

# **Electric Bike Supplement**

## Electric Bike Instruction.

Congratulations on your purchase of a pedal assisted bicycle.

This is a supplement to the general bicycle user manual. Please make sure that your new electric bicycle was professionally assembled and adjusted by an authorized dealer.

Familiarize yourself with your electric bicycle and its functions. Ensure the cycle is safe to ride and all parts are correctly adjusted and tightened as noted in the cycle manual.

## Propulsion and Use.

The propulsion system operates on five assist levels in the assistance mode. In the assistance mode, your pedalling is assisted proportionally by an electric motor that drives the rear wheel. Before riding the main power button on the upper side of the main tube needs to be pressed. Turn on the main power button before operating the power button on the handle bar controller. A sensor is located on the axle of the bottom bracket and measures proportionally the effort provided by the rider. The assistance level is clearly and simply shown on the control unit on the handlebars. There is a series of 5 LED lights the number of them lit indicates assistance level.

There are 5 Power LED.s on the controller that indicate charge remaining. At full charge, they are all lit and will extinguish to indicate power used.

The battery is integrated into the main tube of the bicycle. The battery pack is locked in place and two keys are included for security. To remove the battery, turn the key and lift at the base with the two tabs and carefully lift the battery out. To insert the battery, locate the upper portion of the battery first and then firmly push at the base the will lock into place. We advise you to keep the lock and catch in good working order by occasionally lubricating with a little light oil as needed.

## Control Unit Details.

- The four-key keypad enables users to operate the display with ease.
- Intelligent battery level indication: thanks to an optimization algorithm, a stable display of the battery level is ensured, and the problem of fluctuating battery level indications common to most displays is avoided.
- Indication: this displays the current assistance level (level 0 to level 5).
- Fault code prompt.
- Light control.

- **Power on/off**

Quickly press the button: the display will turn ON.

Quickly press the button again: the display will turn OFF.

It will automatically turn OFF after 5 minutes of being idle.



- **PAS level selection**

Press to switch between the different support levels (0 / 1 / 2 / 3 / 4 / 5) Lowest level: 0  
The default level is 0

- **Push assistance**

Your Pedelec benefits from push-assistance, which moves your Pedelec up to 6 kmph without having to step on the pedals. This will help push the Pedelec up steep inclines. Press the button for 2 seconds and the push assistance will be turned ON. If you move your finger away from this button, the push-assistance will be turned OFF.

- **State of charge indication**

To ensure optimal performance for your Pedelec, check the charge level of your battery before each ride. When the HMI is on, then the 5 LEDs will provide an indication.

A 3-second delay will indicate when the voltage goes down.

When the state of charge has almost run out, the first LED will flicker, indicating that it is time to charge the battery.

**State of charge indication definition:**

L.E.D's lit 5 75 %

L.E.D's lit 4 50 % ≤ C < 75 %

L.E.D's lit 3 30 % ≤ C < 50 %

L.E.D's lit 2 10 % ≤ C < 30 %

L.E.D's lit 1 5 % < C < 10 %

L.E.D's lit 1 flickers ≤ 5 %

## **ERROR CODE DEFINITION**

This control unit can indicate errors occurring on the Pedelec. In certain modes, the LEDs will flicker when an error code occurs.

### **Error codes**

The second LED flickers 7 times in rapid succession. High voltage protection.

Check the battery voltage

The second LED flickers 8 times in rapid succession. Fault with motor sensor inside

Have your dealer check the motor.

The first LED flickers once. The motor temperature reaches the max protection value

Stop riding and wait until the LED stops flickering

The first LED flickers, second LED flickers twice. Fault with current sensor inside controller

Have your dealer check the controller

The first LED flickers, second LED flickers 3 times. Fault with temperature sensor in battery

Check the battery

The first LED flickers twice then the second LED flickers once. Fault with wheel speed sensor

Check the motor

The first LED flickers twice then the second LED flickers twice. BMS communication fault

Replace the battery

The first LED flickers 3 times in rapid succession. Communication fault

Check the connectors between the EB-BUS and the controller or replace the controller

## **Range Maximisation.**

Power assistance set at maximum will use charge much quicker than at low settings. Range is dependent on many parameters, the terrain, the temperature, weather conditions, your pedal input, power setting selections, braking and general road and traffic conditions. A sensor is integrated with the brake lever when activated assistance is shut off.

## **Battery charging.**

Connect power supply and battery by inserting the charge connector into the battery connector. Connect the plug of the power supply with the power outlet.

The LED indicator is blue when disconnected, Red when charging. After a complete charge, the colour of the LED changes to GREEN. The battery is then fully charged. Battery charging time depends on the discharge level but allow yourself up to 5 hours for a full charge.



## **Maintenance**

When removing the rear wheel or working on the bike make sure that the system is turned off.

- 1.Remove the rubber covers from the wheel nut
- 2.Unplug the cable connections that lead to the motor
- 3.Loosen the axle nut on the rear wheel
- 4.Slide the rear wheel downwards out of the drop out
- 5.Nuts can be taken off over the cable.
- 6.Wheel retention nuts should be tightened to 40NM.

We recommend the spoke tension of the rear wheel and the torque fittings checked by your qualified dealer after the first 150 miles. All contacts of the system should be checked every two to three months and cleaned. It must be ensured that no dirt or water penetrates the battery location sockets when the battery is removed as this could lead to short circuiting the battery on replacement.

## **Standards**

The machine complies with all the requirements of the Electromagnetic Compatibility Directive (2004/108/EC).

The following harmonized standards have been applied:

DIN EN 15194 Cycles – Electrically power-assisted cycles – EPAC cycles

DIN EN 14764 City and trekking bikes – Safety requirements and test methods

## **Battery**

The lithium rechargeable battery packs is designed and manufactured by TD Hi Tech Energy Inc. This battery pack is designed as removable case pack it is a 10S3P battery system using SAMSUNG SDI-22P cell. output voltage is 36 V and has 6.39 Ah capacity @1C.

### Features

Below list are some key features that HTE has implemented

Supports complete multi-level battery protection functions

Complete coordination between hardware and software protection scheme.

Voltage Protection: Over-Voltage Protection (OVP), Under-Voltage Protection (UVP)

Current Protection: Multi-level Over-Current Protection (OCP), Short-Circuit Protection (SCP)

Temperature Protection: Over-Temperature Protection (OTP), Under-Temperature Protection (UTP)

Embedded MCU Supports SOC (State of Charge) calculation

Supports Battery Balancing Function

Smart balancing scheme using O2Micro "Internal bleeding" technology.

Supports Active, Sleep, & Deep sleep modes

Low power consumption

Longer battery working hours

Supports Thermal Management function

Supports Low voltage charging function

Battery can be re-charged from low voltage

Longer battery usage life

Reduced low voltage battery maintenance

## **NOTES ON PROPER HANDLING**

Make sure the pack is kept away from heat sources. The pack should be handled in such a way that sudden impact is prevented. Care should be taken to prevent short circuit of the terminals.

## **WARNINGS**

1. Battery packs should not be opened, disassembled or damaged. The battery pack contains safety and protection devices which, if damaged, may cause the battery to generate heat, rupture or ignite.
2. Battery packs should not be exposed or in contact with heat or fire. DO NOT place the battery in sunshine directly, or use or store the battery inside cars in hot weather.
3. Do NOT pierce or prick with needle and crush the battery pack.
4. Do NOT expose the pack to water or corrosive liquids.
5. Battery packs should not be abused by short circuit; several of them should not be stored together or organized in a way they could create short circuit or contact with any conducting material. Do NOT make reverse connection or short circuit the positive(+) and negative(-) terminals.
6. Only the specially designated charger should be used with the battery pack.
7. Keep children away from battery packs.

8. Battery packs should be kept dry and clean. If the connections of battery packs are dirty, clean them with a dry, clean towel.
9. Do NOT leave battery packs without charge if you will not use them for a long period of time.
10. Please keep the product information for later use.
11. Battery packs should only be used in the accordingly designed application.
12. If you do not use the product please remove the battery pack.
13. Battery packs should be handled carefully.
14. After use the battery pack must be recharged within 2 weeks.
15. During the storage time, you need to recharge battery pack every 6 months.
16. Used batteries may not be disposed of in regular household waste. Be aware that used batteries must be disposed of properly.
- 17 Never use a high-pressure washer or a garden hose to clean the propulsion system. The force of a water jet could damage the electrical components.

### **Notes on Motor.**

The motor has a unique identification code which is traceable to manufacture date, it is a 250w motor as required for accreditation as a pedal assisted cycle.

1. Should be parked in ventilated dry room, don't be parked in the damp, acid and alkali place, also don't coexist with magnetic items

2. Should not be overloaded

3. Should avoid flooding

Operation condition

The motor can operate under the following condition

1 Temperature:  $-25^{\circ}\text{C} \sim 55^{\circ}\text{C}$

2 Relative humidity: 15-95) %RH

3 The altitude does not exceed 1500 m or under Air pressure (86-106) Pa

4 No serious corrosive gas or chemicals should influence the properties of electrical insulating.

### **Warranty**

This warranty only covers material and manufacturing defects. It is only effective with a valid proof of purchase consisting of the original purchase document or receipt indicating the date of purchase.

Motor warranty is 1 year after purchase by the original owner.

Battery warranty is 1 year or 500 charge discharge cycles whichever is the sooner.

To comply with above guarantee the following conditions must be met. There must have been no, refitting, neglect or poor maintenance, commercial use, misuse or abuse.

No damage due to traffic accident or customer transportation.

No debugging or repair damage to the product

No material or technology of damage caused by the consumer using improper method of maintenance.

Product appearance and surface changes that will not impact the product function are not warrantied.

No damage resulting from installation or repair in un-approved dealership.

We have the right to choose repair or replacement motor, and liability is limited to repair or replacement products.

Repair work and/or replacement of components during the warranty period do not lead to an extension and/or a new start of the warranty period. Repair work and direct replacement during the warranty period may be performed with functional replacement components of equal value.

Costs for repair work performed in advance by persons who have not been authorized will not be reimbursed. In such a case, any warranty claim will cease.

This warranty only covers the above-mentioned repair work and/or the replacement of defective or compromised components. It excludes any claims as to the reimbursement of property damages, downtimes, expenses for renting or leasing equipment, travel expenses, lost profit or any other claims. Liability is limited to the respective acquisition value of the product.

The customer Statutory rights are not affect by the terms of this warranty.