

SCHACHNER

ELEKTROFAHRZEUGE



User Manual

2-step hub motor RNM 2G

Preface

Dear client!

We want to congratulate on your acquisition of a Schachner central motor – electric kit. We are glad to inform you about operation, maintenance and care of our e-kits on the following pages.

You bought a product from Austria which have been technically improved during more than 24 years and is approved in Europe for 10.000 times.

The electric kit has been developed for people who like to be in motion but feel that riding a bike up a hill or with headwind is too hard for them. It is particularly strong, robust and totally maintenance free - for people who attach importance to quality, health, security, reliability and long life.

The Schachner e-kit has been developed in Austria especially for mountain cyclists and it proved very well.

We hope you enjoy using your new e-kit and wish you always a good, secure and accident- free ride!

Mit freundlichen Grüßen



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hint!

To avoid faults please read the operating instructions very carefully before putting the e-kit into operation.

This kit offers numerous functions which can only be used optimally by using the kit in the right way. This is also important to reach optimal life cycle and distance.

When a malfunction occurs, please take the operating instructions, check the cable connections and try to patch the fault.

In case a malfunction cannot be repaired from your side, please contact your specialized dealer. Reparations should always be done from a qualified, specialized dealer!

2 Warranty

Gemäß dem seit 1. Jänner 2002 gültigen europäischen Gewährleistungsrecht steht Ihnen eine gesetzliche **Gewährleistung von 2 Jahren** zu. Die Gewährleistungsfrist beginnt mit der Übergabe des Bausatzes. Zum Nachweis des Kauf- bzw. Über-gabedatums heben Sie die Rechnung für die Dauer der Gewährleistung auf. Werden Ersatzteile im Rahmen eines Gewährleistungsfalles eingebaut, wird die Frist nicht zusätzlich verlängert.

attention!

The warranty for the battery is half a year, because it is a consumable article. We offer you a half year more for our high-quality batteries.

We can only guarantee handling by warranty if you submit the battery including invoice. For batteries which cannot be sold for longer time you have to secure regular charging. If not, the warranty time will not be prolonged.

The warranty does not refer to:

- damages occurred by improper use and irresistible force,
- all parts of a bicycle, which are subject to a wear and tear conditional on the function, as far as there are no production or material faults,
- damages, occurred by improper or defectively care and reparations, modifications or exchanges which have not been done professionally,
- belated added parts which do not belong to the scope of supply at time of hand over or damages that occur of not-professional assembly of those added parts,
- damages occurred by oxidation, corrosion and environmental impacts.

Entitled warranty demands are present, if:

- a production- or material fault exists,
- the complained damage or fault already existed at the time of hand over to the customer,
- the damage or the fault causally occurred because of an intended deallocation from Schachner GmbH.

The warranty includes all necessary spare parts.
Further demands are excepted.

3 Scope of supply

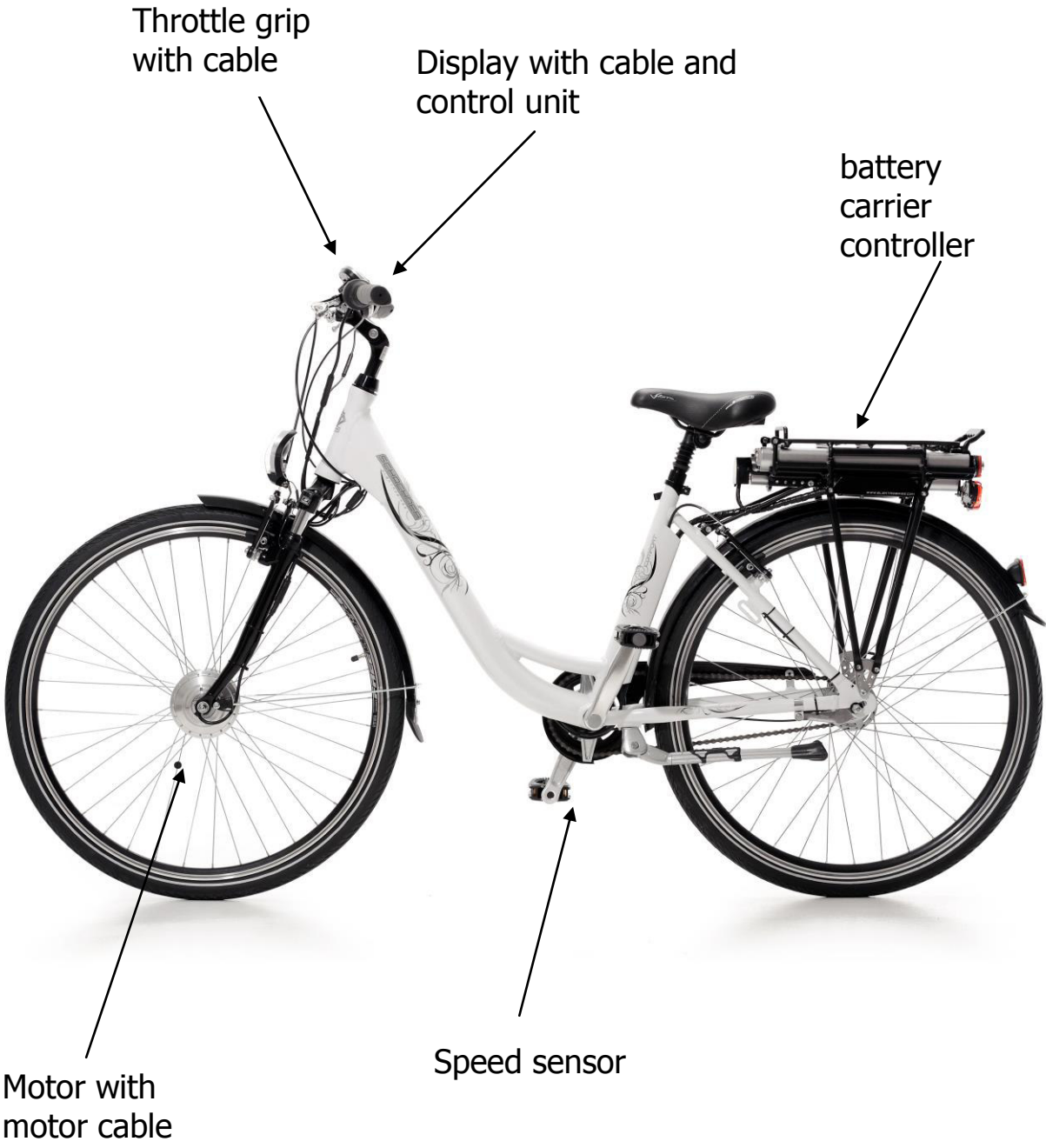
When you acquire an e-kit from Schachner GmbH, it consists of the following parts:

- LCD-Display with connection cable and control unit
- Switch for choosing the gear of the motor
- Throttle grip with connection cable
- Controller
- Motor with safe holder and connection cable
- Carrier
- Charger
- Speed sensor with holder and magnetic disc
- User manual

- Battery: Li-NCM 9Ah/11Ah/15Ah
inkl. holder plate, rear light and controller housing

If you have acquired the e-kit completely assembled you only receive a charger and this operating instruction added to the bike. All other parts are already assembled.

Assembly plan



4 Driving operation

A bicycle, with Schachner e-kit is according to the European draft standard prEN 15197 an "EPAC" (Electrically Power Assisted Cycle) also called "pedelec" (pedal electric cycle).

The Schachner Pedelec is a bicycle including drive support. It is equipped with an electromotive auxiliary drive with a maximum continuous rating of 250 Watt. The driving speed with motor power is limited to 25 km/h and the maximum power output is bounded to 400 Watt.

As optional support we provide a starting aid (max. 6km/h) that helps you moving your bike at the beginning.

When you pedal stronger at the start, in the case of headwind and when driving up a hill, the distance you can reach with a charged battery can be increased a lot.

With the gear shift you choose the speed of pedalling in relation to the driving speed. The fewest force is needed if you pedal with 40-60 rounds per minute. (Athletes pedal with around 100 rounds per minute.) When you drive up a hill and the driving speed is getting lower, you can switch to a lower translation and keep your constant pedal frequency.

The complete power unit is very light and when the motor is turned off, it is totally separated from the bike. Also without switching on the e-kit you have a very manageable and smoothly running bike.

hint!

First of all, please ride the bike without help of the motor to familiarize with ride comfort, function of shifting system and brakes.

5 Function description: Controller

The controller is situated in the battery holder on the carrier. It's function is required to control the electric power of the bicycle.

6 Function description: Speed sensor

The speed sensor (mounted between the cranks and the bottom bracket) with the magnetic disc is required to record the pedal frequency.



7 Function description: motor 2-step

You have acquired a totally maintenance-free front motor with two mechanical gears.

The nominal speed is 195 revolutions per minute, the nominal performance is 250 Watt and the maximal performance is about 400 Watt.



The motor is mounted in the fork with two nuts and secured with two safe holders. If you want to remove the motor from the bike, for example if you want to change the tyre, please take care that you insert the motor in the right position again and that the cables are not damaged.

If necessary, the cable connection could be disconnected easily. To avoid damages it is recommendable to let reparations be done by professional workshops which also check and secure the correct function of the brakes.

8 Function description: carrier

The battery is located in the carrier or directly fixed in the frame (depending on the model) and it has a cable which leads to the controller. The lock protects the battery from dropping out of the carrier and from thefts.



9 Function description: charger

For charging you can take out the battery or charge it directly on the bike. The temperature of the battery should not drop below 5°C or exceed 35°C while charging; otherwise the battery cannot be charged. We suggest charging the battery in a heated, temperate room.

hint! As soon as the battery is out of the recommended temperature, the red lamp of the charger shines. Out of this reason, please let the battery cool down after driving and charge it only cooled down.

To charge the battery, please act as follows:

- Put the charger and the battery on a non- flammable base for duration of charging.
- First connect the charger with the battery, and after that, please connect the charger with a 230 voltage receptacle
- The charging procedure begins promptly. – The red lamp is shining.

The charging procedure takes about 3-7 hours, depending on the power of the battery. The charging rate is approximately 2 Am-pere and the charging voltage is 36V.

As soon as the battery is completely loaded the charging will be stopped automatically. – The green lamp on the charger is light.

hint! The best time for recharging the battery is at night. So the battery will be fully loaded next morning. Overload-ing is impossible!

If you are using a new battery (or again after longer storage) the distance you can reach with one full load will increase during the first charging processes.

In the winter we recommend to store the full charged battery in a dry area. As the battery discharges also when it is not in use, you should load for some hours every 6 weeks, so that the battery will not be damaged because of over-discharging. Before setting out the first run please load up the battery again.

10 Function description: Battery

Li-NCM Akku

- Battery integrated in the luggage carrier
- Riding distances: 9Ah: 50-70km 11Ah: 60-80km
- Weight: 9Ah: 2.6kg 11Ah: 3.0kg

Tipp!

- very favourable power-weight ratio
- strong power-high reach



The state of charge of the battery you can control on the integrated display on the battery, when you push the red button. The battery is empty if only the red lamp is light.

The length of the way you can drive with a full battery charge depends decisive on structure of the way, ambient temperature, head wind, tyre pressure, weight of the driver, age of the battery as well as how often you use the motor and how strong you pedal.

So you can reach a high range:

- recharge the battery fully after every run.
- drive mainly with a low supporting step.
- avoid to use the electronic drive all the time.
- Check tyre pressure every month (3.5 to 4 bar).
- Oil the chain every 200 to 300 km.

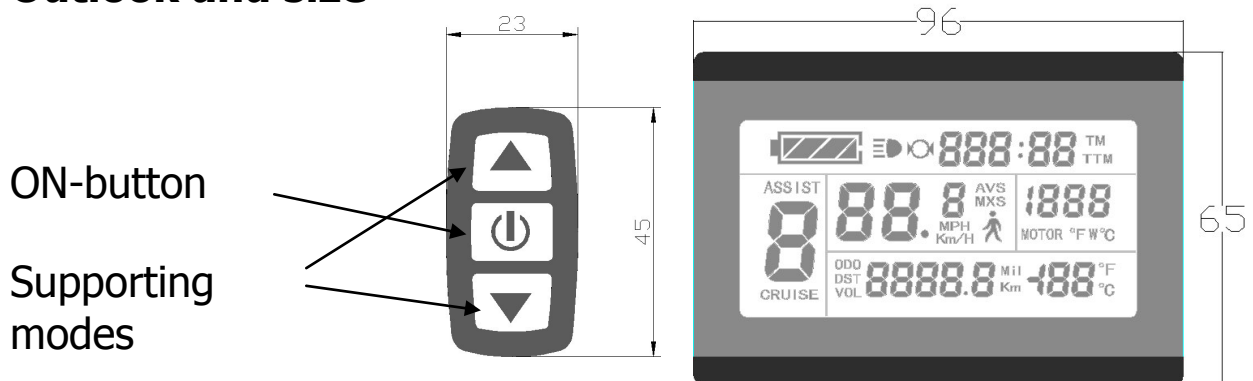
hint!

For long driving distances you can take the charger in a bag with you. Eventually stop-offs increase the range of the battery notable. The battery can, for example when you make a tour for several days, be fully recharged during the night.



The connector on the battery is for connecting the charger. It should always be closed with the cover (only open to charge) to protect the contacts from dirt and moisture.



11 Handling and function of the LCD-display

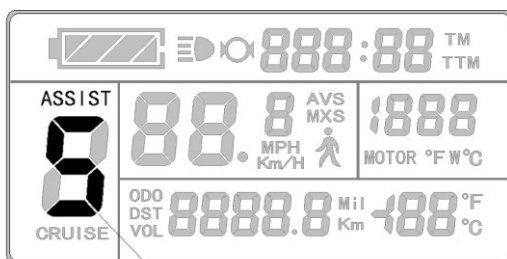
Outlook and size



Bedienung und Einstellung

Press this button  and the display is powered on and supplies electricity to the controller. Press this button  for short time again and the display is switched off. If the bicycle is not used, the display switches off automatically after 5 minutes.

  There are 5 supporting modes (no support, low, medium, strong, extra strong). Press these buttons to adjust the strength of the motor. Standard is medium support.




Battery indicator


Four blocks show the battery level (One block means 25% of the battery's energy.). When the battery capacity is getting lower, the blocks will not be shown anymore.

Functions

Background light

Press this button  when the display is powered on, and the background light is switched on. Press this button again and the light is switched off.




On the homescreen following functions are shown: battery indicator, current time, supporting modes, driving speed, driven kilometres, motor power, temperature, background light. In this menu, when you push this  button, this screen is shown:








You can see the total driven time, total driven kilometres, average speed, motor temperature.

Starting aid

If you have to push the bicycle, the 6km/h starting aid can help you. Press and hold down , to activate the starting aid. The sign for „starting aid“ is flashing. When you release the button, the starting aid is stopped.

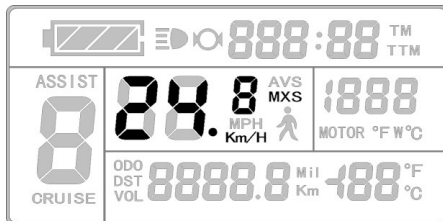
Delete recorded data

When the display is powered on, push and hold  and  for two seconds. Driven time and driven kilometres start flashing. After that, press  and both information are deleted.




When the display is powered on, press  and  within the next 5 seconds to enter the settings menu.

Maximum speed




Press either  or  to adjust the maximum driving speed. Standard is 25km/h. Press  to switch to the next point.



Wheel diameter

Press either  or  to adjust the diameter of the wheels. You can choose following sizes: 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 700C and 28 inch. Press  to switch to the next point.

Adjust the units

Press either  or  to switch between the units. Following units could be changed: Selection between „km/h“ or „MPH“ for the current driving speed; Selection between „km/h“ and „Mil“ for the driven kilometres; Selection between „°C“ or „°F“ for the temperature. Press  to switch to the next point.

12 Driving mode

Insert the battery into the carrier, lock up the carrier and remove the key.

Hold  on the display to switch-on the system. The bicycle is ready to start.

The gear switch does have three positions: „L“, „A“ and „H“.

„L“ is the first gear of the motor. In the first gear, the motor is powered with a gear reduction of 1:8. Please choose the first gear when the motor is under heavy strain for example when you start driving or during driving on a mountain.



„H“ is the second gear of the motor. In the second gear, the motor is powered with a gear reduction of 1:4. Please choose this gear for top speed of 25km/h and for flat roads.

„A“ switches automatically between „L“ and „H“, thus between first and second gear of the motor. During change of the gears, a short delay can be felt.

When the bicycle is assembled with **throttle grip function**, you can regulate the power of the motor with the throttle grip. With the gear switch you can choose the right gear. **This is very important to enlarge the range of the batter, to take care of the motor and to have a good driving performance.**

When the bicycle is assembled with **sensor function**, you can regulate the power of the motor on the display with the 5 mode steps. Also here, take care of the right gear on the gear shift to reach a good driving performance.

13 Disposal



The battery needs to be disposed according to the Guideline 2006/66/EG from European parliament and council with separate waste and may not be disposed with the normal garbage.

As consumer you are legally liable to dispose the old battery-pack according to the regulations. You can give the old battery to every public collection point free. The battery has to be discharged or secured against short circuit.

It is also possible to send in the old battery, for example to get a new one, directly to us, the manufacturer.

14 Safety guidelines

- Do never open the controller, battery, motor or other parts, to undertake reparations or engagements yourself. It would not only be too big risk of injury, also the warranty time will not be prolonged. Although all electric parts are shield from spray water they should not be exposed for longer time to rain or constant wetness. To avoid development of condensation water it would be advisable to park the bike on a dry and aerated place. We want to discourage of cleaning controller, motor or battery with a high-pressure cleaner, because water can invade. By a short circuit in the electric circuit battery or other parts can be destroyed. This can require expensive reparations which can NOT be made as warranty!
- Although the batteries voltage from only 36 Volt is not dangerous for people currents of some hundreds Amperes can flow during a short circuit.

To have an idea from the energy content of your small and harmless looking battery, please consider that it would be possible to start a big, heavy diesel engine of a truck without any problems with this battery!

- Protect the electric drive unit from moisture. Avoid dropping, spraying and rain water.
- Clean all parts of the electric drive unit only with a soft cloth and not with stridently polish and cleaning agents.
- Please put charger and battery always on an not flammable base for the time of charging.
- Do never cover battery and charger!
- Only use the supplied charger!

15 Technical Data

- Motor** Front motor with 2 steps for best support
Mounting width motor in front wheel: 100 mm
Mounting width motor in rear wheel: 135 mm
Diameter: 103 mm
Nominal power: 250 Watt
Maximal power: 400 Watt
Rated speed: 195 U/min
- Battery** Li-NCM battery pack with 9 Ah / 11 Ah / 15 Ah
Riding distance: depending on the model and riding conditions 50-110 km
- Charger** Input voltage: 230 Volt, 50 Hz
Charging voltage: 36 Volt
Charging current: 1,5 Ampere
Charging time: 3-7 hours

**We hope you enjoy using your e-kit and wish
you always a good ride with your Schachner
electric drive unit!**



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