Please read through carefully before using the display
Electrical Parameters

- 24V/36V/48V battery supply
- Rated operating current : 10mA
- Max operating current : 30mA
- Off leakage current < 1uA
- Max output current to controller : 50mA
- Operating temperature : -20 °C to 70 °C
- Storage temperature : -30 °C to 80 °C

Dimensions & Material

Product shell is ABS, transparent window is made with high strength Acrylic, the stiffness equals tempered glass.

Dimensions

L90mm*W54mm*H13.3mm
Details

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Features

- Ergonomic external button design
- Speed display: AVG SPEED, MAX SPEED, SPEED
- Kilometer / Mile: can be changed to imperial or metrical
- Battery indicator
- The brightness of the backlight: adjustable, 5 settings
- 9-level Assist: 3-level/5-level/9-level, optional.
- Mileage indicator: Odometer/Trip distance/ Riding time/Power
- Error code indicator
- Parameter settings: including assist level numbers/ Wheel diameter / Speed limit / etc
LCD instructions

- Speed mode
- Speed display
- Speed unit
- Battery indicator
- Lamp
- PAS Level
- Brake
- Error
- Mileage mode
- Mileage information
Power On/Off

Press and hold Power button for 1 second to turn on/off the display. The display will automatically shut down when it’s not operated & ridden for n minutes (n can be 0~9).

Assist level

Shortly press the UP or DOWN button to change the assist level, choose 0 for no assist. The levels can be adjusted while riding.

Speed mode and Mileage mode

Shortly press the POWER button to change the speed mode and the mileage mode Trip->Time->ODO->Power-> AVG Speed->MAX Speed (see picture on next page).
Speed mode and Mileage mode

*If the display is not operated for 5 seconds, the display will return Speed (Real-Time) display automatically.

Headlight/backlight On/Off

Press and hold the UP button for 1 second to turn on/off the headlight/backlight.

The motor does not work when the battery voltage is too low, but the display can keep the headlight on for a while when you're riding the E-bike.
6km walk
Press and hold the DOWN button for 1 second to get into walking mode, to quit the walking mode just release the button.

Battery indicator
When the battery indicator shows that the battery is low, the battery needs to be charged.
Basic Parameter settings

Press and hold the UP & DOWN buttons together for 1 second to get into the Basic Parameter settings, and the parameter will flash. The display will automatically quit the parameter settings when it's not operated for 10 seconds.

The order of Basic Parameters are as follows;

Data cleanup  →  Backlight brightness

→  Auto off time  ←  Kilometer / Mile

Data cleanup

The symbol tC shows on the top; press the UP or DOWN button to change between the symbols N/Y. N: does not need to be cleared, Y: needs to be cleared.

*the temporary data includes AVG Speed / MAX Speed / Trip / Time.

Backlight brightness

The symbol bL1 shows on the top, press the UP or DOWN button to change the brightness of the backlight (values 1 - 5). The default value is 3.
Kilometer / Mile
The symbol S7 shows on the top, press the UP or DOWN button to change between the symbols km/h / MPH (Km / Mile).

Auto off time
The symbol OFF shows on the top, press the UP or DOWN button to change the value from 1 to 9. The value represents the delay time (in minutes) before the display shuts down automatically, the default value is 5 minutes.
Password Parameter settings

Press and hold the UP & DOWN buttons together for 1 second to get into the Basic Parameter settings, then press and hold the UP & DOWN buttons together for 1 second again to get into the Password Parameter settings.

Password

The symbol PSd shows on the top, and you need to enter the password. Press the UP or DOWN buttons to change the password value (0~9) and shortly press the POWER button to the next value. The password is 4 digits, the default password is “0512”. Press the POWER button when you finished entering the password. The display will return to the Speed (Real-Time) display automatically if the password is incorrect. With the correct password you will enter the Wheel diameter settings.
**Wheel diameter**

The symbol Wd shows on the top, press the UP or DOWN button to change between the values 8/10/12/14/16/18/20/22/24/26/27/28/29, the value represents the diameter of the wheel (in inches). A wrong wheel diameter setting will cause an incorrect speed reading.

![Wheel diameter diagram](image)

**Speed limit**

The speed limit shows on the top, the default value is 27km/h. Press the UP or DOWN buttons to change the limit; the limit can be set from 10 to 99km/h. Press the POWER button to confirm when you've finished setting the speed limit.

![Speed limit diagram](image)

*The maximum speed that can be reached is restricted by the specs of the motor and controller.*
Range of assist levels
The symbol PAS shows on the top, and the assist range is shown on the bottom. The default is UBE. Press the UP or DOWN button to change the value from 0-3 to UBE.

The current temperature
The symbol b01 shows on the top, the current temperature shows on the bottom of the display.

The maximum temperature
The symbol b02 shows on the top, the maximum temperature value shows on the bottom of the display.
The lowest temperature
The symbol b03 shows on the top, the lowest temperature value shows on the bottom of the display.

The total voltage
The symbol b04 shows on the top, the total voltage shows on the bottom.

Current
The symbol b05 shows on the top, the current shows on the bottom.
Average current
The symbol b06 shows on the top, the average current shows on the bottom.

The remaining capacity
The symbol b07 shows on the top, the remaining capacity shows on the bottom.

Full charge capacity
The symbol b08 shows on the top, the full charge capacity shows on the bottom.
The relative state of charge
The symbol b09 shows on the top, the relative state of charge shows on the bottom.

The absolute state of charge
The symbol b10 shows on the top, the absolute state of charge shows on the bottom.

Cycle
The symbol b11 shows on the top, the cycle value shows on the bottom.
The maximum no charging time
The symbol b12 shows on the top, the maximum no charge time value shows on the bottom.

No recent charging time
The symbol b12 shows on the top, the no recent charging time value shows on the bottom.

NO.1~n Voltage battery
The symbol d01 shows on the top, the NO.1~n voltage battery value shows on the bottom of the display.
## Error Code definitions

The display will give a warning message when there's an error in the system. The LCD display will show an error code on the top of the display, the error codes range from 01H~FFH. You can find the definitions in the table below.

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error description</th>
<th>Error Code shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>0x01</td>
<td>Normal</td>
<td>No error</td>
</tr>
<tr>
<td>0x03</td>
<td>Brake signal</td>
<td>03 on the top of the display</td>
</tr>
<tr>
<td>0x06</td>
<td>Low voltage protection</td>
<td>06 on the top of the display</td>
</tr>
<tr>
<td>0x07</td>
<td>High voltage protection</td>
<td>07 on the top of the display</td>
</tr>
<tr>
<td>0x08</td>
<td>Hall line of motor error</td>
<td>08 on the top of the display</td>
</tr>
<tr>
<td>0x09</td>
<td>Phase line of the motor error</td>
<td>09 on the top of the display</td>
</tr>
<tr>
<td>0x10</td>
<td>High temperature of controller</td>
<td>10 on the top of the display</td>
</tr>
<tr>
<td>0x11</td>
<td>Controller's temperature sensor error</td>
<td>11 on the top of the display</td>
</tr>
<tr>
<td>0x12</td>
<td>Current sensor error</td>
<td>12 on the top of the display</td>
</tr>
<tr>
<td>0x13</td>
<td>Battery temperature sensor error</td>
<td>13 on the top of the display</td>
</tr>
<tr>
<td>0x14</td>
<td>Motor temperature sensor error</td>
<td>14 on the top of the display</td>
</tr>
<tr>
<td>0x21</td>
<td>Motor speed sensor error</td>
<td>21 on the top of the display</td>
</tr>
<tr>
<td>0x22</td>
<td>BMS communication error</td>
<td>22 on the top of the display</td>
</tr>
<tr>
<td>0x23</td>
<td>Head light error</td>
<td>23 on the top of the display</td>
</tr>
<tr>
<td>0x30</td>
<td>Communication error</td>
<td>30 on the top of the display</td>
</tr>
</tbody>
</table>
Assembly instructions

Don't use too much torque when tightening the screw, damage caused by excessive torque does not fall under the warranty.

You can install the display clamps forwards or backwards as shown below.
The clamps are suitable for 3 handlebar sizes; 31.8mm, 25.4mm and 22.2mm. There are spacer rings for 25.4mm and 22.2mm handlebars. The spacer rings must be inserted into the clamps, as shown by the green arrow below.

**Output wires**

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

The Assist level can be customized, the highest number of levels is 9. See the different level options below:

<table>
<thead>
<tr>
<th>3 level</th>
<th>5 level</th>
<th>9 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
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<tr>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>9</td>
</tr>
</tbody>
</table>

No power assist
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