

(Suzhou Industrial Park Tongsheng Bicycle Co., Ltd)  
(Address: 1875-8#, Tongda road, Suzhou city.)  
(website): <http://www.tsbicycle.com>  
(Tel.: 86 -0512-66980016)  
(Fax: 86 -0512-65966189)



# VLCD-5

## VLCD-5 Display Instrument Operational Manual



Suzhou Industrial Park Tongsheng Bicycle Co., Ltd.

# CATALOG

Summary .....	1
Specification.....	1
Installation.....	2
Function Description .....	3
Operation Procedure.....	4
Button Definition.....	4
Operation and setting.....	4
Basic functions.....	5
Hidden functions and to be showed.....	6
Fault & Error code .....	9
Torque signal value shows .....	11
Initial value for torque signal.....	12

# Summarize

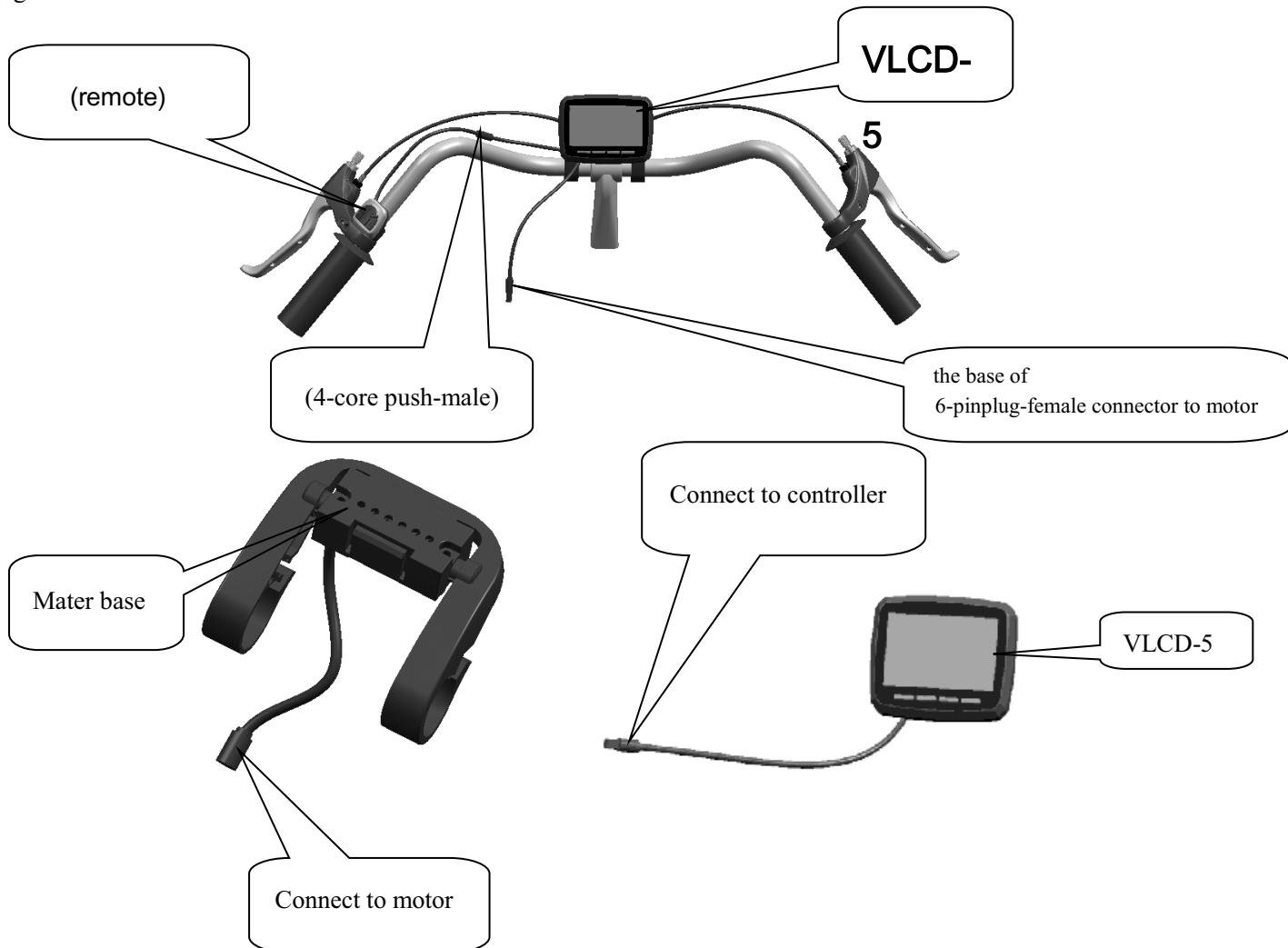
Intelligent VLCD-5 instrument is especially designed for electric bicycle. It's mainly used to control the power assist, also can show the consumption of battery, measure the speed of electric bicycle and record the trip distance.

## Specification

Type	VLCD-5
Working voltage	DC 11V-60V
Max working current	70mA(11V) 32mA(50V)
Display type	(21*4 segment LCD)
Measuring the speed	1 12 pulses each round of wheel
Working temperature	-20°C—+70°C
Backlight	(White LED mode, brightness:200cd/m <sup>2</sup> )
Dimension	(102.5mm×75.5mm×28mm (exclude thickness of Pedestal)

# Installation

Mount the set on the handlebar, plug-ins output line (4-core push-male) and operate on the (4-pin plug-female) On the plug.



## VLCD wire system

- 1 Orange ( RX )
- 2 Brown ( TX )
- 3 White ( Weak current )
- 4 Green ( Power )
- 5 Black ( Earth )
- 6 Purple ( Brake )

# Function Description

## 4. 1 **Speed display**

Show current speed, unit: Km/h and mile/h, be switchable.

## 4. 2 **consumption indicator**

Four horizontal blocks show energy of battery (each block, 25 percents of electric energy), flickering to remind you to charge the battery.

## 4. 3 **Trip distance(reset while power off )**

Show trip distance.

## 4. 4 **Odograph**

Show total miles

## 4. 5 **Record movement time**

Record time while sensor gets signal.

## 4. 6 **(Average speed (AVG))**

Shows average speed.

## 4. 7 **Power assist**

Show power assist.4 levels power assist adjustable.

## 4. 8 **Backlight**

Switch between 2 levels brightness, default is backlight off.

## 4. 9 **wheel-diameter setting**

Select wheel-diameter among14-32 inch. default is 26-inch

## 4. 10 **Speed sensor magnetic steel number selection**

Select the magnetic steel number of the speed sensor, default value is 1.

## 4. 11 **speed unit option**

Switch speed unit from Km/h or Mil/h, fault is Km/h.

## 4. 12 **6km/h function**

Select function of 6km, default is OFF.

## 4. 13 **Max speed setting**

Select max speed during 15-45km/h, Default is 25Km/h.

## 4. 14 **assist ratio setting (reserved)**

Select the ratio but default is 16.

4. 15 **Mode selection (reserved)**

Default is Europe.  
speed limit setting ,default is ON.

4. 16 **version of the manual**

Showing the current version is 3.7

4. 17 **Diagnosis code**

The diagnosis codes will be displayed according to the failure root, The fault detection will be launched automatically upon the equipment is switched on.

4. 18 **Torque signal value displays.**

4. 19 **Initial torque signal value displays**

## Operation Procedure

### 5.1 Button Definition



Boost **+** **-** Mode key Power

### 5.2 Operation and setting

1)

Press this button to power on the LCD display, pressing the button for 2 seconds to power off. Automatically shut off without any operations in 5 minutes.

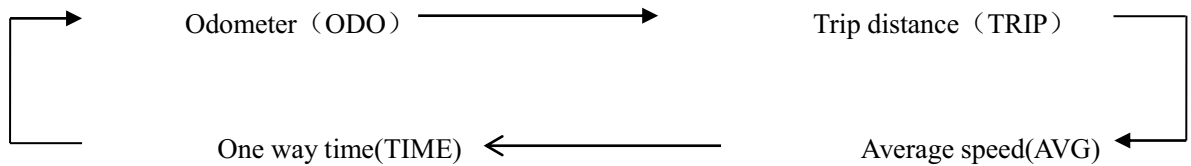
2) **-** **+** OFF”, “ECO”, “TOUR”, “SPEED”, “TURBO”

There are 4 levels of power assist (none, low, medium, high). Press this button to adjust the power assist from low to high. Default is medium assist.



### 3) **i**

There are 4 levels of mode (odometer, trip distance, average speed, one way time). Press this button to adjust the mode. Default is odometer.



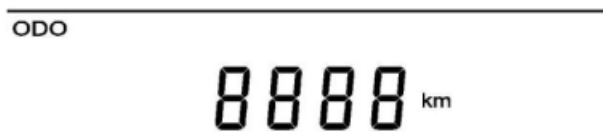
## 5.3 Basic functions

### Backlight

Use the **⏻** button switch background lighting under switching on state.

### Odograph (ODO)

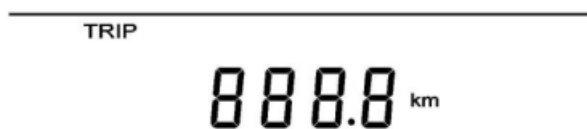
Under the condition of in odometer, press the three buttons **— + ⏻** simultaneously for 10s to reset ODO.



总里程 Odometer

### Trip distance (TRIP)

In the trip distance state, press the **i** button for 2s, Reset counter and time.



单次里程 Trip distance

## Average speed (AVG)

Show average speed (average speed=trip distance / movement time), speed resolution is 0.1km/h (mil/h), full range is 99 km/h or 99.9mil/h.

AVG

888.8 km/h  
Average speed

## Movement time (TIME)

Required time for a single mileage.

TIME

888.8 h


Mileage time

## Show diagnostic code

Show diagnostic code .Easy to detect the failure. Once the controller encounters an error, the related code will occur on the speed bar of the panel.

E01


ODO

8888 km/h 

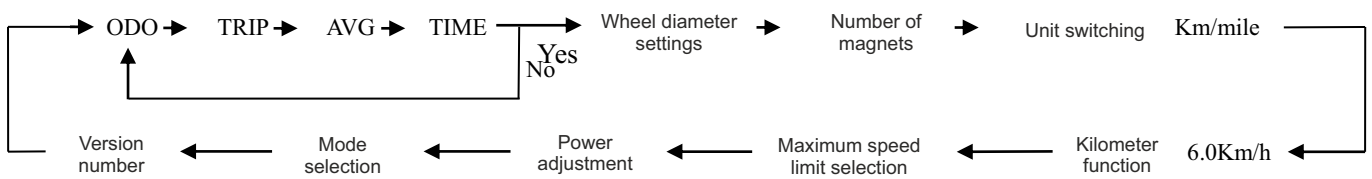
Diagnostic code




## 5.4 Hidden function and show

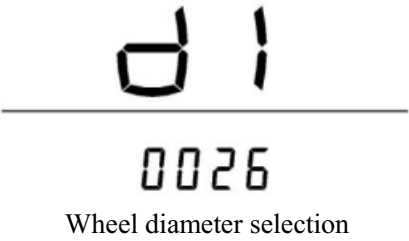
To show the hidden function, you should press these two buttons  simultaneously for 3 seconds on startup screen, then all the items (including normal functions and special functions) show up.

There are 11 levels of mode (odometer, trip distance, average speed, one way time, wheel diameter selection, magnetic steel number selection, speed units selection, 6/Km/h function selection, top speed selection, power adjustment selection, mode selection). Default is odometer. (Tip: Just for a single time, the second will resume normal menu.)




### Wheel diameter selection(d1)

Use the  button to enter the speed units interface, press **+** or **-** button to switch amongst 14-32 inch. Default is 26.



### Speed sensor magnetic steel number selection

Use the  button to enter the magnetic steel number selection, press **+** or **-** button to switch amongst 1-12. Default is 1. The digital represents the qty of pulse signal output from one round of the wheel.



1 represents 1 number of magnetic steel  
(One signal is output per revolution of the wheel)

2 represents 2 magnetic steel  
(2 signals are output per revolution of the wheel)

Magnetic steel number selection

## Speed units selection(km/h mil/h)

Use the **i** button to enter the speed units interface, press **+** button to switch between km/h and mil/h. Default is Km/h.

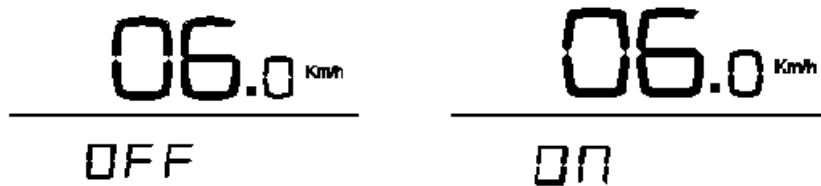


000.0 km/h  
mile/h

Speed units interface

## 6km/h

Use the **i** button to enter the 6/Km/h function selection, press **+** buttons to switch between ON/OFF. Default is OFF. Kept press **-** n 3s in the neutral, enter the 6Km/h rotation motor, when selecting the open.



06.0 Km/h  
OFF

06.0 Km/h  
ON

6/Km/h function selection

## Maximum speed limit selection SD

Use the **i** button to enter the speed limit selection, press **+** or **-** buttons to switch amongst 15-27. Default is 25.



5d

---

25.0 Km/h

Speed limit selection

## Power adjustment

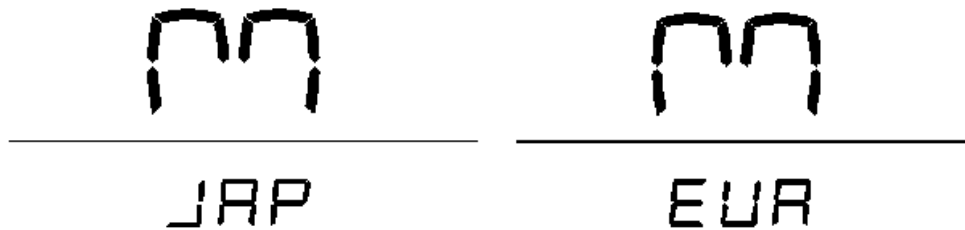
Use the **i** button to enter the power adjustment submenu, press **+** or **-** buttons to switch amongst 6-35. Default is 25.



Power adjustment selection

## Mode selection

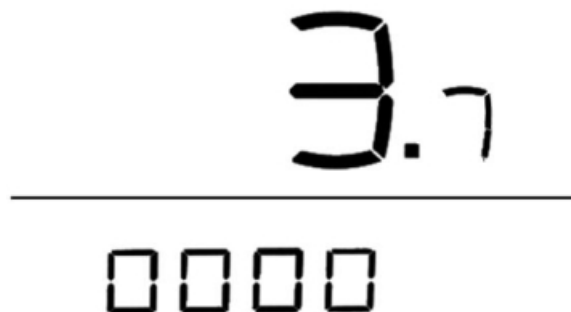
Use the **i** button to enter the mold submenu, press **+** button to switch between Japan and Europe. Default is Europe.



mode selection

## Version number 3.7

Use the **i** button to show the current version is 3.7.






仪表版本号画面 version interface


## 5.5 Failure code

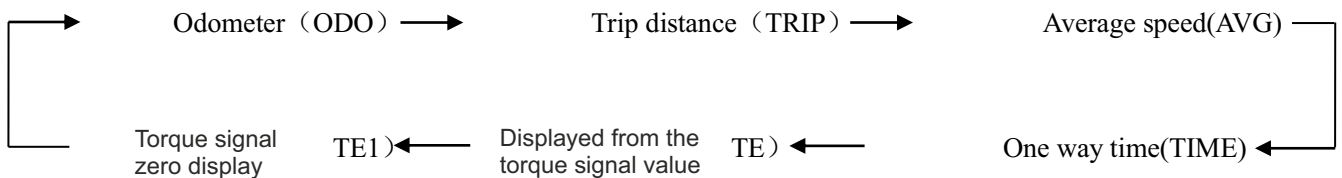
According to the failure condition, the diagnosis codes will be displayed. The fault detection will be launched automatically when rotating the handle and it will stop when the handle is reset.

ERR-02	(Motor hall fault or motor short circuit)
ERR-03	(Controller failure)
ERR-04	(throttle fault)
ERR-08	(Low energy alarm)
ERR-06	Turn on the motor with cyclist's feet on the pedal for coaster brake version

## 5.6 Torque signal value display

Press   buttons simultaneous for 10 seconds under ODO menu, then only pre  to show "ODO", "TRIP", "AVG", "TIME", "TE" and "TE1" respectively and circularly.

Under submenu "TE", press  again, it shows initial torque value, which is for service inspection use only.



TE

---

0000

Torque signal value display

### 5.7 Initial value for torque signal display

Under submenu “TE1”, press *i* again, it shows initial torque value, which is for service inspection use only

TE 1

---

0000

Initial value for torque signal display