User manual
Nerva EXE

NERVA

Contents

Thank you for choosing the NERVA EXE scooter

We are very grateful that you have chosen the Gran Turismo NERVA EXE

scooter. NERVA has applied the latest technology in the development of this vehicle as regards electric motors, batteries and electronics so that you can enjoy a vehicle that is well-equipped, comfortable for the passenger too, well protected from bad weather, and equipped with a high-performance motor unit that not only provides high acceleration and maximum speed, but also a long range.

As regards the batteries used, the NERVA EXE Scooter has the new lithium battery LFP technology. Toxic materials are not used in the manufacture of these batteries, such as manganese, nickel and cobalt which are used in the conventional NMC lithium batteries. This new technology used by the BYD manufacturer has been chosen to drive the NERVA EXE and, thanks to its thermal stability, cannot burn or explode thus ensuring extra safety for the vehicle user. This thermal stability also translates into greater longevity; in fact NERVA offers an exceptional warranty of 5 years for the BYD LFP batteries which no other electrical vehicle brand currently offers.

The NERVA EXE scooter is categorised as L3e with power less than 11 kW, which allows it to be driven with a “B” car driving licence, which has been held for more than 3 years, with no additional administration or cost, as well as the A1 driving licence from 16 years of age.

About this manual

CAUTION

• Text with this symbol indicates extremely dangerous situations that, if ignored, could result in serious damage or injury.

WARNING

• Text with this symbol indicates dangerous situations that, if ignored, could result in minor damage or injury.

NOTE

• Text with this symbol indicates dangerous situations that, if ignored, could result in damage to the vehicle.

Safety instructions

Prior safety checks

WARNING

• Read this section carefully, otherwise you could have a serious or even fatal accident.

• Before going on a journey, first carry out maintenance on the scooter. A vehicle without technical faults is a basic requirement for your integrity and safety, as well as that of other road users.

• For your safety, only use original spare parts or accessories authorised and certified by NERVA ECO SL. If you need an approved product or accessory, contact your authorised sales point or go to the website (www.nerva.eco).

Always check the following points:

- **Handlebars:** They should be turn smoothly without vertical play.
- **Brakes:** The front and rear brake levers must be free of oil and grease, have the recommended play and switch on the brake light in the tail light assembly when applying them. Check the brake fluid level in both brake reservoirs.
- **Throttle:** The throttle grip must have the recommended play, smooth operation and immediate recovery when released.
- **Tyres:** The wheels must have the recommended pressure, there must be no cracking in the tyre surface deeper than the tread depth wear limit. Check the condition of the rims.
- **Suspension:** When applying pressure to the forks or dampers, the vehicle should give and recover when the pressure is released.
- **Lighting and horn:** Check the operation of the indicators, front headlamp beams, taillight and brake light. Sound the horn. Clean the covers of the different lighting components.
- **Load distribution:** Distribute the load uniformly on the vehicle to avoid unbalancing it, do not allow the load to obstruct the turning of the handlebars or suspension travel, do not exceed the maximum load values, and do not cover any of the lights.

If any type of problem is identified with the vehicle, contact an authorised service point.

If the scooter is not going to be used for an extended period of time, an oxide layer may accumulate on the brake discs and, therefore, reduce the braking power. This oxide layer may cause the brakes to lock.

It is recommended that, after an extended period of time without use, brake carefully until they operate correctly again

Equipment

Safety begins with the equipment required for driving this scooter:

› Wear an approved safety helmet and fasten it correctly.

› Wear comfortable and proper protective clothing in bright and reflective colours that warn of your presence to other road users.

› Wear gloves that keep hands warm and provide a positive feel and are abrasion resistant.

› Wear well-fitting clothing (not too tight or too loose) so that it does not become entangled with the vehicle's controls.

› Use tough footwear with a low heel and toe protection.

Recommendations for safe driving

CAUTION

- **Braking distances can increase significantly when the pneumatic brake discs are wet.**
- **Avoid the abrupt use of the throttle. Abrupt use can lead to loss of control of the vehicle.**
- **Take care when there is a side wind, it can destabilise the scooter.**

WARNING

- **Always follow the rules of the road.**
- **Always adapt your driving to the road and traffic conditions.**
- **When the road surface is wet or there is loose gravel, the stability of the vehicle and braking may be limited by the condition of the tyres.**
- **The condition of the brakes and wheels directly depends on the way that you drive.**

Safety, to a large extent, is determined by the driving style of the user. Therefore, follow the recommendations below:

› Rest your feet on the platforms and only take them off to rest on the ground when stationary.

› Hold the handlebars with both hands.

› Drive within your limits. Do not attempt to exceed your own capacities and abilities. Adapt to the condition of the road surface and weather conditions and leave a margin for unforeseen circumstances.

› Heighten safety precautions and reduce speed in bad weather (ice, rain or strong wind).

› Do not take any form of narcotic substance before driving. Your driving capability and reaction time can be affected when under the influence of alcohol, drugs and/or medicines. Do not drive under the influence of any of the above.

› Abrupt acceleration or braking is not recommended. The abrupt use of the throttle and brake can lead to high battery consumption. Bear in mind that it is an electric vehicle and power delivery is nearly immediate. Apply the throttle carefully in low grip conditions of the road surface (wet, cold, etc.).

› It is recommended to take special care with side winds and when overtaking large vehicles.

Transported load

WARNING

- **For your safety, do not exceed the weight limit under any circumstances.**
- **Take special care with the transport of liquids that may spill on the vehicle or harm other road users.**
- **Do not place any items outside the spaces designed for transport.**

The behaviour of the vehicle can be influenced by the transported load and its placement. Overloading affects the stability, handling and safety of the vehicle.

The maximum load supported by this vehicle is **160 kg**, taking into account the weight of the driver and possible passengers and luggage. Do not exceed this value under any circumstances.

Do not exceed 10 kg of weight inside the main underseat storage compartment.

Distribute the load in a balanced way and place it as close as possible to the centre of the vehicle.

Check that the load is properly secured.

Vehicle identification

Chassis number and frame number

NOTE

- **The right-hand side is from the driver's perspective.**

The vehicle can be identified in three different ways:

› The identification plate **[1].**
› The frame number **[2].**
› The motor number **[3].**

Note the frame and motor numbers when requesting spare parts.
This section explains where these numbers are located.

1. Identification plate

This plate is at the centre of the underside of the scooter on the right-hand side.

2. Frame number

Under the rubber mat with the VIN markings of the platform for the right foot.

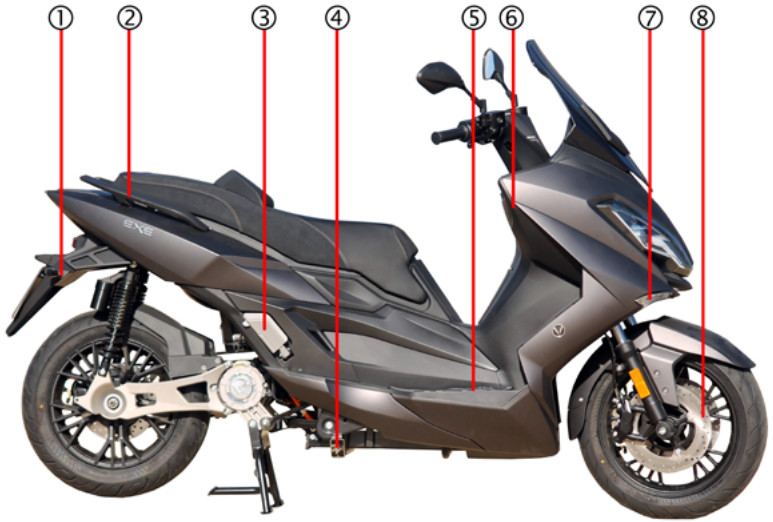
3. Motor number

On top of the electric motor housing, visible from the right-hand side.

Location of the components and controls

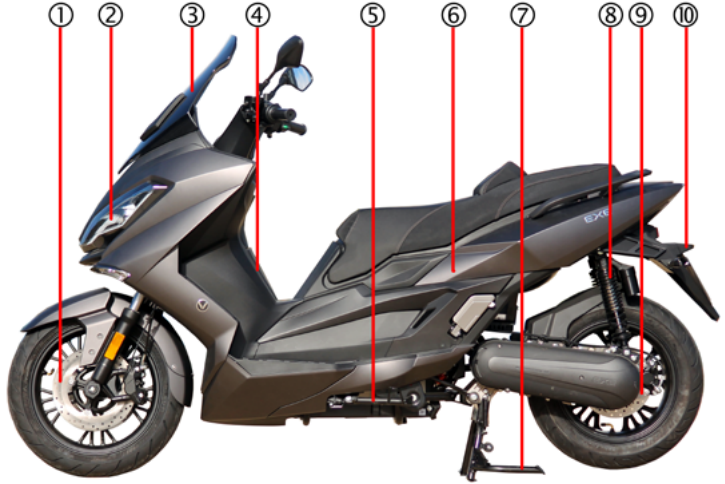
View of the right-hand side

[1] Rear indicator
[2] Side handhold
[3] Passenger foot peg
[4] Vehicle identification plate
[5] Frame number
[6] Ignition lock
[7] Front indicator
[8] Right front disc brake



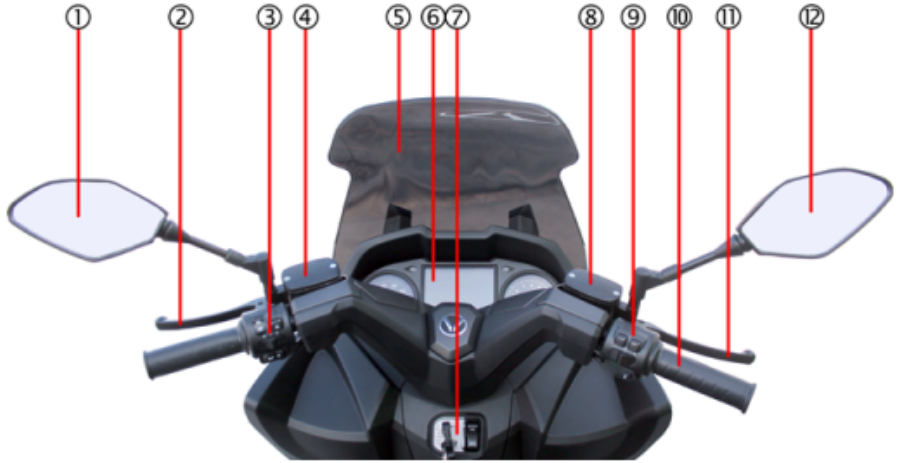
View of the left-hand side

[1] Left front disc brake
[2] Headlamp
[3] Windscreen
[4] Power port (recharging)
[5] Side stand
[6] Main storage compartment
[7] Centre stand
[8] Damper
[9] Rear brake
[10] Registration plate light



View from the driving position

[1] Left rearview mirror
[2] Combined rear+front brake lever
[3] Left switch cluster
[4] Combined rear+front brake master cylinder
[5] Windscreen
[6] Instrument panel
[7] Ignition lock
[8] Front brake master cylinder
[9] Right switch cluster
[10] Throttle grip
[11] Front brake lever
[12] Right rear view mirror

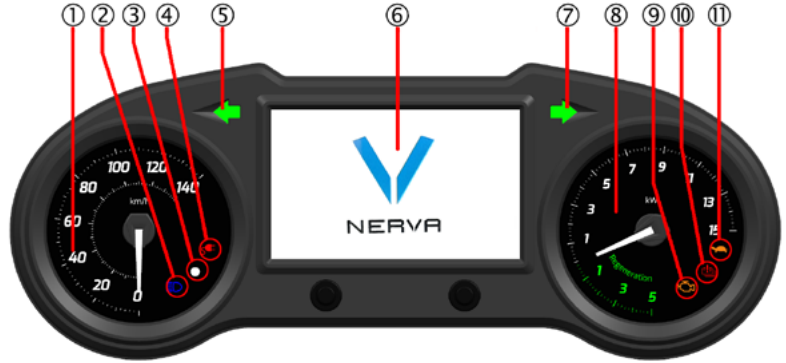


Instrument panel

The scooter instrument panel is made up of two analogue clocks and a colour TFT screen between them with two display levels (darker or night-time so as not to dazzle the driver and lighter or daytime); the display automatically changes by means of a twilight sensor according to the external light. There are several warning lights in the clocks.

The components of the instrument panel are listed below.

[1] Analogue speedometer
[2] Main beam indicator light
[3] Twilight sensor
[4] Recharging indicator light
[5] Left turn indicator light
[6] TFT screen
[7] Right turn indicator light
[8] Consumed/regenerated power
[9] Motor malfunction warning light
[10] Battery warning light
[11] "Tortoise" warning light

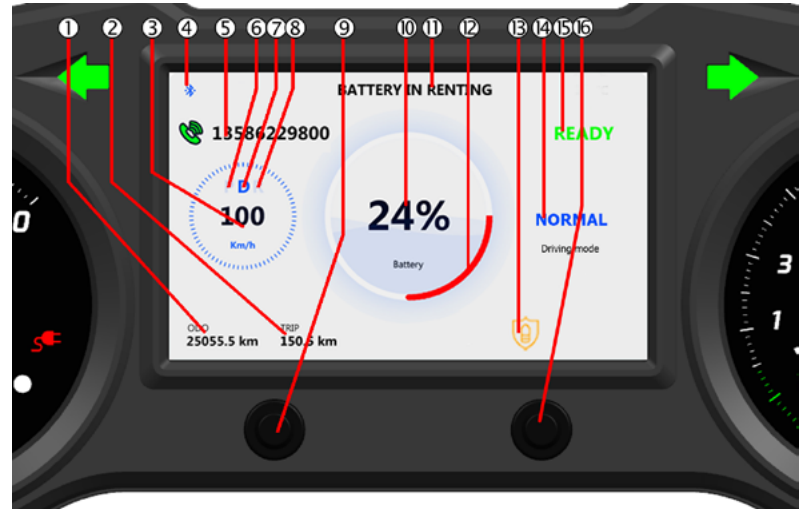


[1] Analogue speedometer: Its needle indicates the cruising speed on a scale from 0 to 140 km/h
[2] Main beam indicator light: The blue indicator light comes on when high beam is selected on the left cluster light switch. Change to dipped beam when another vehicle approaches from in front or behind.
[3] Twilight sensor: This is the ambient light sensor that switches between the two TFT screen displays (night-time and daytime)
[4] Charging indicator: The red indicator light comes on when the scooter battery is charging.
[5] Left turn indicator light: This green indicator light flashes together with the left indicators when the indicator switch is moved to the left on the left cluster. To switch off the indicators, put the switch in the central position.
[6] TFT screen: The colour graphics screen displays different functions or the NERVA APP application.
[7] Right turn indicator light: This green indicator light flashes together with the right indicators when the indicator switch is moved to the right on the left cluster. To switch off the indicators, put the switch in the central position.
[8] Consumed/regenerated power: This clock provides an analogue display of the motor power in kW (kilowatts) in real time. From the needle rest position (0), the positive scale (increasing in a clockwise direction with a full scale of 15 kW) shows the power consumed by the motor, while the negative scale (increasing in the anticlockwise direction with full-scale of 5 kW) shows the power regenerated by the motor to the batteries when ceasing to accelerate or, to a greater extent, when the brakes are applied. The motor partially brakes the vehicle in regenerative mode.
[9] Motor malfunction warning light: This orange warning light comes on when there is an anomaly in the motor. If it comes on while the scooter is being used, reduce speed and take the vehicle to a Nerva Technical Assistance Service.
This warning light will come on during the shutdown sequence.
[10] Battery warning light: This warning light will come on when a level 1 or 2 alarm occurs: Level 1: The level 1 alarms are activated when the battery is operating outside its safe operating limits. In this case, the battery warning light flashes.
Level 2: The level 2 alarms are activated when the battery is operating near its safe operating limits (e.g. when the battery charge is at the point of being exhausted). In this case, the battery warning light will come on continuously.
If the warning light stays on during the complete charging cycle, go to a Nerva Technical Assistance Service to get it repaired.
[11] "Tortoise" warning light: This orange warning light comes on when the battery charge (SOC%) is less than 15%.

When this occurs, the vehicle goes into battery saving mode. The maximum speed is limited.

TFT screen (without APP)

[1] Odometer (ODO)
[2] Trip meter (TRIP)
[3] Digital speedometer
[4] Bluetooth Symbol
[5] Incoming call
[6] P Mode (PARKING)
[7] D Mode (DIRECT)
[8] R Mode (REVERSE)
[9] MODE button
[10] Battery percentage charge
[11] BATTERY IN RENTING
[12] Battery charge graphic
[13] Battery protection warning light
[14] Driving mode:
  [14a] ECO Mode
  [14b] NORMAL mode
  [14c] SPORT Mode
[15] READY
[16] RESET button



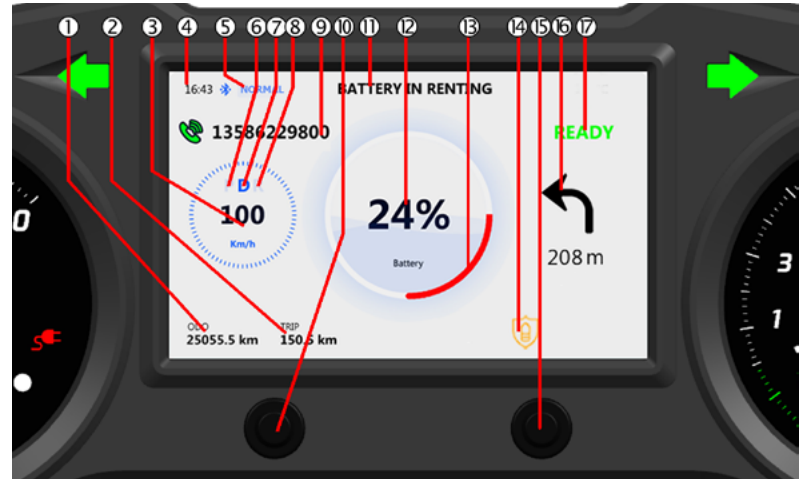
[1] Odometer (ODO): Shows the total distance travelled by the scooter since its manufacture.
[2] Trip meter (TRIP): Shows the distance travelled on a journey since the counter was reset using the RESET button.
[3] Digital speedometer: Numerical display of the cruising speed in km/h.
[4] Bluetooth Symbol: The vehicle's Bluetooth function is ready.
[5] Incoming call: Shows the telephone number of an incoming call through the Bluetooth link, if enabled.
[6] P Mode (PARKING): In this mode, the scooter is on but its operation is prevented either because the P button has not been switched off from the left-hand side cluster or because the side stand is down. In this mode, the information does not appear on the right-hand side of the screen, and all the lighting, including on the instrument panel, is on.
[7] D Mode (DIRECT): The scooter is ready for use. Turn the throttle grip to move off.
[8] R Mode (REVERSE): In D Mode with the vehicle stationary, press the R button on the right cluster to activate slow reverse which helps to manoeuvre the scooter.
[9] MODE button: Press and hold to reset the TRIP meter.
[10] Battery percentage charge: The centre of the screen shows the remaining percentage charge in the battery and in graphic form concentrically around this figure.
[11] BATTERY IN RENTING: Shows on the screen that the vehicle batteries are under a renting contract.
[12] Battery charge graphic: Concentrically to the percentage charge value, the graphic shows the remaining battery charge portion around its circumference.
[13] Battery protection warning light: This orange warning light comes on when battery protection mode is enabled. This occurs when driving at maximum power for a period of time. This protection mode ensures the functionality and duration of the components.
[14] Driving mode:
[14a] ECO Mode: This mode is selected using the Mode switch on the right cluster in position 1. In this mode, the maximum speed is limited to 50 km/h and is for consuming less energy from the battery, and is to be preferred during urban use. The maximum power available is 60% and the maximum torque is 70%.
[14b] NORMAL Mode: This mode is selected using the Mode switch on the right cluster in position 2. In this mode, the maximum speed is limited to 80 km/h and is for moderate consumption on secondary roads or urban ring roads. The maximum power available is 70% and the maximum torque is 80%.
[14c] SPORT Mode: This mode is selected using the Mode switch on the right cluster in position 3. There is no speed limit in this mode (up to125 km/h) and is for driving on motorways and dual carriageways. The vehicle's range is considerably reduced.
[15] READY: This message appears when P mode is deactivated indicating that the vehicle is ready for use.
[16] RESET button: Press and hold to reset the TRIP meter to zero.

TFT screen (with APP)

Nerva offers the Nerva App free of charge, which increases the information on the TFT screen with a time clock and a simplified navigator on the right-hand side of the screen, in order not to distract the user when driving.

Download the App and link the App with the vehicle via the Bluetooth link. The Nerva App is also available for mobile telephones with iPhone and Android operating systems. Download free of charge from Apple Store or Play Store.

[1] Odometer (ODO)
[2] Trip meter (TRIP)
[3] Digital speedometer
[4] Clock
[5] Driving mode:
  [5a] ECO Mode
  [5b] NORMAL Mode
  [5c] SPORT Mode
[6] P Mode (PARKING)
[7] D Mode (DIRECT)
[8] R Mode (REVERSE)
[9] Incoming call
[10] MODE button
[11] BATTERY IN RENTING
[12] Battery percentage charge
[13] Battery charge graphic
[14] Battery protection warning light
[15] RESET button
[16] Navigator
[17] READY



[1] Odometer (ODO): Shows the total distance travelled by the scooter since its manufacture.
[2] Trip meter (TRIP): Shows the distance travelled on a journey since the counter was reset using the RESET button.
[3] Digital speedometer: Numerical display of the cruising speed in k/h.
[4] Time clock: Displays the same time as the mobile.
[5] Driving mode:
[5a] ECO Mode: This mode is selected using the Mode switch on the right cluster in position 1. In this mode, the maximum speed is limited to 50 km/h and is for consuming less energy from the battery, and is to be preferred during urban use. The maximum power available is 60% and the maximum torque is 70%.
[5b] NORMAL Mode: This mode is selected using the Mode switch on the right cluster in position 2. In this mode, the maximum speed is limited to 80 km/h and is for moderate consumption on secondary roads or urban ring roads. The maximum power available is 70% and the maximum torque is 80%.
[5c] SPORT Mode: This mode is selected using the Mode switch on the right cluster in position 3. There is no speed limit in this mode (up to125 km/h) and it is suitable for driving on motorways and dual carriageways. The vehicle's range is considerably reduced.
[6] P Mode (PARKING): In this mode, the scooter is on but its operation is prevented either because the P button has not been switched off from the left cluster or because the side stand is down. In this mode, the information does not appear on the right-hand side of the screen, and all the lighting, including on the instrument panel, is on.
[7] D Mode (DIRECT): The scooter is ready for use. Turn the throttle grip to move off .
[8] R Mode (REVERSE): In D Mode with the vehicle stationary, press the R button on the right cluster to activate slow reverse, which helps to manoeuvre the scooter.
[9] Incoming call: Shows the telephone number of an incoming call.
[10] MODE button: Press and hold to reset the TRIP meter.
[11] BATTERY IN RENTING: Shows that the vehicle batteries are under a renting contract.
[12] Battery percentage charge: The centre of the screen shows the remaining percentage charge in the battery and in graphic form concentrically around this figure.
[13] Battery charge graphic: Concentrically to the percentage charge value, the graphic shows the remaining battery charge portion around its circumference.
[14] Battery protection warning light: This orange warning light comes on when battery protection mode is enabled. This occurs when driving at maximum power for a period of time. This protection mode ensures the functionality and duration of the components.
[15] RESET button: Press and hold to reset the TRIP meter to zero.
[16] Navigator: Once the destination has been chosen on the mobile, the screen will display the changes of direction and the distance to this change of direction.
[17] READY: This message appears when P mode is deactivated indicating that the vehicle is ready for use.

STOP Screen

This situation can occur if:

› The cell voltage lower limit is exceeded. In this case, the battery enters into a protective status in which it can no longer be discharged in order not to damage it. This only occurs when the battery charge (SOC%) is low.

› An error has occurred in the battery which does not allow it to continue discharging.

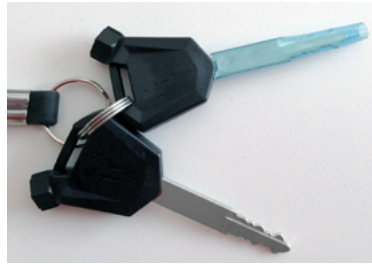
In this situation, the TFT screen displays the word STOP. To warn the user, the message on the screen will flash. Once this message appears, the vehicle will stop for safety reasons in 5 seconds. If the warning light stays on during the complete charging cycle, go to a NERVA Technical Assistance Service for its repair.

Ignition key

The vehicle is delivered with a set of two ignition keys. Keep the spare key in a safe place.

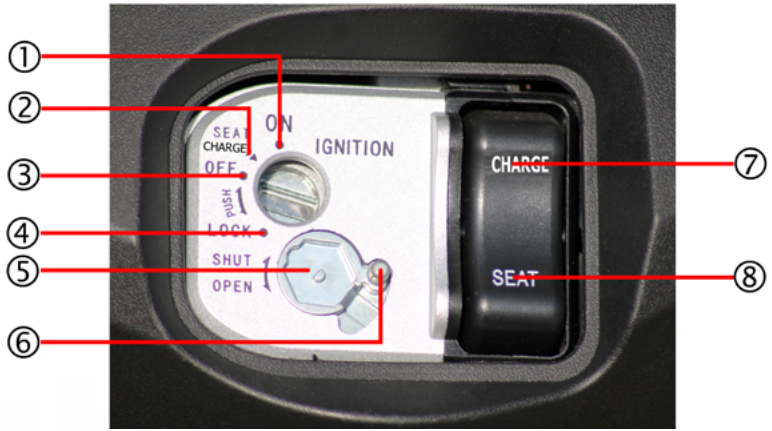
Each key has a unique machined blade which acts on the ignition lock, and a polygonal cap integrated into the bow of each key which acts on the ignition lock shutter.

Upon delivery of the vehicle, check that everything functions correctly: lights, indicators, horn, etc.



Ignition lock

[1] ON Position: All the scooter's electrical circuits are activated. The ignition key cannot be removed.
[2] SEAT/CHARGE Position: In this position, the scooter's electrical circuits are switched off. The key cannot be removed.
[3] OFF Position: All the scooter's electrical circuits are switched off. The key can be removed from the lock.
[4] LOCK Position: First turn the handlebars fully to the left and, then, turn the ignition to that position. The handlebars will be locked preventing the theft of the vehicle. The key can be removed from the lock.
[5] Slot for the cap on the key bow: Insert the polygonal cap on the key bow into this slot and rotate the bow to the left to open the shutter.
[6] Shutter control: Move the shutter control downwards and the shutter will cover the ignition lock cylinder preventing its tampering for theft.
[7] CHARGE Position: With the ignition key in position (2), press CHARGE on the switch and the flap that gives access to the charging port will open.
[8] SEAT Position: With the ignition key in position (2), press SEAT on the switch and the seat lock for accessing the underseat storage will open



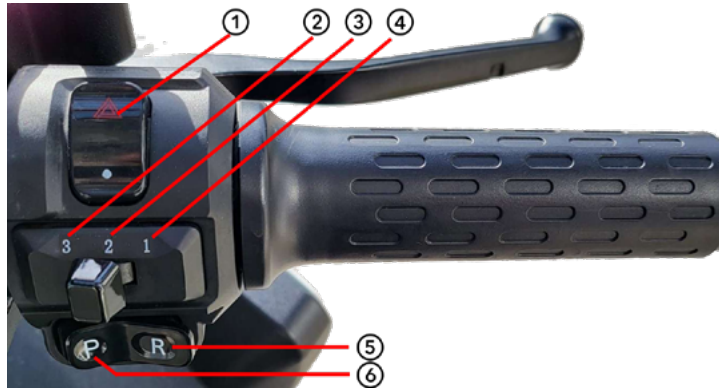
Ignition lock shutter

WARNING

- **Do not turn the key from the ON to the OFF position while driving the scooter as you could lose control and have an accident.**

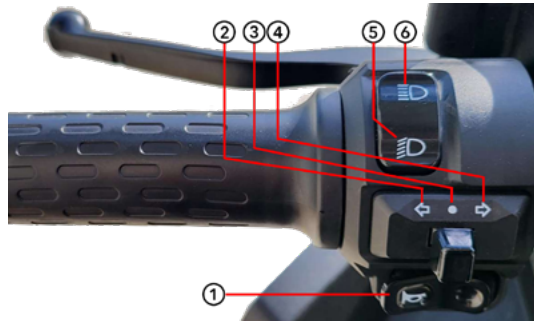
To activate it, lower the shutter control (6) with a finger and the lock cylinder will be hidden behind a metal flap. To open the shutter, insert the polygonal cap on the ignition key bow into the slot and rotate the bow to the left to uncover the lock cylinder and be able to insert the ignition key

Right switch cluster



REF.	BUTTON	FUNCTION
1	**Emergency indicators**	Press this switch once to flash the vehicle's 4 indicators at the same time, as well as the two turn indicator lights on the instrument panel, which indicates a hazardous or emergency situation to other road users. Press this switch again to deactivate the emergency indicators.
2	**Driving mode 3: SPORT**	Select this position on the switch to activate SPORT driving mode limited to a top speed of 125 km/h. The SPORT driving mode will be displayed on the TFT screen.
3	**Driving mode 2: NORMAL**	Select this position on the switch to activate NORMAL driving mode limited to a top speed of 80 km/h. The NORMAL driving mode will be displayed on the TFT screen.
4	**Driving mode 1: ECO**	Select this position on the switch to activate ECO driving mode limited to a top speed of 50 km/h. The ECO driving mode will be displayed on the TFT screen.
5	**"P": PARKING**	Move this control to the right to disengage Parking mode if you have just switched on the vehicle or retracted the side stand. Press this button again to re-enable PARKING mode.
6	**"R" reverse: REVERSE**	Once PARKING mode is deactivated, and with the vehicle stationary, you can reverse at low speed while pressing this button.

Left switch cluster



REF.	BUTTON	FUNCTION
1	**Horn**	Move this control to the left to sound the horn.
2	**Left indicator**	Move this switch to the left to flash the left indicators as well as the left turn indicator light on the instrument panel.
3	**Cancelling the indicators**	Move the indicator switch to the centre to switch off the indicators.
4	**Right indicator**	Move this switch to the left to flash the right indicators as well as the right turn indicator light on the instrument panel.
5	**Dipped beams**	Move the light switch downwards to switch on the headlamp dipped beams.
6	**Main beams**	Move the light switch upwards to switch on the headlamp main beams and at the same time the main beam indicator light (blue) will come on the instrument panel.

Lighting

All the vehicle's lighting is based on LED technology. The LED lighting provides good visibility, helps you to be seen and illuminates other road users, its electrical consumption is minimal and it is very long lasting compared to traditional incandescent bulbs. If a component ceases to function, it must be replaced by a new one.

Headlamp

This is a twin headlamp, each one of which has a headlight with polyellipsoidal lens illuminated by two LED modules for the dipped and main beams. In the main beam position, the dipped beams also come on to achieve a wider field of view.
Each polyellipsoidal headlight includes two light guide sections on the outside that act as sidelights.

Indicators

The 4 indicators are mounted on the outside of the body by means of an elastic support that protects them from breakages due to impacts or falling. They are lit by an LED matrix.

Tail light

The tail light is permanently on.

Brake light

When a brake lever is applied, the inside of the taillight V is switched on warning other road users more strongly that you are reducing your speed. The brake light lighting is based on a high-intensity diode matrix in the form of a triangle.

Use

Adjustment of rear view mirrors

For your safety, it is essential to have both rearview mirrors properly adjusted and the reflecting surface of the mirror clean and unbroken. If the mirror is broken, change it for a new one.

Release the locknut from the base of the rearview mirror shaft with a 14 mm spanner, and position the shaft with the handlebars straight so that is perpendicular to the longitudinal axis of the vehicle (not parallel to the handlebars) to get the furthest away point of the mirrors.

Once the rearview mirror shaft is in position, retighten the locknut with the 14 mm spanner so that it does not move. Carry out the same adjustment on the other rearview mirror.

Position the mirror so that the horizon line (1) is located at the centre of the surface and that part of the user's arm appears in the inner corner of the mirror (2), which will serve as a reference to locate objects and vehicles behind you. Do the same with the other rearview mirror.

Underseat storage

WARNING

- **Do not leave valuable items in the underseat storage compartment..**
- **Ensure that the seat is properly locked after pressing it down.**
- **The storage compartment is not leak tight. Water may enter the compartment from rain or when washing. Do not leave items that may be damaged.**
- **Never leave the key in the storage compartment. If you close the compartment with the key inside, you will need the spare key to open it again.**
- **Maximum load capacity: 10 kg.**

There is a large storage compartment under the seat which can hold two helmets (full-face/modular and open-face, or two open-face helmets). With the helmets on the heads of the driver and passenger, the compartment is free for transporting other types of luggage.

Place the full-face or modular helmet in the rear of the compartment with the neck opening facing upwards, which will allow other smaller items to be placed inside it, such as gloves.

Opening the compartment

1. Insert the key in the ignition lock and rotate it to the SEAT/CHARGE position.
2. Press the SEAT button.

3. Open the seat by pulling the front part upwards.

Closing the compartment

1. Press the seat downwards at the front until the safety catch locks it.
2. Remove the ignition key.
3. Check the seat is fully locked.

Battery charging

WARNING

- **If the battery has not charged to 100% after 24 hours of charging, contact the NERVA Technical Assistance Service.**
- **Keep the battery away from extreme temperatures: Above 35°C or below -15°C.**
- **Do not expose the battery to corrosive liquids.**

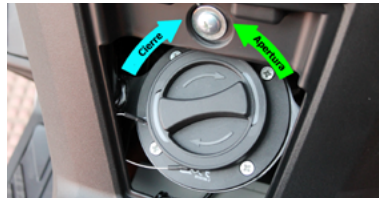
The scooter's battery is charged by connecting it directly to the electricity grid For this, the scooter has a type 2 connection.

The vehicle can be charged from any domestic socket from the AC electricity grid of 220 V, 50 Hz by means of the connection cable that is included with the scooter.

If using a public charging point, the type 2 connector can be directly connected to the vehicle's charging port.
Follow the steps below to charge the battery:

1. Open the charging port cover
2. Insert the key in the ignition lock and rotate it to the SEAT/CHARGE position.
3. Press the CHARGE button and the charging port cover will open.

4. To open the cap, turn it clockwise and remove it to access the charging port.



Charging cable connection

1. Insert the type 2 connector into the charging port.

2. Connect the other end of the charging cable to a domestic socket of the electricity grid with earth.

3. With the ignition lock OFF, the instrument panel TFT screen will come on and display the battery charge percentage and the charging warning light in red on the speedometer clock (left).

Charging completed

1. When charging is complete, disconnect the charging cable.
2. Cover the end of the charging cable to the charging port with the rubber cap.
3. Close the charging port cap by aligning it with the charging port and rotating it anti-clockwise.
4. Close the cover by lightly pressing it.
5. The vehicle is now ready for use.

Caballete lateral

WARNING

- **Ensure that the scooter is always supported on firm flat ground. Do not use the side stand on a slope, as it could fold up and the scooter fall over.**
- **For the scooter to come out of PARKING mode, the side stand must be retracted as there is a safety system that prevents moving off with the side stand down.**

The scooter has a side stand which is accessible from the left-hand side of the vehicle. This stand has a safety switch. If the stand is down, the scooter goes to PARKING mode (the motor does not function in this mode).

1. Ensure that the scooter is held firmly held before putting the stand down.
2. Once the side stand is down, slowly incline the scooter to the left until it is fully supported on the stand.

If the support surface is sloped, soft or uneven, there is a wind or if the scooter is to be parked for a long time, only use the centre stand.

Centre stand

The scooter has a centre stand. When the scooter is placed on the centre stand, it is raised at the rear and the rear wheel is off the ground. To put the scooter on the centre stand, follow the steps below:

1. Turn the ignition to OFF.
2. Get off the scooter on the left-hand side while holding the handlebars firmly.
3. Hold the left handlebar grip with your left hand and the left-hand side grab handle with the right hand and press downwards on the centre stand lever with the right foot until the two stand support points touch the ground.
4. Apply the weight of your body on the centre stand lever, and pull upwards on the left-hand side handhold.
5. Check that the scooter is completely stable.

Driving instructions

Starting

CAUTION

- **Do not switch off the scooter during the start-up time. This could damage the scooter's electrical circuits.**
- **Do not switch on the scooter immediately after switching it off. This could damage the electronic circuits. Allow 2 to 5 seconds before switching it on again.**

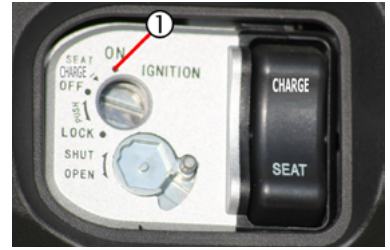
WARNING

- **Keep the rear brake lever applied so that the scooter does not move. Do not accelerate when the scooter is stationary if you are not going to move off. You could lose control and fall off..**

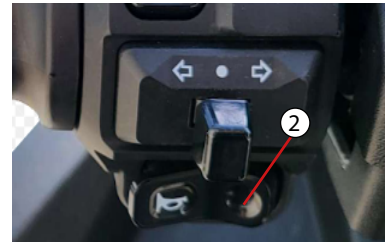
NOTE

- **The scooter has a safety switch on the side stand. If the stand is down, the scooter will not leave PARKING mode. Once the side stand is retracted, press the PARKING[2] button in order to move off.**
- **The scooter is now ready for use during the time that the screen is coming on. For this, press the PARKING [2] button. It is recommended to wait for the TFT screen to come on completely.**

1. Rotate the key **[1]** to the ON position.



2. Wait until the screen has come fully on.
3. Press the PARKING **[2]** button.



4. Choose the driving mode that you want to use.
5. Rotate the throttle slowly so that the scooter starts to move.

Driving modes

WARNING

- **If you are driving at high speed and you change to a lower mode, the scooter progressively reduces its speed until it reaches the maximum speed of the new driving mode, and the speed will not increase when using the throttle.**
- **Do not drive on motorways or dual carriageways in ECO driving mode. In addition to the maximum speed in this mode being less than the minimum mandatory speed on these roads, you could have and/or cause a serious accident.**

NOTE

- **Bear in mind that frequent use of SPORT mode reduces the range of the scooter, due to greater energy consumption. Prolonged use of SPORT mode can increase the temperature of the vehicle's electrical components, causing a drop in the scooter's performance.**

The vehicle has three driving modes which are selected from the main switch on the right cluster, to give the user different driving experiences.

› **ECO:** This allows more relaxed driving, ideal for driving in urban centres. The speed and acceleration are limited, which gives the vehicle a greater range.

› **NORMAL:** This driving mode is similar to the performance of a 125 cc scooter. It allows smooth driving without a sharp power delivery. At the same time, the scooter can be driven at higher speeds than in ECO mode.

› **SPORT:** This provides higher power and speed at certain times. It allows access to the full power of the scooter.

The maximum speeds of each driving mode are detailed below:

MODE	MAX S	APPROX. RANGE	MAX TORQUE	MAX POWER
ECO	50km/h	150km	70%	60%
NORMAL	80km/h	115km	80%	70%
SPORT	125km/h	75km	100%	100%

Economic driving

It is recommended to accelerate smoothly so that electrical consumption is not excessive and you do not lose control of the scooter. The following cases increase battery consumption:

› Driving in the city with many stops and traffic lights.
› Journeys with constant stops and starts.
› Driving in traffic jams with slow and dense traffic.

Journeys with constant stops and starts. Driving in traffic jams with slow and dense traffic.

Transported weight is also a fundamental factor in electrical consumption. The maximum load taking into consideration the weight of the driver and possible passenger and baggage is **160 kg** Do not drive under any circumstances in overload.

If you have to push the vehicle, first press the PARKING button to disable the throttle. This avoids accidentally using it and causing an accident.

Braking

PRECAUCIÓN

- **The left lever is a combined brake. That is,when operating the left hand lever, the front.**

WARNING

- **Use the front brake with care on gentle bends, sandy or dirty roads, wet asphalt or icy roads. If the front wheel locks under these conditions, the scooter could slide sideways causing an accident.**
- **Apply the brakes with care. Locked wheels can adversely affect the vehicle's braking capacity and can cause accidents.**
- **Brake before a bend. Braking in a curve increases the risk of skidding.**

The scooter is equipped with combined CBS brake on the left brake lever, meaning that when you activate the left lever, the rear brake is engaged and slightly the front brake.

Right lever

The front brake is applied using the right lever.

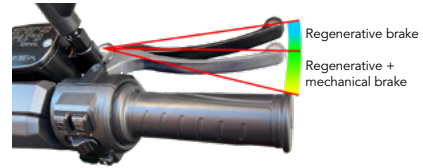
Left lever

The left lever primarily activates the rear brake and slightly the front brake.

Regenerative braking

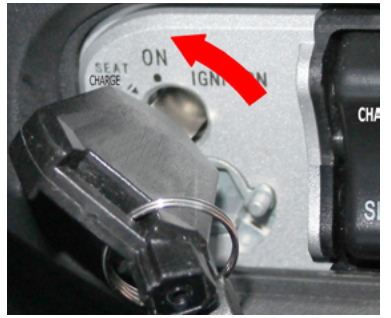
In addition to the mechanical disc brakes, the vehicle has regenerative braking. When the motor is not being used to drive the scooter, it can be reversed to be used as a motor brake to produce electricity as it slows, which is then used to partially recharge the batteries. This regenerative braking is activated electronically when no longer accelerating and, to a greater extent, when applying one of the brake levers and depending on how much the brake lever is applied.

Regenerative braking has its own level of travel on the brake lever. With this amount of travel, only the regenerative motor brake is actuated. If the lever is applied further, the mechanical brake comes into action. At this moment, the two types of braking act simultaneously.
The use of the regenerative brake assists braking and reduces consumption of the mechanical brake pads and maintains the battery charge as well.



Stopping the motor

To switch off the motor, rotate the ignition key to the OFF position. Then remove the key.



Maintenance instructions

Brake fluid level

With the scooter on its centre stand on a flat surface, rotate the handlebars until the brake reservoir that you wish to check is horizontal. Check that the brake fluid level is above the "LOWER" mark through the brake reservoir sight-glass.

If the brake fluid level is below the "LOWER" mark, check the brake pad wear. If the brake pads are not worn, check that there are no fluid leaks at the reservoir cover, hoses and joints or banjo bolts.

The brake fluid should be changed every15,000 km or every 2 years (whichever is first) The change requires bleeding of air from the hydraulic system. For your safety, entrust this operation and the repair of brake fluid leaks to a Nerva Technical Assistance Service.

Recommended brake fluid: DOT-4.

Brake pad

Check that the thickness of the brake pads through the opening that the vehicle's three brake callipers have at the rear. Each caliper has two pads located on either of the brake disc. Check that the friction material of each pad is greater than 2 mm. If they are worn, do not go below that thickness as the surface of the disc could be damaged. Change the set of two pads at the same time. For your safety, entrust this operation to a Nerva Technical Assistance Service.

Cleaning the scooter

CAUTION

- **Do not use steam or high-pressure jets to wash the scooter. These systems can damage or form condensation in the lights, instrument panel, the braking system and the electrical system. The use of pressure washers, regardless of the intensity of the pressure, immediately invalidates the vehicle's warranty.**
- **Never use products for polishing paint on the plastic parts.**
- **After a relatively long journey, fully clean the body and apply a corrosion protection agent.**
- **Use gentle and environmentally friendly cleaning products. Never use aggressive detergents.**
- **Use a clean and soft cloth to dry the scooter.**

WARNING

- **Plastics and upholstery can be damaged if corrosive and penetrating cleaning agents are used.**

To clean the scooter, use a soft sponge and clean water. Then dry with a cloth.

After cleaning, always carry out a brake test before driving off.

To avoid damaging or scratching the bodywork, do not remove dust or dirt with a dry cloth.

As a precaution, particularly in winter (due to the salt spread on the asphalt to prevent ice forming), it is recommended to care for parts that are most exposed to corrosion with a commercial product for this.

Storage of the scooter for a prolonged period

The following steps are recommended for adequate storage of the scooter for a prolonged period:

1. Clean the scooter before storing it.
2. Store the scooter in a dry place.
3. Put the scooter on its centre stand, support the forks on wooden blocks so that neither tyre rests on the ground and become permanently deformed.
4. Cover the vehicle with a protective cover.
5. To protect the batteries, maintain an environment with a temperature under 35° C and humidity under 75%.
6. If the vehicle is going to be stored for a long time, the battery should be maintained with a charge of between 30% and 60% of SOC.
7. Is not recommended to store the scooter for more than six months. After a period of storage without using the battery, carry out an inspection to check its condition.
8. If six months of storage is exceeded, charge the battery to 50% every 6 months.

Start-up

To restore the vehicle after a long period of storage, follow the steps below:

1. Clean the scooter.
2. Check the tyre pressures,
3. Check the condition of the brakes.
4. Carry out the activities indicated in the maintenance plan

Tyre and rim maintenance

If you do not intend to use the scooter for a prolonged period of time, it is recommended to put the scooter on its centre stand. In this way, the weight of the vehicle does not rest on the wheels.

It is recommended to spray the tyres with a silicon rubber treatment in order to prevent the tyres hardening. For this, first clean the tyres thoroughly.

Do not store the scooter or the tyres in hot spaces for prolonged periods of time.

Technical changes, accessories and spare parts

CAUTION

- **It is recommended to use original accessories and spare parts only.**
- **The safety, suitability and reliability of the original accessories and spare parts have been specifically tested for this vehicle.**
- **To get certified accessories and original spare parts, contract an authorised technical service. You can see the list of Nerva sales points and Technical Assistance Services at www.nerva.eco.**

Non-authorised technical modifications may invalidate the EC type-approval.

NERVA ECO SL will not be responsible for modifications made to the vehicle, nor for accessories if they have not been tested and distributed by the service network authorised by the company.

The modifications and/or the installations of accessories not approved by NERVA ECO SL may invalidate the vehicle's warranty.

Tyre condition

WARNING

- **Both tyres are tubeless.**
- **The scooter is equipped with the following tyres at the factory:**

  - Front: 120/70-15 MC 56S
  - Rear: 140/70-14 MC 68S

- **Use only tyres with the approved sizes or equivalents and have the European approval stamp. The use of tyres or rims that are**
- **NERVA ECO SL will not be responsible for damage to tyres or rims that may appear due to poor maintenance or after their handling by another technical service.**

The condition of the tyres should be checked regularly. A worn tyre has poor grip and can cause accidents.

Do not drive without the valve caps. These should be firmly tightened to prevent the wheel losing pressure.

To check the condition of the tyres:
› Measure the depth shown in the drawing (minimum depth: 2 mm).
› Check the wear mark.

Tyre pressure

Adjust the pressure of the tyres depending on the weight of the load.

Never exceed the maximum authorised weight on each tyre.

An incorrect pressure has a direct effect on safety and performance of the vehicle. This also affects the useful life of the wheels.

Always measure the tyre pressure when cold (without having travelled a long distance to the measuring point):

TYRE	DRIVER ONLY	WITH PASSENGER
Front	2,20 atm 2,20 bars 32,3 PSI	2,30 atm 2,30 bars 33,2 PSI
Rear	2,40 atm 2,40 bars 35,3 PSI	2,60 atm 2,60 bars 38,2 PSI

Batteries

CAUTION

- **Do not, under any circumstances, touch the electrical terminals due to the high voltage between them.**

Do not access the batteries under any circumstances. The handling of batteries by persons not authorised by NERVA ECO SL invalidates the warranty.

Recommendations for good battery operation and maintenance:

1. Charge the batteries with a suitable charger approved by NERVA ECO SL.
2. Do not expose the battery to fire or heat. Keep away from sources of heat or fire. Do not store the vehicle in a high temperature location.
3. Take care with the polarity of the terminals. Do not connect the battery to a charger or device with reversed polarity.
4. Do not hit the battery with a hammer, nail or similar object which could damage the battery.
5. Do not submerge the battery in water. Do not keep in a wet environment.
6. Avoid direct sunlight, high temperatures and high humidity. Keep the batteries in an environment within a temperature range under 35°C and above -15°C and humidity less than 75%.
7. If the vehicle is going to be stored for a long time, the battery should be stored with a charge of between 30% and 60% of SOC. Is not recommended to store the scooter for more than six months.
8. If six months of storage is exceeded, charge the battery to 50% every 6 months.

After a period of storage without using the battery, carry out an inspection to check its condition.

If the battery is leaking, emitting smoke or is damaged, stop using the unit immediately.

The batteries must only be handled by technicians authorised by NERVA ECO SL. Handling by non-authorised persons will invalidate the warranty.

Maintenance plan

The first inspection of the vehicle after delivery is very important to ensure good operation over a long period of time.

WHICHEVER IS FIRST: DISTANCE/TIME ELAPSED	500 KM/ 2 MONTHS	5.000 KM/ 12 MONTHS	10.000 KM/ 24 MONTHS	15.000 KM/ 36 MONTHS	20.000 KM/ 48 MONTHS	THEREAFTER
Gearbox oil	C		C		C	Every 10.000 km/ 2 years
Belt tension		I	I	I	I	Every 5.000 km/ 1 year
Nuts and bolts	I	I	I	I	I	Every 5.000 km/ 1 year
Steering and bearings	I	I	I	I	I	Every 5.000 km/ 1 year
Front and rear suspension	I	I	I	I	I	Every 5.000 km/ 1 year
Brake system: brake pads and discs	I	I	I	I	I	Every 5.000 km/ 1 year
Brake fluid	I	I	I	I	I	Check every 5000 km and change every 15,000 km/2 years since the last change

C: Change
I: Inspect, Change, Clean and/or Adjust as necessary

NOTA

- **The scooter has a connection for the on-board diagnostics in accordance with ISO 19689:2016 located under the right-foot inclined support.**

Technical data

Motor	**Net maximum power**	9 kW
	Type	AC alternating current
	Working voltage	54 V AC
	Maximum torque value	Motor: 48 Nm / Rear wheel: 320 Nm
Transmission	**Type**	Belt transmission
	Final ratio	6.7133
	Gearbox oil	80W90, 130 mL
Chassis	**Front suspension**	Telescopic forks
	Rear suspension	Hydraulic shock absorption, adjustable preload
	Front tyres	120/70-15M/C 56S
	Rear tyres	140/70-14M/C 68S
	Size of front rim	3,0 x 15
	Size of rear rim	4,0 x 14
	Front tyre pressure	Between 2.2 and 2.3 bar
	Rear tyre pressure	Between 2.4 and 2.6 bar
	Front brakes	Non-combined hydraulic - Disc: 260 mm diameter - Caliper: Two 25 mm diameter opposed cylinders - Master cylinder: 11 mm diameter

Chassis	**Rear brakes**	Hydraulic combined with front brake (CBS) - Disc: 230 mm diameter - Caliper: 34 mm diameter opposed cylinder - Master cylinder 15.87 mm diameter
Electrical equipment	**Battery**	LiFePo4 76,8V (38,4V x2) 5,76 kWh (2,88 kWh x2)
	72 V DC DC Input fuse 12	15A
	V DC DC Output fuse 72 V	20A
	Power fuse 72 V	200A
	Dipped or low beam headlight	12V 6.8W
	Main or high beam headlight	12V 6.8W
	Position light	LED 12V 4.4W/3W
	Instrument panel lights	LED 12V 0.1W
	Rear brake light	LED 12V 12W
	Rear/front indicator lights	LED FR: 7 x 12V 6W LED RR: 3 x 12V 1.3W
Dimensions and weights	**Net Weight**	202 kg
	Length	2227 mm
	Width	786 mm
	Height	1291 mm
	Wheelbase	1620 mm
	Maximum speed	125km/h (Maximum speed corresponding to peak engine power. The maximum speed may vary depending on road conditions, weight of the driver and passenger).
	Admissible load	160 kg

Vehicle warranty

The warranty conditions are given below:

In case of fault, NERVA ECO SL will provide, through the authorised technical service, a warranty service within its legal obligations:

1. Within a period of 36 months or within the first 30,000 km, whichever is first, after the date of registration of the vehicle, NERVA ECO SL will resolve any deficiency caused by faults in the components and/or manufacturing defects through an authorised distributor, by repairing or replacing the affected part in accordance with the legal warranty regulations. NERVA ECO SL may refuse the requested repair or replacement if the fault has been caused by negligent or improper use of the unit. The repair or replacement may also be refused if the maintenance programme has not been completed.

2. The installation of spare part components within the warranty period does not extend this period that starts with the delivery of the vehicle.

3. The warranty does not cover wear caused by regular use. Nor does the warranty cover wear due to improper use. Wear resulting from environmental influences such as rust and corrosion are not covered by the warranty. Nor does the warranty include aesthetic defects once the vehicle has been taken from the dealer after purchase.

4. Requests from users will be rejected in case of:
   - Tampering with the scooter of any type.
   - Modifications to the transmission.
   - Installation of accessories or spare parts unapproved by NERVA ECO SL.

   Repairs carried out in workshops not authorised by NERVA ECO SL and non-compliance with maintenance intervals will also invalidate the warranty.

   Repairs carried out in workshops not authorised by NERVA ECO SL and non-compliance with maintenance intervals will also invalidate the warranty.

5. When making a warranty application, the customer must provide the correctly completed maintenance book.

Warranty exclusions

The following circumstances are not covered by the official warranty offered by NERVA ECO SL:

1. Once the warranty period has expired.

2. Defects due to repair, adjustment, maintenance or any other operation that is not within the NERVA ECO SL specifications and/or not completed by the authorised service network.

3. The inspections scheduled by NERVA ECO SL following the maintenance book have not been passed.

4. Defects arising due to improper use of the vehicle, such as participation in any type of competition, use other than on the road, on roads in poor condition or in hostile areas.

5. Use outside the parameters indicated in the User Manual.

6. Damage caused due to use as a rental vehicle.

7. Damage due to use of non-original spare parts or accessories not approved by NERVA ECO SL

8. Damage caused by the transformation or-modification of the vehicle and/or its components.

9. Damage caused by ageing or prolonged storage.

10. Perceptual sensations that do not affect the performance and operation of the vehicle, such as noise, vibration, play, etc.

11. Consumables:
-Shoes
-Brake pads
-Brake discs
-Bulbs
-LED lighting elements
-Fuses: 15A, 10A and 200A
-Seals
-Rubber parts
-Transmission belt
-Sprockets
-Crown gears, transmission gears
-Inner tubes
-Tyres
-Oils
-Greases
-Pipes
-Cables
-Cable covers
-Grips
-Adhesives

12. Normal deterioration and wear from regular use. For example: wear of the transmission assembly, seat and stands.

13. Deterioration arising from the use of pressurised water such as: condensation, water ingress, oxidisation, deterioration of paint, deterioration of upholstery, adhesives, logos or any other type of malfunctioning.

14. Damage due to incorrect transport or storage.

15. Any intervention carried out by people other than those from the NERVA ECO SL authorise services.

16. Damaged caused by accidents due to the weather, catastrophes, fire, collision, traffic accidents or theft.

17. Damage caused by smoke, chemical products, oil, animal excrement, salt water, salt or other similar materials.

The NERVA ECO SL official warranty does not assume or cover the following points:

1. Costs for periodic maintenance.

2. Costs for cleaning, inspection and/or assembly prior to delivery.

3. Costs for preparing estimates for repairs outside the coverage of the warranty offered by NERVA ECO SL.

4. Additional indirect costs caused by a fault in the vehicle such as: a tow truck, transport, communications, accommodation, food, etc.

5. Economic compensation for the maintenance and repair period. Whether under warranty coverage or not, NERVA ECO SL will not assume costs for loss of time, commercial losses, loss of working days, costs for hire vehicles, etc.

The parts replaced within the warranty period will be guaranteed for the remaining time of the warranty.

All replaced parts become the property of NERVA ECO SL. NERVA ECO SL. reserves the right to make modifications or improvements to their vehicles with the aim of improving their operation and/or durability.

Battery warranty

If the battery develops a fault or fails, NERVA ECO SL will provide a warranty service through its authorised technical service.

This warranty will be 5 years from the date of delivery of the vehicle.

The following causes invalidate the warranty

1. The damage is caused by a failure of the BMS, the improper use of the battery or force majeure cause.

2. The battery voltage exceeds 91.2 V (cell> 3.8 V) during charging.

3. The battery voltage drops below 48 V (cell < 2.0 V).

4. Charging the battery with its polarity reversed.

5. The battery has mechanical damage, such as puncturing or crushing. The warranty is immediately invalidated if the external battery structure is attempted to be opened or modified.

6. Charging the battery under high temperature conditions that could bring the battery close to fire temperatures.

7. Short-circuit produced by human tampering or other means.

8. Wetting or placing the battery in water by human action or other means.

The battery will remain under warranty provided that it is charged with an appropriate charger approved by NERVA ECO SL in accordance with the operating instructions.

Summary of warranty periods

COMPONENTE	PLAZO DE GARANTÍA
Battery	5 years
Controller	3 years
Charger	3 years
DC DC	3 years
Motor	3 years

Warranty control

NOTE

- **In case of change of address or sale of the vehicle to a new owner, please inform your nearest Authorised Dealer. Do not forget to provide a copy of your vehicle registration certificate which includes the new updated details.**

Owner's details

Surname _____
Name _____
Street _____
Town _____
Province _____
Postcode _____
Telephone _____

Datos del vehículo

Frame No _____
Model _____
Sales data ____ /____/ _____
Registration number _____
Stamp and signature of the authorised dealer:

Periodic servicing

Service at 500 km/ 2 months

Date ___ / ___ / ____ Km _____
Stamp and signature of the authorised dealer:

Service at 5.000 km/ 12 months

Date ___ / ___ / ____ Km _____
Stamp and signature of the authorised dealer:

Service at 10.000 km/ 24 months

Date ___ / ___ / ____ Km _____
Stamp and signature of the authorised dealer:

Service at 15.000 km/ 36 months

Date ___ / ___ / ____ Km _____
Stamp and signature of the authorised dealer:

Service at 20.000 km/ 48 months

Date ___ / ___ / ____ Km _____
Stamp and signature of the authorised dealer:

Service at 25.000 km/ 60 months

Date ___ / ___ / ____ Km _____
Stamp and signature of the authorised dealer: