

The eBike Display
Users Manual

KD51C

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Product Name and Model

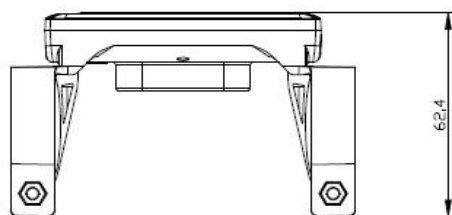
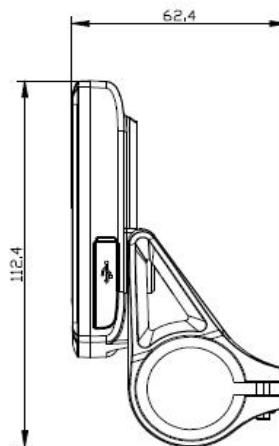
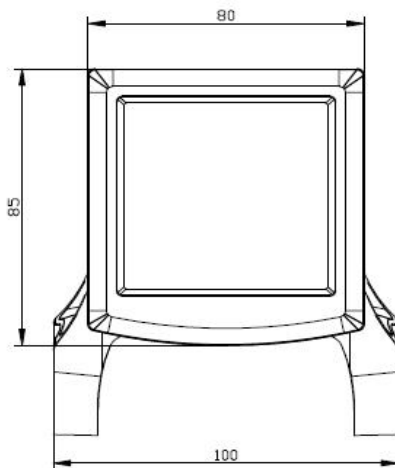
Intelligent LCD display of eBike; model: KD51C.

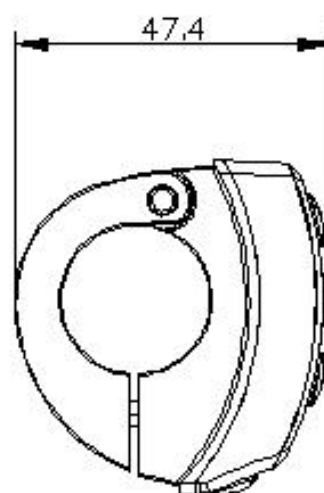
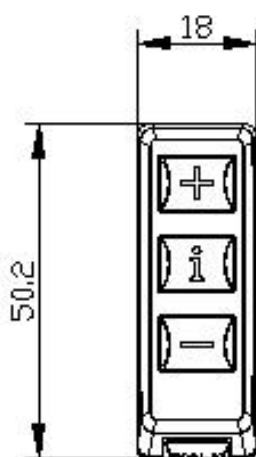
Specifications

- 24V/36V/48V Power Supply
- Rated working current: 10mA
- The maximum working current: 30mA
- Off leakage current: <1uA
- The supply controller working current: 50mA
- Working temperature: -20°C ~ 60°C
- Storage temperature: -30°C ~ 70°C

Appearance and Size

Display appearance and dimension figure (unit: mm)





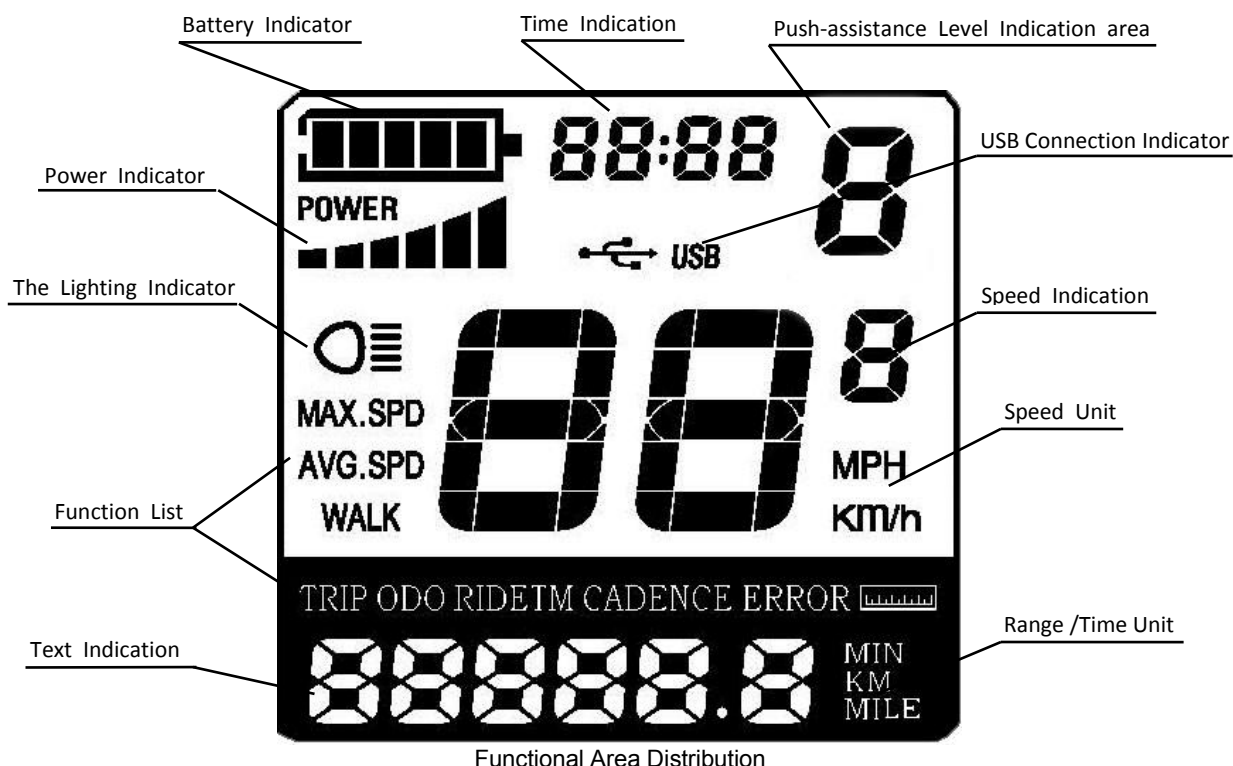
Function Summary

◆Function Summary

KD51C can provide a lot of functions to fit the users' needs. The indicating contents are as following:

- Smart battery indicator
- Motor-output indicator
- Assistance-level indication
- Speed indication (incl. running speed, max speed and average speed)
- Trip distance and total distance
- The push-assistance function
- Trip time indication
- Time indication
- The lighting On/Off
- Error code indication
- USB port (optional)
- Pedaling frequency indication (optional)
- The remaining range indication (optional)
- Various parameters settings (e.g., wheel size, speed-limited, battery level bar, assistance level, controller limited current, max speed, password enable, etc.)
- Recover default settings

◆Functional Area Distribution



General Operation

◆Switching the eBike System On/Off

To switch on the eBike system, hold the “I” button for 2 s.

In the same way to hold the “I” button for 2 s again, the eBike system will be switched off.

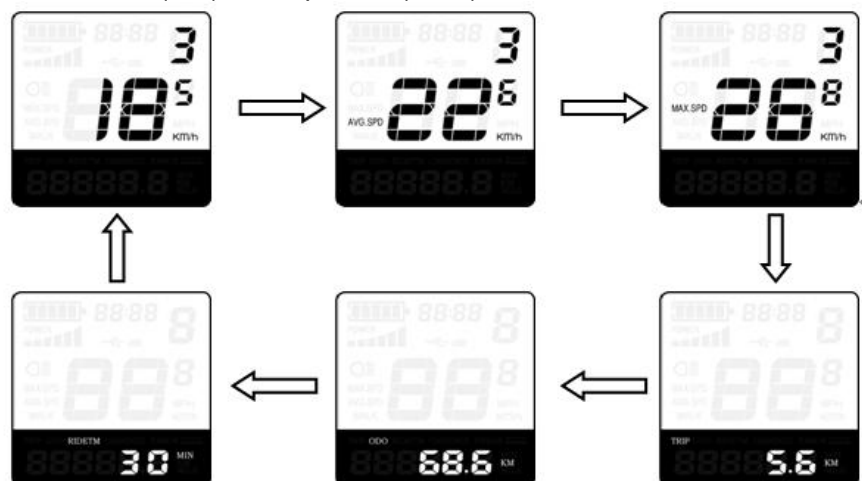
When switching off the eBike system the leakage current is less than 1 uA.

■When parking the eBike for more than 10 minutes, the eBike system switches off automatically.

◆Display Interface

After switching on the eBike system, the display shows Running Speed and Total Distance.

To change the indicated information, press the “I” button to show in turn as below:
Running Speed (Km/h) → Average Speed (Km/h) → Max Speed (Km/h) → Trip Distance (Km) → Total Distance (Km) → Trip Time (Hour) .



◆Switching Push-assistance Mode On/Off

To activate the push-assistance function, hold the “walk” button always. The eBike’s drive is activated at a uniform speed of 6 Km/h.

The push-assistance function is switched off as soon as you release the “walk” button on the operating unit.



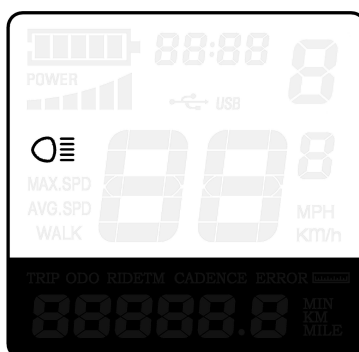
Push-assistance Mode

■Push-assistance function may only be used when pushing the eBike. Danger of injury when the wheels of the eBike do not have ground contact while use the push-assistance function.

◆Switching the Lighting On/Off

To switch on the lights (front light, rear light and display backlight) at the same time, hold the “+” button for 2 s.

In the same way to hold the “+” button for 2 s again, the lighting can be switched off at the same time.



Switch On/Off the Lighting

◆Assistance Level Selection

The level of assistance of the eBike drive when pedaling can be adjusted via the display. The assistance level can be changed anytime, even during riding.

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.

To increase the assistance level, press the “+” button until the desired assistance level is displayed; to decrease the assistance level, press the “-” button. The default value is level “1”.



Assistance Level "5"

◆Time Indication

The time can be displayed in the 24 hour format.



Time Indication

◆Battery Indicator

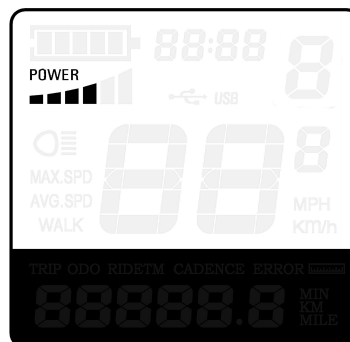
The five battery bars represent the capacity of the battery. When the battery is in low voltage, battery frame will flash to notice that the battery needs to be recharged immediately.



Low Voltage Flash
Battery Indicator

◆Motor Power Indicator

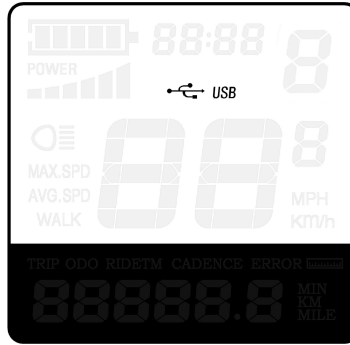
The power of the motor can be read via the interface.



Motor Power Indication

◆USB Connection Indicator (optional)

Using a matching USB cable, connect the charger and "USB" is displayed.



USB Connection Indicator

◆Error Code Indication

If there are errors about the electronic control system, the error code will appear automatically. Here is the detail message of the error code in **Attached list 1**.



Error Code Indication

■Make the display repaired when error code appears.

General Settings

After the eBike system is switched on, to access general settings menu, hold both the “+” button and the “-” button for 2 s.

■All the Settings are operated in the case of parking the eBike.

◆Trip Distance Clearance

TC represents trip distance clearance setting.

To clear trip distance, press the “+” button or the “-” button until the Y is displayed.

To store a changed setting, press the “i” button and then access backlight contrast settings.



Trip Distance Clearance Settings Interface

◆Backlight Contrast Settings

bL represents backlight contrast settings. Level “1” is the low brightness, Level “2” is the middle brightness, Level “3” is high brightness. The default level is “1”.

To modify the backlight brightness, press the “+” button or the “-” button to increase or decrease until the desired setting is displayed.

To store a changed setting, press the “i” button and then access the unit Conversion

Settings.



Backlight Brightness Settings Interface

◆Unit km/mi Conversion

U represents unit settings, “1” is mile and “2” is kilometer. The default value is “2”.

To convert unit, press the “+” button or the “-” button to increase or decrease until the desired setting is displayed.

To store a changed setting, press the “i” button and then access trip distance clearance settings.

To store a changed setting, hold the “i” button for 2 s and then exit general settings.



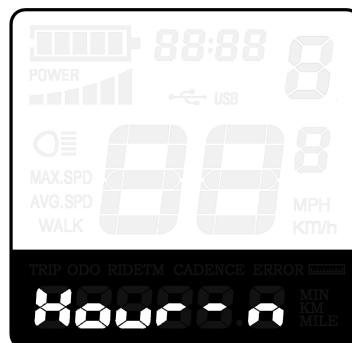
Mile and Kilometer Conversion Settings Interface

◆Time Settings

Hour represents time settings, press the “+” button or the “-” button to choose the options Y/N. The default value is N.

If you choose N, press the “i” button, and then access trip distance clearance settings.

If you choose Y, press the “i” button to enter **Time settings**, then use the same button to shift the TIME, press the “+” button or the “-” button to change the number. To store a changed setting, hold the “i” button for 2 s and then exit general settings.



Time Indication

General Parameter Settings

To access general parameter Settings interface, hold both the “+” and the “-” button for 2 s.

To access Wheel Diameter Settings, then hold both the “-” and the “i” button for 2 s again.

◆Wheel Diameter Settings

Ld represents wheel diameter settings. Electable values include 16, 18, 20, 22, 24, 26, 700C and 28.

To change basic settings, press the “+” or the “-” button to increase or decrease until the desired value is displayed.

To store a changed setting, press the “i” button. Then access the speed-limit settings interface. The default value is 26 inch.



Wheel Diameter Settings Interface

◆Speed-limit Settings

LS represents the limit speed settings. When the running speed is faster than limit speed, the eBike system will switch off automatically. Limit speed range is 12Km/h to 40Km/h. The default value is 25Km/h.

To change basic settings, press the “+” or the “-” button to increase or decrease until the desired value is displayed.

To store a changed setting and exit General Parameter Settings, hold the “i” button for 2 s.



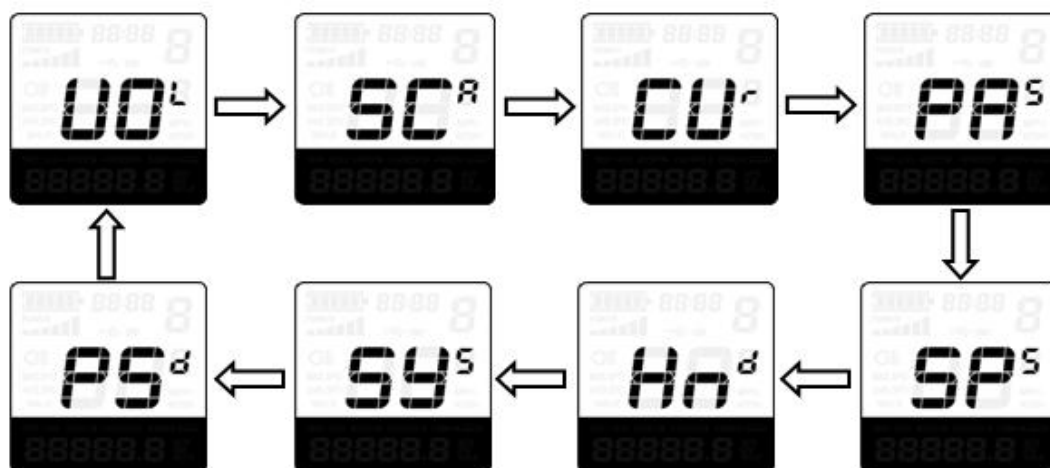
Limit Speed Settings Interface

Personalized Parameter Settings

Personalized Parameter Settings can match variety requirements in use. There are 8 settings items, such as Battery Power Bar Settings, Power Assistant Level Settings, Over-current Cut Settings, Power Assistant Sensor Settings, Speed Sensor Settings, Throttle Function Settings, System Settings and Power-on Password Settings.

To access Personalized Parameter Settings items option page, hold both the “+” and the “-” button for 2 s, then hold both the “+” and the “-” button for 2 s again.

To access the corresponding settings page, press the “+” or the “-” button to increase or decrease until the desired item is displayed, and then press the “i” button to confirm.



Options Selection Interface

◆Battery Power Bar Settings

VOL represents voltage settings. Each bar represents a voltage value. 5 bars voltage values must be entered one by one. For example, VOL 1 is first bar voltage value. The default value is 31.5V.

To set battery power bar, press the “+” or the “-” button to increase or decrease the number. To store a changed setting and access the second bar, press the “i” button.

By analogy, after 5 bars voltage values is entered, hold the “i” button to confirm and then return to the previous menu.



Battery Power Bar Settings

◆Assistance Level Settings (optional)

Assistance Level Option

In assistance level settings, there are 8 modes to select: 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. The default value is 0-5.

To select the mode of assistance level, press the “+” or the “-” button to increase or decrease until the desired setting is displayed.

To store the changed setting and access the PAS ratio settings page, press the “i” button.



PAS Mode Option Interface

PAS Ratio Settings

To modify the value of PAS ratio can match the different requirements.

For example, the range is “45-55 percent” of “1” level, bottom value can be modified, and the default value is 50 percent.

To store the modified setting, press the “i” button and turn to the next PAS ratio settings.

After all PAS ratio inputted, hold the “i” button for 2 s to confirm and then return to previous menu. Please refer to **Attached list 2**.



PAS Ratio Interface

◆Controller Over-current Cut Settings (optional)

CUR represents controller over-current cut settings. CUR 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, hold the “i” button and then return to previous menu.



CUR Settings Interface

◆Power Assistant Sensor Settings (optional)

The Direction of PAS Settings

PAS represents power assistant sensor settings. “run-F” means forward direction, while “run-b” means back direction. The default value is “run-F”.

To change The Direction of Power Assistant Sensor Settings, press the “+” or the “-” button to select F or b.

To store a changed setting, press the “i” button and then access settings mode of PAS sensitivity.



Direction of PAS Sensor Settings

The Sensitivity of PAS Settings

SCN represents the sensitivity of PAS settings. The sensitivity value is “2” to “9”. “2” is the strongest, “9” is the weakest. The default value is “2”.

To change the sensitivity of PAS settings, press the “+” or the “-” button to select sensitivity value.

To store a changed setting, press the “i” button and then access magnet disk settings mode.



The Sensitivity of PAS Settings

Magnet Quantity Settings

n represents magnet numbers of PAS disk. The default value is 6.

To change magnet numbers of PAS disk, press the “+” or the “-” button to select quantity corresponding to PAS disk.

To store a changed setting, hold the “i” button and then return to previous menu.



PAS Magnet Disk Settings

◆Speed Sensor (optional)

SPS represents speed sensor settings. The default value is 1

To change speed sensor settings, press the “+” or the “-” button to select the quantity of magnet head (the range is from 1 to 15).

To store a changed setting, hold the “i” button and then return to previous menu.



Speed Sensor Selection

◆Throttle Definition (optional)

Throttle Push-assistance Enable/Disable

HL represents throttle push-assistance function. HL-N represents throttle assistance

push function is disabled. HL-y represents throttle assistance push function is enabled. The default value is N.

To change throttle push-assistance function, press the “+” or the “-” button to select Y.

To store a changed setting, press the “i” button.

Otherwise, to select N and then access Throttle Level Enable Settings.



Throttle Enable/Disable Interface

Throttle Level Enable/Disable

HF-y represents throttle level enabled, HF-N represents throttle level is disabled. The default value is N.

To change throttle level function, press the “+” or the “-” button to select Y or N.

To store a changed setting, press the “i” button and then access Throttle Enable Settings page.

To return to previous menu, hold the “i” button for 2 s.



Throttle Level Enable or Disable Interface

◆System Settings (optional)

Delay Time Settings of Battery Power

dLY reresents delay time of battery power settings. The default value is 3 s.

To change delay time settings, press the “+” or the “-” button to select delay time 3 s, 6 s, 12 s.

To store a changed setting, press the “i” button and then access the max speed limited.



Delay Time of Battery Power Interface

Max Speed Limited

LS represents max speed limited settings. The default value is 40Km/h.

To change Max speed limited setting, press the “+” or the “-” button to set the max speed from 25Km/h~40 Km/h.

To store a modified setting, press the “i” button and then access Button PAS Settings.



Interface of Max Speed Limited Settings

■This setting is the priority version. The speed is the maximum set by manufacturer.

Button Push-assistance Enable/Disable

PUS represents button push-assistance settings. Y represents button push is enabled, N represents button push is disabled. The default value is Y.

To change button push-assistance settings, press the “+” or the “-” button to choose Y or N.

To store a changed setting, press the “i” button and then access PAS speed settings.



Interface of Push-assistance

PAS Speed Settings

To change PAS speed settings, press the “+” or the “-” button to adjust from 20% to 35%.

To store a modified setting, press the “i” button and then access slowly start up.

The default value is 25%.



Interface of PAS Speed Settings

Slowly Start Up Settings

SSP represents slowly start up. The range is “1-4”, “4” is the slowest. The default value is “1”.

To change slowly start up settings, press the “+” or the “-” button to select the desired value.

To store a changed setting, press the “i” button and then turn to Delay time settings of battery power page.

To return to previous menu, hold the “i” button for 2 s.



Interface of Slowly Settings Up

◆Power-on Password Settings

P2, 0000 on the screen means power-on password settings. The default value is 1212.

To access the power-on password settings, press the “+” or the “-” button to modify the value and then press the “i” button to confirm digit one by one until the correct 4-digit password is completed, and then press the “i” button to access power-on password enable settings interface, otherwise stay on the password input state.



Power-on Password Entering Interface

Power-on Password Enable/Disable

To change power-on password enable/disable settings, press the “+” or the “-” button to select Y or N.

If it is Y, press the “i” button and then access power-on password modify interface, otherwise exit the power-on password settings interface. The default value is N.

Y is power-on password enable.

N is power-on password disable.



Power-on Password Disable Interface

Power-on Password Modify

When the display shows P3, 0000, to set new power-on password, press the “+” or

the “-” button to modify the value and then press the “i” button to confirm digit one by one until the new 4-digit password is completed.

To store the new power-on password, hold the “i” button for 2 s and then exit settings.

When switching the eBike system on next time, the display will show P1,0000, please input the new password to power on.



Power-on Password Modify Interface

◆Exit Settings

In the settings state, press the “i” button is to confirm the input. Hold the “i” button is to store the settings, and then exit the current settings. Hold the “-” button is to cancel the operating but not storing settings data, and then return to previous menu.

■If there is not any operations in one minute, the display will exit the settings state.

Recover Default Settings

dEF represents recover default settings. The default value is N.

To access recover default settings, hold both the “+” and the “i” button for 2 s.

Press the “+” or the “-” button to choose Y or N again. N means that do not recover default settings. Y means that recovers default settings.

When it is Y, hold the “i” button for 2 s to recover default settings; the display shows DEF-00 at the same time, and then return to general display state.



Recover Default Settings Interface

Quality Assurance and Warranty Scope

I Warranty

- 1) The warranty will be valid only for products used in normal usage and conditions.
- 2) The warranty is valid for 24 months after the shipment or delivery to the customer.

II Others

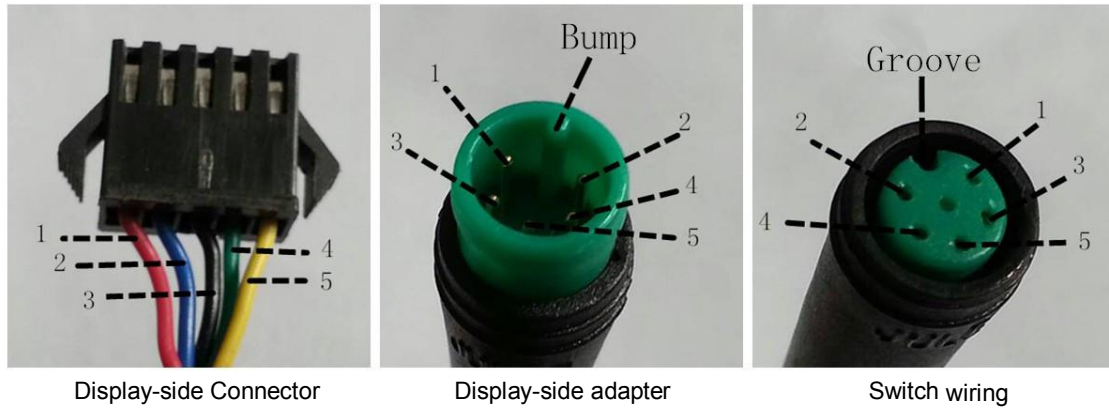
The following items do not belong to our warranty scope.

- 1) The display is demolished.
- 2) The damage of the display is caused by wrong installation or operation.
- 3) Shell of the display is broken when the display is out of the factory.
- 4) Wire of the display is broken.
- 5) Beyond Warranty period.
- 6) The fault or damage of the display is caused by the force majeure (e.g. fire,

earthquake, etc.).

Connection Layout

Connector line sequence



Line sequence table

Line	Color	Function
1	Red (VCC)	+
2	Blue(K)	Lock
3	Black(GND)	-
4	Green(RX)	RX
5	Yellow(TX)	TX

■Some wire use the water-proof connector, users can not see the inside color.

Operation Cautions

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

- Try to avoid hitting.
- Do not modify system parameters to avoid parameters disorder.
- Make the display repaired when error code appears.

Attached list 1: Error code definition

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

Attached list 2: Power assist table

Level Level selection	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%