

Active Line/Active Line Plus Performance Line/Cargo Line



PowerPack 300|400|500/PowerTube 400|500|625

BBS245 | BBR245 | BBS265 | BBR265 | BBS275 | BBR275 |
BBP280 | BBP281 | BBP282 | BBP283 | BBP290 | BBP291

Charger

BCS220 | BCS230 | BCS250

Purion

BUI210 | BUI215

Intuvia

BUI251 | BUI255

Nyon

BUI275

Kiox

BUI330

Drive Units

BDU250C | BDU255C | BDU250P | BDU250P CX | BDU290P
BDU310 | BDU350 | BDU365
BDU490P | BDU450 CX

eShift

Shimano: Nexus Di2, Alfine Di2, Deore XT Di2, XTR Di2 |
enviolo automatic+ (NuVinci optimized) | Rohloff: E-14 Speedhub
500/14



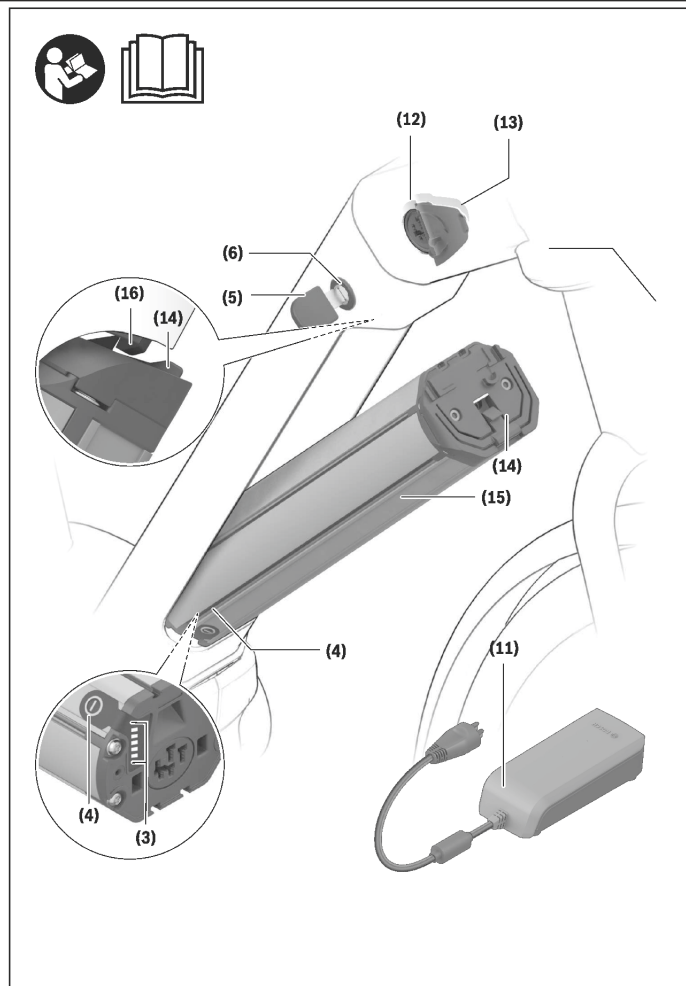
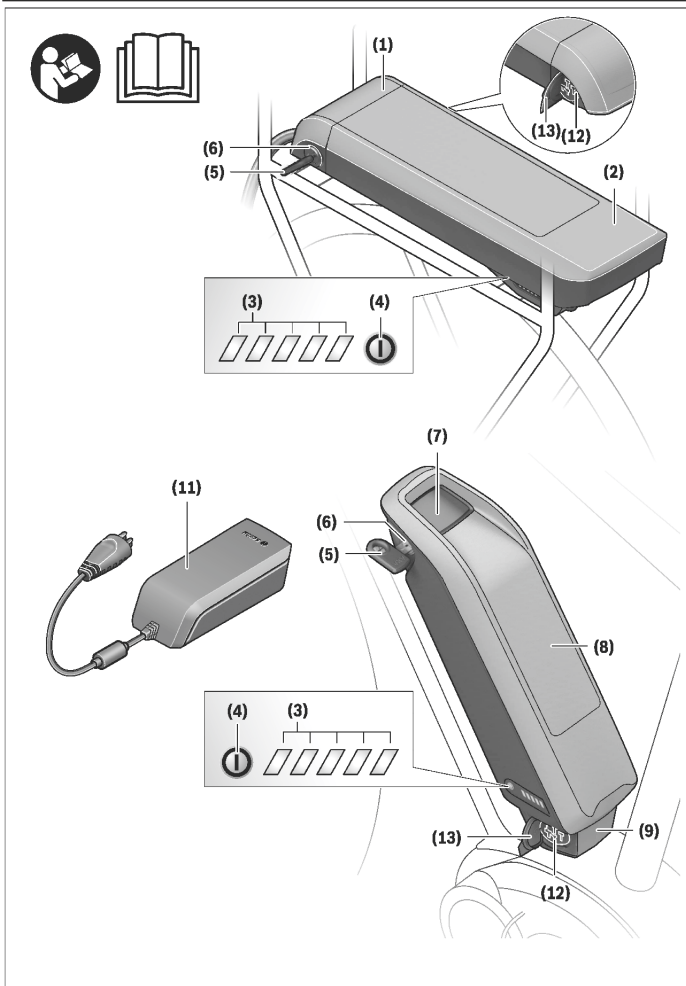
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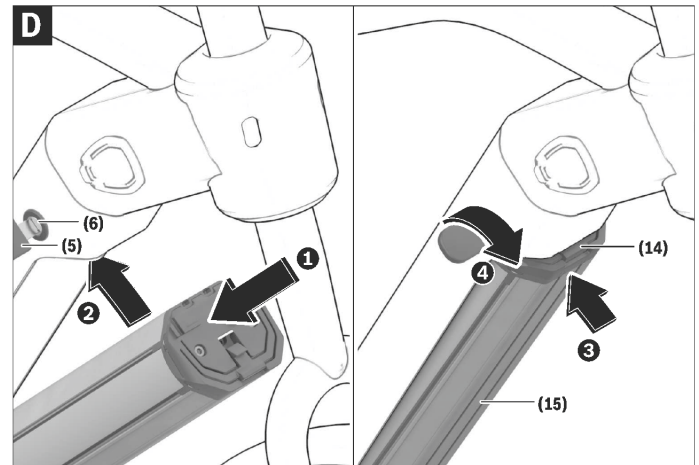
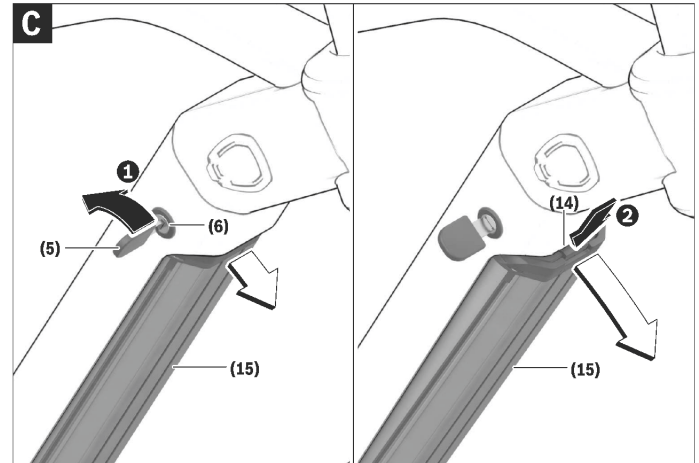
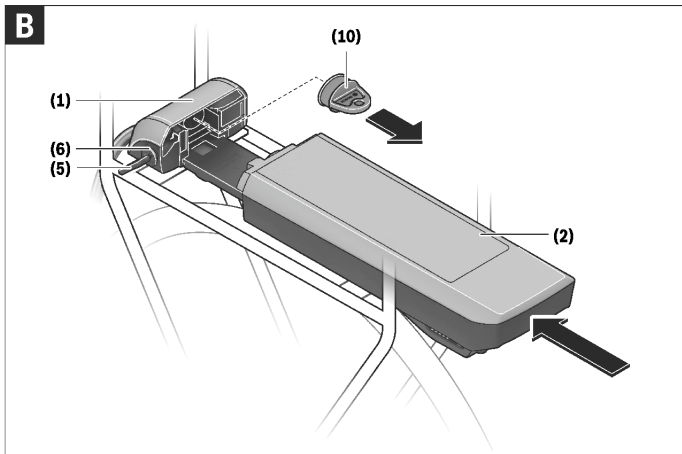
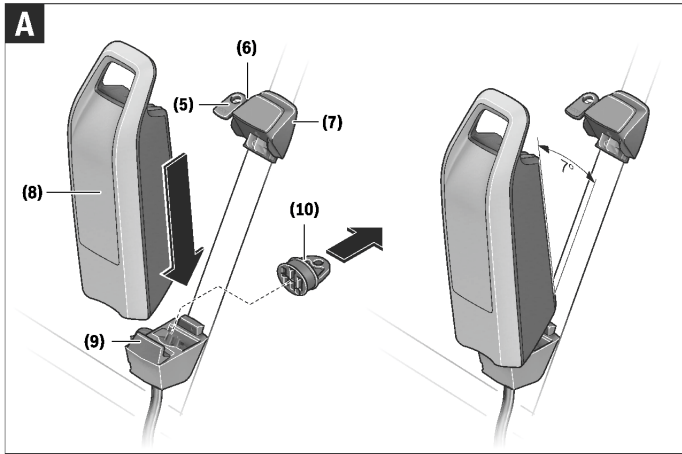
en Original operating instructions



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Safety instructions



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

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

Save all safety warnings and instructions for future reference.

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

► **Remove the battery from the eBike before beginning work** (e.g. inspection, repair, assembly, maintenance, work on the chain, etc.) on the eBike, transporting it with a car or aeroplane, or storing it. Unintentional activation of the eBike system poses a risk of injury.

► **Do not open the battery.** There is a risk of short-circuiting. Opening the battery voids any and all warranty claims.

► **Protect the battery against heat** (e.g. prolonged sun exposure), fire and from being submerged in water. **Do not store or operate the battery near hot or flammable objects.** There is a risk of explosion.

► **When the battery is not in use, keep it away from paper clips, coins, keys, nails, screws or other small metal objects that could make a connection from one terminal to another.** A short circuit between the battery terminals may cause burns or a fire. Short circuit damage which occurs in this instance voids any and all warranty claims against Bosch.

► **Avoid mechanical loads and exposure to high temperatures.** These can damage the battery cells and cause the flammable contents to leak out.

► **Do not place the charger or the battery near flammable materials. Ensure the battery is completely dry and placed on a fireproof surface before charging.** There is a risk of fire due to the heat generated during charging.

► **The eBike battery must not be left unattended while charging.**

► **If used incorrectly, liquid may leak from the battery. Contact with this liquid should be avoided. If contact accidentally occurs, rinse off with water. If the liquid comes into contact with your eyes, seek additional medical attention.** Liquid leaking from the battery may cause irritation or scalding.

► **Batteries must not be subjected to mechanical shock.** There is a risk of the battery being damaged.

► **The battery may give off fumes if it becomes damaged or is used incorrectly. Ensure the area is well ventilated and seek medical attention should you experi-**

ence any adverse effects. The fumes may irritate the respiratory system.

► **Only charge the battery using original Bosch chargers.** When using chargers that are not made by Bosch, the risk of fire cannot be excluded.

► **Use the battery only in conjunction with eBikes that have original Bosch eBike drive systems.** This is the only way in which you can protect the battery against dangerous overload.

► **Use only original Bosch batteries that the manufacturer has approved for your eBike.** Using other batteries can lead to injuries and pose a fire hazard. Bosch accepts no liability or warranty claims if other batteries are used.

► **Do not use the rack-mounted battery as a handle.** Lifting the eBike up by the battery can damage the battery.

► **Keep the battery away from children.**

► **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**

The safety of both our customers and our products is important to us. Our eBike batteries are lithium-ion batteries which have been developed and manufactured in accordance with the latest technology. We comply with or exceed the requirements of all relevant safety standards. When charged, these lithium-ion batteries contain a high level of energy. If a fault occurs (which may not be detectable from the outside), in very rare cases and under unfavourable conditions, lithium-ion batteries can catch fire.

Privacy notice

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

Product description and specifications

Product features

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

All representations of bicycle parts, apart from the batteries and their holders, are schematic and may differ from those on your own eBike.

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

- (1) Rack-mounted battery holder
- (2) Rack-mounted battery
- (3) Operation/state of charge indicator

- (4) On/off button
- (5) Key for the battery lock
- (6) Battery lock
- (7) Upper standard battery holder
- (8) Standard battery
- (9) Lower standard battery holder
- (10) Cover (supplied only on eBikes with two battery packs)

- (11) Charger
- (12) Socket for charging connector
- (13) Charging socket cover
- (14) PowerTube battery safety restraint
- (15) PowerTube battery
- (16) PowerTube battery safety hook

Technical data

Li-ion battery		PowerPack 300	PowerPack 400	PowerPack 500
Product code		BBS245 ^A B) BBR245 ^C C)	BBS265 ^A BBR265 ^C	BBS275 ^A BBR275 ^C
Rated voltage	V=	36	36	36
Nominal capacity	Ah	8.2	11	13.4
Energy	Wh	300	400	500
Operating temperature	°C	-5 to +40	-5 to +40	-5 to +40
Storage temperature	°C	-10 to +60	-10 to +60	-10 to +60
Permitted charging temperature range	°C	0 to +40	0 to +40	0 to +40
Weight, approx.	kg	2.5 ^A /2.6 ^C	2.5 ^A /2.6 ^C	2.6 ^A /2.7 ^C
Protection rating		IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)

A) Standard battery

B) Cannot be used in combination with other batteries in systems with two batteries

C) Rack-mounted battery

Li-ion battery		PowerTube 400	PowerTube 500	PowerTube 625
Product code		BBP282 horizontal BBP283 vertical	BBP280 horizontal BBP281 vertical	BBP291 horizontal BBP290 vertical
Rated voltage	V=	36	36	36
Nominal capacity	Ah	11	13.4	17.4
Energy	Wh	400	500	625
Operating temperature	°C	-5 to +40	-5 to +40	-5 to +40
Storage temperature	°C	-10 to +60	-10 to +60	-10 to +60
Permitted charging temperature range	°C	0 to +40	0 to +40	0 to +40
Weight, approx.	kg	2.9	2.9	3.5
Protection rating		IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)

Fitting

► **Ensure the battery is placed on clean surfaces only.**

Avoid getting dirt, e.g. sand or soil, in the charging socket and contacts in particular.

Testing the battery before using it for the first time

Test the battery before charging it for the first time or using it in your eBike.

To do this, press the on/off button (4) to switch the battery on. If none of the LEDs on the battery charge indicator (3) light up, the battery may be damaged.

If at least one (but not all) of the LEDs on the battery charge indicator (3) lights up, the battery will need to be fully charged before using it for the first time.

► **Do not charge or use batteries if they are damaged.** Contact an authorised bicycle dealer.

Charging the battery

► **Use only the charger included with your eBike or an identical original Bosch charger.** Only this charger is compatible with your eBike's lithium-ion battery.

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

To charge the battery, read and follow the instructions in the operating manual for the charger.

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

The battery has a temperature monitoring function which only allows it to be charged within a temperature range of **0 °C to 40 °C**.



If the temperature of the battery is outside this charging range, three of the LEDs on the battery charge indicator (3) will flash. Disconnect the battery from the charger and let it acclimatise.

Do not reconnect the battery to the charger until it has reached the correct charging temperature.

Battery charge indicator

The five green LEDs on the battery charge indicator (3) indicate the battery's state of charge when the battery is switched on.

Each LED represents approximately 20 % of the charging capacity. When the battery is fully charged, all five LEDs will be lit.

The battery's state of charge when switched on is also shown on the display of the on-board computer. Read and follow the instructions in the operating manuals for the drive unit and on-board computer.

If the battery capacity is less than 5 %, all the LEDs on the battery charge indicator (3) on the battery will go out. The display function of the on-board computer, however, will carry on working.

Once charging is complete, disconnect the battery from the charger and the charger from the mains.

Using two batteries for one eBike (optional)

The manufacturer can also equip an eBike with two batteries. In this case, one of the charging sockets will not be accessible or it will have been sealed with a sealing cap by the bicycle manufacturer. Only charge the batteries via the charging socket that is accessible.

► **Never open charging sockets that have been sealed by the manufacturer.** Charging batteries via a charging socket that used to be sealed may cause irreparable damage.

If you want to use an eBike that is designed for two batteries with only one battery, cover the contacts of the unused socket using the cover (10) provided. Otherwise there is a risk that the exposed contacts will cause a short circuit (see figures A and B).

Charging process for two batteries

If two batteries are fitted to an eBike, both batteries can be charged using the uncovered connection. To begin with, both batteries are charged one after the other until they reach approx. 80–90 % capacity, then they are both charged at the same time until full (the LED flashes on both batteries).

When the bike is in operation, power is drawn from both batteries on an alternating basis.

If you take the batteries out of the holders, you can charge each one individually.

Charging with one battery fitted

If only one battery is fitted, you can only charge the battery that has the accessible charging socket on the bike. You can only charge the battery with the sealed charging socket if you take the battery out of the holder.

Inserting and removing the battery

► **Always switch off the battery and the eBike system when inserting the battery into the holder or removing it from the holder.**

Inserting and removing the standard battery (see figure A)

In order for the battery to be inserted, the key (5) must be inserted into the lock (6) and the lock must be open.

To **insert the standard battery (8)**, place it onto the contacts on the lower holder (9) on the eBike (the battery can be tilted towards the frame by up to 7°). Tilt it into the upper holder (7) as far as possible until you hear it click into place.

Check that the battery is secure in all directions. Always secure the battery by closing the lock (6) – otherwise the lock may open and the battery may fall out of the holder.

Always remove the key (5) from the lock (6) after closing it. This prevents both the key from falling out and the battery from being removed by unauthorised third parties when the eBike is not in use.

To **remove the standard battery (8)**, switch it off and open the lock using the key (5). Tilt the battery out of the upper holder (7) and pull it out of the lower holder (9).

Inserting and removing the rack-mounted battery (see figure B)

In order for the battery to be inserted, the key (5) must be inserted into the lock (6) and the lock must be open.

To **insert the rack-mounted battery (2)**, slide it contacts first into the holder (1) on the rack until you hear it click into place.

Check that the battery is secure in all directions. Always secure the battery by closing the lock (6) – otherwise the lock may open and the battery may fall out of the holder.

Always remove the key (5) from the lock (6) after closing it. This prevents both the key from falling out and the battery from being removed by unauthorised third parties when the eBike is not in use.

To **remove the rack-mounted battery (2)**, switch it off and open the lock using the key (5). Pull the battery out of the holder (1).

Removing the PowerTube battery (see figure C)

► To remove the PowerTube battery (15), open the lock (6) using the key (5). The battery will be unlocked and fall into the safety restraint (14).

► Press on the safety restraint from above. The battery will be unlocked completely and fall into your hand. Pull the battery out of the frame.

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

Inserting the PowerTube battery (see figure D)

In order for the battery to be inserted, the key (5) must be inserted into the lock (6) and the lock must be open.

► To insert the PowerTube battery (15), place it so that its contacts are in the lower holder of the frame.

► Push the battery upwards until it is held by the safety restraint (14).

► Hold the lock open with the key and press the battery upwards until you hear it click into place. Check that the battery is secure in all directions.

► Always secure the battery by closing the lock (6) – otherwise the lock may open and the battery may fall out of the holder.

Always remove the key (5) from the lock (6) after locking it. This prevents both the key from falling out and the battery from being removed by unauthorised third parties when the eBike is not in use.

Operation

Start-up

► **Use only original Bosch batteries that the manufacturer has approved for your eBike.** Using other batteries can lead to injuries and pose a fire hazard. Bosch accepts no liability or warranty claims if other batteries are used.

Switching on/off

Switching on the battery is one way to switch on the eBike system. Read and follow the instructions in the operating manuals for the drive unit and on-board computer.

Before switching on the battery, i.e. the eBike system, make sure that the lock (6) is closed.

To **switch on the battery**, press the on/off button (4). Do not use any sharp or pointed objects to press the button. The LEDs on the indicator (3) will light up, indicating the battery's state of charge at the same time.

Note: If the battery capacity is less than 5 %, none of the LEDs on the battery charge indicator (3) will light up. Whether the eBike system is switched on is only visible on the on-board computer.

To **switch off the battery**, press the on/off button (4) again. The LEDs on the indicator (3) will go out. This will also switch the eBike system off.

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

The battery is protected against deep discharge, overloading, overheating and short-circuiting by the "Electronic Cell Protection (ECP)". In the event of danger, a protective circuit switches the battery off automatically.



If a fault is detected in the battery, two of the LEDs on the battery charge indicator (3) will flash. Contact an authorised bicycle dealer if this happens.

Recommendations for optimal handling of the battery

The service life of the battery can be extended if it is looked after well and especially if it is stored at the correct temperature.

As it ages, however, the capacity of the battery will diminish, even with good care.

A significantly reduced operating time after charging indicates that the battery has deteriorated. You can replace the battery.

Recharging the battery before and during storage

When you are not going to use the battery for an extended period (longer than three months), store it at a state of charge of around 30 % to 60 % (when two to three of the LEDs on the battery charge indicator (3) are lit).

Check the state of charge after six months. If only one of the LEDs on the battery charge indicator (3) is lit, charge the battery back up to around 30 % to 60 %.

Note: If the battery is stored with no charge for an extended period of time, it may become damaged despite the low self-discharge and the battery capacity could be significantly reduced.

Leaving the battery permanently connected to the charger is not recommended.

Storage conditions

If possible, store the battery in a dry, well-ventilated place. Protect it against moisture and water. When the weather conditions are bad, it is advisable to remove the battery from the eBike and store it in a closed room until you use it next, for example.

Store the eBike batteries in the following locations:

- In a room with a smoke alarm
- Away from combustible or easily flammable objects
- Away from heat sources

Store the batteries at temperatures between **0 °C** and **20 °C**. Never store them at temperatures below **-10 °C** or

above 60 °C. To ensure that the service life is as long as possible, storage at approx. 20 °C (room temperature) is recommended.

Make sure that the maximum storage temperature is not exceeded. Do not leave the battery in your car in the summer, for example, and store it away from direct sunlight.

Leaving the battery on the bicycle for storage is not recommended.

Maintenance and servicing

Maintenance and cleaning

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

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

Clean and lightly grease the connector pins occasionally.

Please contact an authorised bicycle dealer if the battery is no longer working.

After-sales service and advice on using products

If you have any questions about the batteries, contact an authorised bicycle dealer.

- **Note down the key manufacturer and number on the key (5).** Contact an authorised bicycle dealer if you lose the key. Give them the name of the key manufacturer and the number on the key.

For contact details of authorised bicycle dealers, please visit www.bosch-ebike.com.

Transport

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

The batteries are subject to legislation on the transport of dangerous goods. Private users can transport undamaged batteries by road without having to comply with additional requirements.

When batteries are transported by commercial users or third parties (e.g. air transport or forwarding agency), special requirements on packaging and labelling (e.g. ADR regulations) must be met. When preparing items for shipping, a dangerous goods expert can be consulted as required.

Do not ship batteries if the housing is damaged. Apply tape over exposed contacts and pack the battery such that it cannot move around inside the packaging. Inform your parcel service that the package contains dangerous goods. Please also observe any additional national regulations should these exist.

If you have any questions about transporting the batteries, contact an authorised bicycle dealer. You can also order suitable transport packaging from the dealer.

Disposal



Batteries, accessories and packaging should be recycled in an environmentally friendly manner.

Do not dispose of batteries along with household waste.

Apply tape over the contact surfaces of the battery terminals before disposing of batteries.

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



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

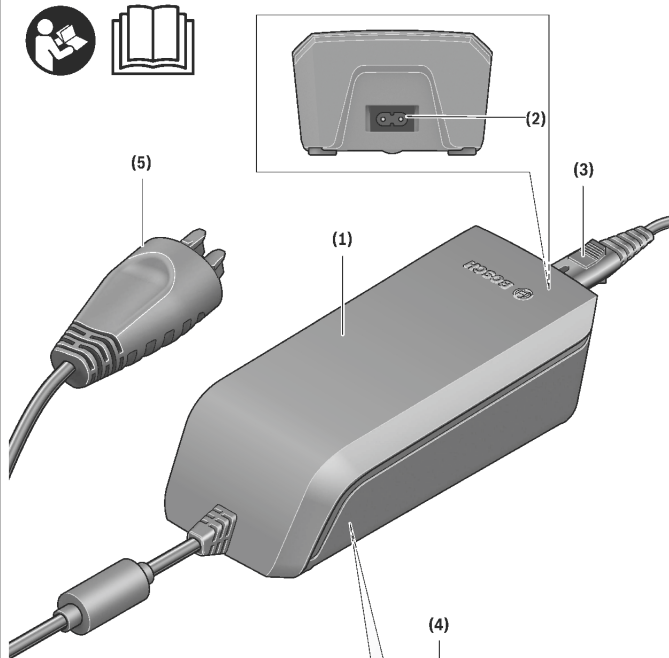
Please return batteries that are no longer usable to an authorised bicycle dealer.



Li-ion: Please observe the information in the section on (see "Transport", page English – 5).

Subject to change without notice.

Charger



**Standard Charger
Fast Charger**

eBike Battery Charger 36-4/230

0 275 007 907

Input: 230V ~ 50Hz 1.5A

Output: 36V --- 4A

Made in []

Robert Bosch GmbH, Reutlingen

Standard Charger BCS220

Li-Ion

USE ONLY with BOSCH Li-Ion batteries



eBike Battery Charger 36-6/230

0 275 007 918

Input: 230V ~ 50Hz 2.15A

Output: 36V --- 6A

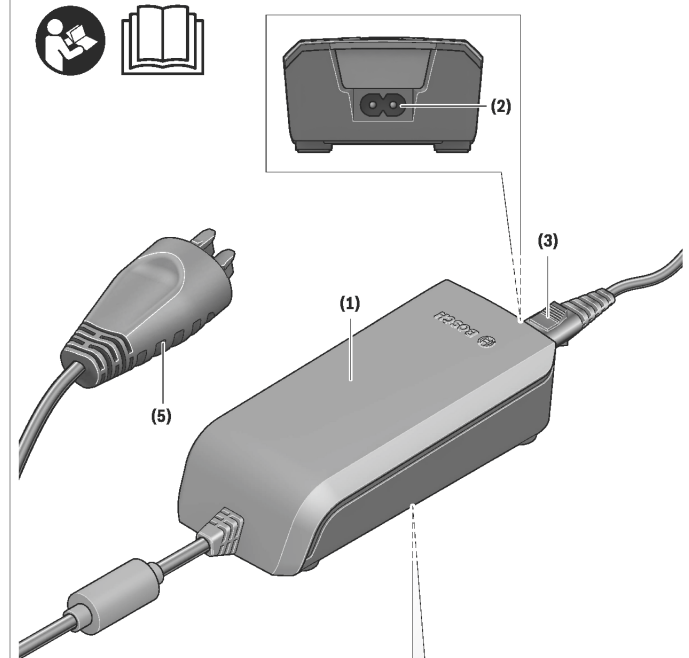
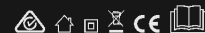
Made in []

Robert Bosch GmbH, Reutlingen

Fast Charger BCS250

Li-Ion

USE ONLY with BOSCH Li-Ion batteries



Compact Charger

eBike Battery Charger 36-230/36V

0 275 907 918

Input: 230V ~ 50Hz 1.5A

Output: 36V --- 4A

Made in []

Robert Bosch GmbH, Reutlingen

Compact Charger BCS220

Li-Ion

USE ONLY with BOSCH Li-Ion batteries



This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference from authorized radio communication devices. This device has been tested and found to comply with the requirements of this part of the FCC Rules. However, there are no warranties or liabilities for interference if you use this equipment in an unapproved manner.

ADVERTENCIA: Este equipo puede causar interferencia radioeléctrica. Su uso puede estar sujeto a las siguientes condiciones: (1) Este equipo no debe causar interferencia perjudicial y (2) este equipo debe aceptar cualquier interferencia recibida, incluida la proveniente de dispositivos de comunicación radio autorizados. Este equipo ha sido probado y se ha encontrado que cumple con los requisitos de esta parte de las Reglas de la FCC. Sin embargo, no se garantiza ni se asume responsabilidad por interferencias si se utiliza este equipo de una manera no aprobada.

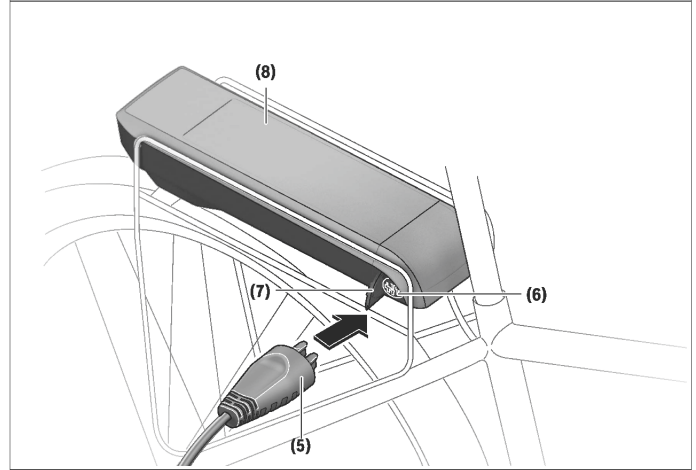
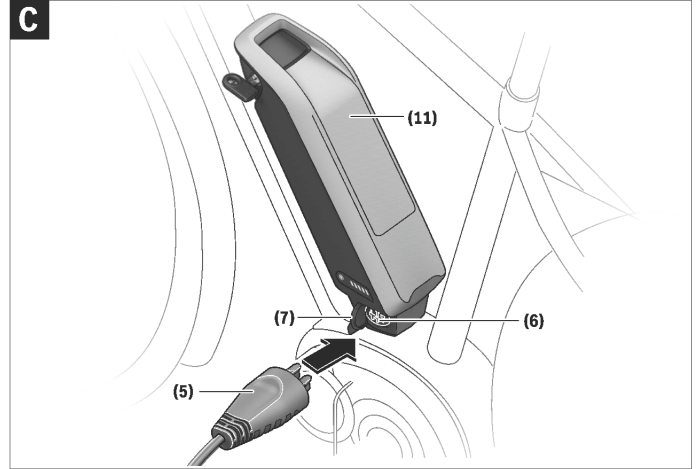
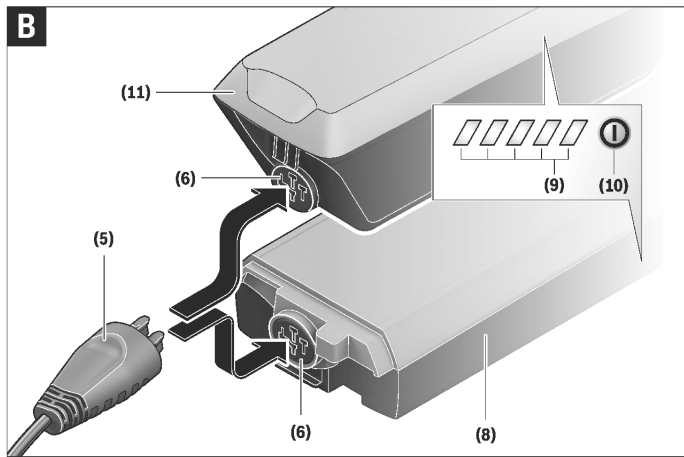
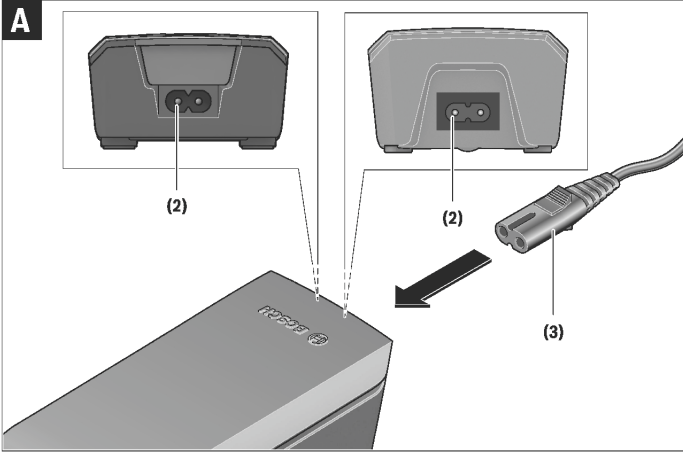
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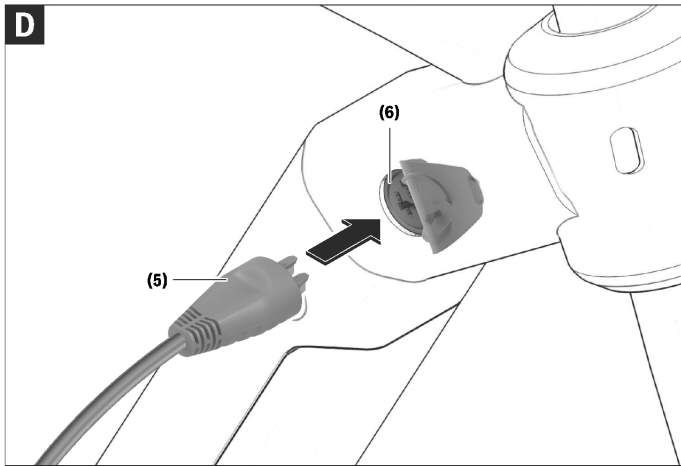
UL **BS**
LISTED
BATTERY CHARGER
 E472624

Li-Ion USE ONLY with BOSCH Li-Ion batteries

Charger



D



Safety instructions



Read all the safety and general instructions. Failure to observe the safety and general instructions may result in electric shock,

fire and/or serious injury.

Save all safety warnings and instructions for future reference.

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



Do not expose the charger to rain or wet conditions. If water enters a charger, there is a risk of electric shock.

- ▶ **Charge only Bosch lithium-ion batteries that are approved for use in eBikes. The battery voltage must match the battery charging voltage of the charger.** Otherwise there is a danger of fire and explosion.
- ▶ **Keep the charger clean.** Dirt poses a risk of electric shock.
- ▶ **Always check the charger, cable and plug before use. Stop using the charger if you discover any damage. Do not open the charger.** Damaged chargers, cables and plugs increase the risk of electric shock.
- ▶ **Do not operate the charger on an easily ignited surface (e.g. paper, textiles, etc.) or in a flammable environment.** There is a risk of fire due to the charger heating up during operation.
- ▶ **Take care if you touch the charger while it is charging. Wear protective gloves.** The charger can get very hot, especially when the ambient temperature is high.
- ▶ **The battery may give off fumes if it becomes damaged or is used incorrectly. Ensure the area is well ventilated and seek medical attention should you experience any adverse effects.** The fumes may irritate the respiratory system.
- ▶ **Do not place the charger or the battery near flammable materials. Ensure the battery is completely dry and placed on a fireproof surface before charging.** There is a risk of fire due to the heat generated during charging.
- ▶ **The eBike battery must not be left unattended while charging.**
- ▶ **Supervise children during use, cleaning and maintenance.** This will ensure that children do not play with the charger.
- ▶ **Children or persons who, owing to their physical, sensory or mental limitations or to their lack of experience or knowledge, are not capable of safely operating the charger may only use this charger under supervision or after having been instructed by a responsible person.** Otherwise, there is a danger of operating errors and injuries.

- ▶ **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**
- ▶ A sticker in English is adhered to the bottom of the charger (marked (4) in the diagram on the graphics page). This says: Use ONLY with BOSCH lithium-ion batteries.

Product description and specifications

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

Product features

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

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

- (1) Charger
- (2) Device socket
- (3) Device connector
- (4) Charger safety instructions
- (5) Charging connector
- (6) Socket for charging connector
- (7) Charging socket cover
- (8) Rack-mounted battery
- (9) Operation/state of charge indicator
- (10) Battery on/off button
- (11) Standard battery

Technical data

Charger		Standard Charger (36–4/230)	Compact Charger (36–2/100-230)	Fast Charger (36–6/230)
Product code		BCS220	BCS230	BCS250
Rated voltage	V ~	207...264	90...264	207...264
Frequency	Hz	47...63	47...63	47...63
Battery charging voltage	V =	36	36	36
Charging current (max.)	A	4	2	6 ^{A)}
Charging time				
– PowerPack 300, approx.	hrs	2,5	5	2
– PowerPack 400, approx.	hrs	3,5	6,5	2,5
– PowerPack 500, approx.	hrs	4,5	7,5	3
Operating temperature	°C	0 ... +40	0 ... +40	0 ... +40
Storage temperature	°C	-10 ... +50	-10 ... +50	-10 ... +50
Weight, approx.	kg	0,8	0,6	1,0
Protection rating		IP 40	IP 40	IP 40

A) The charging current is limited to 4A for the PowerPack 300 and for Classic + Line batteries.

The specifications apply to a rated voltage [U] of 230 V. These specifications may vary at different voltages and in country-specific models.

Operation

Start-up

Connecting the charger to the mains (see figure A)

► **Pay attention to the mains voltage.** The voltage of the power source must match the voltage specified on the rating plate of the charger. Chargers marked 230 V can also be operated at 220 V.

Plug the device connector (3) of the power cable into the device socket (2) on the charger.

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

Charging the removed battery (see figure B)

Switch the battery off and remove it from its holder on the eBike. When doing so, read and observe the operating instructions of the battery.

► Ensure the battery is placed on clean surfaces only.

Avoid getting dirt, e.g. sand or soil, in the charging socket and contacts in particular.

Plug the charging connector (5) of the charger into the socket (6) on the battery.

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

Switch the battery off. Clean the cover of the charging socket (7). Avoid getting dirt, e.g. sand or soil, in the charging socket and contacts in particular. Lift the cover of the charging socket (7) and plug the charging connector (5) into the charging socket (6).

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

When doing so, read and observe the operating instructions of the battery.

Charging process for two batteries

If two batteries are fitted to an eBike, both batteries can be charged using the uncovered connection. To begin with, both batteries are charged one after the other until they reach approx. 80–90 % capacity, then they are both charged at the same time until full (the LED flashes on both batteries).

When the bike is in operation, power is drawn from both batteries on an alternating basis.

If you take the batteries out of the holders, you can charge each one individually.

Charging process

The charging process begins as soon as the charger is connected to the battery or charging socket on the bike and to the mains.

Note: The charging process is only possible when the temperature of the eBike battery is within the permitted charging temperature range.

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

The battery can be charged with or without the on-board computer. When charging without the on-board computer, the charging progress can be observed via the battery charge indicator.

When the on-board computer is connected, a charging notification appears on the display.

The state of charge is displayed by the battery charge indicator (9) on the battery and by the bars on the on-board computer.

The LEDs on the battery charge indicator (9) will flash during the charging process. Each solid illuminated LED represents approximately 20 % of the charging capacity. The flashing LED indicates the next 20 % currently charging.

Once the eBike battery is fully charged, the LEDs extinguish immediately and the on-board computer is switched off. The charging process is terminated. The state of charge can be displayed for three seconds by pressing the on/off button (10) on the eBike battery.




Disconnect the charger from the mains and the battery from the charger.

When the battery is disconnected from the charger, the battery is automatically switched off.

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

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

Errors – causes and corrective measures

Cause	Corrective measures
 Battery defective	Two LEDs flash on the battery. Contact an authorised bike dealership.
 Battery too warm or too cold	Three LEDs flash on the battery. Disconnect the battery from the charger until the charging temperature range has been reached. Do not reconnect the battery to the charger until it has reached the correct charging temperature.
 The charger is not charging.	No LEDs flashing (one or more LEDs will remain permanently lit depending on the state of charge of the eBike battery). Contact an authorised bike dealership.
Charging not possible (no indicator on battery)	
Connector not attached properly	Check all connections.
Battery contacts dirty	Carefully clean the battery contacts.

Cause	Corrective measures
Socket outlet, cable or charger defective	Check the mains voltage, have the charger checked over by a bike dealership.
Battery defective	Contact an authorised bike dealership.

Maintenance and servicing

Maintenance and cleaning

If the charger fails, please contact an authorised bike dealership.

After-sales service and advice on using products

If you have any questions about the charger, contact an authorised bike dealership.

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

Disposal

Chargers, accessories and packaging should be recycled in an environmentally friendly manner.

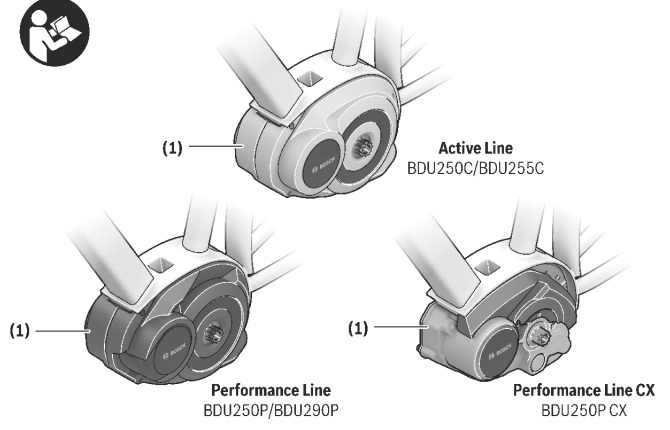
Do not dispose of chargers along with household waste.

Only for EU countries:

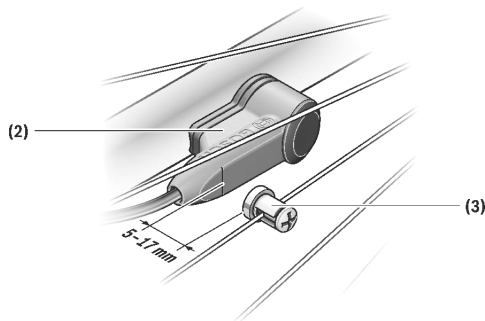


According to the European Directive 2012/19/EU on Waste Electrical and Electronic Equipment and its implementation into national law, chargers that are no longer usable must be collected separately and disposed of in an environmentally friendly manner.

Subject to change without notice.



A



Safety instructions



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

Save all safety warnings and instructions for future reference.

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

- ▶ **Do not open the drive unit yourself. The drive unit must only be repaired by qualified personnel using only original spare parts.** This will ensure that the safety of the drive unit is maintained. Unauthorised opening of the drive unit will render warranty claims null and void.
- ▶ **All components fitted to the drive unit and all other components of the eBike drive (e.g. chainring, chainring receptacle, pedals) must only be replaced with identical components or components that have been specifically approved by the manufacturer for your eBike.** This will protect the drive unit from overloading and becoming damaged.
- ▶ **Remove the battery from the eBike before beginning work (e.g. inspection, repair, assembly, maintenance, work on the chain, etc.) on the eBike, transporting it with a car or aeroplane, or storing it.** Unintentional activation of the eBike system poses a risk of injury.
- ▶ **The eBike system may switch on when the eBike is pushed backwards.**
- ▶ **The push assistance function must only be used when pushing the eBike.** There is a risk of injury if the wheels of the eBike are not in contact with the ground while using the push assistance.
- ▶ **When the push assistance is activated, the pedals may turn at the same time.** When the push assistance function is activated, make sure that there is enough space between your legs and the turning pedals to avoid the risk of injury.
- ▶ **Use only original Bosch batteries that the manufacturer has approved for your eBike.** Using other batteries can lead to injuries and pose a fire hazard. Bosch accepts no liability or warranty claims if other batteries are used.
- ▶ **Do not make any modifications to your eBike system or fit any other products that might increase the performance of your eBike system.** Doing so will generally reduce the service life of the system and risks damaging the drive unit and the bike. You also run the risk of losing the guarantee and warranty claims on the bicycle you have purchased. By handling the system improperly you are also endangering your safety and that of other road users, thus running the risk of high personal liability costs and possibly even criminal prosecution in the event of accidents that can be attributed to manipulation of the bicycle.

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

Privacy notice

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

Product description and specifications

Intended use

The drive unit is intended exclusively for driving your eBike and must not be used for any other purpose. In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

Product features

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

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

Technical data

Drive unit		Active Line		Performance Line		Performance Line CX
			Cruise	Speed		
Product code		BDU250C BDU255C	BDU250P	BDU290P		BDU250P CX
Continuous rated power	W	250	250	250		250
Torque at drive, max.	Nm	50	63	63		75
Rated voltage	V =	36	36	36		36
Operating temperature	°C	-5 to +40	-5 to +40	-5 to +40		-5 to +40
Storage temperature	°C	-10 to +50	-10 to +50	-10 to +50		-10 to +50
Protection rating		IP 54 (dust and splash-proof)	IP 54 (dust and splash-proof)	IP 54 (dust and splash-proof)		IP 54 (dust and splash-proof)
Weight, approx.	kg	4	4	4		4
Bicycle lights ^{A)}						
Voltage approx. ^{B,C)}				V =		6/12
Maximum power						
- Front light				W		8.4/17.4
- Taillight				W		0.6/0.6

- A) Depends on legal regulations, not possible in all country-specific models via the eBike battery
- B) The voltage level is preset and can only be changed by the bicycle dealer.

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

Inserting a bulb incorrectly can cause it to blow.

Assembly

Inserting and removing the battery

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

Checking the speed sensor (see figure A)

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

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

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

Operation

Start-up

Requirements

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

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

Switching the eBike system on/off

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

- If the on-board computer is already switched on when you insert it into the holder, the eBike system will be switched on automatically.
- When the on-board computer and the eBike battery are inserted, briefly press the On/Off button of the on-board computer.
- With the on-board computer inserted, push the On/Off button on the eBike battery (bicycle manufacturer-spe-

cific solutions are possible whereby there is no access to the battery On/Off button; see the battery operating instructions).

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

The drive is activated as soon as you start pedalling (except for in the push assistance function, (see "Switching the push assistance on/off", page English - 4)). The motor output depends on which assistance level is set on the on-board computer.

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

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

- Press the On/Off button of the on-board computer.
 - Switch off the eBike battery using its On/Off button (bicycle manufacturer-specific solutions are possible whereby there is no access to the battery On/Off button; see the bicycle manufacturer operating instructions).
 - Remove the on-board computer from its holder.
- If the eBike is not moved for approx. 10 min **and** no button is pressed on the on-board computer, the eBike system switches off automatically in order to save energy.

eShift (optional)

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

Assistance level	Assistance factor ^{A)}			
	Active Line	Performance Line	Performance Line CX	
		Cruise	Speed	
ECO	40%	50%	55%	50%
TOUR	100%	120%	120%	120%
SPORT/eMTB	150%	190%	190%	210% to 300% ^{B)}
TURBO	250%	275%	275%	300%

A) The assistance factor may vary in some models.

B) Maximum value

Setting the assistance level

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

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

If the manufacturer has configured the eBike with **eMTB Mode**, the assistance level **SPORT** is replaced by **eMTB**. In **eMTB Mode**, the assistance factor and torque are dynamically adjusted according to the force you exert on the pedals. **eMTB Mode** is only available for Performance Line CX drives.

The following assistance levels are available as a maximum:

- **OFF:** Motor assistance is switched off. The eBike can just be moved by pedalling, as with a normal bicycle. The push assistance cannot be activated at this assistance level.
- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:** Powerful assistance, for mountain biking and for cycling in urban traffic
- **eMTB:** Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance
- **TURBO:** Maximum assistance even at high pedalling speeds, for biking sports

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

Switching the push assistance on/off

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

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

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

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

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

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

Note: On some systems, the push assistance can be started directly by pressing the **WALK** button.

Note: A speed of 18 km/h (start assistance) can be reached on some systems.

Depending on the statutory specifications in some countries, the push assistance function may vary from region to region.

Back-pedalling function (optional)

On bikes with a back-pedalling function, the pedals rotate when the push assistance is switched on. If the rotating pedals are locked, the push assistance switches off.

Switching bicycle lights on/off

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

Notes on cycling with the eBike system

When does the eBike drive work?

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

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

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

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

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

Interaction between the eBike system and gear-shifting

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

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

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

Gaining initial experience

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

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

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

Influences on range

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

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

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

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

Taking care of your eBike

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

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

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

Maintenance and servicing

Maintenance and cleaning

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

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

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

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

After-sales service and advice on using products

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

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

Disposal



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

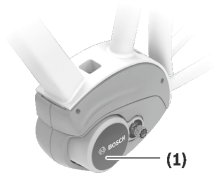
Do not dispose of eBikes and their components with household waste.



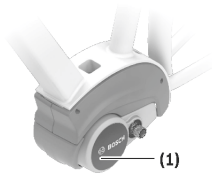
In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/draind batteries must be collected separately and recycled in an environmentally friendly manner.

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

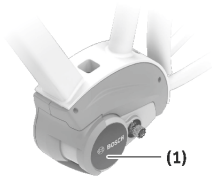
Subject to change without notice.



Active Line
BDU310

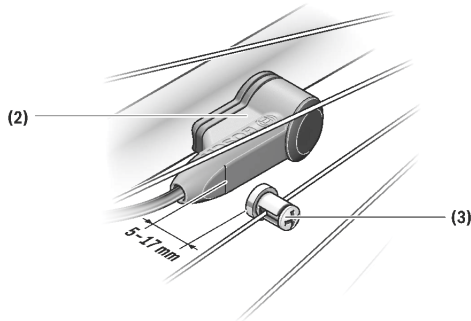


Active Line Plus
BDU350



Performance Line
BDU365

A



Safety instructions



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

Save all safety warnings and instructions for future reference.

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

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

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

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



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

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

Privacy notice

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

Product description and specifications

Intended use

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

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

Technical data

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

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

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

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

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

Inserting a bulb incorrectly can cause it to blow.

Assembly

Inserting and removing the battery

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

Checking the speed sensor (see figure A)

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

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

Product features

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

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

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

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

Operation

Start-up

Requirements

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

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

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

Switching the eBike system on/off

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

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

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

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

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

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

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

eShift (optional)

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

Setting the assistance level

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

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

The following assistance levels are available as a maximum:

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

- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:**
 - SPORT:** Powerful assistance, for mountain biking and cycling in urban traffic
 - eMTB:** Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance (**eMTB** only available in combination with the drive units BDU250P CX, BDU365, BDU450 CX and BDU460 CX. A software update may be required.)
- **TURBO:** Maximum assistance even at high pedalling speeds, for sport cycling

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

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

A) The assistance factor may vary in some models.

B) Maximum value

Switching the push assistance on/off

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

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

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

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

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

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

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

Switching bicycle lights on/off

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

Notes on cycling with the eBike system

When does the eBike drive work?

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

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

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

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

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

Interaction between the eBike system and gear-shifting

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

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

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

Gaining initial experience

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

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

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

Influences on range

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

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

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

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

Taking care of your eBike

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

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

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

Maintenance and servicing

Maintenance and cleaning

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

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

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

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

After-sales service and advice on using products

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

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

Disposal



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

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



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

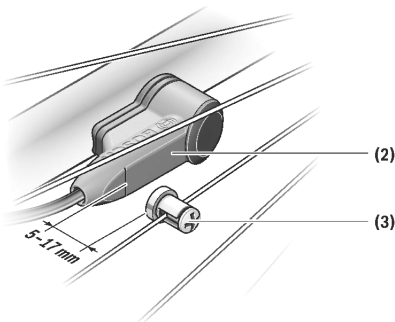
Please return Bosch eBike components that are no longer usable to an authorised bicycle dealer.

Subject to change without notice.



(1)

A



(2)

(3)

Safety instructions



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

Save all safety warnings and instructions for future reference.

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

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

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

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

▶ **Use only original Bosch batteries that the manufacturer has approved for your eBike.** Using other batteries can lead to injuries and pose a fire hazard. Bosch accepts no liability or warranty claims if other batteries are used.

▶ **Do not make any modifications to your eBike system or fit any other products that might increase the performance of your eBike system.** Doing so will generally reduce the service life of the system and risks damaging the drive unit and the bike. You also run the risk of losing the guarantee and warranty claims on the bicycle you have purchased. By handling the system improperly you are also endangering your safety and that of other road users, thus running the risk of high personal liability costs and possibly even criminal prosecution in the event of accidents that can be attributed to manipulation of the bicycle.



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

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

Privacy notice

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

Product description and specifications

Intended use

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

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

Technical data

Drive unit	Drive Unit	
	Performance Line CX/ Cargo Line	Drive Unit Performance Line Speed/ Cargo Line Speed
Product code	BDU450 CX	BDU490P
Continuous rated power	W	250
Torque at drive, max.	Nm	75
Rated voltage	V=	36
Operating temperature	°C	-5 to +40
Storage temperature	°C	-10 to +50
Protection rating	IP 54 (dust- and splash-proof)	IP 54 (dust- and splash-proof)
Weight, approx.	kg	3
The Bosch eBike system uses FreeRTOS (see http://www.freertos.org).		
Bicycle lights^{A)}		
Voltage approx. ^{B)}	V=	12
Maximum power		
- Front light	W	17.4
- Tail light	W	0.6

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

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

Inserting a bulb incorrectly can cause it to blow.

Assembly

Inserting and removing the battery

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

Checking the speed sensor (see figure A)

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

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

Product features

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

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

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

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

Operation

Start-up

Requirements

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

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

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

Switching the eBike system on/off

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

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

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

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

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

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

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

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

eShift (optional)

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

Setting the assistance level

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

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

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

The following assistance levels are available as a maximum:

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

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

A) The assistance factor may vary in some models.

B) Maximum value

Switching the push assistance on/off

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

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

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

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

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

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

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

Switching bicycle lights on/off

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

Notes on cycling with the eBike system

When does the eBike drive work?

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

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

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

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

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

Interaction between the eBike system and gear-shifting

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

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

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

Gaining initial experience

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

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

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

Influences on range

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

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

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

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

Taking care of your eBike

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

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

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

Maintenance and servicing

Maintenance and cleaning

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

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

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

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

After-sales service and advice on using products

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

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

Disposal



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

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

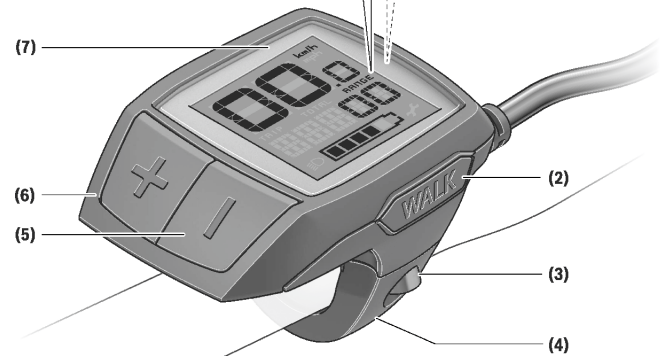
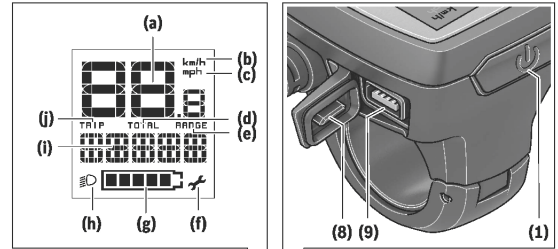
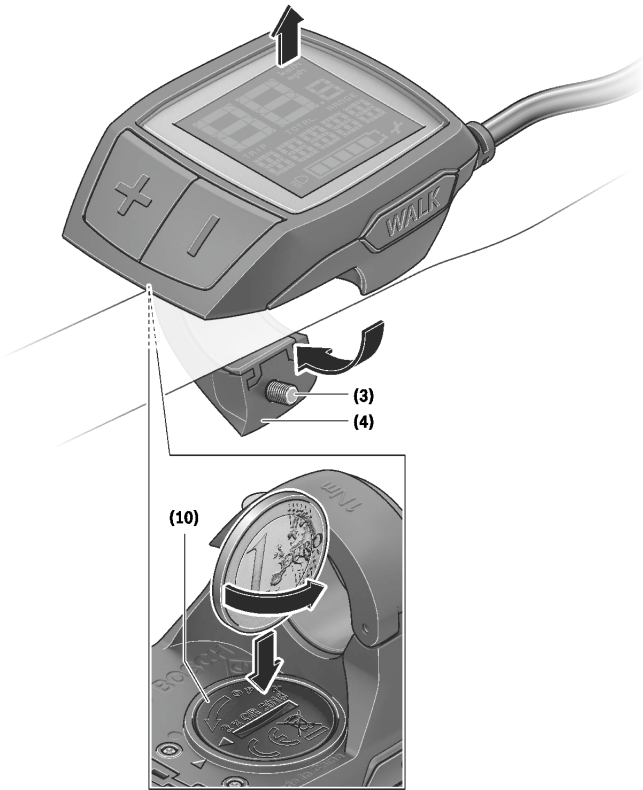


In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/draind batteries must be collected separately and recycled in an environmentally friendly manner.

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

Subject to change without notice.

A



Safety instructions



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

Save all safety warnings and instructions for future reference.

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

► **Do not allow yourself to be distracted by the on-board computer's display.** If you do not focus exclusively on the traffic, you risk being involved in an accident. If you want to make entries in your on-board computer other than switching the assistance level, stop and enter the appropriate data.

► **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**

Product description and specifications

Intended use

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

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

Product features

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

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

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

Display elements of on-board computer

- (a) Speedometer
- (b) km/h unit indicator
- (c) mph unit indicator

- (d) Total distance indicator **TOTAL**
- (e) Range indicator **RANGE**
- (f) Service indicator ↗
- (g) Battery charge indicator
- (h) Illumination indicator
- (i) Assistance level indicator/value indicator
- (j) Trip distance indicator **TRIP**

Technical data

On-board computer	Purion	
Product code		BUI210 BUI215
Batteries ^(A)	2 × 3 V	CR2016
Operating temperature	°C	-5...+40
Storage temperature	°C	-10...+50
Protection rating ^(B)	IP 54	(dust and splash proof)
Weight, approx.	kg	0.1

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

B) When the USB cover is closed
The Bosch eBike system uses FreeRTOS (see <http://www.freertos.org>).

Operation

Symbols and their Meaning

Symbol	Explanation
	Short button press (less than 1 second)
	Medium button press (between 1 second and 2.5 seconds)
	Long button press (longer than 2.5 seconds)

Start-up

Prerequisites

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

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

Switching the eBike system on/off

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

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

The drive is activated as soon as you start pedalling (except if you are using the push-assistance function or if the assistance level is set to **OFF**). The motor output depends on the settings of the assistance level on the on-board computer.

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

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

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

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

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

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

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

Energy supply of the on-board computer

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

Changing the batteries (see figure A)

If the on-board computer shows **LOW BAT** on the display, remove the on-board computer from the handlebars by unscrewing the fastening screw (3) of the on-board computer. Open the battery compartment cover (10) using a suitable coin, remove the used batteries and insert new CR2016 batteries. You can obtain the batteries recommended by Bosch from your bicycle dealer.

When inserting the batteries, ensure that the polarity is correct.

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

Switching the push assistance on/off

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

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

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

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

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

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

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



Setting the assistance level

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



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

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

- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:**
SPORT: Powerful assistance, for mountain biking and cycling in urban traffic
eMTB: Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance (**eMTB** only available in combination with the drive units BDU250P CX, BDU365, BDU450 CX and BDU480 CX. A software update may be required.)
- **TURBO:** Maximum assistance even at high pedalling speeds, for sport cycling

To **increase** the assistance level, briefly  press the button **+** (6) on the on-board computer repeatedly until the required assistance level appears on the indicator (1). To **decrease** the assistance level briefly press  the button **-** (5). If the display is set to **TRIP**, **TOTAL** or **RANGE**, the selected assistance level will only be superimposed briefly (for approx. one second) on the display when switching over.

Switching bicycle lights on/off

For the model which has the bike lights powered by the eBike system, a medium-length press  of the button **+** will switch on the front and rear lights simultaneously. To switch off the bike lights, press and hold  the button **+**.

The lighting symbol (h) is displayed when the light is on.

The on-board computer saves the light status and activates this saved status accordingly after a restart.


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

Displays and configurations of the on-board computer


Battery charge indicator

The battery charge indicator (g) displays the eBike battery's state of charge. The state of charge of the eBike battery can also be checked on the LEDs of the battery itself.

In the indicator (g), each bar in the battery symbol represents approximately 20 % capacity:

 The eBike battery is fully charged.



 The eBike battery should be recharged.

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


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



Speed and distance indicators

The speedometer (a) always displays the current speed.

Indicator (i) always displays the last setting as standard. Repeated medium-length presses  of the button **-** will display the trip distance **TRIP**, the total distance **TOTAL** and the range of the battery **RANGE** one after the other. (Briefly pressing  the button **-** will decrease the assistance level.)

To **reset** the trip distance **TRIP**, select the trip distance **TRIP** and simultaneously press and hold  the buttons **+** and **-**. The display will initially show **RESET**. If you continue to press both buttons, the trip distance **TRIP** will be set to **0**.
















To **reset** the range of the battery **RANGE**, select the battery range **RANGE** and simultaneously press and hold  the buttons **+** and **-**. The display will initially show **RESET**. If you continue to press both buttons, the trip distance **TRIP** will be set to **0**.

You can switch the displayed values from kilometres to miles by holding down  the button **-** and briefly pressing  the on/off button (1).

The versions of the subsystems and their model part numbers can be displayed for the purposes of servicing, provided the subsystems divulge this information (dependent on the subsystem). With the system **switched off**, simultaneously press the buttons **-** and **+** and then press the on/off button (1).

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

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

Action	Buttons	Duration
Switch on on-board computer		Any
Switch off on-board computer		Any
Increase assistance	+ 	
Decrease assistance	- 	
Display TRIP , TOTAL , RANGE , assistance modes	- 	
Switch on bike lights	+ 	
Switch off bike lights	+ 	
Reset trip distance	- + 	
Activate push assistance	WALK	1. 
Implement push assistance	+	2. Any
Switch from kilometres to miles	- 	1. Keep pressed 2. 
Display the versions ^{A)B)}	- + 	1. Keep pressed 2. 
Adjust display brightness ^{C)}	- +  - or +	1. Keep pressed 2. 

- A) The eBike system must be switched off.
 B) The information is shown as scrolling text.
 C) The display must be switched off.

Error code display

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

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

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

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

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

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

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


Maintenance and servicing

Maintenance and cleaning

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

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

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

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

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

After-sales service and advice on using products

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

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

Disposal



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

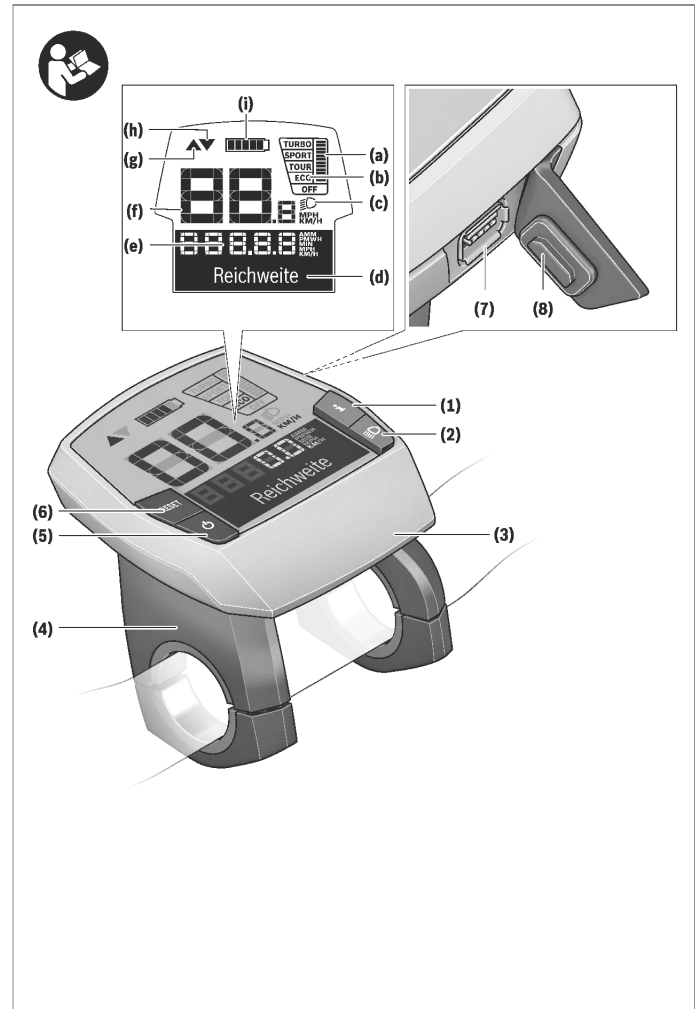
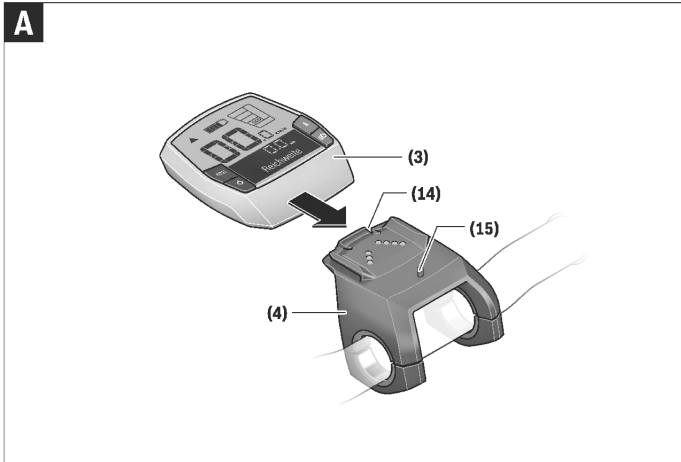
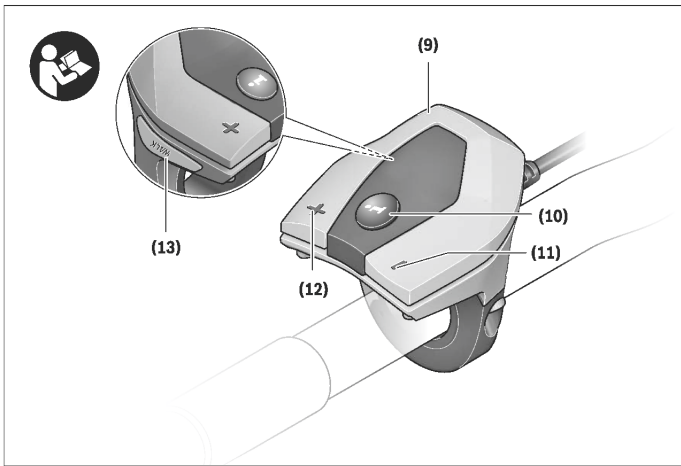
Do not dispose of eBikes and their components with household waste.



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

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

Subject to change without notice.



Safety instructions



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

Save all safety warnings and instructions for future reference.

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

► **Do not allow yourself to be distracted by the on-board computer's display.** If you do not focus exclusively on the traffic, you risk being involved in an accident. If you want to make entries in your on-board computer other than switching the assistance level, stop and enter the appropriate data.

► **Do not use the on-board computer as a handle.** Lifting the eBike up by the on-board computer can cause irreparable damage to the on-board computer.

► **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**

Product description and specifications

Intended use

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

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

Product features

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

All illustrations of bike parts except for the drive unit, on-board computer (including operating unit), speed sensor and the corresponding holders are a schematic representation and may differ on your eBike.

- (1) Display function button i
- (2) Bike light button
- (3) On-board computer
- (4) Holder for on-board computer
- (5) On/off button for on-board computer
- (6) **RESET** button
- (7) USB port
- (8) Protective cover for the USB port
- (9) Operating unit
- (10) Display function button i on the operating unit
- (11) Decrease assistance level/scroll down button –

- (12) Increase assistance level/scroll up button +
- (13) Push assistance button **WALK**
- (14) Locking mechanism for on-board computer
- (15) Locking screw for on-board computer

USB charging cable (Micro A – Micro B)^{A)}

A) Not depicted, available as an accessory

Display elements of on-board computer

- (a) Drive unit assistance indicator
- (b) Assistance level indicator
- (c) Illumination indicator
- (d) Text indicator
- (e) Value indicator
- (f) Speedometer
- (g) Gear change recommendation: Higher gear
- (h) Gear change recommendation: Lower gear
- (i) Battery charge indicator

Technical data

On-board computer		Intuvia
Product code		BUI251/BUI255
Max. USB port charging current	mA	500
USB port charging voltage	V	5
USB charging cable ^{A)}		1 270 016 360
Operating temperature	°C	-5 to +40
Storage temperature	°C	-10 to +50
Charging temperature	°C	0 to +40
Internal lithium-ion battery	V mAh	3.7 230
Protection rating ^{B)}		IP 54 (dust and splash proof)
Weight, approx.	kg	0.15

A) Not included with the product as standard

B) When the USB cover is closed

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

Fitting

Inserting and removing the battery

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

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

To fit the on-board computer (3), slide it forwards into the holder (4).

To remove the on-board computer (3), press the locking mechanism (14) and slide the on-board computer forwards out of the holder (4).

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

The on-board computer can be secured in place to prevent it from being removed from the holder. To do so, remove the holder (4) from the handlebars. Put the on-board computer in the holder. Screw the locking screw (15) (M3 thread, 8 mm long) from below into the thread provided in the holder. Mount the holder back onto the handlebars.

Please note: The locking screw is not designed to prevent theft.

Operation

Prerequisites

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

- A sufficiently charged battery is inserted (see battery operating instructions).
- The on-board computer is properly inserted in the holder (see "Fitting and removing the on-board computer (see figure A)", page English – 1).
- The speed sensor is connected properly (see drive unit operating instructions).

Switching the eBike system on/off

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

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

The drive is activated as soon as you start pedalling (except if you are using the push-assistance function or if the assistance level is set to **OFF**). The motor output depends on the settings of the assistance level on the on-board computer.

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

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

- Press the on/off button of the on-board computer.

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

- Remove the on-board computer from its holder.

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

eShift (optional)

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

Energy supply of the on-board computer

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

If the on-board computer is removed from the holder (4), the energy is supplied via an internal battery. If the internal battery is weak when the on-board computer is switched on, **<Attach to bike>** will appear on the text indicator (d) for 3 s. The on-board computer will then turn off again.

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

You can also charge the on-board computer via the USB port. To do this, open the protective cap (8). Connect the USB port (7) of the on-board computer via a suitable USB cable to a standard USB charger or the USB port of a current (5 V charging voltage, max. 500 mA charging current). **<USB connected>** will appear on the text indicator (d) of the on-board computer.

Switching on/shutting down the on-board computer

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

To **switch off** the on-board computer, press the on/off button (5).

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

► **If you are not going to be using your eBike for several weeks, remove the on-board computer from its holder.** Store the on-board computer in a dry environment at room temperature. Regularly recharge the on-board computer's battery (at least every 3 months).

Battery charge indicator

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

Each bar of the battery symbol on the indicator **(i)** represents approximately 20 % of the capacity:



The eBike battery pack is fully charged.



The eBike battery pack should be recharged.



The LEDs of the battery charge indicator on the battery go out. The capacity for assisting the drive has been used up, and assistance is gently switched off. The remaining capacity is made available for the lighting and the on-board computer. The indicator flashes. The capacity of the eBike battery is enough for about two hours of lighting. This does not account for other consumers (e.g. automatic gearbox, charging external devices at the USB port).

If the on-board computer is removed from the holder **(4)**, the last displayed state of charge of the battery is saved. If an eBike is powered by two batteries, the battery charge indicator **(i)** displays the state of charge of both batteries.



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

Setting the assistance level

On the operating unit **(9)**, you can set the level of assistance you want the eBike drive to provide you with while pedalling. The assistance level can be changed at any time, even while cycling.

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

The following assistance levels are available as a maximum:

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

- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring

– SPORT/eMTB:

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

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

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

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

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

When the on-board computer is removed from the holder **(4)**, the assistance level that was last displayed is saved; the motor output indicator **(a)** remains empty.

Interaction between the eBike system and gear-shifting

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

Irrespective of the type of gear-shifting, it is advisable that you briefly stop pedalling when changing gear. This will aid the gear change and reduces wear on the powertrain.

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

For this reason, follow the gear change recommendations provided by the indicators **(g)** and **(h)** on your display. If indicator **(g)** is displayed, you should change to a higher gear with lower cadence. If indicator **(h)** is displayed, you should select a lower gear with higher cadence.

Switching bike lights on/off

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

When the lighting is switched on, **<Lights on>** appears and when the lighting is switched off, **<Lights off>** appears for approx. 1 s on the text indicator **(d)**. The lighting symbol **(c)** is displayed when the light is on.

The on-board computer saves the light status and activates this saved status accordingly after a restart.

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

Switching the push assistance on/off

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

the lower the speed of the push assistance function (at full power).

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

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

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

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

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

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

Powering external devices via the USB port

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

Charging requires the on-board computer to be mounted and a sufficiently charged battery to be inserted in the eBike.

Open the protective cover **(8)** for the USB port on the on-board computer. Use a Micro A – Micro B USB charging cable (available from your Bosch eBike dealer) to connect the USB port on the external device to the USB port **(7)** on the on-board computer.

Once the electrical load has been disconnected, the USB port must be carefully resealed with the protective cover **(8)**.

USB connections are not waterproof. When cycling in the rain, do not connect any external devices and make sure that the USB port is fully sealed by the protective cover (8).

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

Displays and configurations of the on-board computer

Speed and distance indicators

The **speedometer (f)** always displays the current speed.

You can choose from the following functions in the **function display** (combination of text indicator **(d)** and value indicator **(e)**):

- **<Clock>**: Current time
- **<Max. speed>**: Maximum speed achieved since the last reset

- **<Avg. speed>**: Average speed achieved since the last reset
- **<Trip time>**: Journey time since the last reset
- **<Range>**: Estimated range of the available battery charge (at constant conditions such as assistance level, route profile, etc.)
- **<Odometer>**: Total distance travelled with the eBike (cannot be reset)
- **<Trip distance>**: Distance travelled since the last reset

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

To reset the **<Trip distance>**, **<Trip time>** and **<Avg. speed>**, switch to one of these three functions and then press the **RESET button (6)** until the indicator is set to zero. This will also reset the values of the other two functions.

To reset the **<Max. speed>**, switch to this function and then press the **RESET button (6)** until the indicator is set to zero.

To reset the **<Range>**, switch to this function and then press the **RESET button (6)** until the indicator is reset to the value of the factory setting.

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

Displaying/adjusting basic settings

The basic settings can be displayed and changed regardless of whether the on-board computer is inserted in the holder **(4)** or not. Some settings can only be viewed and changed when the HMI is inserted. Depending on the equipment of your eBike, some menu items may not be present.

To go to the basic settings menu, simultaneously press the **RESET button (6)** and the **i button (1)** until **<Configuration>** appears on the text indicator **(d)**.

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

To **change the basic settings**, press the **on/off button (5)** next to the **-** indicator to reduce or scroll down, or the **lighting button (2)** next to the **+** indicator to increase or scroll up. If the on-board computer is inserted in the holder **(4)**, it is also possible to change the settings with the **- (11)** and **+ (12)** buttons on the operating unit.

To exit the function and save a changed setting, press the **RESET button (6)** for three seconds.

You can choose between the following basic settings:

- **<- Clock +>**: Setting the current time. The time can be changed faster by pressing the setting buttons for a longer period.
- **<- Wheel circum. +>**: Changing the value pre-set by the manufacturer by $\pm 5\%$. This menu item is displayed only when the on-board computer is in the holder.

- <- **English** >>: Changing the language of the text indicator. You can choose between German, English, French, Spanish, Italian, Portuguese, Swedish, Dutch and Danish.
- <- **Unit km/mi** >>: Displaying the speed and distance in either kilometres or miles.
- <- **Time format** >>: Displaying the time in 12-hour or 24-hour format.
- <- **Shift recom. on** >>/<- **Shift recom. off** >>: Switching the shift recommendation display on or off.
- <- **Power-on hours**>: Total time travelled with the eBike (cannot be changed)
- <- **Displ. vx.x.x.x.x**>: Display software version.
- <- **DU vx.x.x.x.x**>: Drive unit software version. This menu item is displayed only when the on-board computer is in the holder.
- <- **DU SN xxxxxxxx/xxx**>: Drive unit serial number. This menu item is displayed only when the on-board computer is in the holder.
- <- **DU PN xxxxxxxxxx**>: Drive unit part number. This menu item is displayed only when the on-board computer is in the holder and the drive unit provides a part number.
- <- **Serv. MM/YYYY**>: This menu item is displayed if the bicycle manufacturer has set a fixed service date.
- <- **Serv. xx km/mi**>: This menu item is displayed if the bicycle manufacturer has set a service date after travelling a certain distance.
- <- **Bat. vx.x.x.x.x**>: Battery software version. This menu item is displayed only when the on-board computer is in the holder. When using two batteries, the software versions of both batteries are displayed successively.
- <- **Bat. PN xxxxxxxxxx**>: eBike battery part number. This menu item is displayed only when the on-board computer is in the holder and the eBike battery provides a part number. When using two batteries, the software versions of both batteries are displayed successively.
- <- **Cha. vx.x.x.x.x**>: Software version of the charger used to charge the eBike battery. This is displayed only if the charger provides the software version.
- If the eBike is equipped with ABS, the software version, serial number and part number of the ABS are also displayed.

Error code indication

The components of the eBike system are continuously and automatically monitored. If an error is detected, the corresponding error code will appear on the text indicator **(d)**. Press any button on the on-board computer **(3)** or on the operating unit **(9)** to return to the standard indication.

The drive may be automatically shut down, depending on the type of error. However, if you wish to continue cycling, you will always be able to do so without assistance from the drive. Before undertaking any other journeys, the eBike should be checked.

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

Code	Cause	Corrective measures
410	One or more buttons of the on-board computer are disabled.	Check whether any buttons are stuck, e.g. as a result of dirt finding its way in. Clean the buttons if need be.
414	Operating unit connection problem	Have the connections checked
418	One or more buttons on the operating unit are disabled.	Check whether any buttons are stuck, e.g. as a result of dirt finding its way in. Clean the buttons if need be.
419	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
422	Drive unit connection problem	Have the connections checked
423	eBike battery connection problem	Have the connections checked
424	Communication problem between components	Have the connections checked
426	Internal time-out error	Restart the system. If the problem persists, contact your Bosch eBike dealer. With this error, it is not possible to bring up the wheel circumference in the basic settings menu or to adjust it.
430	Internal battery of the on-board computer is flat	Charge the on-board computer (in the holder or via the USB port)
431	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
440	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
450	Internal software error	Restart the system. If the problem persists, contact your Bosch eBike dealer.

Code	Cause	Corrective measures
460	Error at USB port	Remove the cable from the USB port of the on-board computer. If the problem persists, contact your Bosch eBike dealer.
490	Internal fault of the on-board computer	Have the on-board computer checked
500	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
502	Bike light fault	Check the light and the associated wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
503	Speed sensor fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
504	Speed signal distortion detected.	Check that the spoke magnet is positioned correctly, and adjust it if necessary. Check that nothing has been tampered with (tuning). Drive assistance is reduced.
510	Internal sensor fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
511	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
530	Battery fault	Switch off the eBike, remove the eBike battery and reinsert the eBike battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
531	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
540	Temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature range. Restart the system. If the problem persists, contact your Bosch eBike dealer.
550	An impermissible load has been detected.	Remove the load. Restart the system. If the problem persists, contact your Bosch eBike dealer.
580	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
591	Authentication error	Switch off the eBike system. Remove then reinsert the battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
592	Incompatible component	Use a compatible display. If the problem persists, contact your Bosch eBike dealer.
593	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
595, 596	Communication error	Check the wiring to the transmission and restart the system. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
603	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery temperature error	The battery is outside of the permissible temperature range. Switch off the eBike system and allow the battery to either cool down or heat up to the permissible temperature range. Restart the system. If the problem persists, contact your Bosch eBike dealer.
606	External battery fault	Check the wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
610	Battery voltage error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
620	Charger fault	Replace the charger. Contact your Bosch eBike dealer.

Code	Cause	Corrective measures
640	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
655	Multiple battery faults	Switch off the eBike system. Remove then reinsert the battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
656	Software version error	Contact your Bosch eBike dealer so that they can perform a software update.
7xx	Transmission fault	Please observe the operating instructions provided by the transmission manufacturer.
800	Internal ABS fault	Contact your Bosch eBike dealer.
810	Implausible signals from the wheel speed sensor	Contact your Bosch eBike dealer.
820	Fault in the wire to the front wheel speed sensor	Contact your Bosch eBike dealer.
821 to 826	Implausible signals from the front wheel speed sensor The sensor disc may be missing, defective or fitted incorrectly; there is a significant difference in diameter between the front wheel and the rear wheel; extreme riding situation, e.g. riding solely on the rear wheel	Restart the system and carry out a test ride lasting at least two minutes. The ABS indicator light must go out. If the problem persists, contact your Bosch eBike dealer.
830	Fault in the wire to the rear wheel speed sensor	Contact your Bosch eBike dealer.
831 833 to 835	Implausible signals from the rear wheel speed sensor The sensor disc may be missing, defective or fitted incorrectly; there is a significant difference in diameter between the front wheel and the rear wheel; extreme riding situation, e.g. riding solely on the rear wheel	Restart the system and carry out a test ride lasting at least two minutes. The ABS indicator light must go out. If the problem persists, contact your Bosch eBike dealer.
840	Internal ABS fault	Contact your Bosch eBike dealer.
850	Internal ABS fault	Contact your Bosch eBike dealer.
860, 861	Fault in the power supply	Restart the system. If the problem persists, contact your Bosch eBike dealer.
870, 871 880 883 to 885	Communication error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
889	Internal ABS fault	Contact your Bosch eBike dealer.
890	ABS indicator light is defective or missing; ABS may not be working.	Contact your Bosch eBike dealer.
No display	Internal fault of the on-board computer	Restart your eBike system by switching it off and back on.

Maintenance and servicing

Maintenance and cleaning

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

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

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

The bicycle manufacturer or dealer may also base the service date on the distance travelled and/or a period of time. In this case, the on-board computer displays a message telling you when the service date is due for 4 seconds each time it is switched on.

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

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

After-sales service and advice on using products

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

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

Transport

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

Disposal



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

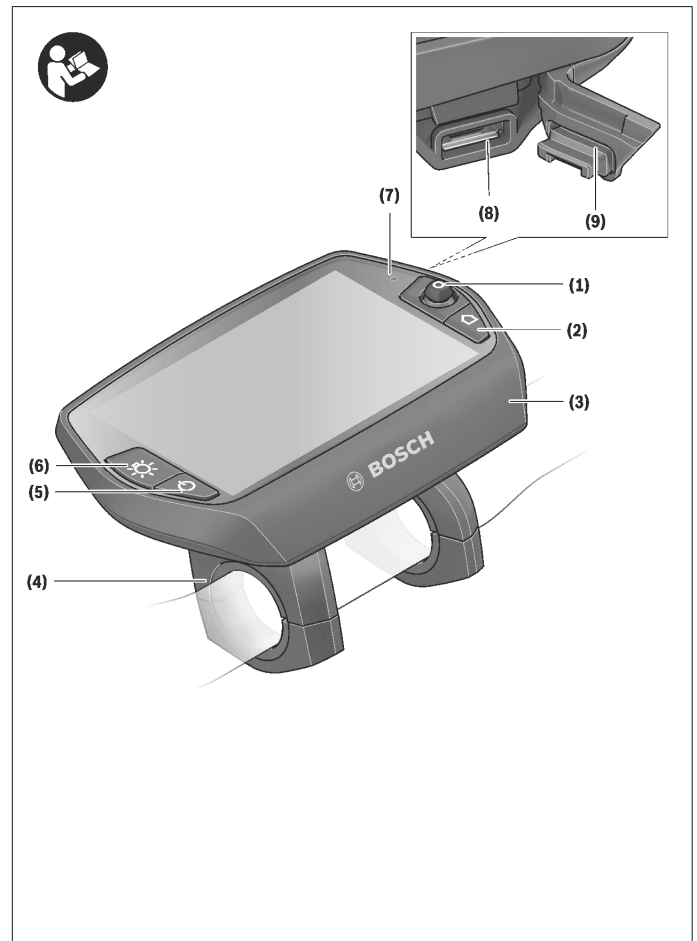
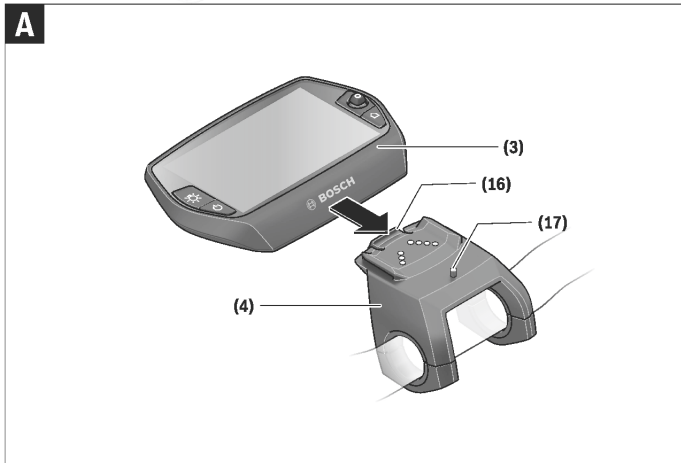
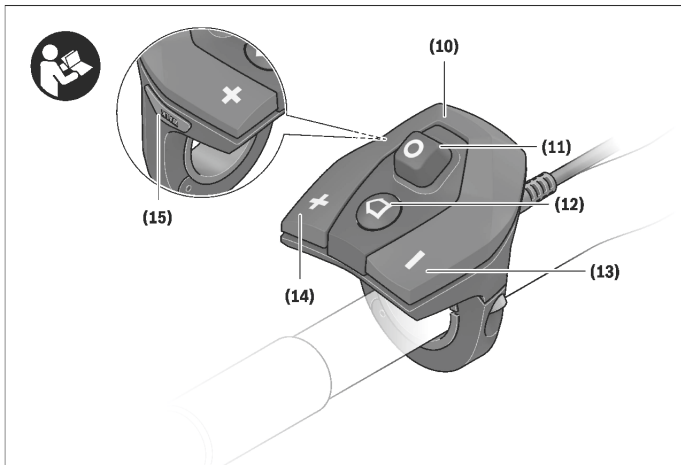
Do not dispose of eBikes and their components with household waste.



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

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

Subject to change without notice.



Safety instructions



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

Save all safety warnings and instructions for future reference.

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

- ▶ **Do not allow yourself to be distracted by the on-board computer's display.** If you do not focus exclusively on the traffic, you risk being involved in an accident. If you want to make entries in your on-board computer other than switching the assistance level, stop and enter the appropriate data.
- ▶ **Before beginning any exercise programme, seek advice from a doctor about the level of activity that is suitable for you.** This is the only way to avoid potential physical overexertion.
- ▶ **When using a heart rate monitor, the heart rate displayed may be distorted by electromagnetic interference.** The heart rates displayed are for reference only. No liability can be accepted for consequences caused by incorrectly displayed heart rates.
- ▶ **The Nyon is not a medical product.** The values displayed in <Fitness> mode may differ from the actual values.
- ▶ **Do not open the on-board computer.** Opening the on-board computer may damage it beyond repair and void any warranty claims.
- ▶ **Do not use the on-board computer as a handle.** Lifting the eBike up by the on-board computer can cause irreparable damage to the on-board computer.
- ▶ **Use the Nyon on-board computer only with the associated operating unit, which has its own joystick.** The joystick on the operating unit has the same range of functions as the joystick on the on-board computer itself.
- ▶ **Caution!** When using the on-board computer with Bluetooth®, this may cause interference that affects other devices and systems, aeroplanes and medical devices (e.g. pacemakers, hearing aids). Likewise, injury to people and animals in the immediate vicinity cannot be excluded entirely. Do not use the on-board computer with Bluetooth® in the vicinity of medical devices, petrol stations, chemical plants, areas with a potentially explosive atmosphere or on blast sites. Do not use the on-board computer with Bluetooth® in aeroplanes. Avoid using the on-board computer near your body for extended periods.
- ▶ The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Bosch eBike Systems is under licence.
- ▶ **The on-board computer is equipped with a wireless interface. Local operating restrictions, e.g. in aeroplanes or hospitals, must be observed.**

- ▶ **Read and observe the safety warnings and directions contained in all the eBike system operating instructions and in the operating instructions of your eBike.**

Safety information relating to the navigation system

- ▶ **Do not plan your routes whilst you are cycling. Stop and wait until you are stationary before entering a new destination.** If you do not focus exclusively on the traffic, you risk being involved in an accident.
- ▶ **Abandon your route if the navigation system suggests a path or road that is too ambitious, risky or dangerous for you based on your cycling ability.** Have your navigation system propose an alternative route.
- ▶ **Do not ignore any road signs, even if the navigation system tells you to take a specific route.** The navigation system cannot take roadworks or temporary diversions into account.
- ▶ **Do not use the navigation system in situations that are safety-critical or unclear (road closures, diversions, etc.).** Always carry extra maps and means of communication with you.

Product description and specifications

Intended use

The Nyon on-board computer is designed to control Bosch eBike systems and display riding data. The Nyon is not suitable for navigation without a bicycle (for hikers or motorists).

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

Product features

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

All illustrations of bike parts except for the drive unit, on-board computer (including operating unit), speed sensor and the corresponding holders are a schematic representation and may differ from your eBike.

- (1) Joystick
- (2) Home button
- (3) On-board computer
- (4) Holder for on-board computer
- (5) On/Off button for on-board computer
- (6) Bike light button
- (7) Brightness sensor
- (8) USB port
- (9) Protective cover for the USB port

- (10) Operating unit
- (11) Joystick on the operating unit
- (12) Home button on the operating unit
- (13) Decrease assistance level button
- (14) Increase assistance level button
- (15) Start-assistance/push-assistance WALK button
- (16) Locking mechanism for on-board computer
- (17) Locking screw for on-board computer

USB charging cable (Micro A – Micro B)^{A)}

A) Not shown; available as an accessory

Technical data

On-board computer	Nyon	
Product code		BUI275
Total internal memory	GB	8
Max. USB port charging current	mA	500
USB port charging voltage	V	5
USB charging cable		1 270 016 360
Operating temperature	°C	-5 ... +40
Storage temperature	°C	-10 ... +50
Charging temperature	°C	0 ... +40
Internal lithium-ion battery	V	3.7
	mAh	710
Protection rating	IP x7 (water-tight)	
Supported Wi-Fi standards		802.11b/g/n (2.4 GHz)
Weight, approx.	kg	0.2
Wi-Fi		
- Frequency	MHz	2400–2480
- Transmission power	mW	<100
Bluetooth®		
- Frequency	MHz	2400–2480
- Transmission power	mW	<10

Declaration of Conformity

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

Fitting

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

To fit the on-board computer (3), slide it forwards into the holder (4).

To remove the on-board computer (3), press the locking mechanism (16) and slide the on-board computer forwards out of the holder (4).

- ▶ **Remove the on-board computer when you park the eBike.**

The on-board computer can be secured in place to prevent from being removed from the holder. To do so, remove the holder (4) from the handlebars. Put the on-board computer in the holder. Screw the locking screw (17) (M3 thread, 8 mm long) from below into the thread provided in the holder. Fit the holder back onto the handlebars.

Please note: The locking screw is not designed to prevent theft.

Operation

Starting up the eBike system

Requirements

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

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

Switching the eBike system on/off

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

- Slide the on-board computer onto the holder (4).
- Once the on-board computer and the eBike battery are fitted, briefly press the On/Off button (5) on the on-board computer.
- With the on-board computer fitted, press the On/Off button on the eBike battery (bicycle manufacturer-specific solutions are possible whereby there is no access to the battery On/Off button; see the battery operating instructions).

The drive is activated as soon as you start pedalling (except if you are using the push-assistance function or if the assistance level is set to **OFF**). The motor output depends on the settings of the assistance level on the on-board computer.

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

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

- Press the On/Off button (5) on the on-board computer for at least 1 second.
- Switch off the eBike battery using its On/Off button (bicycle manufacturer-specific solutions are possible whereby there is no access to the battery On/Off button; see the bicycle manufacturer operating instructions).
- Remove the on-board computer from its holder.

If no power is drawn from the eBike drive for about 10 minutes (e.g. because the eBike is not moving) and no

button is pressed on the on-board computer or the operating unit of the eBike, the eBike system, and therefore also the battery, will switch off automatically to save energy.

The Nyon operating system

The Nyon operating system consists of three components:

1. The Nyon on-board computer with operating unit
2. The **Bosch eBike Connect** smartphone app
3. The online portal at www.eBike-Connect.com

Many configurations and features can be managed and used on all components. Some configurations and features can be accessed or operated only via certain components. Data is synchronised automatically when a *Bluetooth®*/Internet connection is available. The following table provides an overview of the available features.

Functions of the on-board computer

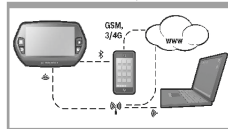
A

Functions of the smartphone app

B

Functions of the online portal

C



	A	B	C
Login/registration	✓	✓	✓
Changes configurations	✓	✓	✓
Records riding data	✓		
Displays riding data in real time	✓		
Processes/analyses riding data		✓	✓
Creates user-defined displays		✓	✓
Displays the current location ^{A)}	✓	✓	✓
Navigation	✓		
Route planning	✓	✓	✓
Displays the remaining range (circle around the current location)	✓	✓	
Training effect in real time	✓		
Overview of journeys		✓	✓
Dashboard statistics	✓	✓	✓
Purchase premium features		✓	

A) GPS required

Premium features

The expanded features of the "Nyon" operating system can be expanded via the App Store for Apple iPhones and Google Play Store for Android devices through the purchase of "premium features".

In addition to the free **Bosch eBike Connect** app, there are a number of fee-based premium features. A detailed list of the additional apps that are available can be found in the online operating instructions at www.Bosch-eBike.com/nyon-manual.

Power supply of the on-board computer

If the on-board computer is in the holder (4), a sufficiently charged eBike battery is inserted into the eBike and the eBike system is switched on, then the on-board computer battery is powered by the eBike battery.

If the on-board computer is removed from the holder (4), the power is supplied by the on-board computer battery. If the on-board computer battery's charge is running low, a warning message appears on the display.

To charge the on-board computer battery, slide the on-board computer back onto the holder (4). Note that if you do not charge the eBike battery straight away, the eBike system will automatically switch off after 10 minutes of inactivity. If this happens, the on-board computer battery will also stop charging.

You can also charge the on-board computer via the USB port. To do this, open the protective cover (9). Use a Micro-USB cable to connect the USB port (8) on the on-board computer to a standard USB charger (not included with the product as standard) or to the USB port of a computer (5 V charging voltage; max. 500 mA charging current).

If the on-board computer is removed from the holder (4), all values for the functions are saved and can still be displayed. If the on-board computer's battery is not recharged, the date and time will be retained for up to 6 months. When the on-board computer is switched on again, the date and time are reset after the current location has been identified by GPS.

Please note: To maximise the lifespan of the on-board computer's battery, it should be recharged every 6 months.

Initial operation of the on-board computer

The Nyon is supplied with a partially charged battery. Before the first use, the Nyon battery must be fully (see "Power supply of the on-board computer", page English – 3) charged via the USB port or via the eBike system.

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

Registration on the on-board computer

- Switch on the on-board computer using the On/Off button (5).
- Use the joystick (1) to select your preferred language (select by pressing the joystick) and follow the instructions.

You have the following options for starting up the Nyon:

– <TEST RIDE>

You can perform a test ride without having to register in advance or to enter data. After shutting down the on-board computer, all riding data will be deleted.

– <SET UP> → <OFFLINE>

This is a very short registration process limited to the Nyon. Offline means in this case that your ride and user data are only saved locally on the on-board computer. Follow the instructions and choose one of the suggested answers. Entered data is retained after the Nyon is shut down, but will not be synchronised with the online portal or smartphone app.

– <SET UP> → <ONLINE> → <PHONE>

This is a complete registration process. Fit the Nyon onto the holder (4), download the **Bosch eBike Connect** app onto your smartphone and register via the app. Following registration, the riding data is stored and synchronised with the smartphone app and the online portal.

– <SET UP> → <ONLINE> → <WI-FI>

This is a complete registration process. Go to an access point of a Wi-Fi network. Fit the Nyon to the holder (4). After selecting a network and entering your ID and password, the Nyon then connects to the Wi-Fi network of your choice and you are directed to the online portal at www.eBike-Connect.com, where you can register. Following registration, the riding data is stored and synchronised with the online portal. You can then connect your Nyon to your smartphone (<Settings> → <Connections> → <Connect Smartphone>).

Registration via smartphone and Bluetooth® connection

A smartphone is not included with the product. An Internet connection is required for registering with a smartphone. Depending on the contract, this can incur costs from your telephone provider. An Internet connection is also required for synchronising data between the smartphone and online portal.

To make use of the full range of functions provided by your on-board computer, you need a smartphone with the Android operating system, version 4.0.3 or a later version, or iOS 8 or a later version. A list of tested/approved smartphones can be found in the online operating instructions at www.Bosch-eBike.com/nyon-manual.

Smartphones that use the above-mentioned operating systems but are not included in the list can also be connected to the on-board computer under certain circumstances. However, complete compatibility of the on-board computer with the smartphones not listed cannot be guaranteed.

Download the **Bosch eBike Connect** app to your smartphone from the App Store for Apple iPhones or Google Play Store for Android devices.

Launch the "Bosch eBike Connect" app and follow the instructions. Detailed operating instructions can be found online at www.Bosch-eBike.com/nyon-manual.

If the application **Bosch eBike Connect** is active and there is a *Bluetooth®* connection to your on-board computer, data between on-board computer and smartphone will sync automatically.

Online registration

Internet access is required for online registration. Open the **Bosch eBike Connect** online portal in your browser at www.eBike-Connect.com and follow the instructions. Detailed operating instructions can be found online at www.Bosch-eBike.com/nyon-manual.

Displays and configurations of the on-board computer

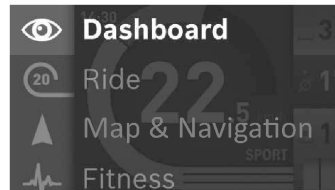
Please note: All screenshots showing the display and text on the following pages are from the approved software version. Due to the fact that the software is updated several times a year, the display and/or text may change slightly following an update.

Operating logic

You can make changes to the display as you are riding using the operating unit (10). This way, you can keep both hands on the handlebars while cycling.

The controls on the on-board computer provide you with the following options:

- You can switch the on-board computer on or off using the On/Off button (5).
- Using the **Home button (2)** or **(12)**, you can go to the operating mode that is set in the **<Settings>** → **<My Nyon>**.
- The bike lights can be switched on or off using the bike light button (6).
- Use the joystick (1) to navigate to each of the operating modes. Make a selection by pressing the joystick (1).



Push the joystick (1) to the left to superimpose the main menu on the active operating mode and to switch to the main menu (see figure above).

If you push the joystick (1) to the right while in the active operating mode, the configuration options for the current operating mode are superimposed on the current screen. Move the joystick to the desired option and select it by pressing the joystick (1).

Tip: If you are in an active operating mode, you can switch directly to the next operating mode by pushing the joystick (1) up or down. If the Nyon is on the eBike, **<Ride>** mode is displayed after the Nyon is switched on. If the Nyon is not mounted on the eBike, **<Dashboard>** mode is displayed.

Main menu

Symbol	Operating mode	Function
	<Dashboard>	This operating mode displays various pieces of statistical data, the connection status and the synchronisation status.

Symbol	Operating mode	Function
	<Ride>	This operating mode provides current riding data.
	<Map & Navigation>	You can use this operating mode to download map data based on Open Street Map (OSM) from the Internet. You can navigate using these maps.
	<Fitness>	You can use this operating mode to view various fitness-related information.
	<Settings>	This operating mode allows you to set the basic configurations of your on-board computer.

<Dashboard> mode

	This operating mode displays various pieces of statistical data, the connection status and the synchronisation status.
--	--



- d1 Clock
- d2 Charge indicator of the eBike battery
- d3 Connection status
- d4 Nyon version information
- d5 Nyon synchronisation information
- d6 Speed/light status indicator (with on-board computer mounted)
Charge indicator of the on-board computer's battery (with on-board computer removed)
- d7 Highest number of kilometres travelled in a month
- d8 Kilometres travelled in comparison to the previous month
- d9 Total kilometres
- d10 Daily kilometres travelled in the last 30 days

The following are synchronised:

- Saved routes and locations
- User-defined screens and riding modes
- User settings

Synchronisation is performed via Wi-Fi or *Bluetooth®*. If both connection types are deactivated, you will receive a corresponding fault message.

Ride mode

	This operating mode provides current riding data.
--	---



- r1 Clock
- r2 Own pedal power
- r3 Speed
- r4 Motor output
- r5 Assistance level indicator
- r6 Shift recommendation/eShift displays
- r7 Trip meter
- r8 Average speed
- r9 Remaining range
- r10 Charge indicator of the eBike battery

Map and Navigation mode

	You can use this operating mode to download map data based on Open Street Map (OSM) from the Internet. You can navigate using these maps.
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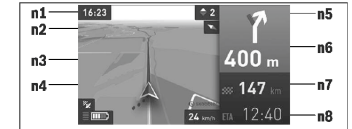
The map material suitable for the place of residence is installed by the bike dealer for the respective buyer. If required, additional maps can be downloaded via your **Bosch eBike Connect** smartphone app and transferred to your on-board computer. Detailed operating instructions can be found online at <http://www.Bosch-eBike.com/nyon-manual>. If you have an active Wi-Fi connection, it is possible to load any maps directly onto the Nyon by going to **<Settings>** → **<Map & Navigation>** → **<Map Manager>**. When you switch on the Nyon, it begins the satellite search to receive GPS signals. Once an adequate satellite signal is found, your current location is displayed on the map in **<Map & Navigation>** mode. In the case of unfavourable weather conditions or locations, the satellite search may take a little longer. If the application fails to find satellite signals over a prolonged period of time, restart the Nyon.

Pushing the joystick (1) to the right allows you to change the magnification of the map section by selecting the submenu on the right-hand edge. It also allows you to display the range of your eBike battery or choose from different navigation options. The magnification of the map section can also be changed by pressing the joystick.

The basic remaining range of the battery can be extended using the **Topo range** premium feature. The **Topo range** feature then calculates and displays the battery's remaining range, taking into consideration the topographic conditions. The calculation of the topographic range extends to 100 km maximum. Detailed operating instructions can be found online at <http://www.Bosch-eBike.com/nyon-manual>.

Your nearest **Bosch eBike experts** are also shown under **<Points of Interest>**. When you select a dealer, the route to it will be calculated and made available for you to select.

If you have entered the destination (town, street, house number), there are three different routes (**<Scenic>**, **<Fast>** and **<MTB>** (mountain bike)) will be provided for you to choose from. Alternatively, you can opt to be guided home, select one of the last destinations used, or choose from saved locations and routes. (Detailed operating instructions can be found online at <http://www.Bosch-eBike.com/nyon-manual>.) The selected route will be displayed as shown in the figure below.



- n1 Clock
- n2 Compass needle
- n3 Map
- n4 Speed
- n5 Shift recommendation
- n6 Turn instructions and distance to the next turn
- n7 Distance to destination
- n8 Estimated time of arrival at destination

During the navigation, the guidance (e.g. turn left in 50 metres) will also be displayed via a cross-fade in other operating modes.

By right-clicking on the joystick, you can also display the elevation profile of your route. It is also possible to explore the surrounding area by adjusting the map using the zoom function.

If you interrupt a journey for which you are using navigation and then call up **<Map & Navigation>**, you will be asked whether or not you wish to continue navigation. If you continue navigation, the navigation system will guide you to your last destination.

If you have imported GPX routes via the online portal, these will be transferred to your Nyon via *Bluetooth®* or via a Wi-Fi connection. You can start these routes when you wish. If you are near a route, you can have the navigation system guide you to the starting point or you can start navigating along the route immediately.

If you are using intermediate destinations, a message will inform you when you have reached an intermediate destination.

The Nyon is not suitable for navigation without a bicycle (for hikers or motorists).

At temperatures below 0 °C, the elevation measurement is likely to deviate significantly.

Fitness mode

	You can use this operating mode to view various fitness-related information.
--	--

Based on the activity levels you provided during registration, the effect of your previous activities will be displayed on your stamina level (training effect).

To check your heart rate, you can use a chest strap, which you can connect to the Nyon via *Bluetooth®*.

Compatible models can be found in the online manual at www.Bosch-eBike.com/nyon-manual.

A chest strap is not included with the product.



- f1 Clock
- f2 Current power/heart rate
- f3 Display of the current training effect
- f4 Training effect
- f5 Kilocalories burned
- f6 Current cadence
- f7 Current speed
- f8 Duration

You can use the submenus to reset the average values or switch to individualised displays. Detailed operating instructions can be found online at www.Bosch-eBike.com/nyon-manual.

Settings mode



This operating mode allows you to set the basic configurations of your on-board computer.

Please note: Some basic settings can only be changed when the Nyon is mounted on the holder (4). To access the **<Settings>** menu, push the joystick (1) down in the main menu until **<Settings>** is displayed.

Tip: If you press the joystick down long enough, you will also be able to access the **<Settings>** menu.

The following configurations can be implemented:

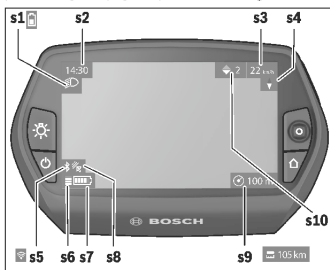
- **<Connections>**: You can configure the *Bluetooth®* settings, a new smartphone connection, a Wi-Fi connection or a heart rate monitor. When you enable Wi-Fi, the Nyon searches for available networks. Found networks will be displayed. Use the joystick (1) to select your desired network and enter the password.
- **<Map & Navigation>**: Here, you can configure the map display and turn on the automatic brightness setting, which adapts the display brightness depending on the ambient brightness.
- **<My Profile>**: Here, you can also choose to display the active user.
- **<My eBike>**: When the Nyon is mounted, you can change the default wheel circumference by ±5%.
- The bicycle manufacturer or dealer may base the service date on the distance travelled and/or a period of time.

The due date for the service is displayed under **<Service>**.

- Under **<Shift Recommendation>**, you can choose whether or not to have a prompt displayed when it is recommended that you change gears.
- If your eBike features **eShift**, you can also configure your eShift system here.
- A system information page provides an overview of the eBike components used. It displays the serial number, and hardware and software versions for each component, in addition to other key data which is relevant for the components.
- The current state of charge for the eBike battery is used displayed under the **<Battery status>** menu item.
- **<My Nyon>**: Here, you can search for updates, configure the home button, automatically set the counters such as trip meter, calories burned and average values to "0" every night, or reset the Nyon to the factory settings.
- Under **<Automatic brightness>**, the brightness of the display can be automatically adjusted.
- Under **<Altitude correction>**, you can adjust the value displayed to the actual elevation to compensate for weather-related changes.
- **<Region & Language>**: You can display the speed and distance in kilometres or miles, display the clock in 12- or 24-hour format, select the time zone and set your preferred language. The current time is automatically taken from the GPS signal.
- In the **<Help>** menu item, you will find a selection of FAQs (frequently asked questions), contact details, legal information and information about the system and licences.

Status indicators

Depending on the operating mode shown, all status indicators are not always displayed. Indicators already shown on the main screen will not be shown again. The position of the indicators may vary. If the on-board computer is taken out of its holder, the state of charge of the Nyon on-board computer battery is displayed in place of the bike light indicator.



s1 Bike light indicator/charge indicator of the Nyon battery

- s2 Clock display
- s3 Speed display
- s4 North indicator
- s5 *Bluetooth®*/Wi-Fi connection indicator
- s6 Assistance level indicator
- s7 Charge indicator of the eBike battery
- s8 GPS signal display
- s9 Zoom range/remaining range display
- s10 Shift recommendation

Nyon reset

If, contrary to expectations, the Nyon can no longer be operated, it can be reset by simultaneously pressing the (1), (2), (5) and (6) buttons. Carry out the reset only if absolutely necessary, as various configurations may be lost.

Switching on/shutting down the on-board computer

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

To **shut down** the on-board computer, press and hold the On/Off button (5) for more than 1 second.

If the Nyon is removed from the holder, the Nyon will automatically switch to energy-saving mode after 5 minutes of inactivity (backlighting off) and switches off automatically after a further 5 minutes.

Battery charge indicator

The battery charge indicator r10 (s7) displays the eBike battery's state of charge. The Nyon battery's state of charge is displayed by the indicator s1. The eBike battery's state of charge is also indicated by the LEDs on the eBike battery itself.

In the indicator r10, each bar in the battery symbol represents approximately 20 % capacity:

▣▣▣▣ The eBike battery is fully charged.

▣▣▣▣▣ The eBike battery should be recharged.

▣▣▣▣▣▣ The capacity for assisting the drive has been used up, and assistance is gradually switched off. The remaining capacity will be provided for the bike lights and the on-board computer.

The remaining capacity of the eBike battery is enough for about 2 hours of lighting. This does not take other electrical loads into account (e.g. automatic transmission, charging external devices using the USB port).

If the on-board computer is removed from the holder (4), the state of charge that was last displayed for the battery is saved.

Setting the assistance level

On the operating unit (10), you can set the level of assistance you want the eBike drive to provide you with while pedalling. The assistance level can be changed at any time, even while cycling.

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

If the manufacturer has configured the eBike with **eMTB Mode**, the assistance level **sPORT** is replaced by **eMTB Mode**, the assistance factor and torque are dynamically adjusted according to the force you exert on the pedals. **eMTB Mode** is only available for Performance Line CX drives.

The following assistance levels are available as a maximum:

- **OFF:** Motor assistance is switched off. The eBike can just be moved by pedalling, as with a normal bicycle. The push assistance cannot be activated at this assistance level.
- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:** **SPORT:** Powerful assistance, for mountain biking and for cycling in urban traffic
eMTB: Optimum assistance whatever the terrain, rapid acceleration when starting from a standstill, improved dynamics and top performance
- **TURBO:** Maximum assistance even at high pedalling speeds, for biking sports

To **increase** the assistance level, press the + (14) button on the operating unit repeatedly until the desired assistance level appears on the display. To **decrease** the assistance level, press the – (13) button.

The requested motor output is displayed in the indicator r4. The maximum motor output depends on the selected assistance level.

When the on-board computer is removed from the holder (4), the assistance level that was last displayed is saved; the motor output indicator r4 remains empty.

Switching the push-assistance function on/off

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

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

To activate the push-assistance function, briefly press the (15) button on your on-board computer. Once it is activated, press and hold the + button within 3 s. The eBike drive is now switched on.

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

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

After releasing the **+** button, the push-assistance function remains on standby for another 3 seconds. Pressing the **+** button again within this period will reactivate the push-assistance function.

Note: On some systems, the push assistance can be started directly by pressing the **WALK** button.

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

Switching bike lights on/off

On the model in which the lighting is powered by the eBike system, the front and rear lights can be switched on and off at the same time via the on-board computer using button **(6)**.

The lighting symbol **s1** is displayed when the light is on. Switching the bike lights on and off has no effect on the backlighting of the display.

Code	Cause	Corrective measures
410	One or more buttons of the on-board computer are disabled.	Check whether any buttons are stuck, e.g. as a result of dirt finding its way in. Clean the buttons if need be.
414	Operating unit connection problem	Have the connections checked
418	One or more buttons on the operating unit are disabled.	Check whether any buttons are stuck, e.g. as a result of dirt finding its way in. Clean the buttons if need be.
419	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
422	Drive unit connection problem	Have the connections checked
423	eBike battery connection problem	Have the connections checked
424	Communication problem between components	Have the connections checked
426	Internal time-out error	Restart the system. If the problem persists, contact your Bosch eBike dealer. With this error, it is not possible to bring up the wheel circumference in the basic settings menu or to adjust it.
430	Internal battery of the on-board computer is flat	Charge the on-board computer (in the holder or via the USB port)
431	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
440	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
450	Internal software error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
460	Error at USB port	Remove the cable from the USB port of the on-board computer. If the problem persists, contact your Bosch eBike dealer.
490	Internal fault of the on-board computer	Have the on-board computer checked
500	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
502	Bike light fault	Check the light and the associated wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
503	Speed sensor fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
510	Internal sensor fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.

eShift (optional)

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

Error code display

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

The drive may be automatically shut down, depending on the type of error. However, if you wish to continue cycling, you will always be able to do so without assistance from the drive. Before undertaking any other journeys, the eBike should be checked.

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

Code	Cause	Corrective measures
511	Internal drive unit fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
530	Battery fault	Switch off the eBike, remove the eBike battery and reinsert the eBike battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
531	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
540	Temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature range. Restart the system. If the problem persists, contact your Bosch eBike dealer.
550	An impermissible load has been detected.	Remove the load. Restart the system. If the problem persists, contact your Bosch eBike dealer.
580	Software version error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
591	Authentication error	Switch off the eBike system. Remove then reinsert the battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
592	Incompatible component	Use a compatible display. If the problem persists, contact your Bosch eBike dealer.
593	Configuration error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
595, 596	Communication error	Check the wiring to the transmission and restart the system. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery fault while charging	Unplug the charger from the battery. Restart the eBike system. Plug the charger into the battery. If the problem persists, contact your Bosch eBike dealer.
602	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
603	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery temperature error	The eBike is outside of the permissible temperature range. Switch off the eBike system and allow the drive unit to either cool down or heat up to the permissible temperature range. Restart the system. If the problem persists, contact your Bosch eBike dealer.
605	Battery temperature error while charging	Unplug the charger from the battery. Allow the battery to cool. If the problem persists, contact your Bosch eBike dealer.
606	External battery fault	Check the wiring. Restart the system. If the problem persists, contact your Bosch eBike dealer.
610	Battery voltage error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
620	Charger fault	Replace the charger. Contact your Bosch eBike dealer.
640	Internal battery fault	Restart the system. If the problem persists, contact your Bosch eBike dealer.
655	Multiple battery faults	Switch off the eBike system. Remove then reinsert the battery. Restart the system. If the problem persists, contact your Bosch eBike dealer.
656	Software version error	Contact your Bosch eBike dealer so that they can perform a software update.
7xx	Transmission fault	Please observe the operating instructions provided by the transmission manufacturer.

Code	Cause	Corrective measures
800	Internal ABS fault	Contact your Bosch eBike dealer.
810	Implausible signals from the wheel speed sensor. Contact your Bosch eBike dealer.	Contact your Bosch eBike dealer.
820	Fault in the wire to the front wheel speed sensor.	Contact your Bosch eBike dealer.
821 to 826	Implausible signals from the front wheel speed sensor. The sensor disc may be missing, defective or fitted incorrectly; there is a significant difference in diameter between the front wheel and the rear wheel; extreme riding situation, e.g. riding solely on the rear wheel.	Restart the system and carry out a test ride lasting at least two minutes. The ABS indicator light must go out. If the problem persists, contact your Bosch eBike dealer.
830	Fault in the wire to the rear wheel speed sensor.	Contact your Bosch eBike dealer.
831 833 to 835	Implausible signals from the rear wheel speed sensor. The sensor disc may be missing, defective or fitted incorrectly; there is a significant difference in diameter between the front wheel and the rear wheel; extreme riding situation, e.g. riding solely on the rear wheel.	Restart the system and carry out a test ride lasting at least two minutes. The ABS indicator light must go out. If the problem persists, contact your Bosch eBike dealer.
840	Internal ABS fault	Contact your Bosch eBike dealer.
850	Internal ABS fault	Contact your Bosch eBike dealer.
860, 861	Fault in the power supply	Restart the system. If the problem persists, contact your Bosch eBike dealer.
870, 871 880 883 to 885	Communication error	Restart the system. If the problem persists, contact your Bosch eBike dealer.
889	Internal ABS fault	Contact your Bosch eBike dealer.
890	ABS indicator light is defective or missing; ABS may not be working.	Contact your Bosch eBike dealer.
No display	Internal fault of the on-board computer	Restart your eBike system by switching it off and back on.

Powering external devices via the USB port

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

Charging requires the on-board computer to be mounted and a sufficiently charged battery to be inserted in the eBike. Open the protective cover (9) for the USB port on the on-board computer. Use a Micro-A – Micro-B USB charging cable (available from your Bosch eBike dealer) to connect the USB port on the external device to the USB port (8) on the on-board computer.

Once the electrical load has been disconnected, the USB port must be carefully resealed with the protective cover (9).

► **USB connections are not waterproof. When cycling in the rain, do not connect any external devices and make sure that the USB port is fully sealed by the protective cover (9).**

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

Notes on cycling with the eBike system

Taking care of your eBike

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

Keep the screen of your Nyon clean. Dirt can cause faulty brightness detection. The day/night changeover in navigation mode can be distorted.

An abrupt change in ambient conditions can cause the screen to fog up from inside. After a short time, the temperature equalises and the fog disappears.

Maintenance and servicing

Maintenance and cleaning

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

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

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

The bicycle manufacturer or dealer may also base the service date on the distance travelled and/or a period of time. In this case, the on-board computer displays a message telling you when the service date is due for 4 seconds each time it is switched on.

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

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

After-sales service and advice on using products

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

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

Transport

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

Disposal



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

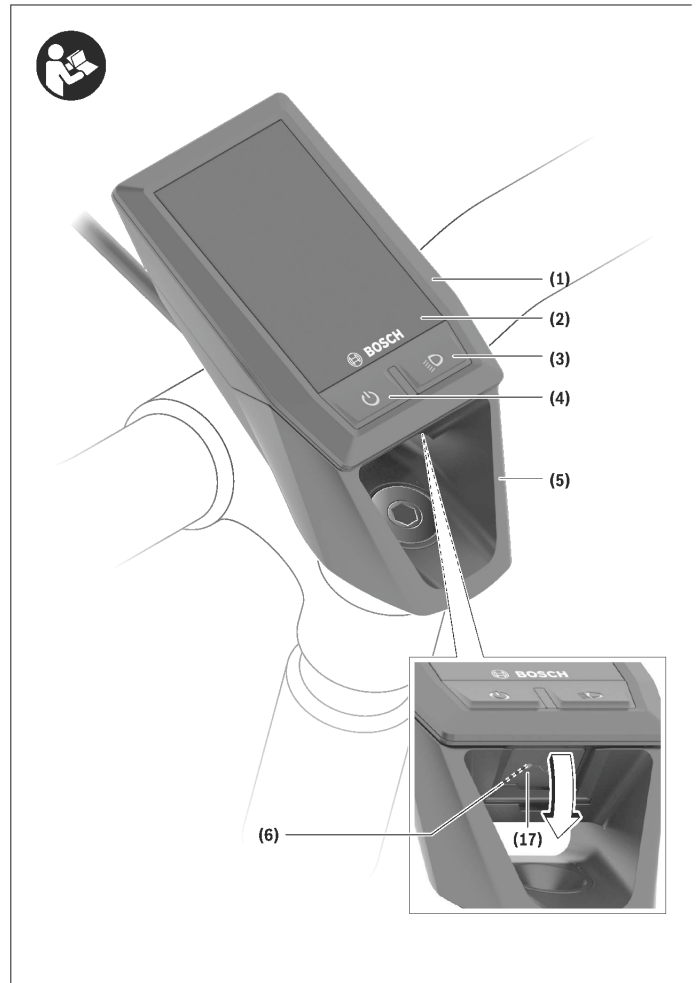
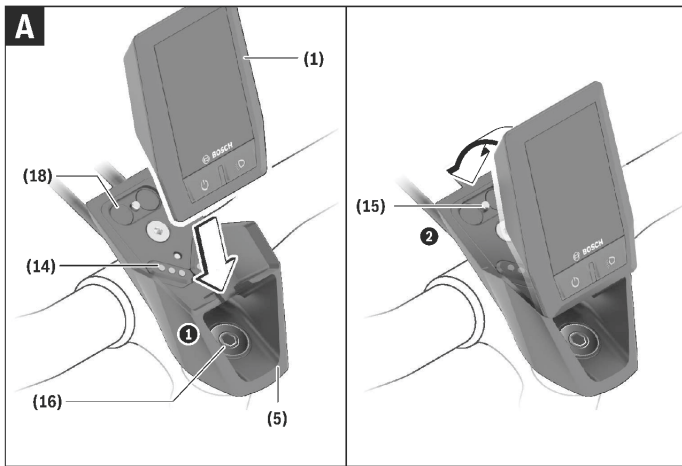
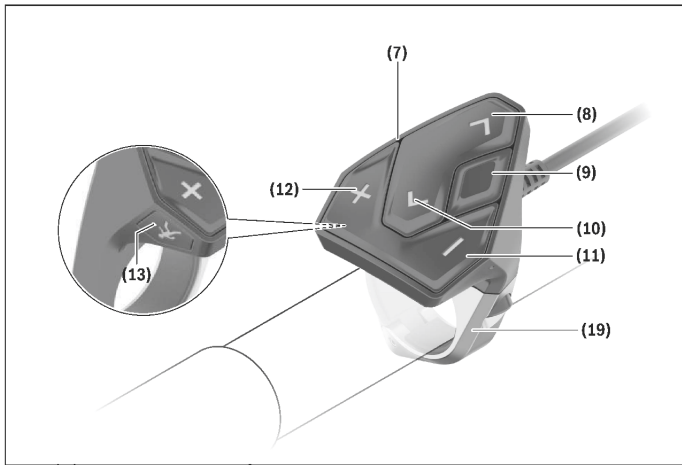
Do not dispose of eBikes and their components with household waste.



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

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

Subject to change without notice.



Safety instructions



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

Save all safety warnings and instructions for future reference.

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

► **Do not allow yourself to be distracted by the on-board computer's display.** If you do not focus exclusively on the traffic, you risk being involved in an accident. If you want to make entries in your on-board computer other than switching the assistance level, stop and enter the appropriate data.

► **Do not open the on-board computer.** Opening the on-board computer may damage it beyond repair and void any warranty claims.

► **Do not use the on-board computer as a handle.** Lifting the eBike up by the on-board computer can cause irreparable damage to the on-board computer.

► **Do not stand your bicycle upside down on its saddle and handlebars if the on-board computer or its holder protrude from the handlebars.** This may irreparably damage the on-board computer or the holder. Also remove the on-board computer before placing the bicycle on a wall mount to ensure that the on-board computer does not fall off or become damaged.

► **Caution!** When using the on-board computer with *Bluetooth®* and/or WiFi, interference can occur with other devices and equipment, aircraft and medical devices (e.g. pacemakers, hearing aids). Likewise, injury to people and animals in the immediate vicinity cannot be excluded entirely. Do not use the on-board computer with *Bluetooth®* in the vicinity of medical devices, petrol stations, chemical plants, areas with a potentially explosive atmosphere or on blast sites. Do not use the on-board computer with *Bluetooth®* in aeroplanes. Avoid using the on-board computer near your body for extended periods.

► The *Bluetooth®* word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Bosch eBike Systems is under licence.

► **The on-board computer is equipped with a wireless interface. Local operating restrictions, e.g. in aeroplanes or hospitals, must be observed.**

Privacy notice

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

Product description and specifications

Intended use

The Kiox on-board computer is designed to control Bosch eBike systems and display riding data. In addition to the functions shown here, changes to software relating to troubleshooting and functional enhancements may be introduced at any time.

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

Product features

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

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

A) Available as spare part

Technical data

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

A) At an ambient temperature of <25 °C

B) Not included as part of standard delivery

C) When the USB cover is closed

Declaration of Conformity

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

Fitting

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

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

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

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

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

Operation

Before initial commissioning

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

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

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

Selecting system settings

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

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

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

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

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

Starting up the eBike system

Requirements

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

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

Switching the eBike system on/off

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

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

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

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

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

- Briefly press the on/off button **(4)** of the on-board computer.
- Switch off the eBike battery using its on/off button (bicycle manufacturer-specific solutions are possible when there is no access to the battery on/off button; see the bicycle manufacturer operating instructions).
- Remove the on-board computer from its holder.
- If no power is drawn from the eBike drive for about 10 minutes (e.g. because the eBike is not moving) and no button is pressed on the on-board computer or the operating unit of the eBike, the eBike system, and therefore also the battery, will switch off automatically to save energy.

Power supply of the on-board computer

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

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

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

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

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

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

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

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

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

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

Storage mode/resetting the Kiox

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

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

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

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

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

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

Battery charge indicator

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

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

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

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

Setting the assistance level

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

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

The following assistance levels are available as a maximum:

- **OFF:** Motor assistance is switched off. The eBike can just be moved by pedalling, as with a normal bicycle. The push assistance cannot be activated at this assistance level.
- **ECO:** Effective assistance with maximum efficiency, for maximum range
- **TOUR:** Steady assistance, long range for touring
- **SPORT/eMTB:**

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

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

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

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

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

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

Switching the push assistance on/off

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

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

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

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

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

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

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

Switching bicycle lights on/off

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

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

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

Creating a user ID

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

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

You can set up a user ID via your **Bosch eBike Connect** smartphone app or simply at www.eBike-Connect.com.

Enter the details required for registration. The **Bosch eBike Connect** smartphone application is available to download free of charge from the App Store (for Apple iPhones) or from the Google Play store (for Android devices).

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

Follow these steps to establish a connection to your smartphone:

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

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

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

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

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

Activity tracking

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

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

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

eShift (optional)

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

eSuspension (optional)

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

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

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

ABS – anti-lock braking system (optional)

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

Lock (premium function)

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

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

Software updates

Software updates are transferred to the on-board computer in the background of the app as soon as it is connected to the app. When an update is complete, this will be displayed the next **three times** the on-board computer is restarted. Alternatively, you can check in the **<Sys settings>** whether an update is available.

Powering external devices via the USB port

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

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

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

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

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

Displays and settings of the on-board computer

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

Operating logic

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

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

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

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

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

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

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

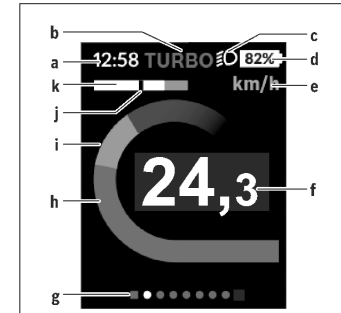
Order of pages

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

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

Start page

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



- a Time/speed indicator
- b Assistance level indicator
- c Lighting indicator
- d Battery charge indicator of the eBike battery
- e Unit of speed indicator⁴⁾
- f Speed
- g Navigation bar
- h Motor output
- i Your performance
- j Average speed
- k Performance evaluation

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

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

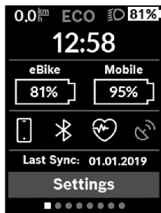
- **Speed/time:** The current speed in km/h or mph or the current time
- **Assistance level:** Indicates the current level of assistance using a colour code
- **Light:** A symbol that indicates whether the light is on
- **eBike battery state of charge:** Indicates the current state of charge as a percentage

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

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

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

Status screen



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

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

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

<Settings>

You can access the settings menu via the status page. The **<Settings>** cannot be accessed or changed while riding. You can use the **- (11)** and **+ (12)** buttons to select the setting you want. You can open the settings, as well as any additional submenus, using the select button **(9)**. You can use the **< button (10)** to go back to the previous menu from any settings menu.

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

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

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

Quick Menu

Selected settings are displayed on the **Quick Menu**. These settings can be changed even while riding. You can access the **Quick Menu** via the select button **(9)**. It cannot be accessed from the **Status screen**.

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

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

Error code display

The eBike system's components are continuously and automatically monitored. If an error is detected, the corresponding error code is displayed on the on-board computer. The drive may be automatically shut down, depending on the type of error. However, if you wish to continue cycling, you

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

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

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

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

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

Maintenance and servicing

Maintenance and cleaning

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

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

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

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

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

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

After-sales service and advice on using products

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

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

Transport

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

Disposal



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

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



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

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

Subject to change without notice.

Safety instructions



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

Save all safety warnings and instructions for future reference.

General Advice

eShift is the integration of electronic gear shifting systems into the eBike system.

Intuvia settings

The function displays and the basic settings menu for the eShift function have been adapted to provide the rider with the best possible support.

Nyon settings

You can configure the settings for the eShift function under **<My eBike>**.

The gear or the cadence is displayed in the **<Ride>**, **<Fitness>** and **<Map & Navigation>** operating modes. If the

field is not displayed, the user is informed of changes by means of an indication on the display.

eShift mode is activated by pressing and holding the **HOME** button. It can only be activated using the operating unit. You can exit eShift mode again by pressing the **HOME** button again.

The software version of the electronic gear shifting systems is displayed in addition to the other software versions of the bicycle components under **<Help> → <System Info>**.

Kiox settings

You can configure the settings for the eShift function in the settings menu. You can access the settings menu via the status page. You can only adjust the settings when the bicycle is stopped. Use the select button on the Bosch operating unit to call up the settings menu. Select the **<My eBike>** menu item with the + and - buttons. Under the **<eShift>** menu item, you will find various settings (e.g. for the starting gear) that depend on the gear type.

For Shimano and Rohloff, the gears are shifted via the operating unit of the respective manufacturer.

For the continuously variable gear hub from NuVinci/enviolo, the desired cadence can be adjusted at any time (while riding or stopped) via the Bosch operating unit.

SHIMANO

eShift with Shimano Di2 automatic hub gears

You can operate the automatic Shimano Di2 hub gears in manual or automatic mode.

Use the Shimano gearstick to shift gears in manual mode. In automatic mode, the gear shifting system shifts gear automatically as a function of the speed, the force you exert on the pedals, and the cadence.

The change from automatic mode to manual mode (depending on the gearstick you use) is described in the operating instructions for your gearing.

If you use the gearstick in automatic mode, the gear shifting system shifts to the next gear but remains in automatic mode.

Manual gear shifting operations in automatic mode have a long-term impact on the gear shifting behaviour of your gear shifting system and adapt the gear shifting operations to your cycling behaviour (adaptive system).

When the system is switched on for the first time with a new wheel which has not been used before, the gears are firstly calibrated. For this purpose, the automatic system shifts to the highest/lowest gear during the first trip and then shifts through all gears once.

eShift with the Intuvia on-board computer

The engaged gear will be shown briefly on the display whenever the gear is shifted.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set **<Start gear>**. The **<Start gear>** can be set in the basic settings menu.

Intuvia eShift basic settings menu

You can choose from the following **additional** basic settings:

...

<- Start gear +>: The starting gear can be set here. The automatic shift-back function is switched off in the - - position. This menu item is displayed only when the on-board computer is in the holder.

<Gear adjustment>: This menu item can be used to perform fine adjustment of the Shimano Di2. The pre-defined

setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises. This menu item is displayed only when the on-board computer is in the holder.

...

<Gear vx.x.x.x>: Variable speed transmission software version. This menu item is displayed only when the on-board computer is in the holder. This menu item only appears in conjunction with an electronic variable speed transmission.

...

Intuvia eShift function displays

You can choose from the following **additional** functions in the **function display** (combination of text display and value display):

...

<Auto: on>/<Auto: off>: This menu item indicates whether automatic mode is switched on or off.

...

eShift with the Kiox on-board computer

The gear and switching mode (manual **M**/automatic **A**) are always displayed on the start page. If you are on another screen, the gear will be briefly shown on the display each time it is changed.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set starting gear. The starting gear can be set under

<Settings> → **<My eBike>** → **<eShift>** → **<Start gear>**.

You can carry out fine adjustment of the Shimano Di2 under **<Adjust gear>**. The pre-defined setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises.

eShift with the Nyon on-board computer

The gear is always displayed in the eShift field. The gear is displayed briefly during a gear shift only when the eShift field is not visible (e.g. in settings). An **A** appears next to the gear display in automatic mode.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set **<Start gear>**. The **<Start gear>** can be set under **<My eBike>** → **<eShift>**.

You can carry out fine adjustment of the Shimano Di2 under **<Gear adjustment>**. The pre-defined setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises.

SHIMANO

eShift with manual Shimano Di2 hub gears

eShift with the Intuvia on-board computer

The engaged gear will be shown briefly on the display whenever the gear is shifted.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set **<Start gear>**. The **<Start gear>** can be set in the basic settings menu.

Intuvia eShift basic settings menu

You can choose from the following **additional** basic settings:

...

<- Start gear +>: The starting gear can be set here. The automatic shift-back function is switched off in the -- position. This menu item is displayed only when the on-board computer is in the holder.

<Gear adjustment>: This menu item can be used to perform fine adjustment of the Shimano Di2. The pre-defined

Use the Shimano gearstick to shift gears in manual mode.

setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises. This menu item is displayed only when the on-board computer is in the holder.

...

<Gear vx.x.x.x>: Variable speed transmission software version. This menu item is displayed only when the on-board computer is in the holder. This menu item only appears in conjunction with an electronic variable speed transmission.

...

Intuvia eShift function displays

You can choose from the following **additional** functions in the **function display** (combination of text display and value display):

...

<Gear>: The currently engaged gear is shown on the display. The newly engaged gear is briefly shown on the display each time the gear is changed.

...

eShift with the Nyon on-board computer

The gear is always displayed in the eShift field. The gear is displayed briefly during a gear shift only when the eShift field is not visible (e.g. in settings).

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set **<Start gear>**. The **<Start gear>** can be set under **<My eBike>** → **<eShift>**.

You can carry out fine adjustment of the Shimano Di2 under **<Gear adjustment>**. The pre-defined setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises.

eShift with the Kiox on-board computer

The gear and switching mode (manual **M**/automatic **A**) are always displayed on the start page. If you are on another screen, the gear will be briefly shown on the display each time it is changed.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to

a set starting gear. The starting gear can be set under **<Settings>** → **<My eBike>** → **<eShift>** → **<Start gear>**.

You can carry out fine adjustment of the Shimano Di2 under **<Adjust gear>**. The pre-defined setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises.

SHIMANO

eShift with Shimano Di2 derailleur gears

eShift with the Intuvia on-board computer

The engaged gear will be shown briefly on the display whenever the gear is shifted.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

Intuvia eShift basic settings menu

You can choose from the following **additional** basic settings:

...

<Gear adjustment>: This menu item can be used to perform fine adjustment of the Shimano Di2. The pre-defined setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises. This menu item is displayed only when the on-board computer is in the holder.

<Gear recovery ->: You can use this menu item to reset the gearing if it has been moved out of position, e.g. due to an

Always use the Shimano gearstick to shift gears for Shimano Di2 derailleur gears.

impact on the gearing or a fall. The procedure for resetting the gearing is described in the operating instructions from the gearing manufacturer. This menu item is displayed only when the on-board computer is in the holder.

...

<Gear vx.x.x.x>: Variable speed transmission software version. This menu item is displayed only when the on-board computer is in the holder. This menu item only appears in conjunction with an electronic variable speed transmission.

...

Intuvia eShift function displays

You can choose from the following **additional** functions in the **function display** (combination of text display and value display):

...

<Gear>: The currently engaged gear is shown on the display. The newly engaged gear is briefly shown on the display each time the gear is changed.

...

eShift with the Nyon on-board computer

The gear is always displayed in the eShift field. The gear is displayed briefly during a gear shift only when the eShift field is not visible (e.g. in settings).

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

You can carry out fine adjustment of the Shimano Di2 under **<Gear adjustment>**. The pre-defined setting range can be

found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises.

<Gear recovery>: You can use this menu item to reset the gearing if it has been moved out of position, e.g. due to an impact on the gearing or a fall. The procedure for resetting the gearing is described in the operating instructions from the gearing manufacturer. This menu item is displayed only when the on-board computer is in the holder.

eShift with the Kiox on-board computer

The gear and switching mode (manual **M**/automatic **A**) are always displayed on the start page. If you are on another screen, the gear will be briefly shown on the display each time it is changed.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

You can carry out fine adjustment of the Shimano Di2 under **<Adjust gear>**. The pre-defined setting range can be found in the operating instructions provided by the gearing manufacturer. Perform fine adjustment as soon as you hear the gearing make unusual noises.

Press the operating unit select button in the menu and then select the **<My eBike>** menu item using **<Settings> +/-**. Under this item, you will find the **<eShift>** menu item with the sub-item **<Adjust gear>**.

<Reset> : You can use this menu item to reset the gearing if it has been moved out of position, e.g. after a knock to the gearing or a fall. The procedure for resetting the gearing is described in the operating instructions from the gearing manufacturer. This menu item is displayed only when the on-board computer is in the holder.

enviolo

eShift with enviolo automatic+ (NuVinci optimized)

eShift with the Intuvia on-board computer

In the **<± NuVinci Cadence>** mode, you can use the **-** or **+** button on the operating unit to increase or decrease the desired cadence. If you hold down the **-** or **+** button, the cadence will increase or decrease in increments of five. The desired cadence is shown on the display.

In the **<± NuVinci Gear>** mode, you can use the **-** or **+** button on the operating unit to switch back and forth between multiple defined transmission ratios. The engaged transmission ratio (gear) is shown on the display.

Intuvia eShift basic settings menu

You can choose from the following **additional** basic settings:

...

<Gear calibration →>: You can calibrate the continuously variable transmission here. Confirm the calibration by pressing the bike light button. Then follow the instructions. In the event of an error, it may also be necessary to perform calibration when riding. In this case too, confirm the calibration by pressing the bike light button and then follow the instructions on the display. This menu item is displayed only when the on-board computer is in the holder.

...

<Gear vx.x.x.x>: Variable speed transmission software version. This menu item is displayed only when the on-board computer is in the holder. This menu item only appears in conjunction with an electronic variable speed transmission.

The optimum gear for each speed is automatically engaged via a predefined desired cadence. You can choose between multiple gears in manual mode.

...

Intuvia eShift function displays

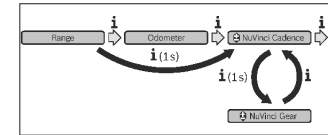
You can choose from the following **additional** functions in the **function display** (combination of text display and value display):

...

<± NuVinci Cadence>/<± NuVinci Gear>: Press and hold the **"I"** button for longer than one second to access the NuVinci menu item from any menu item in the information menu.

To switch from the **<± NuVinci Cadence>** mode to the **<± NuVinci Gear>** mode, press and hold the **"I"** button for one second.

To switch from the **<± NuVinci Gear>** mode to the **<± NuVinci Cadence>** mode, briefly press the **"I"** button. The default setting is **<± NuVinci Cadence>**.



...

eShift with the Nyon on-board computer

The optimum gear for each speed is automatically engaged via a predefined desired cadence. You can choose between multiple gears in manual mode.

In the **<Cadence Control>** mode, you can use the **-** or **+** button on the operating unit to increase or decrease the desired cadence. If you hold down the **-** or **+** button, the cadence will increase or decrease in increments of five. The desired cadence is shown on the display.

In the **<Gear Control>** mode, you can use the **-** or **+** button on the operating unit to switch back and forth between multiple defined transmission ratios. The engaged gear is shown on the display.

Under **<Gear calibration>**, you can calibrate the continuously variable transmission. Then follow the instructions on the display.

In the event of an error, it may also be necessary to perform calibration when riding. Confirm the calibration here too, and follow the instructions on the display.

eShift with the Kiox on-board computer

With the NuVinci/enviolo gear shifting, the desired cadence can be changed while riding using the operating unit.

To do this, press the select button and use the right-hand button to navigate to the **<Cadence>** option. Then adjust the value using the + or - button on the operating unit. Next time you open the **<Settings>** menu, the **<Cadence>** option will immediately be displayed, as the last setting on your on-board computer will have been saved. Kiox does not support a **manual switching** mode.

Under **<Calibration>**, you can calibrate the continuously variable transmission. Then follow the instructions on the display.

In the event of an error, it may also be necessary to perform calibration when riding. Confirm the calibration here too, and follow the instructions on the display.

**eShift with Rohloff E-14 Speedhub 500/14****eShift with the Intuvia on-board computer**

The engaged gear will be shown briefly on the display whenever the gear is shifted.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set **<Start gear>**. The **<Start gear>** can be set in the basic settings menu.

Intuvia eShift basic settings menu

You can choose from the following **additional** basic settings:

...

<- Start gear +>: The starting gear can be set here. The automatic shift-back function is switched off in the -- posi-

Always use the Speedhub gearstick to shift gears with the Rohloff Speedhub 500/14.

Keeping the gearstick pushed down causes the system to keep shifting gear in increments of three after the first gear change, until the lowest or highest gear is reached.

tion. This menu item is displayed only when the on-board computer is in the holder.

...

<Gear vx.x.x.x>: Variable speed transmission software version. This menu item is displayed only when the on-board computer is in the holder. This menu item only appears in conjunction with an electronic variable speed transmission.

...

Intuvia eShift function displays

You can choose from the following **additional** functions in the **function display** (combination of text display and value display):

...

<Gear>: The currently engaged gear is shown on the display. The newly engaged gear is briefly shown on the display each time the gear is changed.

...

eShift with the Nyon on-board computer

The gear is always displayed in the eShift field. The gear is displayed briefly during a gear shift only when the eShift field is not visible (e.g. in settings).

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set **<Start gear>**. The **<Start gear>** can be set under **<My eBike>** → **<eShift>**.

eShift with the Kiox on-board computer

The gear is always displayed in the start page. If you are on another screen, the gear will be briefly shown on the display each time it is changed.

The drive unit detects the gear shift and briefly reduces the motor assistance level as a result, which means the gear can also be shifted at any time under load or on a hill.

If the eBike is brought to a stop from a speed of more than 10 km/h, the system may automatically shift down a gear to a set starting gear. The starting gear can be set under

<Settings> → **<My eBike>** → **<eShift>** → **<Start gear>**.

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