

User's manual of Scooter



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1 User's Manual Summary

1.1 About This Manual

Please read this manual and instruction video carefully before riding Surreal Scooter for your safety.

- ◆ Make sure you have a good Understanding of the safety warnings, attentions and notices, which will all be helpful to improve your riding experience.
- ◆ This manual only applies to **Surreal Scooter**.

1.2 Riding Risks

Surreal Scooter is an automatic, systematic and intelligent transportation and entertainment aid. It has been put through strict tests in the manufacture stages, however, you could be injured if the warnings listed in the manual are ignored.

Warnings:

- You may get injured if the scooter is out of control and you crash, also when you fall off the scooter, and when you disregard the notices and warnings included in the manual. You must read this manual and watch relevant videos carefully, in order to decrease risks and avoid injuries.

1.3 Preparatory Work

It is important to do a safety check. Please check if the tyre's have been damaged and if the accessories are loosening. This is to be done before riding the scooter. Please contact the authorized agents or aftersales department to repair, if something is defective.

1. 4 Relevant Documents and information

The instructions below can supply to the manual, please pay attention to the relevant “**warning**”, “**attention**” and “**notices**”.

Warning: indicates that your activities will leads to physical injury.

Attention: indicates that your activities may lead to product damaging.

Notices: indicates some functional tips and information, which users should pay attention to.

2 Product

2. 1 Serial Number

It is the only marking of the product, please keep it for quality tracking, aftersales service, insurance claims and missing confirmation.

It is made up of twelve letters with a barcode.

◆ You can get the serial number from exterior packing and Protection to Fix Card.

2. 2 Product Parameter

Parameters	Parameter values	Notices
Model No.	Surreal Scooter	① Max mileage speed can be allocated through relevant application. But actual riding speed may faster than mileage speed in short time and be steady ultimately, due to Scooter having dynamic and stable system. ② Mileage result got based on specific environment: temperature 25℃ ; loading 70Kg. It
Max riding speed	10Km/h^①	
Max mileage	20Km^②	
Max climbing capability	15°	
Net weight	9.5Kg^③	

Load weight	20~100Kg	also can be affected by different factors, such as riding habit, temperature, pavement and loading and so on. ③ Net weight refers to the weight of battery applied 4.4A. Product weight maybe has a difference, according to different models and materials. The weight of Surreal Scooter is 9.5KG approximately. ④ Width 185mm measured for Scooter, 360mm measured when pedal opening. ⑤ Standard configuration of Scooter is Battery of 4.4Ah. ⑥ Charging time maybe diverse, according to different environment and battery capability.
Min turning radius	0m	
Size	580*185*180mm ^④	
Battery	36V 24.4Ah Lithium Battery ^⑤	
Charging requirements	AC110~240v 50~60Hz	
Charging time	1~2hrs ^⑥	
Tyre	Pneumatic tyre	
The best working environment	15~30℃	

Notices:

- The detail of information of loading, please refer to the following section.
- Regarding how to improve riding mileage, please refer to following section.

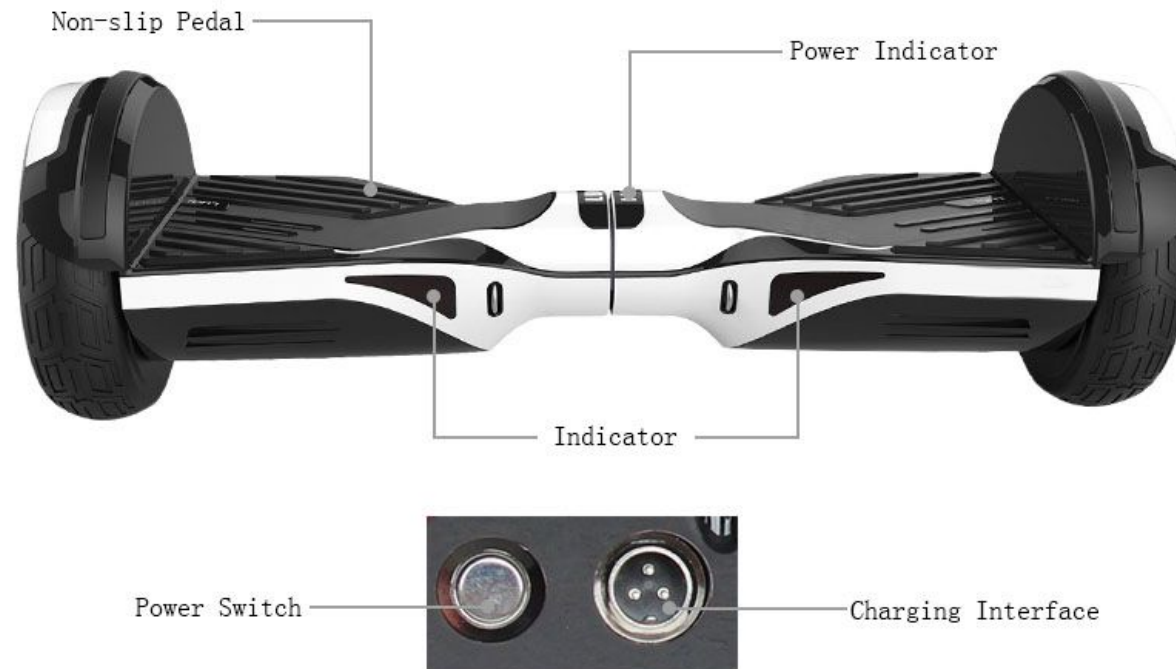
2. 3 Operational Principle of Scooter

The Balance system works similar to the human owned. For example, for ensuring your balance, you have to walk along when your body is moving forward; similar to when your body is moving backwards, you lean back. When riding the wheel of the Scooter instead of your feet, likewise, the system will auto sense and drive the wheel forward accurately to keep balancing; the wheel will drive backwards when your body is leant back.

Surreal Scooter adopts dynamic principle, utilizing gyroscope and the accelerator sensor to test the Scooter changes. It also uses servo-control system to make the relevant adjustments accurately for keeping the system balance.

The System will control the speed difference of left and right to realize which way you want to turn, this happens when your body's gravity is adjusted. When riding, you should adjust your body weight to the direction of forward, then the Scooter will follow your direction system, and will then drive ahead, when your body's gravity is leant back the system will drive backwards.

2. 4 Main Components of Scooter



2. 5 The vehicle working pattern

	Beginner	Superior	Senior
Balancing Feature	Stable	Relatively stable	Flexible
Steering Sensitivity	Low	Medium	High
Mode Indicator	Blue	Blue	Red

Notice:

- **The Superior as default mode and steering sensitivity is high when you turn on the Scooter. Please pay attention to safety for the first time riding.**

2. 5. 1 Switching in different modes

Check current mode and method of switching.

- ◆ Step 1. Please put your Scooter straight up, Power Indicator will change to Mode Indicator.
- ◆ Step 2. Pressing the Power button will switch the mode, every press can switch one mode.

3 Surreal Scooter Riding

3. 1 Riding

Surreal Scooter is a travel tool with high technology; it may lead to unpredictable injuries when you drive before understanding the operation manual. Here below is a detailed introduction of notices, and a list of matters that needs attention during riding. Please read carefully and drive as requested, to avoid any injuries.

3. 1. 1 Matters That Needs Attention before Riding

- ◆ Please check components of **Surreal Scooter** are securely installed and do not have any damage.
- ◆ You should practice in a spacious and flat ground (4m*4m at least, interior and outdoor, either is fine).
- ◆ You should fully understand your surroundings, and make sure there is no other disturbances, such as another Scooter, pedestrians, pets, bicycles and so on.
- ◆ You need to be accompanied by a skilled assistant, who can operate skillfully and have a full understanding of this manual.
- ◆ Please do not practice on smooth and wet ground, as this can cause slipping, which could lead to an injury.
- ◆ Please wear a helmet and protective padding to avoid any damages caused.
- ◆ For ensuring body flexibility, please wear comfortable clothing and flat shoes.

3. 1. 2 Start Riding

- ◆ Step 1. Put **Surreal Scooter** on the ground vertically, then press the power switch button, the indicator will then light up, riding can be started after the beep.
- ◆ Step 2. The Pedal indicator will light up after the power has been triggered by your foot stepping on the pedal, then the system enters self-balancing state. Another foot can then step on the other pedal after keeping yourself and the scooter balanced.
- ◆ Step 3. After succeeding to stand up, continue to keep your body balance, the scooter will then be in a state of rest. Gently adjust your weight, make your body lean forwards or backwards to easily control scooter to go forward or draw back.
- ◆ Step 4. Controlling the scooter to turn left and right, left foot lean forward as turning right, right foot lean forward as turning left.
- ◆ Step5. Please keep scooter in state of rest and balancing once you have stopped riding, take one foot away from the pedal then another one.

Notice:

- Please don't start riding until the Scooter auto-corrects to vertical, if the Scooter is tilting forward and back, when power switch been pressed do not step on.

3. 1. 3 Speed Limit Protection

In order to prevent injuries caused by over speed, we have to set maximum riding speed. So when the speed reaches over the maximum riding speed, the pedal will warp to restrict speed up, and the speed of the scooter will decline.

Attention:

- **Please do not force speed up, when it is close to limitation.**

3. 1. 4 Tilt Protection

- ◆ If the Scooter tilts over 15° , the hub will stop rotating and the system will temporarily switch off.

Notice:

- **Turn off power switch then restart Scooter to unlock protection.**

3. 1. 5 Power Capability

- ◆ The capability awarded by LED lights, which is comprise of 5 LED bulbs. All of them will light up, when the capability is over 85% approximately, and extinguish as the capability decreases. In order to avoid ‘no driving back’ because of long distance, please check the capability before riding. And we advise that you give enough time to charge your scooter.
- ◆ 5 LED lights will continue to flash, if the capability is less than 10%. And a buzzer will continuously “beep”, at the same time, the front pedal will start to upturn, forcing the drivers speed to cut and stop. Please do not restart Scooter, in case you fall off due to the power running out.
- ◆ Mileage may decrease in the winter, because the lithium battery is released faster in low temperature environment.

3. 1. 6 Ingress Protection

- ◆ Ingress protection of **Surreal Scooter** is IP54, please don't ride on the road with water-logging.

3. 2 The Impacts from Environment

3. 2. 1 The Mileage

Riding habits and environment will affect mileage dramatically. Here below are listed some conditions that cause great influences.

Impact Factors	Reasons
Road Conditions	Mileage will improve, riding on the flat ground, on the contrary, it will decrease significant, on the mountain field and bumpy ground.
Speed And Riding Habit	Riding in constant and stable speed, will improve mileage, but speed decelerate very frequently will reduce mileage.
Loading	Light loading increases mileage significantly.
Temperature	Temperature has a great influence towards mileage, mileage is larger as close to the best riding temperature. And if the temperature is lower, the mileage will decrease noticeable.
Battery	Fair charging and maintenance of battery will extend mileage. Meanwhile, mileage decreased, if it is old, over load and never maintained battery.
Wind Direction	Mileage increased riding with the wind, decreased against wind.

3. 2. 2 Riding at High Temperatures

The temperature of the electric motor, battery and riding system and any other components increase observably, which will influence the parameter and lifetime.

Riding speed will decrease, if components' temperature is over 50 °C . Decreased scope relates to actual temperature, which means, the higher the temperature, the lower the decreased scope. Please stop riding and turn off the power button to let the Scooter cool, when the warning system is auto-activated by 80 °C or over.

3. 2. 3 Riding at Low Temperature

It will increase resistance by inter components lack of lubrication, and discharge and the capability of the battery will reduce dramatically. Therefore, please do not do strenuous exercise with Scooter at low temperature (under -5 °C), that will lead to the Scooter being out of control.

3. 2. 4 Uphill

It means that Scooter will continue to work with heavy loading, thus, temperatures of internal components rise fairly rapidly when the battery has reached the over loading weight. Long time climbing will result in lifetime and capability being reduced. Therefore, please avoid to drive the Scooter for a long time climbing. Moreover, system will auto reduce the maximum riding speed for security, due to heavy loading, reduced scope depends on loading and the slope.

3. 2. 5 Downhill

According to the difference of the slope and the carrying capacity weight, also the system being under energy recycle mode, the electric motor will turn to be a generator, part of the kinetic energy change to electric energy, and reserve back to the battery. Therefore, continue running downhill good for extending mileage.

However, if you continue running downhill it will result in the battery being over charged, and damage the battery, when capability of battery is full. Based on this condition, the system will automatically reduce maximum running mileage to decrease the opportunity of the battery being over charged. But the scope of decrease depends on the loading and the slope.

4 Other Information about the Battery

This section will show how to charge, maintain and the safety regulations of the battery use.

4. 1 Using Battery Safely

Warning:

- **Please obey regulations contained in this manual for you and others safety and extend the battery lifetime.**

Here below indicates safety regulations of battery using.

- ◆ Please do not connect any two output terminal connectors of battery.
- ◆ Please place it out of reach of children and pets, exposed battery and electrode may lead to a casualty.
- ◆ Cell of battery contains some chemistry materials, so please open the battery and do not insert any foreign matter into the battery. It may causes shock or even a fire and explosion.
- ◆ Please charge by using the standard charger, which is offered by us.
- ◆ Please obey local laws and regulations to dispose and transport of the battery.

4. 2 Charging

- ◆ Please charge once a month or two days after riding for maximum extended battery lifetime.
- ◆ Please charge in an appropriate environment and temperature.

4. 2. 1 Charging Interface and Notices

Excluding shows current electric capability, electric indicator lights flashing shows continue charging (For example, 3 indicator lights is current electric

capability, charging shows 4 lights flashing, then 5 lights.)

Warning:

- Battery maybe damaged, if it does not charge in time. As time goes by, battery capacity will run out, finally result in battery over discharged.
- Please charge using the charger offered by us.

Warning:

- Charging time of Surreal Scooter is approximately 1 ½ hours, electricity will auto cut when fully charged.
- Normal battery lifetime is 500 times of charging, because of limit lifetime. If you have used the battery over its lifetime, you may find the riding time shorten significantly, even it been fully charged.
- Please charge battery fully, because of storage and transportation it can lead to the battery not been used for a long time, it will discharge slowly.
- This battery does not need charging until discharging is complete and exhaust.
- Although fully charged, mileage will shorten under frigid environment.
- Please keep environment of charging tidy and dry, and do not charge if the charger terminal is wet.
- Please charge and store according to the regulations, otherwise, the battery will be damaged and lifetime will influence.
- Do not remove or change the structure privately.

Warning:

- Ingress protection of Surreal Scooter is IP54, it means that it is spill and dust resistance. However, please do not soak in the water that will lead to forever damage.
- Do not use water cannon to wash.

5 Maintenances

5.1 Cleaning

Steps:

- ◆ Ensure power has been turned off, pull the plug and close the charger port.
- ◆ Use suds or water to wipe the cover of Scooter.
- ◆ Please do not let water into the charge port during cleaning process.

5.2 Storage

Please store it indoor where it is dry and a reasonable temperature. Please charge fully, and once at least every 3 months if you do not use it for a long period.

Warranty Card

Product Information	Item Name:	Model:	Serial number:
User Info	Name:	Phone:	Postcode:
	Address:		
Information of Distributer	Name:		Phone:
	Sale Date:		Sales Address:

Maintenance Record	Submission Date	Maintenance description	Maintenance Result	Completion Date	Signature

FCC Caution:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Smoothing the body

Comforting the mind