REID®

KD716
Display Manual

Content

Product model

E-bike Intelligent LCD display
Model: KD716/KD716-V, both models have the same functionality and software. In this manual, we will only use one interface.

Specifications

- 36V/48V Power Supply
- Rated working current: 25mA
- The maximum working current: 30mA
- Off-state leakage current: <1μA
- Supply controller working current: 50mA
- Operating temperature: -20℃~ 60℃
- Storage temperature: -30℃~ 70℃

Appearance and size

Display appearance and dimensional drawing (unit: mm)

KD716-V   KD716

Function summary and distribution

KD716-V/KD716 display has many functions to meet riders' cycling needs. The indication elements are as follows:

- Intelligent Battery SOC
- Motor power indication
- Assist level indicator and adjustments
- Speed indication (incl. current speed, Max. speed and Avg. speed)
- Distance (Trip and ODO)
- 6km/h Push-assistance function
- Trip time
- Backlight on/off indication
- Error code indication
- USB connection
- Various parameter settings (e.g. *wheel diameter, speed limited, battery capacity settings, assist level settings, power-on password settings, controller over-current cut settings etc.)*
- Recover default settings

- Function layout

KD716 Function layout
interface

Display button definition

The KD716-V/KD716 display matches the K41-N button, which has 4 buttons: including power on/off, i button, plus button/headlight button, minus button/boost button; in the following instructions, the on/off button is used The word "ON/OFF" is replaced; the i button is replaced with the word "i"; the plus/headlight button is replaced with "+"; the minus/boost button is replaced with "-".

General operations

- Switching the E-bike System On/Off

After long pressing the " ⏻ " button, the display starts to work and provides the working power of the controller.
In the power-on state, long press the " ⏻ " button to turn off the power of the e-bike
When E-bike system is switched off, the leakage current is less than 5 μA.

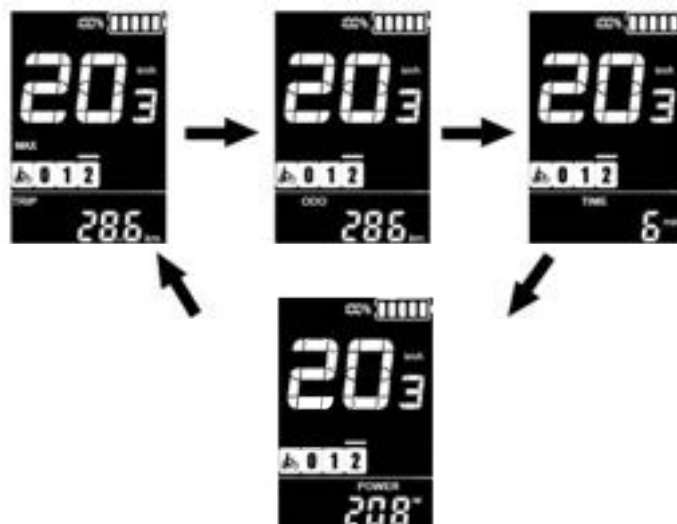■**When the E-bike is parked for approx. 10 minutes, the E-bike system switches off automatically.**

- Display Interface

After switching on the E-bike system, the display shows current Speed and ODO (km) by default.

Press remote "i" button to switch between indication functions below:

Trip Distance (Km)→ ODO (Km)→ Trip Time (Min.)→ Power (Watts). Finally, it cycles back trip distance again.

Display indication cycle interface

- 6km/h Push assistance

Press and hold the "-" button after 2 seconds, the e-bike will enter the state of electric power-assisted propulsion. The e-bike travels at a constant speed of 6 km/h. At the same time, the screen displays "🚲". Release the "-" button, and the e-bike will immediately stop power output and return to the state before the power boost.
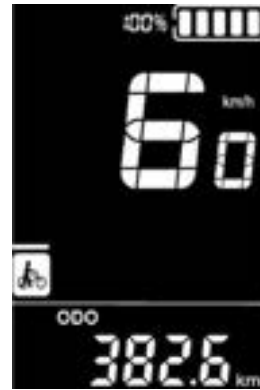
Push-assistance interface

■**Don't use this function in the riding state**

- Switching backlight On/Off

Press and hold the "+" or "🌓" button for 2 seconds to turn on the backlight of the display and notify the controller to turn on the headlights. When the external light is insufficient or riding at night, the LCD backlight can be turned on. Press and hold the "+" or "🌓" button again for 2 seconds to turn off the LCD backlight and notify the controller to turn off the front light.

Switching on the backlight interface

- PAS level

Short press the "+" or "-" button to switch the power assist level of the e-bike and change the output power of the motor. The default output power range of the display is 0-5 level. Level "1" is the minimum power. Level "5" is the maximum power. When the PAS level is 5, short press the "+" button again, the interface still displays 5, and 5 flashes to indicate that the current level is the highest. After the assist downshift reaches the level 0, short press the "-" button again, the interface still displays 0, and 0 flashes to indicate that the current is the lowest level.

PAS level interface

- Battery capacity Indicator

Five-segment display of battery power. When the battery voltage is high, the five-segment LCD will be on. When the battery is undervoltage, the outer frame of the battery will flash at a frequency of 1HZ, indicating that it needs to be charged immediately.

battery undervoltage flashing

Battery capacity indicator
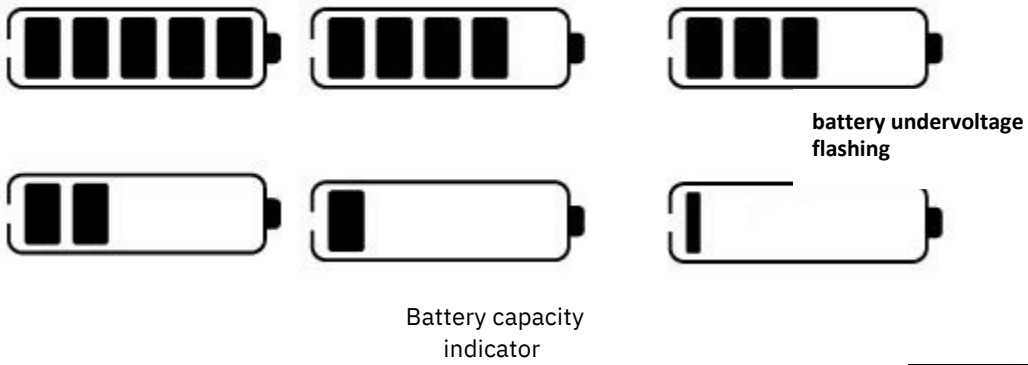
- Motor Power Indicator

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

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Motor Power Indication interface

- 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. Here is the detail message of the error code in Attached list 1.
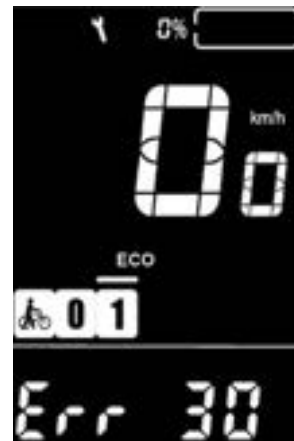
Error Code Indication interface

■**When an error code is displayed, please remove the error code in time, the e-bike will not be able to run normally after a error code occurs.**

Restore default setting

DEF means to restore the default parameters. In the normal display interface, press and hold the "-" and "i" buttons at the same time for more than 2 seconds to enter the interface of restoring the default parameters. Short press the UP/DOWN button to switch Y/N, and Y means to restore the default Parameters, N means that the default parameters do not need to be restored. If Y is selected, press and hold the "i" button for more than 2 seconds to confirm, and the display will automatically start to restore the default settings and display dEF-00. After the restoration is completed, it will automatically exit and return to the normal display interface.


Restore default setting
interface

General Setting

Press and hold the " ⏻ " button to start working. In the power-on state, when the e-bike is stationary, press and hold the "+" and "-" buttons for more than 2 seconds at the same time, and the display enters the normal setting state.

■**All the Settings are operated in the case of parking the E-bike.**

- Trip Distance Clearance

TC stands for trip distance clearance setting. Press the "+" or "-" button to select Y/N, and Y means to clear the mileage of a single trip. N means not to clear the mileage of a single ride; short press the "i" button.
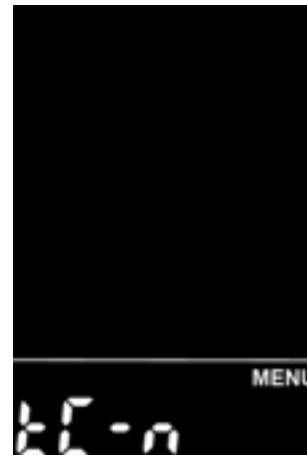
Trip clearance
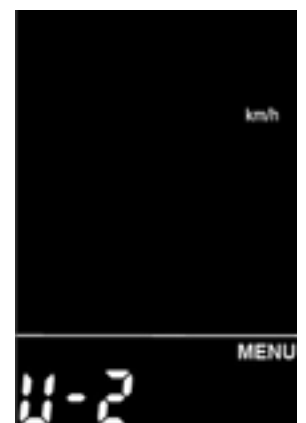interface

- Backlight brightness

BL stands for backlight. Parameters 1, 2, and 3 can be set to indicate the brightness of the backlight, 1 is the darkest, 2 is the standard brightness, and 3 is the brightest. The factory default value of the display is 1. Press the "+" or "-" button to change the backlight brightness parameters, short press the "i" button to confirm, long press the "i" button to confirm and exit the normal setting state.
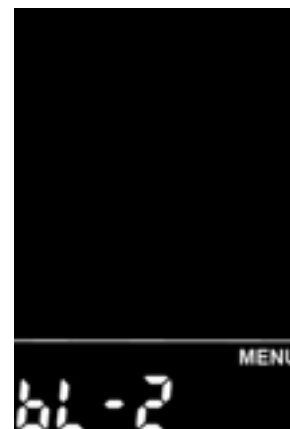
Backlight brightness
setting interface

- Unit Setting (imperial and metric)

U stands for unit, 1 stands for imperial, and 2 stands for metric. Press the "+" or "-" button to switch the speed and mileage unit, short press the "i" button to confirm, long press the "i" button to confirm and exit the general setting state. The display default unit is metric.
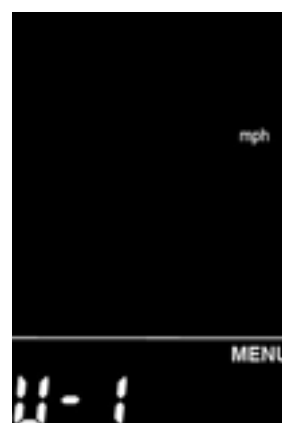
Unit setting interface

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Advanced Parameter Setting

Press and hold the "+" and "-" buttons for more than 2 seconds and lift them up to enter the normal setting state. Then press and hold the "-" and "i" buttons for more than 2 seconds at the same time to enter the wheel diameter setting interface and speed limited setting interface.

- Wheel diameter setting

LD stands for wheel diameter setting, the wheel diameter setting range is: "16-26inch, 700C, 28inch", the default wheel diameter is 26inch. Short press the "i" key to save and enter the next setting interface
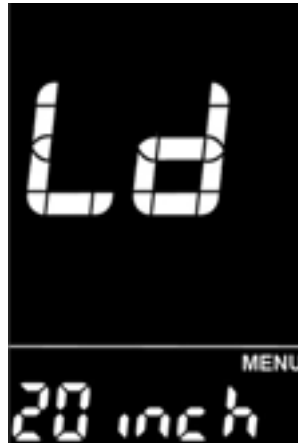
Wheel size setting

- Speed limited setting

LS stands for speed limit setting, the speed limit setting range is: "12-40KM/H", the default speed limited is 25KM/H, and the lock cannot be adjusted. Short press the "i" key to save and enter the next setting interface.
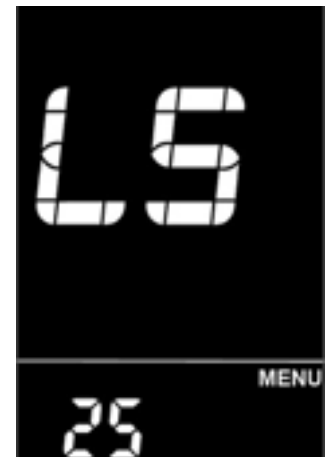
Speed limited setting interface

Personalized Parameter Setting

In order to meet the customer's personalized use requirements, the personalized setting items The content includes battery capacity setting, power assist parameter setting, current limit value setting, PAS sensor setting, speed sensor setting, throttle function setting, system setting and power-on password setting from left to right and from top to bottom. with a total of eight settings. Press and hold the "+" and "-" buttons for more than 2 seconds and lift them up to enter the normal setting state; press and hold the "+" and "-" buttons for more than 2 seconds at the same time again to enter the display personalized parameter setting interface; Use "+" or "-" to select the content to be set, and short press "i" to enter the setting interface.

Personalized parameter setting interface

- Battery level setting

VOL stands for voltage, and requires input of voltage values from 1 to 5 sections one by one. Take the first power value as an example: "1" on the screen means the first voltage, and "31.5" is the first power value. Through "+" or " -" button to plus/minus to change the value, short press the "i" button to confirm and enter the next power setting interface; after the 5 power values are set, long press the "i" button to confirm and return to the display setting item selection interface.
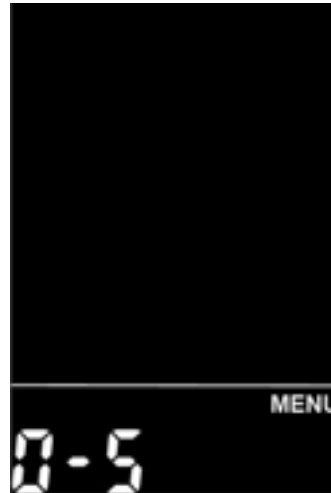

Battery level setting interface

- Assist parameter setting (optional)

PAS level selection

A mode is provided in the selection of the assist level: 0-5, short press the "i" button to confirm and enter the assist ratio value setting interface in the corresponding mode.


PAS level selection interface

- Assist ratio value setting

By setting the power ratio value, the speed of each level can be adjusted to meet the different needs of different riders. Take the PAS level 1 as an example, "45-55%" is the power ratio range of the PAS level 1, and "50%" is the default value of the PAS level 1, which is a value that can be set, and can be set by plus/minus the "+" or "-" button , short press the "i" button to confirm and enter the next assist ratio setting, up to 9 can be set, after the setting is completed, long press the "i" button to confirm and return to the display setting item selection interface. Please refer to Schedule 2 for details.

- Current limit value setting (optional)

CUR stands for current limit, the current limit can be set from 7.0-26.0A, change the maximum current value of the controller through the "+" or "-" button; long press the "i" button to confirm and return to the display setting item selection interface. The factory default value of the display is 15.0A.
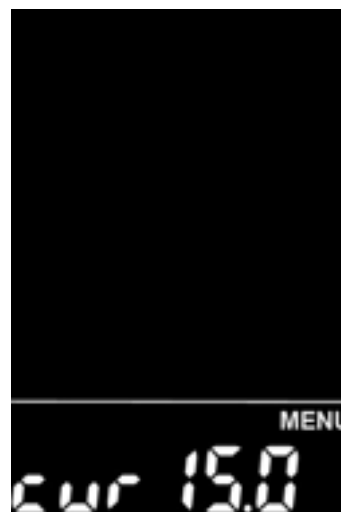

Current limit value setting interface

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- PAS sensor setting (optional)

PAS sensor direction setting
PAS stands for power assist sensor, and run-F/b is displayed on the screen. run-F stands for forward, run-b stands for reverse; press the "+" or "-" button to switch, short press the "i" button to confirm and enter the power sensor sensitivity setting. The factory default value of the display is positive.
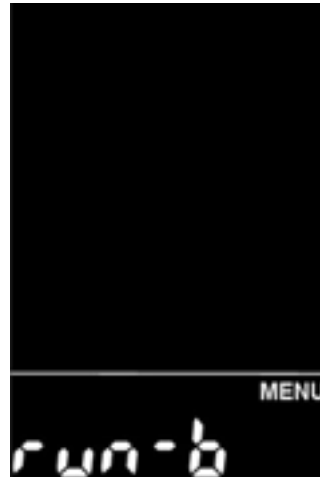
PAS sensor direction
setting

- PAS sensor sensitivity setting

The screen displays SCN, representing the sensitivity of the assist sensor; the setting range is 2-9, of which 2 represents the highest sensitivity, and 9 represents the lowest sensitivity; press the "+" or "-" button to plus/minus the setting, and short press the "i" button to confirm and enter the assist sensor ratio parameter setting interface. The factory default value of the display is 2.

PAS sensor sensitivity
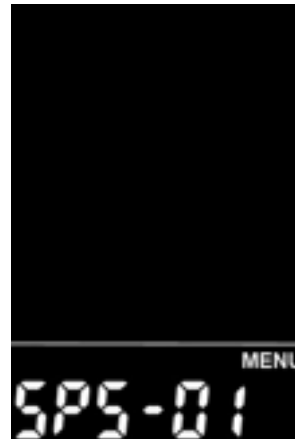setting interface

PAS disk magnet number setting
n-represents the number of magnets for the booster disk, and the corresponding number of magnets for the booster disk can be selected by pressing the "+" or "-" button. The default number of disk magnets is 6.

PAS disk magnet number
setting interface

- Speed sensor setting(optional)

SPS stands for speed sensor, which can be set according to the number of magnetic heads installed on the wheel of the e-bike, and the setting range is 1-15; short press the "+" or "-" button to modify, long press the "i" button to confirm and return to the display setting Item selection interface. The factory default value of the display is 1.

Speed sensor setting interface

- Throttle function setting (optional)

Throttle Assist Push Enable Setting
Hnd means turning the handle, HL means the power-assisted pushing of the turning handle, HL-N means that the turning handle has no power-assisted pushing function, and HL-Y means that the turning handle has a power-assisted pushing function, that is, when the turning handle is turned, the display enters the power-assisted pushing mode; through " +" or "-" button can switch between Y/N, short press the "i" button to confirm, if N is selected, it will enter the setting interface of the throttle level position; otherwise, it will return to the display setting item selection interface. The factory default value of the display is N.

Throttle assist push setting interface

Throttle level enable setting
HF-Y means that the throttle is divided into gears, and HF-N means that the handle is not divided into gears. If you choose to turn the throttle into gears, it means that when you turn the handle, the maximum speed can only reach the corresponding speed corresponding to the gear displayed on the instrument; If you choose to turn the handle without gearing, it means that when you turn the throttle, it is not limited by the gear displayed on the display, and the rated maximum speed can be reached; you can set Y/N by pressing the "+" or "-" button, short press the "i" button to confirm and return to the setting interface of power steering enablement; long press the "i" button to confirm and return to the display setting item selection interface. The factory default value of the meter is N.
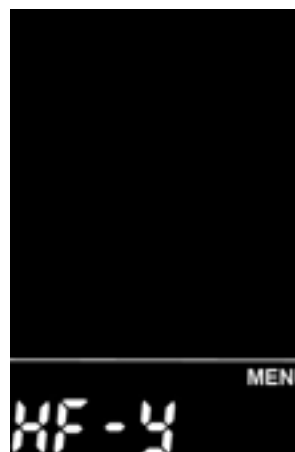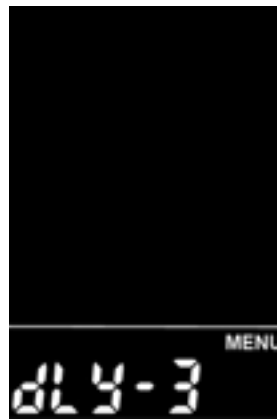

Throttle level enable setting interface

- System setting (optional)

Power delay time setting
DLY stands for power delay time, press the "+" or "-" button to select the power delay time 3/6/12s; short press the "i" button to confirm and enter the maximum speed limit setting interface. The display defaults to 3s.

Power delay
time setting

- Power-on password setting

Psd stands for password setting, short press the "i" button to enter the password setting state, and "P2" will be displayed on the screen, indicating the power-on password. Short press the "i" button to shift, and use the "+" or "-" button to add/subtract the input value. After the 4-digit password is entered, short press the "i" button to confirm. If the password is correct, it will enter the power-on password enable setting interface. Otherwise, it stays in the password input state. The default power-on password is 0314.
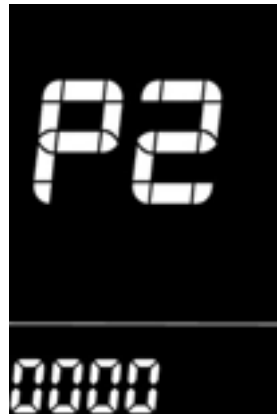
Power on password
setting interface

- Exit Setting

In the setting state, short press the "i" button (within 2 seconds) to confirm the input and save the current setting; long press the "i" button (more than 2 seconds) to confirm and save the current setting and exit the current setting state; long press "- "button (more than 2 seconds) to cancel the current operation and exit the setting, without saving the current setting data.

■**If no operation is performed within one minute, the display will automatically exit the setting state.**

Quality Assurance and Warranty Scope

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.

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
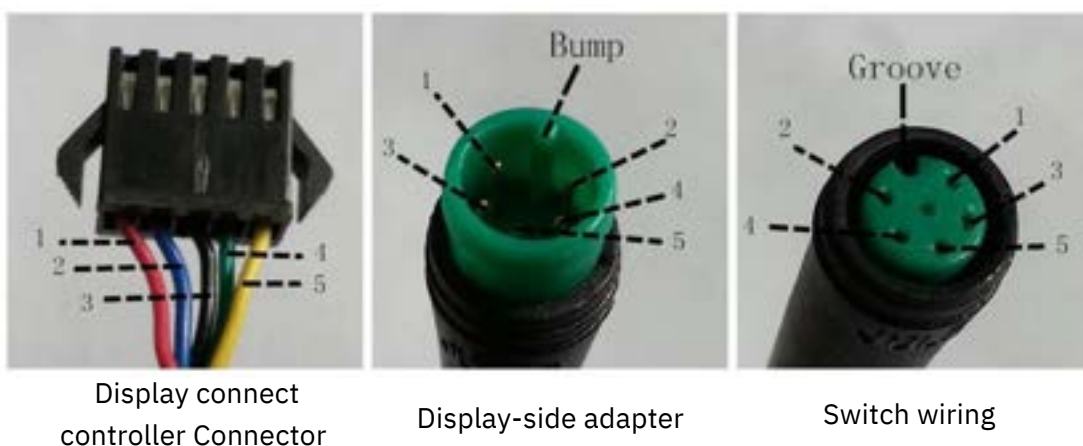
| Display connect controller Connector | Display-side adapter | Switch wiring |

Line sequence table

Line	Color Red	Function
1	(VCC)	VCC
2	Blue (K)	K
3	Black (GND)	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	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 ： Power assist table

Level									
0-3/1-3	5	7	9						
0-5/1-5	5	6	7	8	9				
0-7/1-7	4	5	6	7	8	9	9		
0-9/1-9	2	3	4	5	6	7	7	8	9

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