

# USERS GUIDE

## SW-M58

Note: If your motor is TONGSHENG (TSDZ series) protocol, please directly jump to page 13 to view.



**E-Bike Display**

**Model: SW-M58**

**Protocol: Bafang UART** (TONGSHENG protocol on page 13)

**Version: V6.04**

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## **I . Safety Notes**

PLEASE TAKE CAUTION WHEN USE, DO NOT PLUG OR UNPLUG THE DISPLAY WHILE YOUR E-BIKE IS POWERED ON.

- AVOID CLASHES OR BUMPS TO THE DISPLAY.
  
- AVOID USING IN HEAVY RAINS, SNOWS OR LONG EXPOSURE TO STRONG SUNLIGHT. DO NOT TEAR THE WATER-PROOF FILM ON THE SURFACE OF THE SCREEN, OTHERWISE THE WATER-TIGHT PERFORMANCE OF THE PRODUCT MAY BE DEGRADED.
  
- DO NOT PLUG OR UNPLUG THE DISPLAY WHILE THE SYSTEM IS POWERED ON. UNAUTHORIZED ADJUSTMENT TO DEFAULT SETTINGS IS NOT SUGGESTED, OTHERWISE NORMAL USE OF YOUR E-BIKE CAN NOT BE GUARANTEED.
  
- WHEN THE DISPLAY PRODUCT DOES NOT WORK PROPERLY, PLEASE SEND THE IT FOR AUTHORIZED REPAIR IN TIME.

## II. Overview

### 1. Product Name and Model

Product Name: E-Bike Display

Product Model: SW-M58

### 2. Product Introduction

SW-M58 features high-brightness anti-glare color LCD and minimalist interface, working as an ideal HMI solution for EN15194 electric bikes.

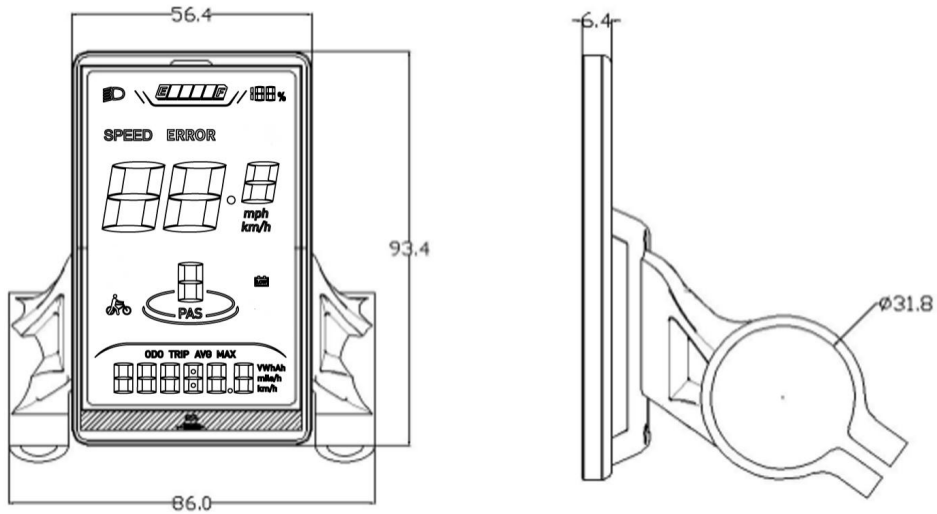
### 3. Specifications

- Working Voltage: DC 24V/36V/48V/60V/72V
- Rated Working Current: 12mA
- Leakage current: <1uA
- Screen Size: 3.8"LCD
- Communication Type: Bafang UART
- Working Temperature: -20°C ~ 70°C
- Storage Temperature: -30°C ~ 80°C
- Waterproof Rating: IP65

### 4. Function

- Boot password
- Assist Level Control and Display
- Battery indication: battery level percentage, low voltage indication
- Speed display: (in km/h or mph)  
real-time speed (SPEED), max speed (MAX), average speed (AVG)
- Distance: single-trip distance (TRIP), total travel distance (ODO)
- Assist Mode Control and Display (3/5/9 levels)
- Walk assist mode
- Front light indication: front light status supported by controller.
- Error code indication
- Riding Info: Brake Indicator, Front Light Status, and Low Voltage Status.

## 5. Size



## 6. Assembly

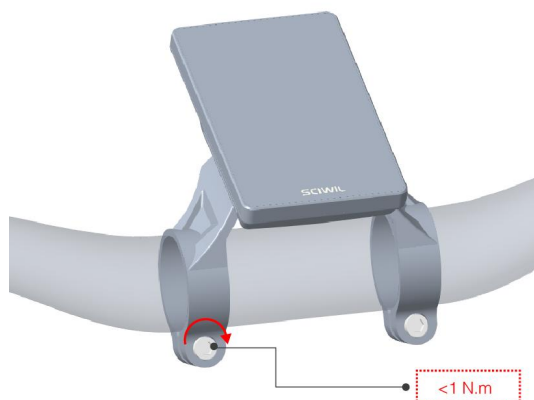
① Open the holder ring/rubber spacer of the display and fix the display on the handlebar, adjust it to a proper facing angle. Use a M4 Hex Wrench to fix and tighten the screws. Standard fixing torque: **1N·m**.

**\*Damage due to excessive fixing torque is not covered by warranty.**

② Open the holder ring/rubber spacer of the keypad and fix it on the handlebar, adjust it to a proper facing angle. Use a M3 Hex Wrench to fix and tighten the screws. Standard fixing torque: **1N·m**.

**\*Damage due to excessive fixing torque is not covered by warranty.**

③ Plug the 5-pin connector of the display to the coupling connector of the Controller.

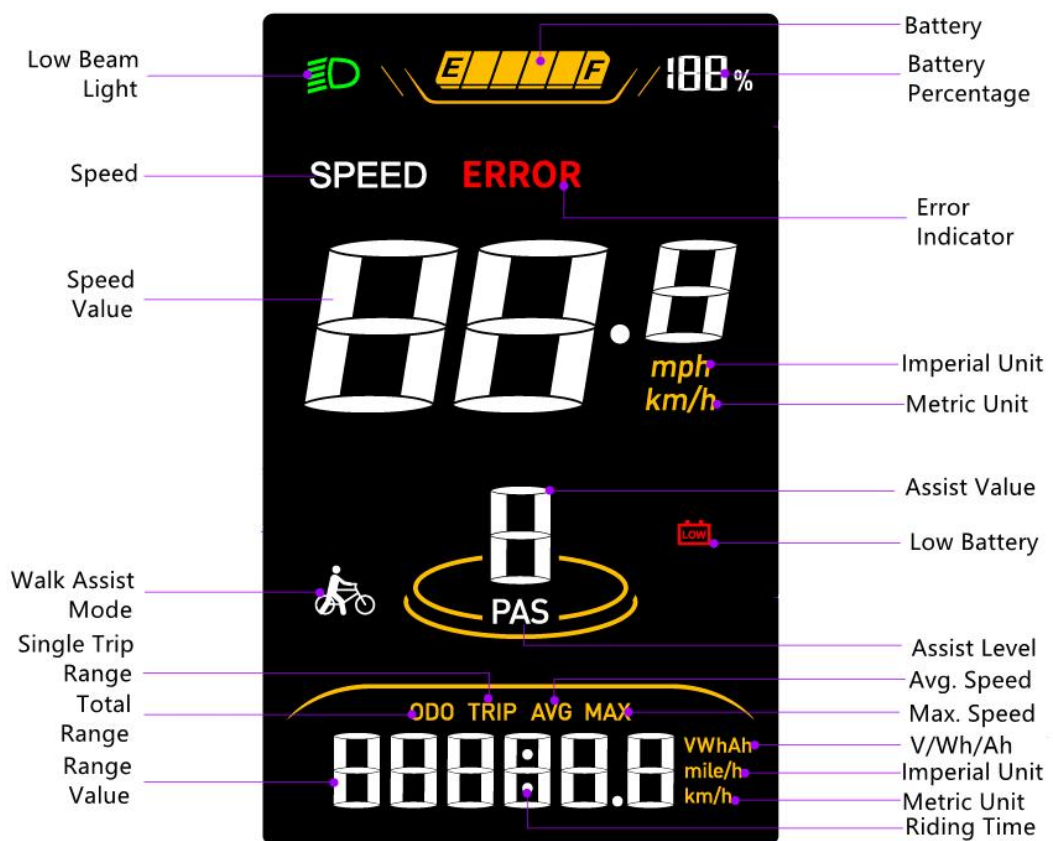


### III. Operation

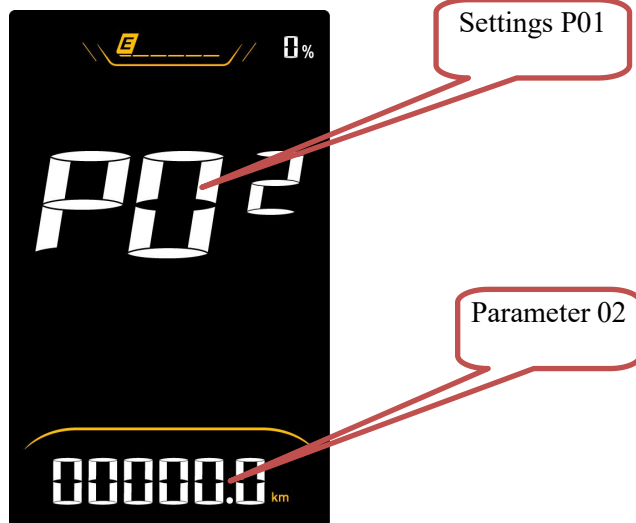
#### 1. Display Interface

##### 1.1 Riding Interface

- Status: Real-time Riding Status: Bluetooth, Front Light, Brake, Low Voltage, Turning, Cruise, Drive Status, etc.
- Battery Status: Residual Battery Percentage
- Multi-Function Section: ODO (total range), TRIP (single ride range), MAX (max. speed), AVG (average speed), TIME (riding time), VOL (battery voltage), Wh (motor power), CUR (current), etc.
- Assist Level Mode: 3/5/9 Levels available.

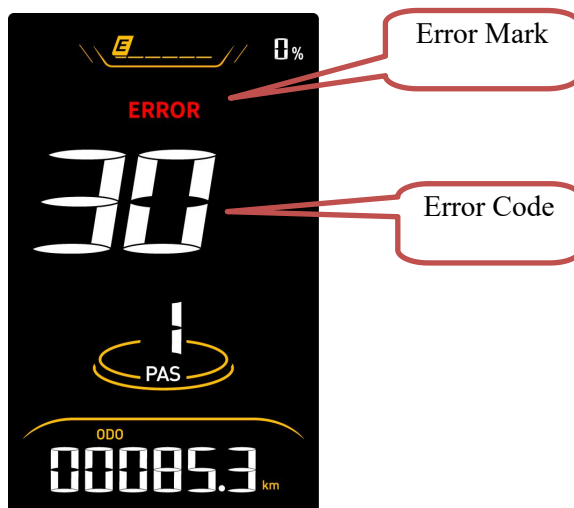


## 1.2 Setting Interface



In the above interface: Setting Item: P01, Parameter Value: 02

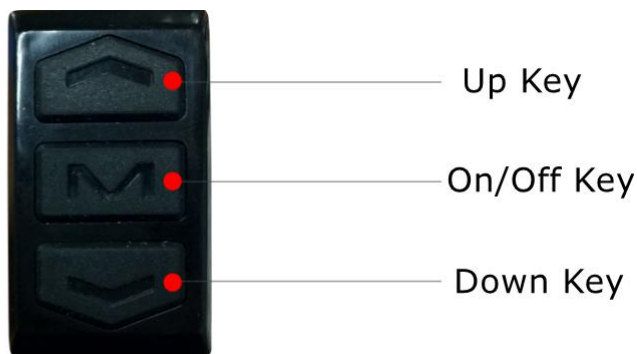
## 1.3 Error Interface



In the above interface: Error Indicator: ERROR, Error Code: 30

## 2. Key Pad

SWK2 Keypad Illustration:



There are 3 keys on the SWK2 keypad, in the following instructions:

Λ is called Plus Key;

M is called On/Off Key;

V is called Minus Key;

### 3. Key Operation

Key operation guide as follows:

**Press and Hold:** means press and hold the key(s) for more than 2s.

**Press:** means press the key(s) for less than 0.5s.

**Double Tap:** means double tap the key(s) within 0.3s

#### 3.1 On/Off

**Turn on the Display:** When the display is off, press and hold the On/Off Key to turn on the display, it will show boot interface and then enter riding interface. (If boot password is activated, enter the boot password at start).

**Turn off the Display:** When the display is on, press and hold the On/Off Key, the display will be turned off. If no operation is engaged for 5min (0km/h), the display will be auto-off. Auto-off time can be set in the Settings.

#### 3.2 Assist Level

Press the Plus Key or Minus Key to switch assist levels. There are 5 levels by default: 0/1/2/3/4/5. 0 means no assist power.



### 3.3 Toggle Displays

When the display is on, press the On/Off Key to toggle among ODO (total range), Trip (single trip range), TIME (riding time) etc.

### 3.4 Light On/Off

**Turn on the Front Light:** when the front light is off, press and hold the Up Key to turn it on, and the light icon will be shown on the riding interface (to remove this functions, please reconfigure the controller).

**Turn off the Front Light:** when the front light is on, press and hold the Up Key to turn it off, and the light icon will be off on the riding interface.

### 3.5 Walk Assist Mode

**Engage Walk Assist Mode:** On the riding interface, press and hold the Minus Key to enter walk assist mode. Hold the Minus Key to engage walk assist mode, the walk mode icon will be shown on the riding interface, the real-time speed will be shown in the speed section.

**Disengage Walk Assist Mode:** release the Minus Key to disengage the walk assist mode, the icon will off on the riding interface.

## 4. Settings

### 4.1 Setting Operations

① **Enter the Settings:** when the display is on, double tap on the On/Off key to enter the Settings. Available setting items include: system voltage, wheel size (inch), speed limit and password, etc (please refer to 4.2 Setting Items P01-P09).

② **Adjust Settings:** on the Settings interface, press the Plus Key or the Minus/Walk Assist Key to set values for items. The value will blink after change. Press the On/Off Key to save the set value and switch to next item.

③ **Save and Exit Settings:** Double tap on the On/Off key to exit the Settings and save the set value. The system will save and exit automatically

if there's no operation for 10s.

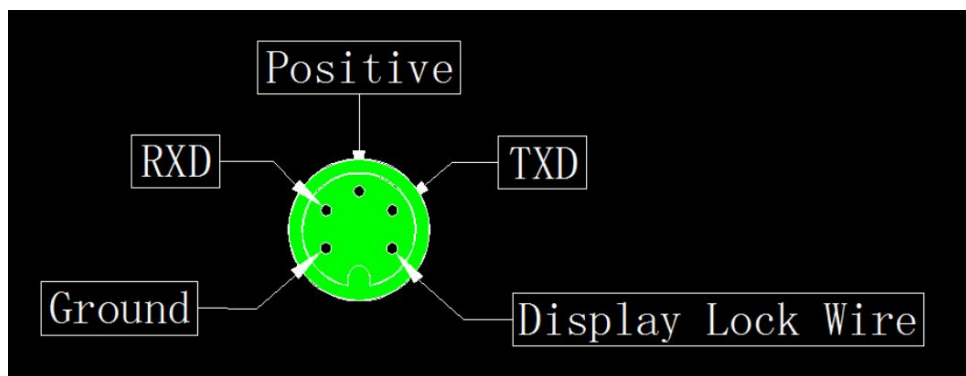
## 4.2 Setting Items

- **P01: Backlight Brightness.** 1: darkest; 5: brightest.
- **P02: System Unit.** 0: km (metric); 1: mile (imperial).
- **P03: Auto-Off Time**  
0: never, other value means auto-off time interval. Range: 0-60, Unit: minute
- **P04: Pedal Assist Level**
  - 0-3 Level Mode; 1-3 Level Mode (no Level0)
  - 0-5 Level Mode; 1-5 Level Mode (no Level0)
  - 0-9 Level Mode; 1-9 Level Mode (no Level0)
- **P05: ODO Clearance.** Press and hold the Up key for 5s and ODO value will be cleared. Press and hold the Down key for 5s for factory reset.
- **P06: Voltage Sampling:** 0: Controller sends volt data,  
1: display sends volt data. When selecting 1, long press the + key to select the 36V/48V/52V voltage level
- **P07: Wheel Size.** Password 1919 is required to unlock this setting.  
Range: 0-50; Unit: inch; Increment: 0.1.
- **P08: Speed Limit.** Range: 0-100km/, communications status (controller -controlled). The max speed will be kept constant at the set value.  
Error Value:  $\pm 1$ km/h (applicable to both the PAS/throttle mode)
- **P09: Boot Password.** 4-Digit. If forget the password, press the Down key 5 times and then press the Up key 1 time at boot to start.  
You may set the password as 0000 to cancel the boot password.

## 5. Error Code

| Error Code (decimal) | Status                                    | Note |
|----------------------|---|------|
| 0x01                 | Normal                                    |      |
| 0x04                 | Throttle Not Return (stall at high-level) |      |
| 0x05                 | Throttle Failure                          |      |
| 0x06                 | Low Voltage Protection                    |      |
| 0x07                 | Over Voltage Protection                   |      |
| 0x08                 | Motor Hall Signal Error                   |      |
| 0x09                 | Motor Phase Error                         |      |
| 0x10                 | Overheat Protection of Controller         |      |
| 0x11                 | Controller Temperature Sensor Error       |      |
| 0x12                 | Current Sensor Error                      |      |
| 0x21                 | Speed Sensor Error                        |      |
| 0x30                 | Communications Error                      |      |

## 6. Connection



## IV. Warranty

### Warranty Exclusions:

- 1. Products that have been opened, modified or repaired without authorization.
- 2. Damage on the connectors.

- 3. Damage to the surface after leaving factory, including shell, screen, buttons, or other appearance parts.
- 4. Damage to wiring and cables after leaving factory, including breaks and exterior scratch.
- 5. Damage or loss due to force majeure (e.g. fire or earthquake) or natural disaster (e.g. lightening).
- 6. Out of the warranty period.

# USERS GUIDE

## SW-M58



**E-Bike Display**

**Model: SW-M58**

**Protocol: Tongsheng UART**

**Version: V6.04**

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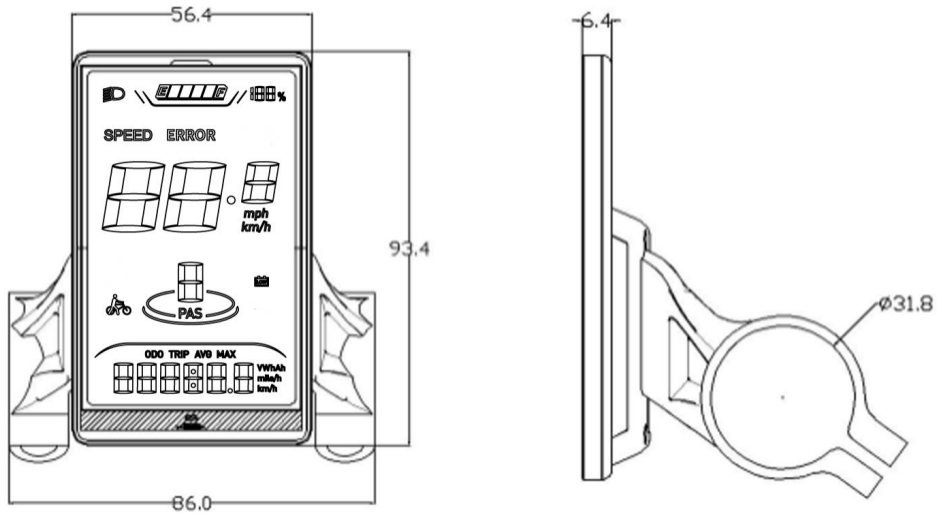
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- Waterproof Rating: IP65

### 4. Function

- Boot password
- Assist Level Control and Display
- Battery indication: battery level percentage, low voltage indication
- Speed display: (in km/h or mph)  
real-time speed (SPEED), max speed (MAX), average speed (AVG)
- Distance: single-trip distance (TRIP), total travel distance (ODO)
- Assist Mode Control and Display (3/5 levels)
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- Front light indication: front light status supported by controller.
- Error code indication
- Riding Info: Front Light Status, and Low Voltage Status.



## 5. Size



## 6. Assembly

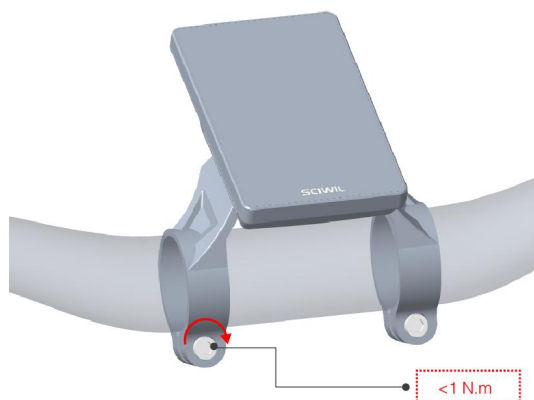
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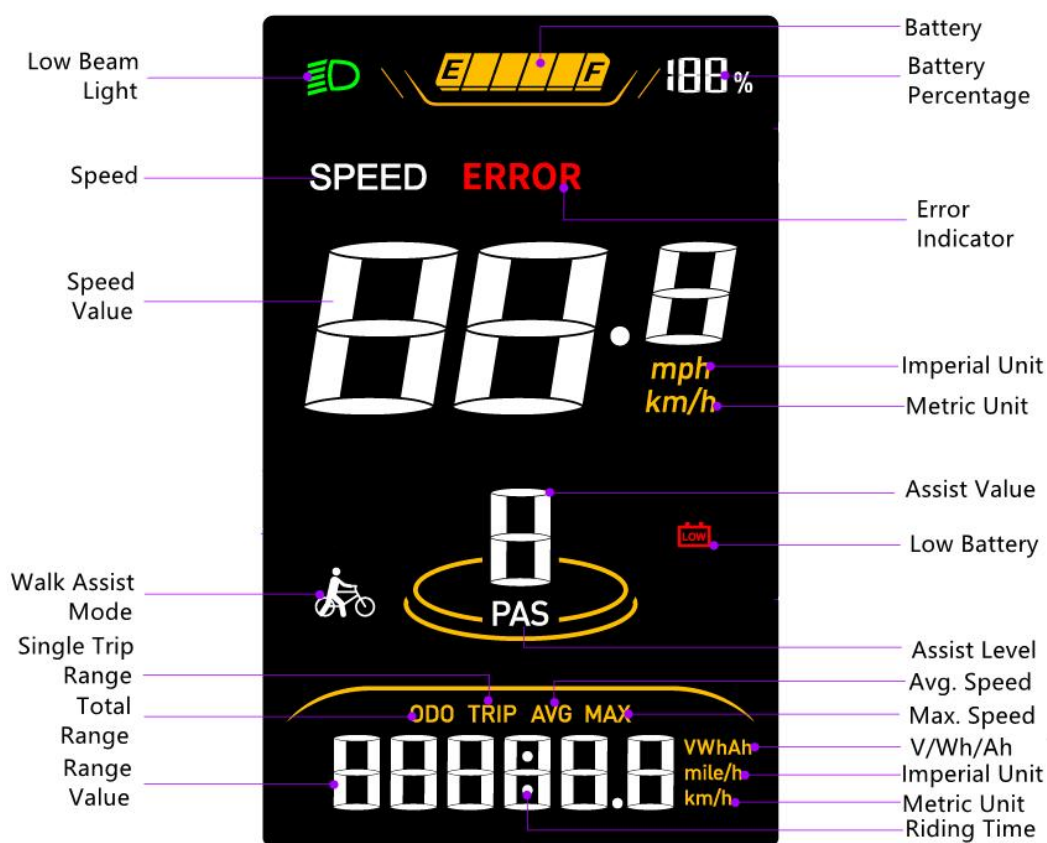


### III. Operation

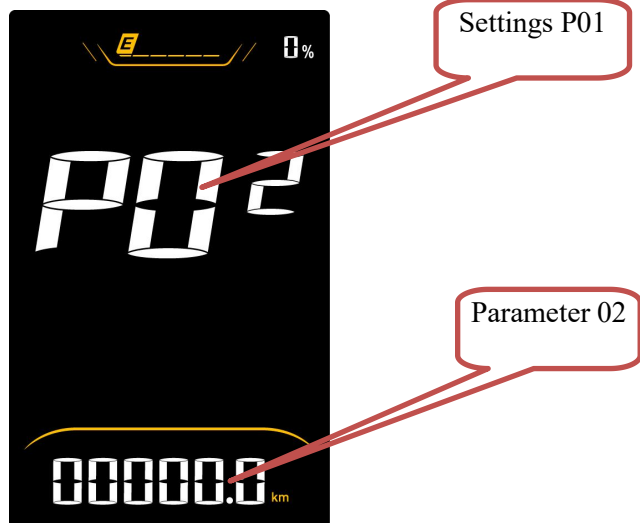
#### 1. Display Interface

##### 1.1 Riding Interface

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- Multi-Function Section: ODO (total range), TRIP (single ride range), MAX (max. speed), AVG (average speed), TIME (riding time), VOL (battery voltage), Wh (motor power), CUR (current), etc.
- Assist Level Mode: 3/5 Levels available.

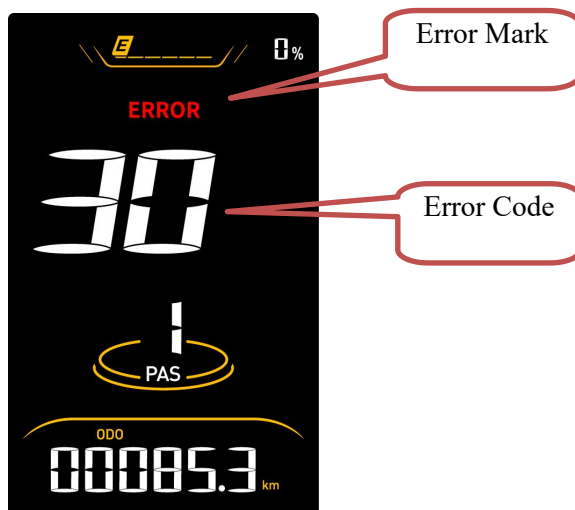


## 1.2 Setting Interface



In the above interface: Setting Item: P01, Parameter Value: 02

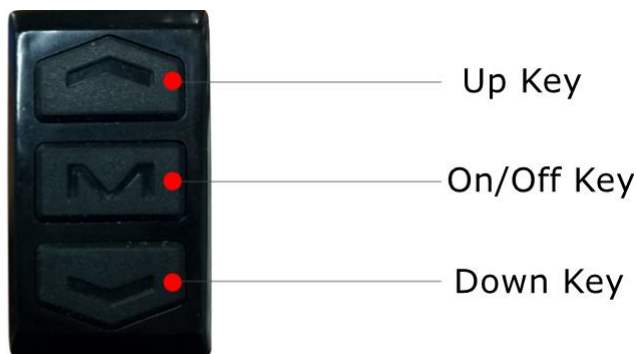
## 1.3 Error Interface



In the above interface: Error Indicator: ERROR, Error Code: 30

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SWK2 Keypad Illustration:



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#### 3.2 Assist Level

Press the Plus Key or Minus Key to switch assist levels. There are 5 levels by default: 0/1/2/3/4/5. 0 means no assist power.

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When the display is on, press the On/Off Key to toggle among ODO (total range), Trip (single trip range), TIME (riding time) etc.

### 3.4 Light On/Off

**Turn on the Front Light:** when the front light is off, press and hold the Up Key to turn it on, and the light icon will be shown on the riding interface (to remove this functions, please reconfigure the controller).

**Turn off the Front Light:** when the front light is on, press and hold the Up Key to turn it off, and the light icon will be off on the riding interface.

### 3.5 Walk Assist Mode

**Engage Walk Assist Mode:** On the riding interface, press and hold the Minus Key to enter walk assist mode. Hold the Minus Key to engage walk assist mode, the walk mode icon will be shown on the riding interface, the real-time speed will be shown in the speed section.

**Disengage Walk Assist Mode:** release the Minus Key to disengage the walk assist mode, the icon will off on the riding interface.

## 4. Settings

### 4.1 Setting Operations

① **Enter the Settings:** when the display is on, double tap on the On/Off key to enter the Settings. Available setting items include: system voltage, wheel size (inch), speed limit and password, etc (please refer to 4.2 Setting Items P01-P09).

② **Adjust Settings:** on the Settings interface, press the Plus Key or the Minus/Walk Assist Key to set values for items. The value will blink after change. Press the On/Off Key to save the set value and switch to next item.

③ **Save and Exit Settings:** Double tap on the On/Off key to exit the Settings and save the set value. The system will save and exit automatically

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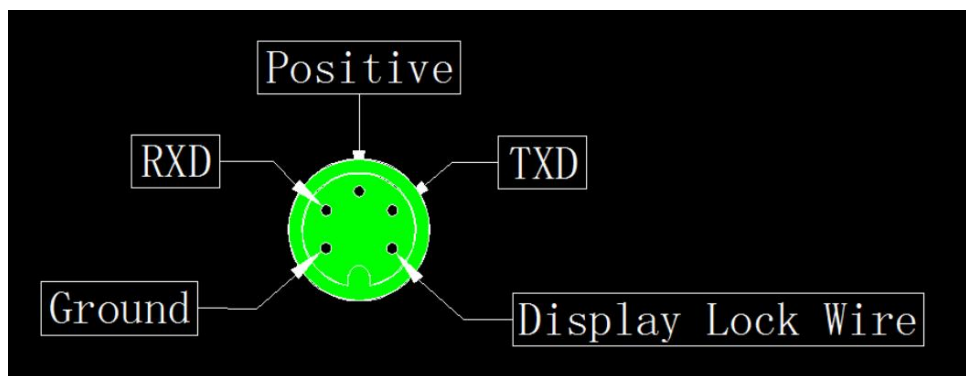
## 4.2 Setting Items

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- **P03: Auto-Off Time**  
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- **P04: Pedal Assist Level**
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  - 0-5 Level Mode; 1-5 Level Mode (no Level0)
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- **P07: Wheel Size.** Password 1919 is required to unlock this setting.  
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Error Value:  $\pm 1$ km/h (applicable to both the PAS/throttle mode)
- **P09: Boot Password.** 4-Digit. If forget the password, press the Down key 5 times and then press the Up key 1 time at boot to start.  
  
You may set the password as 0000 to cancel the boot password.

## 5. Error Code

| Error Code (decimal) | Status                    | Note |
|----------------------|---------------------------|------|
| 0                    | Normal                    |      |
| 1                    | Temperature protection    |      |
| 2                    | TShort circuit protection |      |
| 4                    | Turnaround malfunction    |      |
| 5                    | Motor phase loss          |      |
| 6                    | Torque fault              |      |
| 7                    | Blockage fault            |      |
| 8                    | Undervoltage              |      |
| 9                    | Overvoltage               |      |
| 10                   | Hall fault                |      |
| 30                   | Communication malfunction |      |
|                      |                           |      |

## 6. Connection



## IV. Warranty

### Warranty Exclusions:

- 1. Products that have been opened, modified or repaired without authorization.
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