

# USER MANUAL OF KS-16 ELECTRIC UNICYCLE



# Notice

1. Please wear helmet, gloves, elbow/knee pads or other protection garments.
2. Please check the device before every ride, to make sure no parts are loose or damaged.
3. When there is crowded pedestrians, please lower your speed similar to their walking speed.
4. When carry the device, please make sure the power is off.
5. Do not put your fingers on the tire, to avoid injuries caused by fingers sucked between the tire and the plastic shell.
6. Do not ride King Song electric unicycle on highways and busy pavements.
7. Do not ride King Song electric unicycle on busy roads or crowded streets.
8. Do not ride King Song electric unicycle on rough or bumpy surfaces, such as muddy or pebbled roads.
9. Do not ride King Song electric unicycle on wet, slippery surfaces, especially snowy roads.
10. Do not ride King Song electric unicycle on slopes slanting more than 15° angle.

11. Do not allow children under 12 to use electric unicycle.
12. Do not ride King Song electric unicycle in bleak winter conditions.
13. Countermarch riding is dangerous. Try to avoid countermarch.

Other sudden unpredictable risks may occur during use, please ride with care. King Song electric unicycle will not be responsible for any injuries caused by misuse of the product.

# **Declaration matters**

## Statement 1

KING SONG has applied for a number of patents for kingsong brand, forbidding to copy the user manual content and product appearance and product structure, otherwise, the one who shall be investigated for legal responsibility.

## Statement 2

KING SONG will constantly improve product quality in the process of production and sales, if there is some discrepancy in user manual, please in kind prevail.

## Statement 3

This product is an outdoor sports products but not a transport, it can't be driving on motorways, and the rider must follow the local laws and regulations about detailed provisions. More, the rider should wear safety protection articles before using to avoid accidental injury!

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# Chapter I Product Description

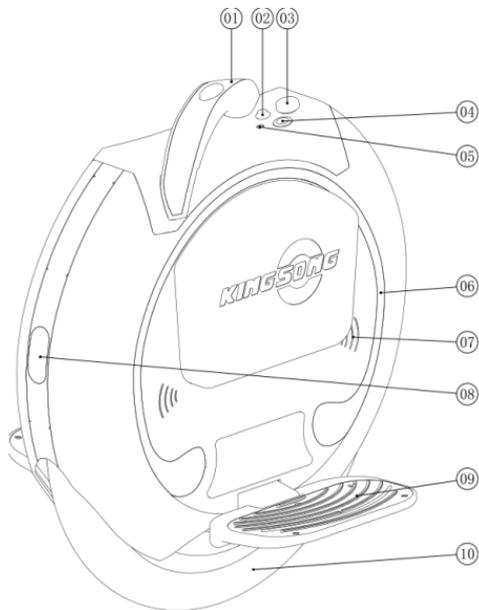
## 1.1 Product Description

KING SONG KS-16 unicycle is an emerging sports leisure products which collects sports, entertainment, short walking, its appearance is extremely with fashionable sense of science and technology. Strong power of lithium battery will give you a pleasant driving experience.

## 1.2 Product Serial No.

Product serial number is the unique identification of symbol, it is for product quality tracking and after-sales services etc.. Please be sure to save it well and you can see it from the product warranty card and king song unicycle body.

## 1.3 KS-16 Product diagram



- ① Trolley Bar
- ② Modifier Key
- ③ Charging Port
- ④ Power on/off
- ⑤ light sensor
- ⑥ Colorful atmosphere LED lights
- ⑦ Speaker
- ⑧ Illuminating lamp
- ⑨ Pedal
- ⑩ Tire

## 1.3 Product Performance

<b>Items</b>	<b>Parameters</b>
<b>Top Speed</b>	30km/h ( Default setting is : first level alarm: 18km/h; second level alarm: 19km/h, tilt back: 20km/h)
<b>Mileage</b>	340wh (20-30km); 40-60km (680wh) ; 60-80km (840wh)
Maximum Gradibility	Around 30°
Battery Set	340wh/ 680wh /840wh Lithium battery, with equilibrium, over-charge, over-discharge, over-current protection
Operating temperature	-10°C-60°C

Max Load	150Kg
Charger	Input: AC 80~240 V, Output: 67.2V、2A
Charging time	340wh (around 2.5h), 680wh (around 5.5h); 680wh(around 6h)
Rated Power	800W
Max Power	2700W

Appearance of the weight	
Machin size (mm)	506mm (H) x463mm(L) X 196mm (Thickness)
Package Size (mm)	630 * 510 * 210(mm)
Pedal Distance from Ground	120mm
Tire Diameter	16inch

Net weight	15.1kg (340wh ) 17.1 kg (680wh/840wh)
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Production measures	
Tilting Protection	Average 45°left and right (Motor will stop when over 45°), place the machine vertically on the ground to restart automatically after crashing, no need to restart manually.
Speed Limit Protection	Voice broadcast or Beep when exceed limit speed
Low Battery Protection	Beep when battery lower to 10%, the front of the pedal will rise gradually to lower the speed until stop
Message	
Battery Indicator	Power on and state of rest,colorful atmosphere LED lights to indicate battery level
Sound Alerting	Flicker when battery lower than 5%, Voice broadcast : Your device is in low battery, please charge it 、 (Pls decelerate) 、 (Hello, King Song) 、 (Bluetooth is connected ) 、 (Bluetooth is diconnected) 、 (Be caution, over voltage) 、 (Be caution, over power) 、 (BI) 。

Unique selling point	<ol style="list-style-type: none"> <li>1、 Integrated trolley bar, innovative design</li> <li>2、 Colorful atmosphere LED lights, pretty cool</li> <li>3、 Front &amp;Rear illuminating &amp; braking system keep you more safe in night riding</li> <li>4、 Integrated cooling fan, Climbing ability more stronger</li> <li>5、 Max setting of battery 680Wh, long mileage</li> <li>6、 APP System , Control information in any time</li> <li>7、 800W high speed motor,to keep safety more</li> <li>8、 When tilting sides, restart automatically if you place it vertically,no need manually restart.</li> <li>9、 BT speaker, Hi-Fi system, wonderful sounds</li> <li>10,Colorful atmosphere LED lights to indicate the battery level</li> </ol>
Standard package	Charger x 1,User manual x 1

## Chapter II Instructions



## 2.1: Interface :

- a) **Light Sensor:** it is used to detect light intensity , it will light up when it is dark, otherwise, it will power off
  
- b) **Auxiliary buttons :** Auxiliary buttons used to control BT and illuminating lights.
  - 1) Under power off status,long press the auxiliary buttons to turn on the BT, then short click the auxiliary button, the front and rear LED lights will light up; short click again to power off front&rear LED lights. Long press to turn off BT and illumnating lights.
  - 2) If the unicycle is in power-on status, long press auxiliary button to turn on BT, at the same time, the front and rear LED lights will light up according to the light density. Short press it, front&rear LED lights will light up, short press again , it will power off.
  
- c) **Handle bar lock button:** Press it to extract or retract the trolley bar
  
- d) **Trolley bar:** make the unicycle portable
  
- e) **Power button:** Short press to power on, long power to power off

## 2.2 Android apk and IOS app

Android APK and IOS app are available to check all the details of the unicycle like speed, mileage, battery level, temperature etc, adjust beeping speed and tilt back speed.

Users can download king song apk from King Song website: [www.kingsong.com](http://www.kingsong.com) or download IOS app from apple istore.

For details, pls refer to [www.kingsong.com](http://www.kingsong.com)

## **3.Precautions and preparation**

### **3.1 Precautions**

#### 3.1.1. Use the auxiliary belt to ensure safety driving

As beginners, can use the auxiliary belt to prevent the unicycle from scraping

Tie the belt to the handle of the unicycle, tread one foot on the treadle, adjust the belt to a proper length.

When losing the balance, have to jump from the unicycle, you can drag the unicycle with the belt to protect it from broken.

#### 3.1.2.How to control the balance

The self-balancing unicycle achieves balancing by versus of the gyroscope.

When leaning forward, the unicycle will accelerate; when lean forward, the unicycle will decelerate to keep the balance between the driver and the device itself.

Like riding bicycle, you have to keep left or right balancing by your body and the riding speed

Do not ride on slippery or bumpy surfaces, friction between the tire and the ground is essential to keep the balance

### **3.2.Preparation**

Find a proper spot: please don't ride in the highway or anywhere there are a lot of cars and peoples, should not ride on the bumpy, gravel roads,

Warm up your body and be equipped with helmets, elbow, knee supporters if needed

Check the battery level, shack the unicycle to avoid potential unsafe factors like looseness, abnormal

sound, push the unicycle by hand to check whether it exists frictions between the tire and body shell.

Find a friend to assist you if needed

Tie the auxiliary belt to the handle, adjust it to a proper length.

Please don't speed up and reduce suddenly in order to keep good maintenance.

Don't lean too much in order to not to fall, speeding is prohibited. In case of falling, given the priority to body safety.

Refer to the following driving steps to start learning.

### **3.3How to use**

#### **3.3.1 Start the unicycle**

Grasp the handle with one hand, place the unicycle vertically on the ground, and unfold the two

treadles. If the unicycle tilts either forward or backwards after power is switched on, then wait until it reverts to upright position before riding.

Press the power key to turn on the unicycle, the battery level will illuminate and buzzer will beep, then the vehicle is ready to use.

We suggest that you push the unicycle forward and backward to get an idea of the intensity of acceleration and deceleration.

If the unicycle tilts either forward or backward after power is switched on, then wait until it reverts to upright position before riding.

### **3.3.2 Try to stand on the unicycle**

Stand on the center of the treadle with your preferred foot, so that you can lean your gravity center to the foot.

Stand up, use the foot on the treadle to control the forward and backward balancing, and lean your shank on the rubber plate tightly

Gradually lean your gravity center to the foot on the treadle, a triangle support is required with your shank, foot and the balancing unicycle. otherwise the it's very difficult to transfer the gravity center to the unicycle. If you failed to transfer the gravity center, further riding is not suggested.

### **3.3.3Go forward**

For novice,like riding bicycle, transfer your gravity center to the unicycle, tread the pedal forward slightly, meanwhile, kick the other foot backward slightly, the unicycle will go forward, try to keep balance during riding, and gradually put the other foot on the treadle.

For intermediate learner, pay more attention to the following two points: keep at a certain speed, control the speed through leaning forward and backward. Try to extend the riding distance by repeated exercises.

### **3.3.4Turning**

We found beginner tends to rotate the upper torso to turn, to improve the efficiency, we suggest you to make it by adjusting the tilt of treadles.

## **4.Battery and Charging**

The device has a built-in lithium battery, No extra battery installation is required, just charge the device when it indicates low battery.

Plug in the power source after inserting the charger plug, this can prevent potential risk to ensure a safer charger

When the red lights turn into green, indicating the charging is completed.

If not in urgent need, please wait until charging complete before unplugging, because after charging, the protection circuit will perform flow equilibrium

Battery level: Atmosphere LED indicator is used to indicate battery level, will go off one by one as the level decreases. Please check power level before usage to ensure there is enough power for the return trip.

The battery level is shown in 9 levels. The corresponding battery levels are shown as following:



Battery level	9	8	7	6	5	4	3	2	1
voltage	>64V	>62.5V	>60V	>59V	>58V	>56V	>54V	>52V	LED will flicker

When power level is less than 2 level, all LED lights will flicker. The front part of the pedala will tilt up to force you to decelerate and eventually stop. Please do not restart when this occurs to avoid any accidents.

Sustained range will decrease during winter. This is because the battery performance decreases quickly in cold conditions. In  $-15^{\circ}\text{C}$ , for example, battery performance is only about half in comparison to that in room temperature.

## **5. Care and Maintenance**

Don't store the unicycle in dry condition. Clean the unicycle with wet cloths and detergent, gasoline, solvent or any other chemical reagent are forbade.

Screws: Checking the screws regularly to make sure all the screws are fixed well.

Battery: If unused, recharge the battery at least once a month to avoid the battery exhausted and maintain longevity of the battery. Meanwhile, the battery can't be dismantled arbitrarily, in case of changing, please contact us, we will provide you with professional services

Tire: Pay attention to the tire pressure, the rated pressure is 2.5Pa. Use the inflation tube to inflate the tire. Without the tube, you will not be able to pump air into the wheel.

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