



# KS-S18 User Manual

## WARNING

Electric unicycle is designed for the outdoors and short distance personal transport.

**SAFETY IS THE NUMBER ONE PRIORITY!**

**PLEASE RIDE UNDER LOCAL LAW!**

The user manual below is a quick and convenient guide of safety & item functions/features to end user. We can't 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. Riding like all outdoor activities comes with its risks. You risk serious danger and injury if you fall, collide or lose of control when riding, please ride with caution and at your own risk.

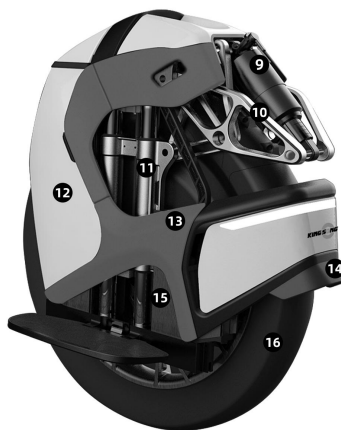
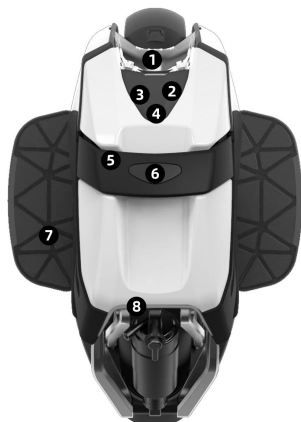
Thanks you for purchasing King Song smart electric unicycle!

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# 1. Product Detail

## 1.1 Diagram: KS-S18



1. Headlight
2. USB Port
3. Charger Port
4. Power Button
5. Trolley Handle
6. Trolley Handle Button
7. Pedal
8. Brake Light

9. Suspension
10. Suspension Support Frame
11. Slide/Lower
12. Outer Shell
13. Padding
14. Mud Flap
15. Battery
16. Tire

## 1.2 Specifications

Model NO	KS-S18
Top Speed	Full speed unlocked after 10km. Max speed of 50km/h (Factory alarm settings: Level 1- 18km sound alarm Level 2- 19km sound alarm Level 3- Sound alarm with tiltback).
Mileage	Around 90~100km
Maximum Grade	Around 35°
Battery	Rated Power: DC 74V Top Charging Voltage: DC 84V Rated Capacity: 1110Wh Smart BMS with balance and protect overshoot / over discharge / overcurrent / short circuit / overheating function, support monitoring the battery conditions via KingSong APP
Operating Temperature	-10℃/+60℃
Max Load	120kg
Charger Voltage	Input AC 80~240 V / Output DC 84V、1.75A/2.5A
Charging Time	1110Wh: about 10h 1.5A / about 6h 2.5A

Rated Power	2200w
Max Power	5000w
Color	White / Rubber Black
<b>Dimension &amp; Weight</b>	
Dimension	657-557mm(H) * 530mm(L) * 200mm(W)
Package Size	630 * 295 * 750(mm)
Suspension Specification	200-57 Air suspension
Suspension Specification	Using a variable lever the wheel has dampening travel distance of 100mm, which is transferred to the rear spring suspension with a travel distance of 57mm.
Pedal Altitude (from ground)	210-110mm
Tire Size	18inch Diameter 3.0" inch
Weight	1110wh around 25kg
Port	Charging port、 Switch port、 Light sensor port、 USB discharge port
Light Up Displays	Rear light housing displays battery level, braking and turning signals all in one unit

Protective Measures	
Lift Sensor	Lift sensor accurately senses and determines when wheel is lifted off the ground to stop tire rotation.
Roll Protection	45° left and right side. ( Motor stalls when over 45° ) Place the machine vertically on the ground will restart automatically, no need to restart manually.
Speed Limit Protection	Beep alarm or voice alarm when exceed limit speed
Low Battery Protection	Low battery protection activated on 30% battery, speed will decreases linearly; when the battery is lower than 5%, voice alarm for charge, when battery at 0%, the front part of the pedal will rise to decelerate until full stop
Higher Temperature Protection	When the motherboard reaches 80°C it will result tilt back. When the motor reaches 120°C it will result in tilt back.
Alarm & Features	
Switch On/Off	Short press power key: turn on Long press: hear a click then turn off

Battery Indicate	Led shows battery level when EUC power on at rest
<b>Hardware Features</b>	
Main board	The motherboard is designed with a 4 layer structure, allowing for better stability performance. 12 large individual TO-247 imported MOS to sufficiently support the 2200W motor. MOS is attached to the aluminum body frame of the wheel for better heat dissipation.
Bluetooth	Bluetooth 4.0. Allowing strong stable data transmission
USB Output	Quick charge 3.0
Front Light	2*5w light high beam with 2*4w short beam. Double the strength of the 16x, providing excellent illumination at night.
Temperature System	Temperature of the motherboard is continuously closely monitored to ensure rider safety.
Handle	Aluminum constructed handle designed for ergonomic pushing of the wheel or lifting of the wheel.
Motor	Higher power 2200w motor that provides a maximum torque of 140N.m providing fast acceleration



Suspension System	Unique X shaped suspension system. Racing level suspension provides the ultimate support and shock absorption
<b>Package</b>	
Standard Accessories	1x Charger, 1x Manual, 1x Pump, 1x Warranty card, 1x QC certificate

## 1.3 Features

1.3.1 Sports Bike inspired design. Aerodynamics with air intake system. Aggressive curvature design.

1.3.2 Variable Linkage dampening air suspension system using 200-57 suspension.

- a. X shaped suspension travel of 100mm.
- b. Suspension is interchangeable and allows for personal modification and custom ride style.
- c. Adjustable air suspension system from on to off. Off state still reacts to big bumps but will ride similar to a wheel without suspension.

- d. Rotary switch for sensitivity adjustment.
- e. Different pressurization can be adjusted to according to rider weight.

1.3.3 Padding designed in cooperation with Kujirolls.

1.3.4 User Experience focused ergonomic design to connect wheel with rider.

1.3.5 12 MOS design connected to aluminum body frame for fast heat dissipation without the need of fan.

1.3.6 Headlights are 2 times stronger to the 16X with 2\*5w (high beam) and 2\*4w (short beam) with automatic sensor to switch between modes.

1.3.7 Ergonomic handle designed for pushing and lifting which can be hidden inside body frame when not in use.

1.3.8 First ever high performance wheel with limited wiring with all key components housed on PCB.

1.3.9 Rear light displaying battery level, braking and turning signals all within one singular unit.

1.3.10 21700 Battery system for better; efficiency to space ratio.

## 2. Safety

As an outdoor sport and auxiliary transport device, serious injury may occur any time during riding. PLEASE BE CAUTIOUS ALL THE TIME, LEARN AND PRACTISE STEP BY STEP BEFORE IT REGULARLY. READ THE INSTRUCTIONS THOROUGHLY AND CAREFULLY TO LIMIT THE RISK OF INJURY.

### 2.1 Important

- Do not make rapid acceleration or deceleration or over incline forward or lean backwards.
- Do not use the EUC if there are any risks of accidental falls.
- When there is alarm of over power, over voltage, low battery, please decelerate at once.
- Please keep in mind deeply: most accidents are caused by rapid acceleration or deceleration. So please operate EUC properly to protect the device and yourself.

### 2.2 Attention

- Please wear helmet, gloves. Elbow/Knee pads or other protection garments.

- Please check the device before ever ride to make sure no parts are loose or damaged.
- When there are crowded pedestrians, please slow down to match their walking speed.
- When carry the device, please make sure the power is off.
- Do not ride on highways or any other prohibited places.
- Do not ride on rough or bumpy surfaces, such as muddy or pebbled roads.
- Do not ride on wet, slippery surfaces, especially snowy roads.
- Any person under 12 is strictly prohibited to use the EUC.
- Do not ride in bleak winter conditions.
- Riding backwards is dangerous. Try to avoid riding backwards unless safety guaranteed.
- Don't jump with the EUC.

Other sudden unpredictable risks may occur during use, please ride with care. Kingsong Intell Co.,LTD will not be responsible for any injuries caused by improperly operations of the device.

## 3. Features

### 3.1 Integrated trolley bar

### 3.2 Front illuminating light & Rear Brake light

### 3.3 APP

- For Android apk: Please access to our official website: [www.kingsong.com](http://www.kingsong.com), android apk can be downloaded.
- For IOS app: Please download from apple store, 'kingsong' is the exact one.



KINGSONG APP(Android)



KINGSONG APP(IOS)

### 3.4 Riding Mode

Riding Mode refers to the torque during start-off and braking.  
Expert Mode / Riding Mode / Learner Mode decelerate,

turning and so on.

Riding mode and Expert mode is for rider who want more performance.

Experient mode can satisfy the group who wants to perform skills like jumping, also it can avoid pedal tilt back when climbing up or down steep hills.

### **3.5 Self-inspection and horizontal calibration**

Firstly, switch on the EUC and keep it standing still on the ground until it finds it's balance. Then login to the APP and connect with the wheel to check the device information.

## **4. Precautions and Preparation**

### **4.1 Precautions**

- Please find a smooth surface to practice on.
- Warm up your body and ensure you're wearing safety gear such as helmets, knee pads, elbow pads and wrist guards.
- Ensure the wheel's battery level.
- Check the unicycle for imperfections such as any looseness, abnormal sound. We also highly suggest pushing the unicycle by ahnd to see if there's any friction between tire and the case

of the wheel.

- Have a friend assist you if required.
- Please do not accelerate or decelerate rapidly, please also try to avoid over leaning or leaning too fast to prevent rider injury.
- Padding up the wheel during the learning process is highly recommended to ensure minimal scrapes on the exterior of the wheel.

## **4.2 How to use**

### 4.2.1 Starting on the unicycle

Hold the wheel with one hand and ensure the wheel sits vertically on the ground. Unfold the pedals and switch on the wheel, it will self-balance forwards and backwards, if it does not, please ensure the wheel is upright. Quick pressing the power button once the wheel is on will toggle different light modes.

### 4.2.2 Standing on the unicycle

With the pedals unfolded on both sides please stand on it with your preferred foot in the center of the pedal. Balance the wheel under you by keeping the other foot on the other side of the wheel. If you are left footed, keep your other foot at around

5 o' clock, and if you are right footed please keep the other foot at around 7 o' clock.

If you are having a difficult time balancing the wheel under you make sure you find a centre point of balance between these three points: a) bottom of the tire b) where the top of you leg touches the wheel c) your foot. Finding the balance point between these three points will allow you to more easily control the wheel under you.

#### 4.2.3 Learning to ride forwards and braking

Whilst having the wheel balanced under you, use your non-preferred foot to push off and lean forwards to begin going forwards, once the wheel gets going please put your non-preferred foot back onto the wheel. Focus on balancing and not falling left or right. Try to look ahead rather than down! Have your hands out to help you balance!

To come to stop simply lean backwards and the wheel will slow down and come to a stop. You may dismount your non-preferred foot when standing.

Note: The harder you lean forwards or backwards will dictate the speed in which the wheel accelerates and decelerates.



#### 4.2.4 Turning

When turning, lean your body gently to the side in which you want to go and straighten up when you want to go straight again! As you become more experienced at riding you will find other ways to turn such as; letting the wheel fall just side to side, just turning the lower part of your body, leaning your entire body. Advanced riders will usually incorporate a combination of these.

## 5. Battery

### 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 (°C)	-20	-10	0	10	20	30	40	50
174Wh using ratio	40%	60%	80%	90%	95%	100%	105%	110%
MPU (Km)	8	12	16	18	19	20	21	22

MPC: Mileage per fully charge

### 5.2 Charging

Forbidden to use chargers not original from factory to avoid accident.

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

## **6. Care and Maintenance**

### **6.1 Conservation**

Don't place the unicycle in a wet condition.

If left 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, in case of changing, please contact us, we will provide you with professional services.

Clean the unicycle with wet cloths and detergent, gasoline, solvent or any other chemical reagent are forbidden.

Use the inflation tube to inflate the tire. Without the tube, you will not be able to pump air into the wheel.

## 7. Warranty

### 7.1 Limited Warranty

Manufacturer Kingsong Intell Co., LTD warrants the EUC by following limits.

Motor, Controller 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.

### 7.2 Limited Warranty

Above limited warranty DOES not include damage or lose 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 After sale service

If need after sale service, please kindly contact your local dealer, distributor for assistant.



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