

Product Technical Sheet

SW-M808X



Two-Wheeler Display

Model: SW-M808X

Version: V1.01

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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: Electric Vehicle Display

Product Model: SW-M808X

2. Product Introduction

SW-M808X features high-brightness color LCD and minimalist interface, working as an ideal HMI solution for electric vehicles.

3. Specifications

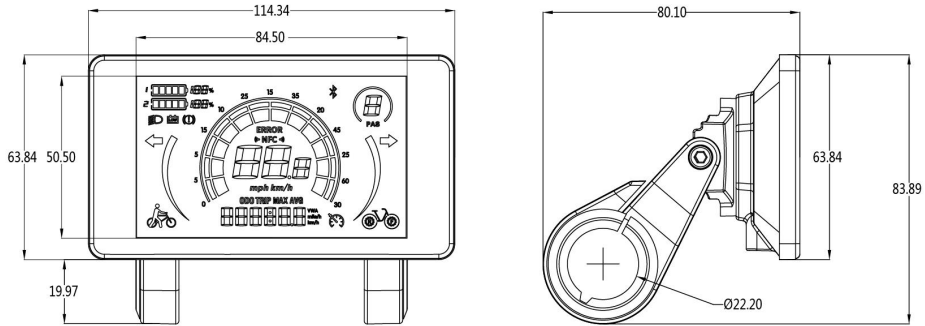
Category		Specs
Size	L*W*H (mm)	114.3x63.8x80.1
	Visual Area (mm)	86.70x52.44
	Screen Size	4.0"
	Handlebar Size (mm)	22.2/25.4/31.8/Custom
Screen	Type	LCD-VA
	Brightness	1000cd/m
	Resolution Ratio	N/A
	Viewing Direction	All O'clock
Connector	Type	Outlet Cable w/ Connector
	Specs	6-pin/9-pin/Custom
Performance	Working Voltage	12V-72V
	Working Current	60mA
	USB Charge	5V 0.6A
	Working Temperature	-20°C - 70°C
	Protection Rate	IP66
	Vibration	10G@30Hz
	Protocol	CAN/UART

4. Function

Category	Function
User Identification	Unlock by NFC
	Unlock by Bluetooth
	Unlock by Password
Display	Gear Level
	Speed
	Range/Distance
	Battery Info
	Mode
	Charge Status
	Dual Drive / Single Drive Status
	Output Power
Indication	Temperature of Component (Motor/Controller...)
	High Beam Light/ Low Beam Light
	Left Turn / Right Turn
	Side Positioning Light
	Error Alert
	Cruise
Control	Connection (USB/Bluetooth/NFC...)
	Auto Daylight Mode/ Dark Mode
Settings	Brightness
	System Unit
	Trip Clearance
	Gear Level
	Mode
Advanced	Sensitivity of Light Sensor
	Smart App
	OTA
	Boot Logo/Animation

	Customised UI
	Customised Protocol

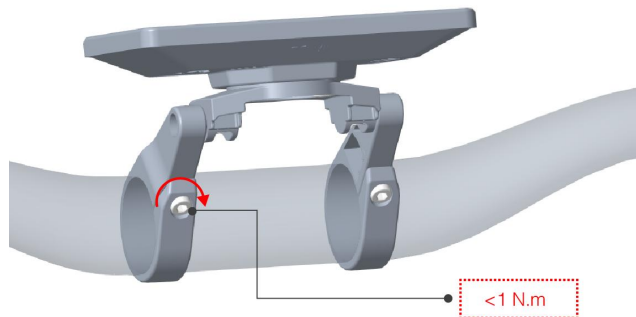
5. Size



6. Assembly (Nylon Holder)

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.

7. Serial Code

Example:



Marked at the
back of display

111: Customer Code

22: Protocol Code

333333: P.O. Date (YYMMDD)

555: Order Receiving Number

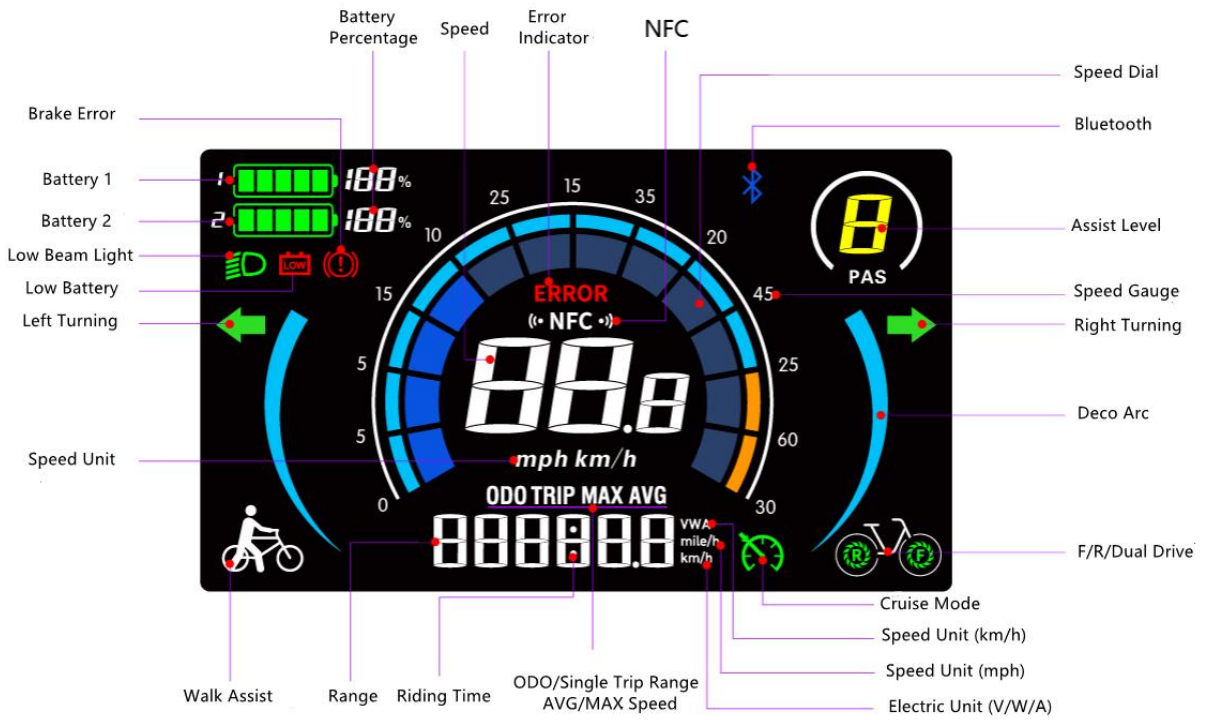
6666: Production Date (YYMM)

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.

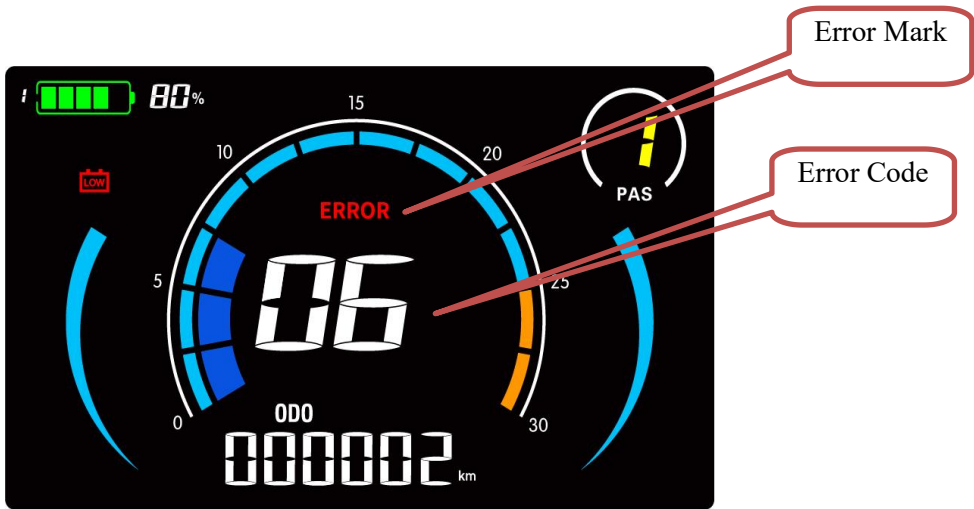


1.2 Setting Interface



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

1.3 Error Interface



In the above interface: Error Indicator: ERROR, Error Code: 06

2. Key Pad (Sciwil SWK2)

SWK2 Keypad Illustration:



There are 5 keys on the SWK2 keypad, in the following instructions:

+ is called Plus Key;

⏻ is called On/Off Key;

- is called Minus/Walk Assist Key;

💡 is called Light Key;

i is called Info 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 10min (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/Walk Assist 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 Info 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 the Light 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 the Light 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/Walk Assist Key to enter walk assist mode. Hold the Minus/Walk Assist 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/Walk Assist Key to disengage the walk assist mode, the icon will off on the riding interface.

3.6 Dual Drive Control (enabled by controller protocol)

On the riding interface, press and hold the Plus Key to switch the drive mode, which will be toggled in turn as Rear Drive -> Front Drive -> Dual Drive, and the corresponding wheel of the icon on the down right corner will blink (e.g. the rear wheel of the icon will blink in Rear Drive mode).

4. Settings (Sciwil Default)

4.1 Setting Operations

① **Enter the Settings:** when the display is on, press and hold the Plus Key and the Minus/Walk Assist Key together to enter the Settings. Available setting items include: system voltage, wheel size (inch), magnetic steel number for speed gauge, speed limit etc (please refer to 4.2 Setting Items).

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:** press and hold again the Plus Key and the Minus/Walk Assist Key together 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

- **P00: Factory Reset:** optional.
- **P01: Backlight Brightness.** 1: darkest; 3: brightest.
- **P02: System Unit.** 0: km (metric); 1: mile (imperial).
- **P03: System Voltage:** 24V/36V/48V/60V/72V.

■ **P04: Auto-Off Time**

0: never, other value means auto-off time interval. Unit: minute

■ **P05: 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)

■ **P06: Wheel Size.** Unit: inch; Increment: 0.1.

■ **P07: Motor Magnets Number for Speed Gauge.** Range: 1-100

P08: Speed Limit. Range: 0-100km/, communications status (controller-controlled). The max speed will be kept constant at the set value.

Error Value: ± 1 km/h (applicable to both the PAS/throttle mode)

Note: The above-mentioned values are measured by metric unit (km/h). When the system unit is set to imperial unit (mph), the speed displayed will be automatically switched to corresponding value in imperial unit, however the speed limit value in the imperial unit interface won't change accordingly.

■ **P09: Direct Start / Kick-to-Start**

- 0: Direct Start (Throttle-on-demand);
- 1: Kick-to-Start

■ **P10: Drive Mode Setting**

- 0: Pedal Assist – The pedal assist level decides the motor power output. In this status the throttle does not work.
- 1: Electric Drive – The e-bike is only controlled by the throttle. In this status the pedal assist does not work.
- 2: Pedal Assist + Electric Drive (electric drive does not work in direct-start status)

■ **P11: Pedal Assist Sensitivity.** Range: 1-24.

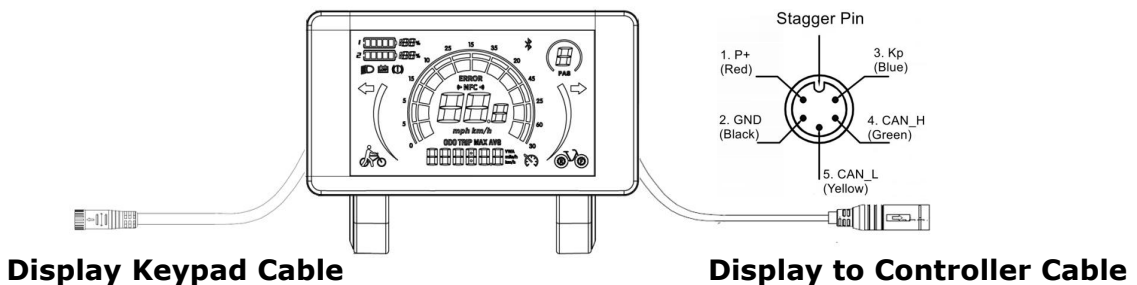
■ **P12: Pedal Assist Starting Intensity.** Range: 0-5.

- **P13: Magnets Number in Pedal Assist Sensor.** 3 Types: 5/8/12pcs.
- **P14: Current Limit Value.** By default: 12A. Range: 1-20A.
- **P15: Display Low Voltage Value.**
- **P16: ODO Clearance.** Press and hold the Plus key for 5s and ODO value will be cleared.
- **P17: Cruise.** 0: cruise function deactivated, 1: cruise function activated.
- **P18: Throttle Level Control.** 0: throttle speed isn't divided into different levels, 1: throttle speed is leveled as pedal assist levels.
- **P19: Auto-Light.** 0: auto-light deactivated, 1: auto-light activated.
- **P20: Sensitivity of Light Sensor.** Range: 20-100
- **P21: Boot Password.** 4-Digit.
- **P22: Password for Advanced Settings.** 4-Digit.

5. Error Code

Error Code (decimal)	Status	Ref. Solutions
E2	Throttle Error	Check Throttle
E3	Communications Error	Check Controller-
E4	Hardware Over-Current	Check Controller and
E5	Low Battery	Check Battery
E6	Over-Voltage	Check Battery
E7	Motor Sensor Error	Check Motor

6. Connection



Pin No.	Wire Color	Functions
1	Red (VCC)	Display Power Wire
2	Blue (K)	Electric Lock Wire
3	Black (GND)	Display Ground Wire
4	Green (RX)	Display Data Receiving Wire
5	Yellow (TX)	Display Data Sending Wire

IV. Reliability Test

No.	Test Item	Standard	Equipment	Result
1	Waterproof Test	Product should comply with IPX6: protected against high pressure stream from any angle	High Pressure Water Blast Gun	Pass
2	Vibration Test	Fix the product on the rack on the test stand. The product should be able to withstand sweep-frequency vibration tests in the X, Y, and Z directions. Vibration frequency range: 20~30 Hz, Amplitude: 1.5 mm Test duration: 48 minutes per cycle.	Vibration Test Stand	Pass
3	High Temperature Test	Power on the product and test in high temperature chamber Test temperature: 85°C	High and Low Temperature	Pass

		Test Duration: 3hrs	Test Chamber	
4	Low Temperature Test	Power on the product and test in high temperature chamber Test temperature: -30°C Test Duration: 6hrs	High and Low Temperature Test Chamber	Pass
5	Salt Spray Test	Power on the product and test in salt spray chamber Test temperature: 35°C+2°C Test Duration: 72hrs or as per customer requirements Concentration of sodium chloride solution: 5% ± 1%. PH of the solution: 6.5~7.2.	Salt Spray Test Chamber	Pass
6	Drop Test	Drop the product in X/Y/Z direction from a height of 1m. After each test turn on the display to confirm normal function.		Pass
7	Function Test	All the indicators on the test box signs correctly. Function of keys comply with drawing and customer requirement. No visual variation of brightness or missing patterns.	System Test Box	Pass

8	Burn-in Test	Test Voltage: 90V Power-on Duration: 60s Power-off Break: 5s Test Duration: 48h	Burn-in Rack	Pass
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V. Warranty

In compliance with local laws, Sciwil provides limited warranty period covering **24 months** after the date of manufacturing (as indicated by the serial number), applies to quality issues during normal operations.

The limited warranty shall not be transferred to a third party other than as specified in the agreement with Sciwil.

Warranty Exclusions:

- Sciwil products that have been opened, modified or repaired without authorization.
- Damage on the connectors.
- Damage to the surface after leaving factory, including shell, screen, buttons, or other appearance parts.
- Damage to wiring and cables after leaving factory, including breaks and exterior scratch.
- Damage or loss due to force majeure (e.g. fire or earthquake) or natural disaster (e.g. lightning).
- Out of the warranty period.

VI. Version

This display user manual is in compliance with the general software version (A/0) of Changzhou Sciwil E-Mobility Technology Co., Ltd. There are chances that display products on some e-bikes may have a different software version, which is subject to the actual version in use.