



KEY-DISP

The eBike Display
User Manual

KD78C

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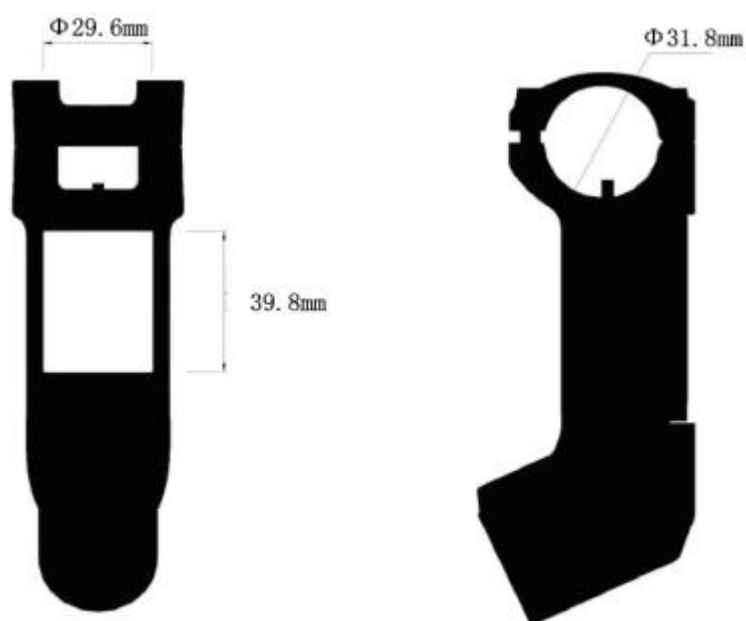
Product name and model

E-bike Intelligent LCD display
Model: KD78C

Specifications

- 2.0" segment LCD
- 24V/36V/48V/52V Power Supply
- Rated working current: 10mA
- The maximum working current: 30mA
- Communication: Uart/CAN
- Operating temperature: -10°C~ 40°C
- Storage temperature: -20°C~ 60°C

Appearance and dimension



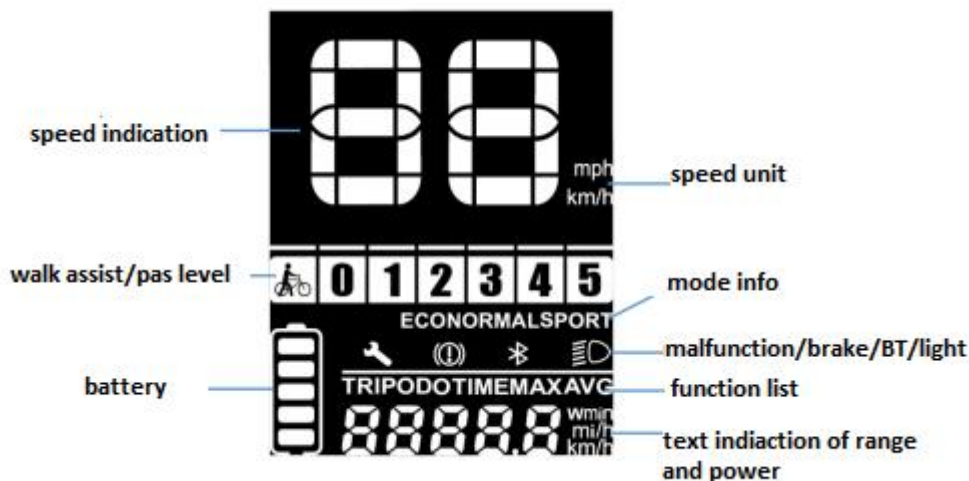
Display picture and dimensional info (unit: mm)

Function and button definition

◆Function summary

KD78C display has many functions to meet riders' cycling needs. The indication elements are as follows:

- Intelligent Battery SOC
- Motor power indicator
- Assist level indicator and adjustments
- Speed indication (incl. current speed, Max. speed and Avg. speed)
- ODO and Trip
- Push-assistance control and indicator
- Trip time
- Backlight on/off and headlight indicator
- Light sensor
- Error code indication
- Various parameter settings (e.g. settings for backlight, Unit, Battery voltage segmented values, PAS level settings, Password etc.)
- Recover default settings
- Bluetooth function (optional)



KD78C Function layout interface

◆Button definition

KD78C button model is K41 with 4 keys: ON/OFF button, i button, +/light, -/push-assist

General operations:

◆ Switching the E-bike System On/Off

When battery power is on, the display switches on automatically. when battery power goes out, the display switches off automatically.

When E-bike system is switched off, display does not use the battery power any more. the leakage current is less than 1 μ A.

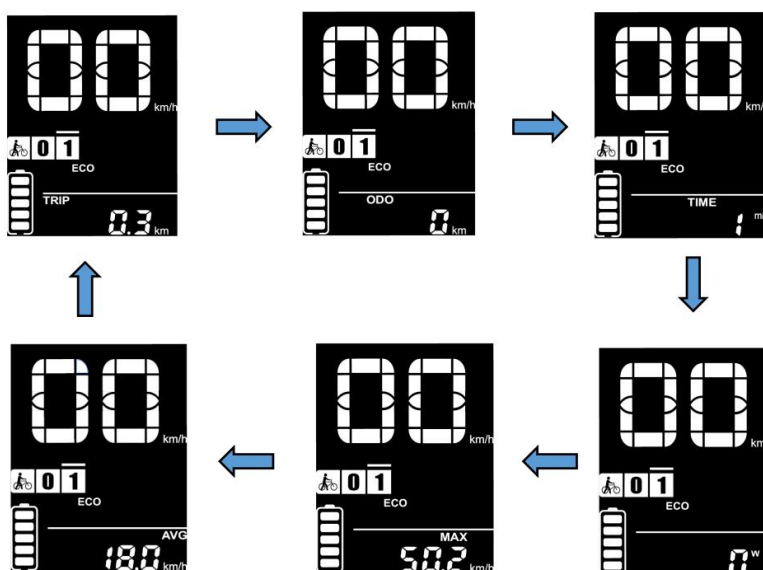
■ When the E-bike is not in use for 5mins, the E-bike system switches off automatically.

◆ Display Interface

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


Press remote “i” button to switch between indication elements below:

Trip Distance (Km)→ ODO (Km)→ Trip Time (Min.)→ Power (Watts)→Max speed (km/h)→Avg speed (km/h).



Display indication cycle interface

◆ Switching Push-assist Mode On/Off

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

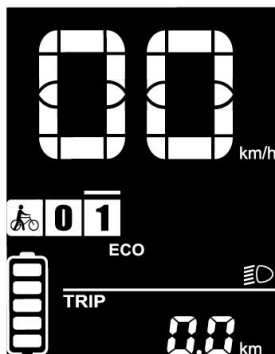
When “-” button is released, the e-bike will immediately stop power output and return to the state before push-assist is engaged.



Push-assistance mode

◆Switching Lighting On/Off

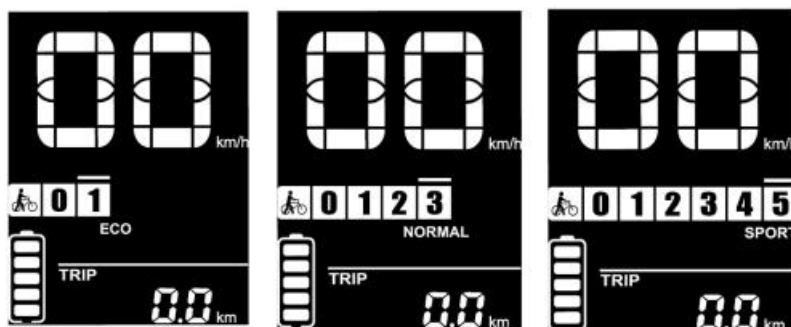
Hold + for 2 seconds, display backlight dims and bike headlight is on and headlight icon comes out. Hold + button for 2 seconds again to switch off the headlight and light icon is gone and display backlight brightness recovers.



Headlight-on Interface

◆Assist Level Selection

Press "+" or "-" button to switch between the E-bike system assist levels and change the motor output power. The default assist level mode is 0-5(level "0" to level "5"). The output power is zero on Level "0". Level "1" is the minimum output power. The default assist level is level "1".



Assist level interface

◆Battery level Indicator

The five battery bars represent the capacity of the battery. Five 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.



Flash (low voltage)

Battery level indicator interface

◆Motor Power Indicator

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

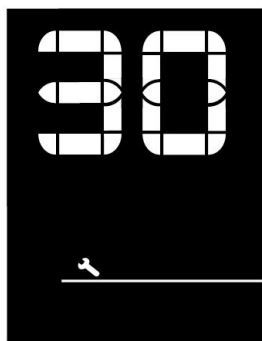


Motor power interface

◆Error code indication

The components of the E-bike system are continuously and automatically monitored.

When an error is detected, the error code comes out and malfunction icon shows. The whole interface is code plus error indication icon.



Error code interface

■Have the display inspected and repaired when an error code appears. Or else, you will not be able to ride the bike normally. Please always refer to an authorized bicycle dealer.

General Settings

At the normal display interface, hold both '+' and '-' simultaneously for 2 seconds to enter General Settings.

■ **All the Settings are done to a parked E-bike. Please refer to attached list 2 for the symbol definition.**

◆ Trip Distance Clearance

TC represents trip distance clearance setting.

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

To store a changed setting, press the "i" button and then access Backlight Brightness Settings.



Trip distance clearance interface

◆ Backlight settings:

bL represents backlight settings. Level "1" is the lowest brightness. Level "2" is the standard brightness. Level "3" is the highest brightness. The default value is "1".

To change the backlight brightness, press the +/- button to increase or decrease until the desired brightness level is displayed.

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



Backlight settings interface

◆Toggle the unit KM/Mile

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

To toggle the unit, press the +/- button to switch between KM/Mile for the speed and mileage.

Press the i button to store a changed setting and then access trip distance clearance setting again or hold the i button for 2s and exit **General Settings**.

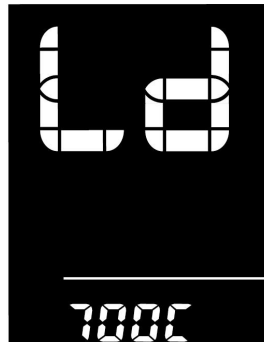


Miles and KM toggling interface.

★ At **General Settings** page, hold **i** button and **-** button for over 2 seconds to enter the wheel set and speed limit set.

◆Wheel size set

Ld means wheel size, settable values are: 16”,17”,18”,19”,20”,21”, 22”,23”,24”,25”,26”,700C, 28”. Press +/- to choose the desired wheel size to correctly show the speed and mileage on the display. Press i button to store a changed set and access to the next set interface.



Wheel size interface

◆speed limit set

LS means top speed limit and the settable range is 12 km/h to 40km/h. press +/- to set the values and press i button to confirm the setting.



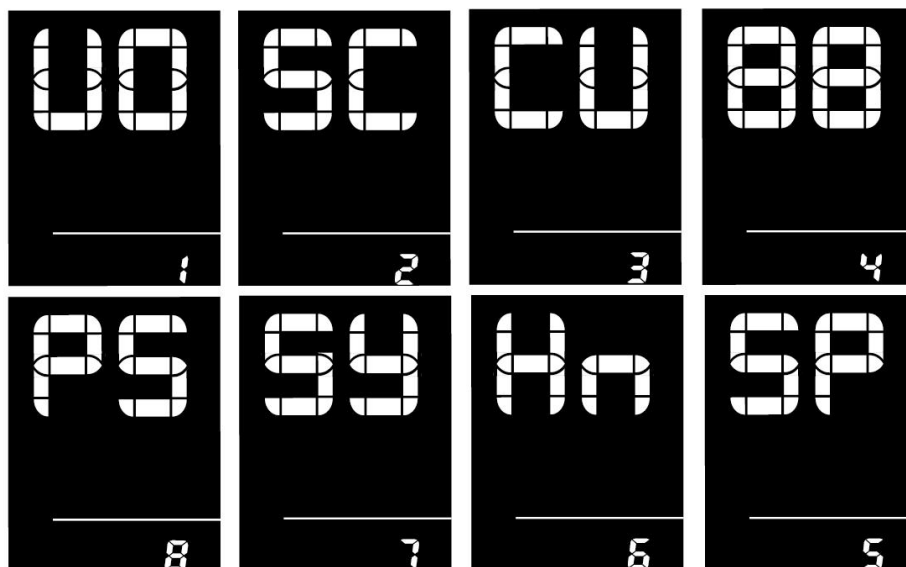
Speed limit interface

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. Refer to **appendix 1** for the symbol meanings.

Hold **+** and **-** button simultaneously for 2 seconds to enter **General Settings** and Hold **+** and **-** button simultaneously for another 2 seconds to enter personalized parameter settings interface.

Press **+** or **-** button to choose the desired personalized parameter setting item, then press **i** button to enter the setting interface.



Personalized setting item cycle interface

◆ Battery Bar Settings

VOL represents voltage settings. Each bar of the battery pack symbol represents a voltage value. Each of the 5 values (31.5V-34.5V-35.6V-37.4V-39.2V) is to be entered one by one. For example, VOL 1 is the first battery bar and its default value is 31.5V. Press **+** or **-** to increase or decrease the voltage value. Press **i** button to store a changed setting and access the second battery bar setting. Likewise you can set the values in the same manner for other bars. After desired values for 5 bars are entered completely, hold **i** button for 2 s to confirm and return to previous menu.



Battery bar settings interface

◆ Assist Level Settings

Assist level mode options

SCA represents assist level settings. The default assist mode is 0-5. Press **i** button to enter the assist level ratio settings



Assist level interface

Assist level ratio settings

The speed of each assist level can be adjusted to meet different riders' needs by setting the ratios. For example, the default ratio is 50% for level "1" and the ratio range is 45%-55% for level "1".

To change the ratio of a certain power assist level, press the **+/-** button to choose the desired percentage, and then press the **"i"** button to confirm.

To store a changed ratio, press the **"i"** button to confirm and move to the next level ratio setting.

After ratios of all levels were input, hold the **"i"** button for 2s to confirm and return to previous menu.



Assist level ratio settings interface

◆ current limit settings

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

To change a current value, Press the **+/-** button to increase or decrease to choose the desired value.

To store a changed setting, hold **i** button for 2s to confirm and return to previous menu.



Current settings interface

◆Power assist sensor settings

PAS represents power assist sensor settings.

PAS direction settings

“**run-F**” means “go forward” while “**run-b**” means “go backward”. The default value is “run-F”. Press the **+/-** button to select F or b to change the direction of Power Assist Sensor.

To store a changed setting, press **i** button to confirm and access PAS sensitivity settings



PAS 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”.

To change the PAS sensitivity, press the **+/-** button to choose the desired sensitivity value.

To store a changed setting, press **i** button to confirm and access magnet disk settings.



PAS sensitivity settings

PAS Magnet Quantity Settings

n represents the quantity of magnets in PAS. The default value is 6.
To change the number of magnets in PAS, press the +/- button to choose the desired quantity
To store a changed setting, hold **i** button for 2s to confirm and return to previous menu.



PAS magnet quantity settings

◆Speed sensor settings

SPS represents speed sensor settings.

Press the +/- button to choose the quantity of spoke magnets (the range is from 1 to 15).The default value is 1

To store a changed setting, hold **i** button for 2s to confirm and return to previous menu.



Speed sensor magnet settings

◆Throttle function settings

Throttle -6km enable/disable

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

To enable throttle push-assistance function, select Y and hold **i** button for 2s to confirm and return to previous menu.

To disable throttle push-assistance function, select N and access Throttle Level Enable/Disable Setting



Throttle push-assistance enable/disable

Throttle-PAS enable/disable

HF-y means throttle speed is limited by current assist level while **HF-n** means throttle speed is not limited by current assist level. The default value is **n**.

If you choose **y**, the maximum speed can only be the highest speed powered by current assist level when you twist the throttle.

If you choose **n**, the maximum speed is not limited by current assist level and you can override whatever level you are in and reach rated maximum speed when you twist the throttle.

Press **+/-** to set Y or N and press **i** button to confirm and return to throttle push assistance enable/disable setting interface or hold down the 'i' button for 2s to return to previous menu interface.



Throttle level enable/disable

◆System settings

Delay time settings for battery power

DLY represents battery power delay time settings.

Press the +/- button to choose delay time 3s, 6s, 12s to change the settings.



Delay time settings for battery power

◆Push-assist enable set

PUS means push-assist enable set. Press +/- to choose Y or N. Y is enabled while N is disabled. Press i button to confirm and enter the push-assist speed set. The default value is Y.



Push assist enable setting

◆SSP

SSP means slowly start up, range is 1~4. 4 is the slowest. Press +/- to choose your desired values. Hold i button to confirm and exit the settings



Slowly start up interface

◆ Password settings

Press i button to enter the password set. P2 is shown on the screen. Press +/- to increase or decrease the values and press i to move to the next digit. After 4 digits were entered, press i to confirm. If password is correct, then enter to the password enable set interface. Or else, it keeps in password input state.



password input and set interface

Password enable

Press +/- to choose Y or N. Y means password is needed while N means password is not needed. Press i button to confirm. If Y is chosen, press i button to enter password change state. Or else, it will exit password set interface and return to the display setting items interface.



Password enable interface

Password change

Display shows P3 and press +/- to increase or decrease the values and press i button to move next digit. When password is changed, long press i button to confirm and store the new password and display exits from set interface. When display is restarted, P1 0000 shows. Enter the new password correctly to get the display working normally.



Password change

◆Exit the settings

In settings interface,

Press i button to confirm and store the current settings.

Hold i button to confirm and store the settings and exit from current settings.

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

◆Factory settings

dEF means factory settings, at home screen, hold + and i button simultaneously for more than 2 seconds to do factory settings. Press +/- to switch between Y and N. If Y is chosen, hold i button for more than 2 seconds and display will be reset to factory settings and shows dEF-0 on the screen. It returns back to home normal screen when the factory setting is done.



Factory settings interface

Appendix 1: personalized setting symbols

Serial	Setting items	Symbols
1	Battery level bar set	00
2	PAS parameters set	50
3	Current limit set	00
4	Pas sensor set	88
5	Speed sensor set	58
6	Throttle set	44
7	System set	59
8	Start-up password	85

Appendix 2: other symbols definition

Serial	Symbols	Definition
1	EC	Trip distance clearance
2	AL	Light sensor
2	BL	Backlight
3	U	Unit
4	VOL	Voltage
5	W	Wheel
6	LS	Speed limit
7	CUR	Current limit
8	run-b	Backward
9	run-F	Forward
10	SEN	PAS sensitivity
11	SPS	Speed sensor
12	DLY	Battery delay timing
13	HL	Throttle -6km
14	HF	Throttle -PAS
15	PUS	Push-assistance
16	SSP	Slow start up
17	PSD	Password
18	DEF	Reset to defaults
19	Y	yes
20	N	no

Quality assurance and warranty scope:

Warranty:

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

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 leaves 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.).

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. Have the display repaired when error code appears.

Special note: *This manual is a universal version for **DISPLAY KD78C**. the parameter values are just for your reference. The wheel size and speed limit is not adjustable for a KD78C display of EN15194:2017 compliance.*