



Ride1UP Intelligent OLED Display SW102 User Manual

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SW102 Display technical specifications
Product Name: Intelligent OLED display
Part Number: SW102

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Product introduce

Product name and model

Intelligent OLED display, model SW102

Product Introduction

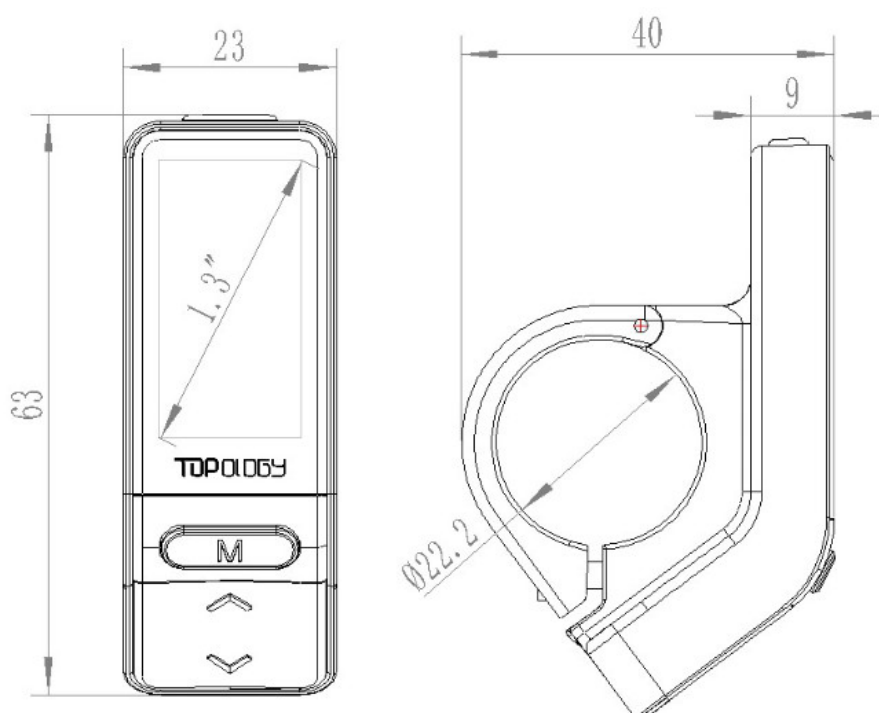
- Minimalist design, process without
- Super contrast 1.3 -inch monochromatic OLED screen
- Excellent outdoor design with
- Micro USB serial communication
- Bluetooth function is optional, without screw assembly inch monochromatic OLED screen with IP65 waterproof serial communication port, convenient for maintenance services Bluetooth function is optional, which adapt for mobile phone APP maintenance services

Range of application

Suitable for electric power-assist bicycle in accordance with the standard of EN15194

Appearance and size

The material of the product shell is ABS + PC And the material of the window is 2.5D tempered glass 2.5D tempered glass.



Display coding rules



As shown in the above picture, C1 is the manufacture factory code
1701 is the manufacture year, and week number
A means the hardware version
001 is the firmware version number
0001 is the product serial number

Product manual

Specifications

1. Power supply DC 24V/36V/48V
2. Rated current 12mA
3. Shutdown leakage current <1uA
4. Screen specification 1.3" OLED 64*128 dots)
5. communication method UART default
6. Operating temperature -20°C ~ 60
7. Storage temperature -30°C ~ 80° C
8. Waterproof level IP65

Functional overview

1. Four buttons, easy to operate
2. Use password to turn on
3. Km / miles
4. Speed display: Real-time speed time speed SPEED maximum speed MAX average speed AVG
5. Five stalls of power assist control control 0-4level (OFF-ECO-TOUR-SPORT-TURBO TURBO
6. Six levels of electricity instructions 1-5level power and under-voltage prompt, and provide and under-voltage prompts, and provide
7. Headlight indicator: Headlight on/off status indication (need information from the controller)
8. Mileage display: Subtotal mileage: Subtotal mileage (TRIP), total mileage (ODO)
9. Riding time TRIP TIME display
10. UART communication port Micro USB convenient for system maintenance and parameter setting
11. 6km/h walk assist function
12. Error code indication

Installation

1. Open the display lock clip, set the display in the left handlebar (standard handlebarsize:Φ22.2). Adjust to a position easy to operate tighten and fix the screw by M3 hexagon torque: 0.8N.m.*Note: Damage caused by excessive torque is not covered by the warranty
2. a display connected with the controller by 5 pin connector as required drawings.

Interface

Boot interface Can be custom customized as required



1. Boot interface, 2seconds show when turning on the display

Basic interface

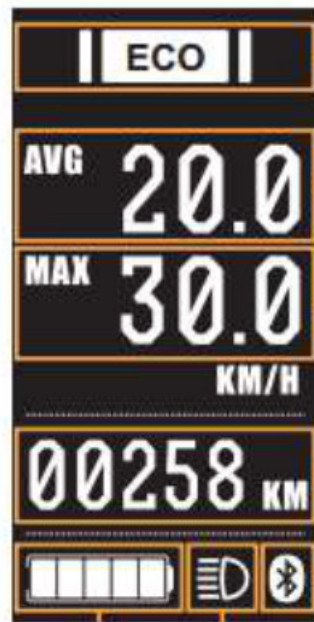


1. power assist level and walk mode: 0-4 files assist level, power from low to high are: OFF, ECO, TOUR, SPORT. TURBO, and WALK mode.:
2. current speed and unit show the current riding speed.
3. Subtotal mileage and unit: accurate to one after the decimal point, maximum is 999.9:
4. power indicator show 1-5 level power and under voltage. Then icon blinks when under voltage.
5. Headlight show when the headlight is on.

Function interface I

1. riding time shows ride duration. The rest information is the same as the basic interface.

Function interface II



1. average speed AVG show the average speed of the riding
 2. maximum speed MAX show the maximum speed of the riding
 3. total mileage ODO shows the mileage of the whole riding, maximum is 9999km.
- The rest information is the same as the basic interface.

Setting interface



1. setting interface prompt current interface is for setting
2. exit item and select bar: select short press the function to exit the setting interface to return to the basic

interface; [] select menu:



3. Unit Settings: unit settings of speed and mileage
4. wheel diameter information: wheel diameter information adapt for the display
5. This password setting: users can change the password or shut down (turn off the defaulted password function)
6. Automatic shutdown, after 5 minutes(the default) no operation on the display, it will shut down automatically.
7. speed limitation information: The allowed maximum speed information of the bike
8. battery information: The information about the battery
9. hardware information: The information about the hardware
10. reset: Reset to factory settings

Definition of buttons



Turn on/off  Function button **M** Adjust button+  Adjust button : 

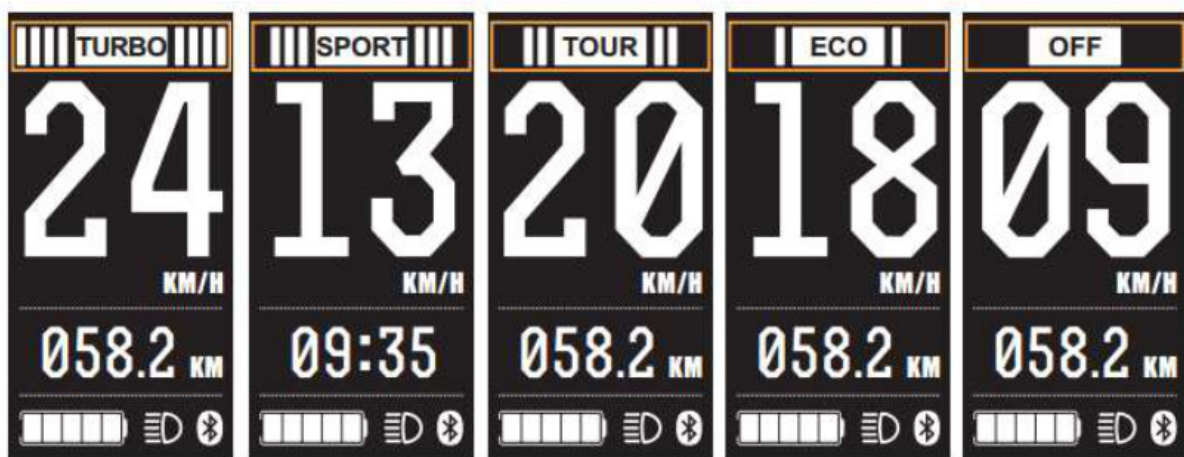
Operation

Turn on/off

Maintain the normal connection between the display and the controller. Long press (2 seconds)  button when is display is off. The display shows the boot interface and enters the basic interface to start work. Long press (2 seconds) the  button when the display is on. Display closed. If no operation to the display and the speed is 0 for 5 minutes, the display will turn off automatically.

Assist mode select

Press  or  select the assist mode and change the assist power mode. There are 5 modes: OFF/ECO/TOUR/SPORT/TURBO. Default ECO mode when display turned on. OFF means no assist power. (assist mode select as below picture)



TURBO Mode

SPORT Mode

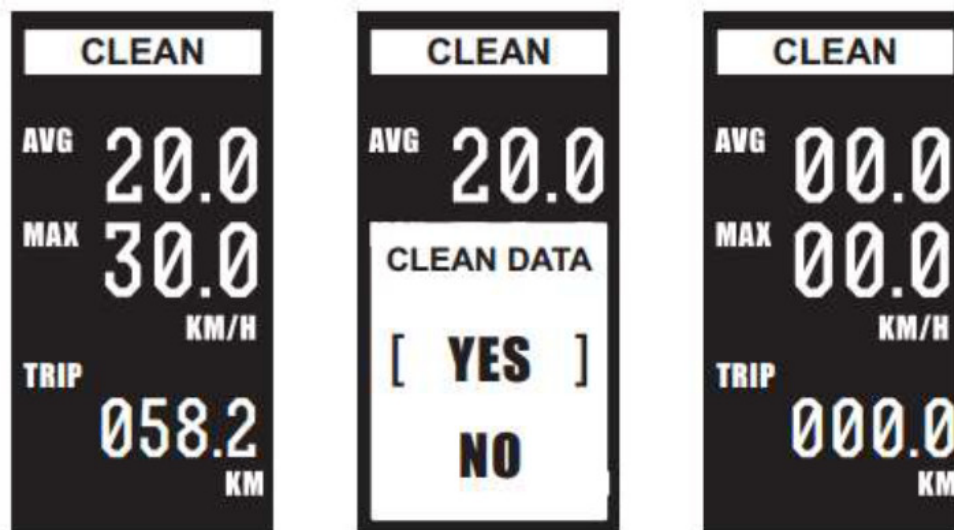
TOUR Mode

ECO Mode




OFF Mode

Display information switch

Information switches from trip miles, riding time, average speed, max speed, total mileage by short press **M** when the display is on. It shows loop from trip miles (TRIP) -> riding time (TRIP TIME) -> average speed (AVG), maximum speed (MAX), total mileage (ODO). Mode switch as below pictures:





Walk assist mode

Long press  button for 2 seconds, bike entered walk assist mode. When  is shown, a loose button:  to exit walk assist mode? Walk assist mode switch as below pictures (only in the walk assist status):



Headlight on/off

Long press  button for 1-second the headlight is turned on need support of controller .Headlight the icon shows on the interface. Long press  the button for 1 second again, the headlight is turned off. The icon of the headlight is off.

Power indicator

When the battery works normally, the battery power shows 5 levels according to the battery capacity. When the battery power reaches the under-voltage warning value, only the frame of the battery icon is displayed and flash to remind the user to charge immediately. The battery power is shown below:





Percentage of battery power C and power level table

No.	Percentage on the display (SOC)	Level on the display	Voltage (24V)	Voltage (36V)	Voltage (48V)
1	$C \leq 5\%$	outer border flashes	$U \leq 23.1$	$U \leq 33$	$U \leq 42.9$
2	$5\% < C < 15\%$	1 level power	$23.1 < U < 24.5$	$33 < U < 34.7$	$42.9 < U < 45.1$
3	$15\% \leq C < 35\%$	2 level power	$24.5 \leq U < 25.1$	$34.7 \leq U < 35.8$	$45.1 \leq U < 46.5$
4	$35\% \leq C < 55\%$	3 level power	$25.1 \leq U < 25.6$	$35.8 \leq U < 36.7$	$46.5 \leq U < 47.5$
5	$55\% \leq C < 75\%$	4 level power	$25.6 \leq U < 27$	$36.7 \leq U < 38.5$	$47.5 \leq U < 50.1$
6	$C \geq 75\%$	5 level power	$U \geq 27$	$U \geq 38.5$	$U \geq 50.1$



User settings

Setting items: unit, turn on password, *wheel diameter, *speed limitation information, *battery information, time period of automatically shut down, *system information, reset to factory setting. (* means fixed items, do not provide user settings options)

Enter setting status

- 10 seconds within display turned on, long press **M** (3seconds) , system enter the data setting interface. On this status, users can set and view the parameters of the display.
- Long press **M** (3 seconds) to exit and save the setting status. Select [Exit] on the setting interface, short press **M** to exit, and save the setting status.
- User settings interface state, if 10 seconds without the operation, the display returns to normal riding state, do not save the parameter settings.
- On data setting state, short press   to switch setting items
- Short press **M** to switch setting items circularly.

Unit setting

Presse   to select a setting item in unit setting interface. Press (short) **M** in exit file to return setting interface. Short press **M** in KM/Mile file to switch KM, Mile unit. Km: The unit of trip mileage and total mileage is Km. The unit of current speed, average speed; maximum speed is KM/H. Mile: The unit of trip mileage and total mileage is Mile. The unit of current speed, average speed, and maximum speed is MPH.



On/off password setting

Enter on/off password setting, press \wedge /: \vee to select setting item. Switch to Switch to OFF/ON item, short press **M** to select OFF/ON, to turn on or turn off the password on/off function; Choose ON to turn on the on/off password function and set the password; a short press **M** to switch password bit from left to right, short press left to right, short press \wedge /: \vee to adjust the code value. Choose Exit (after save) to return the previous level after setting. Interface show as below



Boot again, you need to use a new password to boot, or the display will automatically shut down after 25s.

Wheel diameter information

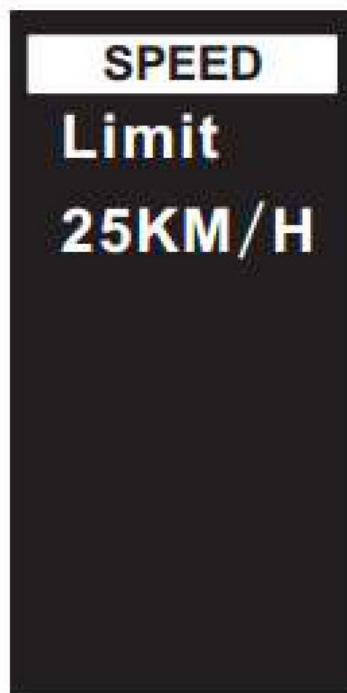
In-wheel information interface, 26 inches means the current display is set for the bike of 26inch wheel diameter. Return to the setting interface by the short press.

Wheel diameter value can be set: 16inch, 18inch, 20inch. 22inch, 24inch, 26inch. 700C, 28inch. 29inch
The interface is shown as below:



Speed limitation information

Speed limitation information indicates the maximum speed allowed in the current system (only show the changes through the serial port) Default allowed maximum speed: 25KM/H Interface shown as below:

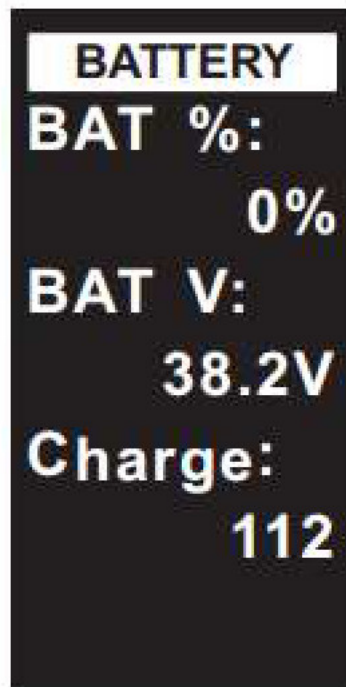


Battery information



Return selling interface in battery information interface by short press.

BAT %: battery power:

BAT V: battery voltage: Charge: numbers of charge cycles. the interface is shown as below:



Automatic shutdown time

Press / to choose automatic shutdown time (default 5 minutes) in auto-off the interface. Press **M** to save and return the setting interface.

The interface is shown as below:



System information

Press **M** to return to the setting interface in the system information interface.

S/N device ID



FW Ver Firmware version number

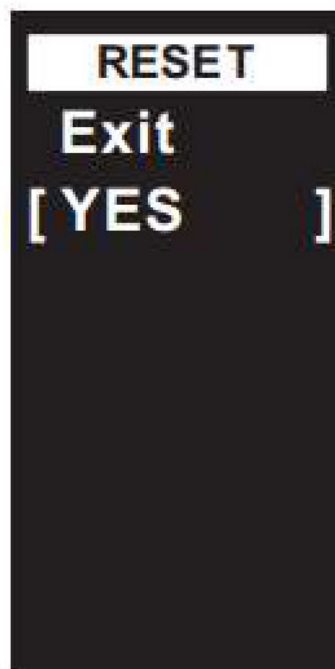
HW Ver Hardware version number

The interface is shown as below





Reset

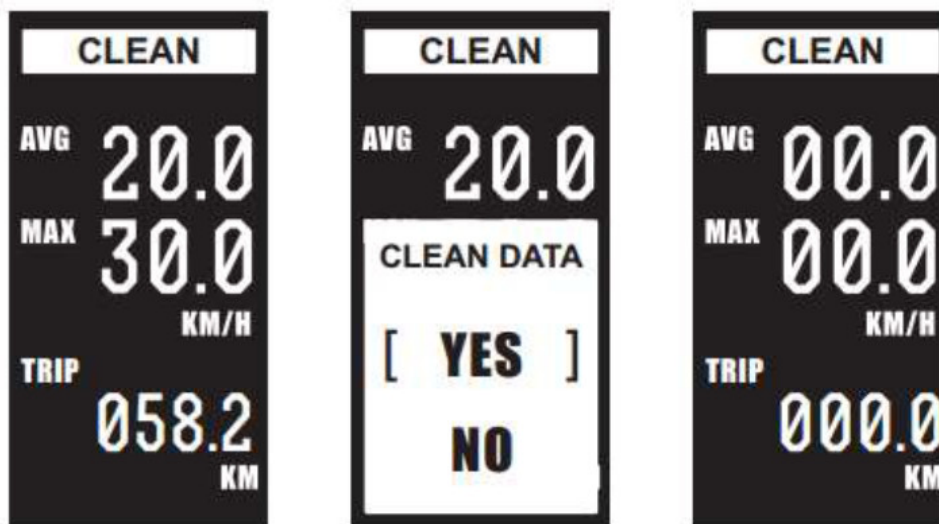
Reset, press / to choose a setting, switch to YES item, short press **M** to restart the display. The parameter reset to the factory state. Press Exit to exit the page and return to the previous level. The interface is shown as below:



Data clearance

10 seconds after the display is turned on, long press **M** (3 seconds). enter the data clearance interface. short pass **M** pop up the confirmation window, press / to choose an item, short press **M** again to clearance trip mileage(TRIP). riding time(TRIP TIME), average speed(AVG) and maximum speed(MAX), and return to operation interface. The display will return to the riding interface without data clearance if no operation in 5 seconds.

Normal shutdown and power over-down will not make the above data clear.



Error information

The display can alert the bike failure, code. failure, if failure is detected, the display interface is shown as below:



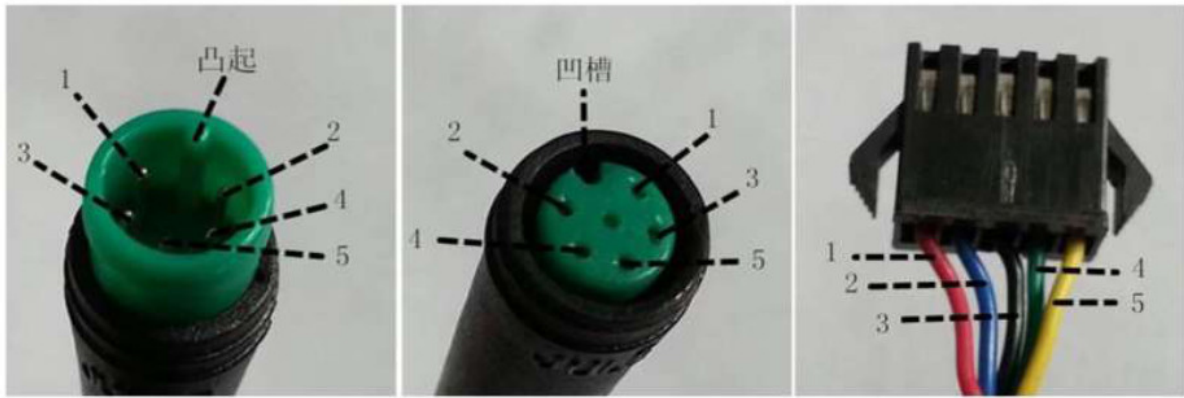
Error code definition

Error code table:

Error code	Fault description	Checking method
04 shown at speed	throttle doesn't turn back to zero position	Check if the throttle return to zero position
05 shown at speed	throttle doesn't turn back to zero position throttle failure	check throttle

07 shown at speed	overvoltage protection	check the voltage of the battery
08 shown at speed	failure of motor's hall signal wire	check the motor
09 shown at speed	failure of motor's phase wire	check the motor
11 shown at speed	failure of the controller's temperature sensor	check the controller
12 shown at speed	failure of the current sensor	check the controller
13 shown at speed	failure of the temperature of the battery	check the battery
14 shown at speed	failure of the temperature of the motor	check the motor
21 shown at speed	failure of the speed sensor	check the position of the speed sensor
22 shown at speed	failure of the BMS communication	check the battery
30 shown at speed	communication failure	check the connector of the controller

Wire definition



Wires out of the display

wires connect to the display

connector to controller

Table 1 wires definition

No.	Color	Function
1	Red(VCC)	VCC
2	Blue(Kp)	Power control wire of the controller
3	Black (GND)	GND of display
4	Green(RX)	Data receive of the display
5	Yellow(TX)	Data transmit of the display

Note

- In the use of the display, pay attention to the security, do not plug the power is on.
- Try to avoid use exposure in harsh environments like heavy rain, heavy snow, and strong sunlight.
- When the display can't be used normally it should be sent to repair as soon as possible.

Documents / Resources

	Ride1UP Intelligent OLED Display SW102 [pdf] User Manual Ride1UP, Intelligent, OLED Display, SW102
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