

King Song 16XS User Manual



King Song 16X Electric Unicycle User Manual

Model: KS-16XS

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Warning

This EUC (electric unicycle) is designed for out-door sports and short-distance transportation. PLEASE RIDE IN ACCORDANCE TO LOCAL LAWS & RESTRICTIONS. PLEASE RIDE SAFELY, YOU ARE AT YOUR OWN RISK OF ANY DANGER OR INJURY THAT MAY OCCUR DURING USE OF THIS DEVICE.

The user manual below is a quick and convenient guide of safety & functions/features. We cannot 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.

Product Performance

Model: KS-16X

Top Speed: Can reach up to 50kmph (31mph)

- Top speed is limited for the first 10 miles, but faster speeds can be unlocked in mobile app once this mileage is reached.
 - Safety Alarm / Tilt Back Default Settings: 1st alarm at 18km/h, 2nd alarm at 19km/h, pedal tilt at 20km/h
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Mileage: 140-160km (87-100mi) maximum potential

Maximum Hill Climbing Grade: Around 35°

Battery

- Rated Power : DC 74V
 - Top Charging Voltage : DC 84V
 - Rated Capacity 1554Wh
 - Smart BMS with balancing, over charge, over current and short-circuit protections
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Operating Temperature: -10°C / +60°C (14°F / 140°F)

Maximum Load: 120kg (265lbs)

Charger Voltage: Input AC 80~240 V , Output DC 84V、2A/3A

Charging Time

- 1.5A charger: 1554Wh around 14h
 - 2.5A Charger: 1554Wh around 8.4h
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Rated Power: 2200W sustained

Max Power: 4200W peak

Dimension & Weight

Dimensions: 590mm (H) X 495mm (L) X 180mm (W)

Shipping Dimmensions: 570mm X 2310mm X 755mm

Pedal Height: 180mm

Tire Size: 16 in x 3 in extra wide tire

Weight: around 24.3kg

Charging Ports

- Charging port x 2
 - USB discharge port x 2
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Safety Features

Lift Stop Rotation: This feature prevents the motor from engaging when the rider lifts up the EUC while still powered on. Dual mechanical switch to detect the lift motion, more agile and accurate compared to previous versions.

Tilt Stop Rotation: This feature automatically disengages the motor when the EUC leans 45° left or right. This will help to power off the motor ASAP in the event of an accident. When this feature is activated, riders can place the machine vertically on the ground to engage the motor again automatically; no need to restart manually.

Speed Limit Protection: Beep alarm or voice alarm when the set speed limit has been exceeded.

Low Battery Protection: Activated on 30% battery, speed will decrease linearly. When the battery is lower than 5%, a voice alarm will sound asking the rider to charge. When battery at 0%, the pedals will tilt back increasingly requiring the rider to stop and dismount.

NOTE: The EUC will have less torque / power / speed at low charge. Riding on a low battery should only be done with extra caution. It is not recommended to ride all the way to an empty battery. Allowing your battery to frequently discharge to an empty state can result in faster degradation and shorter battery life span.

Over-Temperature Protection: Pedal tilt back will engage when the control board temperature reaches 80°C, or when the motor temperature reaches 120°C. The internal fan will be activated when the control board temperature exceeds 50°C and will automatically deactivate when the temperature falls below 40°C

Sound Notifications

Voice alarm :

1. Tilt Stop Rotation: Alarm sounds for 5 seconds,
2. Low battery alarm: Your device has a low charge, please charge it ASAP
3. Over-speed alarm: Please decelerate.
4. Connect Bluetooth: Bluetooth is connected.
5. Disconnect Bluetooth: Bluetooth is disconnected.
6. Over-voltage alarm: Be careful, over voltage. Please pay attention, this is dangerous alarm! Slow down and stop accelerating immediately.
7. Over-heated alarm: Be careful, over power. Please pay attention, as the power is about to reach the limit. Slow down and stop accelerating immediately.

Safety Guidelines

As an outdoor sports and transportation device, serious injury may occur any time during ridding. Please use caution at all times. It is import to take your time during the learning process and make sure you are well prepared and in full control of the EUC before attempting to ride near pedestrians, vehicles, or anything you could potentially damage.

1. Important: Our products are designed for high performance, but riders must use caution when accelerating and braking. Aggressively leaning for rapid acceleration or braking is the most common cause for accidents and is not recommended.

2. In the case of an alarm or pedal tilt back, it is critical that you slow down immediately. **Ignoring these safety features puts you in immediate and serious danger.**

3. Please wear helmet, gloves, elbow/knee pads or other additional protective wear for your own safety. It is your responsibility to adhere to local helmet laws.
4. Check the device before every ride to make sure no parts are loose or damaged. It is natural for tire tubes to lose air pressure gradually over time, and some punctures can leak air slowly, so be sure to check your tire pressure before each ride. Low air pressure can have a drastic effect on handling and lead to an accident.
5. When riding in crowded areas or near pedestrians in general, please slow down to match their walking speed.
6. Do not ride on highways or any other prohibited roads or pathways. It is your responsibility to adhere to local laws.
7. Do not ride on very rough or unstable surfaces, such as muddy or pebbled roads that could lead to loss of traction and stability.
8. Do not ride on slippery surfaces, especially icy / snowy roads. Extreme ambient temperatures outside of the designed vehicle operating temps can lead to failure or damage to components.
9. We do not recommend anyone under the age of 12 to ride the electric unicycle.
10. Any trick riding is done at the risk to the rider and can lead to damage or failure. Jumping or dropping off of elevated surfaces may lead to damage to the EUC.

Main Features

Integrated retractable push handle

To extend the handle, grasp with one hand while firmly pressing the button located on top of the handle and pull upwards. To retract the handle, grasp the handle and press the button firmly to unlock the position so you can lower it into place.

RGB Lights

These lights can be customized to your liking within the King Song App.

King Song App

The King Song App provides a host of many stats to track and record your ride progress and performance. You can also get a live view of your current stats such as speed, remaining charge / range, temperature, voltage etc. The app is also where you can customize and change your settings in regards to ride mode, firmware updates, and RGB light programming.

Ride Mode (Cycling Mode)

Ride mode refers to the way the EUC responds to acceleration and braking. Experienced riders will learn to feel the difference in behavior between these modes very quickly.

Under **play mode**, the pedals will remain completely flat when accelerating or breaking.

Under **learning mode**, the pedal will tilt forward or backwards along with the rider. This means the pedals will tilt forward slightly when accelerating and tilt back slightly when braking. The main difference of the two modes: learning mode is a more comfortable option suitable for long distance travel since it requires less pressure from your feet on the edge of the pedal. Play mode is more flexible for those who wants to perform trick riding 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.

Calibrating Your Electric Unicycle

1. Lean the wheel completely upright against a wall at the angle you wish to ride at and press the 'YES' button, the device will turn off.
2. Maintain the angle of the device, and press the power button to turn on. There will be 5 beeps, and then long beeping.
3. Turn off the device, and then power back on again. The wheel will now be set at the desired pedal pitch.

Getting Started

1. Powering On / Off your electric unicycle

- Short press power button: turns on the device
- Long press power button: hear a click then turns off the device

2. How to control the balance

The self-balancing EUC achieves its powerful and stable balance with a built-in hyper-sensitive gyroscopic sensor that is programmed to keep the EUC flat. When the rider leans forward, the unicycle will accelerate in order to keep the machine upright. Conversely, when the rider leans backwards to brake, the motor will decelerate. The end result for the rider is that the wheel is always attempting to keep itself directly beneath you at all times. Like riding bicycle, it's up to the rider to manage the balance left or right, and it's much easier to maintain lateral balance at higher speeds vs low speeds. It's important to ride on a flat and firm surface when learning to ride as slippery, soft or bumpy surfaces can affect the friction between the tire and the ground making balancing more difficult.

Learning to ride might feel difficult or strange at first, but don't worry - this is normal. Like learning and new skill, all you need is some practice.

3. Practice

Find an appropriate and solitary training area. It's best to train in a large open area with no obstacles: please don't ride on the street or anywhere there are a lot of cars and people. The riding surface should be flat and firm with no loose gravel or large bumps. Warm up your body and wear safety gear to protect yourself. Check the battery level, and inspect the unicycle to avoid potential unsafe factors like looseness, abnormal sound, push the unicycle by hand to see whether any friction exists between the tire and body shell. Find a friend to assist you if needed. It's important to take every step of the learning process easy - don't attempt to lean too much and too fast, and don't attempt to ride

- **Start the unicycle:** Grasp the handle with one hand, place the unicycle vertically on the ground, and fold down both foot pedals. Press then power button 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 backwards after power is switched on, then wait until it reverts to upright position before riding

- **Try to stand on the unicycle:**

Using your preferred dominant leg, stand on the pedal with your foot centered front-to-back and ankle all the way against the body of the EUC. **Keep the wheel directly underneath your center of gravity and keep your back completely vertical - resist the urge to lean forward.** Always maintain a firm contact between the side of your leg and the body of the EUC as this is critical to stay in control while standing in place. Begin to place more of your body weight on the pedal foot and notice that the pressure increases against your leg. This is necessary to counterbalance for the period of time you are balancing on one leg. Start to move forward in small steps or hops with one leg on the EUC and get used to this counterbalance effect. Gradually, you can begin to attempt bringing the other foot onto the pedal as you move forward, but if you are struggling during this process you may look for additional support such as a rail or fence.

- **Go forward:** Like riding bicycle, you'll need to transfer your center of gravity to the center of the unicycle as you learn to take off with both feet on the wheel. You need a little bit of speed to make balancing easier, so it can help to "kick off" like a skater to initiate forward momentum. Since a forward leaning posture is required to accelerate and maintain a forward motion, you'll need to immediately rest your center of gravity in front of the EUC by leaning forward as soon as you step up to take off. This can be a mental challenge more than a physical challenge, so you'll just take it easy and practice keeping your posture upright while pushing your whole body weight forward. Avoid bending forward at the hips in a protective stance as this will transfer center of gravity backwards preventing you from moving forward. Remember to keep your back completely straight and vertical at all times.

- **Turning:** Turning can be achieved in several different ways. For beginners, it's advised to start by physically facing towards the direction you want to travel. You'll find that turning your torso will also encourage the wheel to follow. You can also achieve a large radius turn by simply banking and leaning your whole body once you initiate a turn. Be careful not to lean too aggressively at first. Another technique for more intermediate /

advanced riders that allows you to turn in much smaller circles is to tilt the pedals left / right with your feet so the EUC is leaning towards its side as you turn.

Battery and Recharging

1. Temperature effect on battery

Battery power varies with the ambient temperature, so your mileage per charge will decrease under colder temperatures. At freezing or below, you may see a drop of 20-50%. Never store your EUC in cold temperatures - please keep your device inside when not in use during cold winter months.

2. Charging

This device has a built-in lithium battery, and no extra battery installation is required. To charge a depleted battery, plug in the power cord to the wall socket after inserting the charger plug into the EUC as this can prevent potential risk of damage to the charger. The light on the charger will be colored red while charging and green when the charge is complete and the battery is at 100% charge. If not in urgent need, please wait until charging is complete before unplugging to allow the battery management system to perform cell balancing.

Care and Maintenance

Conservation

- Keeping your unicycle dry will decrease the chances of potential problems. Avoid riding in heavy rain or riding through puddles or standing water.
- If left unused for long time, recharge the battery at least every two months to avoid completely draining the battery and maintain longevity of the battery. It is possible to replace the battery if needed - please contact us for assistance.
- Please clean the unicycle with a wet cloth. Do not use detergent, gasoline, solvent or any other chemical agent.

- Always check your EUC for any signs of damage or loose parts before riding
- Check your tire air pressure before each ride. Like a bicycle, it is natural to lose air pressure over time, and you can damage your tire tube much faster if you ride on low pressure tire.

Warranty

Limited warranty

Manufacturer, Kingsong Intell Co., LTD warrants the EUC by following limits. Motor, mother board for 365 days from the item departure from factory. Battery package for 183 days from the item departure from factory. Warranty is valid only within a total mileage of 2000km.

Exclusion from warranty

Above limited warranty covers only manufacturing defects and does not cover any damage from unauthorized modification, improper operation, disassembly. Normal wear and tear from road use such as tires and tube damage is not included in warranty coverage.

After sale service

Please contact your local dealer, Ride The Glide for assistance.