

Mini scooter User Manual



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Introduction

The VSMN1 is a state-of-the-art means of transportation adopting aerospace attitude control theory, fuzzy logic software algorithm, and a gyroscope system to maintain balance by leaning forward and backward. Riders can control the vehicle to go forward, accelerate, decelerate, brake, etc. by leaning forward or backward. Similar to the techniques of riding a bicycle, the riders achieve balance on the VSMN1 by slightly tilting sideways.

The VSMN1 is one of the greenest and lightest smart personal transportation devices which can be easily carried into buses or subways, facilitating daily commuters.

About this user manual

This manual includes safety usage instructions. Please make sure this manual is read through and fully understood before you use and ride the VSMN1.

Inside the package you will find: the VSMN1, battery charger, user guide and manual, service record card card, and quality certificate.

1. Introduction

The VSMN1 is a state-of-the-art means of transportation adopting aerospace attitude control theory, fuzzy logic software algorithm, and a gyroscope system to maintain balance safely by leaning forward.

Riding backward can be dangerous. Only ride slowly in reverse to avoid obstacles.

Lean forward slightly to accelerate. Do NOT lunge forward suddenly. You may lose balance and ~~get~~ injure yourself when accelerating excessively.

2. Safety

There are risks of riding or driving any vehicle. The VSMN1 is no exception. Please make sure this manual is read through and fully understood before getting started, and be alert when riding.

Important Notes:

1. Do not make sharp acceleration or deceleration, or excessive forward or backward movements.
2. Do not ride The VSMN1 within any inappropriate environment e.g. on gravel, or bumpy surfaces where accidental falling is likely. Safety First !

Attention:

1. Wear a helmet, gloves, elbow/knee pads and other relevant protection equipment.
2. Do not ride The VSMN1 on busy roads or crowded streets.
3. Do not ride The VSMN1 on rough or bumpy surfaces, mud or gravel.
4. Do not ride The VSMN1 on wet, slippery surfaces, especially icy ones.
5. Do not ride The VSMN1 on slopes greater than a 15° gradient.
6. Do not allow children under 15 to ride The VSMN1.
7. Do not ride The VSMN1 in bleak winter conditions.

Other unpredictable risks may occur during usage, please ride with caution.

VSMN1 and its distributors are not responsible for any injuries caused by or through misuse of the product.

2.1 Safety and Riding Guidelines

Please be aware of and abide by local laws, bylaws and regulations when riding The VSMN1. Be careful and considerate of others, and take precautions to avoid accidents and collisions.

Please ride at safe and proper speeds and make sure your VSMN1 is under your full control at all times. Keep yourself a safe distance from pedestrians and vehicles and always be prepared to stop.

Respect and avoid startling pedestrians, especially children and older citizens. When approaching from behind, advise pedestrians of your approach politely and slow down when passing. When approaching pedestrians from the front, slow down. In heavy pedestrian traffic, slow down and proceed at a walking speed. Pass only if there is enough space to pass safely. Do not weave in and out of pedestrian traffic.

Keep a safe distance from other VSMN1 riders and always divert away from obstacles. Unless there's enough space for other pedestrians, please do not ride side by side with fellow VSMN1 riders.

Do not ride in poor light.

Relax your body when riding, bend your knees and elbows slightly and look straight ahead.

3. Place one foot on the center of a pedal and ~~bent~~ bend that leg slightly to press on the cushion rubber firmly.

4. Stand upright naturally and look straight forward and ahead. Shift your body weight to the leg standing on the ground and try to achieve balance.

5. Maintain this position and shift your body weight gradually to the other leg and lift your supporting leg from the ground and try to maintain balance in a stationary position.

6. Please follow and practice the above steps before attempting to ride the VSMN1.

2.2 Initiative Safety Measures

Do not allow others try your VSMN1, unless he/she has read through this manual.

Always wear a helmet and gloves while riding the VSMN1. Make sure your helmet is a comfortable fit and certified for safety protection. Riders ~~may~~ should wear glasses, elbow/knee pads etc. according to their own requirements.

Please do not ride the VSMN1 under the influence of, or affected by alcohol~~ie~~/drugs or not able to follow the instructions ~~on~~ within the manual.

Please stop riding immediately when the VSMN1 starts alerting for low power or over speed. Charge your VSMN1 appropriately to ensure safe and smooth usage.

Make sure to power off your VSMN1 before lifting, carrying and moving it. Do not lift the VSMN1 by the wheel in case your fingers get caught between the tire and case.

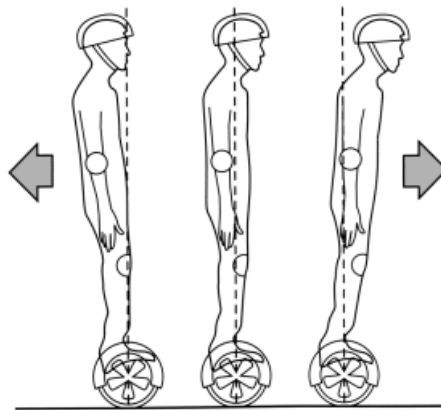
Check your VSMN1 carefully for any loose or damaged parts every time before usage.

3. VSMN1 Learning Tips

3.1 Preparing For Use

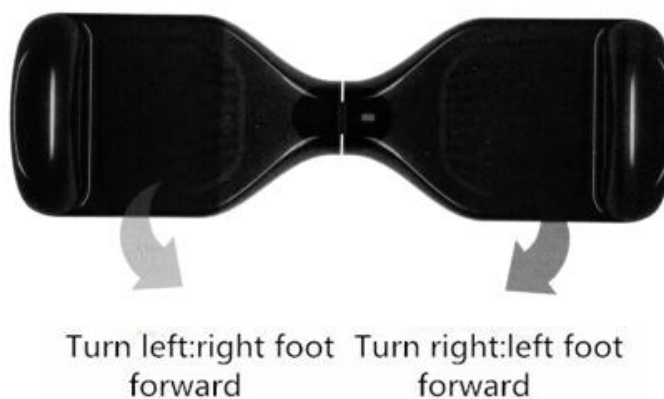
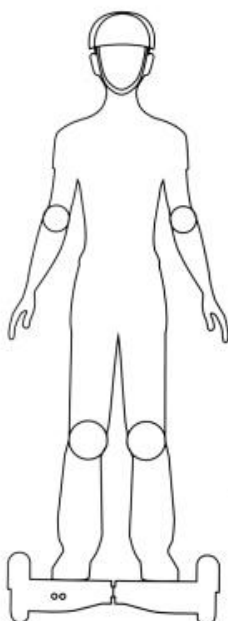
For beginners, be sure to equip yourself with comfortable clothing and sneakers. Warm up your body and

keep your body agile. The height of the pedal platform is set 6cm from ground, ensuring a very small fall should you fall. A Helmet, gloves, knee and ankle pads are also recommended for beginners. To start, please use the VSMN1 in an open space and watch out for obstructions and bumpy terrains.



3.2 Operating instructions:

1. Turn on the the VSMN1 by momentarily pressing the power switch, view the battery indicator and ensure the VSMN1 has enough power. If the charge level is low please charge the unit prior to use.
2. When you turn on the the VSMN1, you will hear a "beep", and it will enter standby mode. When One foot is on the pedal, the light is lit. The system now enters self-balancing mode. Keeping stable, place the other foot also on the other pedal, and start to operate.
3. In a standing position keep your balance using gentle forward and backward body movements by gradually leaning to control the scooter forward and backward.
4. When the left foot is forward, the scooter will turn right. When the right is foot forward, the scooter will turn left.
5. To dismount stay stationary, lift left foot and step backwards and off the left pedal, then step off right pedal quickly.



3.3 Important Notes



Warnings

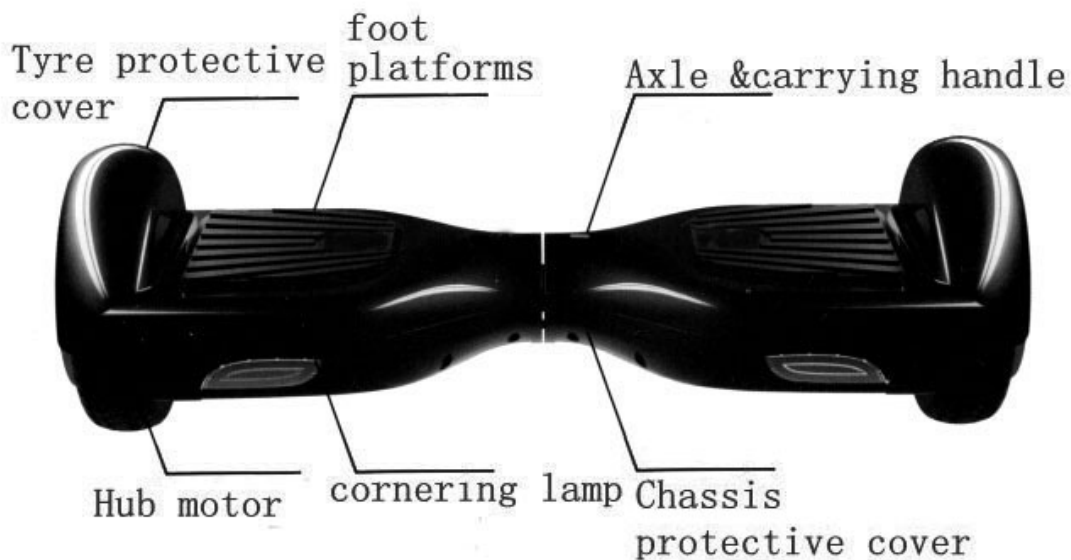
1. All beginners and inexperienced riders should have a 'training partner' to help with safety and balance initially.
2. Check the power level and tyre condition before riding.
3. Please control speed and ride smoothly.

In the following conditions the VSMN1 will automatically turn off and an alarm will sound. Stop riding immediately.

1. When you turn on the VSMN1, forward or backward more than 10 degrees.
2. The battery voltage is too low, (below the protection value)
3. During charging.
4. In the process of riding, due to over speed. (pedals will rise automatically) .
5. The scooter body is overloaded. (See max allowable weight in specifications section)
6. Low battery.
7. The scooter body rocking back and forth for more than 30 seconds.
8. System into protection mode.
9. Pedal forward or backward more than 35 degrees, immediate shutdown.
10. Wheel stuck or jammed, shutdown after two seconds.
11. Continuous high current discharge (e.g. climbing steep slopes), shutdown after 15 seconds.

4. VSMN1 Usage

4.1 Main Parts Di



4.2 Description of indicator lamps:

Battery Indicator:

Green - full power. Yellow - 50% power. Red - 20% power, charge as soon as possible.

Running Indicator:

Green light - normal operation. Red light - System error.

4.3 Speed Control

In the interests of safety the VSMN1 is set to a maximum speed of 10km/h. When the speed exceeds 10km/h, the pedal will gradually level causing the VSMN1 to slow down.

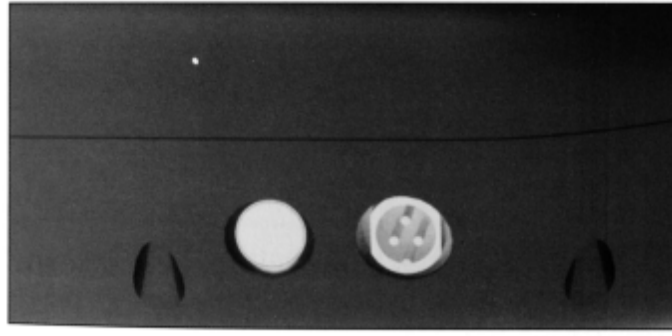
NOTE:

In order to prevent injury do not lean further forward to accelerate when approaching the maximum speed.

4.4 Charging

Points for attention:

1. Before charging, the VSMN1 must be turned off by the power switch
2. When charging, first connect the mains AC 3 plug (the charger status led is green) and then connect the power plug into the VSMN1 for charging.
3. During charging, the red light indicates charging, when the light is green the charge is complete.
4. When the charging is complete, disconnect the charge plug to prevent the VSMN1 battery from overcharging.



4.5 Rain/Water Resistance

The VSMN1 is IP56 water-proof rated equipment, which operates safely in up to 10 cm of water. The VSMN1 can be ridden and operated in light rain and drizzle, however avoid sinking it in deep water or riding in heavy rain for extended periods.

5. Maintenance

5.1 Storage

Please store the VSMN1 in a dry location. If not used regularly recharge the battery every two months to maintain the battery life.

5.2 Daily maintenance

Switch off the VSMN1 when not in use to protect the life of the battery and control system .

5.3 Usage Restrictions:

Do not attempt to climb high slopes or bumps in order to prevent damage to the chassis.



Note:

Do not open the machine casing. There are no user serviceable parts inside. Any malfunction or damage caused by opening the VSMN1 will not be covered by the warranty.

6. Warranty

Please retain your proof of purchase (i.e. receipt).

Limited Warranty Terms (Limited to Manufacture failure only):

1. 1 year for the main body (battery and other wearing parts not covered).
2. 6 months for battery and one month for tyres.

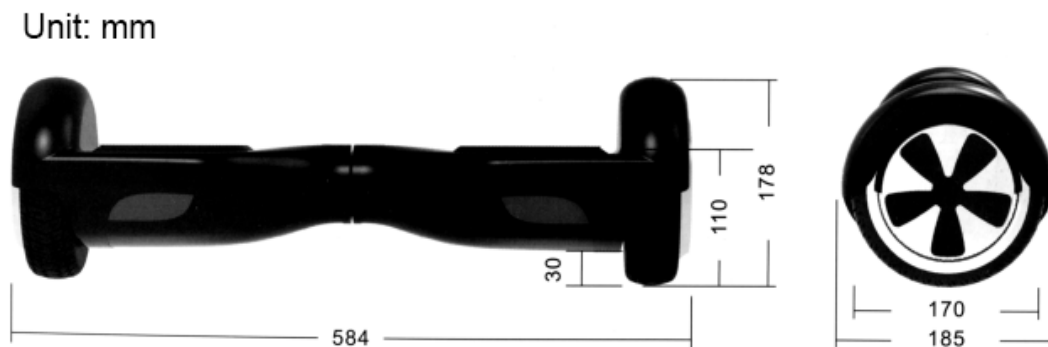
The following situations will not be covered by the warranty:

1. Malfunction due to misuse and accidents.
2. Malfunction caused by unauthorized modifications, disassembly, or repair.
3. Accidental damage or malfunction due to improper storage.
4. Discrepant warranty/VIN number and product.
5. Exterior damage due to usage.
6. Disassembly.
7. Damage or malfunction caused by water / liquids.

7. Specifications

Item	Specification	Parameters
Performance	Max Speed	Approx. 10 km/h
	Range per Charge	Approx. 20km
	Safe Climbing Angle	Approx. 15°
	Battery	36V/4.4AH Rechargeable Samsung lithium battery
	Operating Temperature	-20°C ~50°C

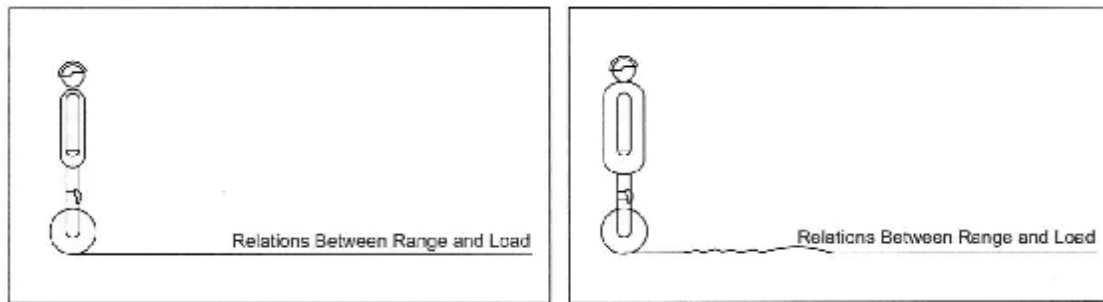
	Max Load	100Kg
	Charger Input Voltage	100-240VAC 50/60Hz
	Charging Time	2-3 Hours
Exterior Parameters	Size	Height: 540mm, Length: 370mm
		Width: 117mm
	Pedal Height	60mm
	Tyre Size	170mm
	Main Body Weight	10.15Kg
Safety Measures	Tilting Protection Speed Limiter Protection	10°side-to-side on average Activated at 10Km/h
	Low Battery Protection	Activated at 25% power battery
Alerts	Power and Error	LED Power Indicators
	Indication	
	Battery Power	Yellow light means battery power:50% Red light means battery power:20%
	Alert Sound	Beep when powered on ; Continual Beep when low power protection activated
	Alert Sound	Long buzz when tilting sideways.
Peripheral Items	Standard	Charger, Manual



8. Appendixes

8.1 Relationship Between Range and Load

Similar to the relationship between fuel consumption and cargo load, range per charge is related to rider's body weight. Based on practical tests (benchmarked ~~to~~ at 60kg), the range per charge will fall by 1.5~2.0km for each additional increase of 10kg.



8.2 FAQ

Q: How long will it take to learn to ride the VSMN1?

A: 5min for most people to get the hang of the VSMN1 and probably several days to become fully competent. Please follow the Operating and Safety & Riding guidelines within this user manual. Please ensure you've read through it and, as recommended, find yourself a training partner to help get started.

Q: Is it safe to drive the VSMN1?

A: The ~~car~~ VSMN1 has a safety and alert system, when you ride the VSMN1 too fast, N1 an audible warning will sound, the pedals will level, this should prompt you to reduce speed.

Q: What is the speed of the VSMN1?

A: The top speed of the VSMN1 is 10Km/h, which is equivalent to approximately 2 times the average adult walking speed.

Q: N1 can be driving on different surfaces ?

A: The VSMN1 is designed for use on flat surfaces and indoor use only.

Q: Can I ride the VSMN1 in the rain?

A: It's not recommended, Ride slowly puddles to avoid water damage.

Q: Must I reboot the VSMN1 after it falls over ?

A: Yes, when the VSMN1 falls over, it's internal electronic system will launch incline protection immediately to protect the rider ~~player~~, surrounding people and itself. Place on a flat surface and switch off and on to reboot.

Q: I can't get my VSMN1 charged, why?

A: Please follow the default steps to charge your VSMN1: First, plug the charger with N1, then connect the charger to power supply, otherwise the charge process won't start.

8.3 Points for attention:

1. If you need to move the VSMN1, please make sure it is switched off and non operational.
2. If you do not use VSMN1 for a long time, turn off at the power switch.

