

# ***HVA BIKE***

## Power Assisted Bikes (PAS)

Guide for battery handling  
and display functions



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# BATTERY HANDLING



**IMPORTANT: PLEASE READ THIS USER MANUAL BEFORE YOUR FIRST BIKE RIDE!!!**

## 1. How the Electrical System works

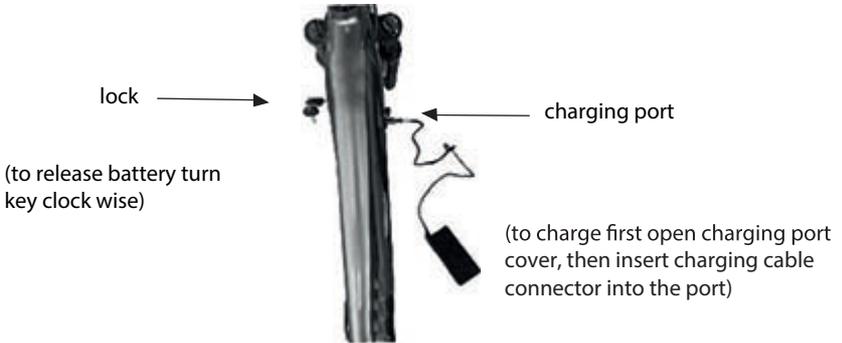
Your e-bike is equipped with a pedal Assist System (PAS) and a motor to propel the bike forward.

### 1.1 How the Pedal Assist System works

Pedal assist uses a cadence sensor built into the drive train of the bike. The cadence sensor detects when the rider revolves the pedals and signals the electric motor to provide the level of pedal assistance (0-5) that the rider has selected.

## 2. Battery

### 2.1 Position



### 2.2 Battery Charging

Your bike comes with a charger. This charger can be plugged into any AC100V-240V outlet. When the battery is charging the LED light is RED; when the battery is fully charged the LED light will indicate GREEN. The battery can be charged while on the bike (there is no need to remove it); or it can be removed from the bike before charging. Whatever is more convenient for you. However, for your safety, please follow the safety instructions in this user manual!

Battery charging on the bike



Battery charging when it is removed from the bike



While battery is charging, the led light on the charger indicates RED. When fully charged the light indicates GREEN.



WARNING:

**Use only the charger Model AD266 (input: 100-240V), made by DONGGUAN ANGDI TECHNOLOGY CO., LTD!**

### Safety Guidelines for charging:

- Battery is not shipped with a full charge. It should be charged before riding the bike.
- If ever possible, charge your battery in a room which has a smoke or fire detector.
- When charging the battery which is removed from the bike, please make sure to place it on a flat non-flammable surface.
- Charge in a well-ventilated area. Keep away from flames and sparks.
- Avoid any contact with water or other fluids while charging. If the battery charger or any connections become wet, immediately unplug the charger and thoroughly dry all components.
- After charging, disconnect the power cord from the power socket and disconnect the charger cable from the charging port on the bike or from the battery.



WARNING: As with all electric appliances you must operate the battery system with care!

Do not store your charger or battery in any place where they could get wet or be subject to high heat. The storage area should be well ventilated.

Security: You are supplied with 2 keys to secure your battery to your bike. It is advisable to separate the keys and store one in a safe place.

## 2.3 Battery Removal

(1) Insert the key into the key port and turn the key clockwise until the battery clicks out and is released from the frame, then turn the lever counterclockwise.

(2) Remove the battery from the frame.

(1)



(2)



### 2.3.1 Battery Reactivation when in Sleep Mode

If bike is not used for a certain period of time, the battery goes back into Sleep Mode.

This is to avoid possible battery damage when not in use. To re-activate battery, first remove it as shown on (2) here above. Then press the grey button for more than 3 seconds but less than 5 seconds (the led light will flash up. Then release the button and the battery will be turned on and ready for use again.



press grey button here



until ledlight flashes up

## 2.4 Battery Installation

Insert battery on the lower end of the downtube first (1) and then on the upper end, press gently until it snaps in with a 'click' sound (2). To remove the key, turn it counter-clockwise.



## 2.5 Battery Maintenance and Safety

Charge your battery in a temperature controlled, dry, safe location ideally at room temperature, 10° C to 25° C (50° F to 77°F). Always charge between 0° C to 45° C (32°F to 113°F), because charging outside of this range may cause damage to the battery. Improper use of the battery charger can cause a fire resulting in severe injury or death and property damage. Please review the following instructions and guidelines carefully to ensure safe battery use and maintenance.

- When you do not intend to use your battery for several weeks, fully charge the battery prior to turning it off. **Be sure to turn on and charge your battery every 3 months to ensure it never completely loses its charge.**
- The battery will get hot to the touch when charging, which is normal; however, if you smell or see any smoke, immediately unplug the charger cable from the power socket and from the battery!
- After a ride, fully recharge your battery as soon as it has cooled to room temperature.
- Never block the fan vent on the battery pack or external charger. This can cause overheating and fire.
- Protect the battery from water and any other moisture at all times. Never submerge your bike or battery in water, or even spray the battery with water.
- Keep riding in the rain to a minimum.
- DO NOT use this battery together with any other vehicle or appliance. Use of this battery with any other product will void the warranty and may create a hazardous condition that could cause a fire, resulting in severe injury, death and/or property damage.
- Never disassemble the battery or open the battery case. There is a significant risk of electric shock and damage to the battery. This will also void the warranty.
- Never short-circuit the discharge terminals of the battery. A short circuit will damage the battery and could cause a fire resulting in severe injury death, and/or property damage. When handling the battery, be aware of conductive materials that may shorten the battery terminals such as coins, nails, etc.
- Never crush or puncture the battery. A punctured or crushed battery could catch fire causing a fire or explosion which could lead to serious injury, death and/or property damage.
- Keep battery away from excessive heat (104 degrees F, res. 40°C or higher) or open flames.

- Protect the battery from any material that may contaminate the charge port or the output port, such as dirt and sand; the ports may be difficult or impossible to clean out.
- Never subject the battery to intense physical shock or severe vibrations.
- Do not disassemble or replace internal components of electrical appliances.
- Avoid subjecting the battery to high temperatures, such as direct exposure to the sun, for prolonged periods of time. Recharge the battery before it becomes completely discharged. Completely discharging will reduce the numbers of recharging cycles during the battery's life and limit the capacity.
- Never store the battery in the discharged state. After frequent use, your battery's charge-holding capacity will decrease. If you find that your battery does not hold a sufficient charge, please contact us to order a replacement.
- When the battery has not been used over an extended period, charge it fully and please remember to recharge it every 3 month if not used! Store it in a cool, dry place.

## 2.6 Battery Transport

- Lithium-ion battery is subject to many regulations and are often considered dangerous or hazardous materials by carriers. Be sure to check for relevant rules and ask the carrier for approval prior to shipping a lithium-ion battery or shipping it by air.

## 2.7 Battery Disposal

- To be environment friendly, please be sure to recycle your old batteries at a local collection site. Do not dispose thme in a dustbin or garbage bin!

## 2.8 Order New Battery when in USA

- For customers returning to the United States, a new battery can be ordered from our USA customer service office.  
Email: PhoenixUS-support@phoenix-bicycle.com  
Tel: 1-866-858-5777

## 3. FCC Compliance Statement

CAUTION: Please note that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTICE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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# D16 Display

## Preface

Dear Users, to ensure better performance of your **FIVEBIKE** e-bike, please read through the D16 display product introduction carefully before riding it. We will use brief words to inform you of all the details for using our display. Meanwhile, the introduction will also help you clarify possible question and barriers.

## 1. Appearance, Size and material

### 1.1 Main Materials and Colors

The product adopts the combination of PC + ABS plastic housing, with no sharp angle in its appearance. The appearance effect is black leather texture treatment. The Working temperature scope of housing material is -20°C-- 60°C, and can ensure normal use and good mechanical performance of the products.

The screen is 2.4 "TFT color dot matrix LCD.

The buttons are separated from the display independently.

The protection grade is IP66. The strength is in accordance with the thrust > 250N. The vibration grade is in accordance with IEC regulation. The material of the parts complies with the RoHS, Reach certification requirements. The display complies with CE certification requirements. The tightening torque of the locking screws is 1N.m.



## 2. Function Summary & Button definition

### 2.1 Function Summary

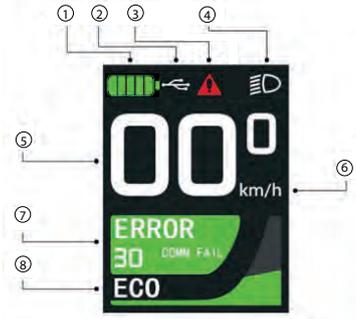
D16 provides you with a variety off functions and displays to meet your riding needs.

Display content list as follows:

- ◆ Capacity of the battery
- ◆ Real-time Speed

- ◆ Mileage data (ODO, single trip, single trip time, max speed, average speed,
- ◆ PAS level
- ◆ 6km/h walk assist
- ◆ Turn on/off headlight, brightness control automatically (According to the light intensity of the external environment)
- ◆ USB charging function, output voltage/max output current: 5V/1A
- ◆ Setting functions: Single Trip Distance Clearance, Backlight Setting, Speed Unit,
- ◆ Factory reset, Automatic shutdown time and customized data showing setting function.
  
- ◆ Automatic control of backlight brightness (According to the light intensity of the external environment)
- ◆ Error code
- ◆ Multiset up parameters
- ◆ Standard parameters of D16 Display:  
According to EN 15194:2017 Standard

## 2.2 Normal Display Figures



D16 Normal display interface

- ① This area shows the current battery remaining power.
- ② This area shows USB status indication .
- ③ This area shows fault status indication .
- ④ This area shows headlight status indication; Including automatic headlight mode  and manual headlight mode .
- ⑤ This area shows real-time speed.
- ⑥ This area shows speed unit .
- ⑦ This area shows trip mileage .
- ⑧ This area shows PAS level .

## 2.3 Button definition

Button unit is connected to the bottom of display via lead cable

Button description:

- ◆ On/Off button:  button, Replace with word "Switch";
- ◆ Plus button: + button, Replace with word "Plus";
- ◆ Minus button: -button, Replace with word "Minus";
- ◆ Headlight button:  button, Replace with word "Headlight";
- ◆ Walk button:  button, Replace with word "Walk";

Please note: the "on/off" button is used as the "Mode" button, which is replaced by the word "Mode"; the "on/off" button is also used as the "Confirm" button, which is replaced by the word "Confirm".

## 3. Note for users



Be care of the safety use. Don't attempt to release the connector when battery is on power.



Try to avoid hitting.



Don't split the waterproof sticker to avoid affecting the waterproof performance



Don't modify system parameters to avoid parameters disorder.



Have the display repaired by a professional when error code appears.

## 4. Normal Operation

### 4.1 On / Off

- ◆ When the battery has output current, the display turns on. If the „Switch“ button is long-pressed for a couple of seconds, the battery will be turned off, the display will automatically shut down at the same time, and the system will be shut down. To turn it on again, long-press the „Switch“ button (for a couple of seconds).
- ◆ When the battery has output current, and if the display has been turned on, press and hold the display „Switch“ button for 2 seconds, and the display will be closed. If the display is not turned on, press and hold the display „Switch“ button for 1 second to turn on the display.
- ◆ If the system is not used for several minutes (the specific time can be set in the instrument parameter setting / automatic shutdown time setting item), the display will turn to sleep-mode automatically and the display dormant current is less than 6 mA.
- ◆ If the system has not been used for 30 minutes, the battery and the whole system will turn off automatically
- ◆ After the display is powered on, the "ANANDA" start-up interface is displayed first, and then the main interface is entered. When shutting down, the „ANANDA“ shutdown interface will be

displayed first, and then the system will be shut down next.



Start-up interface



Main interface



Shut down interface



Locking interface

## 4.2 Real-time speed/trip mileage display interface

After the display is turned on, the current speed can be refreshed in real time on the main interface, and the mileage-related data can be viewed at the same time.

Short press "MODE" button to switch and display mileage data content in the following order: Odometer ► Single trip distance ► Single trip time ► Single trip max speed ► Single trip average speed



Real-time speed and Odometer display

### 4.3 6 km/h Walk Assist Mode

Enter the 6km/h walk assist mode in the main interface.

Press and hold the "WALK" button to activate the walk mode and light up the walk mode sign. After pressing the "WALK" button, you can perform 6km/h assistant function; if you release the "WALK" button, the function will be invalid and will exit the walk mode



Walk assist interface

The walk assist mode can only be used when the user is pushing the E-bike. Do not use it when riding.

### 4.4 Headlight On/Off

You can turn on or off the headlight in the main interface

Automatic mode  (default mode): In manual mode, press and hold "HEADLIGHT" button to switch to automatic mode

The display automatically controls the headlight on and off by sensing external light. The light will turn on when the exterior light is dark, and turn off when the exterior light is bright.

Manual mode : In automatic mode, long-press the "HEADLIGHT" button to switch to manual mode. In this mode, when the headlamp is off, press the "HEADLIGHT" button to turn on the headlight; when the headlight is on, press the "HEADLIGHT" button to turn off the headlight.



Manual mode



Automatic mode

## 4.5 PAS Level

You can switch the PAS levels in the main interface. Short press the "PLUS" button to increase the PAS level, and short press the "MINUS" button to decrease the PAS level. The motor output power can be changed by increasing or decreasing the PAS level of E-bike.

The range of PAS level is 0-5 levels. The 0 level is no output power, and the 5 level is the highest output power level of the motor. The default start up level is level 1. When 0-5 level is selected, "OFF", "ECO", "TOUR", "SPORT", "TURBO" and "BOOST" are displayed respectively. "WALK" is displayed in walk assist mode.



OFF level



ECO level



TOUR level



SPORT level



TURBO level



BOOST level



WALK assist mode

#### 4.6 Battery Power display

In the main interface, the battery power display is refreshed in real time.

The grid mode displays the real-time power content of current battery (0 ~ 5 grids).

When the remaining power of the battery is less than 20%, it indicates red, and flashes when it is less than 10%.

When the battery is sufficiently charged, the current power status will be displayed in the green grid.

When the battery is low power, the current state of battery will be displayed in the red grid indicating that the battery is under voltage and needs to be charged immediately.

The delay time from power on to normal showing of the display is 3 seconds;

the display and battery communication interruption delay 5 seconds to switch to

the controller power. Switch to battery power immediately after communication resumes.



Battery grid mode

#### 4.7 USB Charging

Plug in the device that needs charging when display is off. After turn on the display, the battery will charge the device through the display, and the USB charging logo on the interface will appear. After the device that needs USB charging is plugged in at the power on state, long press the "PLUS" button in the main interface to activate the USB charging function. If charging is in progress, the USB charging logo on the display interface will light up.



USB Charging indicator

#### 4.8 Error Code

In the main interface, if there is an electrical fault in the E-bike electronic control system, the latest fault code will be displayed in real time, and the red "⚠" mark will be displayed in the upper column.

When the E-bike finds fault in electric control system, the display will show error code automatically. Only after the fault is eliminated, the fault code can be cleared. At the same time, the

"FA" logo showed in the upper column will disappear synchronously.

Please check appendix 1 on page 23 for detailed definition of error code



Error code display interface

## 5. User Settings

In the information interface, press and hold the "PLUS" and "MINUS" button at the same time to enter the setting interface. Short press the "CONFIRM" button in the setting menu to enter the sub option. In the final option menu, short-press the "confirm" key to confirm the current option. After selecting the "Return" option, press the "CONFIRM" key to return to the previous menu. Long-press the "CONFIRM" button in any setting menu to directly return to the main interface.

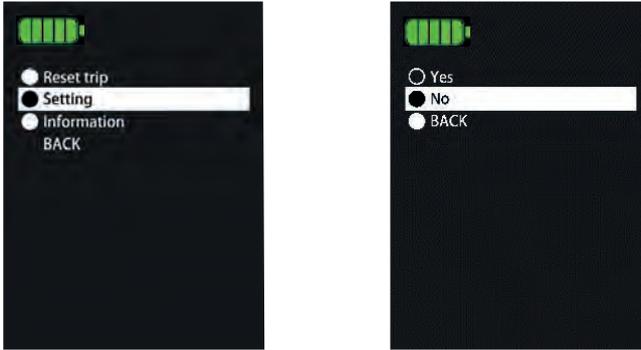
The setting interface is divided into four levels of sub options. For details of setting menu contents, please refer to appendix 2 on page 23.

### 5.1 Single trip distance clearance

Short-press the "MINUS" or "PLUS" button to switch to the "Reset trip" option. Select the "Yes" option, and then short-press the "CONFIRM" button to clear the relevant data of single trip.

Short press "CONFIRM" button on the "Return" option to return to the previous interface. Long-press "CONFIRM" button to return to the main interface.

The default value is "No".



Single trip clearance interface

## 5.2 Backlight Setting

Short press the "MINUS" or "PLUS" button to switch and select the backlight level. Short press the "CONFIRM" button to confirm the currently selected backlight level.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface.

Long-press "CONFIRM" button to return to the main interface.

Default setting is "Auto".



Backlightsettinginterface

### 5.3 Speed unit setting (Metric / Imperial)

Short press the "MINUS" or "PLUS" button to select the speed unit option. Short press the "CONFIRM" button to confirm the currently selected speed unit.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long press "CONFIRM" button to return to the main interface.

Default setting is "KM/H".



Speed unit setting interface

### 5.4 Factory reset setting

Short press the "MINUS" or "PLUS" button to select the reset option. Select "Yes" option, and then short press the "CONFIRM" button to reset and clear all data back to the factory settings.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long press "CONFIRM" button to return to the main interface.

Default setting is "No".



Factory reset setting interface

## 5.5 Automatic shutdown time setting

Short press the "MINUS" or "PLUS" button to select the automatic shutdown time option. Short press the "CONFIRM" button to confirm the currently selected automatic shutdown time.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long press "CONFIRM" button to return to the main interface.

Default setting is "5min".



Automatic shutdown time setting interface

## 5.6 Customized data indicating setting

Short press the "MINUS" or "PLUS" button to select the customized data indicating setting function.

After selecting the option to be shown, press the "CONFIRM" button to determine whether the current option is selected. The symbol "○" in the front means not showing this option, and the symbol "●" indicates to show this option.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long

press "CONFIRM" button to return to the main interface. Default setting shows all the options.



Customized data showing setting interface

## 6. Read-only Information

In order to make users know more about our walkassist E-bike system, the display supports to view the parameters of the walkassist E-bike system.

### 6.1 Motor read-only information

Short press the "MINUS" or "PLUS" button to select the read-only information option of the motor to be viewed.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long press "CONFIRM" button to return to the main interface.



Motor read-only information interface

### 6.2 Battery read-only information

Short press the "MINUS" or "PLUS" button to select the read-only information option of the battery to be viewed.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long press "CONFIRM" button to return to the main interface.



Battery read-only information interface

### 6.3 Display read-only information

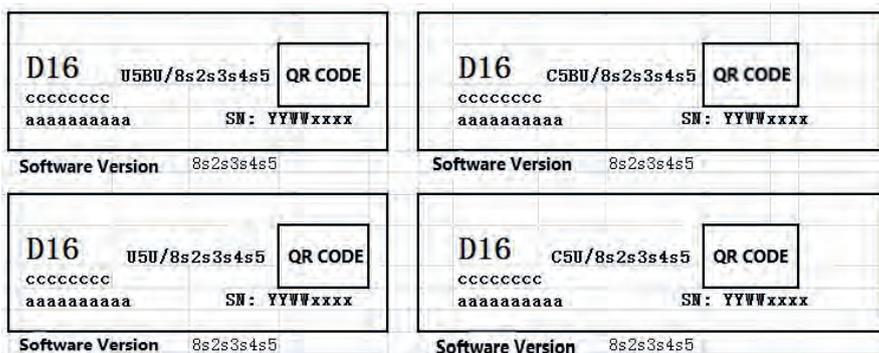
Short press the "MINUS" or "PLUS" button to select the read-only information option of the display to be viewed.

Short press the "CONFIRM" button on the "Return" option, to return to the previous interface. Long press "CONFIRM" button to return to the main interface.



Display read-only information interface

The code printed is according to the requirements of Ananda Drive Techniques (Shanghai) Co., Ltd.



## 7. FAQ

Q: Why can't I turn on the display?

A: Please check whether the battery is turned on or the leakage lead wire is broken

Q: How to deal with the error code display?

A: Contact the e-bike maintenance station in time.

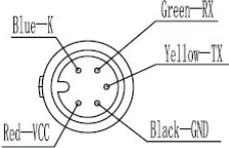
## 8. Quality assurance and warranty scope

I, Warranty Information:

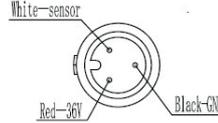
- 1, King-Meter will be responsible for all faults arising during normal operation that are caused by a quality defect.
  - 2, The warranty time is 24 months from the day the display leaves the factory.
- II, The following are not covered by warranty:
- 1, Shell opened.
  - 2, Connector damaged.
  - 3, After display out of factory, the shell is scratched or damaged.
  - 4, Lead wire of display scratch or break.
  - 5, The fault or damage is caused by the force majeure (such as fire, earthquake, etc.) or natural disasters (such as lightning, flooding, etc.)
  - 6, Product exceeded warranty period.

## 9. Circuit Diagram and wire sequence

Standard connector wire sequence:



Connecting end with controller



Connecting end with buttons

Standard connector wire sequence table

Standard Wire	Color of standard Wire	Function
1	Red (VCC)	Display power wire
2	Blue(K)	Power control wire of controller
3	Black(GND)	Instrument Ground wire
4	Green(RX)	Data receiving wire of display
5	Yellow(TX)	Data transmission wire of display

Note: waterproof connector is used for the lead wire of some products, so the color of the lead wire in the harness may not be visible.

## Appendix 1: Error code definitions

Error Code	Definition
21	Current abnormal
22	Throttle fault
24	Motor Hall signal fault
25	Brake abnormal
28	Other faults
30	Communication failure
31	Switch button sticky
32	Display working voltage abnormal
33	Display self-check failure
34	6km Walk assist button sticky

## Appendix 2: Detail contents of setting menu

Level 1 menu	Level 2 menu	Level 3 menu	Level 4 menu
Reset trip	Yes	-	
	No	-	
Setting	Brightness	20%	-
		40%	-
		60%	-
		80%	-
		100%	-
		Auto	-
	Speed unit	KM/H	-
		MPH	-
	Consumption unit	Ah	-
		Wh	-
	Factory reset	Yes	-
		No	-
	BT	Status	Enable
			Disable

Thank you for choosing  
our bike!

***HMBIKE***

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CH-7250 Klosters  
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