



DC22

The E-bike Display User Manual

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1. Product name and model

E-bike Intelligent LCD display

Model: DC22 (without USB)

2. Specifications

- 36V Power Supply
- Rated working current :28mA
- The maximum working current: 30mA
- Off-state leakage current: <1μA
- Operating temperature: -20°C~ 60°C
- Storage temperature: -30°C~ 70°C

3. Appearance and Size

Product appearance and dimensional drawing (unit: mm)

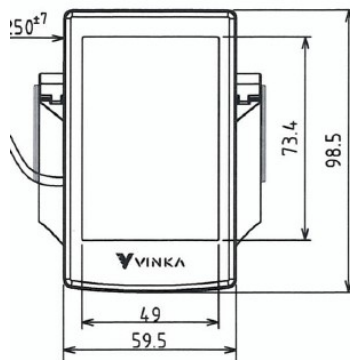


Figure 1 DC22仪表

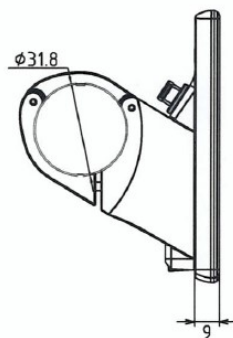


Figure 2

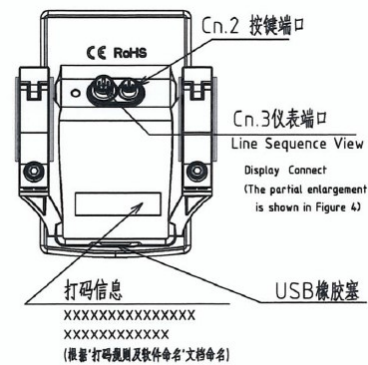


Figure 3

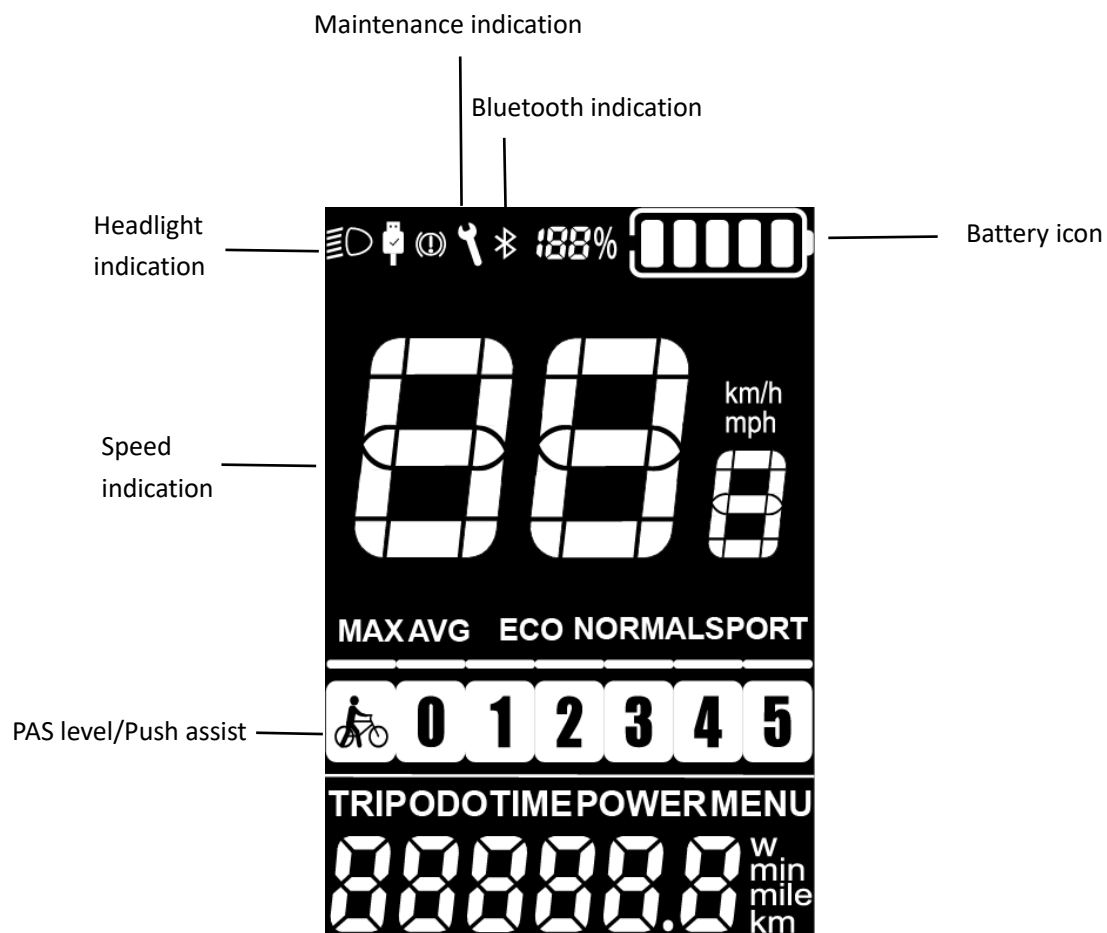
DC22

4. Function Summary

DC22 display has many functions to meet the user's needs. The indicating contents are as follows:

- Smart battery SOC, real-time voltage or percentage, optional
- Intelligent indication of Trip, ODO, RT speed, Max. Speed, Avg Speed, Power and Trip time(Min)
- Assist level adjustment and indication
- Backlight control and lighting indicator
- The push-assist control and indication
- Error code indication
- Various Parameters Setting/Info (e.g. LCD luminance setting, Unit toggling, wheel size info, speed limit info, assist level mode info, etc.)

5. Function Area Distribution



6. Button definition

There are four buttons on DC22 display: MODE (power) button, light button, plus button and push-assist/minus button. In this manual we use words “**MODE**”, “**LIGHT**”, “**UP**” and “**DOWN**” to represent these 4 buttons.



7. Installation

DC22 can be mounted on the left side of handlebar close to its grip. Adjust the angle for a good screen view. Cut off the power before connecting the corresponding connectors between display and controller.

8. General Operation

◆ Switching the E-bike System mode ON/OFF

To switch on the E-bike system and provide the power supply to the controller, hold the **MODE** button for 1s.

To switch off E-bike system, hold the **MODE** button for 1s. The E-bike system no longer uses the battery power.

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

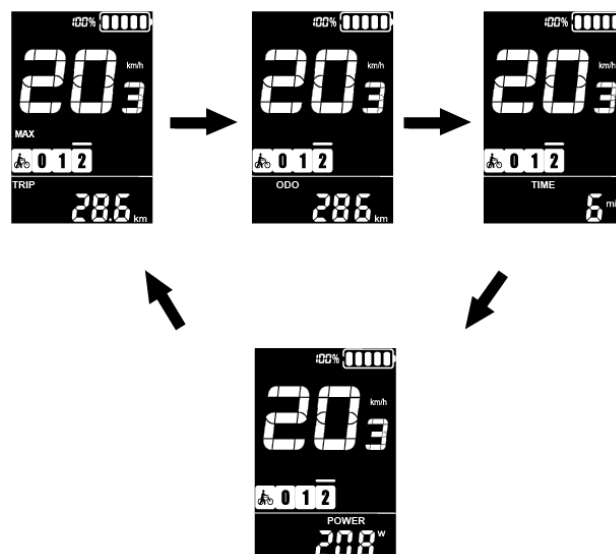
◆ When the E-bike is parked for over 15 minutes, the E-bike system switches off automatically.

◆ Display Interface

After switching on the E-bike system, the display will show Current Speed and Trip Distance, ODO, Power and battery SOC by default.


Press the “ON/OFF” button and switch between:

TRIP → **Max. Speed (Km/h)** → **Avg. Speed (Km/h)** → **ODO(km)** → **Trip Time (Min.)** → **POWER(W)**



Display interface

◆ Switching Push-assist Mode On/Off

To activate the push-assistance function, short press **MODE** and hold the **DOWN** button between 3S. E-bike is activated with a uniform speed of 6 km/h while the screen displays shown “”.

The push-assistance function will be switched off as soon as you release the **DOWN** button and e-Bike gets back to the status before the push-assistance is engaged.



Push-assistance mode

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

◆ Switching Lighting ON/OFF

To switch on bike light, short press **LIGHT** button. The lighting icon comes out and display backlight brightness is automatically reduced.

Likewise, short press **LIGHT** button again, the bike light switches off. The lighting icon is gone and display resumes backlight brightness.



Switching the Lighting Mode On/Off Interface

◆ Assist Level Selection






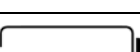
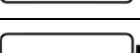
Press **UP** or **DOWN** button to switch between the assist levels and change the motor output power, The default assist level ranges from level “0” to level “5”, The output power is zero on Level “0”. Level “1” is the minimum power. Level “5” is the maximum power.



Assist Level Interface

◆ Battery Indicator

The default voltage of display battery is 36V. The segmented voltage values are 31.5V-32.5V-34.35V-36.03V-37.48V-39.46V.

Battery percentage	Battery bar indicator	Detailed introduction
$80\% \leq \text{SOC}$		Show Full grids (5 grids)
$60\% \leq \text{SOC} < 80\%$		Show 4 grids
$40\% \leq \text{SOC} < 60\%$		Show 3 grids
$20\% \leq \text{SOC} < 40\%$		Show 2 grids
$10\% \leq \text{SOC} < 20\%$		Show 1 grids
$5\% \leq \text{SOC} < 10\%$		Show 0 grids
$0\% \leq \text{SOC} < 5\%$		Show 0 grid, and the battery symbol flashes at a frequency of 1HZ as a whole

◆ Motor Power Indicator

The motor output power is shown via digital reading.



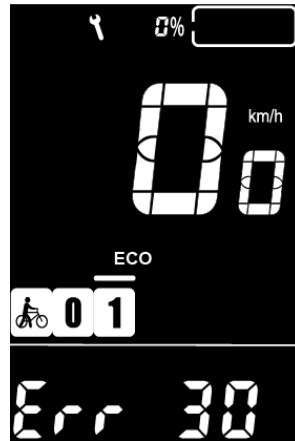
Motor Power Indication Interface

◆ 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.

Refer to detailed definition of the error codes in **Attached list 1**.



Error Code Indication

- 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.

9. General Settings

Press the **MODE** button to switch on the display.

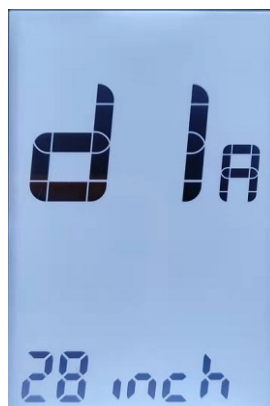
To access Setting interface, hold both the “**MODE**” button and the “**DOWN**” button simultaneously for 1S.

- All the settings are implemented on a parked bike of no speed.

● Display Setting

◆ Wheel diameter settings (Only read)

d1A refers to wheel size settings. The value is only visible and not write



Wheel Size Info

◆ Push assistant speed settings

PSH refers to push assistant speed settings. The settable range is 3km/h to 6km/h. Press **UP/DOWN** to increase or decrease the speed limit to your desired value. Hold the **MODE** button 1s to confirm and exit the settings status.



Push assistant speed settings

◆ Maximum speed limits(Only read)

SPd refers to top speed limit settings, the settable range is 5 to 46 km/h. The top speed on the display is reported by the controller. Press **UP/DOWN** to increase or decrease the numbers to your desired value. Hold the **MODE** buttons 1 seconds to confirm and exit the settings.



Speed limit info

◆ Brightness

bLG refers to Backlight level settings. The settable range is 1 2 3 4 5. 1 is the darkest, 3 is standard and 5 is the brightest. The default value is

decided by the controller when the display leaves factory. Press **UP/DOWN** to change the brightness levels. Hold the **MODE** button to confirm and exit the settings.

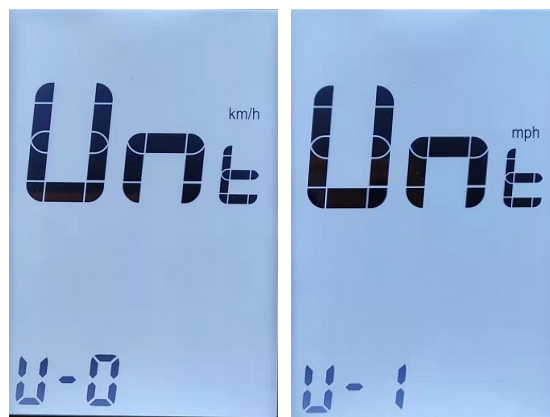


Backlight settings

◆ Toggle Unit settings

Unt represents change unit between Metric and Imperial. The default is "Metric".

To toggle unit, press the **UP** button or the **Down** button to choose the desired setting item, and then press the **MODE** button about 1S to confirm and store a changed setting. Or hold **MODE** button more than 1S to return to home page.



Unit exchange interface

◆ Display software version

DPS refers to display software version number. The display software version is not adjustable. It is decided by the software.



Display software version interface

◆ **Controller software version**

CLS refers to controller software version number. The version number is reported by the controller. It can not be adjusted from display side



Controller version number reading interface

◆ **TRIP clear function**

In TRIP mode and Trip is not 0, press the **UP** and **DOWN** buttons at the same time for more than 1 second to clear the trip data information.

◆ **Exit settings**

In personalized parameter settings interface, Short press the **MODE** button is to confirm the input.

Hold the **MODE** button is to store the settings and exit the current setting.

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 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.)

Warnings:

1. Use the display with caution. Don't attempt to release or link the connector when battery is power on.
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.

■ *This manual instruction is a universal version for VINKA DC22 display. Software specific, versions of this display may be different. Please always refer to an actual version.*

Attached list 1: Error code definition

Error code	Definition
90	Torque Zero Error
11	Torque Out Range
92	Torque Sensor Fault
13	Gear Sensor Error
15	Speed Sensor Error
18	Cadence Error
20	PCB Over-Temp Warning
A1	PCB Over-Temp Error
22	PCB Sensor Fault
25	Motor Over-Temp Warning
A6	Motor Over-Temp Error
A7	Flash Error
80	Communication Lost
32	LORA Communication Lost
01	Communication CRC Error
40	Motor EST Error
41	Motor Over-Peak Current
C2	Motor Loss Phase
43	Motor Over DC Current
D0	Battery Over Voltage
51	Battery Low Voltage
52	Battery Over Current
E0	Battery Version Error
E5	Display Version Error