



5 Channel Charger for 34 series Stinger THT Batteries(Ni-MH)

User Manual



USER MANUAL

ASPILSAN Energy Industry and
Trade Inc.





IMPORTANT SAFETY INSTRUCTIONS



TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK:

READ THROUGH THESE INSTRUCTIONS PRIOR TO USING THE PRODUCT.

CAREFULLY FOLLOW THESE INSTRUCTIONS WHEN USING THE PRODUCT.

RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE.



This product is designed for indoor use.



At the end of their service life electric and electronic equipment and their accessories shall not be discarded with the municipal waste but be disposed of using separate collection, treatment, recovery/recycling and environmentally sound disposal. This also applies to any potentially bio hazardous parts and accessories. If in doubt, contact your local authorities to determine the proper method.

Cautions to observe prior to use

- The intended use for this product is to charge a battery or a battery powered electrical accessory or to be used as a Power Supply to power an electrical accessory. Please see the marking on the product you have to verify the type of product you have and read the applicable instructions and technical specifications included with this manual.
- This product may be used by unskilled operators, under the condition that these instructions are followed.
- Unskilled operators may contact the supplier or manufacturer for assistance, if needed in setting up, using or maintaining this product and to report unexpected operation or events.
- The mains socket outlet used should always be easily accessible to facilitate immediate removal of the products mains supply should an operational error occur during use. The product has a detachable mains cord the appliance coupler may be used as a disconnect device.
- The product is “turned on” by turning the ON/OFF button to the ON position after inserting the power plug into the socket, and is “turned off” by removing the power plug from the socket or turning the button to OFF while the power plug is plugged into the socket.
- When not in use please think about disconnecting the product from the mains. This will reduce the risk of hazards,

reduce the products environmental impact and save electricity costs.

- Charge only 34 series Ni-Mh rechargeable batteries, do NOT charge primary cells, Lithium or Lead Acid batteries – Risk of Explosion and chemical danger.
- Check the battery manufacturer instructions.
- Connect the charger to a suitable mains supply only. Connect the batteries with correct polarity to the charger. After placing it in the battery compartment, do not move the battery while charging.
- Prior to using this product with accessories and/ or interconnected equipment please carefully read its respective User Manuals.
- This product contains hazardous voltages and there are no user replaceable parts inside the product. Never attempt to remove the cover.

WARNING: No modification of this equipment is allowed. Any repair/service should be carried out by qualified personnel who may get assistance by contacting the manufacturer or the manufacturer's agent.

- The product must be kept away from sources of heat and may not be used in the vicinity of flammable anesthetic gases or in other environments with flammable or explosive atmosphere.
- This product must be operated in an environment within temperature range +5 to +40°C, humidity 30 - 85 % RH.

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- Environmental parameters during transport and storage between uses: temperature range -40 to +70 °C, humidity 30 - 90% RH.
- No special maintenance procedure is required but if the product gets dusty or dirty it should be wiped clean using a dry cloth while the product is disconnected from the mains. No other maintenance should be necessary.
- For products having a plastic casing, please avoid any contact with lotions, oils, grease and solvents as most types of plastic may be degraded by such chemicals. Also make sure to position, operate and store such products away from UV-light and direct sunlight.
- Avoid using the product in areas where liquid contact may occur or in areas with excessive dust.
- Position, operate and store this product only under reasonable foreseeable environmental conditions with respect to magnetic fields, EM-fields, electrostatic discharges, pressure or variations in pressure, acceleration etc.
- If this product is used with or mounted in a vehicle it may only be used when the vehicle is not in use.

Instructions for charging 5pcs. 34 Series Stinger THT NiMH batteries Charger functionality

This charger is a charger for 5pcs. 34 series Stinger THT Ni-MH batteries. The charger will be able to charge 5 batteries independently of each other. When each battery is fully charged, the charger utilizes a method called -dV detection for charge termination. This method is based on the fact that the voltage drops over the Ni-MH cells when the batteries are fully charged. This voltage drop is detected when the voltage has dropped a certain percentage from the highest value. If this drop does not occur, the charger has a safety timer which will terminate charging after a given time period to avoid overcharging the batteries.

A few cells may have a voltage drop in the first part of the charge cycle. This is especially true for battery cells which have been idle for a longer period of time. Because of this, a timer is built into the charger which prevents -dV detection the first minutes of the charge cycle.

LED Displays

Red: In Charging Mode

Green: Fully Charged/No Load

Red LED Blinking: in Short Circuit or polarity reverse

Green LED Blinking: repair the charging with small current

Cautions before charging NiCd and NiMH batteries

- Ni-MH chargers are designed for charging Ni-MH batteries only.
- Make sure you have the correct battery charger for the battery you wish to charge. The number of cells must correspond to the output indicated on the charger. Never charge more battery cells than the charger is made for.
- When charging separate battery cells, avoid charging cells with different rest capacities at the same time.
- Do not attempt to charge batteries that are not rechargeable.
- Please check that the specification for your battery allows for the maximum charge current indicated on the charger. If in doubt, contact the battery manufacturer for details.
- Please check that the specification for your battery allows for the environmental conditions present during charging. Do not charge batteries at too high or too low temperatures.
- Please ensure correct polarity when connecting to the battery terminals. Reverse polarity connection may, in some chargers(see the charger specification), result in a fuse rupturing, leaving the charger useless.
- The charge cycle starts when the charger is connected to mains and "turned on" by turning ON/OFF button to the "ON" position.



- If the charger is disconnected from the mains voltage during a charge cycle the charger will start a new charge cycle when it is reconnected to the mains.
- When charging is complete, disconnect the charger from the mains or switch the ON/OFF button on the product to OFF before disconnecting the battery connections.

Safety features

Charge program has numerous features for safe battery charging

- The -dV level will adapt to the number of cells and will be approximately equally sensitive for all number of cells.
- The safety timer will protect the batteries if a -dV signal fails to appear during charging. It is normal to have a safety timer that is longer than the max. charge time.
- Top-off charge following -dV detection ensures that all cells in a battery pack reaches full capacity (are balanced) prior to trickle charge.
- The charger is designed for the lowest possible leakage current from the battery when mains is disconnected (<1mA). Even so, it is recommended that the batteries are disconnected from the charger when mains is not connected.
- On request the charger may be supplied with battery temperature monitoring. A built-in temperature change control (+dT/dt) secures optimal charge with a built-in NTC resistor in the battery pack.

How to use the 34 series Stinger THT Ni-MH battery charger

When the environmental conditions specified in the product instructions are met, the product box is opened.

After opening the product box, the AC power cable inside the product is connected to the **"INPUT UNIT"** which is labelled near of the power plug, and the product is connected to the mains.

After the AC power connection is made, the product is switched on by switching the **"POWER ON/OFF"** which is labelled near of the red button, switch to ON position. After switching the power switch to ON position, the LED of the red switch will light up.

Battery LEDs in the "LED Display" area are positioned separately for each battery.

These LEDs specifies that,

RED : Battery Charging Mode,

Green: Fully charged/no load,

Flashing Red: Short Circuit or Polarity reversed,

Green LED Blinking: repair charge with small current.

For each battery LED in the system,

When the mains is connected the LEDs will be orange for the first seconds and then turn to green when the initialisation and analysis starts.

The LED will be green when the battery is not connected or when the battery is fully charged. When a battery is connected that is not fully charged and not at a low voltage level, LED will be red which specifies battery charge state. The LED indicator will be red during the battery charging mode, the LED will be green when the battery is fully charged.

The charger applies a low-current soft start on deeply discharged batteries. Until the voltage reaches normal level within a certain time, the charger enters trickle charge mode and the green LED will flash.

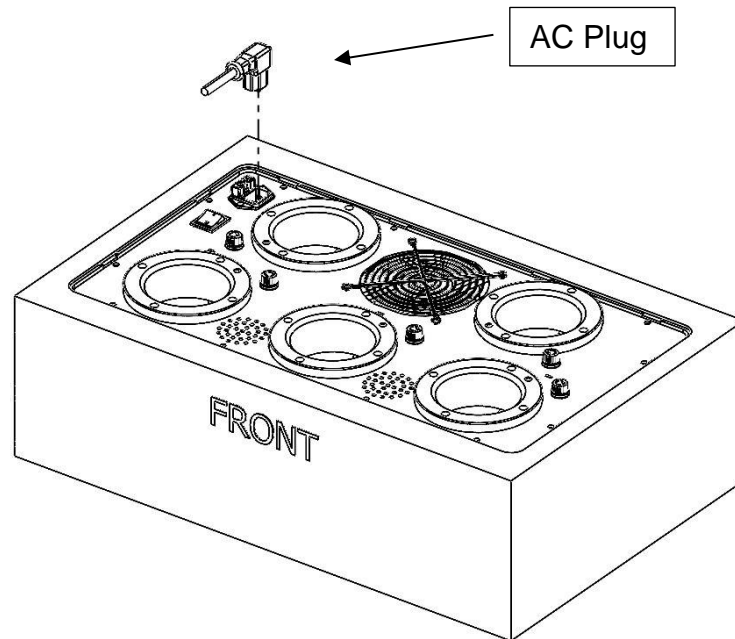
The product will enter short circuit protection or reverse polarity protection in case of short circuit condition of battery contacts or battery in battery areas. In case of short circuit or reverse polarity protection, the LEDs will be flashing red.

After the batteries are fully charged and if the product will not be used for new charge cycles, the "POWER BUTTON" is switched to OFF. The batteries can then be removed from the area. The

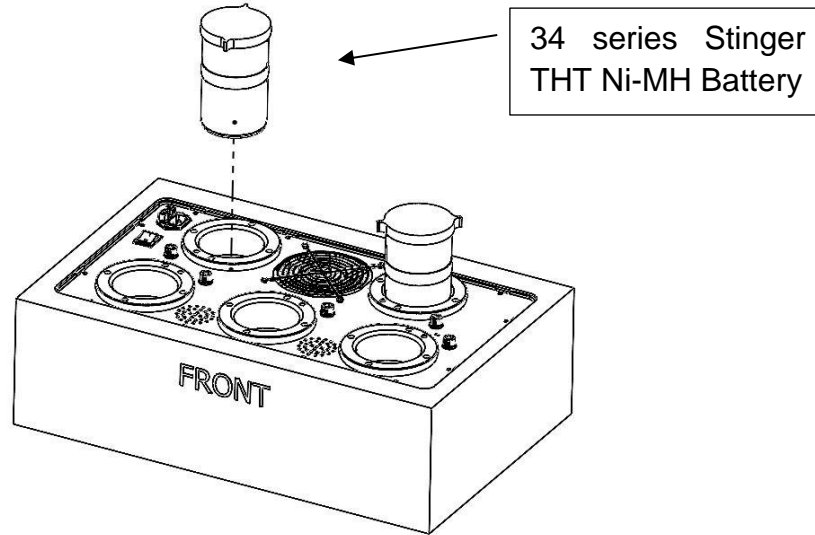
connection between the mains and the product can be unplugged.

You may manually start a new battery charge cycle by disconnecting charged battery from area and connecting new one again.

How to connect the AC plugs



How to connect the Batteries to Charger



Technical Data

Input Unit:

1.Rated Voltage: 100-240VAC

2.Rated Frequency: 50-60Hz.

Output Unit:

1.Rated Voltage: Standard charging voltage:27.2-51V(charging voltage range for 34 cells)

2.Max. Voltage(at No Load): 66-70VDC(need higher voltage to use $-\Delta V$ to charge battery)

3.Rated Current: 500mA max.

4.Trickle Current: 20-30mA(Pulse ratio 1/20 ± 5 mA)



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