

# WESTHILL

# **Electric Bike User Manual**

# RANGER / CLASSIC<sup>ST</sup>





# westhillbikes.com

RANGER | CLASSIC<sup>ST</sup>

## WARRANTY

Westhill bikes are covered by a limited 3-year warranty. Aside from general cycle maintenance, any work to the motor should be carried out by a Westhill technician or authorised dealer.

#### 1. Warranty periods

The statutory warranty valid at the time of delivery applies to:

Frame: 3 years Motor: 2 years Battery, Charger & Controller: 2 years

#### 2. Warranty conditions

#### 2.1 Requirements

There is a defect in materials or workmanship or an error of information.

The cause of the change in the product is neither natural nor related to its functions, wear and tear or ageing.

The damage was not caused by use of the bike for other than the intended purpose.

#### 2.2 Warranty exclusions

Damage caused by improper use or force majeure.

All parts subject to function-related wear and tear, unless this is the result of a defect in the manufacturing process or material.

Damage which results from improper or insufficient care and repairs, alterations or the replacement of parts by persons other than trained professionals.

Accidental damage or other external effects, provided these are not the result of defective products or information.

Repairs resulting from the use of second-hand parts or damage caused by this use.

Damage resulting from competitive use.

Special fittings, accessories or non-standard components, especially technical modifications.

Observing the required service intervals is also a condition of any warranty claims you may make.

# 2.3 The following are considered wear parts under the statutory warranty:

Tyres

Rims in combination with rim brakes

Spokes

Brake pads Chains and toothed belts Chain wheels, sprockets, bottom brackets and jockey wheels Sliding bearings Lamps for lighting system Handlebar tape/handle grips Hydraulic oils and lubricants Gear-shift cables and brake cables Paint finishes

Batteries (depletion of capacity to 60% is acceptable within first two years)

#### (1) Definitions

In this warranty the following terms shall have the following meanings: Westhill Bikes shall mean FW3 Ltd; Westhill Product shall mean the FW3 Ltd; Product Warranty Period shall mean mean a period commencing on the original date of purchase as new

#### (2) Circumstances outside our control

FW3 Ltd shall not be liable for any failure in service as a result of FW3 Ltd, or FW3 Ltd agents employees or contractors being delayed, prevented or hindered in the performance of its obligations by reason of any circumstances beyond its reasonable control. Such circumstances include, but are not limited to fire, flood, Act of God, and civil disorder.

#### (3) Disclaimers

FW3 Ltd shall not be liable for any indirect, incidental, special or consequential damages losses or expenses (including without limitation lost profits, loss of use or loss of data, goodwill, reputation or lost business) arising directly or indirectly, from the purchase use or sale of the Product, whether or not FW3 Ltd was advised or aware of the possibility of such damages, losses or expenses. It is the customer's responsibility to make lawful use of the products FW3 Ltd supplies.

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#### **DEFAULT PASSWORD: 0314**

THIS MANUAL SHOULD BE CONSIDERED A PERMANENT PART OF THE ELECTRIC BICYCLE AND SHOULD REMAIN IF IT IS RESOLD.

### INCLUDED IN THE BOX



- 1. Front Fork
- 2. Handlebar
- 3. Handlebar Stem
- 4. Charging Port
- 5. Frame
- 6. Seat Post
- 7. Saddle
- 8. Seat Clamping Lever
- 9. Seat Tube

- 10. Rear Derailleur
- 11. Display
- 12. Pedals
- 13. Battery
- 14. Front Wheel
- 15. Front Brake
- 16. Rear Wheel
- 17. Rear Brake
- 18. Motor

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# ASSEMBLY

The bike comes partially assembled. In order to fully assemble, you will need to attach the handlebars and stem, the front wheel, brake calipers, attach the pedals and insert the seat post. Please refer to the diagrams on pages 6-10 whilst assembling your bike. If you are having difficulty assembling the bike, please call our customer service team or take your bike to a local bike shop.

Please Note: pictures may vary from the actual product but assembly will still be the same.

#### ATTACHING THE STEM AND HANDLEBAR

1. Place the stem onto the steerer tube, push down until it is flush against the spacer and fork clamp. Remove the clamp and push the stem flat against the spacer.



2. Once the stem is in the correct position, tighten the bolt going down through the stem with an allen key (1). Once the bolt is correctly tightened, check if the stem and handlebars are straight with the front wheel. Then tighten bolts (2). **Please be careful not to overtighten the bolts**.





#### ATTACHING THE MUDGUARDS

- **Rear:** Align the rear mudguard and attach at the points marked using the screws supplied.
- Front: Align the front mudguard and attach using the screws supplied.



Front



#### FRONT DISC BRAKE CALIPER

• Please check that the bolts are tightened correctly on the brake calliper shown below. **Be careful not to overtighten the bolts** (torque to 8Nm).



#### ATTACHING THE FRONT WHEEL

• Loosen the pin through the middle of the wheel to allow you to place the fork onto it. Make sure the disc is properly inserted into the brake caliper.



• Tighten the nut and hold the lever in an upright position as shown in the photo below. Once tight push the lever in to secure the wheel.



#### TO CHECK

- Make sure the quick release clamping lever is secure.
- Make sure the brake is hooked onto the disc and working properly.
- Check your tyre pressure if they need pumping up, attach a bike pump to the valve (shown in the photo below) and inflate to the recommended tyre pressure (this will be located on the tyre).



#### ASSEMBLING PEDALS

• There are 2 pedals. Please look inside of each pedal to identify which is labeled R (right) and L (left).



• To connect the pedals to the bike, place L pedal into the left crank arm and R pedal into the right crank arm (left and right directions are as though you are sitting on the bike). Tighten by turning the pedals toward the front wheel. Use a spanner to make sure the pedals are tight and secure.



• The right pedal is attached on the same side as the chain. Make sure you check the pedals are tight and secure before riding.

#### ATTACHING THE SEAT

- Slide the saddle post into the seat tube.
- Align the seat with the frame to make sure it is straight.
- The height of the seat should not be pulled higher than the safety line marks on the seat post.
- Tighten the seat clamping lever.





# SAFE RIDING

Before each ride, check whether all the bolts are tight, the battery has suffient charge, the charging port is covered, the tyre pressure is sufficient, all wires are plugged in and the brake system works correctly. Do not ride the bike through deep water.



# CHARGING THE BATTERY

Your bike comes with a removable rechargeable lithium-ion battery. Always use the provided charger only. Before your first ride you must fully charge the battery. The charging port is located on the side of the battery shown in the photo on p.12.

For every ride after, charge your battery until it is fully charged and remove once completed. Do not leave any chargers plugged in overnight or leave it plugged in past the charge time.

- 1. Plug one end of the power cord into a grounded AC outlet and the other into the bike's charging port. The red charging light on the charger unit will turn on.
- 2. The red light will turn green once fully charged. Recharge the battery after each use.

(Please note: Always plug the charger into the wall first before the device. If the wall outlet doesn't have power and you plug the charger into the device first, it will light green, even if the battery is not full. So always plug into the wall first to make sure there is power.)

#### CHARGING PORT



CHARGING LIGHT RED: Battery is charging.

CHARGING LIGHT GREEN: Charging is complete.

Do not turn on the bike while it is charging. When you are done charging the battery, remember to cover the charging port.

In the unlikely event the battery emits strange odors, overheats, or begins leaking, step away from the battery and contact Westhill Bikes for further assistance.

## **KD986 E-BIKE DISPLAY USER MANUAL**

#### PRODUCT NAME AND MODEL

Name: Intelligent TFT display for E-bike Model: KD986

#### SPECIFICATIONS

- 36V/48V Power Supply
- Rated working current: 10mA
- The maximum working current: 30mA
- Off-state leakage current:  ${<}1\mu A$
- Operating temperature: -20°C~ 60°C
- Storage temperature: -30°C~ 70°C

#### APPEARANCE AND SIZE

- Display appearance and dimensional drawing (unit: mm)







#### **REMOTE CONTROL APPEARANCE**

#### FUNCTION SUMMARY

KD986 can provide a lot of functions to fit the users needs.

- Battery SOC percentage indication
- Motor power indication
- Assist-level indication
- Speed indication (incl. running speed, max. speed and ave. speed)
- Odometer and trip distance
- Push-assistance function
- Trip time indication
- Backlight on/off
- Error code indication
- USB connection indicator

- Various parameter settings (e.g., wheel size, speed limit, voltage set, assistance level, controller limited current, password enable/change/disable, etc.)



Socket type connector

#### GENERAL OPERATION

#### Switching the E-bike System On/Off

Press the power button to switch on the E-bike system. To turn off the E-bike system, hold the power button down for 2 seconds. When switched off, the E-bike system no longer uses battery power.

When switching off the E-bike system, the leakage current is less than 1 µA. When parking the E-bike for more than 10 minutes, the E-bike system switches off automatically.

#### **Display Interface**

After switching on the E-bike system, the display will show Speed and Trip Distance as default. Press the "i" button to switch between following elements: Trip > ODO > Max. Speed > Avg. Speed > Time.



#### Switching Push-assistance Mode On/Off

To activate the push-assistance function, hold the "-" button. After 2s, The E-bike's drive is activated at a uniform speed of 6 Km/h while the screen displays " [ms]". The push-assistance function is switched off as soon as you release the "-" button.

Push-assistance function may only be used when pushing the E-bike. Be aware of danger of injury when the wheels of the E-bike do not have ground contact while using the push-assistance function.



#### Switching the Headlight On/Off

To switch on the headlight, hold the  $d\equiv$  button. The backlight brightness is automatically reduced. Hold the  $d\equiv$  button again to switch the headlight off. The front light additionally has a light sensor function. This means if the bike is in a dark place, the light will automatically turn on, and if the light is on in a bright location, the headlight will automatically be switched off.

#### Assist Level Selection

Briefly press "+" or "-" button to switch between assistance levels to change the motor output power. The default assistance level ranges from level "0" to level "5". The output power is zero on Level "0". Level "1" is the minimum power. Level "5" is the maximum power. When you reach "5" and press the "+" button again, the interface will still show "5" and will blink to indicate it has reached the highest power setting. After the power downshift reaches "0" and the "-" button is pressed again, the interface will still show "0" and will blink to indicate the power minimum. The default value is level "1".

# 

D

170%



The five battery bars represent the capacity of the battery. The five battery bars are bright when the battery is in high voltage. When percentage is 0%, the battery needs to be recharged immediately.



Motor Power Indicator The power of the motor can

the motor can be read via shown interface.



**USB connection indication** When the display is

inserted into a USB external device, the display interface will show as below.



#### **Error Code Indication**

The components of the E-bike system are continuously and automatically monitored. When an error is detected, the respective error code is indicated in text indication area.

Have the display repaired when error code appears. Otherwise, you will not be able to ride the bike normally. Please always refer to an authorized dealer.

#### SETTING

Press the on/off button to switch on the display.

To access Setting page, hold both the "+" button and the "-" button for 2s. 'Display setting' and 'Advanced Settings' will be displayed as options.

All changes to settings should be operated on a parked E-bike.





#### Trip Distance Clearance

The 'Trip Reset' is accessible within the 'Display Setting' and represents the trip distance clearance setting.

To clear trip distance, press the "+" button or the "-" button to select Yes or No. Yes represents clearing a single ride distance. No represents not clearing a single ride distance. To store a changed setting, briefly press the "i" button to confirm.

DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Imperial
Wheel	28inch
Speed Limit	25mph
Set Voltage	36V
LCD Lumminance	100%
SOC View	Percent
BACK	



#### Unit km/mile Conversion

Toggle Unit represents unit settings. To toggle the unit, press the "+" button or the "-" button to choose the desired unit and press the "i" button to confirm. The default unit is "Metric (km)". To store a changed setting, briefly press the "i" button to confirm.

DisPlay Sett	ing
TRIP Reset	NO
Toggle Unit	Imperial
Wheel	28Inch
Speed Limit	25mph
Set Voltage	36V
LCD Lumminance	100%
SOC View	Percent
BACK	

NO
tric
nch
nph
6V
0%
cent

#### Wheel Diameter Settings

Wheel represents wheel diameter settings. To change basic settings, press the "+" or the "-" button to increase or decrease until the desired value is displayed. The default value is 26 inch. To store a changed setting, press the "i" button to confirm.

DisPlay Setting		
TRIP Reset	NO	
Toggle Unit	Imperial	
Wheel	28Inch	
Speed Limit	25mph	
Set Voltage	36V	
LCD Lumminance	100%	
SOC View	Percent	
BACK		

	DisPlay Sett	ing
	TRIP Reset	NO
	Toggle Unit	Imperial
	Wheel	26Inch
	Speed Limit	25mph
	Set Voltage	36V
	LCD Lumminance	100%
0	SOC View	Percent
	BACK	

#### **Battery Power Bar Settings**

Set Voltage represents voltage settings. 5 bar voltage values must be entered one by one. For example, "1-" is the first bar voltage value and its default value is 41.2V. To set battery power bar, press the "+" or the "-" button to increase or decrease the voltage values. To store a changed setting and access the next bar voltage setting, press the "i"button. In the same manner, after 5 voltage values are entered completely, press the "i"button to confirm.

DisPlay Setting	
TRIP Reset	NO
Toggle Unit	Imperial
Wheel	28Inch
Speed Limit	25mph
Set Voltage	36V
LCD Lumminance	100%
SOC View	Percent
BACK	



#### **Backlight Brightness Settings**

LCD Luminance represents backlight brightness. 100% is the highest brightness. The less the percentage, the lower the backlight brightness. To change the backlight brightness, press the "+" button or the "-" button to choose the desired percentage. To store a changed setting, briefly press the "i" button to confirm.

#### **SOC View Settings**

SOC view represents 2 display methods of remaining battery capacity. One is by the percentage and the other is by the Voltage value. Press the "+" button or the "-" button to choose the desired display method. The default view method is by the percentage. To store a changed setting, briefly press the "i" button to confirm.



#### ADVANCED SETTINGS

After DisPlay Setting is done, Press Back to return to Setting page. Press UP/DOWN button to choose Advanced Settings and press "i" button to enter Advanced Settings page.

#### Assist Level Settings

#### Assist Level Mode Options

In Assist Level mode settings, there are 8 modes for your choice 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. The default mode is 0-5. To change assist level mode, press the "+" or the "-" button to choose the desired mode and press the "i" button to confirm and access assist level ratio settings automatically.

#### Assist Level Ratio Settings

To change the ratio of a certain assist level, press the "+" button or "-" button to choose the desired ratio, and press the "i" button to confirm. For example, the ratio range is "45-55 percent" for level "1"; percentage can be changed and the default ratio value is 50 percent. To store a changed ratio setting, press the "i" button and move to the next level ratio setting. After ratios of all assist levels are input, press the "i" button to confirm. Please refer to assist level ratio default values in Attached list 2.

Advanced Setti	ngs	
Assist Levels	0-3	
Current Limit	20A	
Assistant Num	32	
Speed Sensor	01	
Slow Start	-2-	
Sensitivity	02	
Reset to defaults	NO	
Password	>	
BACK		

Current Limit Assistant Num Speed Sensor Slow Start Sensitivity	15A 32
Assistant Num Speed Sensor Slow Start Sensitivity	32
Speed Sensor Slow Start Sensitivity	
Slow Start Sensitivity	01
Sensitivity	-2-
	02
Reset to defaults	NO
Password	>
BACK	

#### Controller Over-current Cut Settings

Current Limit represents controller over-current cut settings. The current value can be changed from 7.0A to 25.0A. The default value is 15A. To change basic settings, press the "+" or the "-" button to increase or decrease the value of the current. To store a changed setting, press the "i" button to confirm.

#### Power Assistant Sensor Magnets

Assistant Num represents the number of magnets in the Pedal Assist System (PAS) disk. The settable range is "5" to "24". The default value is 12. To change the magnet number of power assist sensor, press the "+" or the "-" button to choose the desired number. To store a changed setting, press the "i" button to confirm.

#### Speed Sensor

Speed Sensor represents speed sensor settings. To change speed sensor settings, press the "+" or the "-" button to select the quantity of magnet heads on the e-bike spoke (the range is from 1 to 15). The default value is 1. To store a changed setting, press the "i" button to confirm.

#### **Slow Start**

Slow start represents slow start-up settings. It is a time duration before you get power assistance when applying pedal power. The range is "1-4". "4" is the slowest. The default value is "1". To change slow start up settings, press +/- button to choose the desired value. And press the "i" button to confirm.

	ings
Assist Levels	0-3
Correct Limit	20.4
Assistant Num	32
Speed Sensor	01
Speed Sensor	2
Slow Start	-2-
Sensitivity	02
Reset to defaults	NO
Password	>
BACK	
Advanced Sett	ings
Assist Levels	0-3
Current Limit	204
Assistant Num	12
Speed Sensor	01
Slow Start	2
Slow Start	-2-
Sensitivity	02
Reset to defaults	NO
Password	>
BACK	
Advanced Sett	ings
Advanced Sett Assist Levels	ings 0-3
Advanced Sett Assist Levels Current Limit	ings 0-3 20A
Advanced Sett Assist Levels Current Limit Assistant Num	ings 0-3 20A 32
Advanced Sett Assist Levels Current Limit Assistant Num	ings 0-3 20A 32 01
Advanced Sett Assist Levels Current Limit Assistant Num Deed Senson Slow Start	ings 0-3 20A 32 01 -2-
Advanced Sett Assist Levels Current Limit Assistant Num Slow Start Slow Start	ings 0-3 20A 32 01 -2-
Advanced Sett Assist Levels Current Limit Assistant Num Speed Senson Slow Start Sensitivity Parent to defaults	ings 0-3 20A 32 01 -2- 02 NO
Advanced Sett Assist Levels Current Limit Assistant Num Show Start Slow Start Sensitivity Reset to defaults Deserved	ings 0-3 20A 32 01 -2- 02 NO
Advanced Sett Assist Levels Current Limit Assistant Num Slow Start Sensitivity Reset to defaults Password	ings 0-3 20A 32 01 -2- 02 NO >
Advanced Sett Assist Levels Current Limit Assistant Num Slow Start Sensitivity Reset to defaults Password BACK	ings 0-3 20A 32 01 -2- 02 NO >
Advanced Sett Assist Levels Current Limit Assistant Num Sistant Num Siow Start Sensitivity Reset to defaults Password BACK	ings 0-3 20A 32 01 -2- 02 NO >
Advanced Sett Assist Levels Current Limit Assistant Num Sheed Sensor Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett	ings 0-3 20A 32 01 -2- 02 NO > ings
Advanced Sett Assist Levels Current Limit Assistant Num Sistant Num Siow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels	ings 0-3 20A 32 01 -2- 02 NO > 
Advanced Sett Assist Levels Current Limit Assistant Num Speed Sencor Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit	tings 0-3 20A 32 01 -2- 02 NO > 20A
Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit Assistant Num	tings 0-3 20A 32 01 -2- 02 NO > 20A 32
Advanced Sett Assist Levels Current Limit Assistant Num Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor	tings 0-3 20A 32 01 -2- 02 NO > 20A 20A 32 01
Advanced Sett Assist Levels Current Limit Assistant Num Peed Senson Slow Start Sensitivity Reset to defaults Password BACK BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor	tings 0-3 20A 32 01 -2- 02 NO > 20A 32 0-3 20A 32 01 -1-
Advanced Sett Assist Levels Current Limit Assistant Num Sistant Num Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Elow Start	tings 0-3 20A 32 01 -2- 02 NO > 20A 32 01 -2- 02 NO 32
Advanced Sett Assist Levels Current Limit Assistant Num Speed Sencor Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Som Start	tings 0-3 20A 32 01 -2- 02 NO > 20A 32 01 -1- 02
Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Password BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults	tings 0-3 20A 32 01 -2- 02 NO > 20A 32 01 -1- 02 NO
Advanced Sett Assist Levels Current Limit Assistant Num Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Blow Start Sensitivity Reset to defaults Password	tings 0-3 20A 32 01 -2- 02 NO > 20A 32 0-3 20A 32 01 -1- 02 NO > 20
Advanced Sett Assist Levels Current Limit Assistant Num Slow Start Sensitivity Reset to defaults Password BACK Advanced Sett Assist Levels Current Limit Assistant Num Speed Sensor Sensitivity Reset to defaults Password BACK	tings 0-3 20A 32 01 -2- 02 NO > 10 20A 32 0-3 20A 32 01 -1- 02 NO > 10 20 20 20 20 20 20 20 20 20 2

	Advanced Setti	ngs
	Assist Levels	0-3
	Current Limit	15A
	Assistant Num	32
	Speed Sensor	01
	Slow Start	-2-
	Sensitivity	02
	Reset to defaults	NO
	Password	>
	BACK	
	Advanced Setti	ngs
	Assist Levels	0-3
	Current Limit	20A
	Assistant Num	24
	Speed Sensor	01
	Slow Start	-2-
	Sensitivity	02
	<b>Reset to defaults</b>	NO
	Password	>
	BACK	
	Advanced Settin	ngs
	Assist Levels	0-3
	Current Limit	20A
	Assistant Num	32
	Speed Sensor	03
N	Slow Start	-2-
	Sensitivity	02
	<b>Reset to defaults</b>	NO
	Password	>
	BACK	
	Advanced Settin	nas
		0.3
	Acciet avale	
	Assist Levels	20.4
	Assist Levels Current Limit	20A
	Assist Levels Current Limit Assistant Num	20A 32
	Assist Levels Current Limit Assistant Num Speed Sensor	20A 32 01
	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start	20A 32 01
◆	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity	20A 32 01 +2- 04
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults	20A 32 01 -2- 04 NO
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password	20A 32 01 -2- 04 NO >
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password BACK	20A 32 01 -2- 04 NO >
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password BACK	20A 32 01 -2- 04 NO >
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password BACK	20A 32 01 -22- 04 NO >
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password BACK	20A 32 01 24 NO >
•	Assist Levels Current Limit Assistant Num Speed Sensor Slow Start Sensitivity Reset to defaults Password BACK	20A 32 01 22- 04 NO >

#### Sensitivity

Sensitivity represents the sensitivity of the power assist sensor. It means the motor assist should start after a certain number of magnets are passing on the power assist sensor. To change the value, press the "+" or the "-" button to choose the sensitivity value. The default value can be customized. To store a changed setting, press the "i" button to confirm.

Advanced Settings		
Assist Levels	0-3	
Current Limit	20A	
Assistant Num	32	
Speed Sensor	01	
Slow Start	-2-	
Sensitivity	02	
<b>Reset to defaults</b>	NO	
Password	>	
BACK		

	Advanced Settings					
	Assist Levels	0-3				
	Current Limit	20A				
	Assistant Num	32				
	Speed Sensor	01				
	Slow Start	-2-				
	Sensitivity	04				
	Reset to defaults	NO				
	Password	>				
	BACK					

#### **Reset to defaults**

Reset to defaults represents factory settings. To reset to defaults, press the "+" or the "-" button to choose YES or NO. The default is NO. To store a changed setting, press the "i" button to confirm.

Advanced Settings				
Assist Levels	0-3			
Current Limit	20A			
Assistant Num	32			
Speed Sensor	01			
Slow Start	-2-			
Sensitivity	02			
Reset to defaults	NO			
Password	>			
BACK				

Assist Levels	0-3
Current Limit	20A
Assistant Num	32
Speed Sensor	01
Slow Start	-2
Sensitivity	02
<b>Reset to defaults</b>	YES
Password	>
BACK	

#### **Power-on Password Settings**

To access the power-on password setting page, select 'Password' in the menu and press "i" button to confirm. PassWord Set means power-on password settings. Power-on password is a 4-digit code. The default password is '0314'.

Advanced Settings				
Assist Levels	0-3			
Current Limit	20A			
Assistant Num	32			
Speed Sensor	01			
Slow Start	-2-			
Sensitivity	02			
Reset to defaults	NO			
Password	>			
BACK				



#### Power-on Password Disable/Enable

To enable or disable Start PassWord settings, press the "+" or the "-" button to select ON or OFF. ON means enabling a power-on password while OFF means disabling a power-on password. The default value is OFF. To enable a power-on password, choose ON and press "i" button to confirm and input the current password or default password '0314'. Press the "+" or the "-" button to change the number and press the "i" button to confirm digits one by one until the correct password (current password or default password '0314') is completed. To disable the current password, choose OFF and press "i" button to confirm and input the current password or default password '0314') is completed. To disable the current password, choose OFF and press "i" button to confirm and input the current password canceled Successfully'. \*Then the display password restores the default code '0314'.



#### Power-on Password Reset

From the last interface above, press the "+" or the "-" button to select 'Reset PassWord' and press the "i" button to access the power-on password reset interface. There are 3 pages for setting up a new password: In the first page, please enter the current password or default password '0314' correctly. Then it moves to the second page for inputting a new password. Press the "+" or the "-" button to increase or decrease the number and then press the "i" button to confirm digits one by one until a new 4-digit password is completed. Finally, it comes to the third page and reenter the new password again for confirmation. The screen displays ' PassWord Reset Successfully'. When switching on the E-bike system next time, please enter the new password to power on.



#### Exit Settings

In the settings interface,

- 1. Briefly press the "i" button to confirm and store a changed setting but stay within current setting menu.
- 2. Hold the "i" button for 1 second to store a changed setting and exit the current setting menu and return to display start-up interface.

3. Hold the "-" button for 1 second to cancel the setting operations without storing a change and return to display start-up interface.

If there is no setting operation in one minute; the display will exit the settings state.

#### CONNECTION LAYOUT

Socket type male connector (display is cable free)





Display-side socket

Matching connector from controller side

Wire sequence table

Wire no.	Colour	Function		
1	Red (VCC)	+		
2	Blue (K)	Lock		
3	Black (GND)	-		
4	Green (RX)	RX		
5	Yellow (TX)	ΤX		

Some displays have wire connection with water-proof connectors, users can not see the color of lead wires in the harness.

Error Code	Definition				
21	Current Abnormality				
22	Throttle Abnormality				
23	Motor Phase Abnormality				
24	Motor Hall Signal Abnormality				
25	Brake Abnormality				
30	Communication Abnormality				

**ERROR CODE DEFINITION** 

**ATTACHED LIST 1:** 

#### ATTACHED LIST 2: ASSIST LEVEL RATIO DEFAULTS

PAS Level Level mode	1	2	3	4	5	6	7	8	9
0-3 / 1-3	50%	74%	92%	-	-	-	-	-	-
0-5 / 1-5	50%	61%	73%	85%	96%	-	-	-	-
0-7 / 1-7	40%	50%	60%	70%	80%	90%	96%	-	-
0-9 / 1-9	25%	34%	43%	52%	61%	70%	79%	88%	96%

#### WARNINGS

- Use the display with caution. Don't attempt to release or link the connector when battery is on.
- Try to avoid hitting the display.
- Don't modify system parameters to avoid parameter disorder.
- Repair the display when error code appears.

\*This manual instruction is a universal version for DISPLAY KD986. Some versions of this display may be different from specification to specification as to the software. Please always refer to an actual version

# CARE AND MAINTENANCE

#### BATTERY RANGE

The range of the battery is up to 60 miles per charge. However, a lot of factors affect how far you can go per charge:

- Driving surface: A smooth, flat surface will increase driving distance.
- Weight: More weight means less distance.
- Maintenance: Regular battery charging and maintenance will prolong the life of your battery.
- Speed and riding style: Maintaining a moderate speed will increase distance. Frequent starting and stopping, acceleration and deceleration will reduce it.
- Battery size, tyre pressure, temperature\*, battery age and weather conditions.
- Avoiding fully discharging will maintain the life of your battery.

\*Temperature – your battery will have less range in very cold conditions.

#### SPEED LIMIT

The top speed of the bike is set to 25km/h (15.5mph) (obey local laws).

#### WEIGHT LIMIT

The maximum load is 120kg (19 stone). Going above the maximum weight limit can cause injury or damage the bicycle and will void your warranty.

#### CLEANING THE BIKE

To clean the bike carefully wipe with a damp cloth, then dry with a dry cloth. Do not use excessive water to clean the bike as this could damage the components, resulting in personal injury or malfunction of the bicycle. Lubricate the chain after every wash if you can to keep it smooth and rust free. Suitable products are available via **westhillbikes.com.** 

#### BATTERY

- Keep the bike away from fire and excessive heat.
- To avoid damage to the battery, never subject the bike to intense physical shock, severe vibration or impact.
- Protect the battery from water or moisture.
- You can remove the battery but never disassemble it.
- If there are any issues with the battery, please contact Customer Support on +44 (0)1823 672 970.

#### STORAGE

- If you plan on storing the bike for a substantial period of time, please make sure you fully charge the battery before storing. The battery should be fully charged once a month after this.
- Store the battery indoors in a room temperature environment.
- To protect against dust, cover the bike.
- Store the bike indoors, in a dry place and at a suitable temperature.
- You should bring the battery into a warm environment for charging.
- Do not leave the bike plugged into the charger for long periods of time.

#### TYRE PRESSURE

The recommended tyre pressure is written on the tyres (30-70 PSI depending on which bike you have & how firm you want your ride to be).

# SAFETY WARNINGS

Here are some useful tips to make sure you always have a safe ride:

- Children and pregnant women should not use the bike.
- Do not ride after drinking alcohol.
- Consult your doctor if taking prescription medication.
- Do not carry items when riding.

- Prior to each ride, inspect each part of the bike to ensure it has been maintained correctly and is functioning properly.
- Always give way to pedestrians.
- Be aware of your surroundings.
- Always comply with local traffic laws and regulations. Remember, this bike is a motor vehicle, and is treated as such by local law enforcement. You can and will be arrested for drink driving. Many cities have restrictions on where you can drive motor vehicles, as well as additional restrictions on driving non-automobiles on streets and highways.
- Make sure your feet are always placed securely on the pedals.
- The bike cannot be ridden by two or more people. Only one person can ride at a time.
- When you ride the bike along with other cyclists, always keep a safe bike distance to avoid a collision.
- When turning, be sure to maintain your balance.
- Do not allow distractions when riding, such as answering the phone or engaging in any other activities.
- Applying brakes too hard or too suddenly can lock up a wheel, which could cause you to lose control and fall. Sudden or excessive application of the front brake may pitch the rider over the handlebars, which may result in injury or death.

#### MODIFICATIONS

Do not attempt to disassemble, modify, repair or replace any electrical parts without contacting the Customer Service (+44 (0)1823 672 970). This will void any warranty and can lead to malfunctions which may cause injury.

#### ADDITIONAL OPERATION CAUTIONS

Do not lift the bike off the ground while it is in operation and the wheels are in motion. This can result in freely spinning wheels, which may cause injury to yourself or others nearby. Do not jump on or off the bike.

# Westhill Bikes Warranty

# Register Now Through Our Website

Simply visit **westhillbikes.com/warranty-registration** and fill in your information.

# Register Now Through Facebook



The other way to register your new bike is through Facebook. Simply visit our page **www.fb.com/westhillbikes** or scan the QR code below with your mobile phone and message us with this information:

Your name:

Your email address:

Your postal address:

Bike model & colour:

Purchase date:

Where you purchased from:



#### Be sure to register right away so your bike is covered!

Don't have Facebook? Email the above details to enquiries@westhillbikes.com to activate your warranty.



# westhillbikes.com