SONIC DUALTRON
MODEL N

important information

MAINTENANCE MANUAL

Icon Indication | Fault maintenance | Safety instructions | Warnings | Charging |

More important information

Scan the QR code to download the latest user materials
and obtain the latest updates and safety instructions.

DUALTRON

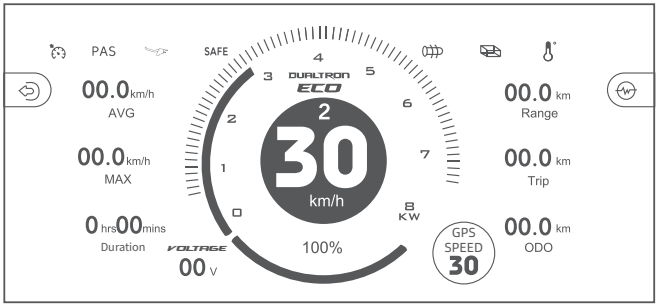
The dream of electric technology.

*The pictures shown are for illustration purposes only. The actual product or app interface may vary.

APP interface

Symbol	Name	Meaning	Description
	Imperial/Metric	Speed unit selection.	APP operation. "0" means metric,it is km/h; "1" means imperial,it is mph.The default is 0.
	CCS	Drive at a constant speed without stepping on the accelerator or brake.	APP operation. Turn on/off the cruise control mode. Default OFF. (The scooter maintains a fixed speed for more than 8s ,speed cruise work automatically)
PAS	PAS	Kick start,scooter cannot be directly accelerated to start.(Default OFF)	APP operation .When PAS turns on, PAS symbol will appear in the LCD screen.
EBS	EBS	EBS strength selection.	EBS (Electronic Brake System) intensity selection mode: When displayed as '0,' it indicates no EBS function. When displayed as '1,' EBS is at its weakest. When displayed as '2,' EBS is slightly stronger. When displayed as '5,' EBS is at its strongest. The parameters range from 0 to 5 and are adjustable, defaulting to 2.
	Wheel Diameter	Wheel diameter of the scooter.	Different scooters have different default diameters. They are set at the factory. Any modification is forbidden.
	Pole Pairs	Motor pole pair number of the scooter.	Different scooters have different motor pole pair numbers. They are set at the factory. Any modification is forbidden.
	Battery Voltage	Voltage of the scooter.	Different scooters have different default voltages. They are set at the factory. Any modification is forbidden.
	Battery Capacity	Capacity of the scoote .	Different scooters have different default voltages, They are set at the factory.The battery pack can be replaced and reselected.
	Public Scooter	Whether to allow others to connect to the vehicle.	The scooter is bound to the registered account by default. To switch accounts, you need to unbind the registered account.
	Auto Power-off	Auto shutdown when the EY1 is not operated.	APP operation. Automatic shutdown time Settings adjustable range from 1-30 minutes. The default is 5 mins. Note: When the scooter has no operation and no speed, the timing starts.
	Protection (Password)	Scooter locked. (You need APP or password to unlock the scooter.)	APP operation. When the function is turned on, you can enter the password to ride.The initial password is 0000. Note: If the user has turned on the protection and the app is certified as the owner, when the owner approaches the scooter,it can be unlocked automatically.
	Change Password	Reset a password on APP.(If you forget your password, you need to retrieve it via email)	APP operation. The owner can connect to the APP directly without entering the password to unlock the scooter and reset the password on the APP.(If you forget your password, you need to click Forgot Password on the password input interface, and the APP will guide you to retrieve your password through your email account.)

Common Failures and Solutions



When the scooter breaks down, you need to check the APP to view the specific error code. The APP will display the following four error symbols. When there is a fault, please contact after-sales service or an authorized dealer.

Error Symbol	Possible causes	Solution
	Throttle failure	Please contact after-sales service or an authorized dealer.
	Motor failure	Please contact after-sales service or an authorized dealer.
	Controller failure	Please contact after-sales service or an authorized dealer.
	Over-temperature protection	Please try to apply heat dissipation for the scooter.

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We have attempted to include descriptions and instructions for all the functions of the scooter at the time of printing.
However, due to constant improvement of product features and changes of design, your scooter may differ slightly from the one shown in this document. Scan the QR Code on the cover of this manual, or visit the www.dual-tron.com to download the latest electronic version. Please note that there are multiple models with different functions, and some of the functions mentioned herein may not be applicable to your unit. The manufacturer reserves the right to change the design and functionality of the scooter product and document without prior notice.
Zhejiang Dualtron Escooter Co. Ltd. All rights reserved.
（※The Dualtron App can support scooter with built-in Bluetooth）

Safety instructions

1.Scooters are not a means of transportation and are prohibited from riding on public transport roads. Please abide by local laws, regulations and policies when riding.

2.Scooter is an entertainment product. You need to master the riding skills through practice. Dualtron will not be liable for any damage caused by inexperience of riders or failure to use this product according to this manual.

3.In order to reduce the risk of injury, please read and follow all the **"CAUTION"** and **"⚠ WARNING"** in this manual. Do not exceed the speed limit. In any case don't drive on the road where there are motor vehicles.

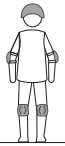
4.Following the tips and warnings in this manual can reduce risks, but not eliminate all risks. Please remember that you may be at risk of injury or death due to loss of control, collision and fall when using the scooter. The scooter is only suitable for flat and hard roads, and it is recommended to use it in a relatively closed and open road environment. Do not pass through places with obstacles and protrusions. When entering a strange environment, keep alert and slow down.

Riding Safety

1. Please do not accelerate or decelerate suddenly. When riding, please always hold the handlebars with both hands and stand on the pedals with both feet. Please do not drive at a speed exceeding the limit of the scooter, otherwise you may lose control, collide and fall.
2. In order to avoid distraction when riding a scooter, do not wear earphones, earplugs, make calls, take photos, take videos or do any activities unrelated to riding, so as to monitor the external environment well when riding.
3. For whatever reason, please do not ride the scooter under the conditions of snow, rain, wet, muddy and ice. When riding in rainy and snowy days, water may enter the scooter, leading to the risk of functional damage, fire and even explosion caused by the damp battery. Damages and losses caused by water ingress are not covered by the warranty.
4. This product is suitable for users aged between 16 and 60.
5. Riders should wear helmets, knee pads, elbow pads and other safety protective equipment. Please use a qualified bicycle or scooter helmet and tie the strap at a suitable position on your chin.
6. High heels, slippers and open toed shoes are prohibited. Long hair needs to be tied up to avoid accidents due to the fact that the hair blocks the sight and affects the normal riding.
7. Before riding the skateboard vehicle, please carefully check the vehicle body to ensure that there is no sign of looseness or damage in any part including wheels, brakes, screws, etc., and that the vehicle is in a proper waiting state.
8. Only use parts and accessories specified or approved by dualtron. Do not modify your scooter. The modification of the scooter may affect the operation of the scooter, resulting in serious damage and warranty invalidation.

Warnings

01



Be sure to wear safety equipment!

Always wear a helmet, elbow pads and knee pads when riding.

02



Be careful of water!

This product and components are not waterproof. Don't let water get into the product and components.

03



No acrobatics

DO NOT ride up and down stairs or jump over obstacles.

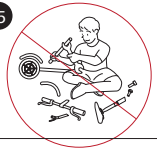
04



No companion boarding

DO NOT carry any passengers

05



Don't tune by yourself!

Do not open or tune the electric parts (battery, controller or motor system.

06



Comply with local laws

Unlicensed, driving after drinking,loading cargo on the scooter is prohibited. (More than bike or bicycle license is required) Please comply with the Road Traffic.Act and related laws and regulations according to the place of use.

07



driving at low speed

Beginners who are not accustomed to use the product, seniors and others should avoid high speed mode driving and recommend low speed driving.

08



Do not suddenly brake with front brake

If there is a risk of overturning, sudden deceleration should be done safely.Do not apply any unusual behaviors or artificial forces, such as stopping with your feet.

09



Do not accelerate downhill

Slow down at downhill. When reducing the speed, to prevent brake overheat, use the brakes properly to reduce the heat on the disk with proper brake use.

10



Do not drive on steep slopes

Each product has a different degree of acceptable climbing, do not ride excessively on mountain roads.

11



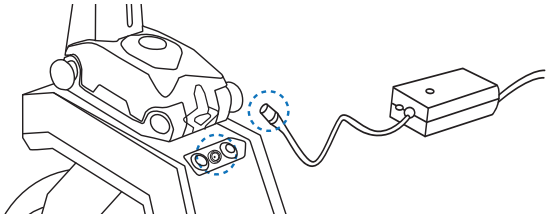
Safety warning when lifting the product

If the product is lifted by holding only the handle, there is a possibility that the product may be damaged due to deformation of the folding part due to load or movement of the product. When lifting the product, be sure to hold the product's body (footrest) with one hand and hold the handle with the other hand so that you do not get hurt in your back or knees.

NOTE

*Kickstand must be deployed when the scooter is not in use.
*Any type of load attached to the handlebar will affect the vehicle's stability.
*The vehicle must be used by only one person at a time.
*Must keep plastic covers out of reach of children to prevent possible choking.
*Please avoid areas with heavy traffic and overcrowding.
*Please anticipate trajectory and speed to respect traffic rules and vulnerable road users.
*Please notify presence to other road users when not seen or heard.
*Please cross protected passages on foot
*Please remove sharp edges that may have formed on the scooter through use.
*Please contact the seller to get where to find a maintenance shop for your scooter.

Charging



1. Open the charger port cap and connect it to the connector of the charger and connect it to the household outlet.

2.Charging status indicator (Red)Charging , (Green)Charging complete.

3. Be sure to close the charger port cap when driving or storing except when charging.

4. When connecting the connector to the charger port, there may be metallic sparks due to voltage difference, but this is normal.

* Failure of the charger and abnormal conditions can cause electric shock and fire.
Learn the correct usage and prevent safety accidents in advance.
It is recommended to chargewith the originalchargerprovided by the factory.

Basic charging method



1. Manufacturers and sellers are not responsible for any problems arising from any disassembly, modification, or mixing with other chargers.



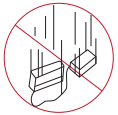
2. The charger is forbidden to be used in places subject to high humidity, heat, flammable materials, confined spaces, or where there is no ventilation such as in a car.



3. The charger is not waterproof. It is thoroughly controlled to prevent moisture from entering the charger.



4. Children and pets should not be allowed to approach the charger when they come into contact with them, as they may cause an electric shock.



5. If the charger lamp does not light, charger fall down, strong external shock, long time charge, or cable cover damage, discontinue use immediately and contact the service center.



6. Unplug the charger when you are away from the home for long periods.

7. Use only genuine charger.

8. Do not touch the plug for about 10 seconds after unplugging the charger. There is a risk of electric shock from instantaneous discharge.

9. Do not remove the terminal during charging. Otherwise you may charge the internal circuit of the charger and cause malfunction.

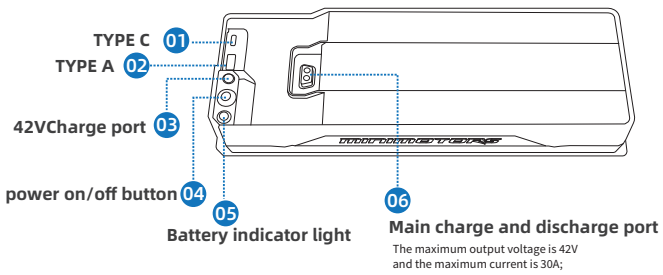
10. Do not operate the product during charging.

11. Charging terminals should be firmly contacted during charging and should not be used if terminals are corroded or damaged.

12. When disconnecting the charger from the product, it is safe to hold the terminal without holding the wire.

13. Be sure to keep the charger disconnected from the product after the charging is complete.The charger must be disconnected if it is not used for longer than a few days, as there is a risk of overcharging when charging more than the time indicated on the product specifications.

Battery Pack



Description of the power indicator function

A) 36V4.4AH battery pack

1. After pressing the switch fo r 1.5 seconds, the switch indicator light is always on, and the power bank function is turned on. At the same time, the power indicator light is on and goes out after 8S. The meaning of the power indicator color is shown in the table below;
2. When the USB is detected to be in use, it will not shut down (the switch indicator light is always on). At this time, short press the switch and the power indicator light will show the power. When the power bank is turned on, once it detects that the USB load is unloaded and the unloaded state lasts for more than 5 minutes, the switch indicator light goes out and the power bank circuit is automatically turned off, achieving zero power loss in the non-working state of the power bank circuit. In the power-on state, press the switch for 1.5S to force the power bank circuit to close.

B) 36V10.2AH battery pack

1. After short pressing the switch, the battery indicator light will light up, stay on for 8 seconds and then turn off and shut down (the meaning of the indicator light is the same as above)

Battery capacity	Color
>75%	Green Light
>50%	Yellow Light
>25%	Red light
<25%	Red light flashing

Type-A+Type-C Dual port output

1. Any port supports fast charging output;
2. Type-A port supports QC3.0/QC2.0/AFC/FCP/SCP/PE2.0/PE1.1/SFCP/TFCP fast charging output;
3. Type-C port supports PPS/PD3.0/PD2.0/QC5/QC4+/QC3+/QC3.0/QC2.0/AFC/FCP/SCP/PE2.0/PE1.1/SFCP/TFCP fast charging output;
4. In the default state, Type-A port outputs 5V and Type-C has no output. When single port output, fast charging output is supported. When dual-port output, it supports 5V output, and each port has a separate current limit;
5. The single-port output current is up to 5A. When dual-port output is performed simultaneously, each port has a separate current limit of 2.7A;
6. Output of each fast charging protocol

A) PD fast charging, supports PPS/PD3.0/PD2.0 fast charging protocols, PPS output supports a maximum of 3.3~21V, PD3.0/PD2.0 output supports a maximum of 5V/9V/12V/15V/20V, and supports a maximum output power of 100W (20V@5A);

B) QC fast charging, supports QC5/QC4+/QC3+/QC3.0/QC2.0, and supports Class A/Class B. QC2.0 output supports 5V/9V/12V/20V. QC3.0 output supports 3.6V~20V, 200mV/Step;

C) AFC fast charging, output supports 5V/9V/12V;

D) FCP fast charging, output supports 5V/9V/12V;

E) SCP fast charging, supports low voltage SCP and high voltage SCP, low voltage SCP supports 5V@4.5A, 4.5V@5A, high voltage SCP supports 10V@2A;

F) PE fast charging, supports PE2.0 and PE1.1 fast charging protocols, PE2.0 output supports 5V~20V, 500mV/Step. PE1.1
Output supports 5V/7V/9V/12V

G) SFCP fast charging, output supports 5V/9V/12V;

H) TFCP fast charging, output supports 25W/33W/45W/65W four power curves;

Safety precautions for Lithium battery

Basic charging method

1) Care Lithium batteries should be protected from direct exposure to children and pets.
2) Performance 1. Lithium battery is affected by external temperature. In the winter, when the temperatures are low, the performance of the battery may be temporarily deteriorated and the mileage and power output is reduced.
2. Lithium battery has a characteristic that discharge performance is reduced by more than 15% when charging / discharging 300 times or more. If usage time is shortened due to long usage, it should be replaced with a genuine one through the nearest point.
3) Charging 1. Lithium battery should be used only with genuine battery and charger supplied from the manufacturer. Any problems caused by use of battery made by the manufacturer, mixed use, or using the charger are not covered by the manufacturer.
2. Charging the lithium battery with a non-genuine charger may cause malfunction or fire.
3. The lithium battery should be charged in a well-ventilated, dry place and around the charger in a place where there is no flammable material.
4. Lithium battery should be charged at 0 ~ 45°C and discharged within -10 ~ 60°C . The sub-battery must be charged at 0 to 50°C and discharged within -20 to 75°C. Charging or discharging at a temperature outside this range may cause malfunction, fire or explosion.
5. In case of moving from cold outside to warm indoor, please charge it after 1 ~ 2 hours. This is to prevent condensation from occurring inside the product due to the temperature difference.
4) Storage 1. Lithium batteries should be kept away from snow, rain and direct sunlight. Do not store or charge them in a trunk or hot room. Select a dry place and store at room temperature (10 ~ 20℃).
2. When storing for more than 3 months, charge the remaining battery levelto 70 ~ 80% (do not store full charge).
5) Trouble symptom, safety 1. Lithium battery should be discontinued immediately if it is damaged or there is leakage of battery, sour odor, appearance deformation, etc. Please contact the place of purchase to get technical support and service.
2. If overheat, smoke, or ignition is detected in a product with lithium battery, immediately stop charging and use, move the product outdoors as soon as possible, and then use a fire extinguisher to extinguish flames. Do not spray water or immerse the product in any situation, which can lead to more danger.
3. Lithium battery pack has very high energy density, so if you charge the battery for a long time and there is a case of short-circuit, leakage, bad battery, etc., it can lead to ignition. Therefore,you should avoidcharging for a longtimewithout a personbeing present to avoid therisk of unexpected fire.
6) Misuse If the lithium battery is short-circuited, the polarity is changed, or if the battery is impacted, malfunction or fire may result. If you think that the battery has been impacted, you should stop charging and using it and visit the nearest service center for inspection.
7) Water inflow It should be controlled to prevent water inflow into the lithium battery. There is a risk of fire or electric shock if the charger is connected while moisture is present.
8) Caution Disconnect the battery from the main unit except when recharging and reinstalling. Do not use for any other purpose.
9) Disposal When disposing of the lithium battery, the battery should be separated from the product at the point of purchase or near the service center and the charge and discharge terminals are not shortcircuited. Dispose of it as industrial waste.

DANGER

Battery disassembly prohibited
Battery disassembly, modification, and repair are not covered under warranty.



Maintenance and Care

WARNING

Sun exposure and extreme temperature conditions (overheating and supercooling) will accelerate the aging of plastic parts and may lead to a decrease in battery life.

Recommended Maintenance Schedule

For your riding safety, please be sure to maintain and check your scooter regularly. You are familiar with and understand the frequency, condition and place of use of your scooter, and are responsible for regular inspection of your scooter. If any abnormality is found, please stop using it immediately and go to the authorized outlet for inspection and maintenance in time. The following table is our recommended regular maintenance items and cycles.

Item	Component	Maintenance Method	Every 3 months	Every 6 months or every 310 miles (500 km)	After 1 year or the total mileage>1864 miles(3000km)
Mainframe maintenance	Mainframe parts	Use a soft, wet cloth to wipe the mainframe clean.	√	√	√
	Tire pressure	Inflate tires to 32–38 psi. Note: Remember to screw the valve cap after inflating!	√	√	√
	Tire wear	Check if the tires are cracked, deformed, or significantly worn.		√	√
	Screws on the stem top	Tighten the screws fixed with the handlebar and the stem. The suggested torque is 6–8 N·m.	√	√	√
		Tighten the screw on the throttle. The suggested torque is 4–4.5 N·m. Tighten the screws on the brake levers. The suggested torque is 8.5±0.5 N·m. Tighten the screws on the stem top. The suggested torque is 2.4 N·m.		√	√

Maintenance and Care

Item	Component	Maintenance Method	Every 3 months	Every 6 months or every 310 miles (500 km)	After 1 year or the total mileage> 1864miles (3000km)
Mainframe maintenance	Screws on the folding mechanism	Tighten the screws for folding mechanism. The suggested torque is 15±1 N·m.If the stem gets shaky when riding, tighen the screws on the folding mechanism when the scooter is in folded state.		√	√
	Brake disc assembly	Tighten the screws on the brake disc assembly. The suggested torque is 8.5±0.5 N·m.		√	√
	Front & rear suspension	Before each ride, you need to check whether the suspension screws are loose or slipped.Need to go to the store for maintenance every 500km.		√	
Function Inspection	Hub motor	To accelerate and decelerate, check if the hub motor is stalled or has abnormal sounds.		√	√
	Rear wheel maintenance	Check if the rear wheel is stalled or gets shaky, or the axis shaft is unbalanced.		√	√
	Brake adjustment	1) Squeeze the brake levers, repeat 5 to 8 times, to enable the caliper fitted with the brake pads grabs the rotor. 2) Tighten the bolts on the caliper. The suggested torque is 8.5±0.5 N·m. 3) Release the brake levers, spin the wheels. If the brake pads make contact with the rotor, loosen the bolts on the caliper and repeat step 1. 4) The pushrod can be adjusted by a 2 mm wrench if necessary. Rotate the pushrod clockwise to increase the length between the brake lever and the handlebar. Rotate the pushrod counterclockwise to decrease the length.		√	√
	Brake pads	The disc brake has the function of self-repairing. But when the brake pads are significantly worn, they need to be replaced. If the brake levers feel spongy when you squeeze them and the rotor makes abnormal sounds, please stop riding immediately and replace them with the new brake pads.	√	√	√

Maintenance and Care

Item	Component	Maintenance Method	Every 3 months	Every 6 months or every 310 miles (500 km)	After 1 year or the total mileage>1864 miles(3000km)
Fault detection	Hydraulic brake	If you experience poor brake performance, it's recommended to contact the after-sale service or an authorized dealer to replace the brake fluid (Mineral oil model: BK407).		√	√
	Brake rotor	Spin the wheels, the caliper should be aligned with the rotor and they shouldn't rub on the brake pads. WARNING: DO NOT touch the disc brake after riding or braking Function because it can get hot.		√	√
	Taillight	Squeeze the brake levers, the taillight works normally.		√	√
	Headlight	Check the headlight and see if it lights brightly.		√	√
	Dashboard	Power on the scooter, the dashboard works properly.		√	√
	Horn	Press the button, the sound is loud.		√	√
	Throttle	Twist the throttle and release it, checking for acceleration and deceleration. Note: Release it, check if the throttle handle will back to the position.		√	√
	Fault detection	After connecting with the Dualtron app: 1) Update the firmware to the latest version. 2) Check if the notification of the corresponding error code and possible causes will prompt when the scooter detects an error.		√	√
	Charging	Charge the scooter: 1) Check the charging indicator on the dashboard. 2) Check the LED indicator on the battery charger. Charging: red, Fully charged: green.		√	√
	Control switches	Press or rotate the left/right control switches 3 times without failure.		√	√
	Turning	Test with left turns and right turns .No resistance or lag when turning.		√	√

Maintenance and Care

Item	Component	Maintenance Method	Every 3 months	Every 6 months or every 310 miles (500 km)	After 1 year or the total mileage>1864 miles(3000km)
Important parts	Battery assembly	The battery need to be replaced when it is charged and discharged for 500 times or the total mileage is more than 6213 miles (10000 km). Note: It is recommended to charge once every 60 days for long-term storage.			
	Controller	It is required that original Dualtron parts shall be used for repairs and replacements.			√
	Hub motor				
Functional parts	Rear wheel assembly				
	Throttle & Brake levers				
	Front fork assembly				
	Folding mechanism				
	Brake rotor				
	Disc brake assembly				
	Dashboard				

Legal Statement

IMPORTANT: A user shall carefully read the entire User Manual and fully understand it (especially for the content related to warnings, caution statements, product operation and safety), and adhere to the foregoing instructions herein before using this scooter. A user shall always use his / her common sense and best judgment when using the product. An owner of this product shall not allow anyone and/or cause another person to use it unless that person is clearly informed of the foregoing warnings and agrees to comply with it.

1. Before using this product, riders must carefully read this manual to ensure the correct use of this product. If the rider cannot ride in full accordance with the instructions in this manual, please do not try to ride the scooter.
2. Please purchase insurance in time after purchasing the product, so as to minimize the use risk.
3. You have the obligation to know all the relevant laws and regulations on riding scooters in your area, and strictly abide by the applicable laws, regulations and policies when riding this product.
   Do not ride scooters in areas prohibited by local laws. When riding in countries and regions where there are no relevant regulations on electric scooters, please strictly abide by the safety requirements for riders in this manual. Dualtron will not assume any responsibility for any property loss, personal injury / death, accident or legal dispute caused by the use behavior violating the safety tips in this manual.

   When you receive this product, please immediately check whether the product and accessories are intact and complete. All components must be correctly installed in accordance with the instructions. Improper installation may lead to the risk of runaway, collision or falling.
5. Please avoid using non original batteries and accessories. It is forbidden to disassemble, crack and modify this product and components without authorization. Any damage and loss caused thereby will be borne by you.
6. The data and parameters of the scooter are different with different models, and are subject to change without notice.

Thank you again for your choice and trust in this product.



MINIMOTORS