



User manual
Electric Unicycle



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WARNING

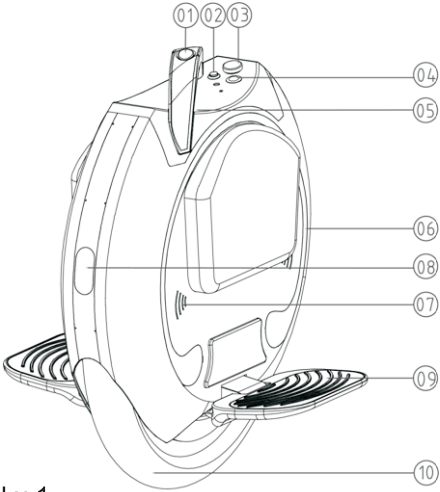
The EUC designed for out-door sports and auxiliary transportation, PLEASE RIDE UNDER LOCAL LAW&RISTRICTION.SAFETY IS ALWAYS THE FIRST!PLEASE RIDE SAFELY, YOU ARE AT YOUR OWN RISK OF ANY DANGER OR INJURY WHICH MAY OCCUR DURING RIDDING OR PRACTICE WITH THIS DEVICE.

Thanks for purchasing KingSong Self-balancing Electric Unicycle(EUC). The user manual below is a quick and convenient guide of safety & item functions/features to end user.We could not ensure all types of situation&emergency are covered. Therefore, we STRONGLY remind you to read this guide very carefully,and ride with attention to ensure your safety .

1.Product details

1.1Diagram:

- 1.Trolley bar
- 2.Auxiliary button
- 3.Charging port
- 4.Power on/off button
- 5.Light sensor
- 6.RGB light
- 7.Speaker
- 8.Illuminating light
- 9.Pedal
- 10.Tire



1.2 Product Packag

Electric Unicycle x 1 ; Charger x 1; User manual x 1

1.3 Specifications

Specifications			
ModelNo.	KS-16	KS-16S	KS-14D
Topspeed	30 km/h	35km/h	30km/h
Mileage	340Wh20-30km 420Wh30-40km 680Wh40-60km 840Wh60-80km	680Wh60-70km 840Wh70-80km	340Wh20-30km 420Wh30-40km
Climbing	AngleAround 30 degree		
Temperature	-10℃ /+60℃		
Maxium upload	100~150Kg		
Charger VoltageInput	AC 80~240 V , Output DC 67.2V、 2A		

Charging time	340Wh around 2.5h 420Wh around 3.5h 680Wh around 5.5h 840Wh around 6h	680Wh around 5.5h 840Wh around 6h	340Wh around 2.5h 420Wh around 3.5h
Rated power	800W	1200W	800W
Wheel Size	506 x 463 x 196mm	506 x 463 x 196mm	475 x 437 x 400mm
Distance from ground	120mm	120mm	125mm
Tire Size	16" Φ417mm	16" Φ417mm	14" Φ295mm
Net weight	14kg-15.5kg	15.5kg	13.5kg
Standard Accessory	Charger x1; User manual x 1		
Photo			

1.4 Main functions

- 1.Light sensor: Detecting light intensity,Lights on when it is dark, otherwise, it keeps off.
- 2.BT/ Speaker: Data BT makes users can access to riding information in app like mileage etc; Audio BT is activated automatically when power on, you can enjoy music during riding.
- 3.Integrated trolley bar: wheels can be pushed to move rather than lift up with this integrated trolley bar, make the wheel easier to be carried on.
- 4.USB port (only for KS-14D):Portable electrics can be charged by this USB.
- 5.RGB light: Shinning during riding,indicates the battery leve while it is on and stop.
- 6.Over side lean protection: When the lean angle of wheel exceeds 45, motor will stop running and will recovery automatically when back it vertically.
- 7.Buzzer and voice prompt: To ensure saftey, there will have voice prompt to alert rider: over-voltage, over-power, low battery etc. Voice prompt can be shut off through app, but buzzer beeps can't be.
- 8.Tilt-back protection: When over-speed, low-battery, high temperature, the pedal will tilt back to prevent further acceleration.

2.Safety

As an out-door sports and auxiliary transportation device, serious injury may occur any time during riding, PLEASE BE CAUTIOUS ALL THE TIME, LEARN AND PRACTISE STEP BY STEP BEFORE YOU REGULARLY RIDE IT, READ THE INSTRUCTIONS THOROUGHLY AND CAREFULLY to control the risk.

2.1 Important

1. Do not make rapid acceleration or deceleration or over incline forward or lean backwards.
2. Do not use The EUC if there are any risks in accidental falls..
3. When there is alarm of over power, over voltage, low battery, please decelerate at once.

Please keep in mind deeply: Most of accidents are caused by rapid acceleration or deceleration, so please operate EUC properly to protect both the device and rider.

2.2 Attention:

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 slow down to match their walking speed.
4. When carry the device, please make sure the power is off.
5. Do not put your fingers around the tire, to avoid injuries caused by the tire running.
6. Do not ride on highways or any other prohibited places.

7. Do not ride on rough or bumpy surfaces, such as muddy or pebbled roads.
8. Do not ride on wet, slippery surfaces, especially snowy roads.
9. Any person under 12 is STRICTLY PROHIBITED to use the EUC.
10. Do not ride in bleak winter conditions.
11. Countermarch riding is dangerous. Try to avoid countermarch unless safety guaranteed.

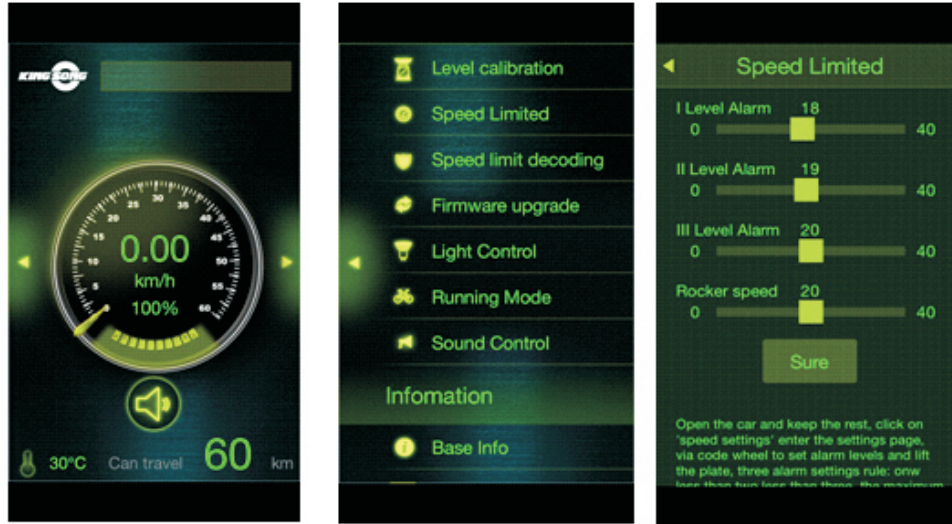
Other sudden unpredictable risks may occur during use, please ride with care. King Song electric unicycle will not be responsible for any injuries caused by improper operations of the device.

3.Main Features

- 3.1. Integrated trolley bar.
- 3.2. Colorful RGB light.
- 3.3. Front illuminating & Rear Braking Lights
- 3.4. BT Speaker: Activate the BT function of the electric unicycle, search available BT on your mobile phone, find and match the BT named “ King Song”, then you can play music freely after connected successfully
- 3.5. APP.
- 3.5.1 App Download.

For Android apk: Please access to our official website: www.kingsong.com, android apk can be download in App download section under “ Support” list.

For IOS app: Please download from apple store, “ kingsong-New” is the exact one.



3.6. Basic Information

Users can check all the detailed information on APP like temperature, mileage, speed, voltage and so on, which will help you get a better idea of the electric unicycle's running status.

3.7. Riding Mode

Riding mode refers to the ration mode during start-off and breaking. Under play mode, the pedal will keep still when starting off or breaking. While, under learning mode, the pedal will slant alonging with the gravity center, that is, leaning forward for starting off, leaning backward for braking. The main difference of the two modes lies on : learning mode is suitable for long distance travel, which provide a more comfortable riding experience, relieve the leg's fatigue. Play mode is more flexible, can satisfy the group who wants to perform skills like aerial jumping, also it can avoid pedal scraping when climbing or down steep hills. You can select the corresponding riding mode in the “ Cycling mode setting” menu.

Theorectially, learning mode is more power saving than aggressive mode.

3.8. Calibration alignment

Firstly, Switch on the EUC and keep it stand still, connect your mobile phone with the EUC, back to the " Basic Function" Menu, Select " Level Calibration", you will hear continual beeping. Then place the unicycle vertically on the ground, restart it, the calibration is done if you hear long beeping after 5 times continual beeping. If another 5 times continual beeping followings, it indicates calibration failed.

4.Precautions and preparation

4.1 Precautions

4.1.1. Use the auxiliary belt to ensure safety driving especially at the learning level. As beginners, can use the auxiliary belt to prevent the unicycle from scraping (Tie the belt to the handle of the EUC, step one foot on the pedal, adjust the belt to a proper length. once losing the balance & have to jump off from the unicycle, you can drag the EUC with the belt to protect it from sudden fall & broken.

4.1.2.How to control the balance

The self-balancing EUC achieves balancing by versus of the gyroscope. Rider leaning forward, the unicycle will accelerate; oppositely leaning 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.

4.2.Practice

Find a proper ground: 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, shake 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 and too fast to avoid sudden speed up & down, even rider's injury. Speeding is STRICTLY prohibited. In case of falling, give the priority to rider's body safety.

Refer to the following driving steps to start learning.

4.3 How to use

4.3.1 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.

4.3.2 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 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.

4.3.3 Go 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.

4.3.4 Turning

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.

5.Battery and Recharging

5.1 Temperature effect on battery

Battery power will vary with the temperature, mileage per charge will have slight difference under different temperature, following table is just for your reference.

Temperature (℃)	-20	-10	0	10	20	30	40	50
174Wh using ratio	40%	60%	80%	90%	95%	100%	105%	110%
Mileage/Charge (Km)	8	12	16	18	19	20	21	22

5.2 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: RGB indicator is used to indicate battery level, will go off one by one with the level decreases. Please check power level before use to ensure there is enough power for the return trip.

Battery level of KS-16 and KS-16S is shown in 9 levels,corresponding battery levels are shown as following:

RGB level	9	8	7	6	5	4	3	2	1
Voltage	>64V	>62.5V	>60V	>59V	>58V	>56V	>54V	>52V	RGB flicker

Battery level of KS14D shown in 7 levels,corresponding battery levels are shown as following:

RGB level	7	6	5	4	3	2	1
Voltage	64V-68.9V	62V-64V	59V-62V	57V-59V	54V-57V	52V-54V	50V-52V

FCC Statement:

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.

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.

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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

6. Care and Maintenance

6.1 Conservation

Don't place the unicycle in a wet condition.

If left unused for long time, 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, pls contact us, we will provide you with professional services.

Please clean the unicycle with wet cloths and detergent, gasoline, solvent or any other chemical reagent are forbade.

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

6.2 Change tire

Allen driver and cross screwdriver are require to change tire.

Unscrew all the screws on the body shell with cross screwdriver, 7 screws each side.

There are 6 screws on each side under the treadles, unscrew the six hex socket screws on the opposite side of the charger slot, pls notice that never unscrew the hex socket screws on the side of the charger slot.

After unscrewing the screws, rotate the shell body until you can dismantle the tire freely, avoid pulling out the electric cables around the handle area.

After repairing, install the body shell and fix all the screws.

7. Warranty

7.1. Limited warranty:

Manufacturer, Shenzhen King Song Intelligence Technology Co., Ltd warrants the EUC by following limits.

Motor, Mother board for 1 year since the item departure from factory.

Battery package for half a year since the item departure from factory.

7.2. Exclusion from warranty:

Above limited warranty DOES NOT include failure, damage or loss not caused item's defectives (i.e. warranty only covers manufacturer defectives, DOES NOT cover any damage, unauthorized modification, improper operation, disassembly etc.).

7.3. Aftersale service:

All the aftersale service, please contact your local dealer, distributor for assistant.

Shenzhen King Song Intelligence Technology Co., Ltd

www.kingsong.com

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