



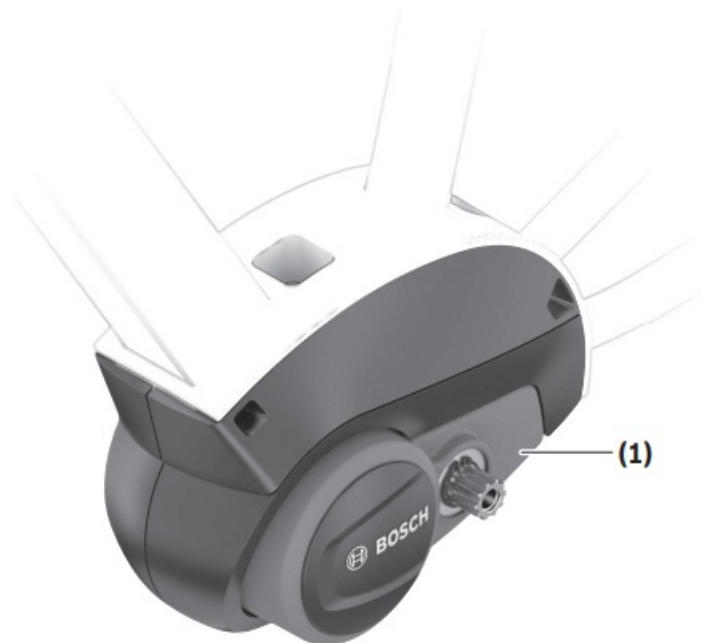
# BOSCH BDU3360 Performance Line Drive Unit User Manual

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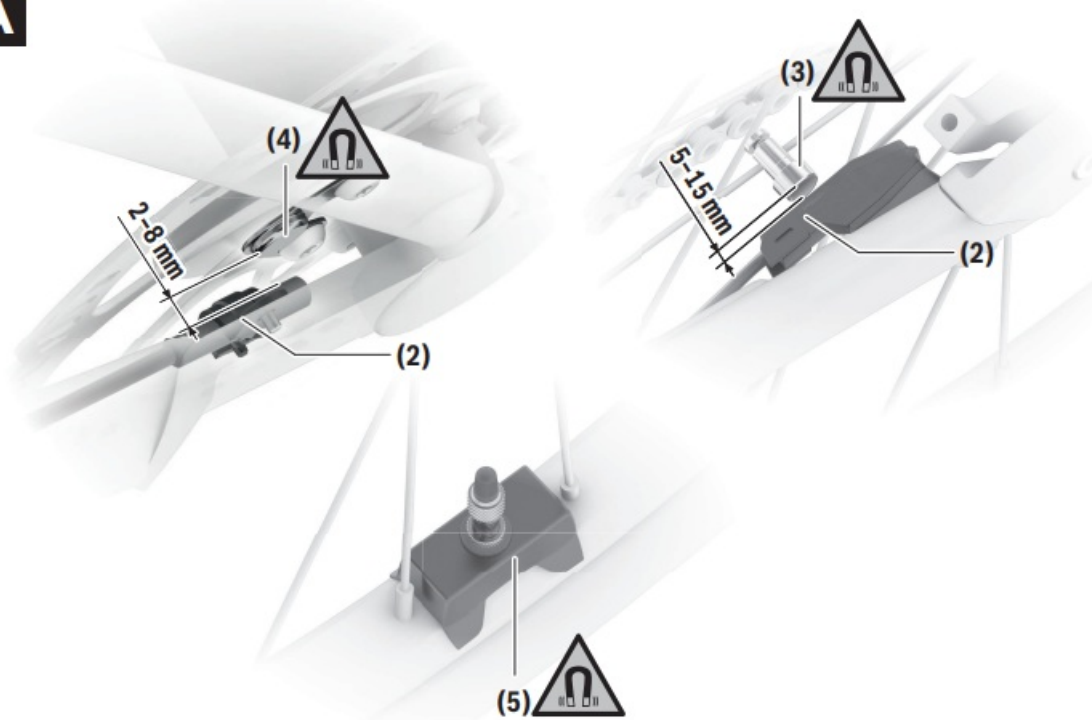


**Original operating instructions**

**Performance Line**



**A**



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# 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.

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



**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.**

- 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.



Keep the magnet away from implants and other medical devices, e.g. pacemakers or insulin pumps. The magnet generates a field that can impair the function of implants and medical devices.

- **Keep the magnet away from magnetic data carriers and magnetically sensitive devices.** The effect of the magnets may lead to irreversible data losses.
- **Observe all national regulations which set out the approved use of eBikes.**

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## Privacy notice

When you connect the eBike to the **Bosch DiagnosticTool 3**, data about Bosch 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](http://www.bosch-ebike.com)

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# Product description and specifications

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## 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 modifications may be introduced at any time.

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## 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 a)

**(3)** Spoke magnet

**(4)** CenterLock magnet b)

**(5)** Rim magnet

**a)** different sensor type and installation position is possible

**b)** different installation position is possible

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## Technical data

Drive unit		Performance Line
Product code		BDU3360
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 +40
Protection rating		IP54
Weight, approx.	kg	3.2

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

## Bicycle lights<sup>A)</sup>

Voltage approx. <sup>B)</sup>	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.**

## Information on the noise emissions of the drive unit

Typically, the A-weighted noise emission level of the eBike system is < 70 dB(A). A key feature of the **<eBike Alarm>** service is that the drive unit will emit an alarm tone in response to unauthorised movement of the eBike. This alarm tone can exceed a noise emission level of 70 dB(A) and measures 80 dB(A) at a 2 m distance from the drive unit. The alarm tone is only available once the **<eBike Alarm>** service has been activated and can be deactivated via the app **eBike Flow**.

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## Assembly

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### Checking the speed sensor (see figure A)

#### Speedsensor (slim)

The speed sensor **(2)** and its CenterLock magnet **(4)** or spoke magnet **(3)** are mounted ex works in such a manner that the magnet, after a turn of the wheel, moves past the speed sensor with a clearance of at least 2 mm, yet no more than 15 mm. If any structural changes are made, the correct distance between the magnet and the sensor must be complied with **(see figure A)**.

Note: Make sure you do not damage the sensor or the sensor holder when fitting or removing the rear wheel. When changing a wheel, make sure that the sensor cable is routed so that it is not under tension and has no kinks.

The CenterLock magnet **(4)** can only be removed and reinserted up to five times.

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#### Rim magnet

When installing a rim magnet, no sensor is required to detect a wheel turn. The drive unit itself detects when the magnet is close to it and calculates the speed and any other data required from the frequency of the emergence of the magnet field.

Since the drive unit is sensitive to magnetic fields, avoid other magnetic fields in the vicinity of the drive unit (e.g. magnetic clipless pedals, magnetic cadence sensors, etc.) in order to prevent disruption to the drive unit.

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## Operation

A control unit is required for the starting operation of the eBike system. Observe the starting operation for the eBike system and drive unit control in the control unit operating instructions.

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### 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.

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## 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.

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## 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.

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## 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.

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## 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).



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# Maintenance and servicing

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## 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.

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## 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](http://www.bosch-ebike.com)

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## 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.  
Check that your personal data has been deleted from the device.  
Do not dispose of eBikes and their components with household waste.



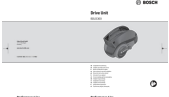
In accordance with Directive 2012/19/EU and Directive 2006/66/EC respectively, electronic devices that are no longer usable and defective/drained batteries must be collected separately and recycled in an environmentally friendly manner.  
Please return Bosch eBike components that are no longer usable free of charge to an authorised bicycle dealer or to a recycling facility.  
**Subject to change without notice.**

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Bosch eBike Systems



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## Documents / Resources



[BOSCH BDU3360 Performance Line Drive Unit](#) [pdf] User Manual  
BDU3360 Performance Line Drive Unit, BDU3360, Performance Line Drive Unit, Line Drive Unit, Drive Unit

## References

-  [Bosch eBike Systems | Premium drives for eBikes & pedelecs](#)
-  [FreeRTOS - Market leading RTOS \(Real Time Operating System\) for embedded systems with Internet of Things extensions](#)

Manuals+.