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Pedelec Operating Instructions

Pedelec handleiding

Pédélec manuel

Introduction (GB)

Dear Customer,

congratulations on the purchase of your new KETTLER Pedelec Cycle. These instructions will help you to operate and maintain your Pedelec. Please read them carefully before using your cycle and familiarise yourself well with the functioning of the system.

Please also read the notes in the enclosed KETTLER general instructions for assembly and operation.

Introduction

Pedelec (**P**edal **E**lectric **C**ycle)

The motor responds to the force which you exert on the pedals. The motor power is adjusted automatically to your muscle strength by means of a torque sensor. The pedalling assistance is reduced gradually as your speed increases and switched off as soon as it reaches 25 km/h or when you stop pedalling altogether.

Legal provisions

Your Pedelec has a maximum rated continuous power of 250 W and therefore qualifies as a bicycle according to European Standard. In Germany and most other EU countries, Pedelecs are approved for use without minimum age requirement, safety helmet or insurance registration.

Your cycle is identified as a Pedelec by a marking on the saddle column and fulfils all the requirements of the EU Guideline 89/336/EEC governing electromagnetic compatibility.

These Operating Instructions are not intended as a comprehensive repair or maintenance manual. For all questions concerning service, repair and maintenance please contact your KETTLER dealer.

KETTLE

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Pedelec General Diagram



Pedelec General Diagram

1. Operating unit
2. Motor unit with power sensor on bottom bracket
3. Battery
4. Battery lock
5. Charging unit



Charging the Battery

Before using it for the first time, the battery must be charged for at least four hours. When delivered, the battery is in the uncharged state and is in sleeping mode. The battery can be charged in any state i.e. at any charge level.

Removing the battery

To charge the battery, it first has to be removed from the cycle.

1. To release the lock, turn the key to the left in anticlockwise direction.
2. Hold the charger by the handle and tilt it 45° to the side.
3. Lift the battery out of its rack.



IMPORTANT: For safety reasons, always remove the key.

Charging process

1. Place the battery in the holder in the charging unit.
2. Connect the charging unit to the power supply by inserting the plug into a 220 V socket.
3. The battery is fully charged when all 5 LEDs light up. The current status of the charging process is always displayed during charging.
4. Remove the plug from the power socket and then take the battery out of the charging unit.

Charging the Battery

Note:

1. The length of the charging process depends on the capacity and the level of the charge.
2. Charge the battery at room temperature only. As soon as the ambient temperature of the battery is less than 0° or more than 40° the battery cannot be charged and the charging unit remains in standby mode.
3. Please observe the safety notes on the charging unit and battery on page 11.

Mounting the battery on the Pedelec

1. Insert the battery into the rack at an angle of 45°.
2. Tilt the battery back until it clicks into the lock.

Before cycling

Always check the level of the battery charge before departing on a cycling run.

To check the battery charge, press the red button PUSH and the remaining charge in the battery will be displayed.

Each LED corresponds to a level of approx. 20%.





Operating Unit

The operating unit is for switching the system on and off, selecting the desired assistance level and displaying the amount of charge remaining in the battery.

Switching on

Press the Power button on the operating unit on your handlebars.

All the LEDs light up for 2 seconds.

Important: Do not put any pressure on the pedals during these 2 seconds because the torque-measurement system is being set automatically.

The LEDs of the battery-level display and the selected assistance mode then light up. The system is now active.

Note:

Do not activate the system when applying force to the pedals. If the LEDs do not light up after you have pressed the Power button, ensure that the battery is correctly mounted and charged.

Cycling

When force is applied to the pedals the system becomes active and motor assistance is available. The magnetic torque sensor measures your force and automatically controls the level of motor assistance according to your prior assistance setting. The amount of pedalling force you require is reduced by between 60 and 30% depending on the mode selected. If possible start with a low gear to avoid unnecessary stress to the battery. The power assistance is reduced gradually from a speed of approx. 16 km per hour upwards, and switches off at a speed of over 25 km per hour.

Stopping

After stopping, press the Power button to switch the system off.

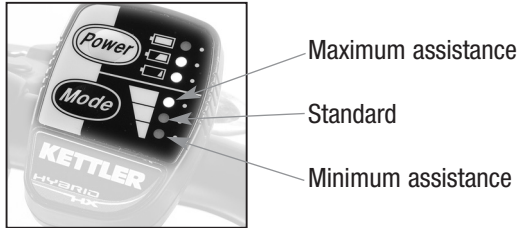
Auto Power Off

The system switches off automatically after a few minutes. To re-activate the system, press the Power button.

Assistance Mode, Range

Selecting degree of assistance

With the Mode button on the operating unit you can select one of three different assistance modes at any time. Press the Mode button until you arrive at the mode you require.



The best amount of assistance and the consequent range of the battery depend on a number of factors which are best determined by trial and error.

Always cycle in as high a gear as possible because no more assistance is given if the pedalling rhythm is too high. The assistance system is switched off automatically when you are not pedalling.

Range

The range achieved by a fully charged battery depends on a number of factors, e.g. the Assistance Mode selected, your own physical fitness, your use of the gears, your body weight, luggage weight, tyre pressure, road surface, topography, air temperature, or whether you are cycling in the town (i.e. frequently starting and stopping) or the country.

Thus, for the same battery power, you may be able to cycle over 50 km or only 20 km depending on circumstances.

Motor

Bottom-bracket motor

Brushless DC motor

Power output: 250 W

Weight: approx. 3.5 kg

Control by means of frictionless magnetic torque sensor

Overload

When the motor is overloaded, the LEDs on the operating unit flash in the following pattern

Flashing LEDs

Flash interval: one space equals 0.5 sec

One mode diode



Reduce the maximum motor load

Reduce the level of assistance

Overheating

When the motor is overheated, the LEDs on the operating unit flash in the following pattern

Flashing LEDs

Flash interval: one space equals 0.25 sec

One mode diode



Reduce the motor temperature by cooling

Reduce the level of assistance

Life span

The life span of the motor depends on the amount of use of the Pedelec. When used normally, this should be between 10 and 20 years.

Technical Data

Battery

Battery power: 260 Wh, 26 V 10 Ah, removable and rechargeable

Type: Panasonic lithium, ions, manganese

Model: Li-ion battery Ni-Li NKY224B01 10 Ah

Charging time: approx. 3 h., initial charge 4 h.

Weight: 2.4 kg

Accumulator status

At the side of the battery there is a display which indicates the charge status and the capacity of the battery. To read these values, press the button "Push".

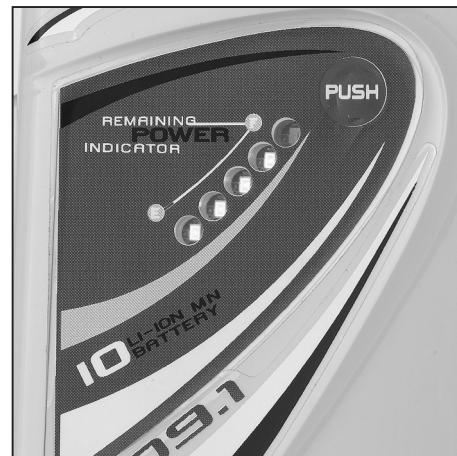
When the battery is fully charged, all 5 LEDs light up. The LEDs go out one after the other as the capacity diminishes, until only one remains lit up. When the last LED begins to flash at 2-second intervals, only 10% of the charge remains. When the last LED flickers at a rate of twice per second, it is fully discharged and the motor switches off. However, you can continue to cycle without assistance from the motor.

The battery is fixed to the frame by a lock to prevent theft. However, the lock is not designed to withstand extreme force.

The battery can be charged at any charge level. Li-ion batteries have no memory effect. To achieve the maximum range from your Pedelec, you should fully re-charge the battery.

The time required for a charge depends on the charge level at the start of the re-charging process. The charging process can be interrupted at any time.

Because of its physical characteristics, the battery functions less effectively at temperatures under -5° C. Under such conditions it cannot be completely discharged.



Battery Sleeping Mode

In its original state and at the first start-up the battery is in sleeping mode. For this reason the battery has to be fully charged before it is used for the first time.

If the charge level drops below 50% and it is not charged for more than two weeks, it goes into sleeping mode automatically.

The sleeping mode prevents total discharge.

To cancel the sleeping mode, charge the battery on the charging unit for more than 5 sec.

Life Span

The battery can be 100 per cent charged and discharged approximately 500 times. After this, the capacity declines and it is only possible to achieve a 60% charge, thereby reducing the range of the Pedelec. The battery should then be replaced.

At the end of its life span, the battery should be taken to an official collection point for recycling.

Safety notes

- To charge the battery, use only the charging unit supplied by the manufacturer.
- Use the battery only for your Pedelec.
- If it is used for other types of battery, these may explode.
- Do not expose the battery to temperatures over 60° C, e.g. radiators, heaters, direct sunlight etc. Do not leave it inside an overheated car.
- Do not expose the battery to water.
- Do not try to dismantle or modify the battery.
- Do not subject the battery to pressure from heavy objects.
- Do not continue to use the battery if it heats up during use, charging or storage, or if it smells or changes its appearance or behaves differently in any way.
- Do not use the battery if the housing is damaged.
- Do not dispose of the battery with standard household waste.
- Do not allow small children to play with the battery.
- If the battery or the system are used by children, they must be taught to handle them correctly.

Charging Unit

The charging unit type NKJ38 is supplied with the cycle.

Weight of charging unit: 530 g

Power supply: 220 V (50 Hz) AC

Power: 62 W

A charging unit is supplied with the cycle. To charge it, take the unit out of the box and remove the plastic foil. Failure to remove the foil may cause damage to the unit through overheating. Store the unit in a dry place.

Safety notes

- Never join the contacts of the charging unit
- Do not attempt to modify or dismantle the charging unit
- Do not use the charging unit in damp surroundings or at temperatures over 60° C or under 0° C.
- Do not continue to use a charging unit which is damaged (plug, housing, power cable).
- Keep the unit out of the reach of children. Electric-shock hazard!
- Always keep the plug and the contacts of the charging unit clean, dry and free of dust.
- Connect the charging unit to a power plug of 230 - 220 V only.
- During the charging operation, avoid touching the charging unit as it may heat up to approx. 40 - 60° C.
- Do not cover the charging unit or place objects on it during charging as this may cause it to overheat. Fire hazard!

Inspection

Follow the instructions in the enclosed KETTLER Instructions for Assembly and Operation

Tyre Pressure

The tyre pressure has an important influence on the performance of the Pedelec. To ensure that the range of the battery is not affected, ensure that the tyre pressure is always between 3 and 4 bar. Check the tyre pressure regularly.

Longer periods of disuse

If the cycle is not in use for longer periods, ensure that the battery is charged and stored in dry conditions.

After about 4 months, the battery switches to sleeping mode.

Recommended storage temperature: 20 - 30° C.

Cleaning

Do not use compressed air or high-pressure water jet to clean the Pedelec.

Before cleaning the Pedelec remove the battery.

Use only a soft cloth and water or neutral cleaning agent to clean the plastic parts and the battery. Non-neutral cleaning agents may cause discolouration, warping, scratches or other unsightly defects.

When your Pedelec is not in use, always store it in a sheltered place to protect it from wind and weather (snow, rain, sunlight etc.).

Follow the instructions in the enclosed KETTLER Instructions for Assembly and Operation

Battery

Batteries are subject to wear and tear. It is therefore normal for the capacity of the battery to decline with increasing age, use, and frequency of charging.

For other guarantee provisions, please refer to the KETTLER Instructions for Assembly and Operation.

Ground clearance

Because of the position of the motor unit, the clearance between the lowest point of the frame and the ground in the area of the bottom bracket is about 5 cm less than for a standard cycle.

Please exercise due care when cycling over uneven ground.

Spare key for battery lock

Your Pedelec is supplied with two keys for the battery lock. In case of emergency, we recommend that you keep one of the keys in a safe place. Spare keys can be made by a qualified locksmith service.

Transport on cycle rack

If you are transporting your Pedelec by car on a cycle rack, remove the battery first and transport it inside the car. When transporting it on a rack at the rear of the car, observe the maximum load on the trailer hitch. The Pedelec weighs between 22 and 24 kg.

Batteries in hand luggage

It is prohibited to carry batteries in hand luggage on flights. Please consult your travel agent on the current regulations and possible methods of transporting the battery.