EB150 Meter User manual

1. GENERAL INFORMATION

1.1 Product Specifications

Type	YB-EB150	ECU	EB150 Controller
Standby Power	＜336mW	Working Voltage	5 V
Dimension	66*39*22 (mm)	Working Temperature	-20℃~70℃
Head Lamps	EB150B Head Lamp	Acceleration	Hall Acceleration
Brake	electronic brake	Hardware Version	V0.1
Software Version	b9 04 20210811	Waterproof	IPX5

.2 Harness Interface

Interface	Terminal Specification	
Headlamp	White 3-core SMfemale; red,blue and black wire.	Meter
Brake	White 2-core male; red and black wire.	
Acceleration	White 3-core SMfemale; red,blue and black wire	
Communication	White 4-core SMfemale; red,green,blue,yellow and black wire	
Combination key	White 4-core SMfemale; red,blue,yellow and black wire	
Boot keys	White 2-core male; red and black wire	

2. TECHNICAL PARAMETERS

2.1 BLEParameters

No	Item	Parameters
1	Antenna	Internal Only
2	Chipset	NRF52832-QFAA
3	Frequency	2.4G: 2402MHz~2480MHz
4	Sensitivity	-90dB

2.2 Other Parameters

No	Item	Parameters
1	MCU	Core: NRF52832 Flash Memory: 512 kB Ram: 64 kB Frequency:
2	Timing Report	Reportstatus at pre-set intervals
3	Audio Codec	Buzzer

3. METER FUNCTION DESCRIPTION

3.1 Operation Function

No	Function Item	Function Description
1	Headlight Control	Power on, atmosphere light on (after power on) Press the key of the lamp to turn on the high beam lamp. Press the button to see the lamp Guanbi
2	Speed Limit	The speed limit mode is sent by the APP via Bluetooth to the meter, and then the meter sets the controller. The speed is limited under 32 km/h.

3	Acceleration	When the power is on, the assist sliding speed exceeds 4 km/h (2.5 mph). When the handle is pressed, the system will control the rotation of the hub according to the depth of the handle press. The lighter the press, the slower the speed, the faster the press, the faster the speed. The real-time speed is displayed in the first three words of the meter.
4	Brake	The brake is electronic brake + drum brake. When the brake is pressed, the system controls the output electromagnetic brake and slows down gradually until the hub is locked.
5	Kick Start	The controller can drive the motor only when the speed of the kicking is above 4 km/h or 2.5mph.
6	Speed Unit Switching	The speed unit of kilometer or mile is controlled by app via Bluetooth.
7	Online upgrade	Controller firmware and instrument firmware can be upgraded through Bluetooth.
8	Bluetoothcontrol command receiving	It can receive instructions sent by mobile phone/upper computer via Bluetooth, analyze them, and perform corresponding actions, such as turning on and off vehicle locks and headlights
9	Issue of control instruction	Relevant control instructions are sent through UART channel to control the relevant actions of the controller.
10	Error Code Showing and reporting	The meter can display error code reported by its own judgment and controller, and report to the upward computer/APP via Bluetooth timing.
11	Timely reporting of real-time vehicle information	The instrument reports the real-time status information of the body, such as current speed, VMT, total VMT, etc., through Bluetooth timing up-position machine/APP

12	Vehicle configuration information report	After receiving the instruction to read the vehicle configuration information via Bluetooth, the instrument will report the vehicle configuration information via Bluetooth upward machine/APP.
13	Switch to start mode	Switch the scooter to power-assisted or non-power-assisted startup mode through Bluetooth command configuration;
14	E level implementation mode	When the speed is greater than 4km, the motor can be started. The maximum speed is 5km. It can only be started with help, not without help, and the meter flashes at the same time.
15	On/off cruise mode	Configure the scooter to turn on or off the constant speed cruise mode by Bluetooth command.
16	Switch to lock car mode	Configure the scooter to open or close the lock mode through Bluetooth command.

3.2 Error reporting Function

Error Code	Error Item	Reasons
01E	Over current protection	The current exceeds the limit.
02E	low-voltage protection	battery voltage lower than 43V
03E	Short circuit of motor phase line	Short circuit of motor phase line when unlocking
04E	Motor block protection	Motor blocked or short circuit or drive failure
05E	Drive upper bridge failure	Drive upper bridge MOS tube damaged or breakdown
06E	Drive down bridge failure	Drive down bridge MOS tube damaged or breakdown
07E	Hall problem for the motor	Hall line sequence is wrong or poorly connected
08E	High temperature of the motor	Motor temperature higher than normal working temperature
09E	Throttle problem	Hall problem for the throttle or poorly connected
10E	Left rake problem	brake problem or poorly connected
11E	communication failure between instrument and electronic controller electronic controller	instrument problem or poorly connector for the communication signal wire signal wire
12E	Instrument received data timeout failure	instrument problem or poorly connector for the communication wire
14E	Right rake problem	Hall problem for the throttle or poorly connected
15E	Controller firmware missing	Instrument and controller communication failed or unable to communicate
18E	Turn and turn back	Do not turn back on startup
19E	Left brake handle not in position	The left brake handle is not in position on boot
20E	Right brake handle not in position	The right brake is not in position when starting up

3.3 Display Function

Powerbutton:

Short press to turn on, long press for around 3s to turn off.

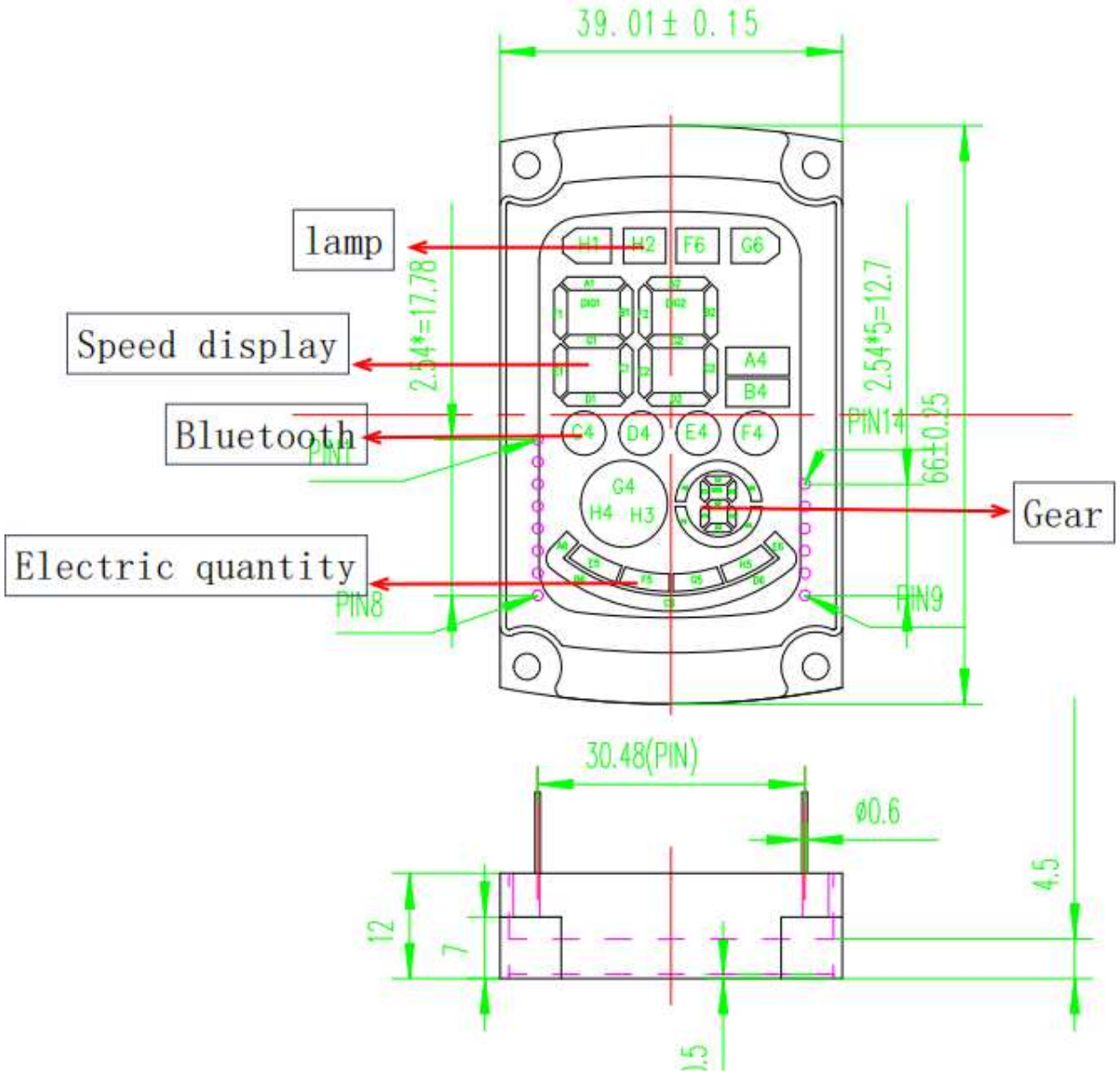
Short press twice to switch among E level (pedestrian mode)/ L level (economical mode)/ H level (Sport mode) when power on.

E level is pedestrian mode, the maximum speed is limited to 5 km/h, which is suitable for sidewalk implementation.

L level is the economical mode, and the maximum speed is limited to 15 km/h.

H level is sports mode, and the maximum speed is limited to 25 km/h.

When the driving speed is faster than 32 km/h, the meter will flash to alter the user to reduce speed.



FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment .This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.