Manual

LiPo BALANCER CHARGER 2-3S

with net power supply 100-240V AC and separated connection cable with crocodile clips

No. 6454.XH
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Introduction

Thank you very much for purchasing a Graupner LiPo BALANCER CHARGER 2-3S with net adapter 100-240V AC and separated connection cable.

Read this manual carefully to achieve the best results with your LiPo battery charger and first of all to safely charge your batteries. If you experience any trouble during the charge operation, take the instructions to help or ask your dealer or Graupner Service Centre.

Due to technical changes, the information may be changed in this manual without prior notice. Be always updated by checking periodically on our website, www.graupner.de to be always up to date with the products and firmwares.

This product complies with national and European legal requirements.

To maintain this condition and to ensure safe operation, you must read and follow this user manual and all the safety notes before using the product and you have to respect those notes also for future use!

Note

This manual is part of that product. It contains important information concerning operation and handling. Keep these instructions for future reference and give it to third person in case you gave the product.

Service centre

Graupner Central Service
Graupner/SJ GmbH
Henriettenstraße 96
D-73230 Kirchheim/Teck

Servicehotline
(+49) (0)7021/722-130
Monday - Thursday:
9:15 am - 4:00 pm
Friday:
9:15 am - 1:00 pm
service@graupner.de

Graupner USA
3941 Park Dr Suite 20-571
El Dorado Hills, CA 95762

Website: www.graupnerusa.com
Phone: +1 855-572-4746
Email: service@graupnerusa.com

Graupner in Internet

For the service centers outside Germany please refer to our web site www.graupner.de.
**Intended use**

The **Graupner LiPo BALANCER CHARGER 2-3S** has to be used exclusively only for the scopes declared by the manufacturer. Any other type of use is impermissible and may cause significant property damage and/or personal injury. No warranty or liability is therefore offered for any improper use not covered by these provisions.

This charger is only suitable for charging a lithium-polymer battery with either two or three cells and a nominal cell voltage of 3.7 V.

**Target group**

The item is not a toy. It is not suitable for children under 14. The and operation of the battery charger must be performed by experienced modellers. If you do not have sufficient knowledge about dealing with LiPo battery chargers, please contact your dealer, an experienced modeller or a model club.

**Disclaimer**

**Graupner/SJ** cannot monitor compliance with the operating instructions, as well as the conditions and methods for installation, operation, use and maintenance of the charger. Therefore **Graupner/SJ** does not accept any liability for loss, damage or costs arising from improper use and operation or which are related to it in any way.

**Package content**

- LiPo BALANCER CHARGER 2-3S
- Power supply for 100-240V AC
- alternative connection cable with crocodile clips
- Manual
# Technical data

<table>
<thead>
<tr>
<th>Power supply</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>100 ... 240V ~ (AC)</td>
</tr>
<tr>
<td>Output voltage</td>
<td>15V = (DC)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Approx. 69 x 47 x 32 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 105g</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Charger</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Input voltage</td>
<td>10 ... 18V = (DC)</td>
</tr>
<tr>
<td>Suitable to charge</td>
<td>LiPo batteries with 3,7V nominal voltage each cell</td>
</tr>
<tr>
<td>Admitted cells count</td>
<td>2 or 3 cells</td>
</tr>
<tr>
<td>Balancer ports</td>
<td>2</td>
</tr>
<tr>
<td>Usable at the same time</td>
<td>1</td>
</tr>
<tr>
<td>Charge current</td>
<td>max. 1,1A (&lt; 15W)</td>
</tr>
<tr>
<td>Light display</td>
<td>Red and green LED</td>
</tr>
<tr>
<td>Balancer connection type</td>
<td>XH</td>
</tr>
<tr>
<td>Voltage difference at the balancer</td>
<td>approx. 30mV</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Approx. 81 x 52 x 24 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 50g</td>
</tr>
</tbody>
</table>

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## Symbol description

Always observe the information indicated by these warning signs. Particularly those which are additionally marked with the words **CAUTION** or **WARNING**.

The signal word **WARNING** indicates the potential for serious injury, the signal word **CAUTION** indicates possibility of lighter injuries.

The signal word **Note** indicates potential malfunctions. **Attention** indicates potential damages to objects.
Safety notes

These safety instructions are intended not only to protect the product, but also for your own and other people’s safety. Therefore please read this section very carefully before using the product!

- Always pay attention to the charging instructions of the battery manufacturers and always observe the recommended charging currents and charging times.

- Do not carry out any fast charge as long as the manufacturer does not explicitly state that the batteries are suitable for this purpose.

- Lithium polymer cells are sensitive and can easily be damaged. Therefore, charge LiPo cells only with suitable charging devices and under permanent monitoring of the charging process.

- Protect the power supply and the charger against dust, moisture, rain, heat (e.g. direct sunlight) and vibrations. Only use in dry locations.

- Not for children under 14 years, no toys!

- Persons, including children, with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, or not capable to use safely the battery charger must not use it without supervision or instruction by a responsible person.

- The slots in the housing are used to cool the device and must not be covered or sealed. The device must be positioned so that the air can circulate without restriction.

- Do not connect several chargers to one power strip. Otherwise, the socket can be overloaded and start to burn!

- The charger and the LiPo battery to be charged must be placed on a non-combustible, heat-resistant and non-conducting surface during operation. Never place the device on a car seat, carpets or similar surfaces. Combustible or highly flammable objects are to be kept away from the charging area. Ensure good ventilation.

- Batteries can explode or catch fire if they are defective!

- The charge outputs and the connection cables must not be modified or connected to each other in any way. The charging cables and connection cables must not become coiled during operation. Prevent short circuits between the charge output or battery.

- Only use the components and spare parts that we recommend. Always use matching, original Graupner plug-in connections of the same design and material.

- Make sure that all of the plug-in connections are tight. When disconnecting the plug-in connections, do not pull the cables.
• Never leave the charger unattended when it is connected to the power supply. Only use in rooms fitted with a smoke detector.

• Under no circumstances should both charge connections of the LiPo BALANCER CHARGER 2-3S be used as short-circuit-like effects can occur.

• If there is AC power at the charger input jack or the supply voltage exceeds 18 VDC (DC), the charger will be damaged and fire may occur.

• Never start the engine of your vehicle or never charge the car battery while the LiPo BALANCER CHARGER 2-3 S is connected!

• If you have questions which cannot be answered by the operating manual, please contact us or another expert in the field.

• Avoid every kind of short-circuit in all sockets! Risk of fire! Use only the suitable connectors. In no case the electronic component of the charger may be changed or modified. Due to licensing reasons, any reconstruction and/or modification of the product is prohibited.
For your safety by handling the batteries

**CAUTION**

- Protect the batteries from dust, dirt, moisture, heat and vibrations. Only use in dry locations.
- Batteries must always be monitored during charging!
- Connect the battery to be charged using the original GRAUPNER XH balancer connection cables for lithium polymer cells.
- Do not use any damaged battery.
- Never try to load faulty or "puffy" lithium cells!
- Overcharging and deep-discharge processes cause irreparable damage to the cells, permanently impair the performance of the battery and reduce its capacity.
- Always ensure that all cables, plugs and terminals are well and securely connected. If, for example, a wobble contact causes a short interruption of the charging process, this inevitably leads to a malfunction, such as a restart of the charging process. The battery pack can be massively overcharged and, in the worst case, start to burn.
- Batteries may not be heated, burned, short-circuited.
- If handled improperly, there is a danger of fire, explosion, irritation and burns.
- Leaked electrolyte is caustic and should not be touched or come into contact with your eyes. In case of emergency, rinse with a large quantity of water and consult a Med. Doctor.
- Stock the batteries in dry and fresh conditions.
- Dispose of the battery in the proper disposal centers.
**Start up**

**Charging LiPo batteries**

Lithium batteries may ONLY be charged with suitable charger type. Chargers or charging methods for NiCd or NiMH batteries are not suitable for charging LiPo batteries since the respective charging methods differ considerably. Also, LiPo chargers balance the cell voltages during charging, they "balance" them. A technique which is not used, for example, when charging NiCd or NiMH batteries.

The required charging current depends on the charge state and on the capacity of the battery to be charged and is automatically determined by the charger as a rule.

**Components description**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</table>
| 1 | **Net power adapter** | admitted input voltage 100 ... 240V ~ (AC)  
Output power 15V / 15W |
| 2 | Charger - Input | admitted input voltage 10 ... 18V = (DC) |
| 3 | green LED | Lights up after charging |
| 4 | red LED | Lights up during charging |
| 5 | Balancer socket | for 2 cells batteries |
| 6 | Balancer socket | for 3 cells batteries |
| 7 | Connection cable |   |
| 7 | Charger-side connector | admitted operation voltage 10 ... 18V = (DC) |
| 8 | Crocodile clips red + black | For connection to a DC current source with 10 ... 18 V  
e.g. Car battery |
Charging mode with net power supply

*Step by step*

1. Connect the net power adapter to an easily accessible socket with AC between 100 ... 240 V.
2. Insert the round connector of the net power adapter to the LiPo BALANCER CHARGER 2-3 S.
3. The green and red LEDs on the charger light up and go out after approx. one second.
4. Make sure the polarity of the balance cable is correct.
   From right to left:
   - PIN 1 (GND = ground): Ground or negative pole of the battery
   - PIN 2 (1): Plus pole cell 1
   - PIN 3 (2): Plus pole cell 2
   - PIN 4 (3): Plus pole cell 3
5. Connect the balance cable of the 2-cell or 3-cell LiPo battery to the corresponding balancer connection.

**Attention**

In no case use both connections AT THE SAME TIME!!! Short-circuit-like effects can occur.

6. The red LED starts to light up and lights up constantly further until the end of the charge process.
7. If the red LED gets off and the green one lights up, the charge process is completed.

Charging mode with connection cable

*Step by step*

1. Connect the crocodile clips of the charging cable to a direct current source with an output voltage between 10 ... 18 V and sufficient capacity. For example to the battery of your car.
2. Insert the round connector of the connection cable to the LiPo BALANCER CHARGER 2-3 S.
3. The green and red LEDs on the charger light up and go out after approx. one second.
4. Make sure the polarity of the balance cable is correct.
   From right to left:
   - PIN 1 (GND = ground): Ground or negative pole of the battery
   - PIN 2 (1): Plus pole cell 1
   - PIN 3 (2): Plus pole cell 2
   - PIN 4 (3): Plus pole cell 3
5. Connect the balance cable of the 2-cell or 3-cell LiPo battery to the corresponding balancer connection.
Attention
In no case use both connections AT THE SAME TIME!!! Short-circuit-like effects can occur.

6. The red LED starts to light up and lights up constantly further until the end of the charge process.
7. If the red LED gets off and the green one lights up, the charge process is completed.

Connection example of a 2-cell LiPo battery

Connection example of a 3-cell LiPo battery

Notes
• The batteries shown in the two connection examples are not included in the scope of delivery of the charger.
• After charging, remove the LiPo battery to be charged from the charger for safety reasons.
• Disconnect the charger from the power supply after charging.

• Do not place anything on the charger during charging.

• The admitted temperature range is from 0 to 40 °C. The optimum charging power is within 10 and 30 °C.

• If there are consistent voltage differences between the individual cells of the LiPo battery to be charged, the charging time can be extended.

• If the voltage of the AC power source drops below 10 V, there is an acute risk of malfunction.

LED does not light up

• Red LED does not light even though a battery is connected:
  – The battery voltage is lower than 2.75V per cell.
    Verify the battery voltage.
  – The battery is connected with a wrong polarity or it is short-circuited.
    Check connection for incorrect polarity or short circuit.
  – Input cable in bad conditions.
    Check the condition of the input cable.
  – Input power source is not usable.
    Check whether the DC voltage of the current source is between 10 ... 18 V with a load of at least 1.2 A.

• Red LED is constantly lit when the battery is connected, green LED is dark:
  – Charging is in progress but is not yet complete.
SIMPLIFIED EU DECLARATION OF CONFORMITY

Graupner/SJ hereby declares that the product LiPo Balancer Charger 2-3S 6454.XH complies with the directives 2014/30 / EU EMV and 2014/35 / EU LVD.

The full text of the EU Declaration of Conformity is available at the following Internet address: www.graupner.de

Notes on environmental protection

If this symbol is on the product, instructions for use or packaging, it indicates that the product may not be disposed with normal household waste once it has reached the end of its service life. It must be turned over to a recycling collection point for electric and electronic apparatus.

Individual markings indicate which materials can be recycled. You make an important contribution to protection of the environment by utilizing facilities for reuse, material recycling or other means of exploiting obsolete equipment.

Care and maintenance

The product does not need any maintenance. Always protect it against dust, dirt and moisture.

Clean the product only with a dry cloth (do not use detergent!) lightly rub.
Warranty certificate

Graupner/SJ GmbH, Henriettenstrasse 96, 73230 Kirchheim/Teck grants from the date of purchase of this product for a period of 24 months. The warranty applies only to the material or operational defects already existing when you purchased the item. Damage due to misuse, wear, overloading, incorrect accessories or improper handling are excluded from the guarantee. The legal rights and claims are not affected by this guarantee. Please check exactly defects before a claim or send the product, because we have to ask you to pay shipping costs if the item is free from defects.

These operating instruction are exclusively for information purposes and are subject to change without prior notification. The current version can be found on the Internet at www.graupner.de on the relevant product page. In addition, the company Graupner/SJ has no responsibility or liability for any errors or inaccuracies that may appear in construction or operation manuals.

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