

# **User's Manual**

**Self-balancing Electric Scooter**

- Thank you for choosing Self-balancing electric scooter series.
- Self-balancing electric scooter is a high technological, light and double wheels self-balancing electric scooter.
- Before operating this vehicle, read all the instructions for safe assembly and operation.
- <User's Manual > can guide you through the functions and usage of Self-balancing electric scooter.

### **WARNING!**

- Before your starting, familiarize yourself with how to operation, so that you can keep the scooter in the best condition. Otherwise you will get crashed ,fell down or lose control, etc.
- The <User's Manual> can help you learn safely driving this electric scooter.
- <User's Manual> has told all the instruction and notes, the operator must read it carefully and follow these instructions. If the operator failure to follow the instructions or violate the warnings, our company won't be responsible for any related results.
- If you want to get the services and technology support, you can contact the local agency or our company.

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## Chapter I General Information

### 1. 1 About the manual

Before operating this vehicle, read all the instructions for safe assembly and operation. <User's Manual > can guide you through the functions and usage of Self-balancing electric scooter. The user's manual is applied to all the Smart Vehicles made by our factory. If you have any questions or you cannot get the information you want from the manual please contact the local agency or our company immediately.

### 1. 2 The risk of driving

Self-balancing electric scooter is a smart transport and recreation tool. Its technology and the process of production is tested seriously. However, if you don't follow the requests of the manual, you may get hurt.



No matter when and where, falling, losing control, crushing, etc, including violating the rules of the user's manual can lead to your hurt even death. In order to avoid getting injured, please read this manual carefully.

### 1. 3 The preparation before operation

Before using, the battery should be checked whether full charged. Please find more details in Chapter VII. You will get injured when you don't obey the rules in the manual.

### 1. 4 Related explanation

Please pay attention to 'WARNING' and 'NOTE' which are all capital alphabets.

<b>WARNING!</b>	Your improper behavior will involve you into a dangerous condition.
<b>NOTE:</b>	The matters and the related using methods that need your attention.

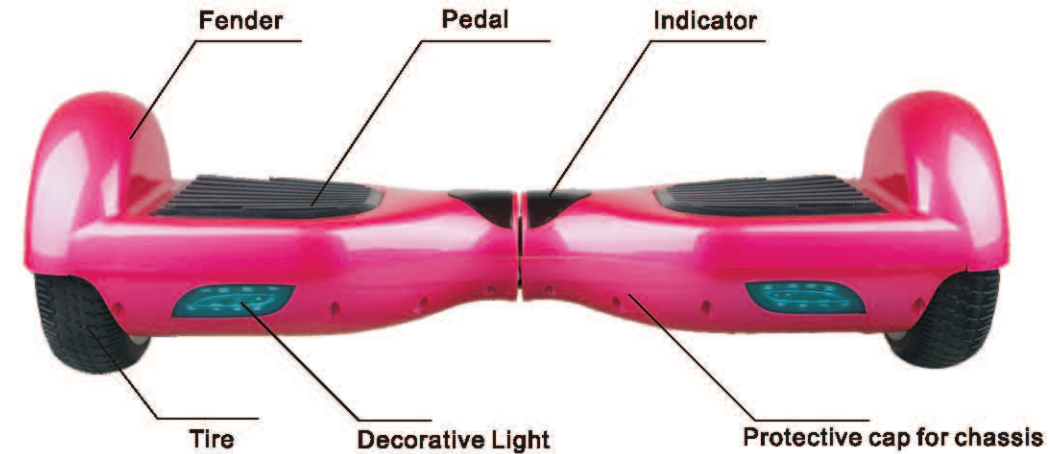
## Chapter II Product introduction

### 2.1 Description of the electric scooter

Self-balancing electric scooter which can go forwards, backwards, steering and stop controlled by Dynamic equilibrium. It possesses fashionable appearance, simple operation, easy to control, low-carbon and environmental protection, etc advantages. It is a great companion.

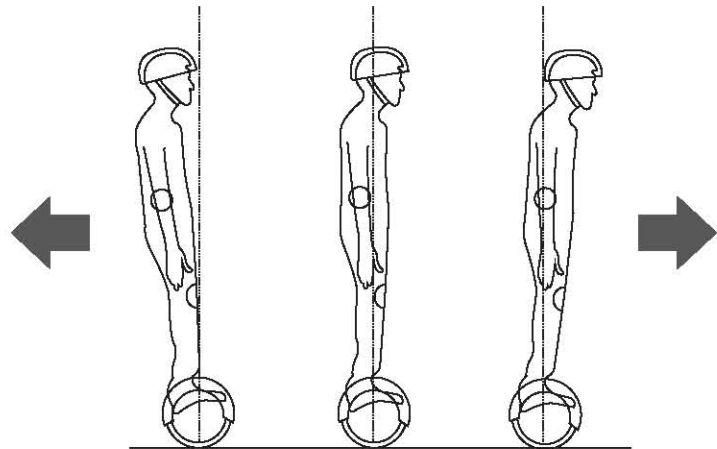


### 2.2 Operating principal



## 2.3 Operating principal

- Self-balancing electric scooter adapts Dynamic equilibrium, using Internal gyroscope and acceleration sensors. The status of the electric scooter is controlled by the center-of gravity. And it is adjusted by motor which is controlled by servo control system. When you lean forward, It will sense your actions to accelerate. When you need to swerve, slow it down and move your foot forwards or backwards then the center-of gravity of the body moves left or right therefore the scooter can realize left or right.
- Self-balancing electric scooter has Inertial dynamic stabilization system, so it can keep anterior-posterior balance but cannot guarantee the left and right. So when swerved, the scooter need operating slowing, otherwise, you may get injured because of the large centrifugal force.



## Chapter III Bluetooth Speaker

Open car balance power switch → Bluetooth hear voice prompts → Bluetooth device to search and connect → Wait for the tone to play audio connection is successful → Bluetooth → Bluetooth link is disconnected after use and turn off the power Note: The way to replace the original Bluetooth device you must first disconnect the connected device

## About Safely Use

We hopes every operator can ride the scooter safely and enjoy it. Thinking back to the experiences when you learn riding bike, driving cars , go sking or use other transportation tools, all of them can help you learn the scooter faster.

- Follow the <User's Manual>,you can ride self-balancing electric scooter safely. We highly advise you read the manual carefully at the first time. Before riding, make sure the tire is whether good, the spare parts is whether tight. If there is anything abnormal, please contact the agency for repairing immediately.
- Please read the manual carefully, from it you will get much important information, including speed limitation, indicator warning and turn off safely, etc.
- Please never use the scooter do anything may cause personal injury and property loss.
- Please don't modify the spare parts of the electric scooter. Because it can influence the capacity of the scooter badly and even destroy it, meanwhile, there are some side-effects may happen.

### 4.1 The weight limitation of the operator

- The reason of the weight limitation:1.guarantee the safety of the operator;2.decrease the damage of overloaded.
- Maximum load:100KG
- Minimum load:20KG



**WARNING!** Overloaded you may fell down.

## 4.2 Range per charge

The range per charge is related to many factors,for example:

- Topography: On even road, the range per charge will be increased, on the contrary ,it will be decreased.
- Weight: The weight of the operator can influence the driving distance.  
Temperature: Place the scooter at a appropriate temperature will increase driving distance. On contrast, if place it at an extreme temperature will decrease the driving distance.
- Maintenance: If the scooter is charged properly and the battery is kept in good condition will increase the driving distance, on contrast will decrease the driving distance.
- Speed and driving style: keep a moderate speed will increase the driving distance, on contrary, frequently start, stop, acceleration, deceleration will reduce the distance.

### 4.3 Max. Speed

- The max. speed of the scooter is 10km/h.
- When the operator exceeds the max. speed, the scooter will give out alarm sound.
- In the permissive speed, the electric scooter can balance itself well. When the speed is faster than the permissive speed ,it will turn up to warn the operator to slow down.

## Chapter V Learn how to use it

<User's Manual> has told all the instructions and notes, the operator must read it carefully and follow these instructions. It is very important for you to know all these notes.

### 5.1 Learn how to use it

Step 1: Press the power switch to turn on self-balancing electric scooter .

Step 2: The preparations for driving. Firstly step on one foot trigger the foot-switch, the system will come into self-balancing condition. Then step on the other foot to operate it.

Step 3: Take control of the scooter forwards or backwards, do remember magnitude of your body shouldn't be violently.

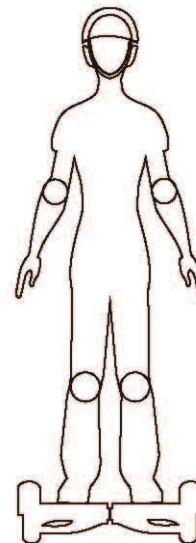


#### NOTE:

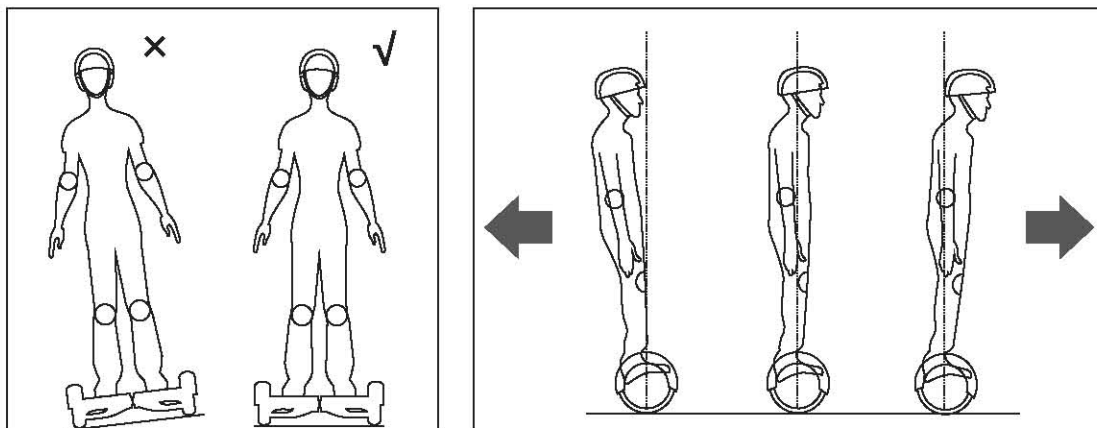
If the scooter doesn't at balancing condition when you trigger the foot-switch, the buzzer will alarm, and the warning LED will light, the system cannot come into self-balancing condition. At this moment you shouldn't operate.

Step 4: Control the left and right direction of the scooter.

Step 5: Get off. Before you get off, make sure that the scooter is still, then step off one foot, finally the other foot.







**Diagram of operation**



**WARNING!**

**You are forbidden to swerve violently when driving fast, otherwise will cause dangerous.**

**You are forbidden to ride sideways or swerve on the slope. It will lead to the balance angel skewing then influence your safety.**

## 5.2 Protect function

- During operation, if the system runs error or being illegal operations, the scooter will prompt operators in different ways like prohibit riding, alarm indicator lights, buzzer alarm beeps intermittently, the system cannot enter self-balancing mode.
- When step on the scooter, the platform go forwards or backwards more than 10 degrees.
- The voltage of the battery is too low.
- During charging.
- During operation, the platform upturned, prohibit operation.
- Over speeding.
- The battery is not enough.
- The electric scooter shaking back and forth more than 30 seconds.
- System enter into protection mode, alarm indicator lights, buzzer alarms of high frequency.
- The platform go forwards or backwards more than 35 degrees, the electric scooter will directly into the stop mode.
- Tire stall, two seconds later the electric scooter enters power off mode.
- The battery voltage is lower than the protection value , 15 seconds later the electric scooter enters into power off mode.
- Continuing large current discharge (such as a long-time climbing a very steep slope), 15 seconds later the electric scooter enters into power off mode.





## WARNING!

When the scooter enters into the shutdown state, the system will lock down the machine automatically. It can be unlocked when you press the lock button. When the battery has been depleted or the system gives out information with safely shutdown, please do not continue to drive the scooter, otherwise, the car cannot balance for the lack of battery. In this condition, the driver is likely to be harmed. If the battery reaches minimum, the continue driving of the scooter will affect battery's life.

### 5.3 Riding practice

Before you drive the scooter outdoors, please make sure you are familiar with the skills of driving it:

- Try to wear casual clothing and wear flat shoes to maintain the flexibility of the body.
- Please go to open spaces to practice driving the scooter until you can easily get on , forwards and backwards, swerve, stop and get off.
- Make sure the pavement is whether even.
- You can driving on different terrain, when you are unfamiliar with the terrain you must slow down. At any time you can driver the scooter off the ground.
- Self-balancing electric scooter is a transportation tool is designed for smooth road. When it is traveled on uneven pavement, the user should slow down.
- If you are unfamiliar with the scooter, please avoid driving to places with pedestrians or obstacles or have potentially dangerous. Be careful when you through the door, and ensure the scooter can pass through.

## Chapter VI Safely driving

This chapter will focus on safety knowledge and warnings. Before operating this vehicle, read all the instructions for safe assembly and operation. <User's Manual > can guide you through the functions and usage of Self-balancing electric scooter. To ensure our products bring you the best driving experience, the best way is to read the user manual carefully before drive.



- Before your starting, familiarize yourself with how to operation, so that you can keep the scooter in the best condition. Otherwise you will get crashed ,fell down or lose control, etc.
- When you are learning the scooter, make sure that all safety measures are made. Like wearing a helmet, knee pads, elbow pads and other protective gears.
- Self-balancing electric scooter is only for personal entertainment. You are not allowed to ride it on public transport.
- Self-balancing electric scooter is not allowed on the motor vehicle lanes.
- Children, the elderly, pregnant women are not allowed to drive.
- Do not drive after drinking or taking drugs.
- Do not carry items when driving.
- When driving the scooter, you should comply with local traffic laws, and give way to pedestrians.
- Please be alert to things in front of you, maintain good vision will help you drive the scooter safely.
- Relax your legs while driving, knees slightly bent, it can help maintain balance when encounter uneven ground.
- In the process of driving, make ensure that the feet are always stepping on the mat.
- Please wear appropriate clothes, this will help you to handle emergencies better.
- Self-balancing electric scooter can only load one person, cannot load two people or more than two people.
- Do not start or stop suddenly.
- Avoid driving on steep slopes.
- Do not drive in dimly lit or dark places.

- The weight of the user and their belongings should not exceed the maximum load indicated in the instruction, otherwise the driver may easier to fall or be injured, or even damage the electric scooter. In addition, the driver's weight should not be less than the minimum weight as marked in the instruction. Otherwise it will cause the scooter cannot be manipulated, especially when riding downhill, the scooter can not be safely reduced speed or stopped.
- Ensure the vehicle speed is safe to yourself and others , and be ready to stop at any time when operating.
- When you are coming across a traffic accident, please remain at the place awaiting the arrival of the relevant departments to deal with it.
- When you are driving the scooter along with other driving user, please keep a certain distance from each other to avoid collisions.
- You should always keep in mind while driving the scooter your body increases a height of 10 centimeters, pay attention to your head when through a door.
- When steering you should notice your body's center of gravity, the violent shift of center of gravity may cause you in danger.
- Do not riding in rainy days as well as long-distance backwards, high-speed backwards, turning at high-speed backwards, over-speeding.
- Do not riding in rainy days as well as long-distance running backwards, high speed backwards, backwards at high speed cornering, speeding.
- The personal transport is not to design, test or relevant way to becoming medical device. Therefore, the user must ride the electric scooter by self.
- Avoid driving to obstacles and smooth ground such as snow, ice, and slippery floor.
- Avoid driving on items made of cloth , small branches, stones.
- Avoid driving in narrow spaces or where there is an obstacle.
- Please drive the scooter at the proper environment, if the environment need to obtain permission from others, please get their allowance.
- Prohibit the use of an unsafe environment. These unsafe environment means that due to flammable , vapor, liquids, dust or fibers and other reasons may cause fire.

## Chapter VI Safely driving

This chapter mainly discuss the charging methods, how to maintain the battery, the safety issues you need to pay attention to , and battery specifications. For safety of yourself and others, and maximum extend the battery's life and improve battery performance, please make sure to follow the following operations to use the battery.

### 7.1 Low battery

When you find the battery indicator is red and flashing, it indicates low battery. It is recommended that you to stop driving. When the power is low, there is not enough energy for your normal driving, then the system will automatically tilt the base of the platform to prohibit the operator's continuing to use; It is very easy to fall if you insist on driving at this time, and also affect battery's life.

- Do not use the battery in the following cases.
  1. Giving out some odor or excessive heat.
  2. Leakage of any substance.
- It is restricted to industry insiders to disassemble and maintain the battery.
- Do not touch any substance leaking out of the battery.
- Do not let children and animals touch the battery. Before installing the battery the driver must pull out the battery or charger. When charged, you cannot do anything with the electric scooter.
- Batteries contain dangerous substances inside, do not open the battery, do not insert anything into the battery.
- Only using chargers offered by our company.
- Don't charge excessive discharge of lithium batteries. Excessive discharge of the battery has a security risk, only to scrap.
- The battery can only be used under the permission of the local law.

## 7. 2 Charging steps

- Ensure the charging port is dry.
- Open the cover of the charger at the back of the electric scooter.
- Firstly plugged the switch into the power interface(100V~240V; 50,60Hz), verify the green light lights properly, then plug the other end of the charger into the scooter.
- When the red indicator lights on the charger indicates charging properly, otherwise check the line is whether connected.
- When the indicator light on the charger from red to green indicates that power is fully charged. In this case, please stop charging. The charging time will affect the battery life.



- Note to the use the local standard plug.
- Please charge, store in accordance with the instruction, otherwise it will damage the battery, affecting battery's life.
- The charging time is approximately 2 hours, over-long charging time will affect battery's life.
- Please keep the charging environment clean and dry.
- When charging port is moist, don't charge it.

## 7.3 The temperature is too high or too low

- If you want the scooter in good operational efficiency, the battery temperature must be controlled among the range of specification.
- Temperature before charging and charging process must be within the recommended values. Close to the recommended temperature, the charging efficiency is the highest, if it is too cold or hot, the charging time will be longer, or not fully charged.

## 7. 4 The specifications of the battery

NAME	PARAMETERS
Battery	lithium-ion battery
Charging Time	2-3Hours
Voltage	36V
Initial Volume	4.4AH
Working Temperature	-15℃~50℃
Charging Temperature	0℃~40℃
Relative Humidity of Strage	5%~95%

## 7.5 The transport of the battery



**WARNING!**

**Lithium batteries are considered hazardous materials. The transport of it need to get the local law allows.**



**NOTE:**

**If you need to deliver the electric scooter with lithium batteries in by air, or need to use any other kinds of transport to deliver the battery alone, please contact with us.**

## Chapter VIII The maintenance of the electric scooter

Self-balancing electric scooter need to be maintained. This chapter mainly describe the relevant steps and important operation reminders to maintain it.

Please make sure that the power and charge coil are off before you do following operation. You forbid to operate when the power is on or the battery is charging.

Attention Matters before cleaning:

### 8.1 Cleaning

- To make sure the power and the charge coil are off.
- To wipe the shell of electric scooter with soft cloth.



**WARNING!**

- The level of dust-proof and waterproof is IP54 and can prevent wee dust and splash.
- Avoid water or other liquids seep into the scooter so that the host cause permanent damage to the internal electronics.

### 8.2 Storage

- Before storage, fully charge the electric scooter to prevent battery over discharge due to a long time non-use.
- If stored more than months , remove the battery. And at least discharge the battery every three months.
- If the storage temperature is below 0 degrees Celsius, please don't charge the scooter. You can place it in a warm environment (higher 10 degrees Celsius) for charging.
- You can mask the scooter, in order to prevent dust affect performance.
- Keep store the scooter indoors, put it at the place with dry and suitable temperature.



**WARNING!**

- To protect user security, users are forbidden to open the scooter, or means that you give up your warranty rights.

## Chapter IX The specification of the electric scooter



Specification		
Name	Parameter	Remark
Net Weight	10KG	
Minimum Load	20KG	
Maximum Load	100KG	
Maximum Speed	10KM/H	Distance various depending on terrain, driving style and load.
Range Per Charge	15-20KM	Depending on load.
Climbing Capacity	15°	
Radius Of turning Circle	0°	
Energy	Rechargeable Li-ion Battery	
Charger Voltage	100-240V 50-60HZ	
Dimension	548*186*178MM	
Chassis Height	30MM	
Pedal Height	110MM	
Tire Mode	Free Inflatable Hollow Tire	

## Chapter X Packing list

NO.	Name	Quantity
1	Self-balancing electric Scooter	1
2	Charger	1
3	Manual	1
4		

**Hope you can enjoy it!**

#### **§ 15.19 Labelling requirements.**

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.

#### **§ 15.21 Information to user.**

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

#### **§ 15.105 Information to the user.**

**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.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.