

System instructions

Pendix eDrive



valid only in combination with original bicycle operating instructions



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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



Note: 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 system (motor) 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 setting on the motor (support level) while on the move.



The connectors on battery, motor and charger are magnetic. Magnets can impact the function of pace makers and implantable cardioverter-defibrillators (e.g. actuation of reed switch). Keep a minimum distance of 0,2 m (20 cm) between the magnetic connector and the implanted devices to prevent malfunction and danger to health.

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: always make sure you have sufficient energy for your planned journey.



Before starting your journey, you must check all screws, quick release parts and important components for safe and correct placement. Remember to carry out these checks, even if you have only left your Pedelec unattended for a short moment!

2. Introduction

Dear Customer, Congratulations! By having attached the Pendix to your bicycle, your riding is now supported by an electric motor (drive system). Your bicycle is now an EPAC (Electrically Power Assisted Cycle), also called Pedelec. Pedelec stands for Pedal Electric Cycle and means that the motor only supports you while you are turning the pedals. In this case, the power of the motor depends on the pedaling power applied and on the selected motor setting (assistance type). The greater the power you apply, the greater the support provided by the motor and the higher the level of support selected, the greater the power provided by the motor.

If the speed of the Pedelec is above 25 km/h (*), the motor support automatically stops. When the speed drops again to below 25 km/h (*), the motor support is automatically reactivated. As the motor has a permanent nominal performance of 250 W and supports you up to a speed of 25 km/h (*), your Pendix-equipped bicycle still correctly belongs to the bicycle category. For this reason the same regulations apply (in Germany the StVZO [Straßenverkehrs-Zulassungs-Ordnung, accident prevention regulations] and StVO [Straßenverkehrs-Ordnung, national road traffic regulations]) for your Pedelec as for a normal bicycle. Therefore: adhere to the traffic rules and to the national legal regulations. (*) or 15½ mph.

This part of the system manual gives you specific information on how to handle the structural components of the electric motor of your Pendix drive system and on riding with a Pedelec. General information, for example on bicycle technology, can be found in the instructions included.

2.1 Field of application

The Pendix system is provided for the following bicycle types:

City- / Trekking- / Touringbikes, Mountainbikes (Race/Cross-Country), road bike, folding bike, recumbent bicycles and further related types.



Because of the higher loads the application of Pendix 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 is prohibited.



Before installing the Pendix system, 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 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. [DIN = Deutsches Institut für Normung (German Standards Institute), EN = European Norm, ISO = International Organization for Standardization]



The Pendix 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 drive system (motor) and the operating instructions for the general bicycle technical part. 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 system is improperly used.

3. Electronical and electric parts: Notes



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 work 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 prescribed operating temperature is between -10° C and +50° C (14° F – 122° F). The limit temperatures for storage of the system are between -20° C and +60° C (-4° F – 140° F).



Carry out the steps described in these instructions only. No other or different changes to the system may be performed. In addition: 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.

If the motor is not correctly operated and the battery, charging unit and motor are interfered with in any way, this can result in danger to health and material, even accidents. In this case, Pendix assumes no guarantee for damage caused.

4. Overview components

(2) crank

crank length: 172,5 mm
pedal thread: 9/16" x 20 RH (FG 14.3)
connection diameter chain wheels: 104/64 mm

(3) battery ePower300

13S2P Li-Ion
voltage: 48 V
capacity: 331 Wh

(4) battery ePower500

13S3P Li-Ion
voltage: 48 V
capacity: 497 Wh

(5) battery holder

(6) charging unit Ansmann 120 W

for 48 V Li-Ion Akku
input values: 100-240 V AC; 50 Hz;
output values: 54.6 V DC; 2.2 A

(7) charging unit Ansmann 200 W

for 48 V Li-Ion Akku
input values: 100-240 V AC; 50 Hz;
output values: 54.6 V DC; 3.6 A

(8) power station

(9) bottom bracket unit electronic bottom bracket

square shaft
shaft length: 128 mm
bottom bracket thread: BSA 1.375" x 24 TPI LH (FG34)
crank thread: M8x1 RH

electronic bottom bracket fitting unit

bottom bracket thread: BSA 1.375" x 24 TPI RH (FG34)

spacer ring electronic bottom bracket

lock washer

crank screw

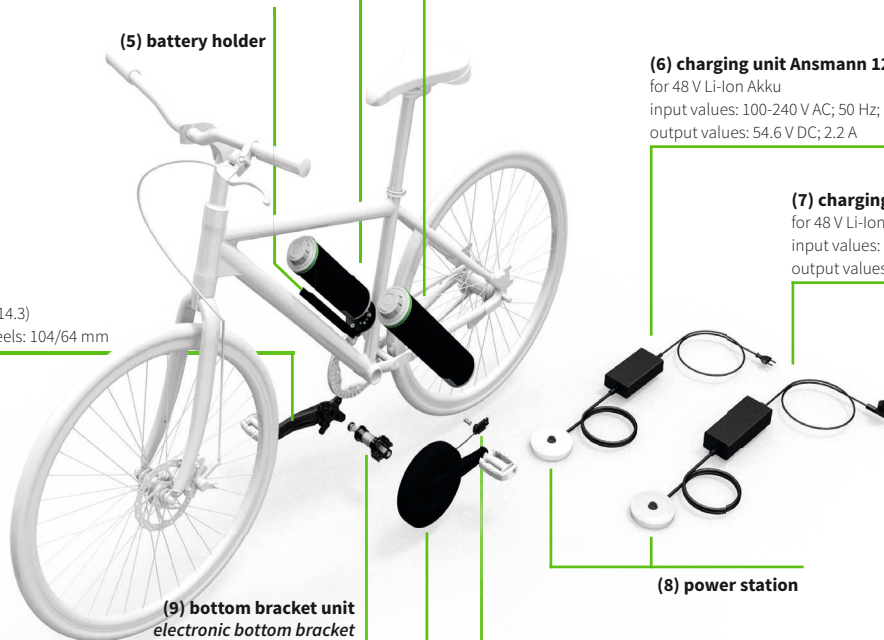
screw bush aluminium

(10) assembly set wheel speed sensor

wheel speed sensor
mounting kit wheel speed sensor
spoke magnet

(1) drive system unit (motor)

nominal power: 250 W
crank length: 172.5 mm
pedal thread: 9/16" x 20 LH (FG 14.3)



4.1 Motor (drive system)



The Pendix motor is an efficient, high-power direct drive system, working without gears or freewheeling. Its control is already integrated in its smart design. The Pendix motor 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.

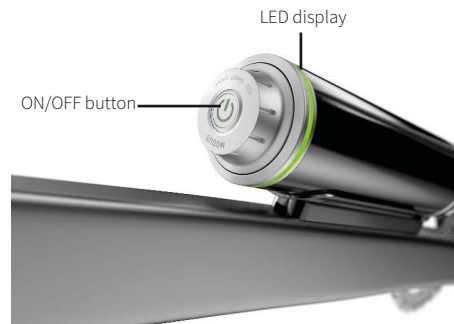


Please note: after extended tours with your bicycle at a high support level, the temperature on the rear side of the motor can become hot.



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.

4.2 Battery



Safety notes

The battery is the power pack and central control unit of the Pendix. It supplies the necessary energy for the drive system of the bicycle. At the same time, the ON/OFF button, the rotating switch for the support steps (settings/modes) as well as the LED display for the charging level are also integrated in this single unit.

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° 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
 1. intense sunshine, which can lead to the battery being switched off (self protection over 60 °C) and
 2. 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. 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 battery

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 necessary. 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.

Battery aging and attrition

The battery is subject to wear (attrition). It is covered by a guarantee lasting two years. 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 viewpoint, the battery is considered to be worn out when

60 % of its capacity is reached.

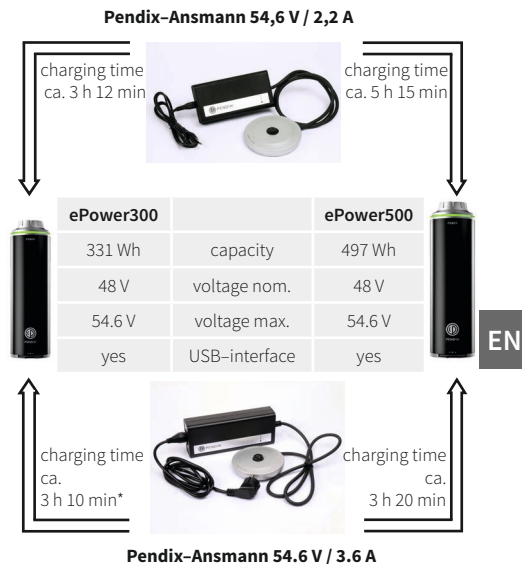
Naturally, you can continue to use it as before, though you should now reckon with a lower capacity and a reduction in distance.

4.3 Charging unit

The charging unit is supplied together with the power station. You can use the charging unit with or without the power station. To use the power station, simply insert the plug of the charging unit into the power station from below. If you do not want to use the power station, you can only charge the battery in a flat position, as the plug is fitted into the battery from underneath. Please consult the chapter entitled „Charging the battery“ for further information on this subject.

Before putting the system into operation, please read the information on the charging unit.

Besides the previous charging unit for the ePower300 battery, it exists a more powerful charging unit for the ePower500. The charging units and batteries are compatible among themselves and both battery variations can be charged with both charging units. The following graphic shows the variations:



**The ePower300 can be charged with the 3.6 A charging unit. Due to the power of the charging unit, the battery warms up. Depending on the initial temperature and due to the thermal protective circuit, it is possible that it does not lead to a shorter charging time compared to the charging time with the 2,2 A charging unit.*

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.

5. Operation

5.1 Battery installation/removal 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.

5.2 ON/OFF switch of the motor

The motor 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. Push again to switch the motor OFF and the LED display also goes off.



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.

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 so that it can support you the moment you start pedaling.

5.3 Setting the support steps

With your Pendix, you have three possible support steps available: ECO, SMART and SPORT. You can set your system to any of these using the rotating switch directly on the battery. The straight mark on the ON/OFF button shows the selected mode.



The support levels distinguish according to their strength of performance. Please use during your first drive with the new installed Pendix the lowest support level (Eco).

The support levels can be described as follows:

ECO: High duration level (supports up to 25 km/h or 15 ½ mph), support 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), support 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), support level 200 % Examples: Hills, mountains, steep gradients, loose or irregular surface, wind against you

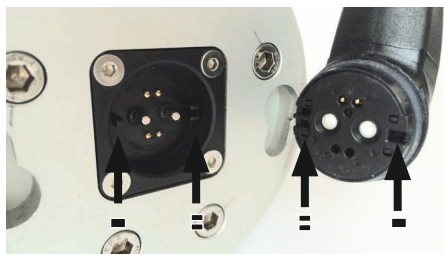


Do not change the support setting while riding. Doing so is a safety hazard. Always keep both hands on the handlebar while riding.

5.4 Connection/removal from charging unit



When using the power station, you need only take care that the point on the battery is in line with the point on the power station. When the battery is positioned, the magnetic plug will attract it into place so that it will be electrically connected. The LED display lights up to indicate successful connection.



If you wish to charge without the power station, make note of the symbols on the plug. As the plug is magnetic, it has the advantage that it will only be attracted to the battery if it is held the right way round. The LED display lights up to indicate successful connection.

5.5 Charging the battery

Charging of the battery is possible with and without power station.



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.

You can charge the battery at any time without shortening its life. There is no memory effect. Also, no damage to the battery occurs when charging is interrupted.

The ideal temperature for charging is between 15 and 25° C (59–25° F). If the temperature of the battery is below 0° C (32° F), do not charge it. The upper temperature limit for charging is 45° C (113° F). Please note: when the battery is moved from very cold surroundings to a warmer place, you must give it a certain time to adapt.



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 charging unit in damp or wet places, or near running water. There is a danger that the charging unit will overheat, catch fire, or cause an electric shock.

To charge the battery, first insert the plug of the charging unit from below into the power station. Then connect the charging unit to a power outlet socket (line power).



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

Now you can connect the battery to the power station. Connecting the battery to the power station means that charging has started. The LED display on the battery lights up for 4 seconds in the color of the charging level selected before continuing as a pulsating light. The LED display is active in this way as long as charging lasts. Its color changes according to the charging level. The LED display switches off automatically when the battery is fully charged.

During charging, it is possible to switch off this pulsating light of the LED display by pushing the ON/OFF button once. Charging of the battery will nevertheless continue. The pulsating light is reactivated by pushing the ON/OFF button once again; when the battery is fully charged, the display may then light up with a green color for a short moment. If the battery does not start charging after being connected (for example charging unit not connected with power outlet), the LED display shows a continuous light for 30 seconds before going out.

Should the LED display show a blinking blue light, this means that the battery is outside its given temperature limits. Make sure that the temperature of the battery is in a range between 0° and 45° C (32° F–113° F).

5.6 Charging level indicator

LED display



EN

If you want to know which charging level the battery has, simply push the ON/OFF button quickly once when the battery is not connected.

You will see the charging level of the battery from the color of the LED display at the upper end 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.

5.7 Additional functions

Brightness of the LED display

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. This is a safety risk. 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 ePower500 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.

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

6. Useful notes on distances

To find out how far you can expect to ride, please consult the relevant table:

- Support setting: 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.

Eco ePower300			
	Conditions		
Charging level	ideal	favourable	difficult
100 %	105 km	78 km	55 km
70 %	74 km	55 km	39 km
40 %	42 km	31 km	22 km
10 %	11 km	8 km	6 km

Smart ePower300			
	Conditions		
Charging level	ideal	favourable	difficult
100 %	72 km	51 km	35 km
70 %	50 km	36 km	25 km
40 %	29 km	20 km	14 km
10 %	7 km	5 km	4 km

Sport ePower300			
	Conditions		
Charging level	ideal	favourable	difficult
100 %	45 km	31 km	19 km
70 %	32 km	22 km	13 km
40 %	18 km	12 km	8 km
10 %	5 km	3 km	2 km

Eco ePower500			
	Conditions		
Charging level	ideal	favourable	difficult
100 %	160 km	118 km	83 km
70 %	112 km	83 km	58 km
40 %	64 km	47 km	33 km
10 %	16 km	12 km	8 km

Smart ePower500			
	Conditions		
Charging level	ideal	favourable	difficult
100 %	110 km	78 km	53 km
70 %	77 km	54 km	37 km
40 %	44 km	31 km	21 km
10 %	11 km	8 km	5 km

Sport ePower500			
	Conditions		
Charging level	ideal	favourable	difficult
100 %	69 km	47 km	29 km
70 %	48 km	33 km	20 km
40 %	27 km	19 km	12 km
10 %	7 km	5 km	3 km

7. In the case of an error

Should your motor 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 à battery defect
- A blue light blinking at intervals of 2 seconds à 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

The following table shows measures you can take by yourself or have a specialist/bicycle mechanic check through/perform for you.

If, after taking these measures, your motor is still not activated, please contact ,in case of battery or drive system faults, your authorized bicycle specialist or Pendix representative where the defect can be investigated in greater detail. If an exchange is necessary, the whole process will only take place between Pendix and your bicycle retailer.



Repairs on the motor may only be carried out by a bicycle specialist/technician and when original replacement (spare) parts are used.
Caution: improperly carried out repairs can cause accidents and severe damage.

System part	Measure taken
Battery	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).
Drive system (unit)	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 to see whether it is now functioning.

8. Transporting your Pedelec

8.1 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.

8.2 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.

8.3 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.

9. Disposal



Motor unit, 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 your Pendix motor or Pendix components in domestic waste containers! In accordance with European Directive 2002/96/EU, usable electrical equipment must no longer be disposed through normal channels, and in accordance with the European Directive 2006/66/EU, defective or used batteries must be collected separately and be disposed in an environmentally safe recycling system. Always return batteries that are no longer usable to your authorized bicycle salesman/ technician.

10. Technical data

drive system	
motor	brushless bottom bracket motor
performance	250 W nominal
speed (max)	25 km/h
motor settings	3
torque (max)	50 Nm
sound pressure level	Lpmax in dB(A)
passing through with motor	45.1
starting with motor	49.0
battery ePower300	
type	Lithium-Ionen 13S2P
capacity	331 Wh nominal
voltage	48 V
charging time	3 h 12 min
distance (max)	45-105 km (depending on rider, riding style, topography and motor setting)
battery ePower500	
type	Lithium-Ionen 13S3P
capacity	497 Wh nominal
voltage	48 V
charging time	3 h 10 min
distance (max)	69-160 km (depending on rider, riding style, topography and motor setting)

overall system		
weight (overall system)	eDrive300 6.5 kg eDrive500 6.9 kg	
Operating temperature	-10° C to +50° C	
Storage temperature	-20° C to +60° C	
dimensions (width x height x depth)		
battery	80 x 276 x 80 mm	
drive system	292 x 206 x 50 mm	
tightening torque values for screw connections		
battery holder on the frame (with safety screws)	4.5 Nm	± 0.5 Nm
electronic bottom bracket right-hand assembly side (greased)	15 Nm	± 2 Nm
bottom bracket mounting (greased)	60 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

11. Guarantee conditions

The warranty regulations for business costumers can be accessed at agb.pendix.de.

Regardless of the legal regulations, Pendix offers private consumers as the first owner of the system a two-year, non-transferrable warranty on the components of the drive system. Wear parts, in this case mechanical defects of the electronic bottom bracket, are typically excluded from warranty. If the battery is used according to the intended use, a warranty is granted to private consumers for the first two years or 500 charging cycles (80% residual capacity), whichever occurs first. Beyond that, the battery is considered as a wear part.

The warranty period begins on the day the product is bought, at the latest, however, one year after the original production date (see label on battery and drive). Warranty cases shall be reported immediately.

battery label:

Rechargeable Li-Ion battery 13S3P
131NR19/66-3

Nominal voltage: 47,25 VDC
Maximum charge voltage: 54,6 VDC
Batt. nominal capacity: 10,5 Ah
Batt. minimal capacity: 10,05 Ah
Nominal energy: 497 Wh

Safety advice for Li-Ion batteries
Risk of fire and burns. Do not open, crush, heat above 80 °C (176° F) or incinerate. Follow manufacturers instructions. Charge: 10 to 45°C. Discharge: - 20 to 60°C.

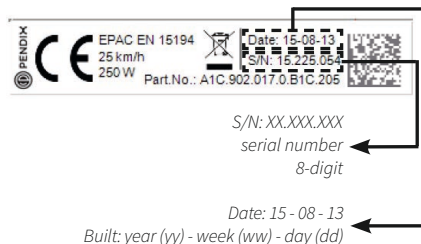
CE
Hergestellt für: Pendix GmbH, Innere Schneeberger Str. 20, 08058 Zwickau

GEB: 17 - W07
Art.: 3200-0029-01
S/N: 1000024 , T/N: B2C.904.061

S/N: XXXXXX
serial number 7-digit

Date: 17 - W07
Built: year(yy) - week (wxx)

motor label:



The warranty is only applicable to material or processing errors and can only be granted, if the proof of purchase in the form of an original invoice or cash voucher indicating the date of purchase, the dealer as well as the model designation of the bicycle is available. Furthermore, the information regarding "Built" and "Serial number" of battery and drive must be proven either in writing on the proof of purchase or via photo. If these proofs are not delivered, Pendix reserves the right to refuse warranty.

Please contact your dealer if a defect or fault occurs during this period. At the discretion of Pendix, warranty includes the quoted repair or the replacement of the defective or impaired components by a service exchange unit.

Warranty repairs will exclusively be performed by Pendix or by partners authorised by Pendix. Possible repair costs incurred by a partner not authorised by Pendix will not be reimbursed. Furthermore, any warranty claim will become void due to this.

The warranty period will not be extended due to repair works or the replacement during the warranty period.

Warranty cases resulting from the following causes are excluded regardless of other reasons:

- due to external influences such as collision, falling rocks, accidents, falls or other events with a direct external influence due to mechanical force
- wilful or malicious actions such as e.g., but not limited to, theft, robbery or elementary events
- improper use, if the product is e.g. exposed to extreme temperatures, moisture or humidity or if the battery was damaged due to the failure to comply with the safety instructions for the handling and storage of batteries in the system operating manual
- damages as well as improper use of the plug connections, such as e.g. exposing the motor or battery plug without protection to humidity and moisture

Furthermore, no warranty will apply:

- if the model, serial or product numbers on Pendix products were changed, concealed or removed
- if the battery is used in systems which are not approved for the use with Pendix products
- if Pendix components were opened, modified or painted

The warranty is only applicable to Pendix original components. The use of spare parts of unknown origin is strictly prohibited and will invalidate the warranty of all other components included in the system.

The warranty does not cover the compensation of property damages, costs for loan or rental devices, downtimes, travel expenses or other additional claims. The liability of Pendix arising from the warranty is limited to the acquisition value of the product.

12. Imprint

Responsible for content and illustrations

Pendix GmbH
Innere Schneeberger Straße 20
08056 Zwickau
Germany
Mail: info@pendix.de

Legally checked by professional lawyers for trade protection.

These operating instructions are covered by requirements and scope of EN ISO 4210:2014 and 15194.

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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Pendix EN Edition 05/18 Rev.04.

www.pendix.com

Own notes



Pendix GmbH
Innere Schneeberger Straße 20
08056 Zwickau
Germany

www.pendix.com

This Pendix motor (drive system) was assembled by:

