

System instruction

Pendix eDrive



compatible with
Pendix.bike PRO App

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1. General Safety Notes

In these instructions you will find three different symbols – the symbol **Note** provides important information about your new motor and how to use it, the symbol **Caution** draws your attention to possible damage and/ or environmental hazards, the symbol **Danger** warns you against possible accidents and severe damage, including possible injuries to your person. Whenever you see one of these symbols, there is a risk that one of the hazards described may actually occur if instructions are not followed!

The notes are as follows:

Explanation of symbols



This symbol provides information about how to handle the product or work with the respective section in the system manual, which must first be read through.



Caution: This symbol warns you against making mistakes which can result in damage to material or create an environmental hazard.



Danger: This symbol stands for a possible danger to your life and/or health, if relevant instructions are ignored or not correctly followed. It also draws your attention to the fact that corresponding preventive measures must always be taken beforehand.



Keep this system manual in a safe and accessible place, so that you can always refer to them for further information or to answer questions. Pass this manual on to any other person needing them.



Caution! With a Pedelec you are much faster than on a normal bicycle without electric support. Most other people on the road (drivers, cyclists, pedestrians) will not realize this, and underestimate your speed or performance. For your own safety, always wear a helmet!



Always activate the brakes of your Pedelec before putting your foot down on a pedal! The motor causes you to move forward the moment you move a pedal. This impulse (forward push) is unexpected at first and can produce falls, unwelcome reactions or accidents on the road and result in injuries.



Do not allow children to use the Pedelec unattended and without proper previous instruction! Make them acquainted with the possible dangers when handling electric equipment.



The Pendix drive is not designed or allowed for use in explosion hazard areas.



Always keep both hands on the handlebar when riding. Never ride hands free! Do not change the assistance level while riding.



The connecting plugs on the battery, motor and charging unit are magnetic. Magnets can affect the function of pacemakers and implantable cardioverter defibrillators (for example, the actuation of the reed switch). Keep a minimum distance of 0.2 m (20 cm) between the magnetic

connector and the implanted devices to prevent malfunctions and health hazards.

Before starting your journey, you must check the **following important parts** of your Pedelec system - in addition to the items to be checked in the general instructions for bicycles:

- Make sure the battery is firmly attached.
- Check the charging level of the battery for sufficient charge for the planned journey.



Before riding, you must check all screws, quick-releases and important components for secure and correct fit. Carry out these checks even if you have left the Pedelec unattended for even a short time.

2. Introduction

Dear Sir or Madam, by attaching the Pendix eDrive system to your bicycle, you will be assisted in riding with an electric drive. This turns your bike into an EPAC (Electrically Power Assisted Cycle), also called a Pedelec. Pedelec means that the motor only supports you when you also pedal. The power of the motor assistance depends on the pedaling force and the selected assistance mode. The harder you pedal, the more assistance you get from the motor, and the higher the level of assistance, the greater the thrust of the motor. If the speed of the Pedelec exceeds 25 km/h, the motor assistance is automatically stopped. If the speed subsequently drops below 25 km/h again, the motor assistance is automatically reactivated. Since the motor has a rated continuous power of 250W and supports you up to a speed of 25km/h, your Pendix-equipped bike still legally belongs to the bicycle category. Therefore, the same legal requirements (in Germany the StVZO and STVO) apply to your Pedelec as to a normal bicycle. Adhere to traffic regulations and national legal requirements. This part of the operating instructions gives you specific information on how

to handle the components of the electric drive unit of your Pendix eDrive and how to ride a Pedelec. General information, e.g. on bicycle technology, can be found in the enclosed instructions.

2.1 Field of application

The Pendix eDrive is provided for the following bicycle types: City- / Trekking- / Touringbikes, Mountainbikes (Race/ Cross-Country), road bike, folding bike, recumbent bicycles and further related types.



Due to the higher loads the application of the Pendix eDrive in downhill-, freeride-, BMX-cycles, dirtbikes and further related types as well as operation in competition is prohibited. The usage in static conditions (dyno, home gym) is also prohibited.



Using clipless pedals in combination with Pendix eDrive is prohibited.



Before installing the Pendix eDrive, check to see whether your bicycle is suitable for it. In particular, there must be sufficient stability provided for. Consult your bicycle specialist for advice when in doubt.



For the bicycle with an installed Pendix eDrive to be legally accepted, the requirements of DIN EN ISO 4210:2014 (Safety Requirements for Bicycles) and DIN 15194 (electrically power-assisted cycles [EPAC]) as well as the requirements of 2006/42/EU (European Union Directive on Machinery and Certain Parts of Machinery) must be met.



The Pendix eDrive is **not** designed for installation and effective use in bicycles for children and juveniles up to the age of 14 years!



Before riding off, carefully read through the operating instructions for your Pendix eDrive (motor) and the operating instructions for the general bicycle technical part.



Please never ride or roll standing on one side of a pedal!



The manufacturer assumes no responsibility for damage caused by not adhering to instructions. Your Pedelec may only be used in accordance with proper instructions. This is described in the technical part of the bicycle instructions. Any other active use may result in a technical breakdown or defect, causing accident and injury! Responsibility for possibly defective parts at purchase and all guarantee conditions become invalid if the Pedelec/Pendix eDrive is improperly used.

2.2 Residual risks



Observe compliance with the permissible total weight after installation of the Pendix eDrive in the bicycle:

Total weight = Pedelec weight + rider weight + load weight

This total weight must not exceed the permissible total weight originally specified by the bicycle manufacturer.



Incorrect mounting of the drive can cause serious damage. Please check the tight fit of the motor on the bottom bracket as well as the battery holder and battery before each ride.



Installation of the Pendix eDrive may result in slightly increased wear of chain rings, sprockets and chain/belt.

Please observe the maintenance intervals for checking/replacing these components in the Pedelec manual.

3. Notes on electrics and electronics



The electric parts of your Pedelec combine to form a high-power system. Remove the battery immediately when you see damage to the electric system or particularly if, after a fall or accident, electric cables or parts are exposed. Always refer to a specialist/bicycle technician for repairs, but also whenever you have a question or problem. A lack of expertise can result in accidents and/or severe injuries! If you have discovered a defect, please proceed as described in Chapter 7 „Default Measures“.



Before carrying out any kind of changes on your Pedelec, switch off the electric system and remove the battery.



Do not clean your Pedelec with a steam jet, high-pressure cleaner or water hose. If you do so, water can enter electric parts or the motor and destroy the equipment.

The intended operating temperature is -10°C to +50°C. The temperature limits for storing the system are specified as -20°C to +60°C.



Carry out the steps described in these instructions only. No other or different changes to the Pendix eDrive may be performed. Do not dismantle or open structural units!



Only replace parts that have become defective or worn down, for example battery, charging unit or sensors, by using original spare parts or replacements either made by the manufacturer or expressly allowed by the manufacturer. Note: the manufacturer's responsibility and/or guarantee lose their validity when non-contract parts are used. If such parts are used, a loss of function may result! In cases of defect or wear and tear, always refer to a specialist/bicycle technician to

carry out the necessary repairs or replacement using original parts or components only.

Improper and unprofessional operation of the motor and manipulations to battery, charging unit and motor involve great danger to health and damage of material. In any such cases, Pendix refuses to accept any responsibility for damage or accidents caused.

4. Configuration of the product

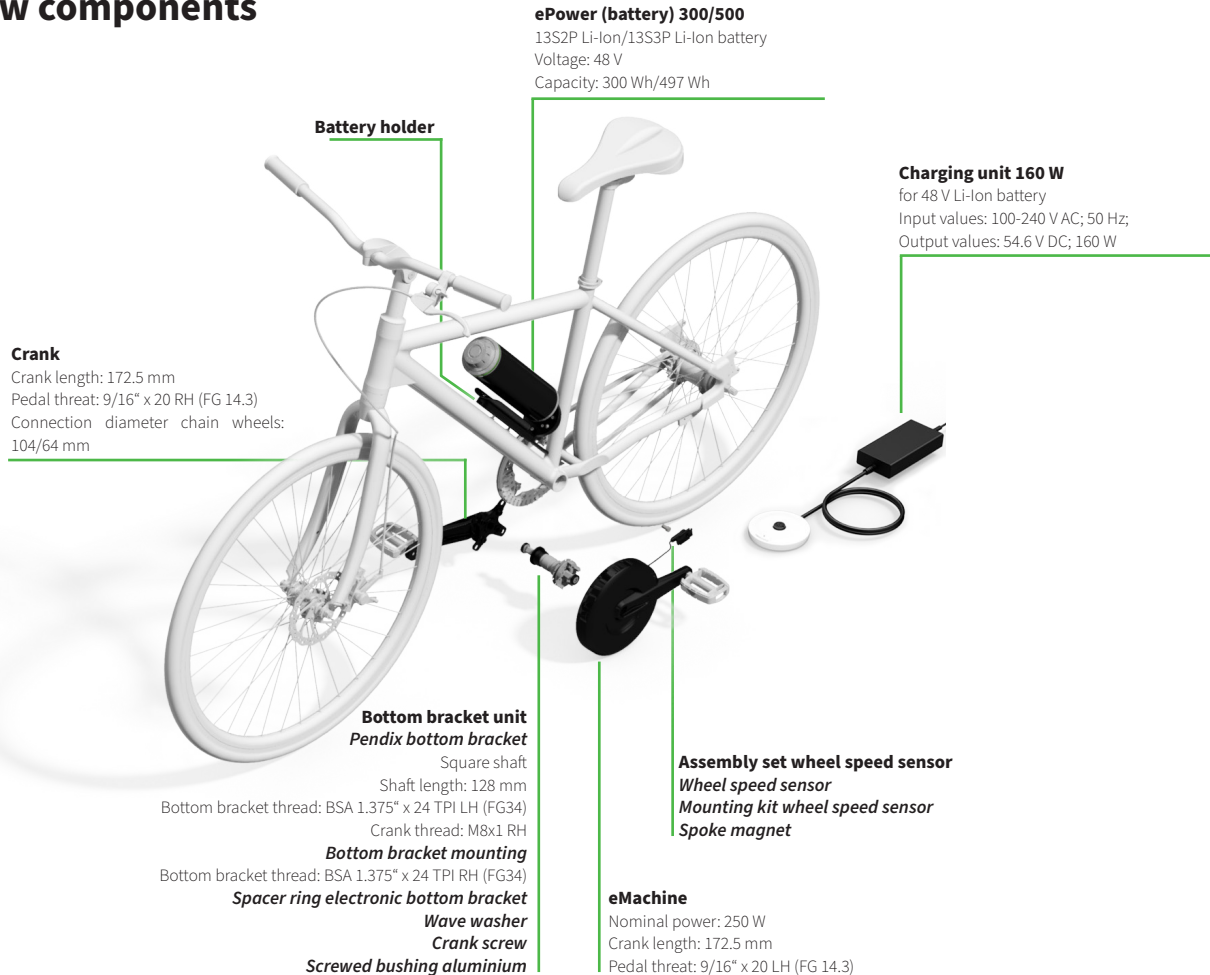


| Pendix eDrive system | eDrive300 | eDrive500 | eDrive1000 |
|------------------------------|-----------------------------|------------------------|------------------------|
| eMaschine | transmissieloze middenmotor | | |
| Performance | 250 W nominal | | |
| Max. speed assistance up to | 25 km/h | | |
| Assistance levels | 3 | | |
| Torque (max)* | 65 Nm | | |
| Motor dimensions (w x h x d) | 292 x 206 x 50 mm | | |
| ePower (battery) | Lithium-ion type 13S2P | Lithium-ion type 13S3P | Lithium-ion type 13S3P |
| Capacity | 300 Wh | 497 Wh | 2 x 497 Wh |
| Range optimum** | 37 - 72 km | 62 - 120 km | 124 - 240 km |
| Voltage | 48 V | | |
| Battery dimensions (d x h) | 80 x 276 mm | 80 x 342 mm | 80 x 342 mm |
| USB-C interface | ✓ | ✓ | ✓ |
| Bluetooth-interface | ✓ | ✓ | ✓ |
| Battery weight | 2,3 kg | 2,9 kg | 2 x 2,9 kg |
| System weight on the bike | 6,9 kg | 7,3 kg | 7,3 kg |

* max. torque depends on chosen battery assistance level

** the value displayed is the optimal value for ECO mode in the performance profile (factory setting); depending on factors such as total weight, riding style, topography, cadence and type of bike

5. Overview components



5.1 eMachine



The Pendix eDrive is an efficient, high-power direct drive system, working without gears or freewheeling. Its control is already integrated in its smart design. The Pendix eMachine is located on the left side of the bicycle directly on the supplied electronic bottom bracket, which identifies the force exerted through pedaling. The motor then supports you corresponding to the setting/mode you have selected.

Safety notes



Please note: after extended tours with your bicycle at a high support level, the temperature on the rear side of the motor can become hot.



Should you want to conduct any work in region of the motor, either let it cool down first or make sure you wear suitable protective gloves.



If you want to use a gear hub with the Pendix eDrive, please make sure that the circuit for the torque of 65 Nm is activated. If necessary ask the dealer or the manufacturer of the gear hub about it. If you want to reduce the maximum torque, simply use the Pendix.bike PRO App to do so.

5.2 ePower



Fig. ePower300

The ePower (battery) is the power pack and central control unit of the Pendix eDrive. It supplies the necessary energy for the drive system of the bicycle.

At the same time, the ON/OFF button, as well as the LED display for the charging level are also integrated in this single unit.

Using the rotary switch of the ePower300 and ePower500 it is possible to choose between three assistance levels.

On delivery, the battery is partly charged. In order to obtain the energy for the entire distance of a journey with your Pedelec, you must charge the battery to its maximum level. You can operate the battery between temperatures of -10°C and $+50^{\circ}\text{C}$ (14°F – 122°F). You cannot exploit the full capacity of the battery at low temperatures.

Safety notes



- Do not drop or throw the battery! Avoid any kind of impact! In such cases, liquid may escape, causing fire or explosion.
- Do not use force when working with the battery! If the battery is deformed in any way, the integrated protective mechanism can be

damaged. Here again, fire or explosion may result.

- Do not use the battery if it is damaged. The liquid inside it may escape, causing damage to the eyes and even blindness!



Remove the battery from the Pedelec if you wish to transport it, for example by car.

- Also remove the battery whenever you want to carry out any kind of work on the Pedelec, for example maintenance or assembly. Caution: there is a hazard of injury if you activate the ON/OFF button inadvertently.
- Never open the battery. This can cause a short circuit. Note: all and any guarantee claims become invalid if the battery is opened.
- Never store or transport (carry) the battery together with metal objects capable of causing a short circuit: such objects can be, for example, paper clips, nails, screws, keys or coins. A short circuit can cause a fire or burns.
- Keep the battery away from heat, for example intense sunshine, which can lead to the battery being switched off (self protection over 60°C) and fire, there is a danger of explosion.
- Protect your battery against water and other liquids. Contact may cause damage to the protective circuit and the protective mechanism of the battery. This can result in fire or explosion.
- Do not use high-pressure equipment to clean your battery. To clean, use a damp cloth. Do not use aggressive cleaning agents.
- Incorrect handling of the battery may cause liquid to escape. This liquid can cause irritation and burns on the skin. Avoid contact. If you do come into contact with the battery liquid, wash the affected area with plenty of water. If it comes into contact with your eyes, find a doctor or medical expert immediately for help.
- If you have handled the battery incorrectly either on purpose or by accident, so that gases/vapors escape from it, get access to fresh air and find a doctor or medical expert immediately if you have been affected.
- Before undertaking a journey, the battery must be fully

attached in its holder. Otherwise, there is a danger that it may fall out while you are riding.

- Prevent a total discharge of the battery at all costs. Otherwise, irreversible damage to the battery cells results.
- This battery is designed only for use with Pendix electric bicycle motors. Improper use or incorrect handling can cause fires or injuries. Pendix assumes no guarantee or responsibility of any kind for damage resulting from improper use or treatment.
- Caution: magnetic fields around the battery plug/holder also influence medical equipment such as for example heart pacemakers. Always consult a doctor or medically qualified person on this subject if in doubt.

Storage of the ePower

Store the battery in a dry and well-aired place. To counteract a loss in the battery's capacity, the best room temperature is around 20° C (68° F).

If the battery is completely emptied (blinking red display) as a result of use, it must be recharged within 2-3 days to avoid total damage.



If your battery is out of use for a longer period, for example for 3-6 months during a winter break, it is best to store the battery at a charging level of 50 % – 80 %. In this way the battery does not age as quickly as when it is fully charged. Don't forget to check the charging level once every 12 weeks, recharging it, if the LED display on the battery shows red. In this case always make sure that the battery is not completely empty for a longer period of time, as a total discharge with irreversible damage to the battery cells may result.

ePower aging and attrition

The battery is subject to wear (attrition). With increasing age and use, it will lose in capacity and the corresponding maximum distance is reduced. The capacity loss is approximately 10 % per year. This is not a defect, but normal wear. From a technical point of view, the battery is considered to be worn out when 60 % of its capacity is reached.

You can continue to use it as before, though you should now reckon with a lower capacity and a reduction in distance.

5.3 Charging unit

One 160 W charging unit is included in the scope of delivery. For more information on charging, refer to the chapter "Charging the ePower".

First read the information on the charging unit before using it (putting into operation).



Charging unit 160 W

| | Charging time by charger |
|-----------|--------------------------|
| Battery | 160 W |
| ePower300 | 02:00 h |
| ePower500 | 03:10 h |

Safety notes



- Use the charging unit for the corresponding battery only. The battery charge voltage must be the same as that of the charging unit. Otherwise, a fire or an explosion may result.
- Make sure you are connecting to the proper line (mains) power (voltage)! The label on the charging unit indicates the necessary/ prescribed line power. It must agree with the voltage coming from the power source.
- Do not touch the mains plug with wet hands! You may receive an electric shock.
- Before use, check to see that the charging unit, the cable and the plug are not damaged. If you see any damage, do not use the charging unit. You may receive an electric shock.
- Keep the charging unit away from children and animals. Small children and animals may damage the cable if they play with it. This can result in an electric shock, a malfunction or a fire.
- The charging unit may be handled by children (over 8 years) and persons with restricted physical, sensory or mental abilities only when they are supervised by a responsible person.
- After this make sure that the charging unit is clean. Otherwise you may receive an electric shock.
- The battery must not be charged unattended.

6. Operation

6.1 ePower installation on the bike

After positioning the battery in the holder, the LED display lights up for a short moment before going out again. This shows that the battery is connected with the motor. But this does not mean that the motor is switched on.



Hold the battery tightly when removing it. It is heavy!

To position the battery in the holder, the point on the battery is placed over the corresponding empty point on the holder. Now push the battery down into the base of the holder and turn in the direction of the whole point until a connecting noise is heard, and both whole points are positioned one over the other. To remove the battery, please proceed in the opposite sequence.

6.2 ON/OFF switch of the ePower

The Pendix eDrive is activated by pushing the ON/OFF button on the battery. The LED display shows a continuous light in the color of the actual charging level. If the battery is used, but there is no LED display, this means that the motor is



Only switch the system ON or OFF when the bicycle is not in motion. This is to ensure that you keep both hands on the handlebar while riding.

deactivated and no support is provided.

Riding without the motor is possible, both with or without the battery installed. If the battery is used, but there is no LED display, this means that the motor is deactivated and no support is provided.

Riding with the motor is only possible if the LED display is on permanently. This means that the motor is activated

6.3 Setting the assistance levels

so that it can support you the moment you start pedaling. With your Pendix eDrive300/500, you have three possible assistance levels available: ECO, SMART and SPORT. You can set your system to any of these using the rotating switch directly on the battery. The assistance level is indicated by a



Do not change the assistance level while riding. Doing so is a safety hazard. Always keep both hands on the handlebar while riding.



luminous line below the font.

The assistance levels distinguish according to their strength of performance.

During your first drive with the new installed Pendix eDrive300/500, please choose the lowest assistance level

(Eco).

With the Pendix eDrive it is possible to choose between the operational profile "Efficiency" and "Performance" (profile as supplied to customer) using the Pendix.bike PRO App. In the two different operational profiles it is possible to select the torque and speed according to your individual needs.

Further information about the app and its functions can be reviewed at app.pendix.com.

The assistance levels can be described as follows:

- ECO**
 - High duration level (supports up to 25 km/h or 15 ½ mph),
 - assistance level 75 %
 - Examples: flat country, extended tours, treated flat ground (pavement, concrete, asphalt), physical training for non-professionals
- SMART**
 - Best mode for normal cycling activities (supports up to 25 km/h or 15 ½ mph),
 - assistance level 150 %
 - Examples: Cycling in town, slight gradients, mostly untreated or non-solid ground
- SPORT**
 - High power (supports up to 25 km/h or 15 ½ mph),
 - assistance level 200 %
 - Examples: Hills, mountains, steep gradients, loose or irregular surface, headwind

6.4 Connecting ePower with charging unit

When using the Power Station, just make sure the dot on the battery is aligned with the dot on the Power Station. By putting on the battery, the magnetic plug pulls itself to the battery and is electrically connected. The connection is successful when the LED indicator lights up.



6.5 Charging the ePower



Only charge the battery with the proper charging unit. Using a different charging unit may cause a fire.



When using the charging unit for the first few times a smell may become perceptible. This is the result of a normal production process. If this happens, make sure your work room is well aired. There is no danger to your health.



The charger is designed for usage in damp-free, dry and ventilated environment. Do not expose the charger to rain or hot conditions.



Remember that, after a sudden temperature change from cold to warm, condensed water can form on the battery contacts.

You can recharge the battery at any time without shortening its life. No memory effect occurs. Even an interruption of the charging process does not damage the battery.

The ideal temperature for charging is between 15 and 25° C. If the battery has a temperature below 0° C, it must not be charged. The upper temperature limit for charging is 45° C. If you bring the battery from a very cold environment to a warmer one, a certain acclimatization time is required.



Remember that, after a sudden temperature change from cold to warm, condensed water can form on the battery contacts. To avoid this, store the battery in the same place as where you charge it.



During a charging process, place the charging unit on an inflammable surface and make sure that no easily inflammable materials (for example paper, carton or textiles) are located nearby. The charging unit warms up during the charging process and there is a risk of fire while this takes place.

Do not use the charger in damp places or near leaking water. There is a risk of the charging unit overheating, catching fire or electric shock.

To charge the battery, first plug the Euronet plug into the charging unit, and then plug the charging unit into a power outlet. You can connect the battery in the Power Station now.



First read the information on the charging unit before using it.

The charging process is initiated when the battery is inserted into the Power Station. The LED indicator on the battery lights up for 4 seconds in the colour of the current charge level and then changes to a pulsating glow. As long as the charging process continues, the LED indicator pulses. Its colour changes according to the state of charge. When the battery is fully charged, the LED indicator is turned off.

It is possible to turn off the pulsing of the LED display during charging by pressing the on/off button once. The battery will still continue to charge. If the on/off button is pressed again, pulsing is reactivated or, if the battery is fully charged, a brief flash in the colour green is displayed.

If the battery does not charge after connection (e.g. charging unit not connected to the mains), the LED indicator lights up continuously for 30 seconds and is then switched off.

If the LED indicator flashes blue when you put it on, the battery is outside the temperature limits specified for charging. Make sure that the temperature of the battery is in the range of 0° to 45° C.

6.6 Charging level indicator



If you want to know the charge level of the battery, simply press the on/off button briefly when the battery is not connected.

You can see the charge level of the battery by the colour of the LED indicator at the top of the battery:

| | |
|--------------|--------------|
| Green | 100 % – 71 % |
| Yellow | 70 % – 41 % |
| Orange | 40 % – 16 % |
| Red | 15 % – 6 % |
| Red blinking | 5 % – 0 % |

If the LED display shows red, the battery is almost empty and should be charged.

6.7 Additional functions

Brightness of the LED display (ePower300/500)

If you want, you can adjust the brightness of the LED display as required. This functions when the bicycle is not in motion or when the battery is not connected:

Please do not try to adjust the brightness while riding your bicycle. Doing so is a safety hazard. Set the support mode to Eco. Push the ON/OFF button down for 4 seconds, after which the LED display begins to show brightness levels in 5 steps. This continues as long as you keep the button pushed. Release the button when the brightness level you want is shown, and this value is saved. This brightness level is retained until you make a new setting in the same way.



The adjustment will be done after 30 seconds, even if you push the button longer.

Flashlight mode

You can also use the battery as a light source. This functions while charging or when the battery is not connected.

Turn the support setting to Sport.

Push the ON/OFF button down for 4 seconds, after which the LED display shows a white light. To switch the flashlight mode OFF either turn the setting again or give the ON/OFF button a short push.



For technical reasons, make sure that the mode on the charging unit is terminated just before conclusion of the charging process and is no longer available. Separate the battery from the charging unit to put it into operation again.



Note: according to duration of use, the rotating switch in the flashlight mode can be very warm.

Resetting the battery

Should it happen that the battery no longer functions, you have the possibility of resetting it. For this, push the ON/OFF button, no matter in what support setting, for 40 seconds. After this, the LED display goes off and the battery has been reset.

Safety U-bolt as bicycle lock

In its lower section, the Pendix battery has been fitted with a withdrawable safety lock.

Whenever you do not wish to take the battery with you, just leave it in connected position, pull out the U-bolt and pass a suitable bicycle lock through it. This will secure the battery firmly onto your bicycle.



USB-C connection

The ePower offers a USB-C interface which is suitable to load typical devices like mobile phones and GPS devices as well as for lamp systems.

The USB-C interface is activated if the battery is attached to the bicycle and turned on. The USB-C output can be activated or deactivated by pressing shortly the on-off switch button in case the battery is neither attached to the bicycle nor to the charging unit. The LED ring dims and shows the current state of charge in the appropriate colour when the USB is activated.

Output voltage: 5 V | Max. output current: 1.5 A

Activate Bluetooth

To connect to the Pendix Smartphone App, the Bluetooth

interface must be activated on the ePower. This functions when the bicycle is not in motion or when the battery is not connected: Please do not try to activate Bluetooth during the ride. Doing so is a safety hazard.

Switch the battery on with the on/off button. Set the assistance to smart (preset for the ePower150). Push the on/off button for 4 seconds, afterwards the LED display starts to blink red which signals that the battery is ready for connection. If the connection was successful, the LED display blinks blue two times. For more information on how to connect to the Pendix.bike PRO app, please refer to the app instructions. again by pressing and holding the on/off button again for 4 seconds during an active Bluetooth connection.

For better orientation, which distances you can achieve, we have created the following overview for you.

7. Useful notes on distances

The information on distances is based on optimum conditions.

These are influenced by the following factors:

- The higher the support setting (mode) used, the greater the amount of electric energy used: this means the distance that can be covered is reduced.
- Riding style: You can save energy with the optimum effective use of your gear change system. In the lower gears you exert less energy, the support level is not so high and the motor of your Pedelec consumes less energy.
- Outside temperature: When temperatures are low, batteries discharge more rapidly and the maximum distance covered is less.
- Weather and weight: In addition to the outside temperature, prevailing winds also influence performance and range. You need more power the stronger the wind is against you. And if you are carrying an extra load, you also need more energy to carry the additional weight.
- Technical condition of your Pedelec: If the pressure in your tires is too low, this increases the resistance due to friction, especially when the wheels are rolling over a

smooth surface such as asphalt (paving, concrete). The distance your Pedelec can cover is also reduced by a dragging brake and/or a badly mounted chain.

- **Charging level:** The charging level shows the amount of electricity stored in the battery at the moment in time. More energy means a greater distance.
- **Battery capacity:** The battery capacity function shows the ability of a fully charged battery to supply a specific amount of electricity. As the capacity of a battery decreases with age, the amount of storable energy in a fully charged battery is also reduced.
- **Pedaling frequency:** The motor produces its optimum level of effect at pedaling rates (frequencies) between 60 and 70 per minute. In this range, less energy is used than at other frequencies, which allows for a longer distance.



The actual distance depends on many factors, some of which can be actively influenced, but some of which also result from conditions that cannot be influenced, which should always be taken into account when planning a route. These different influences can be:

Can not be influenced:

Environmental influences such as wind, temperature
 Route influences such as underground, topography, frequency of starts
 Bicycle influences such as tire width, tire profile, weight, battery aging

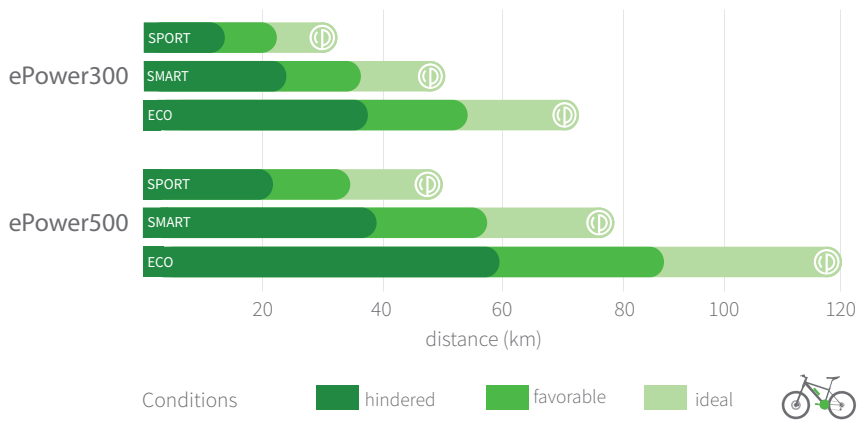
Can be influenced:

Driving influences such as cadence, personal effort, driving dynamics (braking / acceleration behavior), seating position, average speed
 Bicycle influences such as air pressure, smooth running of the components, level of motor support

"hindered" conditions: Both influenceable and non-influenceable factors are taken into account.

"favorable" conditions: Factors that cannot be influenced are taken into account.

"perfect" conditions: All factors are perfect.



The displayed range data refers to the riding profile "performance" which is preset from the factory. You however are able to choose the riding profile "efficiency" in the Pendix.bike PRO App in order to generate a even higher range. Further informations can be found at app.pendix.com.

8. In case of an error

Should your Pendix eDrive not function any more, this can have different reasons. The following signals have been installed to indicate the system in which the defect has occurred:

- A blue light blinking at intervals of 0.5 seconds → there is a defect in the battery or in the connection to the motor.
- A blue light blinking at intervals of 2 seconds → motor defect (battery must be connected with motor)
- The LED display will indicate a defect as long as it is present in the system. In such cases, you can switch the LED display off by pushing the ON/OFF button down for 40 seconds

You can use the Pendix.bike PRO App to read out the existing error. In order to do so, please use a bluetooth connection to connect the Pendix eDrive with the app as it is described in the App manual. You can download the app manual from our website at app.pendix.com. Use the diagnose function of the app in the "bike" menu to read the error memory.

In case you do not use the Pendix.bike PRO App, you can use the following table to check for an error yourself or have them checked by a dealer. If you cannot rectify an error that occurs yourself, please contact your dealer with both drive and battery errors. The dealer can undertake further error diagnoses on site. If an exchange of parts is necessary, the handling will always take place between the dealer and Pendix.



Repairs on the motor may only be carried out by a bicycle specialist/technician or a person with similar knowledge and technical background and with original replacement (spare) parts being used. Caution: improperly carried out repairs can cause accidents and severe damage.

DE

| System part | Measure taken |
|--|--|
| ePower | Make sure that the contacts at the bottom of the battery are free from impurities/dirt etc. |
| | Make sure that the contacts at the bottom of the battery do not touch metal parts of any kind. |
| | When plugging the battery into the bicycle, make sure that the LED display indicates successful contact with the motor: it should light up in the color of the charging status selected. |
| | Check to see how hot the battery unit is. If necessary, allow it to cool down before checking again whether functioning is in order. |
| | Can the defect be corrected by charging the battery? Check accordingly. |
| Charging unit | Check to see whether the defect can be corrected by pushing the ON/OFF button down for 40 seconds. In this way, the battery software is restarted. |
| | Make sure that the charging unit is plugged into the wall socket. |
| | Make sure that the battery is properly connected to the charging unit. You can see this when the LED display lights up in the color of the charging status selected (connection is then OK). |
| eMachine | Make sure that you are using the proper charging unit only. |
| | Make sure that the spoke-mounted magnet for the wheel speed sensor is correctly mounted and pointing towards the sensor surface opposite. |
| | Make sure that the wheel speed sensor is tightly attached to the chain bar. |
| | Make sure that the plugs on the rear of the motor are tightly in place. |
| | Make sure that the contacts of the plug on the battery holder are free of impurities or obstructions. |
| | Make sure that the contacts of the plug on the battery holder do not touch any other metal parts or surfaces. |
| Make sure that there are no visible signs of damage along the cable connection between the motor and the battery, and that all wires are properly laid out and accessible. | |
| | Check to see if the motor is warm. If necessary, allow it to cool down before checking again whether functioning is in order. |

9. Transporting your Pedelec

9.1 By car

Using a suitable attachment to your car (bike rack), you can always transport your Pedelec in the same way as a bicycle.

- Note: as the Pedelec weighs more than a normal bicycle, your bike rack must meet the proper requirements.



Take the battery off prior to transport, and always store it separately during transport.

9.2 Using public transport

Here, the same rules apply as when transporting a bicycle. For safety reasons, remove the battery from your Pedelec when boarding a bus or train, and replace it when the journey is over.

9.3 By airplane

In this case, the battery must be declared for transport as dangerous freight. The battery must be labeled as such. Ask your air transport company for advice.



10. Disposal

eMachine, battery, electronic bottom bracket, wheel speed sensor, component parts and packaging should always be recycled or disposed in a way compatible with the environment.



Do not dispose of the drive components in domestic waste containers! According to the European Directive 2002/96/EC, electrical equipment that is no longer usable and according to the European Directive 2006/66/EC, defective or used rechargeable batteries must be collected separately and recycled in an environmentally friendly manner. Always return batteries that are no longer usable to your authorized bicycle salesman/ technician.

11. Technical data/ Maintenance

| eMachine | |
|-------------------------------------|----------------------------|
| Motor | gearless mid-mounted motor |
| Performance | 250 W nominal |
| Speed (max) | 25 km/h |
| Assistance levels | 3 |
| Torque (max) | 65 Nm |
| sound pressure level | Lpmax in dB(A) |
| passing through with motor | 45.1 |
| Starting with motor | 49.0 |
| ePower300 (battery) | |
| Type | Lithium-Ionen 13S2P |
| Capacity | 300 Wh nominal |
| Voltage (norm) | 48 V |
| Distance* | 37 - 72 km |
| ePower500 (battery) | |
| Type | Lithium-Ionen 13S3P |
| Capacity | 497 Wh nominal |
| Voltage (norm) | 48 V |
| Distance* | 62 - 120 km |
| Dimensions (width x height x depth) | |
| ePower300 (battery) | 80 x 276 mm |
| ePower500 (battery) | 80 x 342 mm |
| eMachine | 292 x 206 x 50 mm |



The built-in electronic bottom bracket is a mechanical wearing part. The durability is specified with 20,000km, after which the bottom bracket should be replaced.

| Overall system | | |
|--|--------------------|--------------------|
| System weight | 6.9 kg (eDrive300) | 7.3 kg (eDrive500) |
| Operating temperature | -10° C to +50° C | |
| Storage temperature | -20° C to +60° C | |
| Tightening torque values for screw connections | | |
| Battery holder on the frame (with safety screws) | 4.5 Nm | ± 0.5 Nm |
| Right-hand assembly side (greased) | 15 Nm | ± 2 Nm |
| Bottom bracket mounting (greased) | 65 Nm | ± 3 Nm |
| Crank screw left/right (with safety screws and grease on square shaft) | 32 Nm | ± 2 Nm |
| Pedal left/right | 35 Nm | ± 2 Nm |
| Connector cover to battery holder | 2.4 Nm | ± 0.2 Nm |
| Chain wheel screws, steel | 9 Nm | ± 2 Nm |

*the generated riding profile "performance" (factory settings) data is depending on parameters as total weight, driving behavior, topography, pedaling cadence and bike type

12. Guarantee conditions

Warranty regulations can be found at:

tac.pendix.com

The guarantee regulation can be found at:

- Austria: <https://pendix.at/garantie>
- Switzerland: <https://pendix.ch/garantie>
- Belgium: <https://pendix.be/garantie> or <https://pendix.be/en/warranty>
- Netherlands: <https://pendix.nl/garantie> or <https://pendix.nl/en/warranty>
- all other countries: <https://pendix.com/warranty>

13. Imprint

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These operating instructions are covered by requirements and scope of EN ISO (European Norm, International Standards Organization) 4210:2014 and 15194:2017.

When supply and effective use are outside the range of these instructions, the relevant instructions by the manufacturer of the bicycle used must be included.

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In service cases please contact your contracting partner.

Own notes



System instruction EN
A3D.705.002-R03-CN21.322.001



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