1. Shell’s Size and Material
   The shell’s material is ABS. LCD screen is made of imported high hardness acrylic, and the hardness is equal to the tempered glass.

2. Working Voltage and Mode of Connection
   2.1 Working Voltage: DC24V 36V 48V (set by the meter), other voltage could be customized.
2.2 Mode of Connection:

Standard Connectors Line Sequence:

- Red Line (D+): Power Positive
- Black Line (GND): Power Negative
- Blue Line (DS): Controller’s electric door lock
- Brown Line (DD+): Lighting control’s Positive (If the controller’s software and hardware support the lighting control, do not need connect this line)
- Green Line (RX): Receiving communication
- Yellow Line (TX): Sending communication
- White Line (GND): Lighting control’s Negative
- Extended Functions: PWM Assistance grades control, Independent external speed sensor

3. Functions

3.1 LCD Display

Speed indicator, PAS grades indicator, Battery indicator, Error indicator, Single Trip Distance and Total Distance, Headlight indicator.

3.2 Parameters Setting

Power on/off, Headlight on/off, 6KM/H Cruise control, Wheel size, Max speed setting, Auto stand-by and sleep mode setting, Background luminance setting, Working voltage setting.

3.3 Communication Protocol: UART

4. All contents on the screen
4.1 Headlight

4.2 Power status

4.3 Multi-functions
Total Distance(ODO), Single Trip Distance(TRIP), Error Code(Error), Wattage(WATT), Maintenance(Maintain), DST TO GO(Unused temporarily)

4.4 E-Bike Mode
Economic mode(ECO), Standard mode(STD), Powerful model(POWER), Hand speed-control model(SPEEDHANDLE), Walk assisted model(WALK)

4.5 Speed display
Maximum speed(MAX), Average speed(AVG)
MPH, KM/H are both optional.
According Wheel size and signal data, the meter could figure out the real speed.

4.6 Error display
Meaning of Error Code:
<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Status</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal Status</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Battery is undervoltage</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Motor’s problem</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Throttle’s problem</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Controller’s problem</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Communication Receiving problem</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Communication Sending problem</td>
<td></td>
</tr>
</tbody>
</table>

4.7 PAS grades

PAS Status (0-9 grades), Cruise mark

4.8 Parameters setting

P01 Speed limit. Range: 0-100km/h, 100 means without limit

No-Communication Status (controlled by the meter): when the real speed is over the ones we set, the meter would shut off PWM output; when less than the speed we set, the meter would turn on PWM output automatically, the driving speed would be ±1km/h; (Speed limit is for PAS, not for Throttle)

Communication Status (controlled by the controller): The driving speed keeps same with the ones we set. Random error: ±1km/h. (Speed limit is for both PAS and Throttle)

Notes: These data are based on KM. When changing KM to Mile, the speed value on the screen would convert to correct Miles automatically, but if you do not change the setting of speed limit from KM to Mile, it would be different from the real speed limit in Mile.

P02 Wheel size. Unit: inch. Precision: 0.1

P03 Unit of the mileage. 0 is KM, 1 is MILE

P04 Speed measuring magnet. Range: 1-100

P05 PAS grades.

0, 3 grades mode.

1, 5 grades mode.

P06 Zero start & Non-zero Start. 0 is Zero Start, 1 is Non-zero Start
P07  Reset ODO. Long press for 5s, ODO could be reset.

P08  Restore Factory Settings: Long press the for 5s, when the speed position displays SSSS, namely the setting parameter restores factory setting value.

P09  Background luminance. 1 is the darkest, 3 is the brightest.

P10  Voltage grades. 24V, 36V, 48V. The original voltage is 36V.

P11  Sleep time. 0 is without sleep, other numbers stand for the sleep time (1-60 min).

P12  Driving mode.

0 is driven by PAS. Throttle is useless at this time.
1 is driven by Throttle. PAS is useless at this time.
2 is driven by PAS & Throttle. Throttle is useless at Zero Start status.

P13  PAS sensitivity. Range: 1-24

P14  PAS start strength. Range: 0-5

P15  Not implemented now.

P16  PAS magnet type. There are 3 types: 5, 8, and 12.

P17  The Current-limiting of Controller. The original Current is 12A. Range: 1-20A

P18  Not implemented now.

5. Button Introductions

5.1 During riding, need change PAS/Speed grades, shortly press

5.2 During riding, need change data in Multi-function Area, shortly press

Long press could switch status between MODE and ON/OFF;

Long press as a compound button, is mainly used for parameter setting, which could reduce misoperation due to complicated operation.
(No compound button with short-time press, because it’s difficult to operate.)

5.3 Specific operation explanations

5.3.1 Change PAS grade
Suppose it’s PAS mode now,
shortly press_pas grade +1
shortly press_pas grade -1

5.3.2 Shift the speed display
Long press to shift the way of speed display

5.3.3 ON/OFF 6KM/H cruising, ON/OFF Headlight, Reset ODO
When e-bike stops, long press to enter 6KM/H cruising mode. Then long
press to exit the cruise mode;
Long press to turn ON/OFF Headlight;
At P16, long press for 5s to reset ODO.

5.3.4 ON/OFF the screen
Long press to turn ON/OFF the screen.

5.3.5 Change data in multi-function Area
Shortly press to change data.

5.3.6 Parameters setting
Long press + to start setting parameters, such as wheel size(inch), background luminance… (Refer to P01-P16)

On the setting interface, shortly press or to plus/minus value. Parameters would be shining after modifying, choose the ones you prefer,

a. Long press to save the value, the shining would stop.
b. Shortly press \[M\] to shift to the next parameter, and to save current values at the same time.

c. Long Press \[M\] to exit setting parameters and to save values. If not press these buttons, it would exit and save parameters modified automatically 10s later.