature di funzionamento e di magazzino dei componenti dell'eBike. Proteggere l'unità di azionamento, il computer di controllo e la batteria da temperature estreme (p.es. tramite irradiazione solare intensivo senza contemporanea aerazione). I componenti (in modo particolare la batteria) possono venire danneggiati da temperature estreme.

Manutenzione ed assistenza

Manutenzione e pulizia

Mantenere puliti tutti i componenti dell'eBike, in modo particolare i contatti della batteria ed il relativo supporto. Pulirli con cautela con uno straccio umido e morbido.

Tutti i componenti, inclusa l'unità di azionamento non devono essere immersi in acqua oppure puliti con un'idropulitrice.

Per Service e riparazioni all'eBike rivolgersi ad un rivenditore autorizzato di biciclette.

Servizio di assistenza ed assistenza clienti

Per tutte le domande relative all'azionamento eBike ed ai suoi componenti rivolgersi ad un rivenditore autorizzato di biciclette.

Le informazioni per contattare rivenditori autorizzati di biciclette sono riportate sulla pagina web **www.bosch-ebike.com**

Trasporto

Le batterie sono soggette ai requisiti di legge relativi a merci pericolose. Le batterie possono essere trasportate su strada tramite l'utente privato senza ulteriori precauzioni.

In caso di trasporto tramite utente commerciale oppure in caso di trasporto tramite terzi (p. es. trasporto aereo oppure spedizioniere) devono essere osservati particolari requisiti relativi ad imballo e marcatura (ad es. norme dell'ADR). In caso di necessità per la preparazione del pezzo da spedire si può ricorrere ad un esperto per merce pericolosa.

Spedire batterie solamente se la carcassa non è danneggiata. Coprire con nastro adesivo i contatti scoperti ed imballare la batteria in modo tale che non si muova nell'imballo. Vi preghiamo di osservare anche eventuali, ulteriori norme nazionali.

In caso di domande relative al trasporto delle batterie rivolgersi ad un rivenditore autorizzato di biciclette. Presso il rivenditore è possibile ordinare anche un imballo per il trasporto adatto.

Smaltimento



Avviare ad un riciclaggio rispettoso dell'ambiente l'unità di azionamento, il computer di comando, la batteria, il sensore di velocità, accessori ed imballaggi non più impiegabili.

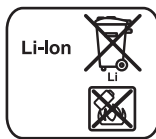
Non gettare l'eBike ed i suoi componenti tra i rifiuti domestici!

Solo per i Paesi della CE:



Conformemente alla direttiva europea 2002/96/CE gli apparecchi elettrici diventati inservibili e, in base alla direttiva europea 2006/66/CE, le batterie ricaricabili/batterie difettose o consumate devono essere raccolte separatamente ed essere inviate ad una riutilizzazione ecologica.

Vi preghiamo di consegnare batterie non più utilizzabili ad un rivenditore autorizzato di biciclette.



Li-Ion:

Si prega di tener presente le indicazioni riportate nel paragrafo «Trasporto», pagina Italiano-9.

Con ogni riserva di modifiche tecniche.

Batteria agli ioni di litio – Battery Pack

Norme di sicurezza



Leggere tutte le indicazioni di sicurezza e le istruzioni operative. In caso di mancato rispetto delle indicazioni di sicurezza e delle istruzioni operative si potrà creare il pericolo di scosse elettriche, incendi e/o lesioni gravi.

Conservare tutte le indicazioni di sicurezza e le istruzioni operative per ogni esigenza futura.

Il termine utilizzato nelle presenti istruzioni per l'uso «batteria» si riferisce allo stesso modo a batterie standard (batterie con supporto sul telaio della bicicletta) e batterie per montaggio al portapacchi (batterie con supporto sotto al portapacchi), ad eccezione se viene fatto espressamente riferimento al tipo di costruzione.

- ▶ **Rimuovere la batteria dalla eBike prima di iniziare interventi (p.es. montaggio, manutenzione ecc.) alla eBike, prima di trasportarla con l'auto o l'aereo oppure prima di conservarla.** In caso di azionamento accidentale dell'interruttore di accensione/spegnimento esiste pericolo di lesioni.
- ▶ **Non aprire la batteria.** Esiste il pericolo di un cortocircuito. In caso di batteria aperta decadrà qualsiasi pretesa di garanzia tramite Bosch.



Proteggere la batteria dal calore (p.es. anche dall'irradiazione solare continuo), dal fuoco e dall'immersione in acqua. Esiste pericolo di esplosione.

- ▶ **Tenere la batteria non utilizzata lontano da graffette, monete, chiodi, viti oppure altri piccoli oggetti metallici che potrebbero causare un'esclusione dei contatti.** Un cortocircuito tra i contatti della batteria può causare ustioni oppure fuoco. In caso di cortocircuiti verificatisi in relazione a queste condizioni decadrà qualsiasi pretesa di garanzia tramite Bosch.

- ▶ **In caso di impiego errato può fuoriuscire liquido dalla batteria. Evitare il contatto con il liquido stesso. In caso di contatto accidentale sciacquare con acqua. Se il liquido dovesse venire a contatto con gli occhi richiedere anche l'intervento di un medico.** Il liquido della batteria che fuoriesce può causare irritazioni della pelle o ustioni.
- ▶ **In caso di danneggiamento ed un uso non corretto della batteria possono fuoriuscire vapori. Aerare con aria fresca ed in caso di disturbi rivolgersi ad un medico.** I vapori possono irritare le vie respiratorie.
- ▶ **Ricaricare la batteria esclusivamente con stazioni di ricarica che sono state consigliate dal produttore.** Per una stazione di ricarica adatta per un determinato tipo di batterie esiste pericolo di incendio se la stessa viene impiegata con batterie differenti.
- ▶ **Utilizzare la batteria esclusivamente insieme all'eBike per cui la stessa viene raccomandata dal produttore.** Solo in questo modo la batteria viene protetta da sovraccarico pericoloso.
- ▶ **Utilizzare esclusivamente batterie originali Bosch che sono state omologate dal produttore per l'eBike.** L'uso di batterie diverse può causare lesioni e pericolo di incendio. In caso di impiego di batterie diverse Bosch non si assumerà alcuna responsabilità civile e garanzia.
- ▶ **Leggere ed osservare le indicazioni di sicurezza e le istruzioni operative riportate nelle istruzioni per l'uso della stazione di ricarica ed unità di azionamento/computer di controllo nonché nelle istruzioni per l'uso dell'eBike.**

Descrizione del prodotto e caratteristiche

Componenti illustrati (vedi pagina 4–5)

La numerazione dei componenti si riferisce alle illustrazioni riportate sulle pagine con la rappresentazione grafica.

Tutte le illustrazioni delle parti della bicicletta ad eccezione delle batterie e dei loro supporti sono riportate in modo schematico e possono essere differenti dalla Vostra eBike.

- 13** Supporto della batteria per montaggio al portapacchi
- 14** Batteria per montaggio al portapacchi
- 15** Indicatore funzionamento e stato di carica
- 16** Tasto di accensione/spengimento
- 17** Chiave del dispositivo di chiusura batteria
- 18** Dispositivo di chiusura batteria
- 19** Supporto superiore della batteria standard
- 20** Batteria standard
- 21** Supporto inferiore della batteria standard
- 22** Cinghia portante
- 23** Stazione di ricarica

Dati tecnici

Batteria agli ioni di litio	Battery Pack	
Codice prodotto		
– Batteria standard nera		1 270 020 500/ 1 270 020 504
– Batteria standard bianca		1 270 020 501/ 1 270 020 505
– Batteria standard argentata		1 270 020 502/ 1 270 020 506
– Batteria per montaggio al portapacchi		1 270 020 503/ 1 270 020 507
Tensione nominale	V=	36
Capacità nominale	Ah	8
Energia	Wh	288
Temperatura di esercizio	°C	–10...+40
Temperatura di magazzino	°C	–10...+60
Campo ammesso di temperatura di ricarica	°C	0...+40
Peso	kg	2,5
Tipo di protezione		IP 54 (protezione contro la polvere e contro gli spruzzi dell'acqua)

Montaggio

- ▶ **Applicare la batteria esclusivamente su superfici pulite.** Evitare in modo particolare l'imbrattamento della presa di carica e dei contatti, p.es. tramite sabbia o terra.

Controllare la batteria prima del primo utilizzo

Controllare la batteria prima di effettuare la prima ricarica oppure prima dell'impiego con l'eBike.

Per effettuare questo controllo premere il tasto di accensione/spegnimento **16** per l'attivazione della batteria. Se nessun LED dell'indicatore dello stato di carica **15** è acceso esiste la possibilità che la batteria sia danneggiata.

Se almeno un LED di tutti i LED dell'indicatore dello stato di carica **15** è illuminato, ricaricare completamente la batteria prima del primo utilizzo.

- ▶ **Non ricaricare una batteria danneggiata e non utilizzarla.** Rivolgersi ad un rivenditore di biciclette autorizzato.

Ricarica della batteria

- ▶ **Utilizzare esclusivamente la stazione di ricarica indicata nella pagina con la rappresentazione grafica.** Solo questa stazione di ricarica è idonea per la batteria agli ioni di litio utilizzata nell'eBike.

Nota bene: La batteria viene fornita parzialmente carica. Per garantire l'intera potenza della batteria, prima del primo impiego ricaricarla completamente con la stazione di ricarica. Per la ricarica la batteria deve essere rimossa dall'eBike.

Per la ricarica della batteria leggere ed osservare le istruzioni per l'uso della stazione di ricarica.

La batteria può essere ricaricata in qualsiasi momento senza ridurne la durata. Un'interruzione dell'operazione di ricarica non danneggia la batteria.

La batteria è dotata di un controllo della temperatura che consente una ricarica esclusivamente nel campo di temperatura tra 0 °C e 40 °C. In questo modo viene raggiunta un'elevata durata della batteria.

Indicatore dello stato di carica

I cinque LED verdi dell'indicatore dello stato di carica **15** indicano, con batteria attivata, lo stato di carica della batteria stessa.

Ogni LED corrisponde a circa il 20 % della capacità. Quando la batteria è completamente carica sono illuminati tutti i cinque LED.

Lo stato di carica della batteria attivata viene inoltre visualizzato sul computer di controllo. A riguardo leggere ed osservare le istruzioni per l'uso dell'unità di azionamento e del computer di controllo.

Se la durata della batteria è inferiore al 5 %, tutti i LED dell'indicatore dello stato di carica **15** sulla batteria si spengono, rimane tuttavia ancora una visualizzazione sul computer di controllo.

Inserimento e rimozione della batteria (vedi figure E–F)

- ▶ **Disattivare sempre la batteria quando la stessa viene inserita nel supporto oppure viene rimossa dal supporto stesso. In caso di batteria inserita ma scarica, osservare anche l'indicazione sul computer di controllo.** In caso contrario la batteria potrebbe venire danneggiata.

Affinché la batteria possa essere inserita, la chiave **17** deve essere inserita nel dispositivo di chiusura **18** ed il dispositivo di chiusura deve essere aperto.

Per l'**inserimento della batteria standard 20** applicare la stessa con i contatti sul supporto inferiore **21** sull'eBike. Ribaltare fino all'arresto nel supporto superiore **19**.

Per l'**inserimento della batteria per montaggio al portapacchi 14** spingerla con i contatti in avanti fino allo scatto in posizione nel supporto **13** sul portapacchi.

Controllare che la batteria sia posizionata in modo fisso. Chiudere sempre a chiave la batteria sul dispositivo di chiusura **18** poiché in caso contrario il dispositivo di chiusura può aprirsi e la batteria può cadere dal supporto.

Togliere sempre la chiave **17** dal dispositivo di chiusura **18** dopo la chiusura. In questo modo viene evitata la caduta della chiave ovvero che la batteria venga rimossa da parte di terzi non autorizzati in caso di eBike parcheggiata.

Per la **rimozione della batteria standard 20** disinserirla ed aprire il dispositivo di chiusura con la chiave **17**. Inclinare la batteria dal supporto superiore **19** e tirandola alla cinghia portante **22** estrarla dal supporto inferiore **21**.

Per la **rimozione della batteria per montaggio al portapacchi 14** disinserirla ed aprire il dispositivo di chiusura con la chiave **17**. Rimuovere la batteria dal supporto **13**.

Uso

Messa in funzione

► **Utilizzare esclusivamente batterie originali Bosch che sono state omologate dal produttore per l'eBike.** L'uso di batterie diverse può causare lesioni e pericolo di incendio. In caso di impiego di batterie diverse Bosch non si assumerà alcuna responsabilità civile e garanzia.

Accensione/spengimento

Prima dell'attivazione della batteria controllare che il dispositivo di chiusura **18** sia chiuso.

Nota bene: All'attivazione della batteria i pedali dell'eBike non devono essere caricati poiché altrimenti la potenza dell'azionamento verrebbe limitata.

Per l'**attivazione** della batteria premere il tasto di accensione/spengimento **16**. I LED dell'indicatore **15** si accendono e indicano contemporaneamente lo stato di carica.

Nota bene: Se la carica della batteria è inferiore al 5 %, sulla batteria non è acceso alcun LED dell'indicatore dello stato di carica **15**. L'attivazione della batteria è visibile solamente sul computer di controllo.

L'attivazione della batteria è uno dei presupposti per la messa in funzione dell'azionamento dell'eBike. A riguardo leggere ed osservare le istruzioni per l'uso dell'unità di azionamento e del computer di controllo.

Per lo **spengimento** della batteria premere di nuovo il tasto di accensione/spengimento **16**. I LED dell'indicatore **15** si spengono. In questo modo l'azionamento dell'eBike viene spento anch'esso.

Se per ca. 10 min non viene richiesto alcun intervento dell'azionamento (p.es. poiché l'eBike è ferma), la batteria di spegne automaticamente per ragioni di risparmio energetico.

La batteria è protetta tramite l'«Electronic Cell Protection (ECP)» contro lo scaricamento totale, il sovraccarico, il surriscaldamento ed il cortocircuito. In caso di pericolo la batteria si spegne automaticamente tramite un interruttore automatico.

Indicazioni per l'uso ottimale della batteria

Per la batteria vengono garantiti almeno 500 cicli di ricarica completa.

La durata della batteria può essere prolungata se la stessa viene sottoposta ad attenta cura e soprattutto se viene fatta funzionare e conservata a temperature corrette. Si consigliano temperature d'esercizio tra +5 °C e +35 °C.

Con l'aumento dell'invecchiamento tuttavia anche in caso di attenta cura, l'autonomia della batteria si ridurrà.

Un tempo di funzionamento notevolmente ridotto dopo la ricarica indica che la batteria è consumata e deve essere sostituita.

Se la cinghia portante **22** della batteria standard dovesse allargarsi, farla sostituire da un rivenditore di biciclette.

Ricarica della batteria prima e durante il magazzinaggio

Prima di un lungo periodo di non impiego ricaricare la batteria per circa il 60 % (da 3 a 4 LED dell'indicatore dello stato di carica **15** sono illuminati).

Dopo 6 mesi controllare lo stato di carica. Se è illuminato ancora solo un LED dell'indicatore dello stato di carica **15**, ricaricare di nuovo la batteria a circa il 60 %.

Nota bene: Se la batteria viene conservata scarica per un periodo più lungo, è possibile che, nonostante l'autoscarica limitata, la stessa si danneggi e che la capacità di carica venga notevolmente ridotta.

Non è consigliabile lasciare collegata permanentemente la batteria alla stazione di ricarica.

Condizioni di magazzino

Immagazzinare la batteria possibilmente in un posto asciutto e ben areato. Proteggerla da umidità ed acqua. In caso di condizioni atmosferiche sfavorevoli è ad es. consigliabile togliere la batteria dall'eBike e conservarla in ambienti chiusi fino all'impiego successivo.

La batteria può essere immagazzinata a temperature da -10 °C fino a +60 °C. Per una lunga durata è tuttavia favorevole un magazzino a ca. 20 °C temperatura ambiente.

Prestare attenzione affinché la temperatura massima di magazzino non venga superata. Non lasciare la batteria p.es. in estate nell'automobile ed immagazzinarla in un luogo non soggetto a irradiazione solare diretto.

Manutenzione ed assistenza

Manutenzione e pulizia

Mantenere pulita la batteria. Pulirla con cautela con uno straccio umido e morbido. La batteria non deve essere immersa nell'acqua oppure pulita con un getto d'acqua.

Se la batteria non è più funzionante rivolgersi ad un rivenditore autorizzato di biciclette.

Servizio di assistenza ed assistenza clienti

Per tutte le domande relative alle batterie rivolgersi ad un rivenditore autorizzato di biciclette.

- **Annotarsi il numero indicato sulla chiave 17.**
In caso di perdita della chiave rivolgersi presso un rivenditore autorizzato di biciclette. Indicare allo stesso il numero della chiave.

Le informazioni per contattare rivenditori autorizzati di biciclette sono riportate sulla pagina web www.bosch-ebike.com

Trasporto


Le batterie sono soggette ai requisiti di legge relativi a merci pericolose. Le batterie possono essere trasportate su strada tramite l'utente privato senza ulteriori precauzioni.

In caso di trasporto tramite utente commerciale oppure in caso di trasporto tramite terzi (p. es. trasporto aereo oppure spedizioniere) devono essere osservati particolari requisiti relativi ad imballo e marcatura (ad es. norme dell'ADR). In caso di necessità per la preparazione del pezzo da spedire si può ricorrere ad un esperto per merce pericolosa.

Spedire batterie solamente se la carcassa non è danneggiata. Coprire con nastro adesivo i contatti scoperti ed imballare la batteria in modo tale che non si muova nell'imballo. Vi preghiamo di osservare anche eventuali, ulteriori norme nazionali.

In caso di domande relative al trasporto delle batterie rivolgersi ad un rivenditore autorizzato di biciclette. Presso il rivenditore è possibile ordinare anche un imballo per il trasporto adatto.

Smaltimento

 Avviare ad un riciclaggio rispettoso dell'ambiente batterie, accessori ed imballaggi scartati.

Non gettare le batterie tra i rifiuti domestici!

Solo per i Paesi della CE:



Conformemente alla direttiva europea 2002/96/CE gli apparecchi elettrici diventati inservibili e, in base alla direttiva europea 2006/66/CE, le batterie ricaricabili/batterie difettose o consumate devono essere raccolte separatamente ed essere inviate ad una riutilizzazione ecologica.

Vi preghiamo di consegnare batterie non più utilizzabili ad un rivenditore autorizzato di biciclette.



Li-Ion:

Si prega di tener presente le indicazioni riportate nel paragrafo «Trasporto», pagina Italiano-14.

Con ogni riserva di modifiche tecniche.

Stazione di ricarica – Charger

Norme di sicurezza



Leggere tutte le indicazioni di sicurezza e le istruzioni operative. In caso di mancato rispetto delle indicazioni di sicurezza e delle istruzioni operative si

potrà creare il pericolo di scosse elettriche, incendi e/o lesioni gravi.

Conservare tutte le indicazioni di sicurezza e le istruzioni operative per ogni esigenza futura.

Il termine utilizzato nelle presenti istruzioni per l'uso «batteria» si riferisce allo stesso modo a batterie standard (batterie con supporto sul telaio della bicicletta) e batterie per montaggio al portapacchi (batterie con supporto sotto al portapacchi).



Tenere la stazione di ricarica lontana da pioggia o umidità. In caso di infiltrazione di acqua in una stazione di ricarica esiste il rischio di una scossa elettrica.

- ▶ **Ricaricare esclusivamente batterie agli ioni di litio Bosch omologate per eBike con le tensioni indicate nei dati tecnici.** In caso contrario esiste pericolo di incendio ed esplosione.
- ▶ **Avere cura di mantenere il caricabatteria sempre pulito.** Attraverso accumuli di sporcizia si crea il pericolo di una scossa elettrica.
- ▶ **Prima di ogni impiego controllare il caricabatteria, il cavo e la spina. Non utilizzare il caricabatteria in caso dovreste riscontrare dei danni. Non aprire mai personalmente il caricabatteria e farlo riparare soltanto da personale qualificato e soltanto con pezzi di ricambio originali.** In caso di caricabatterie per batterie, cavi e spine danneggiate si aumenta il pericolo di una scossa elettrica.
- ▶ **Non utilizzare il caricabatteria su basi facilmente infiammabili (p. es. carta, tessuti ecc.) oppure in ambienti infiammabili.** Per via del riscaldamento del caricabatteria che si ha durante la fase di ricarica si viene a creare il pericolo di incendio.
- ▶ **In caso di danneggiamento ed un uso non corretto della batteria possono fuoriuscire vapori. Aerare con aria fresca ed in caso di disturbi rivolgersi ad un medico.** I vapori possono irritare le vie respiratorie.
- ▶ **Sorvegliare i bambini.** In questo modo viene assicurato che i bambini non giocano con la stazione di ricarica.
- ▶ **Bambini e persone che a causa delle loro capacità fisiche, sensoriali o mentali oppure a cui manchi esperienza o conoscenza non sono in grado di utilizzare la stazione di ricarica in modo sicuro, non devono utilizzare questa stazione di ricarica senza la sorveglianza oppure l'istruzione da parte di una persona responsabile.** In caso contrario esiste il pericolo di impiego errato e di lesioni.
- ▶ **Collegare la stazione di ricarica ad una rete elettrica regolarmente collegata a terra.** La presa di corrente ed il cavo di prolunga devono essere dotati di un conduttore di protezione funzionante.
- ▶ **Leggere ed osservare le indicazioni di sicurezza e le istruzioni operative riportate nelle istruzioni per l'uso della batteria ed unità di azionamento/computer di controllo nonché nelle istruzioni per l'uso dell'eBike.**
- ▶ Sul lato inferiore della stazione di ricarica è riportato un riassunto delle indicazioni di sicurezza più importanti in lingua inglese, francese e spagnolo (contrassegnate nell'illustrazione sulla pagina grafica con il numero **28**) e con il seguente contenuto:
 - Per un impiego sicuro osservare le istruzioni per l'uso. Rischio di una scossa elettrica.
 - Utilizzare esclusivamente in ambiente asciutto.
 - Ricaricare esclusivamente batterie ricaricabili eBat100-199. Altre batterie possono esplodere e causare lesioni.
 - Non sostituire il cavo elettrico. Esiste pericolo di incendio ed esplosione.

Descrizione del prodotto e caratteristiche

Dati tecnici

Stazione di ricarica		Charger
Codice prodotto		0 275 007 900
Tensione nominale	V=	115/230
Frequenza	Hz	50/60
Tensione di carica batteria	V=	36
Corrente di carica		
– Funzionamento ricarica normale	A	4
– Funzionamento ricarica silenziosa	A	1
Campo ammesso di temperatura di ricarica	°C	0...+40
Tempo di ricarica (con capacità batteria 8 Ah) ca.		
– Funzionamento ricarica normale	h	2,5
– Funzionamento ricarica silenziosa	h	8
Numero degli elementi della batteria ricaricabile		10–80
Peso in funzione della EPTA-Procedure 01/2003	kg	0,8
Classe di sicurezza		Ⓢ/I

I dati sono validi per una tensione nominale [U] di 230 V. In caso di tensioni differenti e di modelli specifici dei paesi di impiego, questi dati possono variare.

Componenti illustrati (vedi pagina 6–7)

La numerazione dei componenti illustrati si riferisce all'illustrazione della stazione di ricarica sulla pagina con la rappresentazione grafica.

- 14** Batteria per montaggio al portapacchi
- 15** Indicatore dello stato di ricarica della batteria
- 20** Batteria standard
- 23** Stazione di ricarica
- 24** Aperture di ventilazione
- 25** Presa dell'apparecchio
- 26** Selettore della tensione di rete
- 27** Spina dell'apparecchio
- 28** Indicazioni di sicurezza stazione di ricarica
- 29** Tasto funzionamento di ricarica
- 30** Indicatore di funzionamento
- 31** Spina di ricarica
- 32** Presa per la spina di ricarica

Uso

- ▶ **Applicare la batteria esclusivamente su superfici pulite.** Evitare in modo particolare l'imbrattamento della presa di carica e dei contatti, p.es. tramite sabbia o terra.

Messa in funzione

Collegamento della stazione di ricarica (vedere figure G–H)

Regolare sul selettore della tensione di rete **26** della stazione di ricarica la tensione della fonte di corrente. È possibile selezionare tra 115 V e 230 V.

- ▶ **Osservare la tensione di rete!** La tensione della rete deve corrispondere a quella indicata sulla stazione di ricarica. Stazioni di ricarica previste per l'uso con 230 V possono essere azionate anche a 220 V.

Inserire poi la spina dell'apparecchio **27** del cavo elettrico nella presa dell'apparecchio **25** sulla stazione di ricarica.

Collegare il cavo elettrico (specifico del paese di impiego) alla rete elettrica. L'indicatore di funzionamento **30** sulla stazione di ricarica è illuminato.

- **Collegare la stazione di ricarica alla rete elettrica solamente se sul selettore della tensione di rete 26 è regolata la tensione di rete corretta.** In caso contrario la stazione di ricarica potrebbe venire danneggiata.

Disattivare la batteria e toglierla dal supporto sull'eBike. A tal fine leggere ed osservare le istruzioni per l'uso della batteria.

Inserire la spina di ricarica **31** della stazione di ricarica nella presa **32** sulla batteria. L'indicatore di funzionamento **30** sulla stazione di ricarica lampeggia.

Operazione di ricarica

L'operazione di ricarica inizia non appena la stazione di ricarica è collegata alla batteria ed alla rete elettrica.

Nota bene: L'operazione di ricarica è possibile solamente se la temperatura della batteria si trova nel campo di temperatura di ricarica ammissibile.

È possibile scegliere tra due modi operativi di ricarica: Funzionamento ricarica normale **«FAST»** e funzionamento ricarica silenziosa **«SLOW»**. Nel modo operativo **«SLOW»** la ricarica avviene silenziosamente.

Funzionamento di ricarica	Funzionamento ricarica normale «FAST»	Funzionamento ricarica silenziosa «SLOW»
Corrente di carica	4 A	1 A
Indicatore di funzionamento 30	lampeggia	è illuminato permanentemente
Ventilazione stazione di ricarica	ins.	dis.

Alla messa in funzione della stazione di ricarica è preimpostato il funzionamento di ricarica normale. Per cambiare il modo operativo di ricarica premere il tasto **29**.

- **Procedere con cautela in caso di contatto con la stazione di ricarica durante l'operazione di ricarica. Mettere i guanti di protezione.** In modo particolare nel funzionamento di ricarica normale e a elevate temperature ambientali la stazione di ricarica può riscaldarsi notevolmente.

Nota bene: Prestare attenzione affinché la stazione di ricarica durante l'operazione di ricarica sia ben arieggiata e le aperture di ventilazione **24** su entrambi i lati non siano coperte.

Durante l'operazione di ricarica sono illuminati i LED dell'indicatore dello stato di carica **15** sulla batteria. Ogni LED illuminato permanentemente corrisponde a ca. 20 % della capacità di ricarica. Il LED lampeggiante indica la ricarica del prossimo 20 %.

La batteria è completamente carica quando sono illuminati permanentemente tutti i cinque LED dell'indicatore **15**. L'operazione di ricarica viene interrotta automaticamente.

Staccare la stazione di ricarica dalla rete elettrica e la batteria dalla stazione di ricarica.

Staccando la batteria dalla stazione di ricarica la batteria viene disattivata automaticamente.

Adesso è possibile inserire la batteria nell'eBike.

Anomalie – cause e rimedi

Causa	Rimedi
L'indicatore di funzionamento 30 non è illuminato, non è possibile alcuna operazione di ricarica	
Selezionata tensione di rete errata al selettore 26	Selezionare tensione di rete corretta
Spina non inserita correttamente	Controllare tutti i collegamenti a spina
Contatti sulla batteria sporchi	Pulire con cautela i contatti sulla batteria
Batteria troppo calda o troppo fredda	Lasciare adattare alla temperatura ambientale la batteria fino a quando è raggiunto il campo di temperatura di ricarica
Aperture di ventilazione 24 della stazione di ricarica intasate oppure coperte	Pulire le aperture di ventilazione 24 e posizionare la stazione di ricarica in modo che sia ben arieggiata
Presca, cavo o stazione di ricarica difettosi	Controllare la tensione di rete, fare controllare la stazione di ricarica da un rivenditore di biciclette
Batteria difettosa	Sostituire la batteria

Manutenzione ed assistenza

Manutenzione e pulizia

Provvedere affinché durante l'impiego le aperture di ventilazione **24** sulla stazione di ricarica siano libere e pulite. In caso di necessità pulire le aperture di ventilazione con un aspirapolvere.

Qualora la stazione di ricarica dovesse guastarsi rivolgersi ad un rivenditore autorizzato di biciclette.

Servizio di assistenza ed assistenza clienti

Per tutte le domande relative alla stazione di ricarica rivolgersi ad un rivenditore autorizzato di biciclette.

Le informazioni per contattare rivenditori autorizzati di biciclette sono riportate sulla pagina web **www.bosch-ebike.com**

Smaltimento

Avviare ad un riciclaggio rispettoso dell'ambiente la stazione di ricarica, gli accessori dismessi e gli imballaggi.

Non gettare tra i rifiuti domestici le stazioni di ricarica dismesse!

Solo per i Paesi della CE:



Conformemente alla norma della direttiva 2002/96/CE sui rifiuti di apparecchiature elettroniche ed elettroniche (RAEE) ed all'attuazione del recepimento nel diritto nazionale, le stazioni di ricarica diventate inservibili devono essere raccolte separatamente ed essere inviate ad una riutilizzazione ecologica.

Con ogni riserva di modifiche tecniche.

Bedieningscomputer HMI/ aandrijfeenheid Drive Unit 45

Veiligheidsvoorschriften



Lees alle veiligheidsvoorschriften en aanwijzingen. Als de veiligheidsvoorschriften en aanwijzingen niet in acht worden genomen, kan dit een elektrische schok, brand en/of ernstig lichamelijk letsel tot gevolg hebben.

Bewaar alle veiligheidsvoorschriften en aanwijzingen voor de toekomst.

Het in deze gebruiksaanwijzing gebruikte begrip „accu” heeft betrekking op standaardaccu’s (accu’s met houder op het fietsframe) en bagagedrageraccu’s (accu’s met houder onder de bagagedrager).

- ▶ **Open de aandrijfeenheid niet zelf. De aandrijfeenheid is onderhoudsvrij en mag alleen door gekwalificeerd personeel en alleen met originele vervangingsonderdelen worden gerepareerd.** Daarmee wordt gewaarborgd dat de veiligheid van de aandrijfeenheid in stand blijft. Als de aandrijfeenheid door onbevoegden wordt geopend, vervalt de aanspraak op garantie.
- ▶ **Alle op de aandrijfeenheid gemonteerde componenten en alle andere componenten van de aandrijving van de eBike (bijv. kettingblad, opname van kettingblad, pedalen) mogen alleen worden vervangen door componenten met een identieke constructie of door componenten die door de fietsfabrikant speciaal voor uw eBike zijn toegestaan.** Daardoor wordt de aandrijfeenheid beschermd tegen overbelasting en beschadiging.
- ▶ **Neem de accu uit de eBike voordat u begint met werkzaamheden (zoals montage, onderhoud, enz.) aan de eBike, voordat u deze per auto of vliegtuig vervoert en voordat u deze opbergt.** Bij per ongeluk bedienen van de aan-uitschakelaar bestaat verwondingsgevaar.
- ▶ **De functie starthulp mag uitsluitend bij het wegrijden en het lopen met de eBike worden gebruikt.** Als de wielen van de eBike

bij het gebruik van de starthulp geen contact met de grond maken, bestaat gevaar voor letsel.

- ▶ **Gebruik alleen originele Bosch accu’s die door de fabrikant voor uw eBike zijn toegestaan.** Het gebruik van andere accu’s kan tot lichamelijk letsel en brandgevaar leiden. Als andere accu’s worden gebruikt, wordt door Bosch geen aansprakelijkheid aanvaard en geen garantie geboden.
- ▶ **Neem alle nationale voorschriften voor de toelating en het gebruik van eBikes in acht.**
- ▶ **Lees de veiligheids- en overige voorschriften in de gebruiksaanwijzing van de accu en in de gebruiksaanwijzing van de eBike en neem deze in acht.**

Product- en vermogensbeschrijving

Gebruik volgens bestemming

De aandrijfeenheid is uitsluitend bestemd voor de aandrijving van uw eBike en mag niet voor andere doeleinden worden gebruikt.

De eBike is bestemd voor gebruik op verharde wegen. De eBike is niet goedgekeurd voor wedstrijdgebruik.

Afgebeelde componenten (zie pagina 2–3)

De componenten zijn genummerd zoals op de pagina met afbeeldingen.

Alle afbeeldingen van fietsonderdelen behalve aandrijfeenheid, bedieningscomputer, snelheidssensor en bijbehorende houders zijn schematisch en kunnen afwijken van de onderdelen van uw eBike.

- 1 Bedieningscomputer
- 2 Houder bedieningscomputer
- 3 Toets „info/reset” voor multifunctionele indicatie

- 4 Toets ondersteuningsmodus „mode”
- 5 Toets verlichting „light”
- 6 Toets ondersteuningshulp verhogen/start-hulp in- en uitschakelen ▲
- 7 Toets ondersteuningsniveau verlagen ▼
- 8 Aandrijfeenheid
- 9 Onderste schroeven van houder
- 10 Bovenste schroef van houder
- 11 Snelheidssensor
- 12 Spaakmagneet van snelheidssensor

Indicatie-elementen bedieningscomputer

- a Snelheidsmeterindicatie
- b Indicatie verlichting
- c Indicatie ondersteuningsniveau
- d Indicatie starthulp
- e Multifunctionele indicatie
- f Indicatie ondersteuningsmodus en foutcode
- g Oplaadindicatie batterij

Technische gegevens

Aandrijfeenheid		Drive Unit 45
Zaaknummer		0 275 007 003
Nominaal continu vermogen	W	350
Draaimoment aan uitgaande as max.	Nm	50
Nominale spanning	V=	36
Bedrijfstemperatuur	°C	-5...+40
Bewaartemperatuur	°C	-10...+50
Beschermingsklasse		IP 54 (stof- en spatwaterbescherming)
Gewicht, ca.	kg	4

Bedieningscomputer		HMI
Zaaknummer		1 270 020 900
Bedrijfstemperatuur	°C	-5...+40
Bewaartemperatuur	°C	-10...+50
Beschermingsklasse		IP 54 (stof- en spatwaterbescherming)
Gewicht, ca.	kg	0,15

Verlichting*

Nominale spanning	V=	6
Capaciteit		
– Voorlicht	W	2,7
– Achterlicht	W	0,3

* Afhankelijk van wettelijke regelingen niet in alle, per land verschillende uitvoeringen via accu van eBike mogelijk

Montage

Accu inzetten of verwijderen

Lees de gebruiksaanwijzing voor het in de eBike plaatsen en het eruit verwijderen van de accu en neem de voorschriften in acht.

Houder van bedieningscomputer positioneren

- **Draai de schroeven 10 resp. 9 met een aandraaimoment van maximaal 1 Nm vast.** De houder **2** kan anders beschadigd worden.

Houder verschuiven/kantelen (zie afbeelding A)

Draai de beide schroeven **9** aan de onderzijde van de houder **2** los. Verschuif de houder op het stuur of verander de kantelhoek. Draai de beide schroeven **9** met een aandraaimoment van maximaal 1 Nm weer vast.

Houder draaien (zie afbeelding B)

Draai de schroef **10** aan de bovenzijde van de houder **2** los. Draai het bovenste deel van de houder zodanig dat u de bedieningscomputer **1** na het inzetten (zie „Bedieningscomputer aanbrengen en verwijderen”) goed kunt zien. Draai de schroef **10** met een aandraaimoment van maximaal 1 Nm weer vast.

Bedieningscomputer aanbrengen en verwijderen (zie afbeelding C)

Als u de bedieningscomputer wilt **aanbrengen**, plaatst u deze ca. 30° gedraaid op de houder **2** en draait u vervolgens de bedieningscomputer in de richting van de wijzers van de klok vast tot deze niet meer verder kan.

Als u de bedieningscomputer wilt **verwijderen**, draait u deze ca. 30° tegen de richting van de wijzers van de klok en trekt u vervolgens de bedieningscomputer uit de houder **2**.

- ▶ **Verwijder de bedieningscomputer als u de eBike parkeert, zodat de aandrijving niet door anderen kan worden gebruikt.** Zonder bedieningscomputer kan de aandrijving niet worden ingeschakeld.

Snelheidssensor controleren (zie afbeelding D)

De snelheidssensor **11** en de bijbehorende spaakmagneet **12** moeten zodanig gemonteerd zijn dat de spaakmagneet bij een omwenteling van het wiel op een afstand van minimaal 5 mm en maximaal 17 mm langs de snelheidssensor beweegt.

Opmerking: Als de afstand tussen snelheidssensor **11** en spaakmagneet **12** te groot is of de snelheidssensor **11** niet juist is aangesloten, valt de snelheidsmeterindicatie **a** uit en werkt de aandrijving van de eBike in het noodprogramma. Draai in dit geval de schroef van de spaakmagneet **12** los en bevestig de spaakmagneet zodanig op de spaak dat deze op de juiste afstand langs de markering van de snelheidssensor loopt. Als er ook daarna geen snelheid op de snelheidsmeterindicatie **a** verschijnt, dient u contact op te nemen met een erkende rijwielvakhandel.

Gebruik

Ingebruikneming

Voorwaarden

De aandrijving van uw eBike kan alleen geactiveerd worden als aan de volgende voorwaarden is voldaan:

- Er is een voldoende opgeladen accu geplaatst (zie gebruiksaanwijzing van de accu).
- De bedieningscomputer is correct in de houder geplaatst (zie „Bedieningscomputer aanbrengen en verwijderen”, pagina Nederlands-3).
- De snelheidssensor is correct aangesloten (zie „Snelheidssensor controleren”, pagina Nederlands-3).

Aandrijving in- en uitschakelen

Plaats de accu in de houder en schakel de accu met de aan/uit-toets in (zie gebruiksaanwijzing van de accu).

Opmerking: De pedalen van de eBike mogen bij het inschakelen van de accu niet belast zijn. Anders wordt het vermogen van de aandrijving beperkt.

Als de accu bij vergissing met belaste pedalen is ingeschakeld, dient u de accu uit te schakelen en zonder belasting opnieuw in te schakelen.

Samen met de accu wordt tegelijkertijd ook de display van de bedieningscomputer ingeschakeld. De bedieningscomputer geeft de oplaadtoestand van de accu en de instellingen van de aandrijfeenheid aan.

De aandrijving wordt geactiveerd zodra u op de pedalen trapt (behalve in de functie starthulp, zie „Starthulp in- en uitschakelen”, pagina Nederlands-5). De ondersteuningsgraad is afhankelijk van de instellingen op de bedieningscomputer.

Zodra u bij normaal gebruik niet meer op de pedalen trapt of zodra u een snelheid van 45 km per uur heeft bereikt, wordt de ondersteuning door de aandrijving van de eBike uitgeschakeld. De aandrijving wordt automatisch weer geactiveerd zodra u op de pedalen trapt of de snelheid onder 45 km per uur daalt.

Als u de aandrijving wilt uitschakelen, schakelt u de accu met de aan/uit-toets uit (zie gebruiksaanwijzing van de accu).

Als er ca. 10 minuten geen vermogen van de aandrijving wordt opgevraagd (bijv. omdat de eBike stilstaat), wordt de accu automatisch uitgeschakeld om energie te sparen.


Indicaties en instellingen van de bedieningscomputer


Opmerking: Indicaties en instellingen op de bedieningscomputer zijn alleen mogelijk als de accu van de eBike ingeschakeld is. De bedieningscomputer heeft geen eigen stroomvoorziening.


Oplaadindicatie van de accu

Behalve op de oplaadindicatie van de accu kan de oplaadtoestand ook op de indicatie **g** van de bedieningscomputer worden afgelezen.

In de indicatie **g** komt elk streepje in het accu-symbool overeen met ongeveer 20 % van de capaciteit:

 100 tot 80 % capaciteit

 20 tot 5 % capaciteit. De accu moet worden opgeladen.

 Minder dan 5 % capaciteit. De ondersteuning van de aandrijving is niet meer mogelijk. De leds van de oplaadindicatie van de accu gaan uit.

Als de verlichting van de eBike via de accu werkt (per land verschillend), is de capaciteit wanneer het lege accusymbool voor het eerst verschijnt nog voldoende voor ca. 2 uur verlichting. Als het symbool begint te knipperen, is ook de verlichting nog gedurende korte tijd mogelijk.

Ondersteuningsmodus instellen

U kunt op de bedieningscomputer instellen in welke mate de aandrijving van de eBike tijdens het trappen ondersteunt.

Opmerking: In sommige uitvoeringen is de ondersteuningsmodus mogelijk vooraf ingesteld en kan deze niet worden gewijzigd. Het is ook mogelijk dat er uit minder modi dan hier vermeld kan worden gekozen.

Maximaal vier ondersteuningsmodi zijn beschikbaar:

ECO

„**ECO**”: effectieve ondersteuning met maximale efficiëntie voor maximaal bereik

FOUR

„**TOUR**”: gelijkmatige ondersteuning voor tochten met groot bereik

SPORT

„**SPORT**”: krachtige ondersteuning voor sportief rijden op heuvelachtige stukken en voor rijden in de stad

SPEED

„**SPEED**”: maximale ondersteuning bij flink doortrappen, voor sportief rijden

Als u van ondersteuningsmodus wilt veranderen drukt u zo vaak op de toets „**mode**” **4** tot de gewenste modus in de indicatie **f** verschijnt.

Tijdens het gebruik van de starthulp gaat de indicatie **f** uit. De ingestelde ondersteuningsmodus wordt opgeslagen.

Ondersteuningsniveau instellen

In de ondersteuningsmodus kunt u op elk moment, ook tijdens het rijden, het ondersteuningsniveau wijzigen.

Opmerking: In sommige uitvoeringen is het ondersteuningsniveau mogelijk vooraf ingesteld en kan deze niet worden gewijzigd.

Maximaal drie ondersteuningsniveaus en het uitschakelen van de ondersteuning zijn mogelijk.

Ondersteuningsgraad* bij:	Ondersteuningsniveau		
	„1”	„2”	„3”
„ ECO ”	30 %	60 %	100 %
„ TOUR ”	45 %	80 %	120 %
„ SPORT ”	70 %	140 %	180 %
„ SPEED ”	90 %	160 %	250 %

* De ondersteuningsgraad kan bij sommige uitvoeringen afwijken.

Als u een **hoger ondersteuningsniveau** wilt, drukt u zo vaak op de toets **▲ 6** tot het gewenste niveau in de indicatie **c** verschijnt.

Als u het ondersteuningsniveau wilt verlagen drukt u zo vaak op de toets **▼ 7** tot het gewenste niveau in de indicatie **c** verschijnt.

Bij ondersteuningsniveau „0” wordt de aandrijving uitgeschakeld. De eBike kan net als een normale fiets alleen door trappen worden voortbewogen.

Tijdens het gebruik van de starthulp gaat de indicatie **c** uit. Het ingestelde ondersteuningsniveau wordt opgeslagen.

Starthulp in- en uitschakelen

De starthulp kan als extra ondersteuning tijdens de eerste meters dienen, als wegrijden lastig is (bijv. bij een verkeerslicht of op een helling). Ze kan ook worden gebruikt als hulp bij het lopen met de fiets in de kleinste versnelling.

► **De functie starthulp mag uitsluitend bij het wegrijden en het lopen met de eBike worden gebruikt.** Als de wielen van de eBike bij het gebruik van de starthulp geen contact met de grond maken, bestaat gevaar voor letsel.

Als u de starthulp wilt **inschakelen**, drukt u op de toets **▲ 6** en houdt u deze minstens 1 seconde ingedrukt. De aandrijving van de eBike wordt ingeschakeld, de indicatie **d** knippert en de indicaties **c**, **e** en **f** gaan uit.

De starthulp wordt **uitschakeld** zodra zich een van de volgende punten voordoet:

- U laat de toets **▲ 6** los,
- U drukt op een andere toets op de bedieningscomputer,
- U trapt snel vooruit of achteruit op de pedalen,
- De wielen van de eBike worden geblokkeerd (bijv. door remmen of stoten tegen een obstakel),
- Bij een snelheid van 16 km per uur.

Verlichting in- en uitschakelen

Afhankelijk van per land verschillende voorschriften zijn twee uitvoeringen van de verlichting mogelijk.

- Met de bedieningscomputer kunnen tegelijkertijd voorlicht, achterlicht en displayverlichting in- en uitgeschakeld worden.
- Alleen de displayverlichting kan in- en uitgeschakeld worden. Voor- en achterlicht van de eBike zijn onafhankelijk van de bedieningscomputer.

Bij beide uitvoeringen drukt u voor het **inschakelen van de verlichting** op de toets „light” **5**. In het display verschijnt de verlichtingsindicatie **b**.

Voor het **uitschakelen van de verlichting** drukt u opnieuw op de toets „light” **5**. De verlichtingindicatie **b** gaat uit.

Snelheids- en afstandsindicaties

Opmerking: Afhankelijk van de per land verschillende uitvoering kunnen afstand en snelheid worden aangegeven in „km” en „km/h” of in „mi” en „mph”. Het gebruik van de bedieningscomputer en de keuze van de weergavemogelijkheden zijn voor de versie met kilometers en de versie met mijlen identiek.

In de **snelheidsmeterindicatie a** wordt altijd de actuele snelheid weergegeven.

In de **multifunctionele indicatie e** kan het volgende worden weergegeven:

odo **0 1635** km

Totale afstand „odo”: totale tot dusver met de eBike afgelegde afstand

trip **06850** km

Dagafstand „trip”: sinds de laatste reset afgelegde afstand

avg **002 17** km/h

Gemiddelde snelheid „avg”: sinds de laatste reset bereikte gemiddelde snelheid

000 72 ^{range} km

Bereik „range”: te verwachten bereik met de aanwezige acculading (bij gelijkblijvende voorwaarden zoals ondersteuningsmodus, ondersteuningsniveau, routeprofiel, enz.)

Als u de multifunctionele indicatie wilt weergeven drukt u zo vaak op de toets „info/reset” **3** tot de gewenste functie wordt weergegeven.

Als u een **reset** van dagafstand „trip” en gemiddelde snelheid „avg” wenst, gaat u naar een van beide indicaties en drukt u vervolgens zo lang op de toets „info/reset” **3** tot de indicatie op nul wordt gezet.

Tijdens het gebruik van de starthulp gaat de multifunctionele indicatie uit **e**.

Indicatie foutcode

De componenten van de eBike-aandrijving worden voortdurend gecontroleerd. Als een fout wordt vastgesteld, verschijnt de desbetreffende foutcode in de indicatie **f**.

Afhankelijk van de aard van de fout wordt de aandrijving indien nodig automatisch uitgeschakeld. Verder rijden zonder ondersteuning door de aandrijving is echter altijd mogelijk. Laat de eBike controleren voordat u er opnieuw mee gaat rijden.

► Laat alle controles en reparaties uitsluitend door een erkende rijwielhandel uitvoeren.

Als een fout nog steeds wordt weergegeven ondanks uw poging om deze op te lossen, dient u eveneens contact met een erkende rijwielhandel op te nemen.

Code	Oorzaak	Oplossing
001	Interne fout van de bedieningscomputer	Bedieningscomputer laten controleren.
002	Een of meer toetsen van de bedieningscomputer zijn geblokkeerd.	Controleer of er toetsen zijn vastgeklemd, bijv. door binnengedrongen vuil. Reinig de toetsen indien nodig.
003	Verbindingsprobleem van bedieningscomputer	Aansluitingen en verbindingen laten controleren
100	Interne fout van aandrijfleenheid	Aandrijfleenheid laten controleren
101	Verbindingsprobleem van aandrijfleenheid	Aansluitingen en verbindingen laten controleren
102	Fout van snelheidssensor	Snelheidssensor laten controleren
103*	Verbindingsprobleem van verlichting	Aansluitingen en verbindingen laten controleren
104	Verbindingsprobleem van bedieningscomputer	Aansluitingen en verbindingen laten controleren
105	Temperatuur van aandrijfleenheid te hoog (boven 40 °C)	Laat de aandrijfleenheid afkoelen. Verder rijden zonder eBike-aandrijving is mogelijk en versnelt de afkoeling van de aandrijfleenheid.
200	Interne elektronische fout van de accu	Accu laten controleren
201	Temperatuur van accu te hoog (boven 40 °C)	Laat de accu afkoelen. Verder rijden zonder eBike-aandrijving is mogelijk en versnelt de afkoeling van de accu.
202	Temperatuur van de accu te laag (onder -10 °C)	Laat de accu in een warme ruimte langzaam opwarmen.
203	Verbindingsprobleem van de accu	Aansluitingen en verbindingen laten controleren
204	Verkeerde poolrichting van accu	Laad de accu alleen op met met het originele Bosch oplaadapparaat zoals in de bijbehorende gebruiksaanwijzing beschreven.

* Alleen bij verlichting van de eBike via de accu (per land verschillend)

Aanwijzingen voor het rijden met de eBike-aandrijving

Wanneer werkt de eBike-aandrijving?

De eBike-aandrijving ondersteunt u tijdens het rijden zolang u op de pedalen trapt. Als u niet op de pedalen trapt, vindt geen ondersteuning plaats. De ondersteuningsgraad is altijd afhankelijk van de kracht die u tijdens het trappen uitoefent.

Als u weinig kracht uitoefent, is de ondersteuning geringer dan wanneer u veel kracht uitoefent. Dat geldt onafhankelijk van ondersteuningsmodus en -niveau.

De eBike-aandrijving wordt automatisch uitgeschakeld bij snelheden boven 45 km per uur. Als de snelheid onder 45 km per uur daalt, staat de aandrijving automatisch weer ter beschikking.

Een uitzondering geldt voor de functie starthulp, waarin met de eBike langzaam kan worden gereden zonder op de pedalen te trappen.

U kunt met de eBike altijd ook zonder ondersteuning net als met een normale fiets rijden, als u de accu uitschakelt of de ondersteuningsstand op „0” instelt. Hetzelfde geldt als de accu leeg is.

Samenspel van eBike-aandrijving en versnellingen

Ook met de eBike-aandrijving kunt u de versnellingen net als bij een normale fiets gebruiken (zie daarvoor de gebruiksaanwijzing van uw eBike).

Onafhankelijk van de aard van de versnelling is het raadzaam om tijdens het schakelen het trappen kort te onderbreken. Daardoor wordt het schakelen vergemakkelijkt en de slijtage van de aandrijflijp beperkt.

Door de keuze van de juiste versnelling kunt u bij gelijke krachtsinspanning de snelheid en het bereik vergroten.

Eerste ervaringen opdoen

Geadviseerd wordt om de eerste ervaringen met de eBike op te doen op een weg zonder druk verkeer.

Probeer verschillende ondersteuningsmodi en ondersteuningsniveaus uit. Zodra u zich zeker voelt, kunt u met de eBike net als met elke andere fiets aan het verkeer deelnemen.

Test het bereik van uw eBike onder verschillende omstandigheden voordat u een langere tocht plant die meer van u eist.

Invloeden op het bereik

Met een volledig opgeladen accu en een zuinige wijze van rijden is een bereik tot 105 km mogelijk.

Het bereik wordt echter door vele factoren beïnvloed, zoals:

- ondersteuningsmodus en -niveau,
- schakelgedrag,
- type banden en bandendruk,
- ouderdom en onderhoudstoestand van de accu,
- profiel (hellingen) en aard (wegverharding) van de route,
- tegenwind en omgevingstemperatuur,
- gewicht van eBike, fietser en bagage.

Daarom is een concrete voorspelling van het bereik voor het begin van een tocht niet mogelijk. In het algemeen geldt echter:

- Bij **gelijke** ondersteuningsgraad door de eBike-aandrijving: hoe minder kracht u hoeft te benutten om een bepaalde snelheid te bereiken (bijv. door optimaal gebruik van de versnellingen), des te minder energie de eBike-aandrijving zal verbruiken en des te groter het bereik van een acculading zal zijn.
- Hoe **hoger** de ondersteuningsgraad (ondersteuningsmodus en -niveau) bij verder gelijke omstandigheden wordt gekozen, des te geringer het bereik.

Verzorging en onderhoud van de eBike

Houd rekening met de bedrijfs- en bewaartemperaturen van de componenten van de eBike. Bescherm aandrijfeenheid, bedieningscomputer en accu tegen extreme temperaturen (bijv. bij fel zonlicht zonder voldoende ventilatie). De componenten (in het bijzonder de accu) kunnen door extreme temperaturen beschadigd worden.

Onderhoud en service

Onderhoud en reiniging

Houd alle componenten van de eBike schoon, in het bijzonder de contacten van de accu en de bijbehorende houder. Reinig deze voorzichtig met een zachte, vochtige doek.

Geen van de componenten, ook de aandrijfeenheid niet, mogen in water worden ondergedompeld of met een hogedrukreiniger worden gereinigd.

Neem voor service of reparaties aan de eBike contact op met een erkende rijwielhandel.

Klantenservice en advies

Neem bij alle vragen over de eBike-aandrijving en zijn componenten contact op met een erkende rijwielhandel.

Contactgegevens van de erkende rijwielhandel vindt u op de internetpagina www.bosch-ebike.com

Vervoer

Op de accu's zijn de eisen voor het vervoer van gevaarlijke stoffen van toepassing. De accu's kunnen door particuliere gebruikers zonder verdere voorwaarden over de weg worden vervoerd. Bij vervoer door zakelijke gebruikers of bij vervoer door derden (bijv. luchtvervoer of vervoersbedrijf) moeten bijzondere eisen ten aanzien van verpakking en markering in acht worden genomen (bijv. ADR-voorschriften). Indien gewenst kan bij de voorbereiding van de verzending een deskundige voor gevaarlijke stoffen worden geraadpleegd.

Verzend de accu's alleen als de behuizing onbeschadigd is. Plak blootliggende contacten af en verpak de accu zodanig dat deze niet in de verpakking beweegt. Neem ook eventuele overige nationale voorschriften in acht.

Neem bij vragen over het vervoer van de accu's contact op met een erkende rijwielhandel. Bij de rijwielhandel kunt u ook een geschikte transportverpakking bestellen.

Afvalverwijdering



Aandrijfeenheid, bedieningscomputer, accu, snelheidssensor, toebehoren en verpakkingen moeten op een voor het milieu verantwoorde wijze worden gerecycled.

Gooi een eBike of componenten daarvan niet bij het huisvuil.

Alleen voor landen van de EU:



Volgens de Europese richtlijn 2002/96/EG moeten niet meer bruikbare elektrische apparaten en volgens de Europese richtlijn 2006/66/EG moeten defecte of lege accu's en batterijen apart worden ingezameld en op een voor het milieu verantwoorde wijze worden gerecycled.

Geef niet meer bruikbare accu's bij een erkende rijwielhandel af.



Li-ion:

Lees de aanwijzingen in het gedeelte „Vervoer”, pagina Nederlands-8 en neem deze in acht.

Wijzigingen voorbehouden.

Lithiumionaccu Battery Pack

Veiligheidsvoorschriften



Lees alle veiligheidsvoorschriften en aanwijzingen. Als de veiligheidsvoorschriften en aanwijzingen niet in acht worden genomen, kan dit een elektrische schok, brand en/of ernstig lichamelijk letsel tot gevolg hebben.

Bewaar alle veiligheidsvoorschriften en aanwijzingen voor de toekomst.

Het in deze gebruiksaanwijzing gebruikte begrip „accu” heeft betrekking op standaardaccu’s (accu’s met houder op het fietsframe) en bagagedrageraccu’s (accu’s met houder onder de bagagedrager), tenzij uitdrukkelijk wordt verwezen naar de vorm van de accu’s.

- ▶ **Neem de accu uit de eBike voordat u begint met werkzaamheden (zoals montage, onderhoud, enz.) aan de eBike, voordat u deze per auto of vliegtuig vervoert en voordat u deze opbergt.** Bij per ongeluk bedienen van de aan/uit-schakelaar bestaat verwondingsgevaar.
- ▶ **Open de accu niet.** Er bestaat gevaar voor kortsluiting. Als de accu wordt geopend, vervalt elke aanspraak op garantie door Bosch.



Bescherm de accu tegen hitte (bijv. ook tegen langdurig fel zonlicht), vuur en onderdompeling in water.

Er bestaat explosiegevaar.

- ▶ **Voorkom aanraking van de niet-gebruikte accu met paperclips, munten, sleutels, spijkers, schroeven en andere kleine metalen voorwerpen die overbrugging van de contacten kunnen veroorzaken.** Kortsluiting tussen de accucontacten kan brandwonden of brand tot gevolg hebben. Bij in dit verband ontstane schade door kortsluiting vervalt elke aanspraak op garantie door Bosch.

- ▶ **Bij verkeerd gebruik kan er vloeistof uit de accu lekken. Voorkom contact daarmee. Bij onvoorzien contact met water afspoelen. Als de vloeistof in de ogen komt, dient u bovendien een arts te raadplegen.** Gelekte accuvloeistof kan tot huidirritaties en brandwonden leiden.
- ▶ **Bij beschadiging en onjuist gebruik van de accu kunnen er dampen vrijkomen. Zorg voor frisse lucht en raadpleeg bij klachten een arts.** De dampen kunnen de luchtwegen irriteren.
- ▶ **Laad de accu alleen op in oplaadapparaten die door de fabrikant worden geadviseerd.** Voor een oplaadapparaat dat voor een bepaald type accu geschikt is, bestaat brandgevaar wanneer het met andere accu’s wordt gebruikt.
- ▶ **Gebruik de accu alleen in combinatie met de eBike waarvoor deze door de fabrikant wordt geadviseerd.** Alleen zo wordt de accu tegen gevaarlijke overbelasting beschermd.
- ▶ **Gebruik alleen originele Bosch accu’s die door de fabrikant voor uw eBike zijn toegestaan.** Het gebruik van andere accu’s kan tot lichamelijk letsel en brandgevaar leiden. Als andere accu’s worden gebruikt, wordt door Bosch geen aansprakelijkheid aanvaard en geen garantie geboden.
- ▶ **Lees de veiligheids- en overige voorschriften in de gebruiksaanwijzing van het oplaadapparaat, de gebruiksaanwijzing van aandrijfleenheid en bedieningscomputer en de gebruiksaanwijzing van de eBike en neem deze in acht.**

Product- en vermogensbeschrijving

Afgebeelde componenten (zie pagina 4–5)

De componenten zijn genummerd zoals op de pagina's met afbeeldingen.

Alle afbeeldingen van fietsonderdelen behalve de accu's en hun houders zijn schematisch en kunnen afwijken van de onderdelen van uw eBike.

- 13** Houder van bagagedrageraccu
- 14** Bagagedrageraccu
- 15** Bedrijfs- en oplaadindicatie
- 16** Aan/uit-toets
- 17** Sleutel van accuslot
- 18** Accuslot
- 19** Bovenste houder van standaardaccu
- 20** Standaardaccu
- 21** Onderste houder van standaardaccu
- 22** Draagriem
- 23** Oplaadapparaat

Technische gegevens

Lithiumionaccu		Battery Pack
Zaaknummer		
– Standaardaccu zwart		1 270 020 500/ 1 270 020 504
– Standaardaccu wit		1 270 020 501/ 1 270 020 505
– Standaardaccu zilver		1 270 020 502/ 1 270 020 506
– Bagagedrageraccu		1 270 020 503/ 1 270 020 507
Nominale spanning	V=	36
Nominale capaciteit	Ah	8
Energie	Wh	288
Bedrijfstemperatuur	°C	–10...+40
Bewaartemperatuur	°C	–10...+60
Toegestaan oplaadtemperatuurbereik	°C	0...+40
Gewicht	kg	2,5
Beschermingsklasse		IP 54 (stof- en spatwaterbescherming)

Montage

- ▶ **Plaats de accu alleen op een schone ondergrond.** Voorkom in het bijzonder het vuil worden van de oplaadaansluiting en de contacten, bijv. door zand of aarde.

Accu voor het eerste gebruik controleren

Controleer de accu voordat u deze voor de eerste keer oplaadt of met uw eBike gebruikt.

Druk daarvoor op de aan/uit-toets **16** voor het inschakelen van de accu. Als er geen led van de oplaadindicatie **15** brandt, is de accu mogelijk beschadigd.

Als er minstens een led brandt, maar niet alle leds van de oplaadindicatie **15** branden, dient u de accu voor het eerste gebruik volledig op te laden.

- ▶ **Laad een beschadigde accu niet op en gebruik deze niet.** Neem contact op met een erkende rijwielhandel.

Accu opladen

- ▶ **Gebruik alleen het oplaadapparaat dat op de pagina met afbeeldingen vermeld staan.** Alleen dit oplaadapparaat is afgestemd op de bij de eBike gebruikte lithiumionaccu.

Opmerking: De accu wordt gedeeltelijk opgeladen geleverd. Om de volledige capaciteit van de accu te verkrijgen, laadt u voor het eerste gebruik de accu volledig met het oplaadapparaat op.

De accu moet voor het opladen uit de eBike worden genomen.

Lees voor het opladen van de accu de gebruiksaanwijzing van het oplaadapparaat en neem de voorschriften in acht.

De accu kan op elk moment worden opgeladen zonder de levensduur te verkorten. Een onderbreking van het opladen schaadt de accu niet.

De accu is voorzien van een temperatuurbewaking die ervoor zorgt dat de accu alleen in het temperatuurbereik tussen 0 °C en 40 °C kan worden opgeladen. Daardoor wordt een lange levensduur van de accu bereikt.

Oplaadindicatie

De vijf groene leds van de oplaadindicatie **15** geven de oplaadtoestand van de accu aan als de accu ingeschakeld is.

Daarbij komt elke led overeen met ca. 20 % van de capaciteit. Als de accu volledig is opgeladen, branden alle vijf leds.

De oplaadtoestand van de ingeschakelde accu wordt bovendien in de bedieningscomputer aangegeven. Lees daarvoor de gebruiksaanwijzing van aandrijfeenheid en bedieningscomputer en neem de voorschriften in acht.

Als de capaciteit van de accu daalt beneden 5 %, gaan alle leds van de oplaadindicatie **15** van de accu uit. Er is echter nog een indicatie in de bedieningscomputer.

Accu inzetten of verwijderen (zie afbeeldingen E–F)

► **Schakel de accu altijd uit als u deze in de houder plaatst of uit de houder neemt. Let bij een ingezette, maar lege accu ook op de indicatie in de bedieningscomputer.** De accu kan anders beschadigd raken.

Om de accu te kunnen plaatsen, moet de sleutel **17** in het slot **18** steken en het slot moet geopend zijn.

Bij het **plaatsen van de standaardaccu 20** zet u deze met de contacten op de onderste houder **21** van de eBike. Kantel de accu tot deze niet meer verder kan in de bovenste houder **19**.

Als u de bagagedrageraccu wilt plaatsen 14, duwt u deze met de contacten naar voren in de houder **13** van de bagagedrager tot de accu vastklikt.

Controleer of de accu stevig vastzit. Sluit de accu altijd met het slot **18** af. Anders kan het slot opengaan en kan de accu uit de houder vallen.

Trek de sleutel **17** na het afsluiten altijd uit het slot **18**. Daarmee voorkomt u dat de sleutel eruit valt of de accu van een geparkeerde eBike door anderen wordt meegenomen.

Als u de standaardaccu wilt verwijderen 20 schakelt u deze uit en opent u het slot met de sleutel **17**. Kantel de accu uit de bovenste houder **19** en trek deze aan de draagriem **22** uit de onderste houder **21**.

Als u de bagagedrageraccu wilt verwijderen 14 schakelt u deze uit en opent u het slot met de sleutel **17**. Trek de accu uit de houder **13**.

Gebruik

Ingebruikneming

► **Gebruik alleen originele Bosch accu's die door de fabrikant voor uw eBike zijn toegestaan.** Het gebruik van andere accu's kan tot lichamelijk letsel en brandgevaar leiden. Als andere accu's worden gebruikt, wordt door Bosch geen aansprakelijkheid aanvaard en geen garantie geboden.

In- en uitschakelen

Controleer voor het inschakelen van de accu of het slot **18** afgesloten is.

Opmerking: De pedalen van de eBike mogen bij het inschakelen van de accu niet belast zijn. Anders wordt het vermogen van de aandrijving beperkt.

Als u de accu wilt **inschakelen**, drukt u op de aan/uit-toets **16**. De leds van de indicatie **15** gaan branden en geven tegelijkertijd de oplaadtoestand aan.

Opmerking: Als de capaciteit van de accu onder 5 % daalt, brandt er op de accu geen led van de oplaadindicatie **15**. Alleen op de bedieningscomputer is herkenbaar of de accu is ingeschakeld.

Het inschakelen van de accu is een van de voorwaarden voor de ingebruikneming van de aandrijving van de eBike. Lees daarvoor de gebruiksaanwijzing van aandrijfeenheid en bedieningscomputer en neem de voorschriften in acht.

Als u de accu wilt **uitschakelen**, drukt u opnieuw op de aan/uit-toets **16**. De leds van de indicatie **15** gaan uit. De aandrijving van de eBike wordt daarmee eveneens uitgeschakeld.

Als er ca. 10 minuten geen vermogen van de aandrijving wordt opgevraagd (bijv. omdat de eBike stilstaat), wordt de accu automatisch uitgeschakeld om energie te sparen.

De accu is door „Electronic Cell Protection (ECP)” beschermd tegen overmatig ontladen, overmatig opladen, oververhitting en kortsluiting. Bij gevaar wordt de accu door een veiligheidsschakeling automatisch uitgeschakeld.

Aanwijzingen voor de optimale omgang met de accu

Voor de accu worden minstens 500 volledige oplaadcycli gegarandeerd.

De levensduur van de accu kan worden verlengd als deze goed wordt behandeld en met name bij de juiste temperaturen wordt gebruikt en bewaard. Geadviseerd worden bedrijfstemperaturen tussen +5 °C +35 °C.

Met toenemende ouderdom zal de capaciteit van de accu echter ook bij goede verzorging afnemen.

Een duidelijk kortere gebruiksduur na het opladen geeft aan dat de accu versleten is en moet worden vervangen.

Mocht de draagriem **22** van de standaardaccu wijder worden, dient u deze door een rijwielhandel te laten vervangen.

Accu voor en tijdens het opbergen bijladen

Laad de accu op tot ongeveer 60 % (3 tot 4 leds van de oplaadindicatie **15** branden) voordat u deze voor lange tijd opbergt.

Controleer de oplaadtoestand na 6 maanden. Als er nog maar één led van de oplaadindicatie **15** brandt, dient u de accu weer tot ca 60 % op te laden.

Opmerking: Als de accu lange tijd in lege toestand wordt bewaard, kan deze ondanks de geringe zelfontlading worden beschadigd en kan de opslagcapaciteit sterk worden verminderd.

Het is niet aan te raden de accu langdurig aan het oplaadapparaat aangesloten te laten.

Bewaaromstandigheden

Bewaar de accu bij voorkeur op een droge en goed geventileerde plaats. Bescherm deze tegen vocht en water. Bij ongunstige weersomstandigheden is het bijv. aan te raden om de accu van de eBike te nemen en tot het volgende gebruik in een gesloten ruimte te bewaren.

De accu kan bij temperaturen van –10 °C tot +60 °C worden bewaard. Voor een lange levensduur is echter bewaren bij een temperatuur van ca. 20 °C gunstig.

Let erop dat de maximale bewaartemperatuur niet wordt overschreden. Laat de accu bijv. in de zomer niet in de auto liggen en bewaar deze niet in fel zonlicht.

Onderhoud en service

Onderhoud en reiniging

Houd de accu schoon. Reinig deze voorzichtig met een zachte, vochtige doek. De accu mag niet in water worden ondergedompeld of met een waterstraal worden gereinigd.

Als de accu niet meer werkt, dient u contact op te nemen met een erkende rijwielhandel.

Klantenservice en advies

Neem bij alle vragen over de accu's contact op met een erkende rijwielhandel.

► **Noteer het nummer op de sleutel 17.** Neem bij verlies van de sleutels contact op met een erkende rijwielhandel. Geef daarbij het sleutelnummer op.

Contactgegevens van de erkende rijwielhandel vindt u op de internetpagina

www.bosch-ebike.com

Vervoer

Op de accu's zijn de eisen voor het vervoer van gevaarlijke stoffen van toepassing. De accu's kunnen door particuliere gebruikers zonder verdere voorwaarden over de weg worden vervoerd.

Bij vervoer door zakelijke gebruikers of bij vervoer door derden (bijv. luchtvervoer of vervoersbedrijf) moeten bijzondere eisen ten aanzien van verpakking en markering in acht worden genomen (bijv. ADR-voorschriften). Indien gewenst kan bij de voorbereiding van de verzending een deskundige voor gevaarlijke stoffen worden geraadpleegd.

Verzend de accu's alleen als de behuizing onbeschadigd is. Plak blootliggende contacten af en verpak de accu zodanig dat deze niet in de verpakking beweegt. Neem ook eventuele overige nationale voorschriften in acht.

Neem bij vragen over het vervoer van de accu's contact op met een erkende rijwielhandel. Bij de rijwielhandel kunt u ook een geschikte transportverpakking bestellen.

Afvalverwijdering



Accu's, toebehoren en verpakkingen moeten op een voor het milieu verantwoorde wijze worden gerecycled.

Gooi accu's niet bij het huisvuil.

Alleen voor landen van de EU:



Volgens de Europese richtlijn 2002/96/EG moeten niet meer bruikbare elektrische apparaten en volgens de Europese richtlijn 2006/66/EG moeten defecte of lege accu's en batterijen apart worden ingezameld en op een voor het milieu verantwoorde wijze worden gerecycled.

Geef niet meer bruikbare accu's bij een erkende rijwielhandel af.



Li-ion:

Lees de aanwijzingen in het gedeelte „Vervoer”, pagina Nederlands – 13 en neem deze in acht.

Wijzigingen voorbehouden.

Oplaadapparaat Charger

Veiligheidsvoorschriften



Lees alle veiligheidsvoorschriften en aanwijzingen. Als de veiligheidsvoorschriften en aanwijzingen niet in acht worden genomen, kan dit een elektrische schok, brand en/of ernstig lichamenlijk letsel tot gevolg hebben.

Bewaar alle veiligheidsvoorschriften en aanwijzingen voor de toekomst.

Het in deze gebruiksaanwijzing gebruikte begrip „accu” heeft betrekking op standaardaccu’s (accu’s met houder op het fietsframe) en bagagedrageraccu’s (accu’s met houder onder de bagagedrager).



Houd het oplaadapparaat uit de buurt van regen en vocht. Bij het binnendringen van water in een oplaadapparaat bestaat het risico van een elektrische schok.

- ▶ **Laad alleen voor een eBike toegestane Bosch lithiumionaccu’s met de in de technische gegevens aangegeven spanningen op.** Anders bestaat er brand- en explosiegevaar.
- ▶ **Houd het oplaadapparaat schoon.** Door vervuiling bestaat gevaar voor een elektrische schok.
- ▶ **Controleer voor elk gebruik oplaadapparaat, kabel en stekker. Gebruik het oplaadapparaat niet als u een beschadiging hebt vastgesteld. Open het oplaadapparaat niet zelf en laat het alleen door gekwalificeerd personeel en alleen met originele vervangingsonderdelen repareren.** Beschadigde oplaadapparaten, kabels en stekkers vergroten het risico van een elektrische schok.
- ▶ **Gebruik het oplaadapparaat niet op een gemakkelijk brandbare ondergrond (zoals papier of textiel) of in een brandbare omgeving.** Vanwege de bij het opladen optredende verwarming van het oplaadapparaat bestaat brandgevaar.
- ▶ **Bij beschadiging en onjuist gebruik van de accu kunnen er dampen vrijkomen. Zorg voor frisse lucht en raadpleeg bij klachten een arts.** De dampen kunnen de luchtwegen irriteren.
- ▶ **Houd toezicht op kinderen.** Daarmee wordt gewaarborgd dat kinderen niet met het oplaadapparaat spelen.
- ▶ **Kinderen en personen die op grond van hun fysieke, zintuiglijke of geestelijke vermogens, hun onervarenheid of hun gebrek aan kennis niet in staat zijn het oplaadapparaat veilig te bedienen, mogen dit oplaadapparaat niet zonder toezicht of instructie door een verantwoordelijke persoon gebruiken.** Anders bestaat het gevaar van verkeerde bediening en lichamenlijk letsel.
- ▶ **Sluit het oplaadapparaat aan op een volgens de voorschriften geaard stroomnet.** Stopcontact en verlengkabel moeten een goed werkende aardeaansluiting hebben.
- ▶ **Lees de veiligheids- en overige voorschriften in de gebruiksaanwijzing van de accu, de gebruiksaanwijzing van aandrijfleenheid en bedieningscomputer en de gebruiksaanwijzing van de eBike en neem deze in acht.**
- ▶ Aan de onderzijde van het oplaadapparaat bevindt zich een kort overzicht van belangrijke veiligheidsvoorschriften in het Engels, Frans en Spaans (in de afbeelding op de pagina met afbeeldingen met nummer **28** aangeduid) met de volgende inhoud:
 - Neem voor een veilig gebruik de gebruiksaanwijzing in acht. Risico van een elektrische schok.
 - Alleen in droge omgeving gebruiken.
 - Laad alleen oplaadbare accu’s eBat100-199 op. Andere accu’s kunnen exploderen en lichamenlijk letsel veroorzaken.
 - Vervang het netsnoer niet. Er bestaat brand- en explosiegevaar.

Product- en vermogens- beschrijving

Technische gegevens

Oplaadapparaat		Charger
Zaaknummer		0 275 007 900
Nominale spanning	V=	115/230
Frequentie	Hz	50/60
Acculaadspanning	V=	36
Laadstroom		
– Normaal opladen	A	4
– Geluidloos opladen	A	1
Toegestaan oplaad- temperatuurbereik	°C	0...+40
Oplaadtijd (bij 8 Ah accu capaciteit) ca.		
– Normaal opladen	h	2,5
– Geluidloos opladen	h	8
Aantal accucellen		10–80
Gewicht volgens EPTA- Procedure 01/2003	kg	0,8
Isolatieklasse		⊕/I

De gegevens gelden voor nominale spanningen [U] 230 V. Bij afwijkende spanningen en bij per land verschillende uitvoeringen kunnen deze gegevens afwijken.

Afgebeelde componenten (zie pagina 6–7)

De componenten zijn genummerd zoals op de afbeelding van het oplaadapparaat op de pagina met afbeeldingen.

- 14** Bagagedrageraccu
- 15** Oplaadindicatie batterij
- 20** Standaardaccu
- 23** Oplaadapparaat
- 24** Ventilatieopeningen
- 25** Apparaataansluiting
- 26** Keuzeschakelaar netspanning
- 27** Apparaatstekker
- 28** Veiligheidsvoorschriften oplaadapparaat
- 29** Toets opladen
- 30** Functie-indicatie
- 31** Oplaadstekker
- 32** Contactbus voor oplaadstekker

Gebruik

- ▶ **Plaats de accu alleen op een schone ondergrond.** Voorkom in het bijzonder het vuil worden van de oplaadaansluiting en de contacten, bijv. door zand of aarde.

Ingebruikneming

Oplaadapparaat aansluiten (zie afbeeldingen G–H)

Stel op de netspanningschakelaar **26** van het oplaadapparaat de spanning van de stroombron in. U kunt kiezen tussen 115 V en 230 V.

- ▶ **Let op de netspanning!** De spanning van de stroombron moet overeenkomen met de gegevens op het typeplaatje van het oplaadapparaat. Met 230 V aangeduide oplaadapparaten kunnen ook met 220 V worden gebruikt.

Steek vervolgens de apparaatstekker **27** van het netsnoer in de apparaataansluiting **25** op het oplaadapparaat.

Sluit het netsnoer (verschilt per land) op het stroomnet aan. De functie-indicatie **30** op het oplaadapparaat gaat branden.

- ▶ **Verbind het oplaadapparaat pas met het stroomnet als op de netspanningschakelaar 26 de juiste netspanning is ingesteld.** Het oplaadapparaat kan anders beschadigd raken.

Schakel de accu uit en verwijder deze uit de houder op de eBike. Lees daarvoor de gebruiksaanwijzing van de accu en neem de voorschriften in acht.

Steek de oplaadstekker **31** van het oplaadapparaat in de aansluiting **32** van de accu. De functie-indicatie **30** op het oplaadapparaat knippert.

Opladen

Het opladen begint zodra het oplaadapparaat met de accu en het stroomnet verbonden is.

Opmerking: Het opladen is alleen mogelijk als de temperatuur van de accu binnen het toegestane oplaadtemperatuurbereik ligt.

U kunt uit twee oplaadmodi kiezen: normaal opladen „**FAST**” en geluidloos opladen „**SLOW**”. In de modus „**SLOW**” vindt het opladen geluidloos plaats.

Opladen	Normaal opladen „ FAST ”	Geluidloos opladen „ SLOW ”
Laadstroom	4 A	1 A
Functie-indicatie 30	knippert	brandt continu
Ventilatie oplaadapparaat	aan	uit

Bij ingebruikneming van het oplaadapparaat is normaal opladen vooraf ingesteld. Als een andere oplaadmodus wilt kiezen, drukt u op de toets **29**.

► **Wees voorzichtig als u het oplaadapparaat tijdens het opladen aanraakt. Draag werkhandschoenen.** Het oplaadapparaat kan in het bijzonder bij normaal opladen en hoge omgevingstemperaturen zeer heet worden.

Opmerking: Let erop dat het oplaadapparaat tijdens het opladen goed van lucht wordt voorzien en de ventilatieopeningen **24** aan beide zijden niet zijn afgedekt.

Tijdens het opladen branden de leds van de oplaadindicatie **15** op de accu. Elke continu brandende led komt overeen met ca. 20 % van de capaciteit van de lading. De knipperende led geeft het opladen van de volgende 20 % aan.

De accu is volledig opgeladen als alle vijf leds van de indicatie **15** continu branden. Het opladen wordt automatisch onderbroken.

Koppel het oplaadapparaat los van het stroomnet en de accu van het oplaadapparaat.

Als de accu van het oplaadapparaat wordt losgekoppeld, wordt de accu automatisch uitgeschakeld.

U kunt de accu nu in de eBike plaatsen.

Oorzaken en oplossingen van fouten

Oorzaak	Oplossing
Functie-indicatie 30 brandt niet, opladen niet mogelijk	
Verkeerde netspanning op schakelaar 26 gekozen	Juiste netspanning kiezen
Stekker niet goed ingestoken.	Alle insteekverbindingen controleren
Contacten van de accu vuil	Contacten van de accu voorzichtig reinigen
Accu te warm of te koud	Wachten tot temperatuur van accu binnen oplaadtemperatuurbereik komt
Ventilatieopeningen 24 van oplaadapparaat verstopt of afgedekt	Ventilatieopeningen 24 reinigen en oplaadapparaat neerzetten op een plaats met voldoende luchttoevoer
Stopcontact, kabel of oplaadapparaat defect	Netspanning controleren, oplaadapparaat door rijwielhandel laten controleren
Accu defect	Accu vervangen

Onderhoud en service

Onderhoud en reiniging

Zorg ervoor dat de ventilatieopeningen **24** van het oplaadapparaat tijdens het gebruik niet afgedekt en schoon zijn. Reinig de ventilatieopeningen indien nodig met een stofzuiger.

Mocht het oplaadapparaat niet meer werken, neem dan contact op met een erkende rijwielhandel.

Klantenservice en advies

Neem bij alle vragen over het oplaadapparaat contact op met een erkende rijwielhandel.

Contactgegevens van de erkende rijwielhandel vindt u op de internetpagina

www.bosch-ebike.com

Afvalverwijdering

Oplaadapparaten, toebehoren en verpakkingen moeten op een voor het milieu verantwoorde wijze worden hergebruikt.

Gooi oplaadapparaten niet bij het huisvuil.

Alleen voor landen van de EU:



Volgens de Europese richtlijn 2002/96/EG over elektrische en elektronische oude apparaten en de omzetting van de richtlijn in nationaal recht moeten niet meer bruikbare oplaadapparaten apart worden ingezameld en op een voor het milieu verantwoorde wijze worden hergebruikt.

Wijzigingen voorbehouden.

Betjeningscomputer HMI/ drivenhed Drive Unit 45

Sikkerhedsinstrukser



Læs alle sikkerhedsinstrukser og anvisninger. I tilfælde af manglende overholdelse af sikkerhedsinstrukserne og anvisningerne er der risiko for elektrisk stød, brand og/eller alvorlige kvæstelser.

Opbevar alle sikkerhedsinstrukser og anvisninger til senere brug.

Begrebet „Batteri“, der anvendes i denne betjeningsvejledning, gælder både for standardbatterier (batterier med holder på cykelstel) og bagabærer-batterier (batterier med holder under bagagebærer).

► **Forsøg ikke selv at åbne drivenheden. Drivenheden er vedligeholdelsesfri og må kun reparerer af kvalificeret, specialiseret personale og kun med originale reservedele.**

Dermed sikres størst mulig sikkerhed af drivenheden. Åbnes drivenheden uberettiget, bortfalder garantikravet.

► **Alle komponenter, der er monteret på drivenheden, og alle andre komponenter til eBike-drevet (f. eks. kædeblad, kædebladets holder, pedaler) må kun erstattes af komponenter, der er bygget på samme måde, eller af komponenter, der er godkendt af cykelproducenten specielt til din eBike.**

Dermed beskyttes drivenheden mod overbelastning og beskadigelse.

► **Tag batteriet ud af eBike, før du begynder at arbejde (f. eks. montere, vedligeholde osv.) på eBike, før du transporterer det med bilen eller flyveren eller opbevarer det.** Utilisitet betjening af start-stop-kontakten er forbundet med kvæstelsesfare.

► **Funktionen starthjælp må udelukkende bruges til at starte eller skubbe eBiken.** Har eBikens hjul ikke nogen kontakt med jorden, når starthjælpen bruges, kan man komme til skade.

► **Brug kun originale Bosch batterier, der er blevet godkendt til din eBike af producenten.** Brug af andre batterier kan føre til kvæstelser og brandfare. Bruges andre batterier, fraskriver Bosch sig ansvaret, og garantien bortfalder.

► **Følg alle nationale forskrifter vedr. registrering/godkendelse og brug af eBikes.**

► **Læs og følg sikkerhedsinstrukserne og anvisningerne i batteriets betjeningsvejledning samt i betjeningsvejledningen til din eBike.**

Beskrivelse af produkt og ydelse

Beregnet anvendelse

Drivenheden er udelukkende beregnet til at trække din eBike og må ikke bruges til andre formål. eBike er beregnet til gader og veje med fast undergrund. Den er ikke godkendt til konkurrenceformål.

Illustrerede komponenter (se side 2-3)

Nummereringen af de illustrerede komponenter refererer til illustrationerne på den grafiske side. Alle illustrationer af cykeldele undtagen drivenhed, cykelcomputer, hastighedssensor og tilhørende holdere er skematiske og kan afvige fra din eBike.

- 1 Cykelcomputer
- 2 Holder cykelcomputer
- 3 Taste „**info/reset**“ til multifunktions-indikator
- 4 Taste understøttende funktion „**mode**“
- 5 Taste belysning „**light**“
- 6 Taste understøttende trin øges/starthjælp tændes og slukkes ▲
- 7 Taste understøttende funktion reduceres ▼

- 8 Drivenhed
- 9 Nederste skrue til holder
- 10 Øverste skrue til holder
- 11 Hastighedssensor
- 12 Egemagnet for hastighedssensor

Indikatorelementer cykelcomputer

- a Indikator fartmåler
- b Indikator belysning
- c Indikator understøttende trin
- d Visning starthjælp
- e Multifunktionsindikator
- f Indikator understøttende funktion og fejlkode
- g Batteri-ladetilstandsindikator

Tekniske data

Drivenhed		Drive Unit 45
Typenummer		0 275 007 003
Nominel konstant ydelse	W	350
Omdrejningsmoment på udgang maks.	Nm	50
Nominel spænding	V=	36
Driftstemperatur	°C	-5...+40
Opbevarings-temperatur	°C	-10...+50
Tæthedsgrad		IP 54 (støv- og sprøjtevandsbeskyttet)
Vægt, ca.	kg	4

Cykelcomputer		HMI
Typenummer		1 270 020 900
Driftstemperatur	°C	-5...+40
Opbevarings-temperatur	°C	-10...+50
Tæthedsgrad		IP 54 (støv- og sprøjtevandsbeskyttet)
Vægt, ca.	kg	0,15

Belysning*		
Nominel spænding	V=	6
Effekt		
- forlys	W	2,7
- baglys	W	0,3

* afhængigt af de lovmæssige regler og bestemmelser ikke mulig i alle landespecifikke udførelser via eBike-batteriet

Montering

Isætning og udtagning af batteriet

Læs og følg batteriets betjeningsvejledning mht. hvordan batteriet sættes i og tages ud af eBike.

Positionering af betjeningscomputerens holder

► **Drej skrue 10 hhv. 9 fast med et tilspændingsmoment på maks. 1 Nm.** Ellers kan holderen 2 blive beskadiget.

Forskydning/vipning af holderen (se Fig. A)

Løsn de to skrue 9 på undersiden af holderen 2. Forskyd holderen på styret eller ændr vippevinklen. Drej de to skrue 9 fast igen med et tilspændingsmoment på maks. 1 Nm.

Drejning af holderen (se Fig. B)

Løsn skruen 10 på oversiden af holderen 2. Drej den øverste del af holderen på en sådan måde, at du tydeligt kan se på betjeningscomputeren 1 efter isætningen (se „Isætning og udtagning af cykelcomputeren“). Drej skruen 10 fast igen med et tilspændingsmoment på maks. 1 Nm.

Isætning og udtagning af cykelcomputeren (se Fig. C)

Cykelcomputeren sættes i ved at dreje den ca. 30°, før den anbringes på holderen 2, og dreje den til højre, til den falder i hak.

Cykelcomputeren tages ud ved at dreje den ca. 30° til venstre og trække den ud af holderen 2.

► **Fjern altid cykelcomputeren, før eBike stilles fra et sted, så drevet ikke kan bruges af uberettiget tredjemand.** Drevet kan ikke tændes uden cykelcomputeren.

Kontrol af hastighedssensoren (se Fig. D)

Hastighedssensoren **11** og den tilhørende egemagnet **12** skal være monteret på en sådan måde, at egemagneten bevæger sig forbi hastighedssensoren i en afstand på mindst 5 mm og maks. 17 mm, når hjulet drejer en omdrejning.

Bemærk: Er afstanden mellem hastighedssensor **11** og egemagnet **12** for lille eller for stor, eller er hastighedssensoren **11** ikke tilsluttet rigtigt, fungerer fartmålerindikatoren ikke **a**, og eBike-drevet arbejder i nødkørselsprogrammet. Løsn i dette tilfælde skruen i egemagneten **12** fastgør egemagneten på egen på en sådan måde, at den løber forbi hastighedssensorens markering i den rigtige afstand. Fremkommer der heller ikke herefter nogen hastighed i fartmålerindikatoren **a**, bedes du kontakte en autoriseret cykelforhandler.

Drift

Ibrugtagning

Forudsætninger

Drevet på din Bike kan kun aktiveres, hvis følgende forudsætninger er opfyldt:

- Et tilstrækkeligt opladt batteri er sat i (se batteriets betjeningsvejledning).
- Cykelcomputeren er sat rigtigt ind i holderen (se „Isætning og udtagning af cykelcomputer“, side Dansk-2).
- Hastighedssensoren er tilsluttet rigtigt (se „Kontrol af hastighedssensoren“, side Dansk-3).

Tænding/slukning for drevet

Sæt batteriet ind i holderen og tænd for det med start-stop-tasten (se batteriets betjeningsvejledning).

Bemærk: Pedalerne på eBike må ikke være belastet, når batteriet tændes, da drevkapaciteten ellers er begrænset.

Er batteriet ved et tilfælde blevet tændt med belastede pedaler, skal du slukket for det og så tænde for det igen uden belastning.

Når batteriet tændes, tændes også samtidigt cykelcomputerens display. Cykelcomputeren viser batteriets ladetilstand samt drivenhedens indstillinger.

Drevet aktiveres, så snart du træder i pedalerne (undtagen i funktionen starthjælp, se „Tænd/sluk for starthjælpen“, side Dansk-4). Understøtningsgraden retter sig efter indstillingerne på betjeningscomputeren.

Så snart du holder op med at træde i pedalerne i normal funktion, eller så snart du har nået en hastighed på 45 km/h, slukkes understøtningen af drevet på eBike. Drevet aktiveres automatisk igen, så snart du træder på pedalerne, og hastigheden er under 45 km/h.

Drevet slukkes ved at slukke for batteriet med start-stop-tasten (se batteriets betjeningsvejledning).

Påvirkes drevet ikke i ca. 10 min (f.eks. fordi eBike står stille), slukker batteriet automatisk for at spare på energien.

Visning og indstillinger på cykelcomputeren

Bemærk: Visninger og indstillinger på cykelcomputeren er kun mulige, når eBike batteriet er tændt. Cykelcomputeren har ikke sin egen strømforsyning.


Batteriets ladetilstandsvisning

Undtagen på ladetilstandsvisningen, der befinder sig på batteriet, kan ladetilstanden også aflæses i cykelcomputerens visning **g**.

I visningen **g** svarer hver bjælke i batterisymbolet til ca. 20 % kapacitet:

 100 % til 80 % kapacitet

 20 % til 5 % kapacitet, batteriet bør efterlades.

 Mindre end 5 % kapacitet, det er ikke mere muligt at understøtte drevet. Ladetilstandsvisningens LED-lamper på batteriet slukker.

Hvis eBike belysningen kører via batteriet (lanspecifikt), er der kapacitet til endnu ca. 2 timer belysning, når det tomme batterisymbol fremkommer første gang. Når symbolet begynder at blinke, fungerer belysningen herefter kun i meget kort tid.

Indstilling af understøttende funktion

På cykelcomputeren kan du indstille, hvor meget eBike-drevet skal understøtte dig, når der trædes på pedalerne.

Bemærk: I enkelte udførelser er det muligt, at understøttende funktionen er forindstillet og ikke kan ændres. Det er også muligt, at færre funktioner står til rådighed end det er angivet her. Maks. fire understøttende funktioner står til rådighed:

- ECO** „ECO“: Effektiv understøtning ved maks. effektivitet, til maks. rækkevidde
- FOUR** „TOUR“: Jævn understøtning, til tre med stor rækkevidde
- SPORT** „SPORT“: Kraftfuld understøtning, til sporty kørsel på bjergede strækninger samt til bytrafik
- SPEED** „SPEED“: Maks. understøtning indtil høje trædefrekvenser, til sporty kørsel

Understøttende funktionen skiftes ved at trykke på tasten „mode“ **4** igen og igen, til den ønskede funktion fremkommer i visningen **f**.

Når starthjælpen er i brug, slukker indikatoren **f**, den indstillede understøttende funktion gemmes.

Indstilling af understøttende trinnet

I den indstillede understøttende funktion kan du til enhver tid, også under kørslen, ændre understøttende trinnet.

Bemærk: I enkelte udførelser er det muligt, at understøttende trinnet er forindstillet og ikke kan ændres.

Maks. tre understøttende trin samt frakobling af understøtningen er mulig.

Understøtningsgrad* ved:	Understøttende trin		
Understøttende funktion	„1“	„2“	„3“
„ECO“	30 %	60 %	100 %
„TOUR“	45 %	80 %	120 %
„SPORT“	70 %	140 %	180 %
„SPEED“	90 %	160 %	250 %

* Understøtningsgraden kan afvige ved enkelte udførelser.

Det understøttende trin øges ved at trykke på tasten **▲ 6** gentagne gange, indtil det ønskede trin fremkommer i visningen **c**.

Understøttende trinnet reduceres ved at trykke på tasten **▼ 7** igen og igen, indtil det ønskede trin fremkommer i visningen **c**.

Ved understøttende trin „0“ frakobles drevet. eBike kan bevæges fremad ved at træde på pedalerne lige som på en normal cykel.

Når starthjælpen er i brug, slukker indikatoren **c**, det indstillede understøttende trin gemmes.

Tænd/sluk for starthjælpen

Starthjælpen kan bruges som ekstra understøtning de første meter, hvis det er besværligt at komme i gang (som f.eks. ved lyskrydset eller oppe på bjerget). Den kan også bruges som skubbehjælp i laveste gear.

► **Funktionen starthjælp må udelukkende bruges til at starte eller skubbe eBiken.** Har eBikens hjul ikke nogen kontakt med jorden, når starthjælpen bruges, kan man komme til skade.

Starthjælpen **tændes** ved at trykke på tasten **▲ 6** i mere end 1 s og hold den nede. eBikens drev tændes, indikatoren **d** blinker og indikatorerne **c**, **e** og **f** slukkes.

Starthjælpen **slukkes**, så snart en af følgende punkter opstår:

- du slipper for tasten **▲ 6**,
- du trykker på en anden taste på betjeningscomputeren,
- du træder fremad eller hurtigt tilbage på pedalerne,
- eBikens hjul blokeres (f.eks. fordi du bremses eller støder imod en forhindring),
- ved en hastighed på 16 km/h.

Tænding/slukning af belysningen

To belysningsudførelser er mulige afhængigt af de landespecifikke forskrifter:

- Via cykelcomputeren kan forlyst, baglyst og displaybelysning tændes og slukkes samtidigt.
- Kun displaybelysningen kan tændes og slukkes, for- og baglyset på eBike er uafhængige af cykelcomputeren.

Ved begge udførelser trykkes til **tænding af belysningen** på tasten „light“ **5**. I displayet fremkommer belysningsvisningen **b**.

Til **slukning af belysningen** trykkes på tasten „light“ **5** igen, belysningsvisningen **b** slukker.

Hastigheds- og afstandsvisninger

Bemærk: Afhængigt af den landespecifikke udførelse kan afstand og hastighed vises enten i „km“ og „km/h“ eller i „mi“ og „mph“. Cykelcomputeren og udvalget af visemuligheder håndteres ens for kilometer- og mile-modellen. I **fartmålerindikatoren a** vises altid den aktuelle hastighed.

I **multifunktionsindikatoren e** står følgende indikatorer til rådighed:

odo **0 1635 km** Samlet distance „odo“:
Samlet afstand, der er tilbagelagt indtil nu med eBike

trip **068.50 km** Daglig distance „trip“:
Afstand, der er tilbagelagt siden det sidste reset

Visning af fejlkode

eBike-drevets komponenter kontrolleres automatisk hele tiden. Konstateres en fejl, fremkommer den pågældende fejlkode i indikatoren **f**.

Drevet slukkes i givet fald automatisk afhængigt af fejltypen. En videre kørsel uden understøtning er dog til enhver tid mulig. Før yderligere kørsler bør eBike kontrolleres.

avg **002 17** km/h

Gennemsnitlig hastighed „avg“: Gennemsnitlig hastighed, der er nået siden det sidste reset

000 72 ^{range} km

Rækkevidde „range“: Forventet rækkevidde for den eksisterende batteriladning (ved ensblivende betingelser som f.eks. understøttende funktion, understøttende trin, strækningsprofil osv.)

Tryk til **skift af multifunktionsindikatoren** på tasten „info/reset“ **3** igen og igen, til den ønskede funktion vises.

Til **reset** af den daglige distance „trip“ og den gennemsnitlige hastighed „avg“ skift da til en af de to indikatorer og tryk så på tasten „info/reset“ **3**, til indikatoren står på nul.

Når starthjælpen er i brug, slukker multifunktionsindikatoren **e**.

- **Lad alt kontrol- og reparationsarbejde udelukkende udføre af en autoriseret cykelforhandler.** Viser en fejl, selv om den er blevet afhjulpel, bedes du ligeledes kontakte en autoriseret cykelforhandler.

Code	Årsag	Afhjælpning
001	Intern fejl på betjeningscomputeren	Få cykelcomputeren kontrolleret
002	En eller flere taster på cykelcomputeren er blokeret.	Kontroller, om taster er klemt fast f.eks. på grund af indtrængt snavs. Rengør i givet fald tasterne.
003	Forbindelsesproblem for cykelcomputeren	Få tilslutninger og forbindelser kontrolleret
100	Intern fejl på drivenheden	Få drivenheden kontrolleret
101	Forbindelsesproblem for drivenheden	Få tilslutninger og forbindelser kontrolleret
102	Fejl på hastighedssensoren	Få hastighedssensoren kontrolleret
103*	Forbindelsesproblem for belysningen	Få tilslutninger og forbindelser kontrolleret

* Kun til eBike-belysning via batteriet (landespecifik)

Code	Årsag	Afhjælpning
104	Forbindelsesproblem for cykelcomputeren	Få tilslutninger og forbindelser kontrolleret
105	Drivenhedens temperatur er for høj (over 40 °C)	Lad drivenheden afkøle. En viderekørsel uden eBike-drevet er mulig og fremskynder afkølingen af drivenheden.
200	Intern elektronikfejl på batteriet	Få batteriet kontrolleret
201	Batteriets temperatur er for høj (over 40 °C)	Lad batteriet afkøle. En viderekørsel uden eBike-drevet er mulig og fremskynder afkølingen af batteriet.
202	Batteriets temperatur er for lav (under -10 °C)	Lad batteriet opvarme langsomt i et varmt rum.
203	Forbindelsesproblem for batteriet	Få tilslutninger og forbindelser kontrolleret
204	Batteriets poler er forbundet forkert	Oplad batteriet med det originale Bosch ladeaggregat som beskrevet i ladeaggregatets betjeningsvejledning.

* Kun til eBike-belysning via batteriet (landespecifik)

Henvisninger vedr. kørsel med eBike-drevet

Hvornår arbejder eBike-drevet?

eBike-drevet understøtter dig under kørslen, så længe du træder i pedalerne. Understøtningen fungerer kun, så længe der trædes i pedalerne. Understøtningsgraden afhænger altid af den kraft, der investeres, når der trædes i pedalerne. Investerer du lidt kraft, er understøtningen ikke så stor, som hvis du investerer meget kraft. Dette gælder uafhængigt af understøttende funktionen og trinnet.

eBike-drevet slukker automatisk ved hastigheder over 45 km/h. Underskriver hastigheden 45 km/h, står drevet igen automatisk til rådighed.

En undtagelse gælder for funktionen starthjælp, hvor du kan køre på eBike uden at træde på pedalerne ved lav hastighed.

Du kan til enhver tid betjene eBike som en almindelig cykel, også uden understøtning; dette gøres ved at slukke for batteriet eller ved at stille understøttende trinnet på „0“. Det samme gælder, hvis batteriet er tomt.

Samspil mellem eBike-drevet og gearsystemet

Også med eBike-drevet bør du bruge gearsystemet som på en normal cykel (læs betjeningsvejledningen til din eBike).

Uafhængigt af gearsystemets type tilrådes det af afbryde trædningen kort under gearskiftet. Der ved gøres det nemmere at skifte gear og drivstrengen slides ikke så hurtigt.

Vælges det rigtige gear, kan du ved ensblivende kraftforbrug øge hastigheden og rækkevidden.

De første erfaringer

Det anbefales at samle de første anbefalinger med eBike på gader og veje med lidt trafik.

Prøv forskellige understøttende funktioner og understøttende trin. Så snart du føler dig sikker, kan du også køre med eBike lige som en almindelig cykel på gader og veje med almindelig trafik.

Test rækkevidden for din eBike under forskellige betingelser, før du planlægger længere og mere krævende ture.

Påvirkninger af rækkevidden

Med helt opladt batteri og sparsom kørsel kan du køre op til 105 km med din eBike.

Rækkevidden påvirkes dog af mange faktorer som f.eks.:

- understøttende funktion og trin,
- gearskifteadfærd,
- rækkenes og dæktrykkets art,
- batteriets alder og pasningstilstand,
- strækingsprofil (stigninger) og -beskaffenhed (kørebanens belægning),
- modvind og omgivelsestemperatur,
- vægt for eBike, cyklist og bagage.

Derfor er det ikke muligt at forudsige rækkevidden konkret, før du starter en cykeltur med din eBike. Generelt gælder dog følgende:

- Ved **samme** understøtningsgrad fra eBike-drevet: Jo mindre kraft du skal bruge for at nå en bestemt hastighed (f.eks. fordi gearsystemet bruges optimalt), jo mindre energi har eBikens drev brug for og jo større er rækkevidden, som en batteriopladning kan klare.
- Jo **højere** understøtningsgraden (understøttende funktion og trin) vælges ved ellers ens betingelser, desto kortere er rækkevidden.

Omhyggelig pasning af din eBike

Følg drifts- og opbevaringstemperaturerne for eBike-komponenterne. Beskyt drivenhed, cykelcomputer og batteri mod ekstreme temperaturer (f.eks. fra intensive solstråler uden samtidig udluftning). Komponenterne (især batteriet) kan blive beskadiget som følge af ekstreme temperaturer.

Vedligeholdelse og service

Vedligeholdelse og rengøring

Hold alle komponenter rene på din eBike, især kontakterne til batteri og tilhørende holder.

Rengør den forsigtigt med en fugtig, blød klud.

Alle komponenter inkl. drivenhed må hverken dyppes i vand eller rengøres med en højtryksrensers.

Til service eller reparation af eBike bedes du kontakte en autoriseret cykelforhandler.

Kundeservice og kunderådgivning

Ved alle spørgsmål vedr. eBike-drevet og dets komponenter bedes du kontakte en autoriseret cykelforhandler.

Kontaktdata for autoriserede cykelforhandlere findes på internetsiden **www.bosch-ebike.com**

Transport

Batterierne skal overholde kravene i ret om farligt gods. Batterierne kan transporteres af den private bruger på gader og veje uden yderligere pålæg. Transporteres de af erhvervs-mæssige brugere eller af tredjemand (f.eks. lufttransport eller spedition), skal særlige krav til emballage og mærkning overholdes (f.eks. forskrifter fra ADR). Her skal man efter behov kontakte en faregodsekspert, før forsendelsesstykket forberedes.

Send kun batterierne, hvis huset er ubeskadiget. Tilklæb åbne kontakter og indpak batteriet på en sådan måde, at det ikke kan bevæge sig i emballagen. Følg også eventuelle yderligere nationale forskrifter.

Spørgsmål vedr. transport af batterierne bedes stillet til en autoriseret cykelforhandler. Hos forhandleren kan du også bestille en egnet transportemballage.

Bortskaffelse



Drivenhed, cykelcomputer, batteri, hastighedssensor, tilbehør og emballage skal genbruges på en miljøvenlig måde.

Smid ikke eBikes og deres komponenter ud sammen med det almindelige husholdningsaffald!

Gælder kun i EU-lande:



Iht. det europæiske direktiv 2002/96/EF skal kasseret elektriværktøj og iht. det europæiske direktiv 2006/66/EF skal defekte eller opbrugte akkuer/batterier indsamles separat og genbruges iht. gældende miljøforskrifter.

Aflever venligst kasserede batterier til en autoriseret cykelforhandler.



Li-Ion:

Læs og overhold henvisningerne i afsnit „Transport“, side Dansk-7.

Ret til ændringer forbeholdes.

Li-ion-batteri Battery Pack

Sikkerhedsinstrukser



Læs alle sikkerhedsinstrukser og anvisninger. I tilfælde af manglende overholdelse af sikkerhedsinstrukserne og anvisningerne er der risiko for elektrisk stød, brand og/eller alvorlige kvæstelser.

Opbevar alle sikkerhedsinstrukser og anvisninger til senere brug.

Begrebet „Batteri“, der anvendes i denne betjeningsvejledning, gælder både for standardbatterier (batterier med holder på cykelstel) og bagagebærer-batterier (batterier med holder under bagagebærer), medmindre der refereres udtrykkeligt til konstruktionen.

- ▶ **Tag batteriet ud af eBike, før du begynder at arbejde (f.eks. montere, vedligeholde osv.) på eBike, før du transporterer det med bilen eller flyveren eller opbevarer det.** Utilsigtet betjening af start-stop-kontakten er forbundet med kvæstelsesfare.
- ▶ **Åbn ikke batteriet.** Fare for kortslutning. Åbnes batteriet, bortfalder ethvert garantikrav over for Bosch.



Beskyt batteriet mod varme (f.eks. også mod varige solstråler), brand og neddykning i vand. Fare for eksplosion.

- ▶ **Det ikke benyttede batteri må ikke komme i berøring med kontorclips, mønter, nøgler, søm, skruer eller andre små metalgenstande, da disse kan kortslutte kontakterne.** En kortslutning mellem batterikontakterne kan føre til forbrændinger eller brand. Opslutter der i denne sammenhæng kortslutningsskader, bortfalder ethvert garantikrav over for Bosch.

- ▶ **Forkert anvendelse kan medføre, at væske slipper ud af batteriet. Undgå at komme i kontakt med denne væske. Hvis det alligevel skulle ske, skylles med vand. Søg læge, hvis væsken kommer i øjnene.** Udstrømmende batterivæske kan give hudirritation eller forbrændinger.
- ▶ **Beskadiges batteriet eller bruges det forkert, kan der sive dampe ud. Tilfør frisk luft og søg læge, hvis du føler dig utilpas.** Dampene kan irritere luftvejene.
- ▶ **Oplad kun batteriet i ladeaggregater, der er anbefalet af producenten.** Et ladeaggregat, der er egnet til en bestemt type batterier, må ikke benyttes med andre batterier – brandfare.
- ▶ **Brug kun batteriet i forbindelse med eBikes, som de er anbefalet til af producenten.** Kun på denne måde beskyttes batteriet mod farlig overbelastning.
- ▶ **Brug kun originale Bosch batterier, der er blevet godkendt til din eBike af producenten.** Brug af andre batterier kan føre til kvæstelser og brandfare. Bruges andre batterier, fraskriver Bosch sig ansvaret, og garantien bortfalder.
- ▶ **Læs og følg sikkerhedsinstrukserne og anvisningerne i betjeningsvejledningerne til ladeaggregat og drivenhed/cykelcomputer samt i betjeningsvejledningen til din eBike.**

Beskrivelse af produkt og ydelse

Illustrerede komponenter (se side 4-5)

Nummereringen af de illustrerede komponenter refererer til illustrationerne på de grafiske sider. Alle illustrationer af cykeldele undtagen batterier og deres holdere er skematiske og kan afvige fra din eBike.

- 13** Holder til bagagebærer-batteri
- 14** Bagagebærer-batteri
- 15** Drifts- og ladetilstandsvisning
- 16** Start-stop-tasten
- 17** Nøgle til batterilås
- 18** Batterilås
- 19** Øverste holder til standard-batteri
- 20** Standard-batteri
- 21** Nederste holder til standard-batteri
- 22** Bærerem
- 23** Ladeaggregat

Tekniske data

Li-ion-batteri	Battery Pack	
Typenummer		
- Standard-batteri sort		1 270 020 500/ 1 270 020 504
- Standard-batteri hvid		1 270 020 501/ 1 270 020 505
- Standard-batteri sølv		1 270 020 502/ 1 270 020 506
- Bagagebærer-batteri		1 270 020 503/ 1 270 020 507
Nominal spænding	V=	36
Nominal kapacitet	Ah	8
Energi	Wh	288
Driftstemperatur	°C	-10...+40
Opbevaringstemperatur	°C	-10...+60
Tilladt temperatur-område for opladning	°C	0...+40
Vægt	kg	2,5
Tæthedsgrad		IP 54 (støv- og sprøjttevandsbeskyttet)

Montering

- ▶ **Stil kun batteriet kun på rene overflader.** Undgå især en tilsmudsning af ladebøsningen og kontakterne (f.eks. fra sand eller jord).

Kontrol af batteriet, før det tages i brug første gang

Kontroller batteriet, før det oplades første gang eller før du bruger det sammen med din eBike.

Tryk hertil på start-stop-tasten **16** for at tænde for batteriet. Lyser der ikke nogen LED-lampe i ladetilstandsindikatoren **15**, er batteriet evt. beskadiget.

Lyser mindst en LED-lampe, men ikke alle LED-lamper i ladetilstandsindikatoren **15**, oplades batteriet helt, før det tages i brug første gang.

- ▶ **Oplad ikke et beskadiget batteri og tag det ikke i brug.** Kontakt en autoriseret cykelforhandler.

Opladning af batteriet

- ▶ **Brug kun det ladeaggregat, der findes på grafiksiden.** Kun dette ladeaggregat er afstemt i forhold til det Li-ion-batteri, der bruges på din eBike.

Bemærk: Batteriet er delvist opladt ved udleveringen. For at sikre at batteriet fungerer 100 %, oplades batteriet fuldstændigt i ladeaggregatet, før det tages i brug første gang.

Batteriet skal tages ud af eBike for at blive opladt.

Læs og følg ladeaggregatets betjeningsvejledning vedr. opladning af batteriet.

Batteriet kan oplades til enhver tid, uden at levetiden forkortes. En afbrydelse af opladningen beskadiger ikke batteriet.

Batteriet er udstyret med en temperatuovervågning, som kun tillader en opladning i et temperaturområde mellem 0 °C og 40 °C. Derved opnås en lang levetid for batteriet.

Ladetilstandsindikator

De fem grønne LED-lamper i ladetilstandsindikatoren **15** viser batteriets ladetilstand, når batteriet er tændt.

Hver LED-lampe svarer til ca. 20 % af kapaciteten. Når batteriet er helt opladt, lyser alle fem LED-lamper.

Ladetilstanden for det tændte batteri vises desuden i cykelcomputeren. Læs og følg hertil betjeningsvejledningen for driveness og cykelcomputeren.

Er batteriets kapacitet under 5 %, slukker alle LED-lamper i ladetilstandsindikatoren **15** på batteriet, dog er der endnu en indikator i cykelcomputeren.

Isætning og udtagning af batteriet (se Fig. E-F)

► **Sluk altid for batteriet, når du sætter det ind i holderen eller tager det ud af holderen. Kontroller også indikatoren i cykelcomputeren, hvis batteriet er sat i og er tomt.** Ellers kan batteriet blive beskadiget.

For at batteriet kan sættes i, skal nøglen **17** sidde i låsen **18** og låsen være låst op.

Til **isætning af standard-batteriet 20** sættes dets kontakter på den nederste holder **21** på eBike. Vip det helt ind i holderen **19**.

Til **isætning af bagagebærer-batteriet 14** skubes dets kontakter frem, til det falder i hak i holderen **13** på bagagebæreren.

Kontroller, at batteriet sidder fast. Aflås altid batteriet med låsen **18**, da låsen ellers kan åbne og batteriet kan falde ud af holderen.

Fjern altid nøglen **17** fra låsen **18** efter aflåsningen. Dermed forhindrer du, at nøglen falder ud og at batteriet fjernes af en uberettiget tredjemand, når eBike stilles fra.

Til **udtagning af standard-batteriet 20** slukkes det, og låsen åbnes med nøglen **17**. Vip batteriet ud af den øverste holder **19** og træk det vha. bæremremmen **22** ud af den nederste holder **21**.

Til **udtagning af bagagebærer-batteriet 14** slukkes det, og låsen åbnes med nøglen **17**. Træk batteriet ud af holderen **13**.

Drift

Ibrugtagning

► **Brug kun originale Bosch batterier, der er blevet godkendt til din eBike af producenten.** Brug af andre batterier kan føre til kvæstelser og brandfare. Bruges andre batterier, fraskriver Bosch sig ansvaret, og garantien bortfalder.

Tænd/sluk

Kontroller, at låsen **18** er aflåst, før batteriet tændes.

Bemærk: Pedalerne på eBike må ikke være belastet, når batteriet tændes, da drevekapaciteten ellers er begrænset.

Batteriet **tændes** ved at trykke på start-stop-tasten **16**. LED-lamperne i indikatoren **15** lyser og viser samtidigt ladetilstanden.

Bemærk: Ligger batteriets kapacitet under 5 %, lyser ingen LED-lampe i ladetilstandsindikatoren på batteriet **15**. Kun på cykelcomputeren kan det ses, om batteriet er tændt.

En tænding af batteriet er en af forudsætningerne for, at eBike-drevet kan tages i brug. Læs og følg hertil betjeningsvejledningen for driveness og cykelcomputeren.

Batteriet **slukkes** ved at trykke på start-stop-tasten **16**. LED-lamperne i indikatoren **15** slukker. eBike-drevet slukkes dermed ligeledes.

Påvirkes drevet ikke i ca. 10 min (f.eks. fordi eBike står stille), slukker batteriet automatisk for at spare på energien.

Batteriet er beskyttet mod afladning, overladning, overophedning og kortslutning vha. „Electronic Cell Protection (ECP)“. I tilfælde af fare slukker batteriet automatisk vha. en beskyttelseskobling.

Henvisninger til optimal håndtering af batteriet

Der sikres mindst 500 ladecykler for batteriet.

Batteriets levetid kan forlænges, hvis det passes godt og især hvis det bruges og opbevares ved de rigtige temperaturer. Driftstemperaturer mellem +5 °C og +35 °C anbefales.

Batteriets kapacitet forringes, jo ældre det bliver, også selv om det plejes godt.

Forkortes driftstiden væsentligt efter opladning, er det tegn på, at batteriet er slidt op og skal udskiftes.

Skulle bæreren 22 til standardbatteriet udvide sig, skal den udskiftes af en cykelforhandler.

Opladning af batteriet før og under opbevaringen

Oplad batteriet til ca. 60 % (3 til 4 LED-lamper i ladetilstandsindikatoren 15 lyser), før det tages ud af brug i længere tid.

Kontroller ladetilstanden efter 6 måneder. Lyser kun en LED-lampe i ladetilstandsindikatoren 15, oplades batteriet igen til ca. 60 %.

Bemærk: Opbevares batteriet i tom tilstand i længere tid, kan det blive beskadiget på trods af den lille selvafledning og lagerkapaciteten forringes betydelig.

Det kan ikke anbefales at lade batteriet være tilsluttet varigt til ladeaggregatet.

Opbevaringsbetingelser

Opbevar helst batteriet et tørt og godt ventileret sted. Beskyt det mod fugtighed og vand. Ved ugunstige vejrforhold kan det f.eks. anbefales at fjerne batteriet fra eBike og opbevare det i lukkede rum, indtil det tages i brug igen.

Batteriet kan opbevares ved temperaturer fra -10 °C til +60 °C. Til en længere levetid skal det helst opbevares ved en stuetemperatur på ca. 20 °C.

Sørg for, at den maksimale opbevaringstemperatur ikke overskrides. Sørg for, at batteriet f.eks. om sommeren ikke opbevares bilen, og opbevar det sådan, at det ikke udsættes for direkte solstråler.

Vedligeholdelse og service

Vedligeholdelse og rengøring

Renhold batteriet. Rengør det forsigtigt med en fugtig, blød klud. Batteriet må hverken dypes i vand eller rengøres med en vandstråle.

Fungerer batteriet ikke mere, bedes du kontakte en autoriseret cykelforhandler.

Kundeservice og kundeservice

Spørgsmål vedr. batterierne bedes stillet til en autoriseret cykelforhandler.

- **Notér nummeret på nøglen 17.** Hvis nøglen tabes, bedes du henvende dig til en autoriseret cykelforhandler. Husk at angive nøglenummeret.

Kontaktdata for autoriserede cykelforhandlere findes på internetsiden www.bosch-ebike.com

Transport

Batterierne skal overholde kravene i ret om farligt gods. Batterierne kan transporteres af den private bruger på gader og veje uden yderligere pålæg.

Transporteres de af erhvervs-mæssige brugere eller af tredjemand (f.eks. lufttransport eller spedition), skal særlige krav til emballage og mærkning overholdes (f.eks. forskrifter fra ADR). Her skal man efter behov kontakte en fagregosekspert, før forsendelsesstykket forberedes.

Send kun batterierne, hvis huset er ubeskadiget. Tilklæb åbne kontakter og indpak batteriet på en sådan måde, at det ikke kan bevæge sig i emballagen. Følg også eventuelle yderligere nationale forskrifter.

Spørgsmål vedr. transport af batterierne bedes stillet til en autoriseret cykelforhandler. Hos forhandleren kan du også bestille en egnet transportemballage.

Bortskaffelse



Batterier, tilbehør og emballage skal genbruges iht. gældende miljøforskrifter.

Smid ikke batterierne ud sammen med det almindelige husholdningsaffald!

Gælder kun i EU-lande:



Iht. det europæiske direktiv 2002/96/EF skal kasseret elektriværktøj og iht. det europæiske direktiv 2006/66/EF skal defekte eller opbrugte akkuer/batterier indsamles separat og genbruges iht. gældende miljøforskrifter.

Aflever venligst kasserede batterier til en autoriseret cykelforhandler.



Li-Ion:

Læs og overhold henvisningerne i afsnit „Transport“, side Dansk-12.

Ret til ændringer forbeholdes.

Ladeaggregat Charger

Sikkerhedsinstrukser



Læs alle sikkerhedsinstrukser og anvisninger. I tilfælde af manglende overholdelse af sikkerhedsinstrukserne og anvisningerne er der risiko for elektrisk stød, brand og/eller alvorlige kvæstelser.

Opbevar alle sikkerhedsinstrukser og anvisninger til senere brug.

Begrebet „Batteri“, der anvendes i denne betjeningsvejledning, gælder både for standardbatterier (batterier med holder på cykelstel) og bagagebærer-batterier (batterier med holder under bagagebærer).



Ladeaggregatet må ikke udsættes for regn eller fugtighed. Indtrængning af vand i et ladeaggregat er forbundet med risiko for elektrisk stød.

- ▶ **Oplad kun Bosch Li-ion-batterier, der er godkendt til eBikes, med spændingerne, der er angivet i de tekniske data.** Ellers er der fare for brand og eksplosion.
- ▶ **Renhold ladeaggregatet.** Snavs øger faren for elektrisk stød.
- ▶ **Kontrollér ladeaggregat, kabel og stik før brug. Anvend ikke ladeaggregatet, hvis det er beskadiget. Forsøg ikke at åbne ladeaggregatet og sørg for at det repareres af kvalificerede fagfolk, og at der kun benyttes originale reservedele.** Beskadigede ladeaggregater, kabler og stik øger risikoen for elektrisk stød.
- ▶ **Anvend ikke ladeaggregatet på let brændbar undergrund (f.eks. papir, tekstiler osv.) eller i brændbare omgivelser.** Pas på! Ladeaggregatet bliver varmt under opladningen. Brandfare!
- ▶ **Beskadiges batteriet eller bruges det forkert, kan der sive dampe ud. Tilfør frisk luft og søg læge, hvis du føler dig utilpas.** Dampene kan irritere luftvejene.
- ▶ **Sørg for, at børn er under opsyn.** Dermed sikres det, at børn ikke leger med ladeaggregatet.
- ▶ **Børn og personer, der på grund af deres fysiske, sensoriske eller psykiske evner eller uerfarenhed eller ukendskab ikke er i stand til at betjene ladeaggregatet, må ikke bruge dette ladeaggregat uden opsyn eller instruktion fra en ansvarlig person.** Ellers er der fare for fejlbetjening og kvæstelser.
- ▶ **Tilslut ladeaggregatet til et korrekt jordforbundet jordnet.** Stikdåse og forlængerledning skal være forsynet med en funktionsdygtig jordledning.
- ▶ **Læs og følg sikkerhedsinstrukserne og anvisningerne i betjeningsvejledningerne til batteri og drivenhed/cykelcomputer samt i betjeningsvejledningen til din eBike.**
- ▶ På undersiden af ladeaggregatet findes en kort vejledning om vigtige sikkerhedsinstrukser på engelsk, fransk og spansk (i illustrationen på grafiksiden er den kendetegnet med nummer **28**) og med følgende indhold:
 - Følg betjeningsvejledningen for at sikre en rigtig brug. Risiko for elektrisk chock.
 - Må kun bruges i tørre omgivelser.
 - Oplad kun genopladelige batterier eBat100-199. Andre batterier kan eksplodere og føre til kvæstelser.
 - Erstat ikke netkablet. Fare for brand og eksplosion.

Beskrivelse af produkt og ydelse

Tekniske data

Ladeaggregat	Charger	
Typenummer		0 275 007 900
Nominal spænding	V $\overline{=}$	115/230
Frekvens	Hz	50/60
Batteriets ladespænding	V $\overline{=}$	36
Ladestrøm		
– Normal opladningsfunktion	A	4
– Lydløs opladningsfunktion	A	1
Tilladt temperaturområde for opladning	°C	0...+40
Ladetid (ved 8 Ah batterikapacitet) ca.		
– Normal opladningsfunktion	h	2,5
– Lydløs opladningsfunktion	h	8
Antal akkuceller		10–80
Vægt svarer til EPTA-Procedure 01/2003	kg	0,8
Beskyttelsesklasse		⊕/I

Angivelserne gælder for en nominal spænding [U] på 230 V. Disse angivelser kan variere ved afvigende spændinger og i landespecifikke udførelser.

Illustrerede komponenter (se side 6–7)

Nummereringen af de illustrerede komponenter refererer til illustrationen af ladeaggregatet på illustrationssiden.

- 14 Bagagebærer-batteri
- 15 Batteri-ladetilstandsindikator
- 20 Standard-batteri
- 23 Ladeaggregat

- 24 Ventilationsåbninger
- 25 Bøsning
- 26 Valgkontakt netspænding
- 27 Stik
- 28 Sikkerhedsforskrifter ladeaggregat
- 29 Taste ladedrift
- 30 Driftslampe
- 31 Ladestik
- 32 Bøsning til ladestik

Drift

- **Stil kun batteriet kun på rene overflader.** Undgå især en tilsmudsning af ladebøsningen og kontakterne (f.eks. fra sand eller jord).

Ibrugtagning

Tilslutning af ladeaggregatet (se Fig. G–H)

Indstil spændingen, der passer til din strømkilde, med ladeaggregatets netspændingskontakt **26**. Du kan vælge mellem 115 V og 230 V.

- **Kontrollér netspændingen!** Strømkildens spænding skal stemme overens med angivelserne på ladeaggregatets typeskilt. Ladeaggregater til 230 V kan også tilsluttes 220 V.

Sæt så netkablets stik **27** ind i bøsningen **25** på ladeaggregatet.

Tilslut netkablet (landespecifik) til strømmettet. Driftsindikatoren **30** på ladeaggregatet lyser.

- **Forbind først ladeaggregatet med strømmettet, når den rigtige netspænding er indstillet med netspændingskontakten 26.** Ellers kan ladeaggregatet blive beskadiget.

Sluk for batteriet og tag det ud af holderen på eBike. Læs og overhold batteriets betjeningsvejledning.

Sæt ladeaggregatets ladestik **31** i bøsningen **32** på batteriet. Driftsindikatoren **30** på ladeaggregatet blinker.

Opladning

Opladningen starter, så snart ladeaggregatet er forbundet med batteriet og strømnettet.

Bemærk: Opladningen er kun mulig, hvis batteriets temperatur befinder sig i det tilladte lade-temperaturområde.

Du kan vælge mellem to ladedriftfunktioner: Normal ladedrift „FAST“ og lydløs ladedrift „SLOW“. I driftsformen „SLOW“ gennemføres opladningen lydløs.

Ladedrift	Normal opladningsfunktion „FAST“	Lydløs opladningsfunktion „SLOW“
Ladestrøm	4 A	1 A
Driftsindikator 30	blinker	lyser konstant
Ventilation ladeaggregat	on (tændt)	off (slukket)

Når ladeaggregatet tages i brug, er normal ladedrift forindstillet. Ladedriftsformen skiftes ved at trykke på tasten **29**.

► **Vær forsigtig, hvis du berører ladeaggregatet under opladningen. Brug beskyttelseshandsker.** Ladeaggregatet kan blive meget varmt især ved normal ladedrift og høje omgivelsestemperaturer.

Bemærk: Vær opmærksom på, at ladeaggregatet er godt ventileret under opladningen og at ventilationsåbningerne **24** ikke er tildækket på begge sider.

Under opladningen lyser LED-lamperne i ladetilstandsindikatoren **15** på batteriet. Hver konstant lysende LED-lampe svarer ca. til 20 % kapacitet opladning. Den blinkende LED-lampe viser opladningen af de næste 20 %.

Batteriet er helt opladt, når alle fem LED-lamper i indikatoren **15** lyser hele tiden. Opladningen afbrydes automatisk.

Afbryd ladeaggregatet fra strømnettet og batteriet fra ladeaggregatet.

Når batteriet afbrydes fra ladeaggregatet, slukkes batteriet automatisk.

Nu kan du sætte batteriet ind i eBike.

Fejl – Årsager og afhjælpning

Årsag	Afhjælpning
Driftsindikator 30 lyser ikke, opladning er ikke mulig	
Forkert netspænding er valgt på kontakt 26	Vælg rigtig netspænding
Stik er ikke sat rigtigt i	Kontroller alle stikforbindelser
Kontakter på batteri er snavset	Rengør kontakter på batteri forsigtigt
Batteri for varmt eller for koldt	Lad batteri udtemperere, til ladetemperaturområdet er nået
Ladeaggregatets ventilationsåbninger 24 er tilstoppet eller tildækket	Rengør ventilationsåbninger 24 og opstil ladeaggregat godt ventileret
Stikdåse, kabel eller ladeaggregat er defekt	Kontroller netspænding, få ladeaggregat kontrolleret af cykelhandler
Batteri defekt	Erstat batteri

Vedligeholdelse og service

Vedligeholdelse og rengøring

Sørg for, at ventilationsåbningerne **24** på ladeaggregatet er frie og rene under brug. Rengør ventilationsåbningerne med en støvsuger efter behov.

Skulle ladeaggregatet svigte, bedes du kontakte en autoriseret cykelforhandler.

Kundeservice og kunderådgivning

Spørgsmål vedr. ladeaggregatet bedes stillet til en autoriseret cykelforhandler.

Kontaktdata for autoriserede cykelforhandlere findes på internetsiden **www.bosch-ebike.com**

Bortskaffelse

Ladeaggregater, tilbehør og emballage skal genbruges på en miljøvenlig måde.

Smid ikke ladeaggregater ud sammen med det almindelige husholdningsaffald!

Gælder kun i EU-lande:



Iht. det europæiske direktiv 2002/96/EF om affald af elektrisk og elektronisk udstyr skal kasserede ladeaggregater indsamles separat og genbruges iht. gældende miljøforskrifter.

Ret til ændringer forbeholdes.

Manöverdator HMI/ drivenhett Drive Unit 45

Säkerhetsanvisningar



Läs noga igenom alla säkerhetsanvisningar och instruktioner. Fel som uppstår till följd av att säkerhetsanvisningarna och instruktionerna inte följts kan orsaka elstöt, brand och/eller allvarliga personskador.

Ta väl vara på säkerhetsanvisningarna och instruktionerna för senare behov.

Begreppet "batteri" som används i denna bruksanvisning hänför sig till både standardbatterier (batterier med fäste på cykelramen) och paket-hållarbatterier (batterier med fäste under paket-hållaren).

- ▶ **Öppna inte själv drivenheten. Drivenheten är underhållsfri och får endast repareras med originalreservdelar av kvalificerad yrkesperson.** Detta garanterar att drivenhetens säkerhet upprätthålls. Om drivenheten öppnas utan berättigande gäller inte längre garantin.
- ▶ **Alla komponenter som monterats på drivenheten och alla andra komponenter på elcykelns drivning (t.ex. kedjehjul, kedjehjulets stöd och pedaler) får endast ersättas med komponenter av samma slag eller med av cykeltillverkaren speciellt för din elcykel godkända komponenter.** Detta skyddar drivenheten mot överbelastning och skada.
- ▶ **Ta bort batteriet från elcykeln innan arbeten (t.ex. montering, underhåll m.m.) startas på elcykeln, före den transporteras i bil och flygplan eller lagras.** Om strömställaren oavsiktligt aktiveras finns risk för personskada.
- ▶ **Funktionen för starthjälp får endast användas när elcykeln startas eller leds.** Om elcykelns hjul inte har kontakt med marken när starthjälpen används finns risk för personskada.
- ▶ **Använd endast originalbatterier från Bosch som tillverkaren rekommenderat för din elcykel.** Om andra batterier används finns

risk för personskada och brand. Om andra batterier används fritar sig Bosch från allt ansvar.

- ▶ **Beakta alla nationella föreskrifter för registrering och användning av elcykeln.**
- ▶ **Läs och beakta säkerhetsanvisningarna och instruktionerna i batteriets bruksanvisning samt bruksanvisningen för din elcykel.**

Produkt- och kapacitetsbeskrivning

Ändamålsenlig användning

Drivenheten är uteslutande avsedd för drivning av din elcykel och får inte användas för andra ändamål.

Elcykeln är avsedd för belagda vägar. Elcykeln är inte godkänd för tävlingar.

Illustrerade komponenter (se sidan 2–3)

Numreringen av avbildade komponenter hänvisar till illustrationerna på grafiksidan.

Förutom drivenhet, manöverdator, hastighets-sensor och tillhörande fästen är alla illustrationer av cykeldelarna schematiska och kan därför avvika från din elcykel.

- 1 Manöverdator
- 2 Manöverdatorns fäste
- 3 Knapp "info/reset" för multifunktions-indikering
- 4 Knapp för hjälpfunktion "mode"
- 5 Knapp för belysning "light"
- 6 Knapp för ökning av assistansgrad/till- och frångkoppla starthjälpen ▲
- 7 Knapp för sänkning av hjälpesteg ▼
- 8 Drivenhet
- 9 Fästets undre skruvar
- 10 Fästets övre skruv
- 11 Hastighetssensor
- 12 Hastighetssensorns ekermagnet

Indikeringslement på manöverdatorn

- a Hastighetsmätarens display
- b Indikering av belysning
- c Indikering av hjälpesteg
- d Starthjälpens display
- e Multifunktionsindikering
- f Indikering av hjälpfunktion och felkod
- g Batteriladdningsindikator

Tekniska data

Drivenhet		Drive Unit 45
Produktnummer		0 275 007 003
Kontinuerlig märk-effekt	W	350
Vridmoment vid kraftuttag max.	Nm	50
Märkspänning	V=	36
Driftstemperatur	°C	-5...+40
Lagringstemperatur	°C	-10...+50
Kapslingsklass		IP 54 (damm-och spolsäker)
Vikt, ca.	kg	4

Manöverdator		HMI
Produktnummer		1 270 020 900
Driftstemperatur	°C	-5...+40
Lagringstemperatur	°C	-10...+50
Kapslingsklass		IP 54 (damm-och spolsäker)
Vikt, ca.	kg	0,15

Belysning*		
Märkspänning	V=	6
Effekt		
- Framljus	W	2,7
- Bakljus	W	0,3

* beroende på lagliga bestämmelser kan elcykelns batteri inte användas för alla landsspecifika utföranden

Montage

Så här sätts batteriet in och tas bort

För insättning av batteriet på elcykeln och för borttagning se batteriets bruksanvisning.

Inställning av manöverdatorns fäste

- **Dra åt skruvarna 10 resp. 9 med ett åtdragningsmoment om högst 1 Nm.** Fästet 2 kan i annat fall skadas.

Förskjut/luta fästet (se bild A)

Skruva loss båda skruvarna 9 på fästets undre sida 2. Förskjut fästet på styret eller ändra lutningsvinkeln. Dra åter fast båda skruvarna 9 med ett åtdragningsmoment på högst 1 Nm.

Så här vrids fästet (se bild B)

Skruva loss skruven 10 på fästets övre sida 2. Vrid fästets övre del så att du har full överblick över monterad manöverdator 1 (se "Insättning och borttagning av manöverdatorn"). Dra åter fast skruven 10 med ett åtdragningsmoment på högst 1 Nm.

Insättning och borttagning av manöverdatorn (se bild C)

För **insättning** av manöverdatorn lägg upp den svängd om ca 30° på fästet 2 och vrid den sedan medurs mot stopp.

För **borttagning** vrid manöverdatorn ca 30° moturs och dra den sedan ur fästet 2.

- **Ta bort manöverdatorn från parkerad elcykel för att olovlig person inte ska kunna använda hjälpmotorn.** Utan manöverdator kan drivningen inte slås på.

Kontroll av hastighetssensorn (se bild D)

Hastighetssensorn **11** och tillhörande ekermagnet **12** måste monteras så att ekermagneten vid ett hjulvarv passerar hastighetssensorn på ett avstånd om minst 5 mm och högst 17 mm.

Anvisning: Om avståndet mellan hastighetssensorn **11** och ekermagneten **12** är för litet eller för stort eller är hastighetssensorn **11** inte korrekt ansluten, fungerar inte indikeringen på hastighetsmätaren **a** och elcykelns drivenhet fungerar i nödkörningsprogram.

Lossa i detta fall ekermagnetens **12** skruv och fäst ekermagneten så att den på korrekt avstånd passerar markeringen på hastighetssensorn. Om hastighetsmätaren **a** fortfarande saknar indikering, kontakta en auktoriserad cykelhandlare.

Drift

Driftstart

Förutsättningar

Drivningen på elcykeln kan endast aktiveras under följande förutsättningar:

- Ett fullt laddat batteri har satts in (se batteriets bruksanvisning).
- Manöverdatorn sitter korrekt i fästet (se "Insättning och borttagning av manöverdatorn", sidan Svenska-2).
- Hastighetssensorn är korrekt ansluten (se "Kontroll av hastighetssensorn", sidan Svenska-3).

In- och urkoppling av drivningen

Placera batteriet i fästet och koppla på med På-Av-knappen (se batteriets bruksanvisning).

Anvisning: Elcykelns pedaler får inte belastas vid inkoppling av batteriet, i annat fall begränsas driveffekten.

Om batteriet oavsiktligt påkopplats med belastade pedaler, koppla från och åter på utan belastning.

Manöverdatorns display kopplas på samtidigt med batteriet. Manöverdatorn indikerar batteriets laddningstillstånd och drivenhetens inställningar.

Drivningen aktiveras så fort du trampar pedalerna (förutom vid starthjälpfunktionen, se "Till-/frånkoppling av starthjälpen", sidan Svenska-4). Assistansgraden är relaterad till inställningarna på manöverdatorn.

Så fort du slutat trampa pedalerna i normaldrift eller en hastighet på 45 km/h uppnåtts, frånkopplar elcykeldriften assistansen. Drivningen aktiveras åter automatiskt när pedalerna trampas och en hastighet på 45 km/h underskrids.

För urkoppling av drivningen koppla från batteriet med På-Av-knappen (se batteriets bruksanvisning).

Om cykelns motor under ca 10 minuter inte tar ström (t.ex. när elcykeln står stilla) kopplar batteriet automatiskt från för att spara energi.




Manöverdatorns indikeringar och inställningar

Anvisning: Indikeringar och inställningar på manöverdatorn är endast möjliga vid inkopplat elcykelbatteri. Manöverdatorn saknar egen strömförsörjning.

Batteriets laddningsdisplay

Förutom på laddningsdisplayen som sitter på batteriet kan laddningstillståndet även avläsas på manöverdatorns display **g**.

På displayen **g** motsvarar varje stapel i batterisymbolen en kapacitet på ungefär 20 %:

-  100 % till 80 % kapacitet
-  20 % till 5 % kapacitet, batteriet måste laddas upp.
-  När kapaciteten underskrider 5 % ger drivningen inte längre stöd. Lysdioderna på batteriets laddningsdisplay slocknar. När batteriet försörjer elcykelns belysning (landspecifikt) räcker kapaciteten när första tomma batterisymbolen dyker upp ännu till för ca 2 timmars belysning. När symbolen börjar blinka, slocknar belysningen efter en liten stund.

Inställning av hjälpfunktionen

På manöverdatorn kan elcykeldrivningens hjälp för pedaltramp ställas in.

Anvisning: På vissa utföranden kan den förinställda hjälpen inte ändras. Det kan även hända att endast färre funktioner finns att tillgå än vad som här angivits.

Högst fyra hjälpfunktioner står till förfogande:

ECO	"ECO" : aktiv hjälp vid maximal effektivitet, för maximal räckvidd
TOUR	"TOUR" : konstant hjälp, för långdistansturer
SPORT	"SPORT" : kraftig hjälp, för sportig cykling på bergig sträcka samt för stadstrafik
SPEED	"SPEED" : maximal hjälp upp till hög pedalfrekvens, för sportig cykling

För **omkoppling av hjälpfunktionen** tryck knappen **"mode" 4** tills önskad funktion dyker upp på displayen **f**.

Under den tid starthjälpen används slocknar indikeringen **f** och den inställda assistansfunktionen sparas.

Inställning av hjälpsteg

Vid inställd hjälpfunktion kan under åkning hjälpsteget när som helst ändras.

Anvisning: På vissa utföranden kan det förinställda hjälpsteget inte ändras.

Maximalt tre hjälpsteg samt fränkoppling av hjälpmotorn är möjliga.

Hjälppgrad* vid:	Hjälpsteg		
Hjälpfunktion	"1"	"2"	"3"
"ECO"	30 %	60 %	100 %
"TOUR"	45 %	80 %	120 %
"SPORT"	70 %	140 %	180 %
"SPEED"	90 %	160 %	250 %

* Hjälppkraften kan avvika på enskilda utföranden.

För att **öka assistansgraden** tryck knappen **▲ 6** tills önskat steg visas på displayen **c**.

För **minskning av hjälpsteg** tryck knappen **▼ 7** tills önskat steg visas på displayen **c**.

Vid hjälpsteget **"0"** kopplas drivningen från. Elcykeln kan nu med pedalerna drivas som en vanlig cykel.

Under den tid starthjälpen används slocknar indikeringen **c** och inställt assistanssteg sparas.

Till-/fränkoppling av starthjälpen

Starthjälpen kan tjäna som hjälp under ett par meter om cykeln startar trögt (som t.ex. vid trafikljus eller uppförbacke). Den kan även användas som ledhjälp i lägsta läget.

► **Funktionen för starthjälp får endast användas när elcykeln startas eller leds.** Om elcykelns hjul inte har kontakt med marken när starthjälpen används finns risk för personskada.

För **inkoppling** av starthjälpen tryck knappen **▲ 6** för mer än 1 s och håll sedan knappen nedtryckt. Elcykelns drivning startar, displayen **d** blinkar och indikeringarna **c**, **e** och **f** slocknar.

Starthjälpen **slås från** så fort ett av följande moment inträffar:

- när du släpper knappen **▲ 6**,
- trycker en annan knapp på manöverdatorn,
- trampar pedalerna framåt eller snabbt bakåt,
- när elcykelns hjul blockeras (t.ex. vid bromsning eller om cykeln stöter mot ett hinder),
- vid en hastighet på 16 km/h.

Slå på och av belysningen

Alltefter landsspecifika föreskrifter finns cykellyse i två utföranden:

- Via manöverdatorn kan samtidigt framljuset, bakljuset och displaybelysningen slås på och av.
- Endast displaybelysningen kan slås på och av, fram- och bakljuset på elcykeln är oberoende av manöverdatorn.

Vid båda utförandena tryck för **påkoppling av belysningen** knappen **"light" 5**. På displayen visas belysningsindikeringen **b**.

För **fränkoppling av belysningen** tryck knappen **"light" 5** en gång till, belysningsindikeringen **b** slocknar.

Hastighets- och avståndsindikeringar

Anvisning: Alltefter landsspecifikt utförande kan avstånd och hastighet anges antingen i ”km” och ”km/h” eller i ”mi” och ”mph”. Manöverdatorns hantering och valet av indikeringsmöjligheter är lika för km- och engelska mil-versionen.

På **hastighetsmätaren a** indikeras alltid aktuell hastighet.

På **multifunktionsdisplayen e** kan följande indikeringar väljas:

odo 0 1635 km

Total distans ”odo”: totalt körd distans med elcykeln

trip 068.50 km

Trippdistans ”trip”: åkt distans från senaste återställning

avg 002 17 km/h

Medelhastighet ”avg”: medelhastighet från senaste återställning

000 72 km^{range}

Körsträcka ”range”: sannolik räckvidd med förekommande batteriladdning (vid oföränderliga villkor som hjälpfunktion, hjälpesteg, linjeprofil m.m.)

Tryck för **omkoppling på multifunktionsdisplayen** knappen ”info/reset” 3 tills önskad funktion visas.

För **återställning** av trippdistans ”trip” och medelhastighet ”avg” koppla om till en av indikeringarna och tryck sedan knappen ”info/reset” 3 tills indikeringen nollställs.

När starthjälpen används slocknar multifunktionsindikeringen **e**.

Indikering av felkod

Komponenterna på elcykelns motor kontrolleras ständigt och automatiskt. Om ett fel konstateras visas respektive felkod på displayen **f**.

Beroende på felets typ kopplas drivningen eventuellt automatiskt från. Fortsatt åkning utan hjälpmotor är alltid möjlig. Före långa turer ska elcykeln kontrolleras.

- **Låt alltid en auktoriserad cykelhandlare kontrollera och reparera cykeln.** Om ett åtgärdat fel fortfarande indikeras, kontakta en auktoriserad cykelhandlare.

Kod	Orsak	Åtgärd
001	Internt fel på manöverdatorn	Låt manöverdatorn kontrolleras
002	En eller flera knappar på manöverdatorn är blockerade.	Kontrollera att knapparna inte råkat i kläm t.ex. till följd av smuts. Rengör i så fall knapparna.
003	Manöverdatorn med anknätningsproblem	Kontrollera anslutningarna och förbindelserna
100	Internt fel i drivenheten	Kontrollera drivenheten
101	Drivenheten med anknätningsproblem	Kontrollera anslutningarna och förbindelserna
102	Fel i hastighetssensorn	Låt hastighetssensorn kontrolleras
103*	Belysningen med anknätningsproblem	Kontrollera anslutningarna och förbindelserna
104	Manöverdatorn med anknätningsproblem	Kontrollera anslutningarna och förbindelserna
105	Drivenhetens temperatur är för hög (över 40 °C)	Låt drivenheten svalna. Åkning utan elcykelns hjälpmotor är möjlig och dessutom kyls drivenheten snabbare.
200	Batteriet har ett intern fel i elektroniken	Låt batteriet kontrolleras

* Endast med elcykelbelysning via batteriet (landsspecifik)

Kod	Orsak	Åtgärd
201	Batteriets temperatur är för hög (över 40 °C)	Låt batteriet svalna. Åkning utan elcykelns hjälpmotor är möjlig och dessutom kyls batteriet snabbare.
202	Batteriets temperatur är för låg (under -10 °C)	Låt batteriet långsamt värmas upp i ett varmt rum.
203	Batteriet har anknypningsproblem	Kontrollera anslutningarna och förbindelserna
204	Felaktig batteripolning	Ladda batteriet med Bosch originalladdaren enligt beskrivning i bruksanvisningen.

* Endast med elcykelbelysning via batteriet (landsspecifik)

Anvisningar för åkning med hjälpmotor

Hur fungerar elcykelns hjälpmotor?

Elcykelns drivning ger hjälp under den tid pedalerna trampas. Utan pedaltramp ger drivningen ingen hjälp. Hjälpen är alltid beroende av den kraft du använder vid tramp.

Är kraften låg kommer även hjälpen att bli mindre än vid högre kraft. Detta gäller oberoende av hjälpfunktion och -steg.

Elcykelns hjälpmotor kopplas automatiskt från när hastigheten överskrider 45 km/h. När hastigheten sjunker under 45 km/h kopplas hjälpmotorn åter till.

Ett undantag gäller för starthjälpfunktionen; elcykeln kan utan pedaltramp köras med låg hastighet.

Elcykeln kan när som helst utan stöd användas som en vanlig cykel genom att koppla från batteriet eller ställa hjälpsteget i läge "0". Samma sak gäller för tomt batteri.

Elmotorns samspel med växeln

Växeln ska även med elcykelns hjälpmotor användas som på en vanlig cykel (beakta elcykelns bruksanvisning).

Oberoende av växlens typ rekommenderar vi att under växling avbryta pedaltrampet. Härvid underlättas växlingen varvid kraftöverföringens slitage minskar.

Genom att välja rätt växelläge kan med en och samma kraft hastigheten och räckvidden ökas.

Lär av erfarenhet

Vi rekommenderar att du lär dig hantera elcykeln avsides trafikerade vägar.

Öva olika hjälpfunktioner och hjälpsteg. När du är säker på din sak, kan du med elcykeln delta i trafiken som med en vanlig cykel.

Testa elcykelns räckvidd under olika villkor innan du startar för längre turer.

Räckvidden påverkas av

Med fullt laddat batteri och sparsam åkning är en räckvidd upp till 105 km möjlig.

Räckvidden påverkas dock av många fler faktorer som exempelvis:

- Hjälpfunktion och -steg,
- växlingsätt,
- däckens typ och lufttryck,
- batteriets ålder och tillstånd,
- vägprofil (motlut) och -beskaffenhet (vägens beläggning),
- motvind och omgivningstemperatur,
- elcykelns, cyklistens och bagagets vikt.

Därför är det inte möjligt att konkret före en tripp förutsäga räckvidden. Allmänt gäller:

- Vid **samma** hjälp från elcykelns motor: Ju mindre kraft du måste använda för att uppnå en viss hastighet (t.ex. vid optimal växling), desto mindre energi förbrukar elcykelns motor och desto längre blir räckvidden med en batteriladdning.
- Ju **högre** hjälpen är (hjälpfunktion och -steg) under samma villkor, desto kortare blir räckvidden.

Sköt elcykeln väl

Beakta elcykelkomponenternas drifts- och lagringstemperatur. Skydda drivenheten, manöverdatorn och batteriet mot extrem temperatur (t.ex. vid intensiv solbestrålning utan ventilation). Komponenterna (speciellt batteriet) kan skadas vid extrem temperatur.

Underhåll och service

Underhåll och rengöring

Håll elcykelns alla komponenter rena, detta gäller speciellt batteriets kontakter och tillhörande fäste. Rengör försiktigt med en fuktig, mjuk trasa. Komponenterna och drivenheten får inte doppas i vatten och inte heller rengöras med högtrycksaggreat.

För underhåll och reparation av elcykeln kontakta en auktoriserad cykelhandlare.

Kundservice och kundkonsulter

Vid frågor beträffande elcykelns motor och dess komponenter kontakta en auktoriserad cykelhandlare.

För auktoriserade cykelhandlare kan du hitta kontaktadresser på internetsidan

www.bosch-ebike.com

Transport

Batterierna faller under begreppet riskgoods. En privat person kan utan ytterligare förpliktelser transportera batterierna på allmän väg.

Vid transport genom rörelsedrivande person eller tredje person (t.ex. flygfrakt eller spedition) ska speciella villkor för förpackning och märkning beaktas (t.ex. föreskrifterna i ADR).

I detta fall måste vid förberedelse av transport en expert för farligt gods konsulteras.

Försänd endast batterier med oskadat hölje. Tejpa öppna kontakter och förpacka batteriet så att det inte kan röras i förpackningen. Ta även hänsyn till eventuella nationella föreskrifter.

Vid frågor beträffande transport av batterier kontakta en auktoriserad cykelhandlare. Hos handlaren kan du även beställa en lämplig transportförpackning.

Avfallshantering



Drivenheten, manöverdatorn, batterierna, hastighetsensorn, tillbehör och förpackning ska omhändertas på miljövänligt sätt för återvinning.

Släng inte elcykeln eller tillhörande komponenter i hushållsavfall!

Endast för EU-länder:



Enligt europeiska direktivet 2002/96/EG måste obrukbara elapparater och enligt europeiska direktivet 2006/66/EG felaktiga eller förbrukade batterier separat omhändertas och på miljövänligt sätt lämnas in för återvinning.

Återlämna obrukbara batterier till en auktoriserad cykelhandlare.



Li-jon:

Beakta anvisningarna i avsnittet "Transport", sida Svenska-7.

Ändringar förbehålles.

Litium-jonbatteri Battery Pack

Säkerhetsanvisningar



Läs noga igenom alla säkerhetsanvisningar och instruktioner. Fel som uppstår till följd av att säkerhetsanvisningarna och instruktionerna inte följts kan orsaka elstöt, brand och/eller allvarliga personskador.

Ta väl vara på säkerhetsanvisningarna och instruktionerna för senare behov.

Begreppet "batteri" hänför sig till både standardbatterier (batterier med fäste på cykelramen) och pakethållarbatterier (batterier med fäste under pakethållaren) om inte uttryckligen till en annan batterityp hänvisas.

- ▶ **Ta bort batteriet från elcykeln innan arbeten (t.ex. montering, underhåll m.m.) startas på elcykeln, före den transporteras i bil och flygplan eller lagras.** Om strömställaren oavsiktligt aktiveras finns risk för personskada.
- ▶ **Öppna inte batteriet.** Detta kan leda till kortslutning. Om batteriet öppnats fritar sig Bosch från allt ansvar och ingen garanti lämnas.



Skydda batteriet mot hög värme (t.ex. längre solbestrålning), eld och neddoppning i vatten. Explosionsrisk föreligger.

- ▶ **Håll gem, mynt, nycklar, spikar, skruvar och andra små metallföremål på avstånd från reservbatterier för att undvika en bygling av kontakterna.** En kortslutning mellan batteriets kontakter kan leda till brännskada eller brand. För skada som uppstår genom kortslutning fritar sig Bosch från allt ansvar och ingen garanti lämnas.
- ▶ **Om batteriet används på fel sätt finns risk för att vätska rinner ur batteriet. Undvik kontakt med vätskan. Vid oavsiktlig kontakt spola med vatten. Om vätska kommer i kontakt med ögonen uppsök dessutom läkare.** Batterivätskan kan medföra hudirritation och brännskada.

- ▶ **I skadat eller felanvänt batteri kan ångor uppstå. Tillför friskluft och uppsök läkare vid åkommor.** Ångorna kan leda till irritation i andningsvägarna.
- ▶ **Ladda upp batteriet endast i de laddare som tillverkaren rekommenderat.** Om en laddare som är avsedd för en viss typ av batterier används för andra batterityper finns risk för brand.
- ▶ **Använd batteriet endast för av tillverkaren rekommenderade elcyklar.** Detta skyddar batteriet mot farlig överbelastning.
- ▶ **Använd endast originalbatterier från Bosch som tillverkaren rekommenderat för din elcykel.** Om andra batterier används finns risk för personskada och brand. Om andra batterier används fritar sig Bosch från allt ansvar.
- ▶ **Läs noga säkerhetsanvisningarna och instruktionerna i bruksanvisningarna för laddare och drivenhet/manöverdator samt elcykelns bruksanvisning.**

Produkt- och kapacitetsbeskrivning

Illustrerade komponenter (se sidan 4-5)

Numreringen av avbildade komponenter hänvisar till illustrationerna på grafiksidan. Förutom batterierna och deras fästen är alla illustrationer av cykeldelarna schematiska och kan därför avvika från din elcykel.

- 13 Fäste för pakethållarbatteriet
- 14 Pakethållarbatteri
- 15 Indikering av drift och laddningstillstånd
- 16 På-/Av-knapp
- 17 Batterilåsets nyckel
- 18 Batterilås
- 19 Standardbatteriets övre fäste
- 20 Standardbatteri
- 21 Standardbatteriets undre fäste
- 22 Bärrem
- 23 Laddare

Tekniska data

Litium-jonbatteri	Battery Pack	
Produktnummer		
- Standardbatteri svart	1 270 020 500/	1 270 020 504
- Standardbatteri vitt	1 270 020 501/	1 270 020 505
- Standardbatteri silver	1 270 020 502/	1 270 020 506
- Pakethållarbatteri	1 270 020 503/	1 270 020 507
Märkspänning	V=	36
Nominell kapacitet	Ah	8
Energi	Wh	288
Driftstemperatur	°C	-10...+40
Lagringstemperatur	°C	-10...+60
Tillåtet temperatur- område för laddning	°C	0...+40
Vikt	kg	2,5
Kapslingsklass		IP 54 (damm- och spolsäker)

Montage

- **Ställ upp batteriet på en ren yta.** Se till att laddningshylsan och kontaktorna inte nedsmutsas med t.ex. sand eller jord.

Kontroll av batteriet före första användningen

Kontrollera batteriet innan det första gången laddas upp eller används på elcykeln.

Tryck på På/Av-knappen **16** för inkoppling av batteriet. Om ingen LED tänds på laddningsdisplayen **15** är batteriet eventuellt skadat.

Om minst en, men inte alla LED tänds på laddningsdisplayen **15**, ladda upp batteriet innan det används första gången.

- **Ett skadat batteri får inte laddas upp och inte heller användas.** Kontakta en auktoriserad cykelaffär.

Laddning av batteriet

- **Använd endast den laddaren som anges på grafiksidan.** Endast denna typ av laddare är anpassad till litium-jonbatteriet för elcykeln.

Anvisning: Batteriet levereras partiellt laddat. För full effekt ska batteriet före första användningen laddas upp fullständigt.

Batteriet måste för laddning tas bort från elcykeln.

För laddning av batteriet läs och beakta laddarens bruksanvisning.

Batteriet kan när som helst laddas upp eftersom detta inte påverkar livslängden. Batteriet skadas inte om laddning avbryts.

Batteriet är försett med en temperaturövervakning som endast tillåter laddning inom ett temperaturområde mellan 0 °C och 40 °C. Härvid uppnår batteriet en lång livslängd.

Laddningsdisplay

De fem gröna lysdioderna på laddningsdisplayen **15** visar laddningstillståndet för påkopplat batteri.

Härvid motsvarar varje LED en kapacitet på ungefär 20 %. På ett fullständigt laddat batteri lyser alla fem LED.

Det påkopplade batteriets laddningstillstånd indikeras dessutom i manöverdatorn. Läs och beakta bruksanvisningen för drivenheten och manöverdatorn.

Om batteriets kapacitet underskrider 5 % slocknar alla LED på batteriets laddningsdisplay **15** men i manöverdatorn kvarstår ännu en indikering.

Så här sätts batteriet in och tas bort (se bilder E-F)

- ▶ **Frånkoppla batteriet när det sätts in i eller tas ur fästet. Beakta indikeringen på manöverdatoren om ett tomt batteri satts in.** Batteriet kan i annat fall skadas.

För att batteriet ska kunna sättas in måste nyckeln **17** sitta i låset **18** och låset vara upplåst.

Vid **insättning av standardbatteriet 20** lägg kontaktarna mot elcykelns undre fäste **21**. Fäll sedan ned batteriet mot anslag i övre fästet **19**.

Vid **insättning av pakethållarbatteriet 14** skjut upp batteriet med kontaktarna framåt tills det snäpper fast i fästet **13** på pakethållaren.

Kontrollera att batteriet sitter stadigt. Lås alltid batteriets lås **18**, i annat fall kan låset gå upp och batteriet falla ur fästet.

Efter låsning dra alltid nyckeln **17** ur låset **18**. Härvid undviks att nyckeln faller ur låset eller att en olovlig person tillgriper batteriet vid parkerad elcykel.

Vid **borttagning av standardbatteriet 20** frånkoppla batteriet och öppna låset med nyckeln **17**. Tippa batteriet ur övre fästet **19** och dra batteriet med bärremmen **22** ur undre fästet **21**.

Vid **borttagning av pakethållarbatteriet 14** frånkoppla batteriet och öppna låset med nyckeln **17**. Dra batteriet ur fästet **13**.

Drift

Driftstart

- ▶ **Använd endast originalbatterier från Bosch som tillverkaren rekommenderat för din elcykel.** Om andra batterier används finns risk för personskada och brand. Om andra batterier används fritar sig Bosch från allt ansvar.

In- och urkoppling

Kontrollera före inkoppling av batteriet att låset **18** är stängt.

Anvisning: Elcykelns pedaler får inte belastas vid inkoppling av batteriet, i annat fall begränsas driveffekten.

För **inkoppling** av batteriet tryck på På-Av-knappen **16**. Lysdioderna på displayen **15** tänds och visar samtidigt batteriets laddningstillstånd.

Anvisning: Om batteriets kapacitet underskrider 5 % tänds ingen lysdiod på batteriets laddningsdisplay **15**. Endast manöverdatoren indikerar att batteriet är inkopplat.

För att kunna starta elcykelns drivning förutsättes att batteriet är påkopplat. Läs och beakta bruksanvisningen för drivenheten och manöverdatoren.

För **frånkoppling** av batteriet tryck åter på På-Av-knappen **16**. Lysdioderna på displayen **15** slocknar. Nu frånkopplas även elcykelns hjälpmotor.

Om cykelns motor under ca 10 minuter inte tar ström (t.ex. när elcykeln står stilla) kopplar batteriet automatiskt från för att spara energi.

Batteriet är genom "Electronic Cell Protection (ECP)" skyddat mot djupurladdning, överladdning och kortslutning. Vid risk för fara kopplar en skyddskoppling automatiskt från batteriet.

Anvisningar för korrekt hantering av batteriet

För batteriet garanteras minst 500 fulladdningscykler.

Batteriets livslängd kan förlängas om det sköts väl och drivs samt lagras vid korrekt temperatur. Vi rekommenderar en driftstemperatur mellan +5 °C och +35 °C.

Vid åldring försämras batteriets kapacitet även om det sköts väl.

Är brukstiden efter en laddning onormalt kort tyder det på att batteriet är förbrukat och måste bytas.

Om standardbatteriets bärrem **22** töjs ut, låt en cykelhandlare byta ut den.

Efterladda batteriet före och under lagring

Om batteriet inte används under en längre tid ska det laddas upp till ungefär 60 % (3 eller 4 LED lyser på laddningsdisplayen **15**).

Kontrollera laddningstillståndet efter 6 månader. Är nu endast en LED tänd på laddningsdisplayen **15**, ladda upp igen till ca 60 %.

Anvisning: Om batteriet under en längre tid lagras utan laddning kan det även om självurladdningen är låg skadas varvid ackumulatorkapaciteten kraftigt reduceras.

Låt inte batteriet permanent vara anslutet till laddaren.

Lagringsvillkor

Lagra batteriet på en möjligast torr och välventilerad plats. Skydda batteriet mot fukt och vatten. Vid ogynnsam väderlek rekommenderar vi att ta bort batteriet från elcykeln och att förvara det inomhus för nästa användning.

Batteriet kan lagras vid temperaturer mellan $-10\text{ }^{\circ}\text{C}$ och $+60\text{ }^{\circ}\text{C}$. För en lång livslängd rekommenderas en lagring vid en rumstemperatur på ca $20\text{ }^{\circ}\text{C}$.

Kontrollera att högsta lagringstemperaturen inte överskrids. Låt därför inte batteriet t.ex. under sommaren ligga kvar i bilen och lagra det inte heller i direkt solsken.

Underhåll och service

Underhåll och rengöring

Håll batteriet rent. Rengör försiktigt med en fuktig, mjuk trasa. Batteriet får inte doppas i vatten och inte heller rengöras med vattenstråle.

Om batteriet inte längre fungerar, kontakta en auktoriserad cykelhandlare.

Kundservice och kundkonsulter

Vid frågor beträffande batterier kontakta en auktoriserad cykelhandlare.

► **Anteckna nyckelns 17 nummer.** Om nyckeln går förlorad kontakta en auktoriserad cykelhandlare. Ange nyckelnumret.

För auktoriserade cykelhandlare kan du hitta kontaktadresser på internetsidan

www.bosch-ebike.com

Transport

Batterierna faller under begreppet riskgods. En privat person kan utan ytterligare förpliktelser transportera batterierna på allmän väg.

Vid transport genom rörelsedrivande person eller tredje person (t.ex. flygfrakt eller spedition) ska speciella villkor för förpackning och märkning beaktas (t.ex. föreskrifterna i ADR). I detta fall måste vid förberedelse av transport en expert för farligt gods konsulteras.

Försänd endast batterier med oskadat hölje. Tejpa öppna kontakter och förpacka batteriet så att det inte kan röras i förpackningen. Ta även hänsyn till eventuella nationella föreskrifter.

Vid frågor beträffande transport av batterier kontakta en auktoriserad cykelhandlare. Hos handlaren kan du även beställa en lämplig transportförpackning.

Avfallshantering



Batterierna, tillbehör och förpackning ska hanteras på miljövänligt sätt för återvinning.

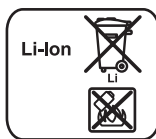
Släng inte batterierna i hushållsavfall!

Endast för EU-länder:



Enligt europeiska direktivet 2002/96/EG måste obrukbara elapparater och enligt europeiska direktivet 2006/66/EG felaktiga eller förbrukade batterier separat omhändertas och på miljövänligt sätt lämnas in för återvinning.

Återlämna obrukbara batterier till en auktoriserad cykelhandlare.



Li-jon:

Beakta anvisningarna i avsnittet "Transport", sida Svenska – 11.

Ändringar förbehålles.

Laddare Charger

Säkerhetsanvisningar



Läs noga igenom alla säkerhetsanvisningar och instruktioner. Fel som uppstår till följd av att säkerhetsanvisningarna och instruktionerna inte följts kan orsaka elstöt, brand och/eller allvarliga personskador.

Ta väl vara på säkerhetsanvisningarna och instruktionerna för senare behov.

Begreppet ”batteri” som används i denna bruksanvisning hänför sig till både standardbatterier (batterier med fäste på cykelramen) och paket-hållarbatterier (batterier med fäste under paket-hållaren).



Skydda laddaren mot regn och väta. Tränger vatten in i laddaren ökar risken för elstöt.

- ▶ **Ladda endast de för elcyklar godkända Bosch litium-jonbatterierna med en spänning som anges i tekniska data.** I annat fall finns risk för brand och explosion.
- ▶ **Håll laddaren ren.** Förorening kan leda till elektrisk stöt.
- ▶ **Kontrollera laddare, kabel och stickkontakt före varje användning. En skadad laddare får inte användas. Du får själv aldrig öppna laddaren, låt den repareras av kvalificerad fackman och endast med originalreservdelar.** Skadade laddare, ledningar eller stickkontakter ökar risken för elektrisk stöt.
- ▶ **Använd inte laddaren på lättantändligt underlag (t.ex. papper, textilier mm) resp. i brännbar omgivning.** Vid laddningen värms laddaren upp vilket kan medföra brandrisk.
- ▶ **I skadat eller felanvänt batteri kan ångor uppstå. Tillför friskluft och uppsök läkare vid åkommer.** Ångorna kan leda till irritation i andningsvägarna.
- ▶ **Håll barn under uppsikt.** Barn får inte leka med laddaren.
- ▶ **Laddaren får inte användas av barn eller personer med begränsad fysisk, sensorisk eller psykisk förmåga eller som saknar den erfarenhet och kunskap som krävs för säker hantering. Undantag görs om personen övervakas av en ansvarig person som även kan undervisa i laddarens användning.** I annat fall finns risk för felhantering och personskada.
- ▶ **Anslut laddaren till ett på föreskrivet sätt jordat strömnät.** Nätuttaget och skarvsladden måste vara försedda med en funktionsduglig skyddsledare.
- ▶ **Läs noga säkerhetsanvisningarna och instruktionerna i bruksanvisningarna för laddare och drivenhet/manöverdator samt elcykelns bruksanvisning.**
- ▶ På laddarens undre sida finns ett sammandrag av viktiga säkerhetsanvisningar på engelska, franska och spanska (märkta i illustrationen på grafiksidan med nummer **28**) med följande innehåll:
 - För säker användning ska bruksanvisningen beaktas. Risk för elstöt.
 - Använd endast i torr omgivning.
 - Ladda endast laddningsbara batterier eBat100-199. Andra batterier kan explodera och orsaka personskada.
 - Byt inte ut nätkabeln. I annat fall finns risk för brand och explosion.

Produkt- och kapacitetsbeskrivning

Tekniska data

Laddare		Charger
Produktnummer		0 275 007 900
Märkspänning	V \approx	115/230
Frekvens	Hz	50/60
Batteriets laddspänning	V=	36
Laddningsström		
– Normalladdning	A	4
– Ljudlös laddning	A	1
Tillåtet temperaturområde för laddning	°C	0...+40
Laddningstid (för 8 Ah batterikapacitet) ca		
– Normalladdning	h	2,5
– Ljudlös laddning	h	8
Antal battericeller		10–80
Vikt enligt EPTA-Procedure 01/2003	kg	0,8
Skyddsklass		⊕/I

Uppgifterna gäller för en märkspänning på [U] 230 V. Vid avvikande spänning och för utföranden i vissa länder kan uppgifterna variera.

Illustrerade komponenter (se sidan 6–7)

Numreringen av komponenterna hänvisar till illustration av laddaren på grafiksidan.

- 14 Pakethållarbatteri
- 15 Batteriladdningsindikator
- 20 Standardbatteri
- 23 Laddare
- 24 Ventilationsöppningar

- 25 Apparathylsdon
- 26 Funktionsomkopplare för nätspänning
- 27 Apparatkontakt
- 28 Säkerhetsanvisningar för laddaren
- 29 Knapp för laddningsfunktion
- 30 Driftsindikering
- 31 Laddstickkontakt
- 32 Hylsdon för laddkontakt

Drift

- **Ställ upp batteriet på en ren yta.** Se till att laddningshylsan och kontaktorna inte nedsmutsas med t.ex. sand eller jord.

Driftstart

Anslutning av laddaren (se bilder G–H)

Ställ på laddarens nätspänningsbrytare **26** in spänningen för aktuell strömkälla. Du kan välja mellan 115 V och 230 V.

- **Beakta nätspänningen!** Kontrollera att strömkällans spänning överensstämmer med uppgifterna på laddarens typskylt. Laddare märkta med 230 V kan även anslutas till 220 V.

Anslut sedan nätkabelns stickkontakt **27** till apparathylsdonet **25** på laddaren.

Anslut (landsspecifik) nätkabel till strömnätet. Driftsdisplayen **30** på laddaren tänds.

- **Anslut laddaren till strömnätet först sedan korrekt nätspänning ställts in på nätspänningsbrytaren 26.** I annat fall kan laddaren skadas.

Frånkoppla batteriet och ta bort det ur fästet på elcykeln. Läs och följ batteriets bruksanvisning.

Anslut laddarens stickkontakt **31** till batteriets hylsdon **32**. Driftsindikeringen **30** på laddaren blinkar.

Laddning

Laddningen startar genast när laddaren med insatt batteri kopplats till strömnätet.

Anvisning: Laddning är endast möjlig om batteriets temperatur ligger inom tillåtet temperaturområde för laddning.

Du kan välja mellan två laddningssätt: Normal-laddning **"FAST"** och ljudlös laddning **"SLOW"**. I funktionen **"SLOW"** är laddningen ljudlös.

Laddning	Normal-laddning "FAST"	Ljudlös laddning "SLOW"
Laddningsström	4 A	1 A
Driftsindikering 30	blinker	lyser kontinuerligt
Ventilation av laddaren	till	från

Laddaren är vid leverans inställd på normalladdning. För omkoppling av laddningssätt tryck på knappen **29**.

► **Var försiktig om du under laddning berör laddaren. Bär skyddshandskar.** Laddaren kan bli mycket het speciellt vid normalladdning och hög omgivningstemperatur.

Anvisning: Kontrollera att laddaren under laddning är välventilerad och att ventilationsöppningarna **24** på båda sidorna inte är övertäckta.

Under laddning lyser laddningsdisplayens **15** lysdioder på batteriet. Varje kontinuerligt tänd lysdiod motsvarar en laddad kapacitet på ungefär 20 %. En blinkande lysdiod indikerar att nästa laddning till 20 % pågår.

Batteriet är fullständigt laddat när de fem lysdiодerna lyser kontinuerligt på displayen **15**. Laddningen avbryts automatiskt.

Bryt strömmen till laddaren och koppla bort batteriet från laddaren.

Batteriet frångopplas automatiskt när det tas ur laddaren.

Batteriet kan nu anslutas till elcykeln.

Fel - Orsak och åtgärd

Orsak	Åtgärd
Driftsindikeringen 30 lyser inte, laddning är inte möjlig	
Fel nätspänning har valts på brytaren 26	välj rätt nätspänning
Stickkontakten sitter inte korrekt	kontrollera alla stickanslutningar
Batteriets kontakter är nedsmutsade	rengör försiktigt batteriets kontakter
Batteriet är för varmt eller för kallt	låt batteriets temperatur utjämnas tills temperaturområdet för laddning uppnås
Laddarens ventilationsöppningar 24 är tilltäppta eller övertäckta	rengör ventilationsöppningarna 24 och ställ upp laddaren så att den ventileras väl
Nätuttaget, nätsladden eller laddaren är defekt	kontrollera nätspänningen och låt en cykelhandlare kontrollera laddaren
Batteriet defekt	batteribyte

Underhåll och service

Underhåll och rengöring

Se till att laddarens ventilationsöppningar **24** under användning är öppna och rena. Rensug ventilationsöppningarna vid behov med en dammsugare.

Om laddaren fallerar, ta kontakt med en auktoriserad cykelhandlare.

Kundservice och kundkonsulter

Vid alla frågor beträffande laddaren kontakta en auktoriserad cykelhandlare.

För auktoriserade cykelhandlare kan du hitta kontaktadresser på internetsidan

www.bosch-ebike.com

Avfallshantering

Laddare, tillbehör och förpackning ska omhändertas på miljövänligt sätt för återvinning.

Släng inte laddare i hushållsavfall!

Endast för EU-länder:



Enligt europeiska direktivet 2002/96/EG för kasserade elektriska och elektroniska apparater och dess modifiering till nationell rätt måste obrukbara laddare omhändertas separat och på miljövänligt sätt lämnas in för återvinning.

Ändringar förbehålles.

Styreenhet HMI/ drivenhet Drive Unit 45

Sikkerhetsinformasjon



Les alle sikkerhetsinformasjonene og instruksene. Feil ved overholdelsen av sikkerhetsinformasjonene og anvisningene kan medføre elektriske støt, brann og/eller alvorlige skader.

Ta vare på alle sikkerhetsinformasjonene og instruksene for fremtidig bruk.

I driftsinstruksen brukes uttrykket «Batteri» som gjelder både for standard-batterier (batterier med holder på sykkelrammen) og bagasjebrett-batterier (batterier med holder under bagasjebrettet).

- ▶ **Du må ikke åpne drivenheten på egen hånd. Drivenheten trenger ikke vedlikehold og må kun åpnes av kvalifisert fagpersonale og kun repareres med original-reservedeler.** Slik opprettholdes drivenhetens sikkerhet. Hvis drivenheten åpnes uten tillatelse, mister garantien sin gyldighet.
- ▶ **Alle komponenter som er montert på drivenheten og alle andre komponenter til el-sykkel-driften (f.eks. kjedeskive, feste for kjedeskive, pedaler) må kun skiftes ut mot samme type komponenter eller komponenter som er godkjent av sykkelprodusenten spesielt for denne el-sykkelen.** Slik beskyttes drivenheten mot overbelastning og skader.
- ▶ **Ta batteriet ut av el-sykkelen, før du begynner med arbeid (f.eks. montering, vedlikehold etc.) på el-sykkelen, transporterer den med bil eller fly eller oppbevarer den.** Det er fare for skader hvis du trykker på på-/av-bryteren ved en feiltagelse.
- ▶ **Starthjelp-funksjonen må kun brukes når du starter hhv. skyver el-sykkelen.** Hvis hjulene til el-sykkelen ikke har bakkekontakt når du bruker starthjelpen, er det fare for skader.
- ▶ **Bruk kun original Bosch batterier som er godkjent av produsenten for denne el-sykkelen.** Bruk av andre batterier kan medføre skader og brannfare. Ved bruk av andre batterier overtar Bosch intet ansvar og garanti.

- ▶ **Følg alle nasjonale forskrifter om godkjenning og bruk av el-sykkelen.**
- ▶ **Les og følg sikkerhetsinformasjonene og instruksene i driftsinstruksen for batteriet og i driftsinstruksen for el-sykkelen.**

Produkt- og ytelsesbeskrivelse

Formålmessig bruk

Drivenheten skal utelukkende brukes til drift av el-sykkelen og må ikke brukes til andre formål. El-sykkelen er beregnet til bruk på veier med fast veidekke. Den er ikke tillatt til konkurranseformål.

Illustrerte komponenter (se side 2-3)

Nummereringen av illustrerte komponenter gjelder for bildene på illustrasjonssiden.

Alle illustrasjoner av sykkeldeler unntatt drivenheten, styreenheten, hastighetssensoren og de tilhørende holderne er skjematisk og kan avvike fra el-sykkelen din.

- 1 Styreenhet
- 2 Holder for styreenheten
- 3 Tast «**info/reset**» for multifunksjonsindikatoren
- 4 Tast for støttemodus «**mode**»
- 5 Tast for belysning «**light**»
- 6 Tast for øking av støttetrinnet/inn- og utkopling av starthjelpen ▲
- 7 Tast senking av støttetrinnet ▼
- 8 Drivenhet
- 9 Nedre skrue på holderen
- 10 Øvre skrue på holderen
- 11 Hastighetssensor
- 12 Ekemagnet til hastighetssensoren

Indikatorelementer på styreenheten

- a Tachometerindikator
- b Indikator belysning
- c Indikator støtetrinn
- d Indikator starthjelp
- e Multifunksjonsindikator
- f Indikator støttemodus og feilkode
- g Batteri-ladetilstandsindikator

Tekniske data

Drivenhet		Drive Unit 45
Produktnummer		0 275 007 003
Nominell kontinuerlig ytelse	W	350
Utgående dreiemoment max.	Nm	50
Nominell spenning	V=	36
Driftstemperatur	°C	-5...+40
Lagertemperatur	°C	-10...+50
Beskyttelsestype		IP 54 (støv- og sprutvannbeskyttet)
Vekt, ca.	kg	4

Styreenhet		HMI
Produktnummer		1 270 020 900
Driftstemperatur	°C	-5...+40
Lagertemperatur	°C	-10...+50
Beskyttelsestype		IP 54 (støv- og sprutvannbeskyttet)
Vekt, ca.	kg	0,15

Belysning*		
Nominell spenning	V=	6
Ytelse		
- Frontlykt	W	2,7
- Baklykt	W	0,3

* Avhengig av lover og bestemmelser ikke mulig på alle nasjonale modeller med el-sykkel-batteri

Montering

Innsetting og fjerning av batteriet

Til innsetting og fjerning av batteriet i el-sykkelen må du lese og følge driftsinstruksen for batteriet.

Plassering av holderen for styreenheten

- **Skru skruene 10 hhv. 9 fast med et tiltrekingsmoment på maks. 1 Nm.** Holderen 2 kan ellers ta skade.

Forskyve/vippe holderen (se bilde A)

Løsne de to skruene 9 på undersiden av holderen 2. Forskyv holderen på styrehåndtaket eller endre vippevinkelen. Skru de to skruene 9 fast igjen med et tiltrekingsmoment på maksimalt 1 Nm.

Dreie holderen (se bilde B)

Løsne skruen 10 på oversiden av holderen 2. Dreie den øvre delen på holderen slik at du kan se styreenheten 1 godt etter innsettingen (se «Innsetting og fjerning av styreenheten»). Skru skruen 10 fast igjen med et tiltrekingsmoment på maksimalt 1 Nm.

Innsetting og fjerning av styreenheten (se bilde C)

Til **innsetting** av styreenheten setter du den dreid 30° på holderen 2 og dreier den med urviserne helt fast.

Til **fjerning** dreier du styreenheten ca. 30° mot urviserne og trekker den ut av holderen 2.

- **Ta ut styreenheten når du har satt fra deg el-sykkelen, slik at drivverket ikke kan brukes av uvedkommende personer.** Uten styreenheten kan drivverket ikke koples inn.

Kontroll av hastighetssensoren (se bilde D)

Hastighetssensoren **11** og den tilhørende ekemagneten **12** må være montert slik at ekemagneten ved omdreining av hjulet beveger seg i en avstand på minst 5 mm og maksimalt 17 mm fra hastighetssensoren.

Merk: Hvis avstanden mellom hastighetssensor **11** og ekemagnet **12** er for liten eller for stor eller hastighetssensoren **11** ikke er riktig tilkople, svikter tachometerindikatoren **a**, og el-sykkeldriften arbeider i nødprogrammet.

Du må da løsne skruen på ekemagneten **12** og feste ekemagneten slik på eken, at den går forbi markeringen til hastighetssensoren i en så liten avstand som mulig. Hvis det deretter fortsatt ikke vises en hastighet på tachometerindikatoren **a**, må du henvende deg til en autorisert sykkel-forhandler.

Bruk

Igangsetting

Forutsetninger

Drivverket til el-sykkelen kan kun aktiveres når følgende forutsetninger er oppfylt:

- Et tilstrekkelig oppladet batteri er satt inn (se driftsinstruksen for batteriet).
- Styreenheten er satt riktig inn i holderen (se «Innsetting og fjerning av styreenheten», side Norsk-2).
- Hastighetssensoren er koplet riktig til (se «Kontroll av hastighetssensoren», side Norsk-3).

Inn-/utkopling av drivverket

Sett batteriet inn i holderen og slå det på med på-/av-tasten (se driftsinstruksen for batteriet).

Merk: Pedalene til el-sykkelen må ikke være belastet ved innkopling av batteriet, ellers innskrenkes driveffekten.

Hvis batteriet ved en feiltagelse ble slått på med belastede pedaler, må du slå det av og slå det på igjen uten belastning.

Med batteriet koples også displayet på styreenheten inn. Styreenheten viser batteriets ladetilstand og innstillingene på drivenheten.

Drivenheten aktiveres når du trør på pedalene (unntatt i starthjelp-funksjonen, se «Inn-/utkopling av starthjelpen», side Norsk-4). Støttegraden retter seg etter innstillingene på styreenheten.

Når du i normaldrift slutter å trør på pedalene eller når du har nådd en hastighet på 45 km/h, koples støtten fra el-sykkeldrivverket ut. Drivverket aktiveres automatisk igjen når du trør på pedalene og hastigheten er under 45 km/h.

Til utkopling av drivverket, kopler du batteriet ut med på-/av-tasten (se driftsinstruksen for batteriet).

Hvis det ikke aktiveres en driveffekt i løpet av ca 10 min (f.eks. fordi el-sykkelen står stille), koples batteriet automatisk ut for å spare energi.

Anvisninger og innstillinger på styreenheten


Merk: Anvisninger og innstillinger på styreenheten er kun mulig når el-sykkelbatteriet er innkoplet. Styreenheten har ingen egen strømtilførsel.


Ladetilstandsindikator på batteriet

På yttersiden av ladetilstandsindikatoren som befinner seg på batteriet, kan ladetilstanden også avleses på indikatoren **g** på styreenheten.

På indikatoren **g** tilsvarer hver strek på batterisymbolet ca. 20 % kapasitet:

 100 % til 80 % kapasitet

 20 % til 5 % kapasitet, batteriet bør opplades.

 Mindre enn 5 % kapasitet, driftstøtte er ikke lenger mulig. LEDene på ladetilstandsindikatoren på batteriet slokner.

Når el-sykkelbelysningen brukes via batteriet (avhengig av landet du bor i), er kapasiteten tilstrekkelig for belysning i ca. 2 timer når det tomme batterisymbolet vises. Når symbolet begynner å blinke, kan belysningen kun fortsatt brukes i kort tid.

Innstilling av støttemodus

På styreenheten kan du innstille hvor sterkt el-sykkel-drivverket skal støtte deg når du trør.

Merk: På enkelte modeller er det mulig at støttemodus er forhåndsinnstilt og ikke kan endres. Det er også mulig at det står færre moduser til disposisjon enn de som er angitt her.

Det står maksimalt fire støttemoduser til disposisjon:

ECO	«ECO»: virksom støtte ved maksimal effektivitet, for maksimal rekkevidde
FOUR	«TOUR»: jevn støtte, for turer med stor rekkevidde
SPORT	«SPORT»: kraftig støtte, for sportslig sykling i bratte områder og byer
SPEED	«SPEED»: maksimal støtte opp til høye trø-frekvenser, for sportslig sykling

Til **skifting av støttemodus** trykker du på tasten «mode» **4** helt til ønsket modus vises på indikatoren **f**.

Når du bruker starthjelpen slokner indikatoren **f**, den innstilte støttemodusen lagres.

Innstilling av støtetrinnet

I innstilt støttemodus kan du til enhver tid, også i løpet av syklingen, endre støtetrinnet.

Merk: På enkelte modeller er det mulig at støtetrinnet er forhåndsinnstilt og ikke kan endres.

Maksimalt tre støtetrinn og utkopling av støtten er mulig.

Støttegrad* ved:	Støtetrinn		
	«1»	«2»	«3»
«ECO»	30 %	60 %	100 %
«TOUR»	45 %	80 %	120 %
«SPORT»	70 %	140 %	180 %
«SPEED»	90 %	160 %	250 %

* Støttegraden kan avvike på enkelte modeller.

Til **øking av støtetrinnet** trykker du på tasten **▲ 6** helt til ønsket trinn vises på indikatoren **c**.

Til **senking av støtetrinnet** trykker du på tasten **▼ 7** helt til ønsket trinn vises på indikatoren **c**.

I støtetrinn «0» koples drivverket ut. el-sykkelen kan bevegges som en vanlig sykkel kun med å trø på pedalene.

Når du bruker starthjelpen slokner indikatoren **c**, det innstilte støtetrinnet lagres.

Inn-/utkopling av starthjelpen

Starthjelpen kan være en ekstra støtte på de første meterne, hvis starten er litt tung (som f.eks. i et lyskryss eller en bakke). Den kan også brukes som skyvehjelp i laveste gir.

► **Starthjelp-funksjonen må kun brukes når du starter hhv. skyver el-sykkelen.** Hvis hjulene til el-sykkelen ikke har bakkekontakt når du bruker starthjelpen, er det fare for skader.

Til **innkopling** av starthjelpen trykker du på tasten **▲ 6** i mer enn 1 s og holder den trykt inne. Drivverket til el-sykkelen koples inn, indikatoren **d** blinker og indikatorene **c**, **e** og **f** slokner.

Starthjelpen **koples ut** når et av følgende punkter oppstår:

- Du slipper tasten **▲ 6**,
- du trykker på en annen tast på styreenheten,
- du trør fremover eller hurtig bakover på pedalen,
- hjulene til el-sykkelen blokkeres (f.eks. ved bremsing eller støting mot en hindring),
- ved en hastighet på 16 km/h.

Inn-/utkopling av belysningen

Avhengig av de nasjonale forskriftene er to belysnings-modeller mulig:

- Med styreenheten kan du kople frontlykten, baklykten og displaybelysningen inn og ut samtidig.
- Du kan kun kople displaybelysningen inn og ut, front- og baklykten på el-sykkelen er uavhengig av styreenheten.

På begge modellene trykker du til **innkopling av belysningen** på tasten «light» **5**. På displayet vises belysningsindikatoren **b**.

Til **utkopling av støtten** trykker du på tasten «light» **5** en gang til, belysningsindikatoren **b** slokner.

Hastighets- og avstandsindikatorer

Merk: Avhengig av den nasjonale modellen kan avstanden og hastigheten enten anvises i «**km**» og «**km/h**» eller i «**mi**» og «**mph**». Bruken av styreenheten og utvalget for anvisningsmulighetene er like for kilometer- og mil-versjonen.

På **tachometerindikatoren a** vises alltid aktuell hastighet.

På **multifunksjonsindikatoren e** står følgende meldinger til utvalg:

odo **0 1635 km**

Total distanse «**odo**»: den totale avstanden som ble syklet med el-sykkel til nå

trip **068.50 km**

Dagsdistanse «**trip**»: avstanden som ble syklet siden siste reset

avg **002 17 km/h**

Gjennomsnittshastighet «**avg**»: gjennomsnittelig hastighet siden siste reset

000 72 km^{range}

Rekkevidde «**range**»: antagelig rekkevidde for aktuell batteriopplading (ved samme vilkår som støtte-modus, støtetrinn, strekningsprofil osv.)

Til **skifting til multifunksjonsindikatoren** trykker du på tasten «**info/reset**» **3** helt til ønsket funksjon anvises.

Til **reset** av dagsdistansen «**trip**» og gjennomsnittshastigheten «**avg**» skifter du til en av de to indikatorene og trykker så på tasten «**info/reset**» **3** helt til indikatoren er nullstilt.

Ved bruk av starthjelpen slokner multifunksjonsindikatoren **e**.

Feilkode-indikator

Komponentene for el-sykkel-drivverket kontrolleres automatisk med jevne mellomrom. Hvis det registreres en feil, vises tilsvarende feilkode på indikatoren **f**.

Avhengig av feiltypen koples drivverket eventuelt også automatisk ut. Videresykling uten støtte for drivverket er alltid mulig. el-sykkelen bør sjekkes før videre turer.

- **La alle kontroller og reparasjoner utelukkende utføres av en autorisert sykkel-forhandler.** Hvis en feil fortsatt anvises, til tross for at den er utbedret, må du også henvende deg til en autorisert sykkel-forhandler.

Kode	Årsak	Utbedring
001	Intern feil på styreenheten	La styreenheten kontrolleres
002	En eller flere taster på styreenheten er blokkert.	Sjekk om tastene er klemt fast, f.eks. fordi det er kommet inn smuss. Rengjør tastene eventuelt.
003	Forbindelsesproblem på styreenheten	La kontakter og forbindelser sjekkes
100	Intern feil på drivenheten	La drivenheten sjekkes
101	Forbindelsesproblem for drivenheten	La kontakter og forbindelser sjekkes
102	Feil på hastighetssensoren	La hastighetssensoren sjekkes
103*	Forbindelsesproblem på belysningen	La kontakter og forbindelser sjekkes
104	Forbindelsesproblem på styreenheten	La kontakter og forbindelser sjekkes
105	For høy temperatur på drivenheten (over 40 °C)	La drivenheten avkjøle. Videresykling uten el-sykkel-drift er mulig og kjøler drivenheten hurtigere.
200	Intern elektronikkfeil på batteriet	La batteriet sjekkes

* Kun med el-sykkel-belysning via batteriet (nasjonal innstilling)

Kode	Årsak	Utbedring
201	For høy temperatur på batteriet (over 40 °C)	La batteriet avkjøle. Videresykling uten el-sykkeldrift er mulig og kjøler batteriet hurtigere.
202	For lav temperatur på batteriet (under -10 °C)	La batteriet varmes langsomt opp i et varmt rom.
203	Forbindelsesproblem på batteriet	La kontakter og forbindelser sjekkes
204	Gal batteripoling	Lad batteriet opp med original Bosch ladeapparat som beskrevet i driftsinstruksen.

* Kun med el-sykkel-belysning via batteriet (nasjonal innstilling)

Informasjoner om sykling med el-sykkel-drivverk

Når virker el-sykkel-drivverket?

El-sykkel-drivverket støtter deg ved syklingen, så lenge du trør på pedalene. Uten pedaltråkking kommer ingen støtte. Støttegraden er alltid avhengig av kreftene du bruker til tråkking.

Hvis du bruker lite krefter, er støtten mindre enn hvis du bruker mange krefter. Dette gjelder uavhengig av støttemodus og -trinn.

El-sykkel-drivverket koples automatisk ut ved hastigheter over 45 km/h. Når hastigheten synker til under 45 km/h, står drivverket automatisk til disposisjon igjen.

Med unntak av starthjelp-funksjonen, der kan el-sykkelen brukes i lav hastighet uten å trø på pedalene.

Du kan alltid bruke el-sykkelen uten støtte og sykle som med en vanlig sykkel, enten ved å slå av batteriet eller sette støtetrinnet på «0». Det samme gjelder hvis batteriet er tomt.

Sammenspill mellom el-sykkel-drivverket og giret

Også med el-sykkel-drivverk skal du bruke giret som på en vanlig sykkel (følg da driftsinstruksen for el-sykkelen).

Uavhengig av giretypen, anbefales det å avbryte tråkkingen et øyeblikk mens du girer. Slik forenkles giringen og slitasjen på drivstrengen reduseres.

Med valg av riktig gir kan du øke hastigheten og rekkevidden med samme mengde krefter.

Samle første erfaringer

Det anbefales å samle første erfaringer med el-sykkelen litt avsides fra trafikkerte veier.

Prøv forskjellige støttemoduser og støtetrinn. Når du føler deg sikker, kan du sykle med el-sykkelen i vanlig trafikk som med en vanlig sykkel.

Test rekkevidden til el-sykkelen under forskjellige vilkår før du planlegger lengre, krevende turer.

Innflytelser på rekkevidden

Med fullt oppladet batteri og sparsommelig kjøremåte er en rekkevidde på opp til 105 km mulig.

Men rekkevidden påvirkes av mange faktorer, som for eksempel:

- Støttemodus og -trinn,
- giring,
- dekktype og dekktrykk,
- batteriets alder og pleietilstand,
- strekningsprofil (bakker) og -tilstand (veibelegg),
- motvind og omgivelsestemperatur,
- vekten til el-sykkel, syklist og bagasje.

Derfor er det ikke mulig å beregne rekkevidden helt konkret før en tur påbegynnes. Men generelt gjelder:

- Ved **samme** støttegrad av el-sykkel-drivverket: Jo mindre krefter du må bruke for å oppnå en viss hastighet (f.eks. med optimal bruk av giret), desto mindre energi forbruker el-sykkel-drivverket og desto større er rekkevidden for en batteri-opplading.
- Jo **høyere** støttegraden er (støttemodus og -trinn) ved ellers like vilkår, desto mindre er rekkevidden.

God bruk av el-sykkelen

Ta hensyn til drifts- og lagertemperaturene for el-sykkel-komponentene. Beskytt drivenheten, styreenheten og batteriet mot ekstreme temperaturer (f.eks. fra intensiv solstråling uten samtidig ventilasjon). Komponentene (spesielt batteriet) kan skades av ekstreme temperaturer.

Service og vedlikehold

Vedlikehold og rengjøring

Hold alle komponentene på el-sykkelen rene, spesielt kontaktene på batteriet og den tilhørende holderen. Rengjør det forsiktig med en fuktig, myk klut.

Alle komponentene inklusiv drivenheten må ikke dyppes i vann eller rengjøres med en høytrykkspyler.

Til service og reparasjon av el-sykkelen henvender du deg til en autorisert sykkel-forhandler.

Kundeservice og kundefrådgivning

Henvend deg til en autorisert sykkel-forhandler hvis du har spørsmål om el-sykkel-drivverket og komponentene.

Kontaktinformasjoner til autoriserte sykkelforhandlere finner du på internettetsiden

www.bosch-ebike.com

Transport

Batteriene oppfyller kravene i loven for farlig gods. En privat bruker kan transportere batteriene uten spesielle krav på vanlige veier. Ved transport som utføres av yrkesmessige brukere eller ved transport av tredje personer (f.eks. lufttransport eller spedisjon) må det oppfylles spesielle krav til emballasje og merking (f.eks. de tyske forskriftene ADR). Ved behov må du konsultere en ekspert for farlig gods ved forberedelse av forsendelsen.

Send batteriene kun hvis huset ikke er skadet. Lim igjen de åpne kontaktene og pakk batteriet slik at det ikke beveger seg i emballasjen. Ta hensyn til eventuelle videregående nasjonale forskrifter.

Henvend deg til en autorisert sykkel-forhandler angående alle spørsmål om transport av batteriene. Hos forhandleren kan du også bestille en egnet transportemballasje.

Deponering



Drivenhet, betjenings-datemaskin, batteri, hastighetssensor, tilbehør og emballasje må leveres inn til miljøvennlig gjenvinning.

El-sykkelen og deres komponenter må ikke kastes i vanlig søppel!

Kun for EU-land:



Iht. det europeiske direktivet 2002/96/EF om gamle elektriske apparater og iht. det europeiske direktivet 2006/66/EF må defekte eller oppbrukte batterier/oppladbare batterier samles inn adskilt og leveres inn til en miljøvennlig resirkulering.

Lever ubrukelige batterier til en autorisert sykkelforhandler.



Li-ion:

Ta hensyn til informasjonene i avsnittet «Transport», side Norsk-7.

Retten til endringer forbeholdes.

Li-ion-batteri Battery Pack

Sikkerhetsinformasjon



Les alle sikkerhetsinformasjonene og instruksene. Feil ved overholdelsen av sikkerhetsinformasjonene og anvisningene kan medføre elektriske støt, brann og/eller alvorlige skader.

Ta vare på alle sikkerhetsinformasjonene og instruksene for fremtidig bruk.

I driftsinstruksen brukes uttrykket «Batteri» som gjelder både for standard-batterier (batterier med holder på sykkelrammen) og bagasjebrett-batterier (batterier med holder under bagasjebrettet), hvis det ikke refereres uttrykkelig til en spesiell modell.

- ▶ **Ta batteriet ut av el-sykkelen, før du begynner med arbeid (f.eks. montering, vedlikehold etc.) på el-sykkelen, transporterer den med bil eller fly eller oppbevarer den.** Det er fare for skader hvis du trykker på på-/av-bryteren ved en feiltagelse.
- ▶ **Batteriet må ikke åpnes.** Det er fare for kortslutning. Ved åpent batteri bortfaller ethvert krav på garanti fra Bosch.



Beskytt batteriet mot varme (f.eks. også mot permanent solinnvirkning), ild og dyping i vann. Det er fare for eksplosjoner.

- ▶ **Hold batteriet som ikke er i bruk unna binders, mynter, nøkler, spikre, skruer eller andre mindre metallgjenstander, som kan lage en forbindelse mellom kontaktene.** En kortslutning mellom batterikontaktene kan medføre forbrenninger eller brann. Kortslutnings-skader som er oppstått i denne sammenheng fører til at du ikke lenger har krav på garanti av Bosch.
- ▶ **Ved gal bruk kan det lekkte væske ut av batteriet. Unngå kontakt med denne væsken. Ved tilfeldig kontakt må det skylles med vann. Hvis det kommer væske i øynene, må du i tillegg oppsøke en lege.** Batterivæske som renner ut kan føre til irritasjoner på huden eller forbrenninger.

- ▶ **Ved skader og usakkyndig bruk av batteriet kan det slippe ut damp. Tilfør frisk luft og gå til lege hvis det oppstår helseproblemer.** Dampene kan irritere åndedretsorganene.
- ▶ **Lad batteriet kun opp i ladeapparater som er anbefalt av produsenten.** Det oppstår brannfare hvis et ladeapparat som er egnet til en bestemt type batterier, brukes med andre batterier.
- ▶ **Bruk batteriet kun sammen med el-sykkelen som anbefales av produsenten.** Kun slik beskyttes batteriet mot farlig overbelastning.
- ▶ **Bruk kun original Bosch batterier som er godkjent av produsenten for denne el-sykkelen.** Bruk av andre batterier kan medføre skader og brannfare. Ved bruk av andre batterier overtar Bosch intet ansvar og garanti.
- ▶ **Les og følg sikkerhetsinformasjonene og anvisningene i driftsinstruksene for ladeapparat og drivenhet/styreenhet og i driftsinstruksen for el-sykkelen.**

Produkt- og ytelsesbeskrivelse

Illustrerte komponenter (se side 4–5)

Nummereringen av illustrerte komponenter gjelder for bildene på illustrasjonssidene.

Alle illustrasjoner av sykkeldeler unntatt batteriene og deres holdere er skjematisk og kan avvike fra el-sykkelen din.

- 13 Holder for bagasjebrett-batteriet
- 14 Bagasjebrett-batteri
- 15 Drifts- og ladetilstandsindikator
- 16 På-/av-tast
- 17 Nøkkel for batterilåsen
- 18 Batterilås
- 19 Øvre holder for standard-batteriet
- 20 Standard-batteri
- 21 Nedre holder for standard-batteriet
- 22 Bærerem
- 23 Ladeapparat

Tekniske data

Li-ion-batteri	Battery Pack	
Produktnummer		
- Standard-batteri sort		1 270 020 500/ 1 270 020 504
- Standard-batteri hvit		1 270 020 501/ 1 270 020 505
- Standard-batteri sølv		1 270 020 502/ 1 270 020 506
- Bagasjebrett-batteri		1 270 020 503/ 1 270 020 507
Nominell spenning	V=	36
Nominell kapasitet	Ah	8
Energi	Wh	288
Driftstemperatur	°C	-10...+40
Lagertemperatur	°C	-10...+60
Godkjent ladetemperaturrområde	°C	0...+40
Vekt	kg	2,5
Beskyttelsestype		IP 54 (støv- og sprutvannbeskyttet)

Montering

- **Plasser batteriet kun på rene flater.** Unngå spesielt at ladekontakten og andre kontakter tilsmusses, f.eks. av sand eller jord.

Sjekk batteriet før førstegangs bruk

Sjekk batteriet før du lader det opp for første gang eller bruker det med el-sykkelen.

Trykk da på på-/av-tasten **16** til innkopling av batteriet. Hvis det ikke lyser en LED på ladetilstandsindikatoren **15**, er batteriet eventuelt skadet.

Hvis minst en, men ikke alle LEDene på ladetilstandsindikatoren lyser **15**, må du lade batteriet helt opp før førstegangs bruk.

- **Ikke lad opp eller bruk et skadet batteri.** Henvend deg til en autorisert sykkelforhandler.

Opplading av batteriet

- **Bruk kun ladeapparatet som er angitt på illustrasjonssiden.** Kun dette ladeapparatet er tilpasset til Li-Ion-batteriet som brukes på el-sykkelen.

Merk: Batteriet leveres delvis oppladet. For å sikre full effekt fra batteriet, må du lade det fullstendig opp i ladeapparatet før førstegangs bruk. Batteriet må tas ut av el-sykkelen til opplading. Les og følg driftsinstruksen for ladeapparatet til opplading av batteriet.

Batteriet kan lades opp til enhver tid uten at levetiden forkortes. Det skader ikke batteriet å avbryte oppladingen.

Batteriet er utstyrt med en temperaturovervåking som muliggjør en opplading kun i temperaturområdet mellom 0 °C og 40 °C. Slik oppnås en lang levetid for batteriet.

Ladetilstandsindikator

De fem grønne LEDene på ladetilstandsindikatoren **15** viser batteriets ladetilstand ved innkoplet batteri.

Hver LED tilsvarer ca. 20 % kapasitet. Ved et helt oppladet batteri lyser alle fem LEDene.

Ladetilstanden til det innkoblede batteriet anvises dessuten på styreenheten. Les og følg driftsinstruksen til drivenheten og styreenhet.

Hvis batterikapasiteten er under 5 %, slukner alle LEDene på ladetilstandsindikatoren **15** på batteriet, men det finnes fremdeles en anvisning på styreenheten.

Innsetting og fjerning av batteriet (se bildene E–F)

- **Slå batteriet alltid av når du setter det inn i holderen eller tar det ut. Se også meldingen på styreenheten ved innsatt, men tomt batteri.** Batteriet kan ellers ta skade.

For at batteriet kan settes inn, må nøkkelen **17** stå i låsen **18** og låsen må være låst opp.

Til **innsetting av standard-batteriet 20** setter du det med kontaktene på den nedre holderen **21** på el-sykkelen. Vipp det helt inn i øvre holder **19**.

Til **innsetting av bagasjebrett-batteriet 14** skyver du det med kontaktene foran helt inn i holderen **13** på bagasjebrettet.

Sjekk om batteriet sitter godt fast. Lås batteriet alltid med låsen **18**, fordi låsen ellers kan åpne og batteriet kan da falle ut av holderen.

Trekk nøkkelen **17** etter låsingen alltid ut av låsen **18**. Slik forhindrer du at nøkkelen faller ut og hhv. at batteriet tas ut av uvedkommende tredje personer når el-sykkelen er parkert.

Til **fjerning av standard-batteriet 20** slår du det av og låser opp låsen med nøkkelen **17**. Vipp batteriet ut av den øvre holderen **19** og trekk det i bæreremmen **22** ut av den nedre holderen **21**.

Til **fjerning av bagasjebrett-batteriet 14** slår du det av og låser opp låsen med nøkkelen **17**. Trekk batteriet ut av holderen **13**.

Bruk

Igangsetting

- **Bruk kun original Bosch batterier som er godkjent av produsenten for denne el-sykkelen.** Bruk av andre batterier kan medføre skader og brannfare. Ved bruk av andre batterier overtar Bosch intet ansvar og garanti.

Inn-/utkobling

Før batteriet kobles inn må du sjekke om låsen **18** er låst.

Merk: Pedalene til el-sykkelen må ikke være belastet ved innkobling av batteriet, ellers innskrenkes driveffekten.

Til **innkobling** av batteriet trykker du på på-/avtasten **16**. LEDene på indikatoren **15** lyser og anviser samtidig ladetilstanden.

Merk: Hvis batterikapasiteten er under 5 %, lyser det ikke en LED på batteriets ladetilstandsindikator **15**. Det vises kun på styreenheten om batteriet er innkopledd.

Innkobling av batteriet er en av forutsetningene for igangsetting av el-sykkel-driften. Les og følg driftsinstruksen til drivenhet og styreenhet.

Til **utkobling** av batteriet trykker du på på-/avtasten **16**. LEDene på indikatoren **15** slokner. el-sykkel-driften kobles da også ut.

Hvis det ikke aktiveres en driveffekt i løpet av ca 10 min (f.eks. fordi el-sykkelen står stille), kobles batteriet automatisk ut for å spare energi.

Batteriet er med «Electronic Cell Protection (ECP)» beskyttet mot total utlading, overopplading, overoppvarming og kortslutning. Ved fare kobles batteriet automatisk ut med en beskyttelseskopling.

Regler for optimal bruk av batteriet

Før batteriet garanteres det minst 500 totalopp-ladinger.

Levetiden til batteriet kan forlenges hvis det holdes godt ved like, brukes og lagres i korrekt temperatur. Anbefalte driftstemperaturer er mellom +5 °C og +35 °C.

Med økende alder reduseres batteriets kapasitet også ved bra vedlikehold.

En vesentlig kortere driftstid etter opplading er et tegn på at batteriet er oppbrukt og må skiftes ut.

Hvis bæreremmen **22** til standard-batteriet skulle slakkes, må den skiftes ut av en sykkel-forhandler.

Etteropplading av batteriet før og etter lagring

Lad batteriet opp ca. 60 % før det tas ut av drift over lengre tid (3 til 4 LEDer på ladetilstandsindikatoren **15** lyser).

Sjekk ladetilstanden etter 6 måneder. Hvis kun en LED på ladetilstandsindikatoren **15** lyser, må batteriet lades opp til 60 % igjen.

Merk: Hvis batteriet oppbevares i tom tilstand over lengre tid, kan det til tross for lav selvutlading ta skade og lagringskapasiteten kan reduseres sterkt.

Det anbefales ikke å la batteriet stå konstant tilkopledd til ladeapparatet.

Lagringsvilkår

Batteriet må helst lagres på et tørt, godt ventilerert sted. Beskytt det mot fuktighet og vann. Ved ugunstige værforhold anbefales det f.eks. å fjerne batteriet fra el-sykkelen og oppbevare det i et lukket rom til neste bruk.

Batteriet kan lagres i temperaturer fra $-10\text{ }^{\circ}\text{C}$ opp til $+60\text{ }^{\circ}\text{C}$. For å oppnå en lang levetid er det bra med en lagring ved ca. $20\text{ }^{\circ}\text{C}$ værelses-temperatur.

Pass på at den maksimale lagertemperaturen ikke overskrides. Ikke la batteriet f.eks. ligge i bilen om sommeren og oppbevar det utenfor direkte sol.

Service og vedlikehold

Vedlikehold og rengjøring

Hold batteriet rent. Rengjør det forsiktig med en fuktig, myk klut. Batteriet må ikke dyppes i vann eller rengjøres med en vannstråle.

Hvis batteriet er defekt, må du henvende deg til en autorisert sykkel-forhandler.

Kundeservice og kundefrådgivning

Henvend deg til en autorisert sykkel-forhandler angående alle spørsmål om batteriene.

- **Skriv opp nummeret på nøkkelen 17.** Hvis du mister nøkkelen må du henvende deg til en autorisert sykkel-forhandler. Oppgi da nøkkelnummeret.

Kontaktinformasjoner til autoriserte sykkelforhandlere finner du på internettetsiden www.bosch-ebike.com

Transport

Batteriene oppfyller kravene i loven for farlig gods. En privat bruker kan transportere batteriene uten spesielle krav på vanlige veier. Ved transport som utføres av yrkesmessige brukere eller ved transport av tredje personer (f.eks. lufttransport eller spedisjon) må det oppfylles spesielle krav til emballasje og merking (f.eks. de tyske forskriftene ADR). Ved behov må du konsultere en ekspert for farlig gods ved forberedelse av forsendelsen.

Send batteriene kun hvis huset ikke er skadet. Lim igjen de åpne kontaktene og pakk batteriet slik at det ikke beveger seg i emballasjen. Ta hensyn til eventuelle videregående nasjonale forskrifter.

Henvend deg til en autorisert sykkel-forhandler angående alle spørsmål om transport av batteriene. Hos forhandleren kan du også bestille en egnet transportemballasje.

Deponering



Batterier, tilbehør og emballasje skal leveres inn til en miljøvennlig resirkulering.

Batteriene må ikke kastes i vanlig søppel!

Kun for EU-land:



Iht. det europeiske direktivet 2002/96/EF om gamle elektriske apparater og iht. det europeiske direktivet 2006/66/EF må defekte eller oppbrukte batterier/oppladbare batterier samles inn adskilt og leveres inn til en miljøvennlig resirkulering.

Lever ubruklige batterier til en autorisert sykkelforhandler.



Li-ion:

Ta hensyn til informasjonene i avsnittet «Transport», side Norsk-11.

Retten til endringer forbeholdes.

Ladeapparat Charger

Sikkerhetsinformasjon



Les alle sikkerhetsinformasjonene og instruksene. Feil ved overholdelsen av sikkerhetsinformasjonene og anvisningene kan medføre elektriske støt, brann og/eller alvorlige skader.

Ta vare på alle sikkerhetsinformasjonene og instruksene for fremtidig bruk.

I driftsinstruksen brukes uttrykket «Batteri» som gjelder både for standard-batterier (batterier med holder på sykkelrammen) og bagasjebrett-batterier (batterier med holder under bagasjebrettet).



Hold ladeapparatet unna regn eller fuktighet. Dersom det kommer vann i et ladeapparat, øker risikoen for elektriske støt.

- ▶ **Lad el-sykkel godkjente Bosch li-ion-batterier kun opp med spenninger som er angitt i de tekniske data.** Ellers er det fare for brann og eksplosjoner.
- ▶ **Hold ladeapparatet rent.** Smuss fører til fare for elektriske støt.
- ▶ **Før hver bruk må du kontrollere ladeapparatet, ledningen og støpselet. Ikke bruk ladeapparatet hvis du registrerer skader. Du må ikke åpne ladeapparatet selv og la det alltid kun repareres av kvalifisert fagpersonale og kun med originale reservedeler.** Skadet ladeapparat, ledning og støpsel øker risikoen for elektriske støt.
- ▶ **Ikke bruk ladeapparatet på lett brennbar undergrunn (f.eks. papir, tekstiler etc.) eller i brennbare omgivelser.** Ladeapparatet oppvarmes under oppladingen og det er derfor fare for brann.
- ▶ **Ved skader og usakkyndig bruk av batteriet kan det slippe ut damp. Tilfør frisk luft og gå til lege hvis det oppstår helseproblemer.** Dampene kan irritere åndedretsorganene.

- ▶ **Barn må være under oppsyn.** Slik kan du sørge for at barn ikke leker med ladeapparatet.
- ▶ **Barn og personer, som på grunn av sine fysiske, sensoriske eller åndelige evner eller sin uerfarenhet eller manglende kunnskaper ikke er i stand til å betjene ladeapparatet sikkert, må ikke bruke dette ladeapparatet uten oppsyn eller anvisning av en ansvarlig person.** Ellers er det fare for feil betjening og skader.
- ▶ **Ladeapparatet må koples til et korrekt jordnet strømnett.** Stikkontakt og skjøteledning må ha en funksjonsdyktig jordledning.
- ▶ **Les og følg sikkerhetsinformasjonene og anvisningene i driftsinstruksene for batteri og drivenhet/styreenhet og i driftsinstruksene for el-sykkelen.**
- ▶ På undersiden av ladeapparatet befinner det seg en kort versjon av viktige sikkerhetsinstruksjoner på engelsk, fransk og spansk (merket med nummer **28** på bildet på illustrasjonssiden) med følgende innhold:
 - Les driftsinstruksene for en sikker bruk. Fare for elektriske støt.
 - Må kun brukes i tørre omgivelser.
 - Lad kun opp oppladbare batterier eBat100-199. Andre batterier kan eksplodere og forårsake skader.
 - Skift ikke ut strømledningen. Det er fare for brann og eksplosjoner.

Produkt- og ytelsesbeskrivelse

Tekniske data

Ladeapparat		Charger
Produktnummer		0 275 007 900
Nominell spenning	V $\overline{=}$	115/230
Frekvens	Hz	50/60
Batteri-ladespenning	V $\overline{=}$	36
Ladestrøm		
– Normal opplading	A	4
– Stilleopplading	A	1
Godkjent ladetemperaturrområde	°C	0...+40
Oppladingstid (ved 8 Ahbatteri-kapasitet) ca.		
– Normal opplading	h	2,5
– Stilleopplading	h	8
Antall battericeller		10–80
Vekt tilsvarende EPTA-Procedure 01/2003	kg	0,8
Beskyttelsesklasse		⊕/I

Informasjonene gjelder for nominell spenning [U] på 230 V. Ved avvikende spenning og på visse nasjonale modeller kan disse informasjonene variere noe.

Illustrerte komponenter (se side 6–7)

Nummereringen av de illustrerte komponentene gjelder for bildet av ladeapparatet på illustrasjonssiden.

- 14 Bagasjebrett-batteri
- 15 Batteri-ladetilstandsindikator
- 20 Standard-batteri
- 23 Ladeapparat
- 24 Ventilasjonsåpninger
- 25 Apparatkontakt
- 26 Valgbryter nettspenning

- 27 Apparatstøpsel
- 28 Sikkerhetsinformasjoner ladeapparat
- 29 Tast oppladingsdrift
- 30 Driftsindikator
- 31 Ladestøpsel
- 32 Kontakt for ladestøpsel

Bruk

- **Plasser batteriet kun på rene flater.** Unngå spesielt at ladekontakten og andre kontakter tilsmusses, f.eks. av sand eller jord.

Igangsetting

Tilkopling av ladeapparat (se bildene G–H)

På nettspenningsbryteren **26** til ladeapparatet innstiller du spenningen på din strømkilde. Du kan velge mellom 115 V og 230 V.

- **Ta hensyn til strømspenningen!** Spenningen til strømkilden må stemme overens med angivelsene på ladeapparatets typeskilt. Ladeapparater som er merket med 230 V kan også brukes med 220 V.

Sett så apparatstøpselet **27** til strømledningen inn i apparatkontakten **25** på ladeapparatet.

Strømledningen (avhengig av landet) koples til strømmettet. Driftsindikatoren **30** på ladeapparatet lyser.

- **Forbind ladeapparatet først med strømmettet, når korrekt nettspenning er innstilt på nettspenningsbryteren 26.** Ladeapparatet kan ellers ta skade.

Slå av batteriet og ta det ut av holderen på el-sykkelen. Les og følg driftsinstruksen for batteriet.

Sett ladestøpselet **31** til ladeapparatet inn i kontakten **32** på batteriet. Driftsindikatoren **30** på ladeapparatet blinker.

Opplading

Oppladingen begynner så snart ladeapparatet er forbundet med batteriet og strømmettet.

Merk: Oppladingen er kun mulig når temperaturen på batteriet befinner seg i tillatt ladetemperaturområde.

Du kan velge mellom to oppladingstyper:

Normal opplading «**FAST**» og stille opplading «**SLOW**». I driftstypen «**SLOW**» er oppladingen stillestående.

Opplading	Normal opplading « FAST »	Stilleopplading « SLOW »
Ladestrøm	4 A	1 A
Driftsindikator 30	blinker	lyser kontinuerlig
Ventilasjonsladeapparat	på	av

Ved igangsetting av ladeapparatet er det innstilt på normal opplading. Til skifting av oppladingstypen trykker du på tasten **29**.

► **Vær forsiktig hvis du berører ladeapparatet i løpet av oppladingen. Bruk vernehansker.**

Ladeapparatet kan varmes sterkt opp spesielt ved normal opplading og høye omgivelsestemperaturer.

Merk: Pass på at ladeapparatet er godt ventilert i løpet av oppladingen og at ladeåpningene **24** på begge sider ikke er tildekket.

I løpet av oppladingen lyser LEDene på ladetilstandsindikatoren **15** på batteriet. Hver kontinuerlig lysende LED tilsvarer ca. 20 % kapasitet av oppladingen. En blinkende LED viser oppladingen av de neste 20 %.

Batteriet er fullstendig oppladet når alle fem LEDer på indikatoren **15** lyser kontinuerlig. Oppladingen avbrytes automatisk.

Adskill ladeapparatet fra strømmettet og batteriet fra ladeapparatet.

Når batteriet skilles fra ladeapparatet koples batteriet automatisk ut.

Du kan nå sette batteriet inn i el-sykkelen.

Feil – Årsaker og utbedring

Årsak	Utbedring
Driftsindikatoren 30 lyser ikke, ingen opplading mulig	
Valgt gal nettspenning på bryteren 26	Velg riktig nettspenning
Støpselet er ikke satt riktig inn	Sjekk alle stikkforbindelsene
Kontaktene på batteriet er tilsmusset	Rengjør kontaktene på batteriet forsiktig
Batteriet er for varmt eller for kaldt	La batteriet temperere til ladetemperaturområdet er nådd
Ventilasjonsåpningene 24 på ladeapparatet er tettet eller tildekket	Rengjør ventilasjonsåpningene 24 og plasser ladeapparatet slik at det er godt ventilert
Stikkontakt, ledning eller ladeapparat er defekt	Sjekk nettspenningen, la ladeapparatet kontrolleres av en sykkelforhandler
Defekt batteri	Skift ut batteriet

Service og vedlikehold

Vedlikehold og rengjøring

Sørg for at ventilasjonsåpningene **24** på ladeapparatet er frie og rene i løpet av bruken. Rengjør ventilasjonsåpningene etter behov med en støvsuger.

Hvis ladeapparatet skulle svikte, må du henvende deg til en autorisert sykkel-forhandler.

Kundeservice og kunderådgivning

Hvis du har spørsmål om ladeapparatet, må du henvende deg til en autorisert sykkel-forhandler.

Kontaktinformasjoner til autoriserte sykkelforhandlere finner du på internettsiden

www.bosch-ebike.com

Deponering

Ladeapparater, tilbehør og emballasje må leveres inn til miljøvennlig gjenvinning.

Ikke kast ladeapparater i vanlig søppel!

Kun for EU-land:



Jf. det europeiske direktivet 2002/96/EF vedr. gamle elektriske og elektroniske apparater og tilpassingen til nasjonale lover må gamle ladeapparater som ikke lenger kan brukes samles inn og leveres inn til en miljøvennlig resirkulering.

Rett til endringer forbeholdes.

Käyttötietokone HMI/ käyttövoimayksikkö Drive Unit 45

Turvallisuusohjeita



Lue kaikki turvallisuus- ja käyttöohjeet. Turvallisuusohjeiden ja käyttöohjeiden noudattamisen laiminlyönti saattaa johtaa sähköiskun, tulipaloon ja/tai vakavaan loukkaantumiseen.

Säilytä kaikki turvallisuusohjeet ja käyttöohjeet myöhempiä käyttöä varten.

Tässä käyttöohjeessa käytetty käsite ”akku” viittaa sekä vakioakkuihin (akut, joiden pidike on polkupyörän rungossa) että tavaratelineakkuihin (akut, joiden pidike on tavaratelineen alla).

- ▶ **Älä avaa käyttövoimayksikköä itse. Käyttövoimayksikkö on huoltovapaa, sen saa korjata ainoastaan ammattitaitoiset henkilöt, alkuperäisiä varaosia käyttäen.** Täten varmistat, että käyttövoimayksikkö säilyy turvalisena. Takuun voimassaolo loppuu jos käyttövoimayksikkö avataan luvatta.
- ▶ **Kaikkia käyttövoimayksikköön asennettuja osia ja kaikkia muita eBike:n käyttövoiman osia (esim. ketjupyörä, ketjupyörän kiinnitin, polkimet) saa vaihtaa ainoastaan rakenteeltaan samanlaisiin tai polkupyörän valmistajan erityisesti sinun eBike:si sallittuihin osiin.** Täten käyttövoimayksikkö suojataan ylikuormalta ja vaurioitumiselta.
- ▶ **Irrota aina akku eBike:sta ennen kaikkia siihen kohdistuvia töitä (esim. asennus, huolto jne.) sekä kun kuljetat eBike:a autolla, lentokoneessa tai säilytät sitä.** Käynnistyskytkimen tahaton painallus muodostaa loukkaantumiskehityksen.
- ▶ **Toimintoa liikkeellelähtöapu saa käyttää ainoastaan liikkeellelähdössä tai eBike:ä työnnettäessä.** Jos eBike:n pyörät eivät kosketa maata liikkeellelähtöapua käytettäessä, on olemassa loukkaantumiskehityksen vaara.
- ▶ **Käytä ainoastaan alkuperäisiä Bosch-akkuja, joita valmistaja sallii sinun eBike:ssa.** Muiden akkujen käyttö saattaa johtaa louk-

kaantumiseen ja tulipaloon. Muita akkuja käytettäessä takuu raukeaa eikä Bosch ei otakaan vastuuta.

- ▶ **Noudata kaikkia kansallisia eBike:n hyväksyntään ja käyttöön liittyviä määräyksiä.**
- ▶ **Lue ja noudata akun ja eBike:si käyttöohjeiden turvallisuus- ja muita ohjeita.**

Tuotekuvaus

Määräyksenmukainen käyttö

Käyttövoimayksikkö on tarkoitettu ainoastaan polkupyöräsi käyttövoimaksi, eikä sitä saa käyttää muihin tarkoituksiin.

eBike on tarkoitettu käytettäväksi päällystetyillä teillä. Sitä ei saa käyttää kilpailuissa.

Kuvassa olevat osat (katso sivu 2-3)

Kuvassa olevien osien numerointi viittaa grafiikkasivuissa oleviin kuviin.

Kaikki polkupyörän osien kuvat, käyttövoimayksikköä, käyttötietokonetta, nopeustunnistinta ja niihin kuuluvia pidikkeitä lukuun ottamatta, ovat kaavamaisia ja ne voivat poiketa sinun eBike:ssa.

- 1 Käyttötietokone
- 2 Käyttötietokoneen pidike
- 3 ”info/reset”-painike monitoiminäyttöä varten
- 4 Tehostustilan painike ”mode”
- 5 Valaistuksen painike ”light”
- 6 Tehostusvaiheen nosto-/liikkeellelähtöavun käynnistys- ja pysäytyspainike ▲
- 7 Tehostusasteen alennuspainike ▼
- 8 Käyttövoimayksikkö
- 9 Pidikkeen alaruuvit
- 10 Pidikkeen yläruuvit
- 11 Nopeusanturi
- 12 Nopeusanturin puolamagneetti

Käyttötietokoneen näyttöelimet

- a Nopeusmittarin näyttö
- b Valaistuksen näyttö
- c Tehostusvaiheen näyttö
- d Liikkeellelähtöavun näyttö
- e Monitoiminäyttö
- f Tehostustilan ja vikakoodin näyttö
- g Akun lataustilanäyttö

Tekniset tiedot

Käyttövoimayksikkö	Drive Unit 45	
Tuotenumero		0 275 007 003
Nimellinen kestopotuu	W	350
Vääntömomentti voiman ulosotossa maks.	Nm	50
Nimellisjännite	V=	36
Käyttölämpötila	°C	-5...+40
Varastointilämpötila	°C	-10...+50
Suojaus		IP 54 (pöly- ja roiskevesi-suojattu)
Paino n.	kg	4

Käyttötietokone	HMI	
Tuotenumero		1 270 020 900
Käyttölämpötila	°C	-5...+40
Varastointilämpötila	°C	-10...+50
Suojaus		IP 54 (pöly- ja roiskevesi-suojattu)
Paino n.	kg	0,15

Valaistus*		
Nimellisjännite	V=	6
Teho		
- Etuvalo	W	2,7
- Takavallo	W	0,3

* lainsäädöstä riippuen ei eBike:n akun kautta toimiva valaistus ole mahdollinen kaikissa maakohtaisissa malleissa

Asennus

Akun asennus ja irrotus

Lue ja noudata akun käyttöohjetta koskien akun asentamista ja irrotusta eBike:sta.

Käyttötietokoneen pidikkeen sijoitus

- **Kiristä ruuvit 10 ja 9 korkeintaan 1 Nm kiristysmomentilla.** Muussa tapauksessa pidike 2 saattaa vaurioitua.

Pidikkeen siirto/kallistus (katso kuva A)

Avaa pidikkeen 2 pohjassa olevaa kaksi ruuvia 9. Siirrä pidike ohjaustangossa tai muuta sen kallistuskulmaa. Kiristä molemmat ruuvit 9 uudelleen 1 Nm kiristysmomentilla.

Pidikkeen kääntö (katso kuva B)

Avaa pidikkeen 2 yläosassa oleva ruuvi 10. Käänä pidikkeen yläosaa niin, että käyttötietokone 1 asennettuna (katso "Käyttötietokoneen asennus ja irrotus") on hyvin näkökentässä. Kiristä ruuvi 10 uudelleen 1 Nm kiristysmomentilla.

Käyttötietokoneen asennus ja irrotus (katso kuva C)

Asenna käyttötietokone asettamalla se noin 30° käännettynä pidikkeeseen 2 ja kiertämällä sitä myötäpäivään vasteeseen asti.

Irrota kääntämällä käyttötietokone noin 30° vastapäivään ja vetämällä se irti pidikkeestä 2.

- **Poista käyttötietokone pysäköidystä eBike:sta, jotta sivullinen ei luvattomasti voi käyttää sitä.** Ilman käyttötietokonetta käyttölaitetta ei voida käynnistää.

Nopeusanturin tarkistus (katso kuva D)

Nopeusanturin **11** ja siihen kuuluvan puolamagneetin **12** tulee olla niin asennettuja, että pyörän pyöriessä yhden kierroksen puolamagneetti liikkuu nopeusanturin ohi vähintään 5 mm ja korkeintaan 17 mm etäisyydellä.

Huomio: Jos etäisyys nopeusanturista **11** puolamagneettiin **12** on liian pieni tai liian suuri tahi, jos nopeusanturi **11** on liitetty väärin, jää nopeusmittarin näyttö **a** puuttumaan ja eBike-käyttölaite toimii hätäkäyntiohjelmassa. Avaa tässä tapauksessa puolamagneetin **12** ruuvi ja kiinnitä puolamagneetti puolaan (pinnaan) niin, että se ohittaa nopeusanturin merkintää oikealla etäisyydellä. Jos nopeusmittarin näyttö **a** ei vielä tämänkään jälkeen näytä nopeutta, käänny valtuutetun polkupyöräkauppiaan puoleen.

Käyttö

Käyttöönotto

Edellytykset

eBike:si käyttölaite voidaan aktivoida vain, jos seuraavat edellytykset täyttyvät:

- Riittävästi ladattu akku on asennettu (katso akun käyttöohje).
- Käyttötietokone on asennettu pidikkeeseen oikealla tavalla (katso ”Käyttötietokoneen asennus ja irrotus”, sivu Suomi–2).
- Nopeusanturi on liitetty oikein (katso ”Nopeusanturin tarkistus”, sivu Suomi–3).

Käyttölaitteen käynnistys ja pysäytys

Aseta akku pidikkeeseen ja kytke se päälle käynnistyspainikkeesta (katso akun käyttöohje).

Huomio: eBike:n polkimia ei saa kuormittaa kun akku kytketään, koska se rajaa käyttölaitteen tehoa.

Jos akku vahingossa kytketään päälle kun polkimia kuormitetaan, se kytkeytyy pois päältä ja siten uudelleen päälle, kun kuormitus poistuu.

Käyttötietokoneen näyttö kytkeytyy myös päälle samanaikaisesti akun kanssa. Käyttötietokone näyttää akun lataustilan sekä käyttövoimayksikön asetukset.

Käyttölaite aktivoituu heti, kun painat poljinta (paitsi liikkeellelähtöaputoiminnassa, katso ”Liikkeellelähtöavun käynnistys ja pysäytys”, sivu Suomi–4). Tehostusaste riippuu käyttötietokoneeseen tehdyistä asetuksista.

Heti kun normaalikäytössä lopetat paineen polkimelta tai heti, kun olet saavuttanut nopeuden 45 km/h, eBike-käyttölaite kytkee tehostuksen pois päältä. Käyttölaite aktivoituu uudelleen heti, kun painat poljinta ja nopeus on alle 45 km/h. Pysäytä käyttölaite kytkemällä akku pois päältä käynnistyspainikkeella (katso akun käyttöohje). Jos 10 minuutin aikana ei käyttövoimaa käytetä (esim. koska eBike on paikallaan), akku kytkeytyy automaattisesti pois päältä energian säästämiseksi.

Käyttötietokoneen näytöt ja asetukset

Huomio: Käyttötietokoneen näytöt ja asetukset ovat mahdollisia vain, kun eBike-akku on kytketty päälle. Käyttötietokoneessa ei ole omaa virtalähdettä.

Akun lataustilan näyttö

Lataustilan näytön lisäksi, joka sijaitsee itse akussa, voidaan varaustilanne lukea myös käyttötietokoneen näytöstä **g**.

Näytössä **g** jokainen paristotunnuksen palkki vastaa noin 20 % kapasiteetistä:



100 % ... 80 % kapasiteetti



20 % ... 5 % kapasiteetti, lataa akku.



Alle 5 % kapasiteetti, käyttölaitteen tehostus ei enää toimi. Akun lataustilan

näytön LED:it sammuvat.

Jos eBike-valaistus käyttää akkua (maakohtainen), kapasiteetti riittää vielä 2 tunnin valaistukseen, kun tyhjän akun tunnus ilmestyy ensimmäisen kerran. Kun tunnus alkaa vilkkua, toimii valaistus enää vähän aikaa.

Tehostustilan asetukset

Käyttötietokoneen avulla voit säätää kuinka paljon eBike-käyttölaite tehostaa polkemistä.

Huomio: Yksittäisissä malleissa on mahdollista, että tehostustila on valmiiksi asetettu, jolloin sitä ei voi muuttaa. On myös mahdollista, että valittavissa on tässä esitettyä vähemmän tiloja.

Käytettävissä on korkeintaan neljä tehostustilaa:

ECO

"ECO": aktiivinen tehostus suurimmalla tehokkuudella suurinta mahdollista toimintamatkaa varten

FOUR

"TOUR": tasainen tehostus pitkiä toimintamatkoja varten

SPORT

"SPORT": voimakas tehostus urheilulliseen ajoon mäkisillä osuuksilla sekä kaupunkiliikenteeseen

SPEED

"SPEED": suurin tehostus suurella poljinnopeudella urheilulliseen ajoon

Vaihda tehostustila painamalla painiketta **"mode" 4**, kunnes haluttu tila ilmestyy näyttöön **f**.

Liikkeellelähtöavun käytön aikana näyttö **f** sammuu ja asetettu tehostustila tallentuu.

Tehostusvaiheen asetukset

Asetetussa tehostustilassa voit milloin vain, myös ajon aikana, muuttaa tehostusvaihetta.

Huomio: Yksittäisissä malleissa on mahdollista, että tehostusvaihe on valmiiksi asetettu, jolloin sitä ei voi muuttaa.

Korkeintaan kolme tehostusvaihetta ja tehostuksen poiskytkentä on käytössä.

Tehostusaste*:	Tehostusvaiheessa		
	"1"	"2"	"3"
"ECO"	30 %	60 %	100 %
"TOUR"	45 %	80 %	120 %
"SPORT"	70 %	140 %	180 %
"SPEED"	90 %	160 %	250 %

* Tehostusaste saattaa poiketa yksittäisissä malleissa.

Nosta tehostustila painamalla painiketta **▲ 6**, kunnes haluttu vaihe ilmestyy näyttöön **c**.

Laske tehostustila painamalla painiketta **▼ 7**, kunnes haluttu vaihe ilmestyy näyttöön **c**.

Tehostusvaiheessa **"0"** käyttölaite kytkeytyy pois päältä. eBike:a voidaan polkea tavallisen pyörän tavoin ilman tehostusta.

Liikkeellelähtöavun käytön aikana näyttö **c** sammuu ja asetettu tehostusvaihe tallentuu.

Liikkeellelähtöavun käynnistys ja pysäytys

Liikkeellelähtöapu voi toimia lisätehostuksena ensimmäisillä metreillä, jos liikkeellelähtö on vaikeutunut (kuten esi, liikennevaloissa tai ylämäessä). Sitä voi pienimmällä vaihteella käyttää myös työntöapuna.

► Toimintoa liikkeellelähtöapu saa käyttää ainoastaan liikkeellelähdössä tai eBike:a työnnettäessä. Jos eBike:n pyörät eivät kosketa maata liikkeellelähtöapua käytettäessä, on olemassa loukkaantumisvaara.

Käynnistä liikkeellelähtöapu painamalla painiketta **▲ 6** yli 1 s ja pitämällä se painettuna.

eBike:n käyttölaite käynnistyy, näyttö **d** vilkkuu ja näytöt **c**, **e** ja **f** sammuvat.

Liikkeellelähtöapu **pysähtyy** heti, kun jokin seuraavista tapahtuu:

- päästät painikkeen **▲ 6** vapaaksi,
- painat käyttötietokoneen jotain muuta painiketta,
- poljet eteenpäin tai nopeasti taaksepäin,
- eBike:n pyrät lukkiutuvat (esim. jarruttamalla tai törmäämällä esteeseen),
- nopeudessa 16 km/h.

Valaistuksen kytkentä päälle ja pois päältä

Riippuen maakohtaisista määräyksistä on olemassa kaksi mahdollista valaistustoteutusta:

- Käyttötietokoneen kautta voidaan etuvalo, takavalvo ja näytön valaistus samanaikaisesti kytkeä päälle ja pois päältä.
- Vain näytön valaistus voidaan kytkeä päälle ja pois päältä, eBike:n etu- ja takavalvo ovat riippumattomia käyttötietokoneesta.

Paina kummassakin versiossa painiketta **"light" 5 valaistuksen kytkemiseksi.** Näyttöön ilmestyy valaistuksen tunnus **b**.

Kytke valaistus pois päältä painamalla painiketta **"light" 5** uudelleen. Valaistuksen tunnus **b** sammuu.

Nopeus- ja etäisyysnäytöt

Huomio: Maakohtaisesta mallista riippuen voidaan etäisyys ja nopeus näyttää joko suureilla ”km” ja ”km/h” tai ”mi” ja ”mph”. Käyttötietokoneen käsittely ja näyttövaihtoehtojen valinta ovat samoja kilometri- ja mailiversiossa.

Nopeusmittarin näytössä a näkyy aina senhetkinen nopeus.

Monitoiminäytössä e voit valita seuraavista näytöistä:

odo **0 1635** km

Kokonaismatka ”odo”:
eBike:lla toistaiseksi kuljettu kokonaismatka

trip **068.50** km

Päivämatka ”trip”: viimeisestä nollauksesta kuljettu matka

avg **002 17** km/h

Keskinopeus ”avg”: viimeisimmän nollauksen jälkeen saavutettu keskinopeus

000 72 km^{range}

Toimintamatka ”range”: todennäköinen toimintamatka kyseisellä akun varauksella (olosuhteiden kuten tehostustilan, tehostusvaiheen, matkan profiilin jne. säilyessä samanlaisina)

Vaihda monitoiminäyttöön painamalla painiketta ”info/reset” **3**, kunnes haluttu toiminto näkyy.

Nollaa **Reset** päivämatka ”trip” ja keskinopeus ”avg” vaihtamalla jompaankumpaan näyttöön ja painamalla sitten painiketta ”info/reset” **3** kunnes näytössä on nolla.

Liikkeellelähtöavun käytön aikana monitoiminäyttö **e** sammuu.

Vikakoodin näyttö

eBike:n osat tarkistetaan koko ajan automaattisesti. Jos vika todetaan, näyttöön ilmestyy vastaava vikakoodi **f**.

Riippuen vian laadusta käyttölaite kytkeytyy tarvittaessa automaattisesti pois päältä. Matkan jatkaminen ilman käyttölaitteen tehostusta on kuitenkin aina mahdollista. Anna tarkista eBike ennen seuraavia matkoja.

► **Jätä kaikki tarkistukset ja korjaukset ainoastaan valtuutetun polkupyöräkauppiaan suoritettaviksi.** Jos vika esiintyy edelleen korjauksistasi huolimatta, käänny valtuutetun polkupyöräkauppiaan puoleen.

Koodi	Syy	Korjaus
001	käyttötietokoneen sisäinen vika	anna tarkistaa käyttötietokone
002	Yksi tai useampi käyttötietokoneen painike on lukkiutunut.	Tarkista ovatko painikkeet jumissa esim. sisään pääseen lian takia. Puhdista painikkeet tarvittaessa.
003	ongelmia käyttötietokoneen liitännöissä	anna tarkistaa liitokset ja kytkennät
100	käyttövoimayksikön sisäinen vika	anna tarkistaa käyttövoimayksikkö
101	ongelmia käyttövoimayksikön liitännöissä	anna tarkistaa liitokset ja kytkennät
102	vika nopeusanturissa	anna tarkistaa nopeusanturi
103*	ongelmia valaistuksessa	anna tarkistaa liitokset ja kytkennät
104	ongelmia käyttötietokoneen liitännöissä	anna tarkistaa liitokset ja kytkennät
105	käyttövoimayksikön lämpötila on liian korkea (yli 40 °C)	Anna käyttövoimayksikön jäähtyä. Matkan jatkaminen ilman eBike-käyttölaitetta on mahdollista ja se nopeuttaa käyttövoimayksikön jäähtymistä.

* vain jos eBike-valaistus tulee akusta (maakohtainen)

Koodi	Syy	Korjaus
200	akun sisäinen elektroniikkavika	anna tarkistaa akku
201	akun lämpötila on liian korkea (yli 40 °C)	Anna akun jäähtyä. Matkan jatkaminen ilman eBike-käyttölaitetta on mahdollista ja se nopeuttaa akun jäähtymistä.
202	akun lämpötila on liian alhainen (alle -10 °C)	Anna akun lämmitä hitaasti lämpimässä huoneessa.
203	ongelmia akun liitännässä	anna tarkistaa liitokset ja kytkennät
204	akun väärä napaisuus	Lataa akkua alkuperäisellä Bosch-latauslaitteella sen käyttöohjeessa selostetulla tavalla.

* vain jos eBike-valaistus tulee akusta (maakohtainen)

Ajovihjeitä eBike-käyttölaitteen kanssa

Milloin eBike-käyttölaitte toimii?

eBike-käyttölaitte tukee ajoa aina, kun poljet. Polkematta ei tehostus toimi. Tehostusaste riippuu aina siitä voimasta, jolla poljet.

Kun käytät vähän voimaa, tehostus on pienempi kuin paljon voimaa käyttäessäsi. Tämä pätee riippumatta tehostustilasta ja -vaiheesta.

eBike-käyttölaitte kytkeytyy automaattisesti pois yli 45 km/h nopeudessa. Kun nopeus putoaa alle 45 km/h, käyttölaitte on automaattisesti taas käytettävissä.

Liikkeellelähtöaputoiminnon poikkeuksena on eBike:n ajaminen pienellä nopeudella polkematta.

Voit myös milloin vain ajaa eBike:a ilman tehostusta kuten tavallista polkupyörää, joko kytkemällä akku pois päältä tai asettamalla tehostusvaihe asentoon ”0”. Sama koskee tilannetta, jolloin akku on tyhjä.

eBike-käyttölaitteen yhteispeli vaihteiden kanssa

Käytä vaihteita kuten tavallisessa polkupyörässä myös eBike-käyttölaitteen kanssa (noudata eBike:n käyttöohjetta).

Kaikessa vaihtamisessa on suositeltavaa hetkeksi keskeyttää polkeminen vaihtamisen ajaksi. Tällöin vaihtaminen on helpompaa ja voimansiirron kuluminen on pienempi.

Valitsemalla vaihde oikein voit nostaa nopeutta ja pidentää toimintamatkaa käyttövoimaa lisäämättä.

Ensimmäisten kokemusten hankkiminen

On suositeltavaa hankkia ensimmäiset kokemukset eBike:n kanssa muualla kuin vilkkaasti liikennöidyillä kaduilla.

Kokeile erilaisia tehostustiloja ja tehostusvaihteita. Kun olet saavuttanut varmuuden, voit käyttää eBike:a liikenteessä, kuten mitä tahansa polkupyörää.

Kokeile eBike:si toimintamatkaa erilaisissa olosuhteissa, ennen kuin suunnittelet pitkiä, vaativia matkoja.

Toimintamatkan vaikuttavat tekijät

Täyteen ladatulla akulla ja säästävällä ajotavalla voit saavuttaa jopa 105 km toimintamatkan.

Toimintamatkan vaikuttavat kuitenkin monet seikat, kuten esimerkiksi:

- tehostustila ja -vaihe,
- vaihteiden valinta,
- rengasmalli ja renkaiden ilmanpaine,
- akun ikä ja hoitotila,
- matkan profiili (nousut) ja tien ominaisuus (päällystys),
- vastatuuli ja ympäristön lämpötila,
- eBike:n, pyöräilijän ja matkatavaran paino.

Tämän takia ei ole mahdollista ennustaa toimintamatkaa konkreettisesti ennen liikkeellelähtöä. Yleisesti pätee kuitenkin:

- eBike:n käyttölaitteen **samalla** tehostusasteella: Mitä vähemmän voimaa käytät määrätyn nopeuden saavuttamiseksi (esim. vaihtamalla optimaalisesti), sitä vähemmän energiaa eBike:n käyttölaite kuluttaa ja sitä pidemmälle pääset yhdellä akun latauksella.
- Mitä **suuremman** tehostusasteen (tehostustila ja -vaihe) valitset muuten samanlaisissa olosuhteissa, sitä pienemmäksi muodostuu toimintamatka.

eBike:n hoito ja käsittely

Ota huomioon eBike-osien käyttö- ja varastointilämpötilat. Suojaa käyttövoimayksikkö, käyttötietokone ja akku äärimmäiseltä lämpötilalta (esim. suoralta auringonpaisteelta ilman samanaikaista tuuletusta). Osat (erityisesti akku) voivat vaurioitua äärimmäisestä lämpötilasta.

Hoito ja huolto

Huolto ja puhdistus

Pidä eBike:si osat puhtaana, etenkin akun liittimet ja pidike. Puhdista niitä varovasti kostealla, pehmeällä liinalla.

Mitään osaa (käyttövoimayksikkö mukaan luetuna) ei saa upottaa veteen tai puhdistaa painepesurilla.

Käännä valtuutetun polkupyöräkauppiaan puoleen eBike:n huoltoja korjauksia varten.

Huolto ja asiakasneuvonta

Käännä valtuutetun polkupyöräkauppiaan puoleen kaikissa eBike-käyttölaitteeseen ja sen osiin liittyvissä kysymyksissä.

Valtuutettujen polkupyöräkauppioiden yhteystiedot löydät internetsivulta

www.bosch-ebike.com

Kuljetus

Akut ovat vaara-ainelain määräysten alaisia. Yksityinen käyttäjä saa kuljettaa akkuja kadulla ilman erikoistoimenpiteitä.

Ammattimaisessa kuljetuksessa tai toimituksessa sivullisen kautta (esim.: lentorahti tai huolinta) on noudatettava pakkausta ja merkintää koskevia erikoisvaatimuksia (esim. ADR:n määräyksiä). Tällöin voi tarvittaessa käyttää vaara-aineasiantuntijaa lähetyksen valmistelussa.

Lähetä akkuja ainoastaan, jos kotelo on vaurioitumaton. Teippaa avoimet liittimet ja pakkaa akku niin, että se ei pääse liikkumaan pakkauksessa. Ota myös huomioon mahdolliset tarkemmat kansalliset määräykset.

Käännä valtuutetun polkupyöräkauppiaan puoleen kaikissa akkujen kuljetuksiin liittyvissä kysymyksissä. Kauppiaalta voit myös tilata sopivan kuljetuspakkauksen.

Hävitys



Käyttövoimayksikkö, käyttötietokone, akku, nopeusanturi, lisätarvikkeet ja pakkaukset tulee toimittaa ympäristöystävälliseen uusiokäyttöön.

Älä heitä eBike:a tai sen osia talousjätteisiin!

Vain EU-maita varten:



Eurooppalaisen direktiivin 2002/96/EY mukaan käyttökelpotomat sähkölaitteet ja eurooppalaisen direktiivin 2006/66/EY mukaan vialliset tai loppuun käytetyt akut/paristot täytyy kerätä erikseen ja toimittaa ympäristöstävälliseen kierrätykseen.

Luovuta käytöstä poistetut akut valtuutetulle polkupyöräkauppiaille.



Litiumioni:

Katso ohjeita kappaleessa ”Kuljetus”, sivu Suomi-7.

Oikeus teknisiin muutoksiin pidätetään.

Litiumioniakku Battery Pack

Turvallisuusohjeita



Lue kaikki turvallisuus- ja käyttöohjeet. Turvallisuusohjeiden ja käyttöohjeiden noudattamisen laiminlyönti saattaa johtaa sähköiskuun, tulipaloon ja/tai vakavaan loukkautumiseen.

Säilytä kaikki turvallisuusohjeet ja käyttöohjeet myöhempiä käyttöä varten.

Tässä käyttöohjeessa käytetty käsite ”akku” viittaa sekä vakioakkuihin (akut, joiden pidike on polkupyörän rungossa) että tavaratelineakkuihin (akut, joiden pidike on tavaratelineen alla) paitsi, jos nimenomaan viitataan jompaa kumpaan rakenteeseen.

- ▶ **Irrota aina akku eBike:sta ennen kaikkia siihen kohdistuvia töitä (esim. asennus, huolto jne.) sekä kun kuljetat eBike:a autolla, lentokoneessa tai säilytät sitä.** Käynnistyskytkimen tahaton painallus muodostaa loukkaantumista vaarallista.
- ▶ **Älä avaa akkua.** On olemassa oikosulun vaara. Jos akku on avattu, Bosch hylkää kaikki takuuvaatimukset.



Suojaa akku kuumuudelta (esim. myös pitkäaikaiselta auringonpaisteelta), tulelta ja veteen upotukselta.
On olemassa räjähdysvaara.

- ▶ **Pidä käytöstä poissa oleva akku loitolla paperiliittimistä, kolikoista, avaimista, nauhoista, ruuveista tai muista pienistä metalliesineistä, jotka voivat oikosulkea akun koskettimet.** Akkukoskettimien välinen oikosulku saattaa aiheuttaa palovammoja tai johtaa tulipaloon. Bosch hylkää aina tässä yhteydessä syntyneiden oikosulkuvahinkojen takuuvaatimukset.
- ▶ **Väärästä käytöstä johtuen saattaa akusta vuotaa nestettä. Vältä koskettamasta nestettä. Huuhtelee vedellä, jos vahingossa kosketat nestettä. Jos nestettä pääsee silmiin, tarvitaan tämän lisäksi lääkärin apua.** Akusta vuotava neste saattaa aiheuttaa ihoärsytystä ja palovammoja.

- ▶ **Jos akku vaurioituu tai sitä käytetään asi-aankuulumattomalla tavalla, saattaa siitä purkautua höyryä.** Tuuleta rakkaalla ilmal-la ja hakeudu lääkärin luo, jos haittoja ilmenee. Höyryt voivat ärsyttää hengitysteitä.
- ▶ **Lataa akku vain valmistajan suosittelemilla latauslaitteilla.** Latauslaite, joka soveltuu määrättyntyyppiselle akulle, saattaa muodostaa tulipalovaaran erilaisia akkua ladattaessa.
- ▶ **Käytä akkua vain valmistajan suosittelemis-sa eBike-pyörissä.** Vain täten suojaat akkusi vaaralliselta ylikuormitukselta.
- ▶ **Käytä ainoastaan alkuperäisiä Bosch-akkuja, joita valmistaja sallii sinun eBike:ssa.** Muiden akkujen käyttö saattaa johtaa loukkaantumiseen ja tulipaloon. Muita akkuja käytettäessä takuu raukeaa eikä Bosch ei ota mitään vastuuta.
- ▶ **Lue ja noudata latauslaitteen ja käyttövoimayksikön/käyttötietokoneen sekä eBike:si käyttöohjeiden turvallisuusohjeita.**

Tuotekuvaus

Kuvassa olevat osat (katso sivu 4–5)

Kuvassa olevien osien numerointi viittaa grafiikkasivuissa oleviin kuviin.

Kaikki polkupyörän osien kuvat, akkuja ja niiden pidikkeitä lukuun ottamatta, ovat kaavamaisia ja ne voivat poiketa sinun eBike:ssa.

- 13 Tavaratelineakun pidike
- 14 Tavaratelineakku
- 15 Käyttö- ja lataustilanäyttö
- 16 Käynnistyspainike
- 17 Akkulukon avain
- 18 Akkulukko
- 19 Vakioakun yläpidike
- 20 Vakioakku
- 21 Vakioakun alapidike
- 22 Kantohihna
- 23 Latauslaite

Tekniset tiedot

Litiumioniakku	Battery Pack	
Tuotenumero		
– Vakioakku, musta		1 270 020 500/ 1 270 020 504
– Vakioakku, valkoinen		1 270 020 501/ 1 270 020 505
– Vakioakku, hopea		1 270 020 502/ 1 270 020 506
– Tavaratelineakku		1 270 020 503/ 1 270 020 507
Nimellisjännite	V=	36
Nimellinen kapasiteetti	Ah	8
Energia	Wh	288
Käyttölämpötila	°C	–10...+40
Varastointilämpötila	°C	–10...+60
Sallittu latauslämpötila-alue	°C	0...+40
Paino	kg	2,5
Suojaus		IP 54 (pöly- ja roiskevesi-suojattu)

Asennus

- **Aseta akku vain puhtaalle pinnalle.** Vältä etenkin lataushylsyn ja koskettimien likaantumista esim. hiekasta tai mullasta.

Tarkista akku ennen ensimmäistä käyttöä

Tarkista akku, ennen kuin lataat sitä ensimmäistä kertaa tai käytät sitä eBike:ssasi.

Paina käynnistuspainiketta **16** akun kytkemiseksi. Jos lataustilan näytössä **15** ei syty yhtään LED:iä, akku on mahdollisesti viallinen.

Jos vähintään yksi lataustilan näytön **15** LED syttyy, mutta eivät kaikki, lataa akku täyteen ennen ensimmäistä käyttöä.

- **Älä lataa viallista akkua äläkä käytä sitä.** Käänny valtuutetun polkupyöräkaupiaan puoleen.

Akun lataus

- **Käytä vain grafiikkasivulla mainittua latauslaitetta.** Vain tämä latauslaite on sovitettu eBike:ssasi olevalle litiumioniakulle.

Huomio: Akku toimitetaan osittain ladattuna. Jotta akun täysi teho olisi taattu, lataa akku täyteen latauslaitteessa ennen ensimmäistä käyttöä.

Akkua on poistettava eBike:sta latausta varten.

Lue ja noudata akkua ladattaessa latauslaitteen käyttöohjetta.

Akkua voidaan ladata milloin vain, lyhentämättä sen elinikää. Latauksen keskeytys ei vaurioita akkua.

Akkua on varustettu lämpötilanvalvonnalla, joka sallii lataamisen vain akun lämpötilan ollessa välillä 0 °C ja 40 °C. Täten saavutetaan pitkä käyttöikä akulle.

Lataustilan merkkivalo

Akun lataustilan merkkivalon **15** viisi vihreää LED:iä osoittaa akun varaustilan sen ollessa kytkettyä.

Tällöin jokainen LED vastaa n. 20 % akun kapasiteetista Akun ollessa täysin ladattu kaikki viisi LED:iä palaa.

Kytkeytyn akun varaustilan näkee lisäksi käyttötietokoneesta. Lue ja noudata tätä varten käyttövoimayksikön ja käyttötietokoneen käyttöohjeita.

Jos akun kapasiteetti on alle 5 %, akussa sijaitsevan lataustilan näytön **15** kaikki LED:it sammuvat, käyttötietokoneessa lataustila vielä näkyy.

Akun asennus ja irrotus (katso kuvat E-F)

- **Kytke aina akku pois päältä, ennen kuin asetat sen pidikkeeseen tai otat sen pidikkeestä. Katso myös käyttötietokoneen näyttöä, kun tyhjä akku on asennettu.** Akku saattaa muussa tapauksessa vaurioitua.

Jotta akku voidaan asentaa, on avaimen **17** oltava lukossa **18** ja lukon oltava avattuna.

Asenna vakioakku 20 asettamalla sen koskettimet eBike:n alapidikkeeseen **21**. Käännä se vasteeseen asti yläpidikkeeseen **19**.

Asenna tavaratelineakku 14 työntämällä se koskettimet edellä vasteeseen asti pidikkeeseen **13**.

Tarkista, että akku on tiukasti paikallaan. Lukitse aina akku lukolla **18**, koska lukko muuten saattaa aueta ja akku voi pudota pidikkeestä.

Poista aina avain **17** lukosta **18** lukitsemisen jälkeen. Täten estät avaimen putoamasta ja sen, että sivullinen luvottomasti irrottaa akun pysäköidystä polkupyörästä.

Irrota vakioakku 20 kytkemällä se pois päältä ja avaamalla lukko avaimella **17**. Käännä akku ulos yläpidikkeestä **19** ja vedä se kantokahvaa **22** käyttäen ulos alapidikkeestä **21**.

Irrota tavaratelineakku 14 kytkemällä se pois päältä ja avaamalla lukko avaimella **17**. Vedä akku ulos pidikkeestä **13**.

Käyttö

Käyttöönotto

- **Käytä ainoastaan alkuperäisiä Bosch-akkuja, joita valmistaja sallii sinun eBike:ssa.** Muiden akkujen käyttö saattaa johtaa loukkaantumiseen ja tulipaloon. Muita akkuja käytettäessä takuu raukeaa eikä Bosch ei ota mitään vastuuta.

Käynnistys ja pysäytys

Tarkista ennen akun kytkemistä, että lukko **18** on lukittuna.

Huomio: eBike:n polkimia ei saa kuormittaa kun akku kytketään, koska se rajaa käyttölaitteen tehoa.

Kytke akku painamalla käynnistyspainiketta **16**. Näytön **15** LED:it syttyvät ja näyttävät samalla varaustilan.

Huomio: Jos kapasiteetti on alle 5 %, ei akun lataustilan näytössä **15** syty yhtään LED-merkkiväliä. Ainoastaan käyttötietokoneesta voi päätellä onko akku kytketty.

Акку kytkeä on yksi eBike-käyttövoiman käyttöönoton edellytyksistä. Lue ja noudata tätä varten käyttövoimayksikön ja käyttötietokoneen käyttöohjeita.

Kytke pois akku painamalla käynnistyspainiketta **16** uudelleen. Näytön **15** LED:it sammuvat. eBike:n käyttölaite on tällöin myös poiskytketty.

Jos 10 minuutin aikana ei käyttövoimaa käytetä (esim. koska eBike on paikallaan), akku kytkeytyy automaattisesti pois päältä energian säästämiseksi.

”Electronic Cell Protection (ECP)” suojaa akkua syväpurkaukselta, yllälaaukselta, ylikuumenemiselta ja oikosululta. Vaaratilanteessa akku kytkeytyy automaattisesti pois suojakytkennän avulla.

Ohjeita akun optimaaliseen käsittelyyn

Akulle taataan vähintään 500 täyttä latausjaksoa.

Акку elinikää voidaan pidentää, jos sitä hoidetaan hyvin ja etenkin, jos sitä käytetään ja varastoidaan oikeassa lämpötilassa. Käyttölämpötilaa väliltä +5 °C ja +35 °C suositellaan.

Ikääntymisen myötä akun kapasiteetti pienenee myös oikein hoidettuna.

Huomattavasti lyhentynyt käyttöaika latauksen jälkeen osoittaa, että akku on loppuun käytetty ja täytyy vaihtaa uuteen.

Jos vakioakun kantohihna **22** on venynyt, anna polkupyöräkauppiaan vaihtaa se uuteen.

Akun lataus ennen varastointia ja sen aikana

Lataa akku ennen pitkää käyttötaukoa noin 60 % kapasiteettiin (3 ... 4 LED:iä palaa lataustilan näytössä **15**).

Tarkista varauksilanne 6 kuukauden jälkeen. Jos lataustilan näytössä **15** palaa enää yksi LED, lataa akku uudelleen n. 60 % kapasiteettiin.

Huomio: Jos akku säilytetään kauan tyhjänä, saattaa se pienestä itsepurkauksesta huolimatta vaurioitua, jolloin varauskyky pienenee huomattavasti.

Ei ole suositeltavaa pitää akkua jatkuvasti kytkettynä latauslaitteeseen.

Varastointivaatimukset

Säilytä akku mahdollisuuksien mukaan kuivassa, hyvin tuuletetussa tilassa. Suojaa akku kosteudelta ja vedeltä. Epäsuotuisissa sääolosuhteissa on suositeltavaa irrottaa akku eBike:sta ja säilyttää se suljetussa tilassa seuraavaan käyttökertaan asti.

Akkua voidaan varastoida lämpötilassa -10 °C ... $+60\text{ °C}$. Pitkää elinikää varten on kuitenkin varastointi n. 20 °C huonelämpötilassa eduksi.

Varmista, ettei suurinta sallittua varastointilämpötilaa ylitetä. Älä esim. jätä akkua kesällä autoon ja säilytä se poissa suorasta auringonvalosta.

Hoito ja huolto

Huolto ja puhdistus

Pidä akku puhtaana. Puhdista sitä varovasti kostealla, pehmeällä liinalla. Akkua ei saa upottaa veteen tai puhdistaa vesisuihkussa.

Jos akku ei enää toimi, käänny valtuutetun polkupyöräkaupiaan puoleen.

Huolto ja asiakasneuvonta

Käänny valtuutetun polkupyöräkaupiaan puoleen kaikkien akkuun liittyvien kysymysten kanssa.

- **Merkitse muistiin avaimessa 17 oleva numero.** Käänny valtuutetun polkupyöräkaupiaan puoleen, jos avain häviää. Ilmoita tällöin avaimen numero.

Valtuutettujen polkupyöräkauppioiden yhteystiedot löydät internetsivulta www.bosch-ebike.com

Kuljetus

Akut ovat vaara-ainelain määräysten alaisia. Yksityinen käyttäjä saa kuljettaa akkuja kadulla ilman erikoistoimenpiteitä.

Ammattimaisessa kuljetuksessa tai toimitetessa sivullisen kautta (esim.: lentorahti tai huolinta) on noudatettava pakkausta ja merkintää koskevia erikoisvaatimuksia (esim. ADR:n määräyksiä). Tällöin voi tarvittaessa käyttää vaara-ainesiantuntijaa lähetyksen valmistelussa.

Lähetä akkuja ainoastaan, jos kotelo on vaurioitumaton. Teippaa avoimet liittimet ja pakkaa akku niin, että se ei pääse liikkumaan pakkauksessa. Ota myös huomioon mahdolliset tarkemmat kansalliset määräykset.

Käänny valtuutetun polkupyöräkaupiaan puoleen kaikissa akkujen kuljetuksiin liittyvissä kysymyksissä. Kauppiaalta voit myös tilata sopivan kuljetuspakkauksen.

Hävitys



Toimita akut, lisätarvikkeet ja pakkausmateriaali ympäristöystävälliseen jätteiden kierrätykseen.

Älä heitä akkuja talousjätteisiin!

Vain EU-maita varten:



Eurooppalaisen direktiivin 2002/96/EY mukaan käyttökelpottomat sähkölaitteet ja eurooppalaisen direktiivin 2006/66/EY mukaan vialliset tai loppuun käytetyt akut/paristot täytyy kerätä erikseen ja toimittaa ympäristöystävälliseen kierrätykseen.

Luovuta käytöstä poistetut akut valtuutetulle polkupyöräkauppiaille.



Litiumioni:

Katso ohjeita kappaleessa "Kuljetus", sivu Suomi – 11.

Oikeus teknisiin muutoksiin pidätetään.

Latauslaite Charger

Turvallisuusohjeita



Lue kaikki turvallisuus- ja käyttöohjeet. Turvallisuusohjeiden ja käyttöohjeiden noudattamisen laiminlyönti saattaa johtaa sähköiskuun, tulipaloon ja/tai vakavaan loukkaantumiseen.

Säilytä kaikki turvallisuusohjeet ja käyttöohjeet myöhempää käyttöä varten.

Tässä käyttöohjeessa käytetty käsite ”akku” viittaa sekä vakioakkuihin (akut, joiden pidike on polkupyörän rungossa) että tavaratelineakkuihin (akut, joiden pidike on tavaratelineen alla).



Pidä latauslaite poissa sateesta ja kosteudesta. Jos vettä tunkeutuu latauslaitteen sisään on sähköiskun riski olemassa.

- ▶ **Lataa ainoastaan eBike:lle hyväksytyjä Bosch litiumioniakkuja, joiden teknisissä tiedoissa esiintyy mainittuja jännitteitä.** Muussa tapauksessa syntyy tulipalo- ja räjähdysvaara.
- ▶ **Pidä latauslaite puhtaana.** Likaantuminen lisää sähköiskun vaaraa.
- ▶ **Tarkista latauslaite, johto ja pistoke, ennen jokaista käyttöä. Älä käytä latauslaitetta, jos huomaat siinä olevan vaurioita. Älä avaa latauslaitetta itse ja anna ainoastaan ammattitaitoisten henkilöiden korjata sitä, alkuuperäisiä varaosia käyttäen.** Vahingoittuneet latauslaitteet, johdot tai pistokkeet kasvattavat sähköiskun vaaraa.
- ▶ **Älä käytä latauslaitetta helposti palavalla alustalla (esim. paperi, kangas jne.) tai palavassa ympäristössä.** Latauslaitteen kuumentuminen latauksen aikana synnyttää tulipalovaaran.
- ▶ **Jos akku vaurioituu tai sitä käytetään asiaan kuulumattomalla tavalla, saattaa siitä purkautua höyryä. Tuuleta raikkaalla ilmalla ja hakeudu lääkärin luo, jos haittoja ilmenee.** Höyryt voivat ärsyttää hengitysteitä.
- ▶ **Pidä lapsia silmällä.** Täten varmistat, että lapset eivät leiki latauslaitteen kanssa.
- ▶ **Lapset ja henkilöt, jotka fyysisten, aistillisten tai henkisten kykyjensä, kokemattomuutensa tai puuttuvan tietonsa takia eivät turvallisesti voi käyttää latauslaitetta eivät saa käyttää sitä ilman vastuullisen henkilön valvontaa tai neuvontaa.** Muussa tapauksessa on olemassa väärinkäytön ja loukkaantumisen vaara.
- ▶ **Liitä latauslaite asianmukaisesti maadoitettuun sähköverkkoon.** Pistorasiassa ja jatkojohdossa on oltava toimiva suojajohdin.
- ▶ **Lue ja noudata akun ja käyttövoimayksikön/käyttötietokoneen sekä eBike:si käyttöohjeiden turvallisuusohjeita.**
- ▶ Latauslaitteen pohjassa on lyhennelmä tärkeistä turvallisuusohjeista englanniksi, ranskaksi ja espanjaksi (grafiikkasivun kuvassa merkitty numerolla **28**), sisältö on seuraava:
 - Noudata käyttöohjetta turvallista käyttöä varten. Sähköiskun vaara.
 - Käytä vain kuivassa ympäristössä.
 - Lataa ainoastaan eBat100-199 akkuja. Muut akut voivat räjähtää ja aiheuttaa loukkaantumisia.
 - Älä vaihda verkkojohtoa. On olemassa tulipalo- ja räjähdysvaara.

Tuotekuvaus

Tekniset tiedot

Latauslaite	Charger	
Tuotenumero		0 275 007 900
Nimellisjännite	V _~	115/230
Taajuus	Hz	50/60
Akun latausjännite	V ₌	36
Latausvirta		
– Normaali lataus- käyttö	A	4
– Äänetön lataus	A	1
Sallittu latauslämpö- tila-alue	°C	0...+40
Latausaika (n. 8 Ah akkukapasiteetilla) n.		
– Normaali lataus- käyttö	h	2,5
– Äänetön lataus	h	8
Akkukennojen lukumäärä		10–80
Paino vastaa EPTA- Procedure 01/2003	kg	0,8
Suojausluokka		⊕/I
Tiedot koskevat 230 V nimellisjännitettä [U]. Poikkeavilla jännitteillä ja maakohtaisissa malleissa nämä tiedot voivat vaihdella.		

Kuvassa olevat osat (katso sivu 6–7)

Kuvassa olevien osien numerointi viittaa grafiikkasivussa olevaan latauslaitteen kuvaan.

- 14 Tavaratelineakku
- 15 Akun lataustilanäyttö
- 20 Vakioakku
- 23 Latauslaite
- 24 Tuuletusaukot
- 25 Laitehylsy
- 26 Verkkajännitteen valintakytkin
- 27 Laitepistoke
- 28 Latauslaitteen turvallisuusohjeet
- 29 Latauspainike
- 30 Käyttöilmaisin
- 31 Latauspistoke
- 32 Latauspistokkeen liitin

Käyttö

- **Aseta akku vain puhtaalle pinnalle.** Vältä etenkin lataushylsyn ja koskettimien likaantumista esim. hiekasta tai mullasta.

Käyttöönotto

Latauslaitteen liittäminen (katso kuvat G–H)

Aseta latauslaitteen verkkajännitteen valintakytkimellä **26** virtalähteeksi jännite. Voit valita 115 V ja 230 V vaihtoehdoista.

- **Ota huomioon verkkajännite!** Virtalähteen jännitteen tulee vastata laitteen tyyppikilvessä olevia tietoja. 230 V merkityt laitteita voidaan käyttää myös 220 V verkoissa.

Työnnä sitten verkkojohdon laitepistoke **27** latauslaitteen laitehylsyyn **25**.

Liitä verkkojohto (maakohtainen) sähköverkkoon. Latauslaitteessa oleva käyttöilmaisin **30** syytty.

- **Yhdistä latauslaite sähköverkkoon vasta, kun verkkajännitteen valintakytkimellä 26 on valittu oikea jännite.** Muussa tapauksessa latauslaite saattaa vaurioitua.

Kytke pois akku ja poista se eBike:n pidikkeestä. Lue ja noudata akun käyttöohjetta.

Työnnä latauslaitteen latauspistoke **31** akussa olevaan hylsyyn **32**. Latauslaitteessa oleva käyttöilmaisin **30** vilkkuu.

Lataustapahtuma

Lataustapahtuma alkaa heti kun latauslaite on kytketty akkuun ja sähköverkkoon.

Huomio: Lataustapahtuma on mahdollinen vain, jos akun lämpötila on sallitulla latauslämpötila-alueella.

Voit valita kahdesta lataustavasta: Normaali lataus **"FAST"** ja äänetön lataus **"SLOW"**. Käyttömuodossa **"SLOW"** lataus on äänetön.

Lataus	Normaali latauskäyttö "FAST"	Äänetön lataus "SLOW"
Latausvirta	4 A	1 A
Käyttöilmaisin 30	vilkkuu	palaa jatkuvasti
Latauslaitteen tuuletus	päällä	pois päältä

Kun latauslaite otetaan käyttöön, se on esiase-tettu normaalilataukselle. Vaihda lataustapa painamalla painiketta **29**.

► **Ole varovainen, jos kosketat latauslaitetta latauksen aikana. Käytä suojakäsineitä.** Latauslaite saattaa tulla hyvin kuumaksi, etenkin normaalilatauksella ja korkeassa ympäristön lämpötilassa.

Huomio: Varmista, että latauslaite on hyvin tuuletettu latauksen aikana ja että tuuletusaukot **24** kummallakin puolella ovat vapaat.

Lataustapahtuman aikana akussa olevat lataustilan näytön **15** LED:it palavat punaisina. Jokainen pysyvästi palaava LED vastaa latauksessa n. 20 % akun kapasiteetista. Vilkkuva LED näyttää seuraavan 20 % latauksen.

Akku on täysin ladattu, kun lataustilan näytön **15** kaikki viisi LED:iä palaa pysyvästi. Lataus keskeytyy automaattisesti.

Irrota latauslaite sähköverkosta ja akku latauslaitteesta.

Kun akku poistetaan latauslaitteesta se kytkeytyy automaattisesti pois päältä.

Voit nyt asettaa akun eBike:iin.

Viat – Syyt ja korjaus

Syy	Korjaus
Käyttöilmäisin 30 ei pala, lataaminen ei ole mahdollista	
valintakytkimellä 26 on valittu väärä verkkojännite	valitse oikea verkkojännite
pistoke on asennettu väärin	tarkista kaikki pistokeliitännät
akun koskettimet ovat likaisia	puhdistaa akun koskettimet varovasti
akku on liian kuuma tai liian kylmä	anna akun lämpötilan asettua, kunnes latauslämpötila-alue on saavutettu.
latauslaitteen tuuletusaukot 24 ovat tukossa tai peitettyjä	puhdistaa tuuletusaukot 24 ja aseta latauslaite hyvin tuuletettuun paikkaan
pistorasia, verkkojohto tai latauslaite on viallinen	tarkista verkkojännite, anna polkupyöräkauppiiaan tarkistaa latauslaite
akku on viallinen	vaihda akku

Hoito ja huolto

Huolto ja puhdistus

Huolehdi siitä, että latauslaitteen tuuletusaukot **24** ovat auki ja puhtaat latauksen aikana. Puhdistusta tarvittaessa tuuletusaukot pölynimurilla.

Käännä valtuutetun polkupyöräkauppiiaan puoleen, jos latauslaite menee rikki.

Huolto ja asiakasneuvonta

Käännä valtuutetun polkupyöräkauppiiaan puoleen kaikissa latauslaitteeseen liittyvissä kysymyksissä.

Valtuutettujen polkupyöräkauppioiden yhteystiedot löydät internetsivulta

www.bosch-ebike.com

Hävitys

Latauslaitteet, lisätarvikkeet ja pakkaukset tulee toimittaa ympäristöystävälliseen uusiokäyttöön.

Älä heitä latauslaitteita talousjätteisiin!

Vain EU-maita varten:



Eurooppalaisen vanhoja sähkö- ja elektroniikkalaitteita koskevan direktiivin 2002/96/EY ja sen kansallisten lakien muunnosten mukaan, tulee käyttökelvottomat sähkötyökalut kerätä erikseen ja toimittaa ympäristöystävälliseen uusiokäyttöön.

Oikeus teknisiin muutoksiin pidätetään.