E-bike Display

User's Manual

KD716

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Product model

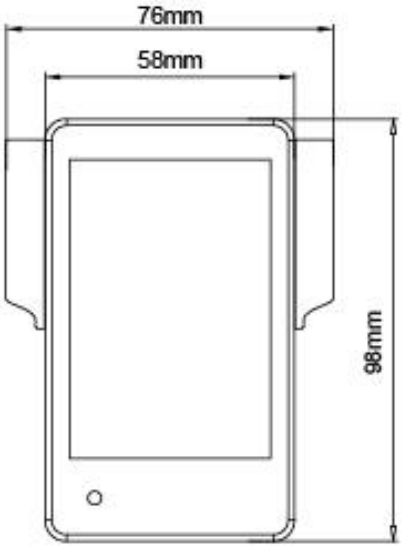
E-bike Intelligent LCD display
Model: KD716

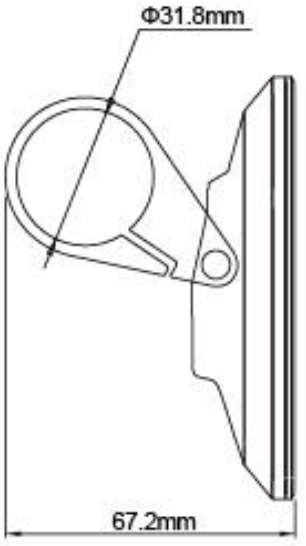
Specifications

- ●24V/36V/48V Power Supply
- ●Rated working current: 10mA
- ●The maximum working current: 30mA
- ●Off-state leakage current: <1μA
- ●Operating temperature: -20℃~ 60℃
- ●Storage temperature: -30℃~ 70℃

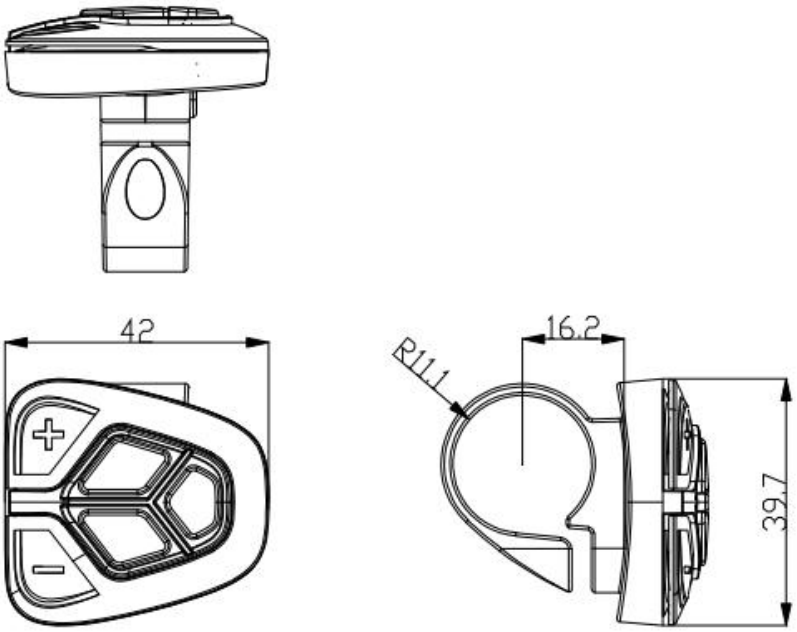
Size

Product appearance and dimensional drawing (unit: mm)





Remote appearance and dimensional drawing (unit: mm)



Function summary and distribution

◆Function summary

KD716 display has many functions to meet your cycling needs. The indication factors are as follows:

●Intelligent battery power indication

●Motor power

●Assist level

●Speed indication (incl. current speed, Max. speed and Ave. speed)

●ODO and Trip km

●Push assist function

●Trip time

●Clock

●Backlight on/off

●Error code indication

●Pedal frequency

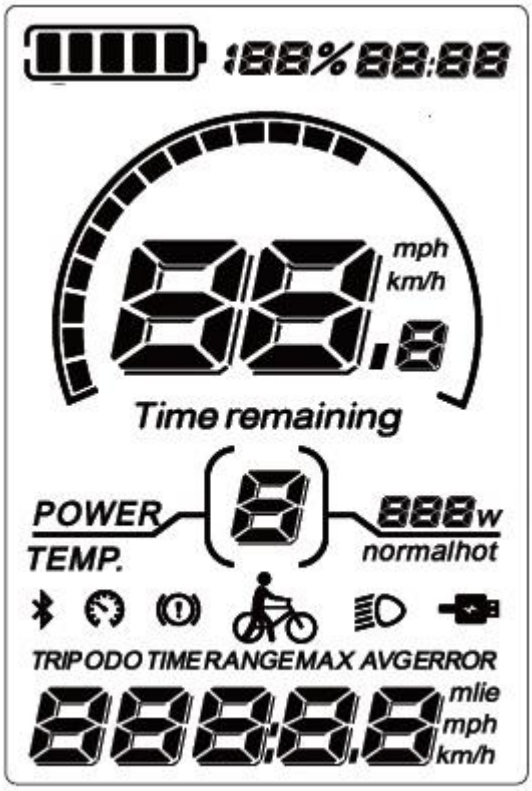
●USB connection indication (optional)

●Remaining range indication (optional)

●Various parameter settings (e.g. *wheel diameter, speed limit, battery level bar settings, assist level settings, power-on password settings, controller over-current cut settings etc.)*

●Recover default settings

◆Function distribution



KD716 Function distribution interface

General operations:

◆Switching the E-bike System On/Off

Press remote power button to switch on the E-bike system and provide the power supply for the controller.

Hold remote power button for 2s, the E-bike system will be switched off .The E-bike system no longer uses the battery power.

When the E-bike system is switched off, the leakage current is less than 1 μA.

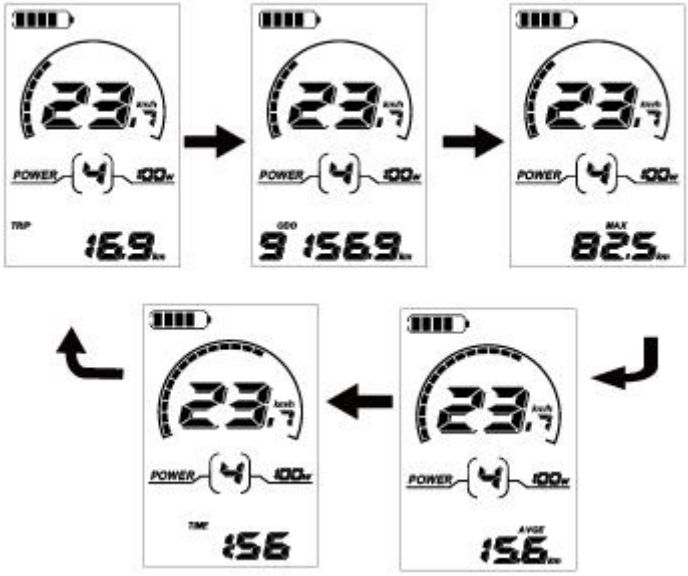
■When E-bike is parked for more than 10 minutes, the E-bike system will be switched off automatically.

◆Display Interface

After switching on the E-bike system, the display will show current Speed and Trip Distance by default.

Press remote “i” button will show more riding data below:

Trip Distance (Km) →ODO (Km) →Max. Speed (Km/h) → Ave. Speed (Km/h) →Trip Time (Min.).

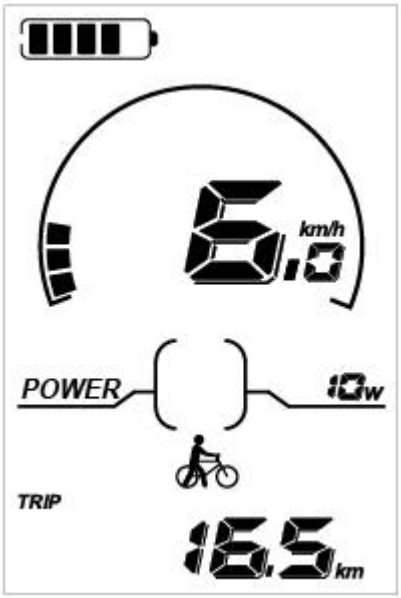


Display interface

◆Switching Push-assist Mode On/Off

To activate the push-assist function, press and hold the “**-**” button on the remote. After 2 seconds, E-bike is activated to go at a uniform speed of 6 Km/h while the screen displays .

The push-assist function is switched off as soon as you release the “**-**” button. The E-bike system stops the power output immediately.



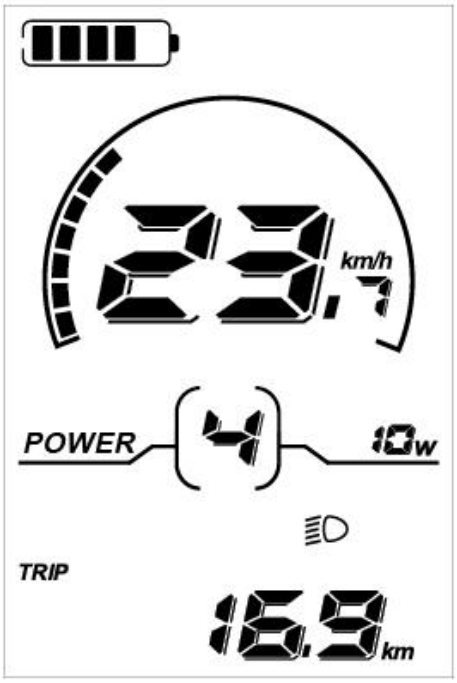
Push assist mode

■Push-assist function may only be used while pushing the E-bike. Do not use push assist mode while you are riding on the bike.

◆Switching Lighting On/Off

To switch on the display backlight and headlight of E-bike, hold the **UP** button for 2s. When you ride the bike at night or in a place where there's a lack of light, you can turn on LCD backlight.

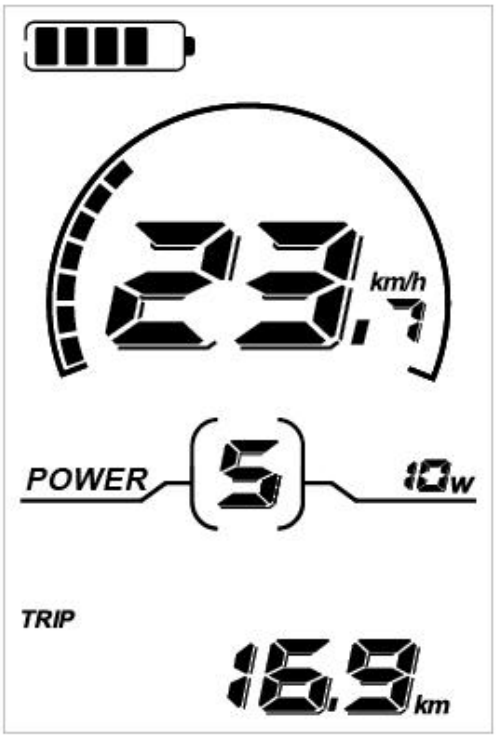
Likewise hold the **UP** button for 2s again, display backlight and E-bike headlight will be switched off.



Backlight on

◆Power Assist Level

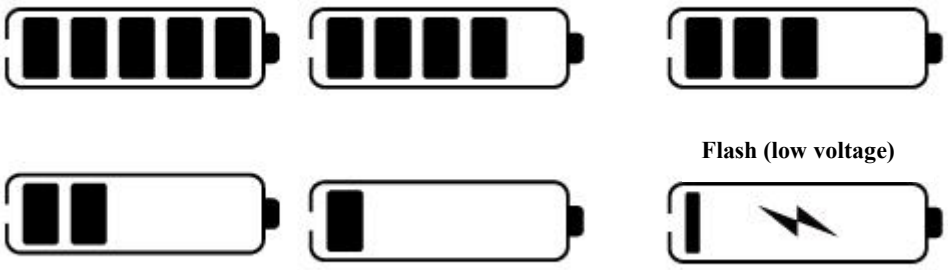
Press "+" or "-" button to change power assist level and motor output power, The default assist level ranges from level "0" to level "5", The output power is zero on Level "0". Level "1" is the minimum power. Level "5" is the maximum power. When you reach "5", press the "+" button again, the interface still shows "5", and blinks at"5"to indicate the power maximum. After the power downshift reaches "0", press the "-" button again, the interface still shows "0"and blinks at "0" to indicate the power minimum. The default value is level "1".



Power assist level interface

◆Battery Power Indicator

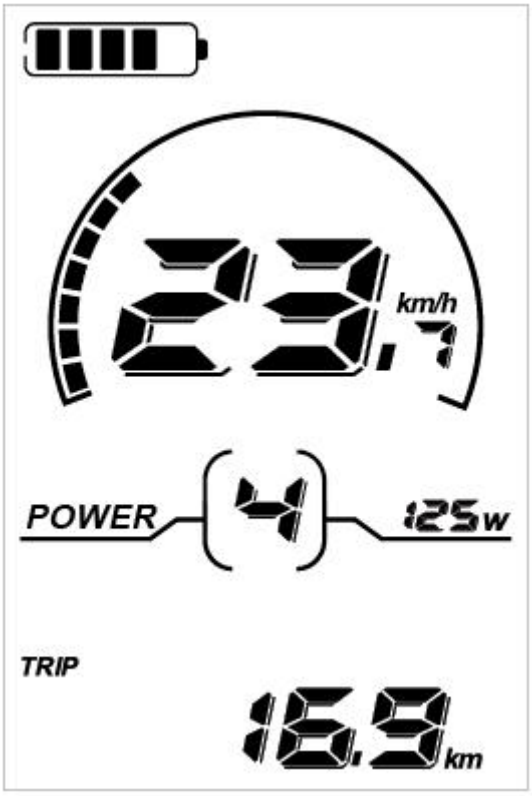
The five battery power bars represent the capacity of the battery. The five battery bars are bright when the battery is in full voltage. When the battery is in low voltage, battery frame will flash at the frequency of 1HZ to give a notice that the battery needs to be recharged immediately



Battery indicator interface

◆Motor Power Indicator

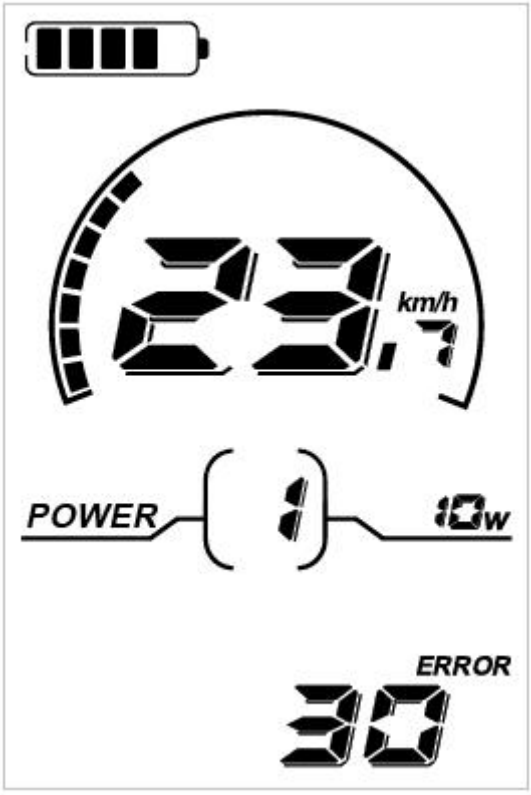
The power of the motor can be read via interface below by digits.



Motor power interface

◆Error code indication

When a fault occurs in E-bike electronic control system, the corresponding error code will be shown on the display. The definitions of the codes are listed in **Attached list 1.**



Error code interface

■**Make the display repaired when an error code appears. Or else you will not be able to ride E-bike normally.**

General Settings

Press “i” button to switch on the display. In the case of a parked e-bike with its display activated, hold ‘+’ and ‘-’ simultaneously for more than 2 seconds to enter General Settings.

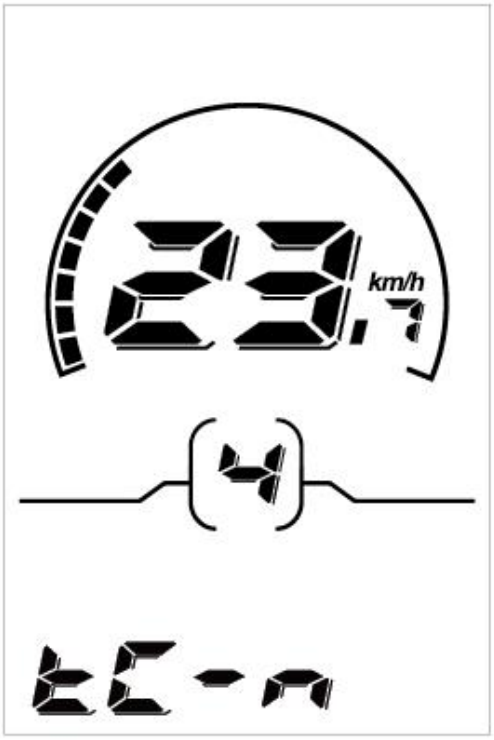
■**All the Settings are done in the case of a parked E-bike.**

◆Trip Distance Clearance

TC represents trip distance clearance setting.

To clear trip distance, press “+” button or “-” button to select the Yes or No. Yes represents clearing a single ride distance. No represents not clearing a single ride distance.

To store a changed setting, press the “**i**” button and then access Backlight Settings.



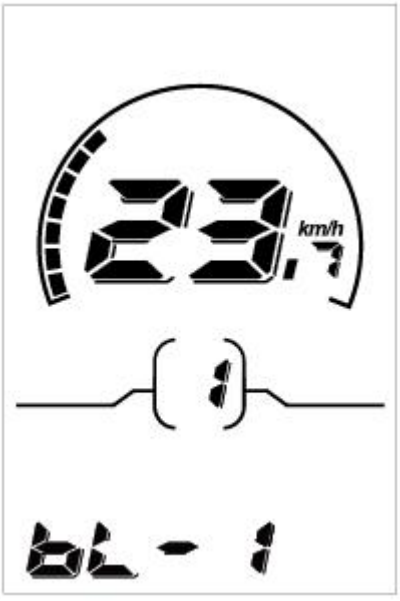
Trip distance clearance interface

◆Backlight settings:

bL represents backlight settings. Level “1” is the lowest brightness. Level “2” is the medium brightness. Level “3” is the highest brightness. The default value is “1”.

To change the backlight brightness, press the **UP/DOWN** button to increase or decrease until the desired brightness level is displayed.

Press **i** button to store a changed setting and then access unit conversion settings.

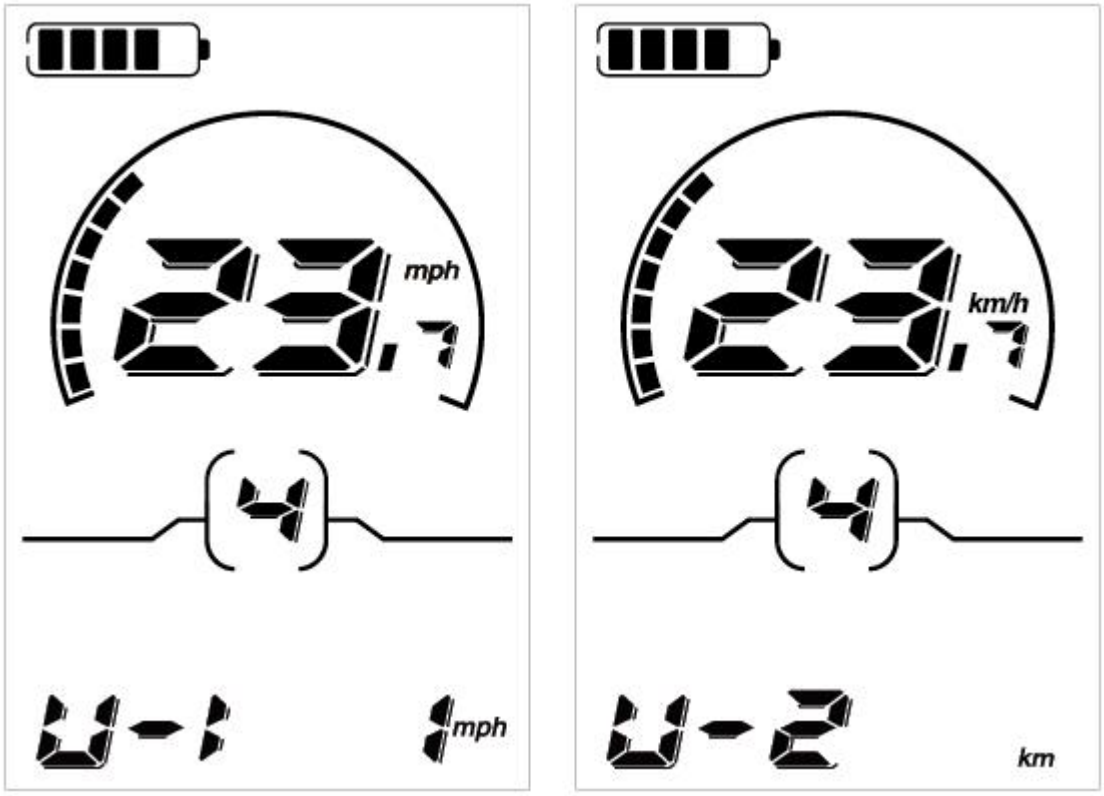


Backlight settings interface

◆Unit conversion KM/Miles

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

To convert unit, press the UP/DOWN button to increase or decrease until the desired unit is displayed.
Press the **i** button to store a changed setting and then access trip distance clearance settings again or long press the **i** button for 2s and exit general settings



Miles and KM conversion interface.

General Parameter Settings

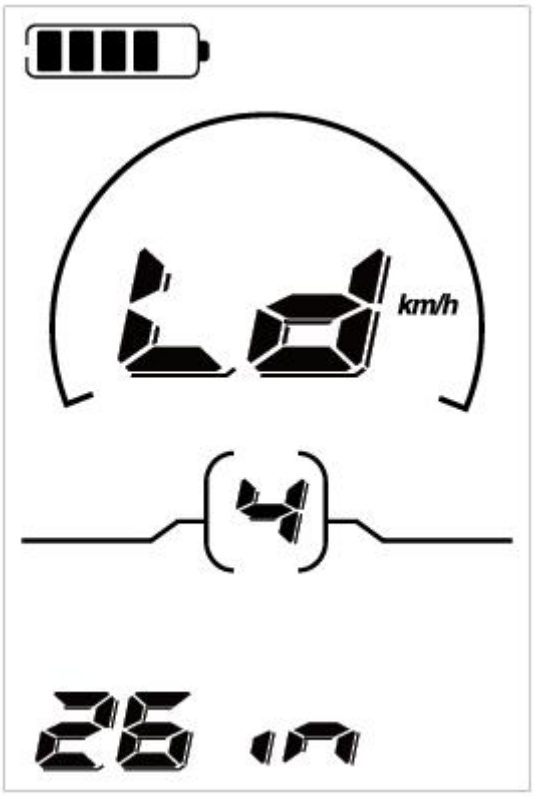
To access general parameter settings interface, hold both the **UP** and the **DOWN** button simultaneously for 2s to enter *general settings* and hold both the **DOWN** and **i** button for 2s to enter General Parameter Settings.

◆Wheel Diameter Settings

Ld represents wheel diameter settings. Optional values are 16, 18, 20, 22, 24, 26, 700C and 28. The default value is 26 inch.

Press the **UP**/**DOWN** button to increase or decrease wheel diameter until the desired value is displayed.

Press **i** button to store a changed setting and access speed-limit settings interface.

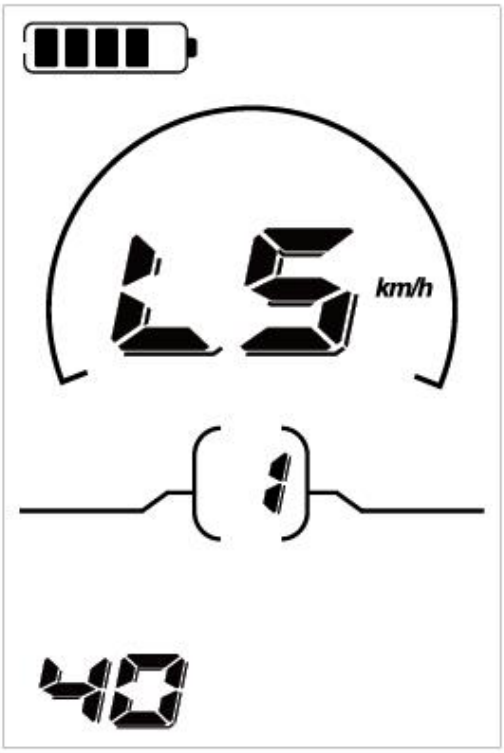


Wheel diameter settings interface

◆Speed limit Settings

LS represents the speed limit settings. When the current speed is more than speed limit, the E-bike system will be switched off automatically. Speed limit ranges from 12Km/h to 40Km/h. The default value is 25Km/h.

Press the **UP**/**DOWN** button to increase or decrease the speed limit values until the desired one is displayed. Hold **i** button for 2s and then exit General Parameter Settings.



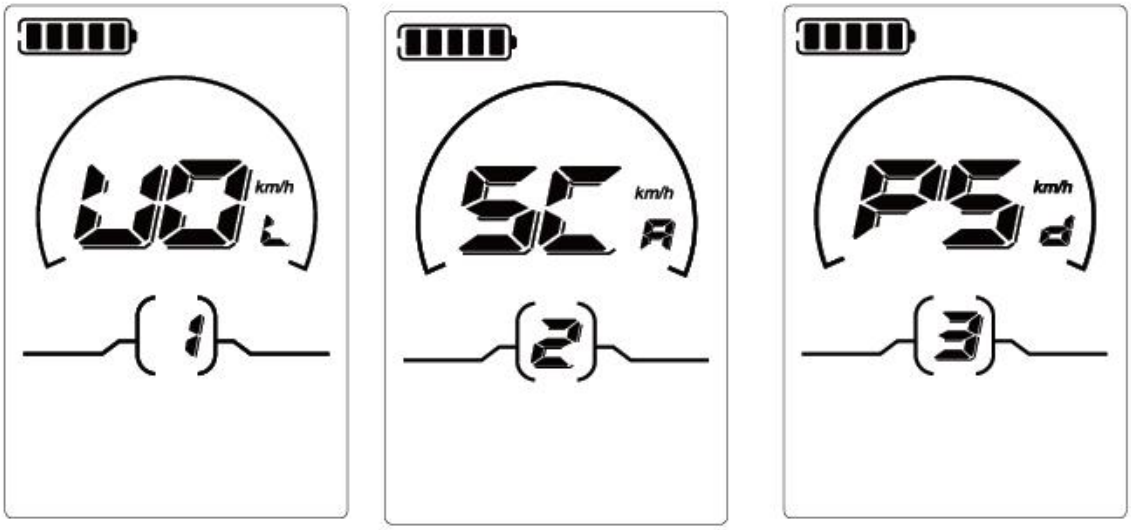
Speed limit interface

Personalized Parameter Settings

Personalized Parameter Settings can meet a variety of requirements. 8 settings are Battery Power Bar Settings, Power assist level Settings, Over-current Cut Settings, Power Assist Sensor Settings, Speed Sensor Settings, Throttle Function Settings, System Settings and Power-on Password Settings.

Hold **UP** and **DOWN** button simultaneously for 2 seconds to enter *general settings* and Hold **UP** and **DOWN** button simultaneously for another 2 seconds to enter personalized parameter settings interface.

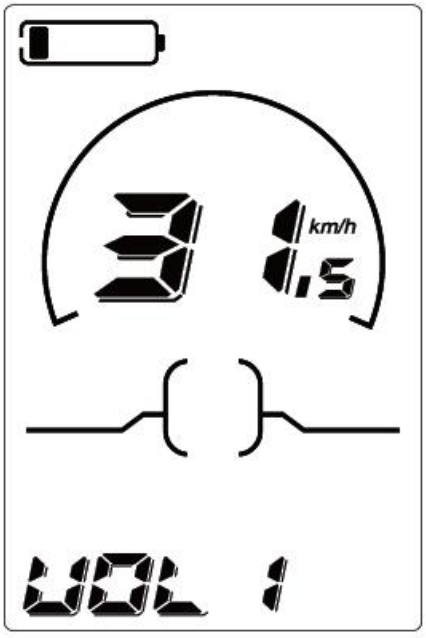
Press **UP** or **DOWN** button to choose the personalized parameter setting items, then press **i** button to enter the corresponding setting interface.



Personalized setting items interface

◆Battery Power Bar Settings

VOL represents voltage settings. Each bar represents a voltage value. Each of the 5 values is to be entered one by one. For example, VOL 1 is the first bar voltage value, the default value is 31.5V. Press **UP** or **DOWN** to increase or decrease the bar value. Press **i** button to store a changed setting and access the second bar. Likewise you can set the values in the same manner for other bars. After values for 5 bars are entered completely, long press **i** to confirm and return to the previous menu.



Battery bar settings interface

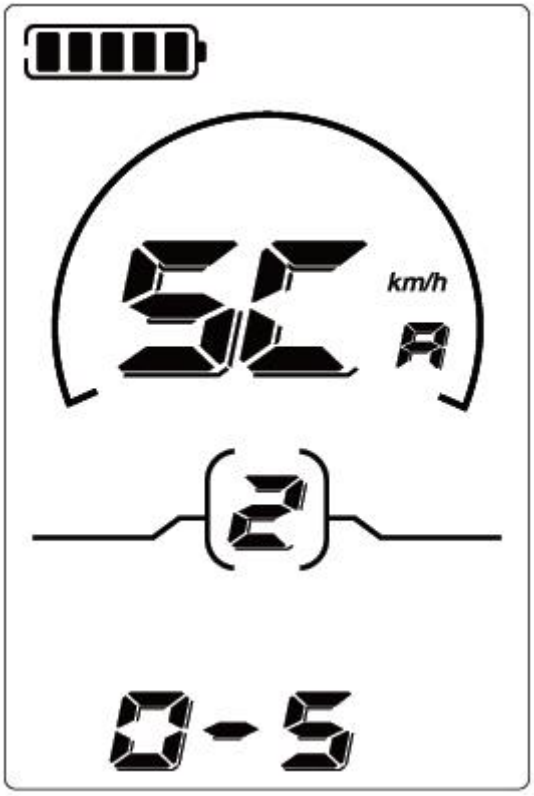
◆Power Assist Level Settings (optional)

Power Assist Level options

There are 8 PAS level modes for power assist settings: 0-3, 1-3, 0-5, 1-5, 0-7, 1-7, 0-9, 1-9. The default mode is 0-5.

Press the **UP/DOWN** button to increase or decrease until the desired mode is displayed.

Press **i** button to confirm and access the corresponding PAS ratio settings page.



Power assist level interface

PAS ratio settings

PAS level ratio setting can adjust the speed of a particular PAS level to meet different bikers' needs. For instance, the ratio range is 45-55% for level 1. The ratio value can be modified and the default value is 50%.

Press **UP** or **DOWN** button to increase or decrease the number. Press **i** button to confirm and access the next PAS level ratio setting. Level 9 is the maximum. After all PAS ratios are entered, long press **i** button to confirm and return to previous menu.

For PAS level ratio default values, please refer to **Attached list 2**

PAS ratio settings interface

◆Controller Over-Current Cut Settings (optional)

CUR represents controller over-current cut settings. CUR value ranges from 7.0A to 22.0A. The default value is 15A.

Press the **UP/DOWN** button to increase or decrease the value of the current.

Hold **i** button for 2s to confirm and then return to previous menu.

Current settings interface

◆PAS sensor settings（optional）

PAS sensor direction settings

"**run-F**" means "go forward" while "**run-b**" means "go backward". The default value is "run-F".

Press the **UP**/**DOWN** button to select F or b to change the direction of Power Assist Sensor.

Press **i** button to confirm and then access PAS sensitivity settings

PAS sensor direction settings

PAS Sensitivity Settings

SCN represents PAS sensitivity settings. The sensitivity value ranges from "2" to "9". "2" is the strongest, "9" is the weakest. The default value is "2".

Press the **UP**/**DOWN** button to choose sensitivity value to change the PAS sensitivity settings.

Press **i** button and then access magnet disk settings.

PAS sensor sensitivity

Magnet Quantity Settings

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

Press the **UP/DOWN** button to choose quantity for changing magnet numbers of PAS disk,
Hold **i** button for 2s to confirm and then return to previous menu.

PAS magnet disks settings

◆Speed sensor settings (optional)

SPS represents speed sensor settings. The default value is 1
Press the **UP**/**DOWN** button to choose the quantity of magnet heads (the range is from 1 to 15).
Hold **i** button for 2s to confirm and then return to previous menu.

Speed sensor magnet heads settings

◆Throttle functions (optional)

Throttle push assist enable/disable

HL represents throttle push-assist function. HL-N means throttle assist push function is disabled. HL-y means throttle assist push function is enabled. The default value is N. Press **UP or DOWN** button to select Y or N to set throttles push-assist functions. Hold **i** button for 2s to confirm and then return to previous menu. Otherwise, to select N and then access Throttle Level Enable/Disable Setting

Throttle push assist enable/disable

Throttle level enable/disable

HF-y means throttle speed is limited by current PAS level while **HF-n** means throttle speed is not limited by current PAS level. The default value is n. If you choose y, the maximum speed can only be the highest speed powered by current PAS level when you twist the throttle. If you choose n, the maximum speed will not be limited by current PAS level shown on the display and you can directly reach rated maximum speed when you twist the throttle. Press **UP/DOWN** to set Y or N and press **i** button to confirm and return to push assist enable/disable setting interface or hold 'i' button for 2s to return to previous menu interface.

Throttle level enable/disable

◆System settings (optional)

Delay time settings for battery power

DLY represents battery power delay time settings. The default value is 3s.

Press the **UP**/**DOWN** button to choose delay time 3s, 6s, 12s to change the settings.

Press **i** button to confirm and then access the max speed limit settings**.**

Delay time settings for battery power

Max speed limit settings

MAX SPD represents max speed limit settings. The default value is 40Km/h.

Press the UP/DOWN button to set the max speed from 25Km/h to 40 Km/h.

Press the **i** button to confirm and then access Push-assist settings

Max speed limit settings interface

■The maximum speed is set by the display manufacturer

Push-assist button enable/disable settings

PUS means push-assist button enable/disable settings. Press **UP/DOWN** button to choose Y or N. Y is enable while N is disable. Press **i** to confirm. The default value is Y.

Push-assist button enable/disable

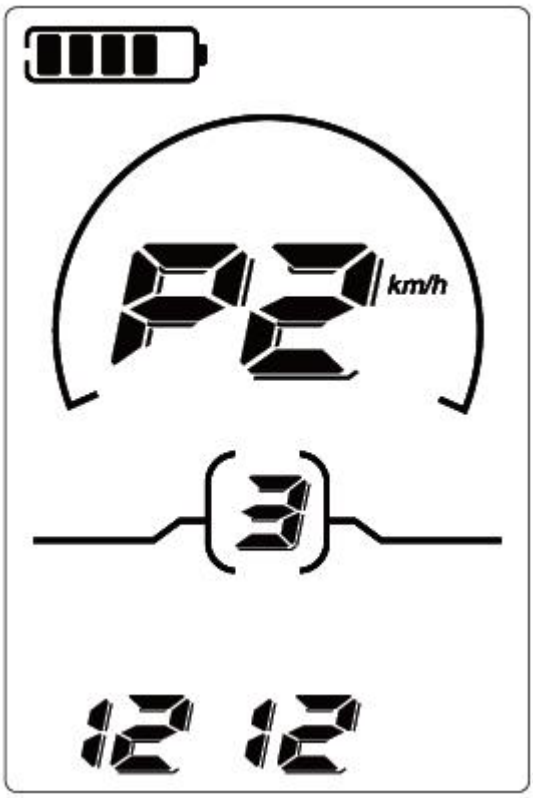
Slow Start up Settings

SSP represents slow start up. The range is “1-4”, “4” is the slowest. The default value is “1”.
To change slow start up settings, press the **UP/DOWN** button to choose the desired value.
Press **i** button and moves to Delay time settings for battery power.
Alternatively, hold **i** button for 2s to return to previous menu.

Slow start up settings interface

◆Power-on password settings

After accessing power-on password settings interface, “P2, 0000” is shown on the screen and it refers to power-on password. Power-on password is a 4-digit code. The default password is “1212”. Press **UP**/**DOWN** button to increase or decrease the values and enter the password by pressing **i** button to confirm digits one by one and then you can access power-on password Enable Settings. Otherwise stay still in password input state.



Power-on password input interface

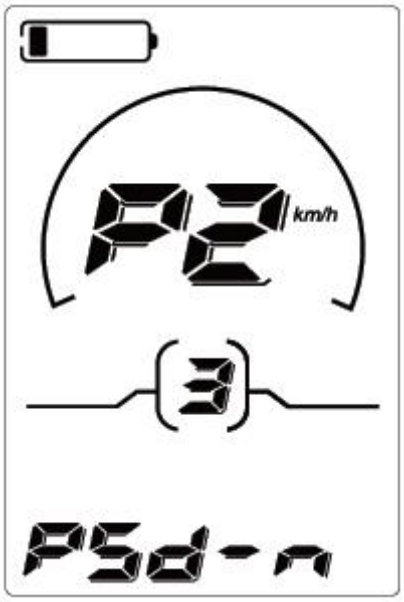
Power-on Password Enable/Disable

Press **UP** or **DOWN** button to choose Y or N and press **i** button to confirm.

If it is Y, press **i** button and then access power-on password change interface; otherwise exit the power-on password settings interface and return to previous menu. The default value is N.

Y is power-on password enable

N is power-on password disable



Password enable/disable interface

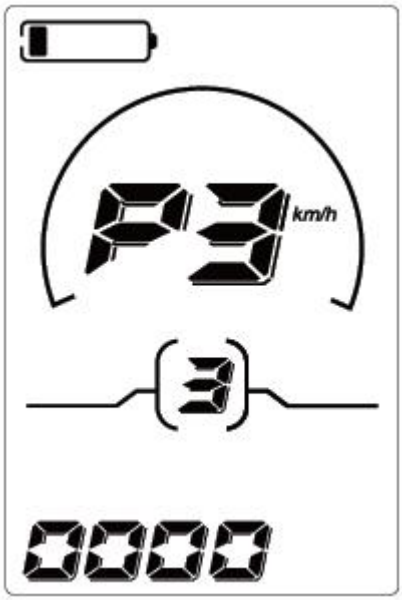
Power-on Password Change

When the display shows P3, 0000, press **UP**/**DOWN** to change the values and then press **i** to confirm digits

one by one until the new 4-digit password is completed.

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

When you switch the E-bike system on next time, the display will show P1, 0000, please input the new password to power on.



Password change interface

◆Exit the settings

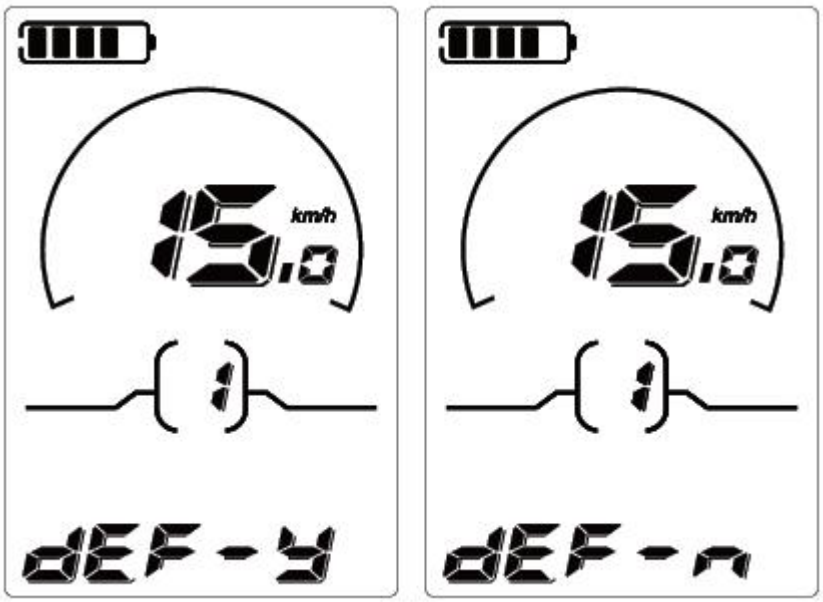
In settings interface, press **i** button(less than 2 s) is to confirm the input and save current settings while holding **i** button (more than 2 s) is to store the settings and exit the current setting. Holding the **DOWN** button (more than 2 s) is to cancel the operations but not to store settings data and exit the settings.

■If there is no operations in one minute, the display will exit settings interface automatically.

Recover default settings

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

To access recover default settings, hold both **UP** and **i** button for 2s and then access selection interface, to press the **UP**/**DOWN** button to choose “Y” or “N”. “N” means not recovering default settings. Y means recovering default settings. When it is “Y”, hold **i** button for 2s to recover default settings, the display shows DEF-00 at the same time and returns to display start-up interface.



Recover default settings

Quality assurance and warranty scope:

I. Warranty:

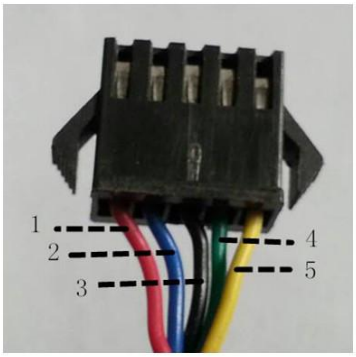
1) The warranty will be valid only for products used in normal usage and conditions.
2) The warranty is valid for 24 months after the shipment or delivery to the customer.

II. The following cases do not belong to warranty scope:

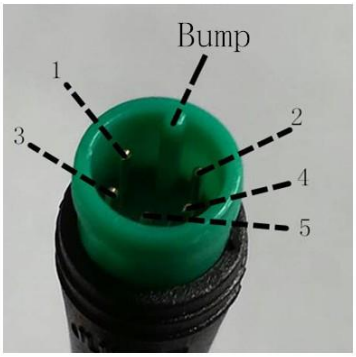
1) The display is demolished.
2) The damage of the display is caused by wrong installation or operation.
3) The shell of the display is broken after the display is out of the factory.
4) The cable of the display is broken.
5) Beyond warranty period.
6) The fault or damage of the display is caused by the force majeure (e.g., fire, earthquake, etc.).

Wire connection layout

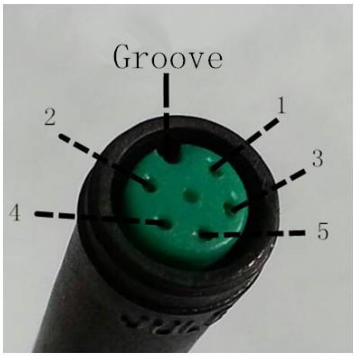
Connector wire sequence



Connector to controller



display end



connection wire end to display end

Wire sequence table

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

■Some products have wire connection with water-proof connectors; users cannot see the color of wires in the harness.

Warnings:

1. Use the display with caution. Don't attempt to release or link the connector when battery is on power.
2. Try to avoid hitting the display.
3. Don't modify system parameters to avoid parameter disorder.
4. 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 Phase Abnormality
24	Motor Hall Signal Abnormality
25	Brake Abnormality
30	Communication Abnormality

Attached list 2: PAS ratio default value table

Level / PAS 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%