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# Product Specification

<b>customer:</b>	
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Product name: Left-mounted smart digital tube meter

Product model: 08N

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## 1. Product Name

- Left-mounted smart digital tube meter, 08N.

## 2. Specifications

- 24V/36V/48V/60V battery supply (Other voltages can be customized)
- Rated operating current : 50mA
- Max operating current : 100mA
- Shutdown leakage current<1uA
- Supply controller end working current 50mA
- Operating temperature -20~70℃
- Storage temperature -30~80℃

## 3. Appearance & Material

- The product shell is made of ABS material, and the LED transparent window is imported high-hardness acrylic, the hardness value is equivalent to that of tempered glass.



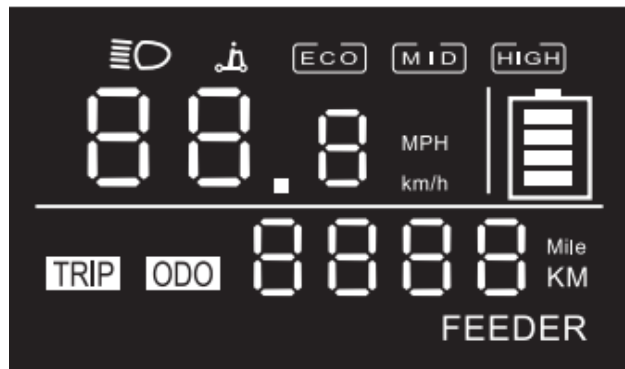
## 4. Product Description

- **Real-time speed display**
- **Km/mile display:** It can be switched in the setting mode.
- **Smart battery indicator:** The algorithm is further optimized to solve the problem that the battery power of ordinary meters fluctuates with the start and stop of the motor, and provides a stable and accurate power display.

- **8 levels of backlight brightness adjustment:** The screen backlight brightness can be set according to different usage environments, level 1 is the darkest and level 8 is the brightest.
- **Low, medium and high speed gear control:** The gear can be set according to user needs.
- **Mileage display:** It can display accumulated mileage ODO and single mileage TRIP.
- **Controller current limit setting:** Default 15 amps, adjustable range: 10~31 amps
- **Fault code prompt.**
- **parameter settings:** Users can configure and adjust specific functions in the setting mode.

## 5. LCD Screen Instructions

- The LCD display is shown in the following figure:



**LCD full display**

- **Speed display:** Display speed value, Km/h kilometers per hour, MPH miles per hour



**Kilometer display**



**Mile display**

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- **Power indicator:** 4-segment battery indicator



**Battery indicator**

- **Headlight indication:** Display when the headlights are on



**Headlight display**

- **Failure prompt:** The fault code is displayed when a fault is detected, see the description of the error code for details



**Fault code display**

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- **Gear indication:** Display the current assist gear



**Gear display**

- **Mileage mode:** Divided into single mileage TRIP, accumulated mileage ODO



**TRIP display**



**ODO display**

## 6. User Instructions

### 6.1 Power on/off

Press and hold **Mode** button for 1.5 seconds, the meter will enter the normal working mode after full display; in the power on state, long press the **Mode** button (1.5 seconds), the power of the meter will be turned off. If you do not ride for 5 minutes and do not operate the meter, the meter will automatically shut down.

### 6.2 Assist level Selection

Short press **+/-** button can change the assist level. From low to high, there are three gears "ECO", "MID" and "HIGH". The default gear is "ECO".





### 6.3 Mileage Display Mode Switch

In normal mode, short press the **Mode** button to cycle through single mileage (TRIP)

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

and total mileage (ODO) information.

## 6.4 Headlight Switch

Long press the  button for 2 seconds, the meter will light up the  icon and turn on the headlights of the moped. Long press the  button for 2 seconds again to turn off the  icon and turn off the headlights of the electric vehicle.







*\*The brightness of the instrument backlight can be adjusted in 8 levels, and the user can set it according to needs*

## 6.5 Single Mileage Data Reset













Long press the  and  button (2 seconds) to clear the single mileage (TRIP) data.

*\*The above data will not be cleared when the instrument is turned off or the vehicle is turned off.*

## 6.6 Parameter Settings

In the normal working state of power-on, press and hold the  and  button at the same time, the system enters the parameter setting mode, in this state, the user can customize the instrument parameters, in the parameter setting state, the parameter to be set flashes, short press  or  button adjust the parameter setting value, short press the  button to switch to the next setting item, in the parameter setting mode, long press the  button to save the set parameters and return to the normal working mode.

*\*In the parameter setting state, if no operation is performed for 10 seconds, the meter returns to the normal working state.*

- ◆ The switching sequence of setting items is: Speed limit → wheel setting → km/mile → brightness → voltage → current limit
- Speed limit: Press the  or  button to adjust the speed limit value, the default is 25km/h, the minimum is 10 km/h, and the maximum is 41km/h.
- Wheel setting: Press the  or  button to adjust the wheel diameter parameters, there is an adjustable range, and special wheel diameter values can be customized.
- Kilometer/mile: Press the  or  button to switch between km/h, KM or MPH, Mile display unit.
- Brightness: Press the  or  button to adjust the backlight brightness level, 1 is the darkest backlight, and 8 is the brightest.
- Voltage selection: Press the  or  button to switch and display 24V/36V/48V.
- Current limit: Press the  or  button to adjust the current limit value, default value: 15A, range 10~31A.

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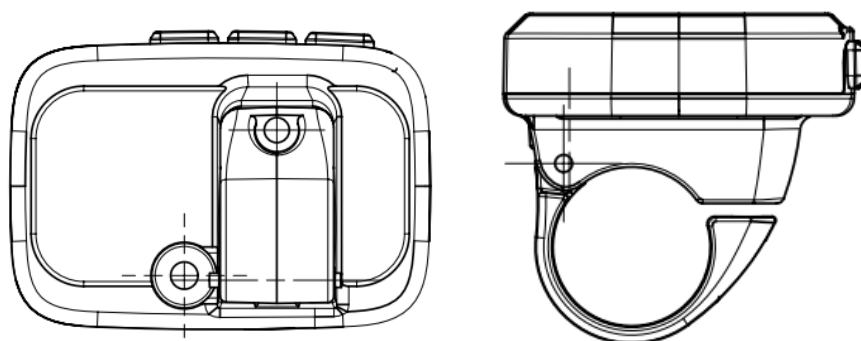
## 7. Error Code Definition

The error code can provide a warning for the failure of the whole vehicle. When a failure is detected, the LCD screen will display "E" in the decimal place of the speed display, and the error code will be displayed in the integer digit. The error code comparison table is as follows

Error code	Error description	Processing method
0x21	Current abnormal	Check the motor
0x22	Throttle abnormal	Check turn to connect.
0x23	Motor phase loss	Check motor phase wire connection
0x24	Motor Hall abnormality	Check the motor hall sensor
0x25	Brake error	Check the brake connection.
0x26	Battery low voltage protection	Check whether the battery is undervoltage
0x30	Communication error	Check the connection line

## 8. Assembly Instructions

Please refer to the figure below for the screw assembly of the instrument. Pay attention to the tightening torque of the screw. The damage to the instrument caused by excessive torque is not covered by the warranty.

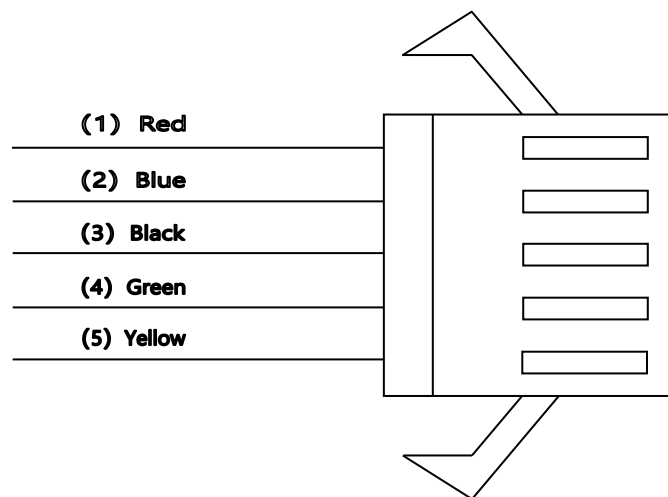
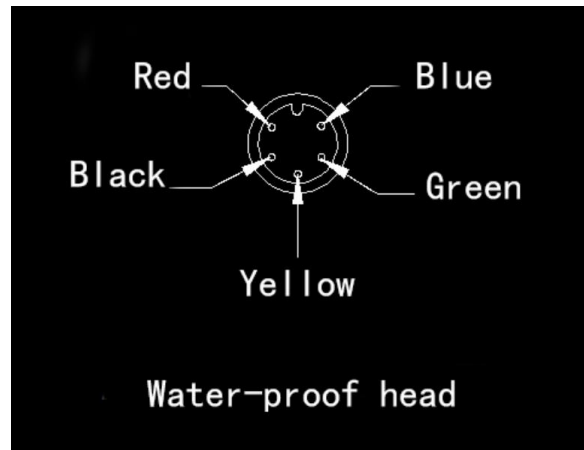


**Assembly diagram**

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## 9. Connector Descriptions

The color of the 5-core waterproof cable is <Red, Blue, Black, Green, Yellow>, and the line sequence is defined as follows.



- 1、 Red wire : Anode(24v/36v/48v)
- 2、 Blue wire : Power cord to the controller
- 3、 Black wire : GND
- 4、 Green wire : RxD (controller -> display)
- 5、 Yellow wire : TxD (display -> controller)