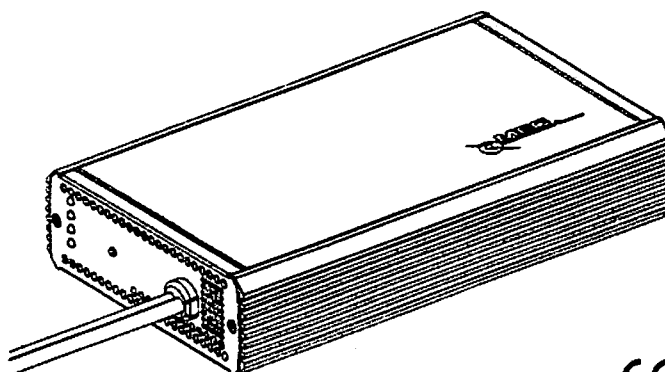




Operating Instructions

Nova-150SR Charger

for Li-Ion & Li-Po battery packs



MEC Art.-Nr.:

- 12,6V / 10A 165-03103-430 (3 Cells)
- 16,8V / 8A 165-04802-430 (4 Cells)
- 21V / 6A 165-05602-430 (5 Cells)

MEC Art.-Nr.:

- 25,2V / 5A 165-06502-430 (6 Cells)
- 29,4V / 4,5A 165-07452-430 (7 Cells)
- 33,6V / 4A 165-08402-430 (8 Cells)


Dear Customer!

Thank you very much for your trust in us and our product.

Please read these operating instructions carefully before start of operation .

MEC-Energietechnik GmbH

1. Safety Rules and general Warnings

- **ATTENTION: 100-240 Volts AC voltage, device is not suitable for children – danger of life!**
- **ATTENTION: Please consider the charging instructions from the battery manufacturer before charging!!**
- **ATTENTION: The charger is exclusively designed for rechargeable Li-Ion and Li-Po battery packs and must not be used for other purposes.**
- Persons, which are not able to use the device in a safe way, because of their physical, sensory or mental competence, or because of their inexperience, should not use the charger without control or instruction of a skilled person. Look that the children don't play with the charger.
- Only for charging Li-Ion and Li-Po battery packs with overcurrent and overvoltage protection.
- Do not cover the vent outlet during operation!
- If the mains connection of the device is damaged, you have to change it, with an original connection which is available at the manufacturer.
- Don't use the device near flammable gases, solvents or vapours. **EXPLOSION RISK!**
- Use the device only in dry rooms and protect against dust, heat (>40°C) and humidity (>80% rel.) .
- Protect against direct solar radiation.
- Clean with a dry cloth only.
- No fluids of any kind must get into the device.
- In case of obvious damage or malfunction immediately disconnect the device from mains supply and protect against unintended reconnection.
- Do not open! Repair work must only be accomplished by authorized companies or specialized technical staff.

2. General Information

The microprocessor controlled charger serves to charge Li-Ion and Li-Po battery packs. The compact design in a metal housing could be realized with the high frequent combinatorial circuit technology. This optimum of technique guarantees an optimal and gentle charging of your batteries for the greatest possibility of charging cycles.

3. Special Features

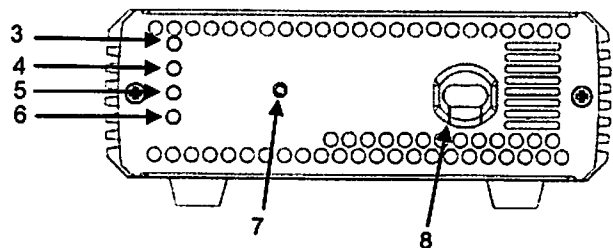
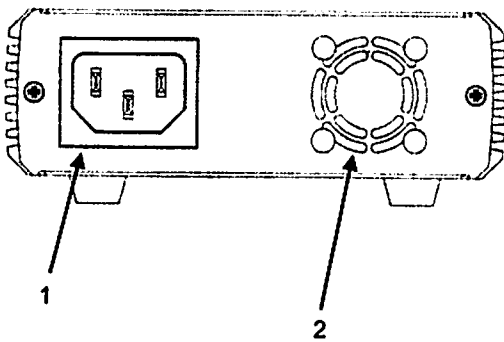
- Li-Ion charging technology;
- Charging profile with „Softstart“-phase;
- Automatic Restart-function;
- Cooling with load-dependent fan;
- High frequent switching technology;
- LEDs to indicate operation and charging status;
- Wake-Up Function for battery with safety shut-down;
- Protection against reverse polarity and short circuit;
- Power de-rating at elevated environmental temperature;

4. Scope of delivery

1. Main Socket
2. Fan
3. Red Power-LED

4. Green Full-LED
5. Yellow Charging-LED
6. Red Error-LED

7. Wake up button
8. DC- Cable



5. Operation

I. Connect the charger to the battery and start charging:

First make sure that the charger is disconnected from the mains supply.

Variant a - battery is built in the vehicle:

First connect the positive terminal (+) of the battery with the red clamp of the charging cable (+).

After that, connect the clamp of the black charging cable (-) with the negative terminal (-) of the battery or the car body of the vehicle. (Please consider details from battery- and vehicle manufacturer!!)

Please make sure that the connection is done in a safe distance to the fuel line.

Variant b – battery is not built in the vehicle:

First connect the positive terminal (+) of the battery with the red clamp of the charging cable (+).

After that, connect the negative terminal (-) of the battery with the clamp of the black charging cable (-).

☛ Before starting the charge process press the **Wake-up Button**.

The charging process starts automatically and runs through the following three charging phases:

1. charging phase: Soft start-phase (if battery voltage <3.0V / cell)

The charging step is indicated by **constant lighting of the yellow control LED**.

The battery is being charged with lower current till reaching a voltage of 3.0V / cell.

2. charging phase: constant current (CC)

The charging step is indicated by **slowly flashing of the yellow control LED**.

During the constant current phase, the battery is being charged with nominal current.

3. charging phase: constant voltage (CV)

This charging step is indicated by **fast blinking of the yellow control LED**.

During the constant voltage phase the battery is being charged to its maximum capacity.

When the max. capacity is reached the green Full-LED is lighting constant.

The charger can now be disconnected from the battery (see pt. II disconnect the charger) or remain at the battery in float- charge mode. If the battery voltage is sinking below 3.7V / cell at connected device an automatic restart charging process starts (automatic restart-function).

II. Disconnect the charger from the battery:

a) Disconnect the charger from the mains supply;

b) Disconnect the charger from the battery;

6. Errors and Troubleshooting

Mains cable is defect / damaged

- Change the mains cable with an original, which you get from the manufacturer;

Red Power-LED does not light:

- Check if the mains plug is correct connected with the plug;

- Check if the mains cable is damaged;

Red Control-LED blinking:

- Malfunction – Disconnect the device from the mains and re-start the charging process

- If the error is coming permanently, please send back the device with an error description to the manufacturer.

7. Technical Specifications

Version	3S 12.6V / 10A	4S 16.8V / 8A	5S 21.0V / 6A	6S 25.2V / 5A	7S 29.4V / 4.5A	8S 33.6V / 4A
Order no.	165-03103-430	165-04802-430	165-05602-430	165-06502-430	165-07452-430	165-08402-430
Input	100...240VAC 50...60Hz (IEC 60320-C14)					
AC-cable	1.5m ±0.1m IEC 60320-C13 - CEE 7/7					
Charging voltage max.	12.6VDC ±1%	16.8VDC ±1%	21VDC ±1%	25.2VDC ±1%	29.4VDC ±1%	33.6VDC ±1%
Charging current max.	10A	8A	6A	5A	4.5A	4A
Output power max.	126W	134.4W	126W	126W	132.3	134.4
Ripple	<1%					
Efficiency	>89% @ 230VAC					
DC-cable	2 wires, 1.0m ±0.1m with open ends					
Indicators	4 LEDs					
Cooling	Load-dependent fan					
Operating temperature range	±0°C...+40°C					
Device protection	Input: glass fuse - on board Output: Overvoltage, Over Temperature, Short Circuit					
Certifications	CE					
Protection class	1					
Housing	metal housing, painted					
IP-code	IP20					
Weight	ca. 800g					

8. Advice for Disposal



It is prohibited to dispose the charger into the house- and residual waste removal (WEEE-Richtlinie 2002/96/EG und EAG-VO), it must be disposed at the according collection points. For the protection of our environment please inform yourself at your communal administrative agency about your nearest disposal point.



The charger equates to the RoHS-directive 2002/95/EG, for the restriction of the use of certain hazardous substances in electrical and electronic equipment.



9. Disclaimer of Warranty

- MEC-Energietechnik GmbH guarantees replacement or repair of chargers that are recognized as defective under common environmental conditions. The validation of the warranty time starts with the delivery date from the manufacturer. MEC-Energietechnik GmbH is limiting the free guaranteeing to working hours and spare parts only.
- For damages caused by non-observance of the operating instructions, inappropriate start up or handling as well as reconstructions and modifications of the device, the warranty claim expires and MEC-Energietechnik GmbH assumes no liability for consequential damage to property or persons!