

USER MANUAL

Mantis



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BEFORE YOU START

This product is an electric scooter, used for short distance walking, please use this product under safe road.

It is important to read through, understand, and adhere to all the instructions and safety warnings in this manual before charging and operating this scooter.

Upon receiving and opening your box, please inspect the contents for signs of damage or loose screws from transport. If something doesn't feel right, please take a few pictures and contact your place of purchase immediately.

Your scooter comes with a 180-day limited warranty against manufacturing defects. In case of any issues beyond this time frame, we will still help you but we may need to charge a fee for spare parts or repairs.

If you have purchased your scooter from a dealer other than kaabo.com, please contact them first in case of any issues. If you still need help or you have purchased directly from kaabo.com, please feel free to contact us with any questions or concerns.

Make sure you understand and adhere to local rules and regulations for riding electric scooters. Riding an electric scooter comes with inherent risks and hazards. To minimize risk of falling or being injured, make sure you understand how to safely operate and control this scooter.

Always use good judgement, common sense, and protective gear.

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GENERAL SAFETY WARNINGS

Always wear a helmet and protective safety equipment.

Wear closed shoes without heels and ensure your laces are tied.

Do not ride with more than one rider or exceed the weight limit of

120kg/265lbs in any other way. Only use your scooter in line with its intended purpose.

Check your scooter for any loose parts or screws, flat tires, signs of damage or excessive wear before every ride. Stop operation immediately and contact your place of purchase if something does not feel right.

Check your scooter for any loose parts or screws, flat tires, signs of damage or excessive wear before every ride. Stop operation immediately and contact your place of purchase if something does not feel right.

Start riding slowly to familiarize yourself with the operation of your scooter. Start in first gear and slowly try out the brakes. Always slow down when riding over bumps or on rough road conditions. Keep the scooter away from children. It is not a toy. Riders must be age 16+ only.

Do not use your electric scooter in heavy rain, or on surfaces covered by more than ½ inch of water. Do not submerge the scooter in liquid or let any liquid near the battery or electrical components.

Do not lend your scooter to anybody unfamiliar with its operation. Ensure any new riders are familiar with these instructions and are wearing proper safety gear.

Once riding in public space, you are subject to the risks faced by all traffic participants just like when you are riding a bike.

- Other traffic participants may not obey traffic regulations or may ride carelessly.
- The faster you ride your scooter, the longer it will take you to stop.
- The scooter may slip on slippery surfaces leading to subsequent injuries to the rider. Pay special attention crossing train tracks and/or when it is wet.

oAlways use caution, adapt your speed to road and traffic conditions and keep distance from

01 MANTIS OVERVIEV

What's in the Box:



(with detached handle bar)

Watch out for pedestrians. Do not use your scooter in any way that could harm pedestrians. Slow down when you are passing them to avoid accidents.

You must follow all local traffic rules and regulations.

Matters needing attention:

- 1. The braking distance will be extended in wet weather
- 2. Different materials and components may react differently to wear or fatigue. If the intended life of a component has been exceeded, it may suddenly break, thus potentially causing harm to the user. Cracks, scratches and discoloration in areas susceptible to high stress indicate that the component has outlived its service life and should be replaced."
- 3. Please check the light and road conditions when using at night.



Rated Capacity: 48V = == 18.2AH Input: 54.6V === 2A

WARNING! Please turn off the vehicle when charging

WARNING! Don't charge the flooded scooter and check with a professional

WARNING! Don't charge the scooter when no one is present or while sleeping Don't charge the WARNING!

Don't charge the scooter when you find an electric shock and check with a

Professional

WARNING! Don't charge or leave the battery storage under a high-temperature above 45 degree

WARNING! Don't touch the charging port with the wet hands

WARNING! Do not charge near fire

Technical Specifications

kaabu ®		Mantis	3		
Configuration	48V 13Ah ★	48V 18.2Ah ★	48V 18.2Ah ★	48V 24.5AH ★	48V 24.5AH ★
Product category		EN 17128 CLASS 2			
color					
Battery Type			i-lon battery pack 18650		
Battery model	DMEGC26E	DMEGC26E	DMEGC26E	LG MJ1/samsung 35E	LG MJ1/samsung 35E
Moter power	brushless motors 500W *2	brushless motor 800W	brushless motors 800W *2	brushless motors 800W *2	brushless motors 800W *2
Max.Speed	25km/h	25km/h	25km/h	25km/h	25km/h
Max.Range	Around 40Km (75kgs load,25km/h flat road continous riding basis)	Around 60Km (75kgs load,25km/h flat road continous riding basis)	Around 60Km (75kgs load,25km/h flat road continous riding basis)	Around 80Km (75kgs load,25km/h flat road continous riding basis)	Around 80Km (75kgs load,25km/h fla road continous riding basis)
Climbing Angles	<20 °	<25°	<30 °	<30 °	<30 °
Max. load	120kg				
Charger			54.6V 2A GX16-3 1+3-		
Charging time (use 2A*1)	Around 6.5 hrs	Around 9.1 hrs	Around 9.1 hrs	Around 12.3 hrs	Around 12.3 hrs
Charging time (use 4A *1 fast charger)	Around 3.3 hrs	Around 4.6 hrs	Around 4.6 hrs	Around 6.2 hrs	Around 6.2 hrs
Shock Absorber	Front and Rear C type spring shock absorber				
Brake	disc brake +EAB	disc brake +EABS(120mm) disc brake +EABS(120mm) (Optional front and rear hydraulic)			full hydraulic brake+AB
Light system		LED front light+LED deck light+Turn Lights+Headlight with horn			
Controller	Sine Way	Sine Wave (dual-motor version Optional Minimotors controller) Minimotors controller			
Unfolding size		1160x560x1190mm			
Folding size	1160x560x478mm				
N.W.	25.3KGS	24KGS	27.5KGS	27.8KGS	27.8KGS
G.W.	30.3KGS	29KGS	32.5KGS	32.8KGS	32.8KGS
Packing box size	125.5*28.1*56.8cm				
Tyres			n x 3.0 wacuum, 80mm wid		
Display	LCD Intelligent Display (battery power, single mileage, total mileage, service time Speed display, charging mode) (Optional Minimotors EY3) Minimotors EY3				
Product material	Handle, frame, bar material 6061- t6 aluminum alloy and 6082- t6 aluminum forging; Cover PP:				

kaabu	(6)	Man	tis		
Configuration	48V 13Ah ★	48V 18.2Ah ★	60V 18.2Ah ★	60V 24.5Ah ★	60V 24.5Ah ★
Product category	1		EN 17128 CLASS 2		
color					
Battery Type			Li-lon battery pack 1865	50	
Battery model	DMEGC26E	DMEGC26E	DMEGC26E	LG MJ1/samsung 35E	LG MJ1/samsung 35E
Moter power	500W gear /brushless motor	800W brushless motor	1000W *2 brushless motor	1000W *2 brushless motor	1000W *2 brushless motor
Max.Speed	25km/h	25km/h	25km/h	25km/h	25km/h
Max.Range	Around 50KM (75kgs load,25km/h flat road continous riding basis)	Around 70KM(75kgs load,25km/h flat road continous riding basis)	Around 75KM(75kgs load,25km/h flat road continous riding basis)	Around 90KM(75kgs load,25km/h flat road continous riding basis)	Around 90KM(75kgs load,25km/h flat road continous riding basis)
Climbing Angles	<25 °/<20 °	<25 °	<30 °	<30 °	<30 °
Max. load		120kg			
Charger		67.2V2A GX16-3 1+3	3- /54.6V 2A GX16-3 1+3	- /67.2V4A GX16-3 1+3-	
Charging time (use 2A*1)	Around 6.5 hrs	Around 9 hrs	Around 9 hrs	Around 12.3 hrs	Around 12.3 hrs
Charging time (use 4A *1 fast charger)	Around 3.3 hrs	Around 4.6 hrs	Around 4.6 hrs	Around 6.2 hrs	Around 6.2 hrs
Shock Absorber	1	Front a	nd Rear C type spring sho	ck absorber	
Brake	disc brake +EABS (140mm) semi hydraulic brake+EABS (140mm) (Optional front and rear hydraulic) full hydraulic brak+At		full hydraulic brak+ABS		
Light system		LED front light+LED deck light+Turn Light+Headlight with horn			
Controller	Sine W	Sine Wave (dual- motor version Optional Minimotors controller) Minimotors controller			
Unfolding size		1267*560*1230mm			
Folding size	1267*560*480mm				
N.W.	22.8KGS	25.3KGS	31KGS	31KGS	31KGS
G.W.	28.8KGS	31.3KGS	37KGS	37KGS	37KGS
Packing box size			129.5*28.1*56.8cm		
Tyres	10*2.25 inch 10*2.5 inch (Optional10*3.0 Street tyres/Off road tyres.)				
Display		LCD Intelligent Display (battery power, single mileage, total mileage, service time Speed display, charging mode) (Optional Minimotors EY3 only for dual motor models)			
Product material	Handle, frame, bar material 6061- t6 aluminum alloy and 6082- t6 aluminum forging; Cover PP; Shaft scm440;				





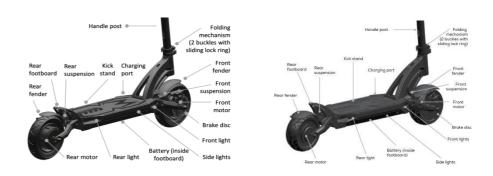
Key Components



MANTIS 10



MANTIS 8



Charging the Mantis:

- 1. Turn your scooter off
- 2.Locate the charging port
- 3. Open the charging port cover
- 4. Connect the charger to the scooter's charging port
- 5.Plug in the charger to the wall power outlet

The LED on the charger will turn red while charging and turn green when the scooter is ready for use. Remove the charger and cover the plug. Charging time with the included 2A charger is 7-9 hours for the Mantis 18.2Ah version, and 10-12 hours for the Mantis PRO 24.5Ah version.

Battery Maintenance

We suggest to charge your scooter after every use. This is not required but recommended.

A lithium-ion battery is a consumable device. Please replace with a new battery once capacity drops below 50% of what you experienced initially. Contact your place of purchase for a replacement.

Make sure the battery is charged and that the scooter is turned off before storing your scooter for extended periods at a time.

Store your scooter in a dry and cool place. Do not keep it outdoors or in outdoor sheds for extended periods of time, as excessive cold temperatures, heat, sunlight, rain, or other environmental conditions may impact safe operation and reduce the scooter's lifespan.

Charge your battery at minimum every 3 months to prevent it from running completely empty. Once the battery runs completely empty due to slow discharge while in storage, it may have to be replaced.

Batteries perform poorly at low temperatures. For instance, if the temperature is around 0°F (-18°C), battery capacity reduces by 50%. Capacity will restore to normal when temperatures rise.

Battery life and riding ranges will vary depending on usage, climate, conditions, rider weight, and/or riding style, proper care, and maintenance.

Battery Disposal

Do not dispose of your battery by way of landfilling, incineration, or household trash.

We recommend disposing your battery through a local recycling program suitable for lithium-ion batteries. Contact your local waste management service for more information.

Mishandling of used batteries may do tremendous harm to the environment. You must abide by local laws and regulations to properly dispose of used batteries.

Charging Warnings and Battery Safety Warnings

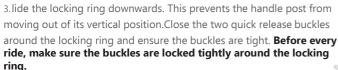
- Use caution when using outlets to prevent electric shock.
- Do not leave the charger plugged in for extended period of times (>24 hours).
- Only charge your scooter in a safe, clean, and dry environment. Keep the charger and scooter away from inflammable materials as they may get hot.
- Only use the original battery packs and the original charger supplied with your electric scooter.
 Contact your place of purchase if you need a replacement. Use of other models or brands may not be safe.
- Do not touch any part of the USB charging prongs and keep them away from metal objects to prevent short circuiting which may result in battery damage or physical injuries, and/or death.
- Do not place the battery in direct contact with heat or near high temperatures. Do not expose the battery to direct sunlight. Do not leave the scooter in a car where the battery might get hot.
- Do not pierce the battery with sharp objects. Do not subject it to impact or force.
- Stop charging if the battery fails to recharge within the approximate charging time. This will
 prevent the battery from overheating, rupturing, or igniting.
- Do not charge the battery in temperatures below 32°F (0°C) or above 104°F (40°C) as this can hamper performance, result in breaking, overheating, rupturing, or igniting and could cause personal injury or property damage.
- Do not charge your scooter if the charging port on the scooter is damaged or wet. Do not charge
 if there is excessive heat, odor or leakage coming from the battery or it looks abnormal in any
 way.
- If the battery leaks and you accidentally get in touch with the liquid, rinse immediately and thoroughly with water and then seek medical care.
- Never attempt to disassemble, modify, perform repairs or maintenance on the battery. You run
 the risk of damaging the protective and safety components that prevent incidents, personal injury
 or property damage.
- Mishandling or misuse of the battery can result in lower performance, shorter lifespan, rupturing, igniting, or other incidents and could increase the risk of serious personal injury.
- Do not discharge the battery using any other product than the scooter it comes with. Doing so
 could result in damage to the other product or the battery, and reduced lifespan of your scooter.
 The battery could overheat, rupture, or ignite and cause personal injury or property damage.

Assembling the Mantis

Carefully open the box and take the scooter out with both hands. **Do not pull the steering bar out by itself, as it is attached to the rest via the cable work.** Also pay attention not to lose the metal plaque with the fluid logo which you will need to screw on to secure the steering bar to the scooter.

1. Place the scooter on the floor and secure it by pulling out the kickstand





4. Place the steering bar onto the handle post and screw the metal plaque (with fluid logo) onto it with the four screws provided. For the most comfortable riding position, we recommend you place the handlebar in the most upward position when tightening the screws.



screw in x4



Folding your Scooter

- 1. Loosen the guick release buckles and slide the locking ring upwards.
- 2. Fold the handle post downwards until it touches the scooter's deck and attach it to the hook in the rear of the board. This will lock the handle post in folded position and enable you to carry your scooter with one hand while folded.

Your First Ride

Before using your scooter, make sure to visually inspect it for any signs of damage or loose parts/screws. Every scooter is individually tested before shipping from the factory, but we recognize that it has travelled far and in rare cases, it can get damaged during transport. If something does not feel right, contact your place of purchase before riding your scooter.

Pull the brake levers and ensure there is sufficient tension on the brakes BEFORE your first and any subsequent ride.

- Ensure you have sufficient run way ahead of you. Do not use the scooter indoors.
- Put both of your hands on the handle bar.
- Step with one foot on the scooter, kick it lightly with your other foot to bring it slightly in motion.
- Step with your second foot onto the board, hold on tight and pull the accelerator. Do prepare for
- strong acceleration and start slowly.

Braking Correctly

The Mantis scooter has dual front and rear disc brakes.

For braking, use the rear brake (the left braking lever on the handle bar) first for decelerating before engaging the front brake (the right lever) to come to a full stop.

When travelling at higher speeds, exercise caution when braking as the brakes are sensitive.

This is especially true for the front brake as you risk falling over the handle bar if your center of gravity is too high while performing a hard stop with the front brake alone.

Mechanical Disc Brake Check - Mantis 18.2Ah

Pull the brake lever and ensure there is sufficient tension on the disc brake before riding. Check frequently to ensure brakes are working properly.

In case there is not sufficient tension on the brake, you can tighten it a little with the barrel adjuster (the plastic turning bolt at the end of the brake cable, just before it enters the caliper):

- To increase brake tension, turn the barrel adjuster backwards so that the caliper arm moves closer to the barrel adjuster.
- Don't forget to tighten the nut afterwards so that the barrel adjuster stays safely in place.

If this does not do the trick or you have any doubts or concerns, please contact a local bike shop for help or reach out to your place of purchase.

Hydraulic Disc Brake Check - Mantis PRO 24.5Ah

Pull the brake lever and ensure there is sufficient tension on the disc brake before riding. Also check integrity of hydraulic systems frequently and ensure no leakage of oil to be certain brakes are working properly.

Turn Signal / Mode Switch



The switch has the following functions: light, turn signal, and horn button. When the light button is pressed, the front and rear deck light will turn on. When the turn signal button is pressed, the front and rear deck light will turn on and flash. When the horn button is pressed, the horn will start to work. When multiple buttons are pressed, the priority for the function from highest to lowest is turn signal, brake, and then light.

Driving Mode Selection



Located underneath the main display on the right side of the handle bar, you can find two switches to control driving modes:

The ECO/TURBO switch regulates the power of your scooter. By pressing down the button, ECO mode is activated, which will reduce torque and top speed to maximize range. When the button is not pressed, TURBO mode is activated and there is no restriction of power.

The SINGLE/DUAL switch toggles between single or dual motor drive. By pressing down the button, DUAL motor drive is activated. When the button is not pressed, SINGLE (rear) motor drive is activated.

For Maximum range, select ECO mode and SINGLE motor drive. For maximum power and speed, select TURBO mode and DUAL motor drive.

Display Settings - Mantis 18.2Ah

The Mantis scooter is equipped with the following display:



Gear change. To change the gear (1=slow, 2=medium, 3=fast), while the scooter is powered ON, press the POWER button to enter gear setting mode. Press MODE to switch between gears. To return to operating mode either press POWER or wait for 2 seconds.

- Speedometer: Shows the speed at which you are travelling.
- Battery Indicator: Shows the level of your battery. Charge your scooter frequently, and do not let it run out of battery. As a rough guideline, charge at or below 2 bars.
- Power Button: To turn the scooter on or off press the button for 2 seconds.
- Accelerator: Pull to accelerate. The stronger you pull, the faster it accelerates. The scooter is
 delivered in "Non-Zero Start" setting (Kick-And-Go is ON), i.e. the accelerator only works if the
 scooter is already in motion.
- Mode Button: Press to select various display options:

MODE	COMMENT
TIME	Time since powering on the scooter.
TRIP	Distance travelled since powering on the scooter.
ODO	Total distance travelled.
VOL	Current battery voltage.
CH2:00	Charging mode. Time (2 hours) scooter stays ON (overrides auto -switch off) so you can use the display's USB port to also charge things e.g. your phone.

Detailed P-settings mode. To access P-settings to make various advanced changes, press POWER [3] and MODE [5] simultaneously for 2 seconds.

Scan through the P-settings using the MODE button. To select a P-setting in order to make changes, press the POWER button. Change the value (up or down) using the MODE (Up) and POWER (Down) buttons. To return to the P-settings menu after changing a value, wait 2 seconds. To return to operating mode, wait a further 2 seconds.

Cruise Control. Cruise control allows you to maintain your driving speed automatically without continuing to hold down the accelerator. In order to enter Cruise Control, activate it first in the P-settings [P6].

While driving, keep the accelerator steady for a few seconds until Cruise Control kicks in and scooter travels at a constant speed without driver holding down the accelerator. When you activate the brakes Cruise Control will be cancelled. CAUTION: Ride in a position where you can immediately access the brake to cancel Cruise Control if necessary.

Display Settings

Mantis PRO 24.5Ah

The Mantis PRO scooter is equipped with the following LCD display:



- Speedometer: Shows the speed at which you are travelling.
- Battery Indicator: Shows the level of the battery. Charge your scooter frequently, do not let it run out of battery. As a rough guideline, charge at or below 2 bars.
- Gear: Shows the selected gear.
- Gear selector: Press to set gear (1=slow, 2=medium, 3=fast).
- Power Button: To turn the scooter on or off, press button for 2 seconds.
- Accelerator: Pull to accelerate. The stronger you pull, the faster it accelerates. The scooter is delivered in "Non-Zero Start" setting (Kick-And-Go is ON). The accelerator only works if the scooter is already in motion.
- Mode Button. Press to select various display options:

MODE	COMMENT
TIME	Time since powering on the scooter.
TRIP	Distance travelled since powering on the scooter.
ODO	Total distance travelled.
VOL	Current battery voltage.
СНА	Number of times battery has been charged (only full discharges are counted)

Detailed P-settings mode. To access P-settings to make various advanced changes, press MODE [7] for 2-3 seconds.

Switch through the P-settings using the MODE button [7]. In order to change a P-setting press GEAR button [4]. To return to operating mode, wait a few seconds.

	P-SETTINGS
P0	Tire diameter (8 for mantis 8, 10 for mantis 10). Do not change.
P1	System voltage. Default 60V. Do not change.
P2	Motor magnetic pole setting. Default 15. Do not change.(Mantis 10) Motor magnetic pole setting. Default 10. Do not change.(Mantis 8)
Р3	Speed signal selection. Default is 0. Do not change.
P4	Distance / speed unit. 0=km, 1=miles
Р5	Start setting. 1=non-zero start (Kick-and-Go), accelerator won't work if scooter is not in motion; 0 =immediate start (CAUTION while using this)
P6	Cruise control. 0=cruise control OFF, 1=cruise control ON. Advanced riders only.
P7	Initial acceleration. 0=strong power, 5=least power.
Р9	Motor torque. 1=50% of max. torque, 2=75% of max. torque, 3=max. torque
PA	Electric (regenerative) braking strength (E-ABS). 0=None, 1=Weak, 2=Medium, 3=strong.
РВ	Display brightness (0=off, 5=highest illumination)
PC	Scooter auto-turn off time in minutes (1-30 minutes).
PD	ABS (anti-lock braking system) setting. 0=ABS off, 1=ABS on (as in a car, the brake engages and disengages rapidly to prevent the wheel from blocking) WARNING: Due to increased vibration and force and on scooter components when using ABS, frequently check that all bolts are properly fastened.

Cruise Control. Cruise control allows you to maintain your driving speed automatically without continuing to hold down the accelerator. In order to enter Cruise Control, activate it first in the P-settings [P6].

While driving, keep the accelerator steady for 3-5 seconds until Cruise Control kicks in and scooter travels at a constant speed without driver holding down the accelerator. When you activate the brakes, Cruise Control will be cancelled. CAUTION: Ride in a position where you can immediately access the brake to cancel Cruise Control if necessary.

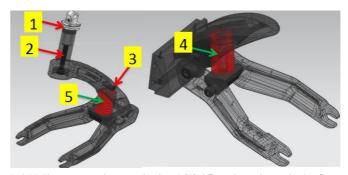
SCOOTER MAINTENANCE & TRANSPORT

Never perform maintenance on this product while the unit is powered on or charging. Always power off before performing maintenance. Do not attempt to perform repairs or modify the scooter but contact your place of purchase or refer to a professional repair facility.

Clean stains on your scooter's body with a damp cloth. Do not use alcohol, gasoline, kerosene, or other corrosive and volatile chemicals. Do not wash with high pressure cleaners. Make sure the scooter is turned off and unplugged during cleaning and ensure no moisture enters the charging port.

When transporting your scooter, please take into account that it contains lithium-ion batteries that are considered a hazardous material.

Always exercise caution and follow applicable rules and regulations when transporting your scooter. It is very likely that you will not be allowed to take your scooter and battery on an airplane.



NOTE: The parts and screws in the 1.2.3.4.5 position shown in the figure,in order to prevent metal fatiqure accidents, please replace these 5pcs screws after each year or reach 5,000 kilometres. please check or replace these parts at the nearest after-sale maintenance store. Regularly check the wheels, brake pads, and vulnerable parts of the wires, and replace them in time.

Self-tightening nuts and other self-tightening fasteners may fail, please contact the dealer for replacement in time.

It is forbidden to modify or repair the vehicle without authorization.

NOTE: INFORMATION, SPECIFICATIONS, WARNINGS AND ALL OTHER DETAILS INCLUDED IN THIS MANUAL ARE SUBJECT TO CHANGE AT ANY TIME, WITHOUT PRIOR WRITING. INQUIRE WITH THE VENDOR'S AFTER-SALES DEPARTMENT FOR MORE INFORMATION.

06	MEMO