

**retrospec**

# **Display Manual D15**



# OWNER'S MANUAL

## I. About the User's Guide

To ensure proper use of your electric bicycle, please read this user guide for the D15 U5 display carefully before use. This manual provides concise instructions covering hardware installation, configuration, and everyday operation. It is designed to help eliminate confusion and resolve potential issues efficiently.

## II. Appearance and Dimension

Primary material and color (surface color subject to the real product). The D15 U5 features an emerald LED display with a 3-button interface, offering a lightweight and user-friendly design. It uses a four-layer PCB, a nylon buckle, and an ABS shell. These materials allow the unit to function reliably within a temperature range of  $-20^{\circ}\text{C}$  to  $60^{\circ}\text{C}$  while ensuring good mechanical durability.



Fig. 2-1

Dimension diagram (unit: mm)

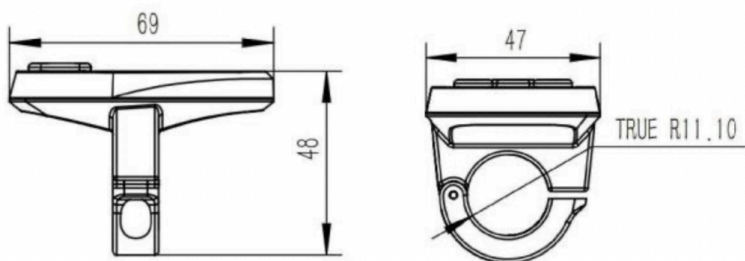


Fig. 2-2

### III. Function Overview

Instrument D15 U5 is an emerald LED display instrument. The same instrument is compatible with 24V, 36V, and 48V batteries, supporting a wide range of voltages. It also includes an integrated headlight switch function. This instrument communicates with the corresponding controller and battery via UART (Universal Asynchronous Receiver/Transmitter) communication. Main functions are: (shown in Fig. 3- 1 below)

- Light function
- Assist level display
- Battery level display
- Error code display
- 2.2 mph walk function

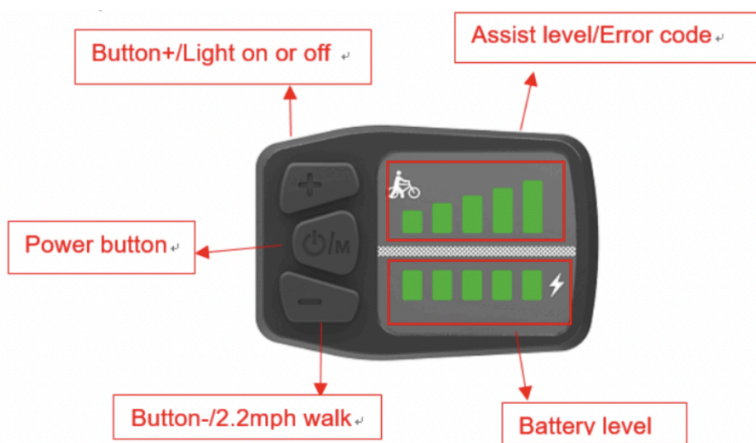


Fig. 3-1

**Full display area**

A scrolling LED marquee appears when the instrument is powered on. The interface and LED selection ensure high visibility, even in direct sunlight, without causing glare. The clean and unique design of the display interface facilitates user interaction. As shown in Fig. 3-2 below:



Fig. 3-2

**IV. Button Definitions**

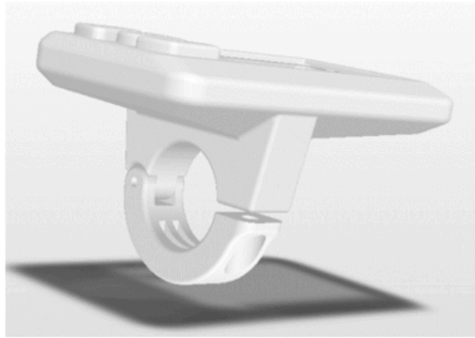
Instrument D15 U5 is provided with 3 buttons. (+), power and (-), respectively.



Fig. 4

## V. Instructions for Installation

The display comes installed on the bike, but you may want to adjust the display on the handlebar to the desired viewing angle. Loosen the fixing screw. Adjust the angle as desired then fasten the screws with a torque of 1 N.m, to complete the installation.



Fasten the screw and finish the installation.

## VI. Operating Instructions

### 1. Instrument start/stop

Press and hold the power button for 1 second to start the bike. The LED marquee will appear when powered on. The assist level will be set to the previous level from your last ride when the system restarts. The LED light on the right will indicate the corresponding battery level. To turn the bike off, press and hold the power button for 2 seconds. As shown in Fig. 6- 1:



Fig. 6-1

## 2. Light on/off

Press and hold the (+) button for 2 seconds while the bike is on. The headlight will be on. If you press and hold the (+) button for 2 seconds again, the headlight will be turned off. As shown in Fig. 6-2:

The headlight will be on after pressing and holding the button + for 2 seconds in power-on mode.  
The headlight will be off after pressing and holding the button for 2 seconds again.



Fig. 6-2

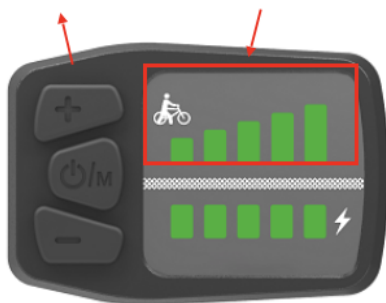
## 3. Assist level selection and 2.2mph walk mode

There are 5 levels of assist shown on the LED display. Press the (+) or (-) button to adjust the assist level. The assist level output range is 0-5 (level 1 is the default when the bike is new).

Walk Mode is engaged by pressing the (-) button and holding it down. All LEDs will flash when Walk Mode is enabled.

To exit Walk Mode, release the button (-). The LEDs will stop flashing. As shown in 6-3:

Adjust the assist levels using the (+) and (-) buttons. The assist level range is 0-5.



Keep the (-) button pressed to activate 2.2mph walk mode. Release the (-) button, to exit from 2.2mph walk mode.

Fig. 6-3

#### 4. Battery level display

The battery level is indicated via the 5 LED bars at the bottom of the display. When the battery is fully charged, all LEDs on the right will be illuminated. If the battery is undervolted, the LEDs on the right will flash, and it needs to be recharged immediately. Battery level is displayed incrementally by the 5 LEDs. As shown in Fig. 6-4:



5-stage LED power level display. Battery level is displayed incrementally from bottom to top. When the battery is undervoltage, the first LED at the bottom right

Fig. 6-4

Battery percentage: $\leq 15\%$	Instrument battery level display Undervoltage
15%-29%	First Bar
30%-44%	Second Bar
45%-59%	Third Bar
60%-84%	Fourth Bar
$\geq 85\%$	Fifth Bar

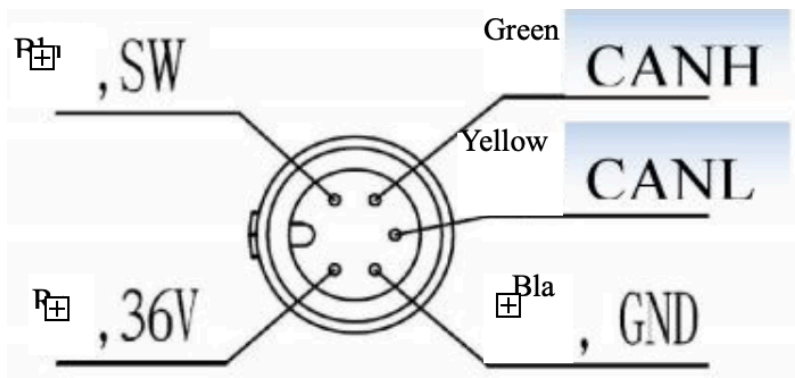
## 5. Error code display

When a fault occurs, the instrument LEDs display the fault code in a flickering pattern. Moreover, normal operation will be stopped. The fault must be eliminated for normal operation to resume. Refer to the Appendix List of Fault Code Definitions for details about the error cause.

## VII. Description of Leads

The multi-functional instrument D15 U5 features a 5-core lead and supports 24V, 36V, or 48V voltage for battery power supply, comprising: 1. positive pole (red), 2. earth wire (black), 3. communication CANL (yellow), 4. communication CANH (green), and 5. weak current lock (blue).





(Wiring diagram of 5-core lead)

## VIII. Q&A

Q: Why is the meter not turned on?

A: Check whether the display's harness is connected to the controller's connector.

Q: What should I do if the meter shows a fault code?

A: First, locate the corresponding problem by referring to the displayed error code definitions. If you are unable to resolve the issue on your own, please take your bike to an authorized dealer for repair.

## IX. Quality Commitment and Warranty

### Warranty:

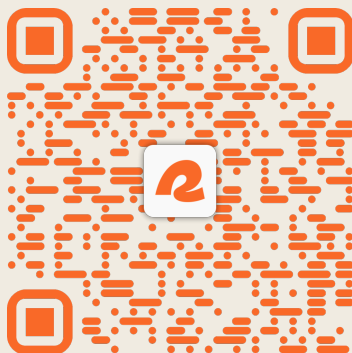
1. In case of any faults arising from the product quality in normal use, the company will provide the specified warranty services within the warranty period.
2. The warranty period of this product is 30 months from the date of purchase.

LED meter display (Mode lamp flashes) ○Off ●flashing on	Fault Description	Troubleshooting
○ ● ○ ○ ○	Phase line overcurrent of the controller	Restart the system. If the fault persists, please take your bike to an authorized dealer.
○ ○ ● ○ ○	Busbar overcurrent of the controller	Restart the system. If the fault persists, please take your bike to an authorized dealer.
○ ● ● ○ ○	Controller HALL failure	Check whether cables are well connected. If the fault persists, please take your bike to an authorized dealer.
○ ● ○ ● ○	Controller temperature fault	If the fault persists, please take your bike to an authorized dealer.
○ ● ● ● ●	Display communication failure	Check that the display is well connected. If the fault persists after the display is reconnected, please take your bike to an authorized dealer.
○ ● ● ● ●	Safety-related fault	Reconnect the controller, update the software, or replace the controller.
○ ● ○ ● ●	Instrument MCU failure, voltage reference failure	Replace instruments
○ ○ ● ● ○	Motor temperature fault	Shut down and restart the system, and check the motor for overload. Check whether the fault code disappears. If the fault persists, take your bike to an authorized dealer.
○ ○ ● ● ●	WALK and power button failure	Check whether the buttons are stuck. If so, replace the meter.

○○○●○	Brake failure, handlebar failure	Check the brake cable. Or, check whether the brake is reset before starting the system.
○●○○●	Controller overvoltage/undervoltage fault	Check the battery voltage.

## Contact Us

Need some help with your new gear? Just want to say “hey” and talk to someone on our team? We’re here for that too.



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