



## Varla Scooter M5 LCD Display User Manual

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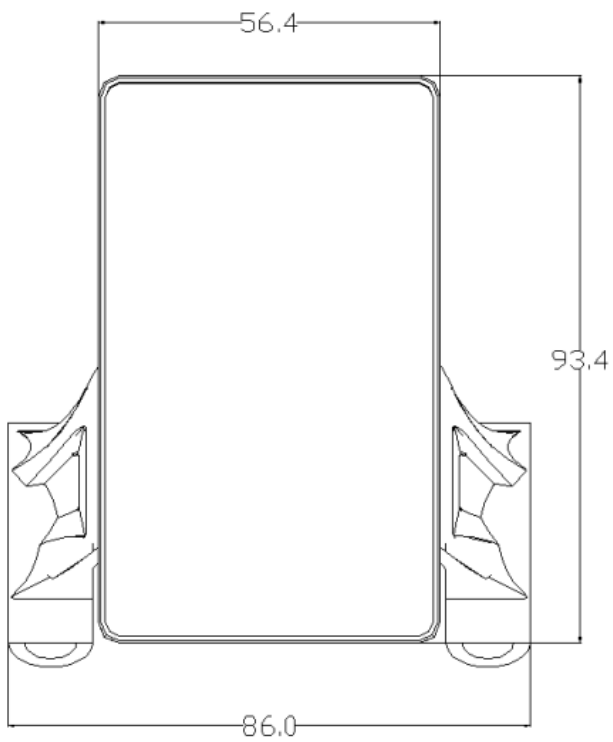
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### Exterior Parameters

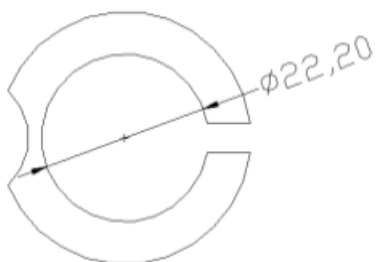
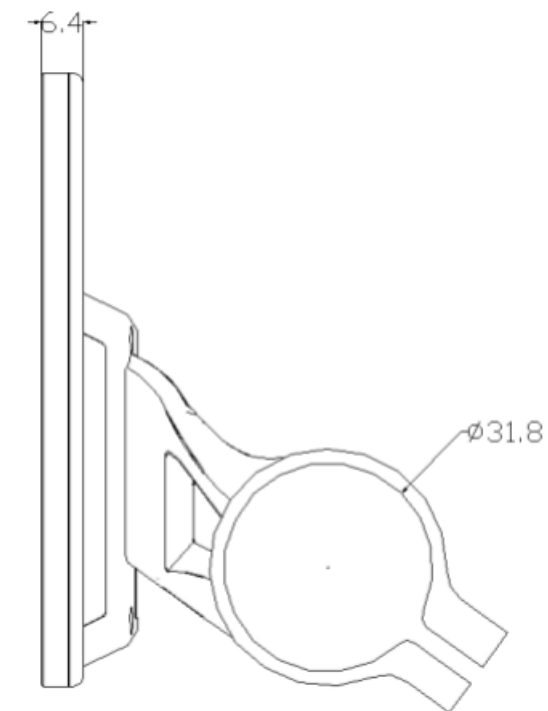
**Casing Material:** ABS

**Display Material:** High Hardness Acrylic (the same hardness value as tempered glass)

**Front View**

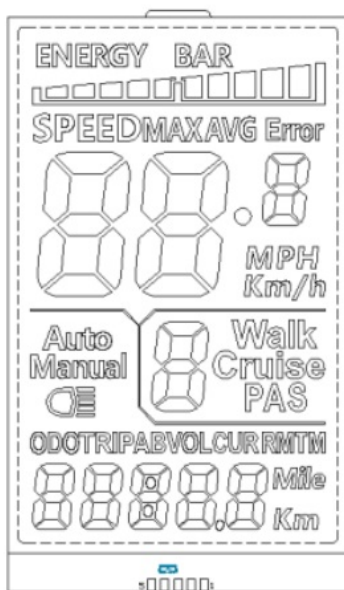


**Side View**



1. 8mm handlebar ring diameter options: 22.2mm / 25.4mm / 28.6mm
2. Operating Voltage and Connections
  - a. Operating Voltage: DC24V / 36V / 48V / 60V / 64V by display setting. Other operating voltage can be customized.
3. Functions
  - a. Display  
Speed Display, PAS Level Display, Battery Level Display, Error Indication, Total Mileage, Single Mileage, Single Running Time Light Signal
  - b. **Control and Settings**  
Power Switch, Front Light Control, 6km/h Inching Control, Wheel Diameter Setting, Top Speed Setting, Auto-Hibernation Interval, Backlight Brightness Setting, Voltage Level Setting
  - c. Communications Protocol: UART Display Readings (display at start for 1 second)

### Display Details



### Light

Turned on manually or environment-sensed (requires light-sensitive support)



### Battery Level

### Multi-Functions Display ODOTRIPABVOLCURRMTM

Total Mileage: ODO Single Mileage: TRIP A Single Mileage: TRIP B Current Voltage VOL Operating Current: CUR Display Booting Time: TM



## Riding Mode

Walk: Walking Boost Cruise: Constant Speed Cruise PAS: Power Assist Level (0-9 Adjustable)

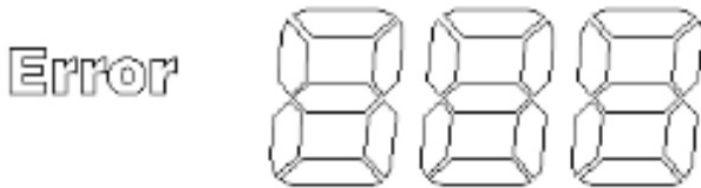


## Speed Display

Maximum Speed: MAX Average Speed: AVG Measuring Unit: MPH or KM/H The display will calculate the actual travelling speed based on the wheel diameter and signal data.

## Vehicle Status

Error Code and Indications



Error Code (decimal)	Indications	Note
0	Normal	
1	Reserved	
2	Brake	
3	PAS Sensor Failure (riding mark)	Not Realized
4	6km/h Cruise	
5	Real-Time Cruise	
6	Low Battery	
7	Motor Failure	
8	Throttle Failure	
9	Controller Failure	
10	Communications Receiving Failure	
11	Communications Sending Failure	
12	BMS Communications Failure	
13	Light Failure	

## Settings

**P01:** Backlight Brightness (1: darkest; 3: brightest)

**P02:** Mileage Unit (0: KM; 1: MILE)

**P03:** Voltage Class: 24V / 36V (default) / 48V

**P04:** Hibernation Time (0: never, other figures refer to the hibernation time) Unit: minute

**P05:** PAS Level – 0/3 Gear Mode 1/5 Gear Mode

**P06:** Wheel Diameter Unit: inch Precision: 0.1

To get accurate speed display, this parameter should be correct. P07: Magnet Steel Number for Speed Test  
Range: 1-100

To get accurate speed display, this parameter should be correct. Gearless Motor: the value is the magnet steel number. Geared Motor: the reduction-gear ratio is required. The value = magnet steel number\*reduction-gear ratio.

For example, magnet steel number is 20, reduction-gear ratio is 4.3. The value input is:  
 $86=20 \times 4.3$

**P08: Speed Limit**

**Range:** 0-100km/h, parameter 100 indicates no speed limit. This parameter limits the max. speed of the vehicle. For example, input value 25 means the max. speed is 25km/h, the vehicle travelling speed can only reach the preset value.

**Deviation:**  $\pm 1$ km/h (applies to both PAS and throttle mode).

**Note:** The above-mentioned values are measured by metric unit (kilometers). When the measuring unit is switched to imperial unit (mile), the speed value displayed on the panel will be automatically switched to corresponding imperial unit, however the speed limit value in the imperial unit interface won't change accordingly.

**IMPORTANT: P09-P15 only works under communications mode.**

**P09: Zero / Non-zero Start Setting:**

**0:** Zero Start **1:** Non-zero Start

**P10: Drive Mode Setting**

**Power Drive** – The specific gear of the assist drive decides the assist power value. In this status the handlebar does not work.

**Electric Drive** – The vehicle is driven by the handlebar. In this status the power gear does not work.

Power Drive + Electric Drive – Electric drive does not work in zero-start status.

**P11: PAS Sensibility Range:** 1-24

**P12: Assist Power Intensity Range:** 0-5

**P13: Power Magnet Steel Number:** 5 / 8 / 12pcs

**P14: Current Limit Value:** 12A by default; Range: 1-20A

**P15: Unspecified**

**P16: ODO Zero-Out:** Long press the upper key for 5 seconds and ODO will zero out.

**P17:0:** Disable cruise, **1:** enable cruise. Auto cruise optional (only for Protocol 2)

**P18:** Display speed ratio adjustment range: 50%~150%,

**P19:** 0 is enabled. 0: with 0 and 1: without 0

**P20:0:** 2 Protocol 1: 5S Protocol 2: Standby 3: standby




## Keys

### Arrangement of keys on the panel

### Introduction of Keys





Key operations involve short press, long press and long press of combination keys. Short press is used for short/frequent operations as:

1. Short press the two keys   to change assist power/speed during riding.
2. Short press this key  to switch the readings in the multi-function display section.  
Long press on a single key is used to switch mode/on/off status.  
Long press on combination keys to set parameters, which can avoid misoperations (short press on combination keys is disabled, for it's easy to induce misoperation and hard to manipulate).

### Detailed Instructions


1. Change Assist Power/ Electric Gear In assist power mode

Short press , assist power +1. Short press , assist power -1.

2. Enable / Disable 6km/h cruise, set real-time cruise and turn on/off the lights

When the vehicle is parked, long press  to enter 6km/h cruise mode. When the

vehicle is travelling, long press  to enter real-time cruise mode.

Long press  to exit the cruise mode when the vehicle is in cruise mode.



Long press  to turn on/off the lights

3. Turn on/off the LCD Panel

When the display panel is operating, long press  and it will be turned off, otherwise it will be turned on



4. Switch Displayed Readings in Multi-Functions Section


5. Set Parameters

Long press  +  to enter the setting interface. Customizable parameters



include: Wheel Diameter (unit: inch); Magnet Steel Number;  
Backlight Brightness; Low Voltage Threshold (refer to setting: P01-P14)



In the setting interface, short press  or  to add/minus value to the parameter, which will blink after modified. After selecting the parameter that needs to be set,

- a. Long press to save the current value, and the parameter will stop blinking;
- b. Short press  to switch to the next parameter and the previously set value will be saved at the same time.



II. Press   to exit the setting and save the parameters. Without this operation, the system will automatically exit and save the modified parameters after 10 seconds.

Documents / Resources

	<p><a href="#">Varla Scooter M5 LCD Display [pdf] User Manual</a> M5, M5 LCD Display, LCD Display, Display</p>
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