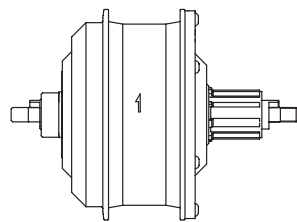




E-Bike components

User manual

Rear wheel motor



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## Safety information

### WARNING

**There is an increased risk of injury – even fatal – if you do not follow instructions.**

#### How safe riding is ensured

- ▶ While riding, do not focus your attention too much on the screen, as this can lead to accidents.
- ▶ Ensure that the wheels are securely attached to the bike before you begin your trip. If the wheels are not securely attached, the bike may fall over, causing severe damage.
- ▶ When riding a power-assisted bike, be sure that you are completely familiar with the starting characteristics of the bike before riding on multilane roads and footpaths. If the bike suddenly switches on, accidents can happen.
- ▶ If applicable, check that the bike lights are working before you ride at night.
- ▶ Remove the battery pack from the eBike before you start working on it (e.g., assembly work, maintenance, working on the chain, etc.), before transporting it by car or plane, or before storing it. There is a risk of injury in case of accidental activation of the eBike system.
- ▶ Be sure to remove the battery before you perform wiring or installation work on the bike. Otherwise there is a danger of electric shock.
- ▶ When you install this product, be sure to follow the instructions given in the user manual. We also recommend that you use only genuine SR SUNTOUR parts. If nuts and bolts are left loose or the product is damaged, the bike may fall over suddenly and cause serious injury.
- ▶ After you have carefully read the user manual, store it in a safe place for later reference.
- ▶ Ensure that unused connections are provided with caps.
- ▶ Contact a retailer for installation and adjustment of the product.
- ▶ To allow riding in wet weather, the product is designed to be completely waterproof. Nevertheless, do not expose the product intentionally to water.
- ▶ Do not expose the bike to high-pressure cleaning. If water should penetrate into one of the components, operating problems or rust may result.

#### Safe use of the product

- ▶ Examine the battery charger regularly for damage, especially the cable, plug and housing. If the battery charger is damaged, it must only be used after it has been repaired.
- ▶ This product must not be used by persons (including children) with reduced physical, sensory or mental capabilities, or who lack experience and knowledge, unless they are supervised by a person responsible for their safety, or instructed in the use of the product.
- ▶ Do not let children play near the product.

### WARNING

**There is a danger of personal injury or property damage**

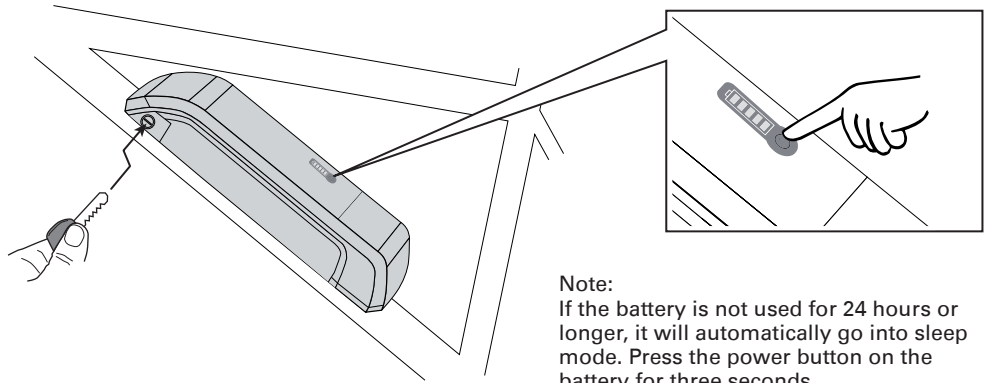
#### Managing the battery

- ▶ Use only batteries and chargers from SR Suntour with your bike. Use of other battery packs can cause injury and involve a risk of fire. If you use other battery packs, SR Suntour will assume no liability or warranties.
- ▶ Do not throw the battery pack into a fire.
- ▶ The battery must not be exposed to direct sunlight, or charged or stored in the vicinity of high temperatures.
- ▶ Do not use the battery for any other purpose.
- ▶ Avoid contact with metal objects (paper clips, coins, keys, nails, screws, or other small metal objects, as this may cause a short-circuit. Shorts caused in this way will invalidate any warranty claims.
- ▶ Do not open the battery pack. This could cause a short circuit. Opening of the battery package will invalidate any warranty claims.
- ▶ Do not connect, or disconnect the battery pack / charger with wet hands.
- ▶ Keep the battery / charger out of reach of children/animals.
- ▶ Do not subject the battery or the charger to physical shocks, e.g., by dropping. Rinse in the event of accidental contact with water. If fluid gets in your eyes, seek medical advice. Fluid that leaks from the battery pack may cause skin irritation or burns.
- ▶ If you detect a strange odour or smoke, pull the plug.
- ▶ Ensure that the power plug is fully inserted into the wall outlet.
- ▶ Pull on the plug instead of the cable to unplug the power cord from a wall outlet.
- ▶ Do not place anything on the cable. Do not lay anything on the cable.
- ▶ Do not bend the cable. The cable must not be rolled up while charging.
- ▶ It is dangerous to use a single outlet for multiple devices.
- ▶ If the cable or plug is damaged, replace the parts with new ones. Contact your authorized dealer.
- ▶ Always keep your charging set away from flammable gases when charging.
- ▶ The charger can be hot. Do not wrap the charger.
- ▶ The charger can be hot. Do not place the charger on floor coverings such as carpets, tatamis, etc.
- ▶ The charger can be hot. Avoid long skin contact with the charger.
- ▶ Do not immerse the battery or the charger. Do not use in rain.
- ▶ Do not charge the battery for more than 24 hours continuously.
- ▶ If the battery is not fully charged after six hours, disconnect it immediately from the output to stop the charging process and contact your place of purchase. This can lead to overheating, bursting, or ignition of the battery.
- ▶ The battery comes with a 40% charge. Discharge and charge the battery fully twice to reach an optimum range.
- ▶ Charge the battery before riding.
- ▶ The charger can be used with an input voltage in the range of 100V to 240VAC.
- ▶ After charging pull the cable from the battery and from the wall outlet.
- ▶ Keep the power plug clean and dust free. The charger should be cleaned regularly.
- ▶ Do not rotate the pedals while the battery is being charged and is on the battery holder.
- ▶ Provide ventilation/venting while the battery is charging in enclosed spaces.
- ▶ During storage keep the battery at a charge level of at least 40%.
- ▶ Charge the battery at room temperature between 5°C and 35°C (41°F and 95°F).

## Riding the E-Bike

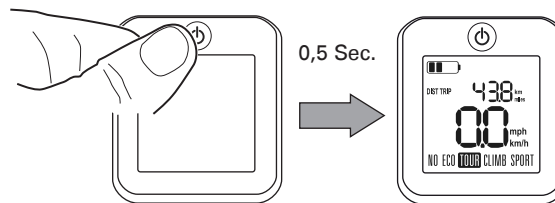
**1**

Fit the battery and push the battery ON/OFF button



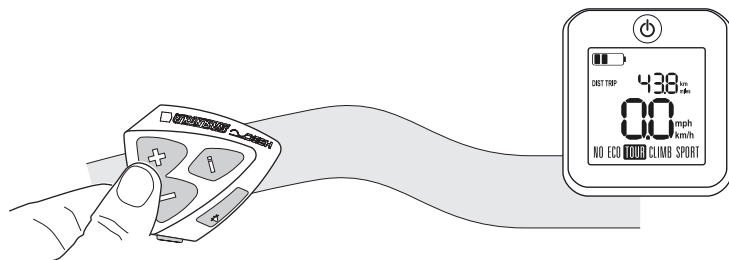
**2**

Switch on the bike



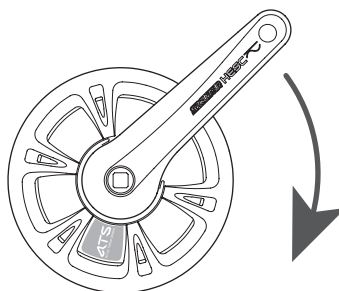
**3**

Select mode

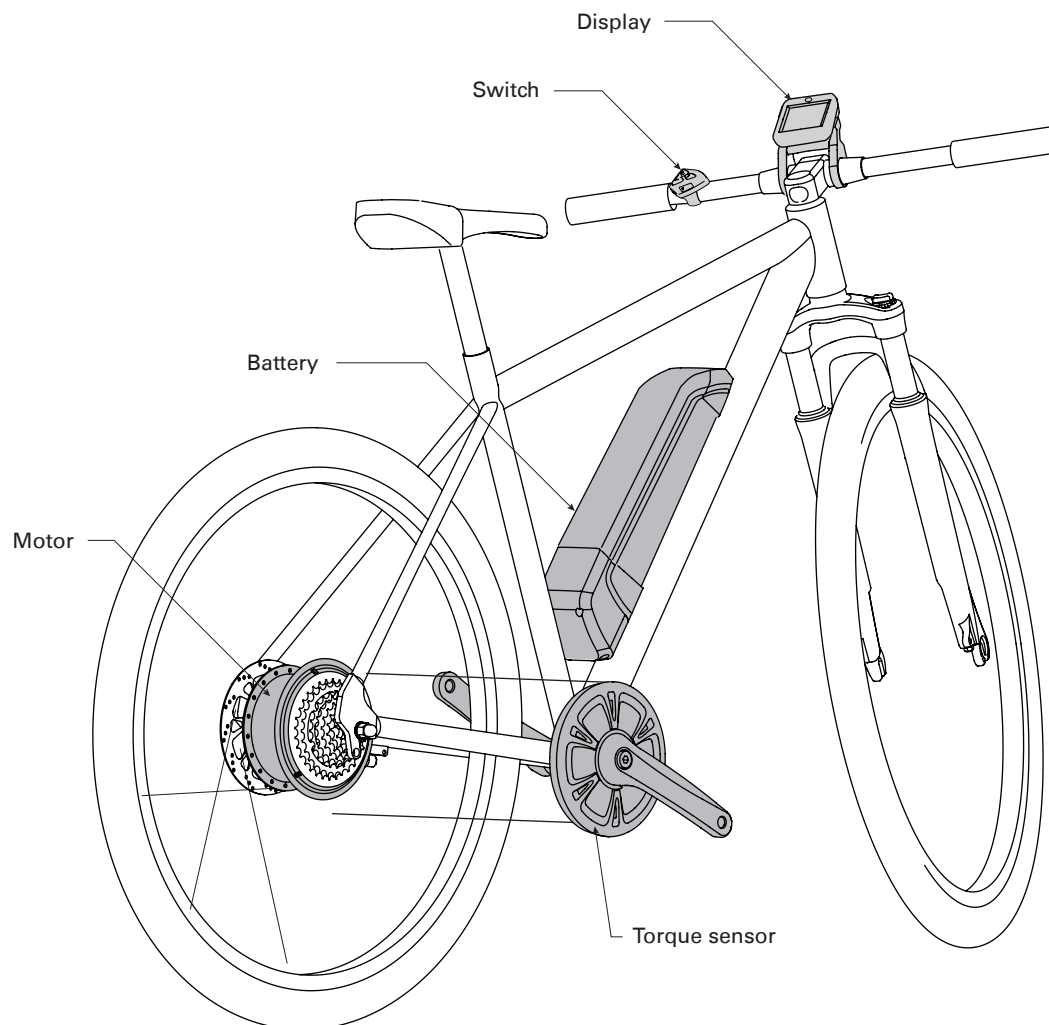


**4**

Start riding



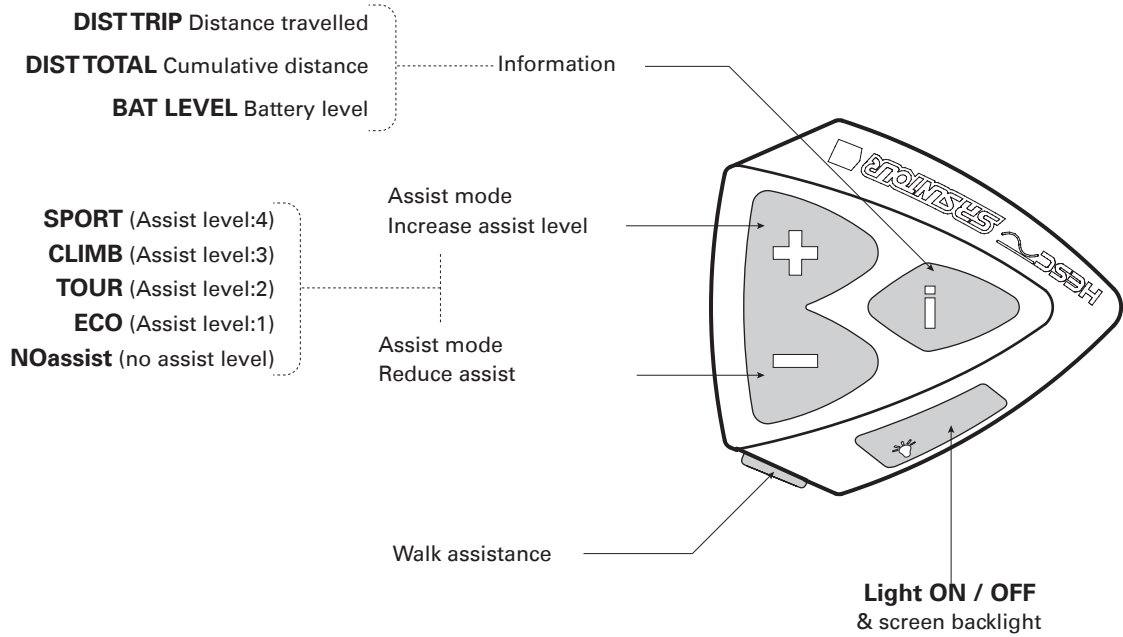
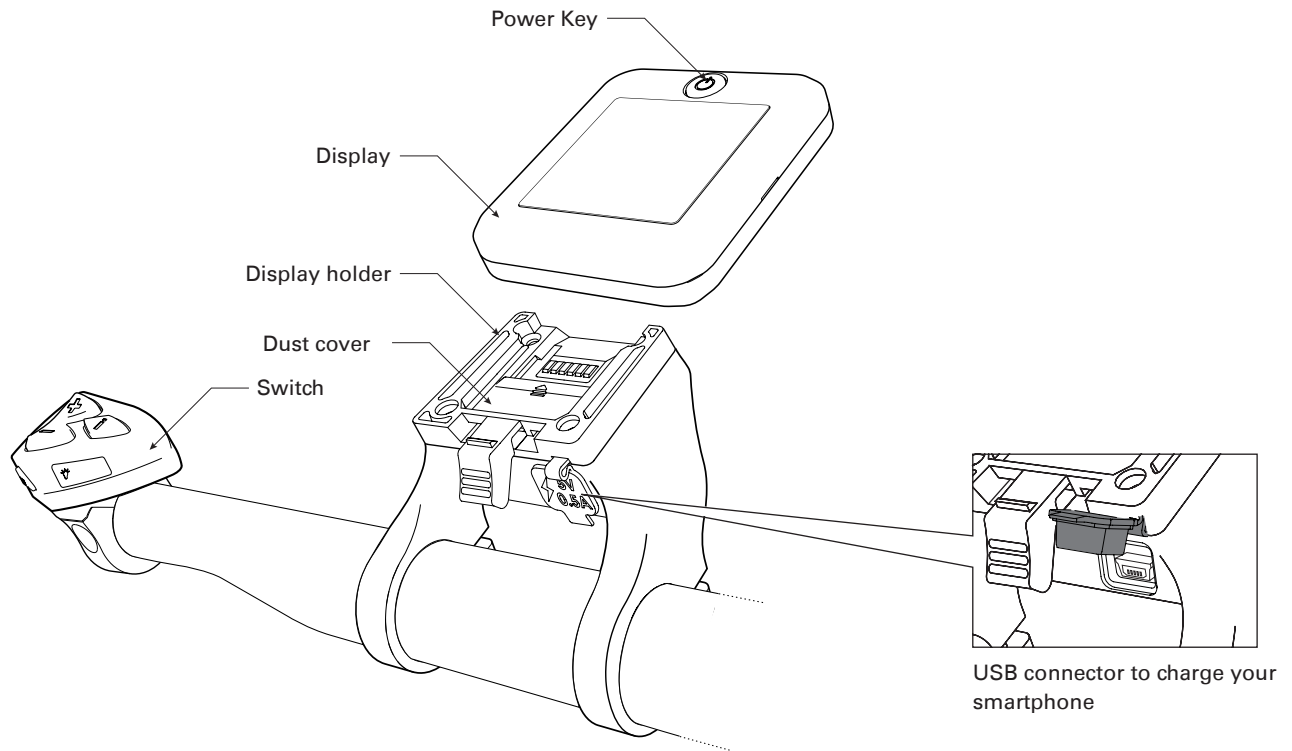
## Product characteristics



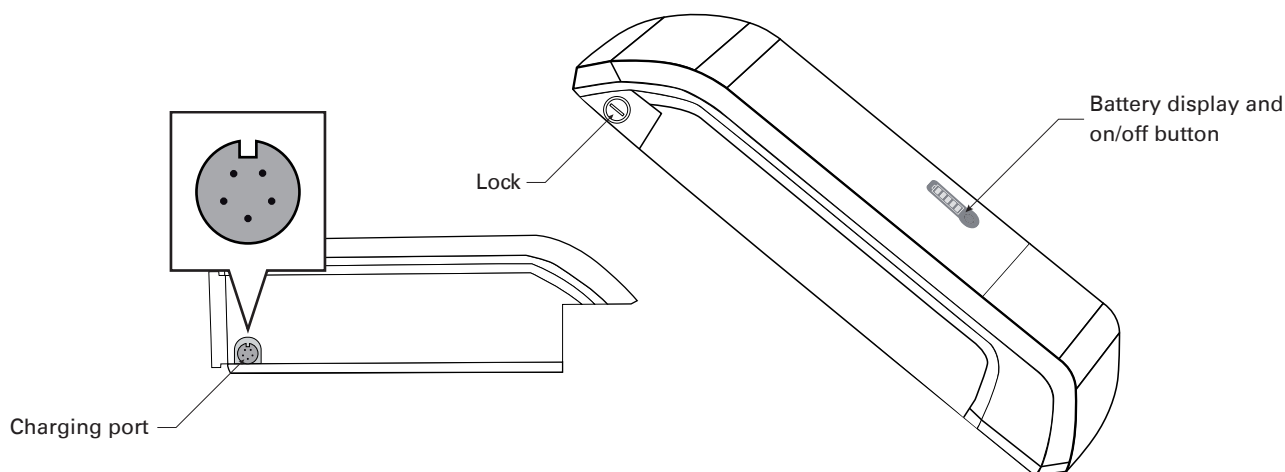
## Product specifications

<b>Operating temperature range during discharge</b>	-20°C to 60°C
<b>Operating temperature range during charge</b>	0°C to 45°C
<b>Storage temperature (battery)</b>	-20°C to 45°C
<b>Humidity (storage)</b>	up to 80%
<b>Charging voltage</b>	100V to 240VAC
<b>Charging time</b>	approx. 6 hours
<b>Battery type</b>	Lithium ion battery
<b>Capacity</b>	417Wh
<b>Nominal voltage</b>	36VDC
<b>Motor type</b>	Rear-wheel drive
<b>Motor type</b>	Brushless DC Motor
<b>Nominal motor power</b>	250W
<b>Maximum motor power</b>	400W
<b>Torque</b>	50Nm

## Display



## Battery



For safety this high energy density lithium ion battery contains a sophisticated battery management system (BMS). The BMS ensures safe charging and discharge, continuously monitoring each of the cells in the battery individually. If the current drawn gets too high or the temperature of the battery is elevated, the BMS will shut the battery down for safety.

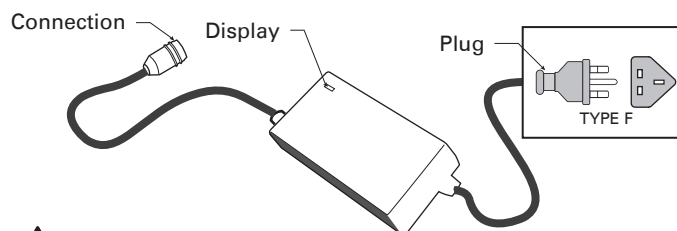
If the battery shuts down there are two levels of reset, it may come back on after a press of the power button on the battery. However if this does not reset you will have to take the battery right off the bike for a few seconds before refitting it.

- ▶ If the E-Bike not in use, remove the battery and store it at a temperature between 0°C and 40°C in a dry environment.
- ▶ Do not store the battery with low capacity for a longer period.
- ▶ For storage, the battery should have a capacity of at least 40%.
- ▶ It is recommended to always discharge the battery completely and then fully charge it.

## Battery charger

### WARNING

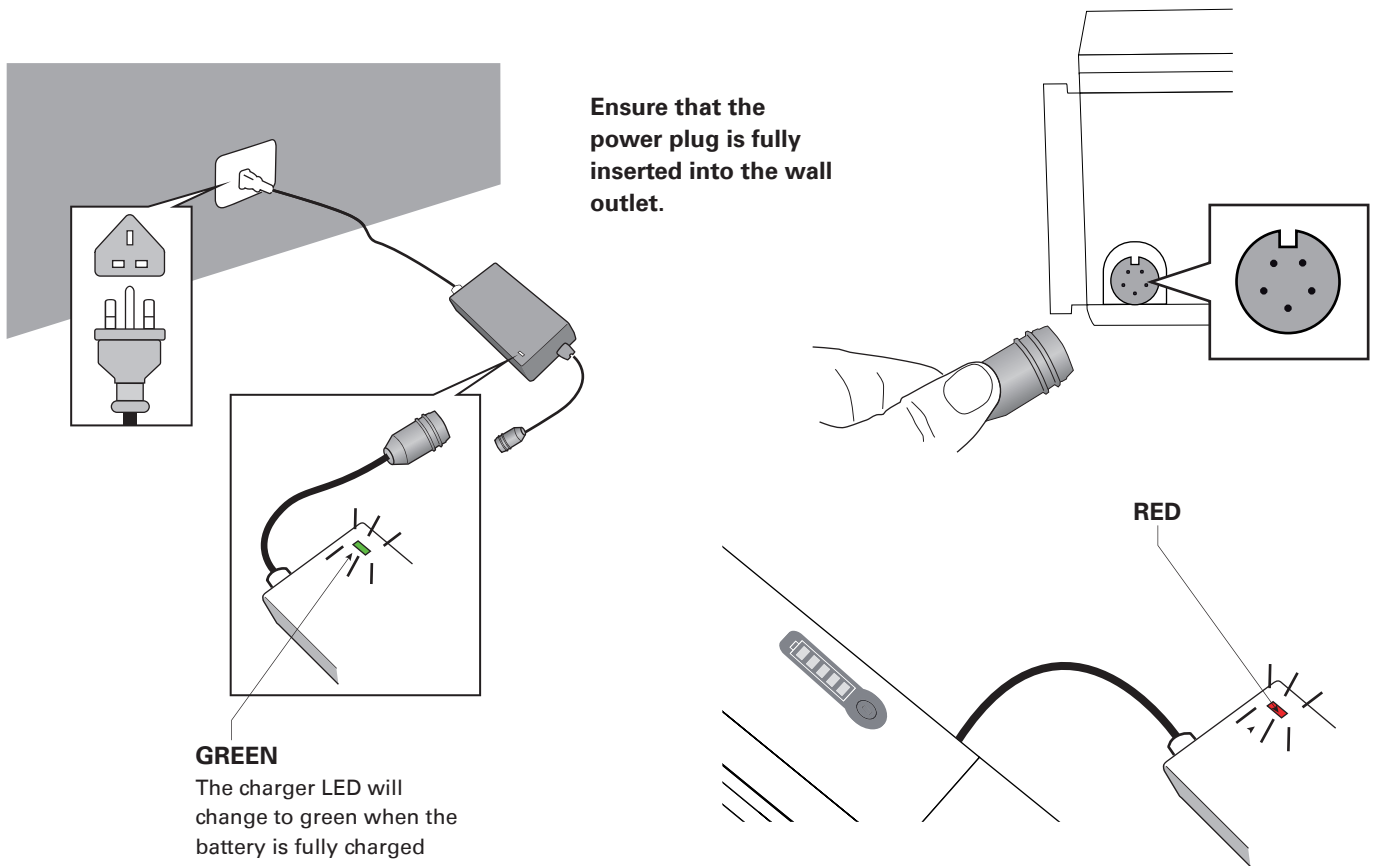
- ▶ Use only batteries and chargers from SR SUNTOUR with your bike. Use of other battery packs can cause injury and involve a risk of fire. If you use other battery packs, we will assume no liability or honour warranties.
- ▶ The battery must not be exposed to direct sunlight, or charged or stored in the vicinity of high temperatures.
- ▶ Avoid contact with metal objects (paper clips, coins, keys, nails, screws, or other small metal objects, as this may cause a short-circuit. Shorts caused in this way will invalidate any warranty claims.
- ▶ Do not open the battery pack. This could cause a short circuit. Opening of the battery package will invalidate any warranty claims.
- ▶ Do not connect, or disconnect the battery pack/charger with wet hands.
- ▶ Keep the battery/charger out of reach of children and animals.



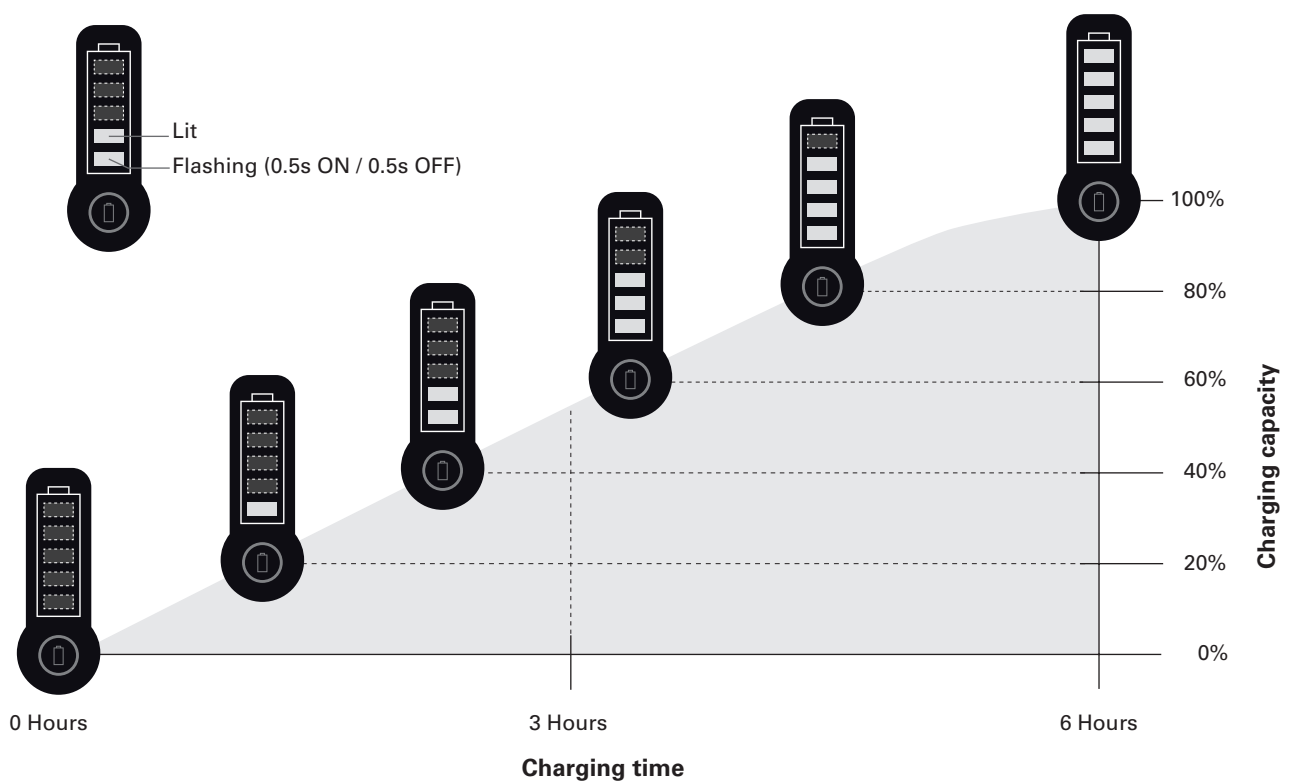
### WARNING

- ▶ Do not subject the battery or the charger to physical shocks, e.g., by dropping. Rinse in the event of accidental contact with water. If fluid gets in your eyes, seek medical advice. Fluid that leaks from the battery pack may cause skin irritation or burns.
- ▶ Do not bend the cable. The cable must not be rolled up while charging.
- ▶ The charger can be hot. Do not wrap the charger and place it on floor coverings such as carpets, etc.
- ▶ If the battery is not fully charged after six hours, disconnect it immediately from the output to stop the charging process and contact your place of purchase. This can lead to overheating, bursting, or ignition of the battery.

## Charging the battery



## Battery charging indicator

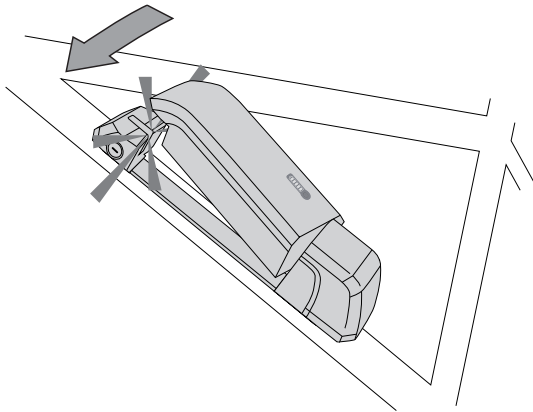


Every three months or after 40 sub-cycles, you should perform a complete discharge and recharge.

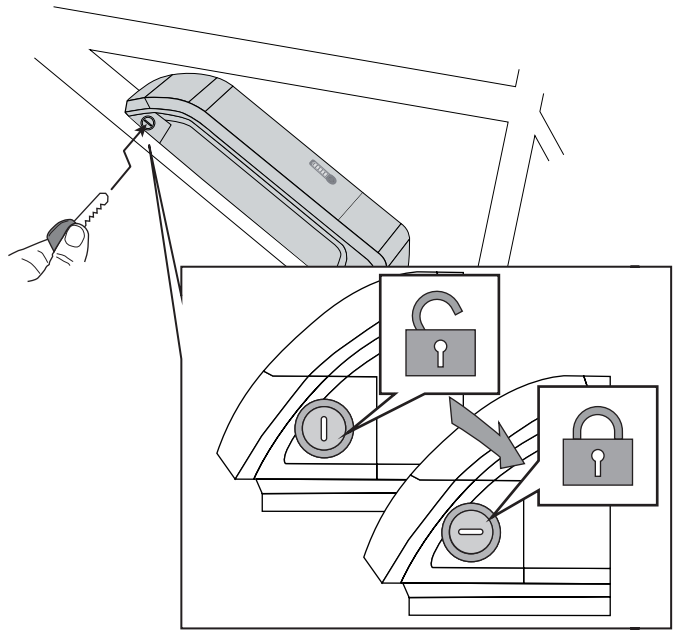




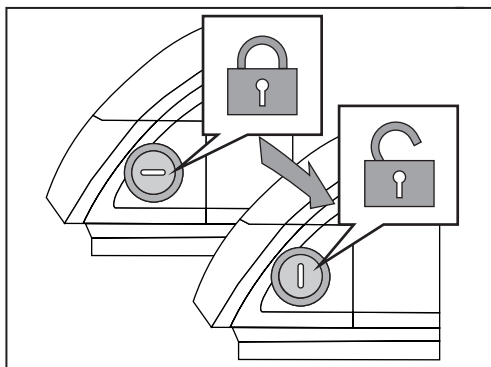
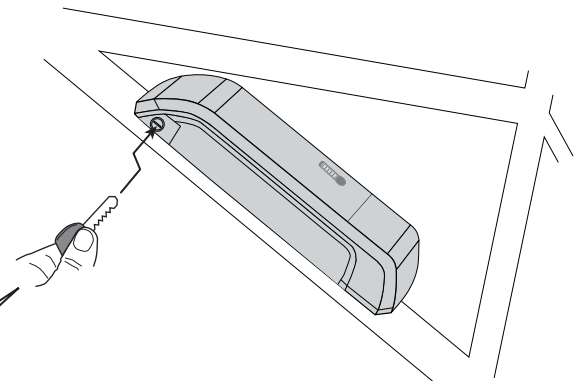
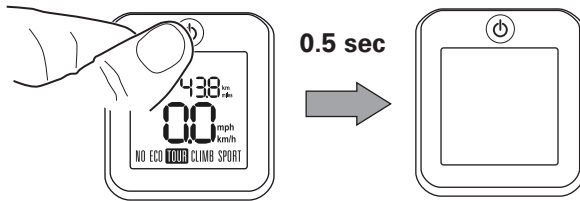
## Inserting the battery



The battery must latch on with an audible click.



## Removing the battery



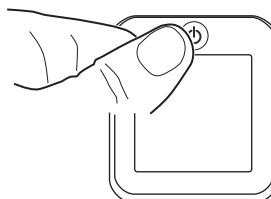
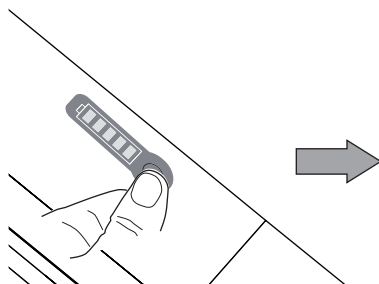
The bike is supplied with four battery keys. Replacement keys are not available and any further keys required will have to be cut. Please keep at least one of the keys in a safe place.

## Switching the bike ON/OFF

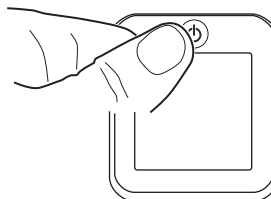
### SWITCHING ON



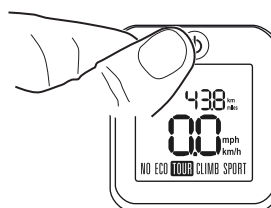
If the system has not been used for more than 24 hours, the battery will be completely switched off. The battery can be reactivated by pressing the ON button.



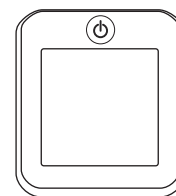
0.5 sec



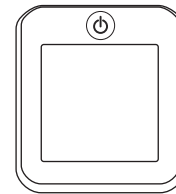
0.5 sec



0.5 sec



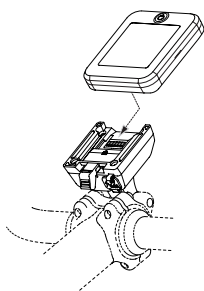
10 min.



### SWITCHING OFF

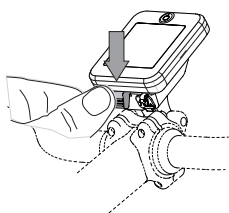
### Automatic SWITCHING OFF

## Placing the display

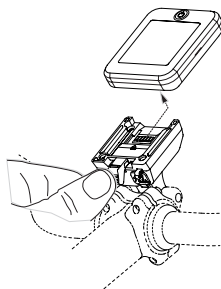


Slide the display into the mount on the holder, as shown. Ensure that the display is securely clipped into position.

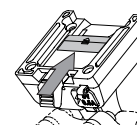
## Removal of the display



Press firmly on the lever of the display holder while you slide out the display.

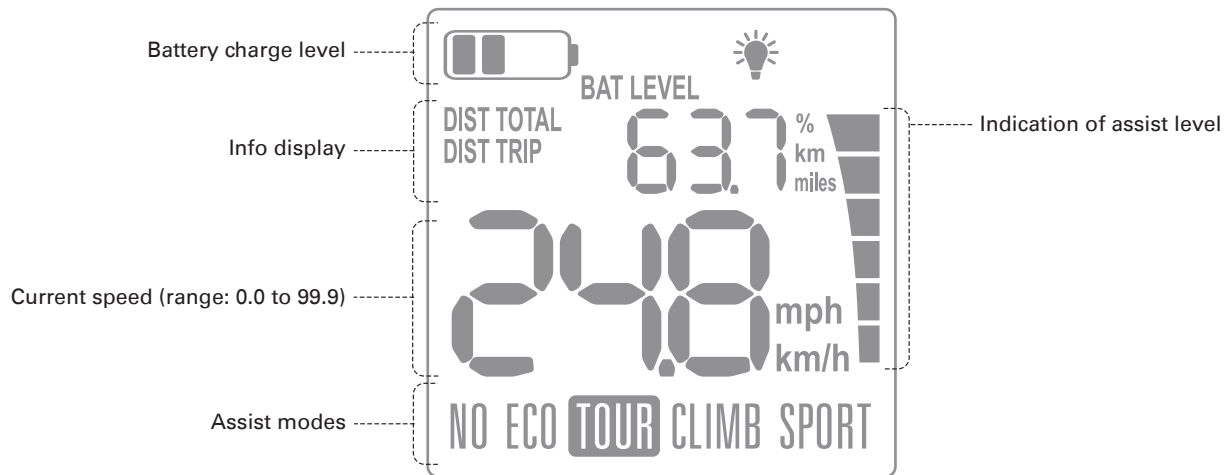


Slide up to cover the contacts and to prevent short circuits and malfunctions.



Always remove the display when leaving your bike in a public place, as without the display no one can switch on the electric drive system.

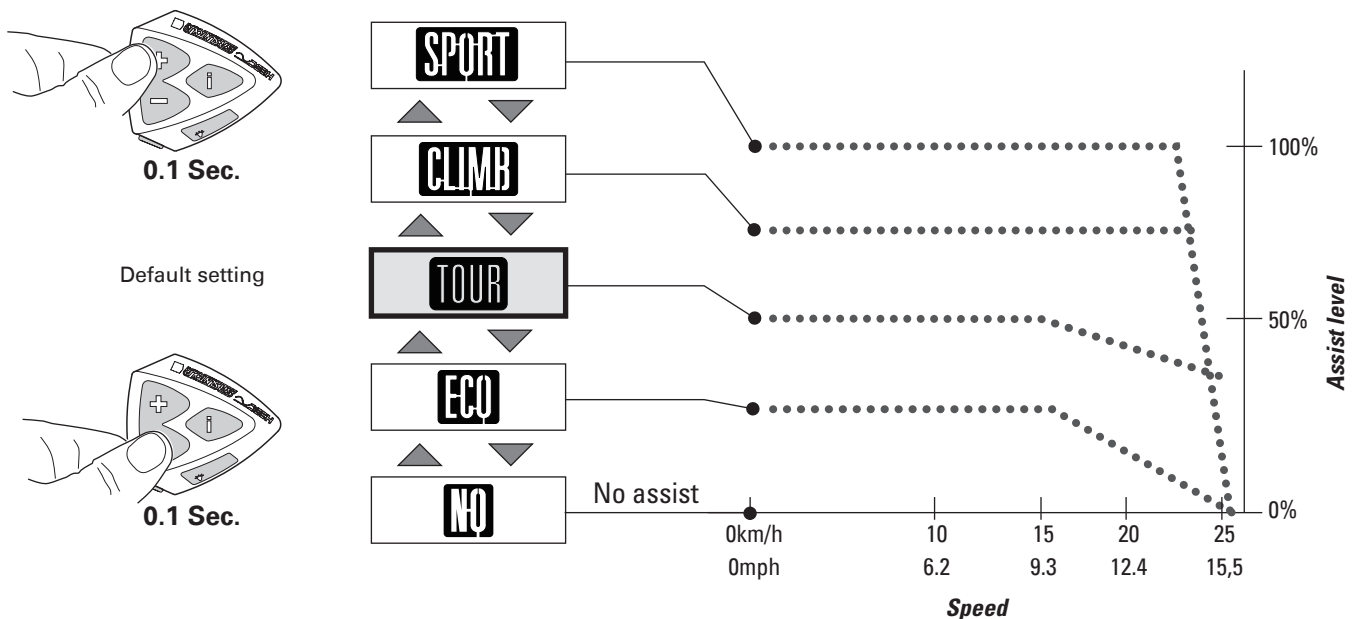
## Base screen display



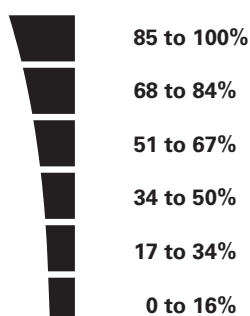
### 1. Km/h <-> mph setting:

When DIST TRIP or DIST TOTAL is displayed, you can choose between km/h & km or mph & miles. Press the "i" button for 5 seconds to perform the switch.

### 2. Display for changing assist mode

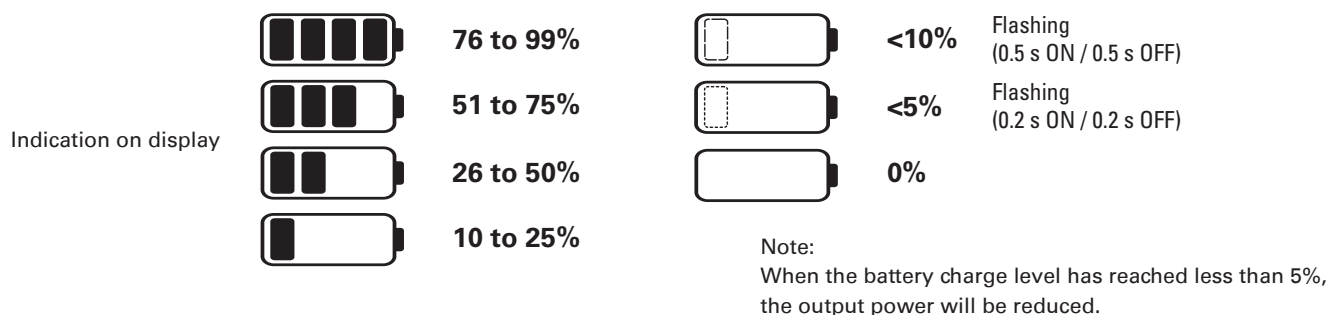
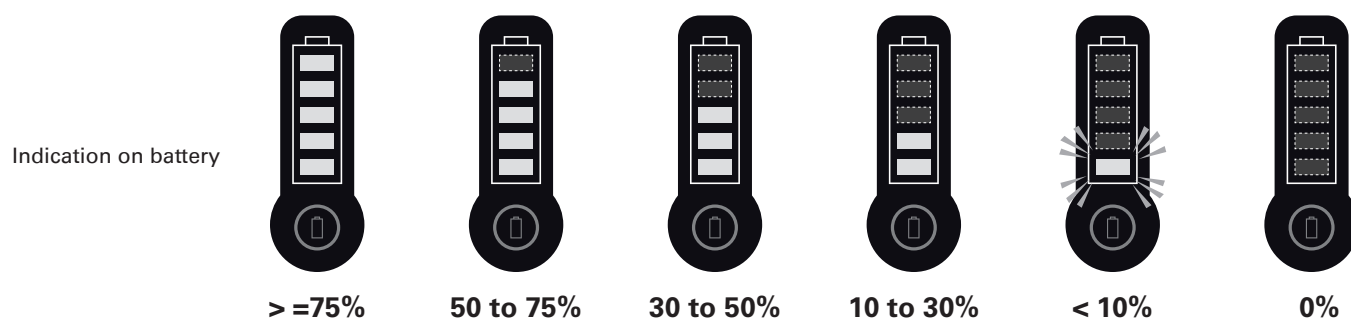


### 3. Assist level indicator

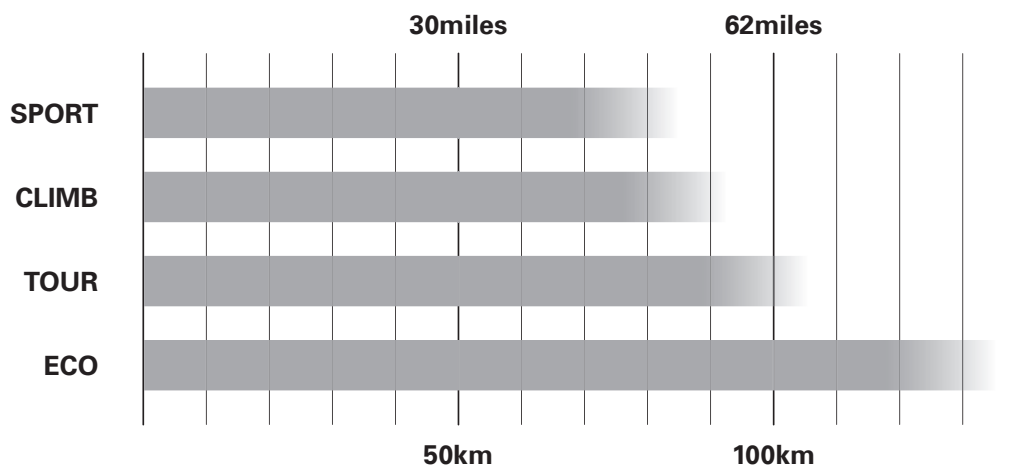


## 4. Battery State of charge (SOC)

Press the button briefly, one of the following patterns of the LEDs will be displayed.



## 5. Range



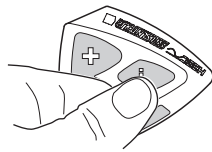
### Factors which affect the range

The above figures are based on a speed of 20 km/h on a level road at 15°C–20°C.  
The range is influenced by many factors:

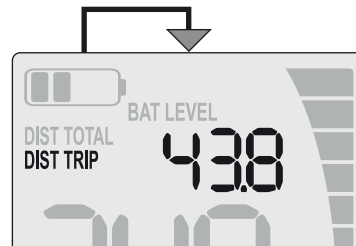
- ▶ Weight of the rider
- ▶ Weight of the luggage
- ▶ Selection of path
- ▶ Experience and concentration of the rider
- ▶ State of maintenance of the E-Bike
- ▶ Type, condition and air pressure in the tires
- ▶ Nature of the route
- ▶ Speed, average speed and changes in speed
- ▶ Traffic flow, for example, stop and go
- ▶ Wind direction and wind speed

For information on using the battery, see pages 3, 4 and 8. You'll also find information on how to maintain capacity and extend duration.

## 6. Changing trip information



0.5 Sec.



### DIST TRIP:

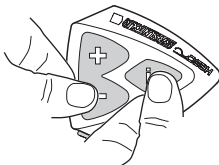
Distance travelled

Unit: 0.1 km / miles

Measurement range: 0.0 to 999.9 km / miles

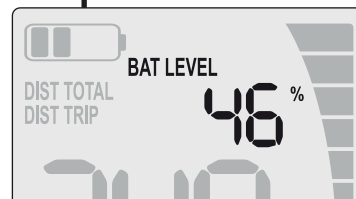
(default setting)

RESETTING  
TRIP DISTANCE



0.5 Sec.

(- & i) key

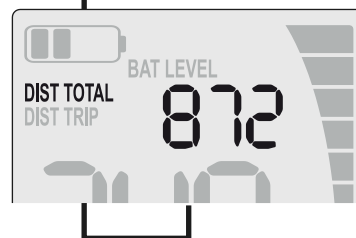


### BAT LEVEL:

Battery charge level

Unit: %

Measurement range: 0% to 99%



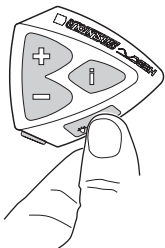
### DIST TOTAL:

Cumulative distance

Unit: km / miles

Measurement range: 0 to 9999 km / miles

## 7. Changing background lighting



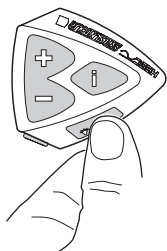
**Daytime (default)**  
100% illumination



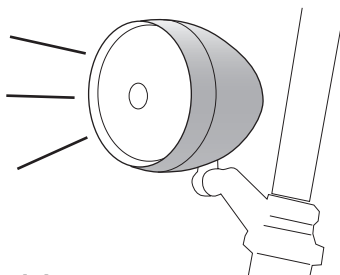
**Nighttime**  
50% illumination

## Headlight and taillight *(if applicable)*

Power on/off

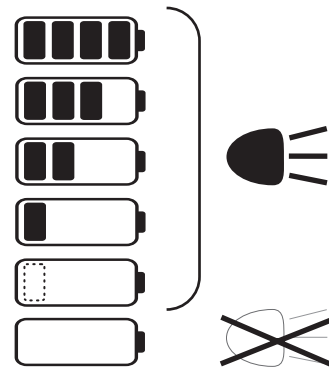


2 sec



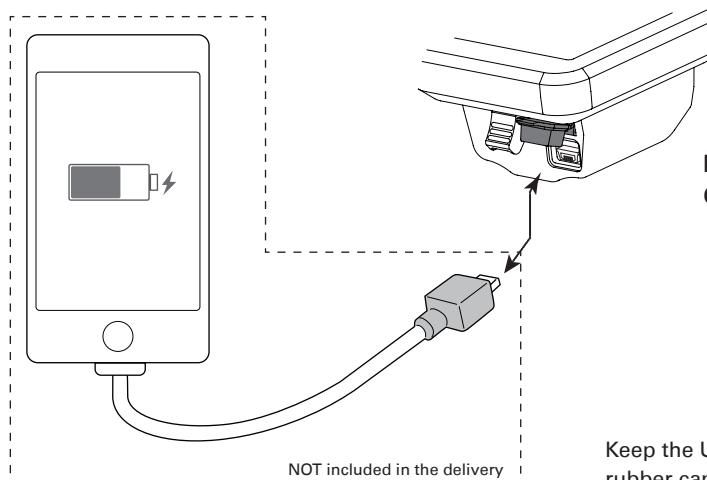
### Technical data

Nominal voltage 6V  
Output power: 3.0 W



## Charging your smartphone

Power supply for external devices via USB port. The USB connector allows you to charge most devices with a mini-USB port.



Mini-USB port  
Output: 5VDC 0.5A

### ⚠ WARNING

Keep the USB socket covered with the rubber cap, when not in use. This will prevent water ingress.

## Overheating warning



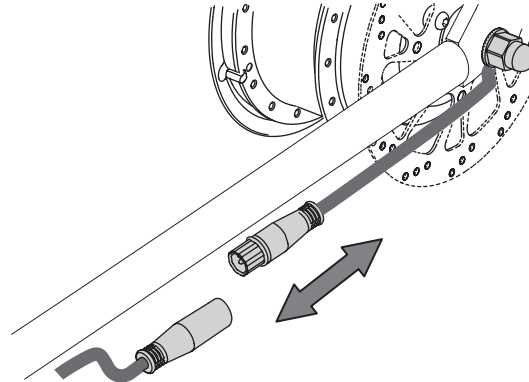
Long and sharp gradients may cause heating of the motor. Flashing of the "CLIMB" mode indicates this.

If the motor really overheats, the system will switch itself off in advance to protect the components.

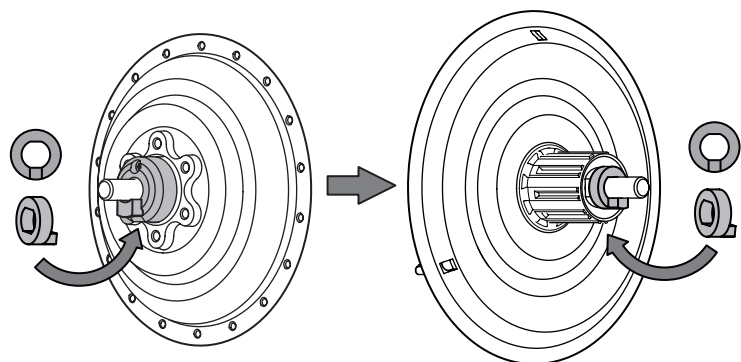
## Removing the rear wheel (to repair a puncture)

1. Cut the cable ties holding the waterproof motor cable connector under the non-drive side chain stay.

Separate the two halves of the connector this requires some 'wiggling' of the connector to overcome the sealing.

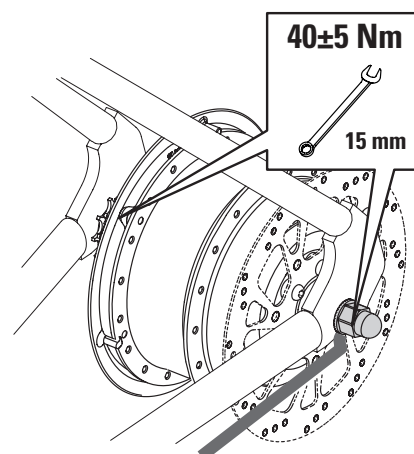


2. Loosen the wheel nuts using a 15 mm spanner and remove the wheel.

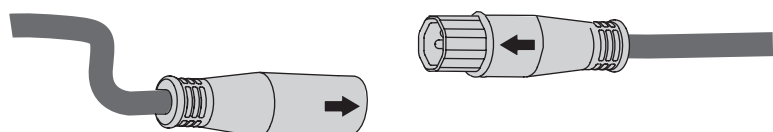


3. When refitting the wheel, ensure that the anti-rotation washers fitted to the motor axle are aligned and slide up within the rear drop outs.

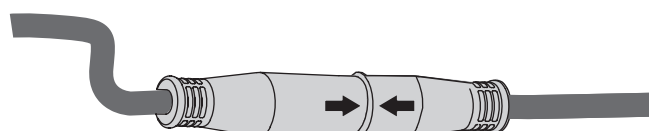
4. Tighten both wheel nuts to 40 Nm.



5. Reconnect the two halves of the motor connector making sure that the arrows are aligned, before pushing them firmly together.

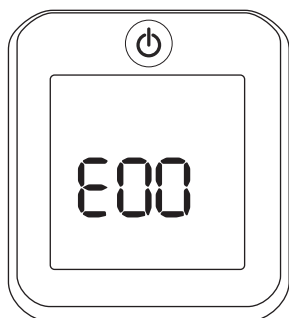


6. Replace the cable ties to secure the motor cable connector underneath the non-drive side chain stay.





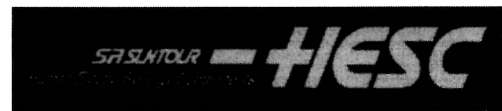
## Error codes



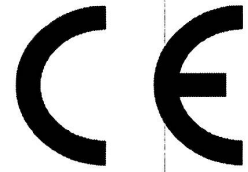
In the rare event of a system malfunction, an error message will appear on the display. If an error message appears, turn the system completely OFF and then ON. If the error message still appears, contact your local dealer for assistance.



Error	Problem Description	Trouble shooting	If problem still exists
<b>Error 00</b>	Controller communication problem	Remove the Battery for 5 minutes and then Power-on again	Replace Controller or Display
<b>Error 01</b>	Controller overheating	Let the Controller cool down	Replace Controller
<b>Error 04</b>	Bike lightning system	Check the lighting system of the bike	Replace Controller
<b>Error 05</b>	Controller Data failure	Remove the Battery for 5 minutes and then Power-on again	Replace Controller
<b>Error 11</b>	Display Communication failure	Check the Display-holder and cable connections	Replace Display or Display-cable
<b>Error 21</b>	Torque Sensor electrical problem	Check the Torque Sensor cable contacts	Replace the Chainwheel with ATS sensor
<b>Error 22</b>	Torque Sensor mechanical problem	Check the Torque Sensor cable contacts	Replace the Chainwheel with ATS sensor
<b>Error 32</b>	Overcurrent problem	Check the Battery Voltage, also the Battery-contacts in the Controller	Replace Battery or Controller
<b>Error 34</b>	Overvoltage problem	Check the Battery Voltage	Replace Battery or Controller
<b>Error 41</b>	Motor overheating problem	Let the Motor cool down	Replace Motor or Motorcable
<b>Error 42</b>	Motor Sensor failure	Check the Motorcable contacts to the Motor	Replace Motor or Motorcable



## EC Declaration of Conformity



The equipment which accompanies this declaration is in conformity with the following EU Directives:-

83/37/EC Machinery Directive  
 2006/95/EC Low Voltage Directive  
 2004/108/EEC Electromagnetic Compatibility Directive  
 2001/95/EC General Product Safety Directive  
 2012/19/EU Waste Electrical and Electronic Equipment Directive  
 2006/66/EC Batteries Directive

**Manufacturer:-** SR Suntour Inc., #7 Hsing Yeh Rd., Fu Hsing Industrial Zone, Chang Hua, Tawan, R.O.C.

**Represented in the EU by:-** SR Suntour Europe GmbH, Riedstrasse 31, 83627 Warngau, Germany

**A copy of the Technical file for this equipment is available from:-** The EU address above.

### Description of Equipment

SR Suntour E-Bike HESC ATS 250 W Rear Motor Drive System, 11.6Ah Li-Ion Battery Pack & Battery Charger

### The following harmonised standards have been used:-

EN 15194:2009 + A1:2011 Cycles – Electrically power assisted cycles – EPAC Bicycles  
 EN 60335-2-29:2004 + A2:2010 Household and similar electrical appliances. Safety. Particular requirements for battery chargers

### Other key standards used:-

UN/DOT 38.3 UN Manual of Tests and Criteria Transportation testing Li batteries

### Authorised signatory of manufacturer/authorised EU representative

Signature:

Name of signatory:

Daisuke Kobayashi

Tomonori Suenaga

Position in company:

SR SUNTOUR INC.  
CEO

SR SUNTOUR EUROPE GmbH  
Managing director

Place and Date:

Taiwan, May, 2015

Germany, May, 2015

### Halfords e-bike specific warranty conditions

Your Carrera e-bike is guaranteed against manufacturing defects arising from faulty workmanship or materials for 2 years from the original date of sale.

Providing that the cycle:

- Has been properly cared for, regularly serviced and maintained.
- Has not been ridden as part of a commercial use (e.g. hire, courier or delivery service, etc.).
- Has only been fitted with parts recommended by Halfords.
- Has not been modified or altered in any way, in particular no modifications to the Suntour HESC drive system.
- Has not been damaged by accident or misuse.

Any failure caused by normal wear and tear or a lack of servicing and maintenance is excluded.

Under the terms of this guarantee Halfords will bear the cost of the replacement parts and labour to carry out the repair.

Important: This guarantee applies only to cycles used under normal riding conditions. This guarantee does not affect your statutory rights.

### Battery pack specific warranty conditions

The battery pack is guaranteed over the warranty period to provide a minimum of 500 charging cycles and to hold at least 60% of its nominal battery capacity.

This is dependent upon the correct use, regular re-charging, correct preparation for storage and storage (as detailed in the Suntour HESC system Owner's Manual).

Halfords will be able to confirm the exact number of charge cycles and whether the battery has been correctly charged / stored from the information that is recorded in the battery pack monitoring and control electronic circuit.

### Information on Waste Disposal for Consumers of Electrical & Electronic Equipment

This mark on a product and/or accompanying documents indicates that when it is to be disposed of, it must be treated as Waste Electrical & Electronic Equipment (WEEE).

Any WEEE marked waste products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used.

For proper treatment, recovery and recycling; please take all WEEE marked waste to your Local Authority Civic waste site, where it will be accepted free of charge.

If all consumers dispose of Waste Electrical & Electronic Equipment correctly, they will be helping to save valuable resources and preventing any potential negative effects upon human health and the environment, of any hazardous materials that the waste may contain.



### Please recycle your spent batteries.

Batteries should not be disposed of in unsorted municipal waste, but separately collected to facilitate the correct treatment and recycling of the substances they contain. The recycling of batteries ensures the recovery of these valuable materials and prevents any potentially harmful effects upon both the environment and human health.

Please contribute to battery recycling by segregating all spent batteries and actively participating in their collection and recycling. Various battery collection schemes will be in operation in different areas of the country. However, battery collection bins will be available at retail stores that sell batteries as well as at schools, libraries and other public buildings.



## **Contact**

SRSUNTOUR Europe GmbH (Sales and Service)  
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83627 Warngau  
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