
HST-BL-2830MS & HST-BL-2830MS-USA



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HS-Technik GmbH
High - System - Technik

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1. Basic information

1.1. Purpose of this document

This information has been written with the intention of being read, understood and adhered to in all in all aspects by those who bear responsibility for this battery charger.

The information contained in this document is important for avoiding workplace mishaps and ensuring problem-free operation.

If, despite this, problems are encountered, then please contact us; we would be pleased to help you.

1.2. Intended use

Intended use includes the following:

- ! • Observing all information in the operating instructions, and
- complying with the inspection and maintenance tasks

The universal quick charger serves to recharge Ni-MH and Li-Ion batteries with a capacity of 9.6 V – 28.8 V and 1.2 Ah – 3.0 Ah.

1.2.1. Improper use

We bear no liability for damage or operating problems resulting from noncompliance with these operating instructions or improper use.

1.3. Warranty and liability

Warranty and liability claims for personal and property damage are excluded if they occur as the result of one or more of the following:

- Unintended usage of the charger
- Improper installation, placement into service, operation and maintenance of the device
- Operation of the device in case of defective safety equipment or improperly mounted or non-functional safety and protection equipment
- Failure to comply with the information contained in this document regarding transport, storage, installation, placement into service, operation, and maintenance of the device
- Unauthorized structural modifications of the device
- Improperly performed repair work
- Catastrophic events beyond human control and acts of God

Copyright

This document is intended only for the owner and personnel authorized to operate the tool.

It contains the relevant rules and information, which may not be:

- duplicated
- distributed or
- otherwise shared, either in whole or in part

The copyright for these operating instructions remains with HS-Technik GmbH.

Address of the manufacturer:

HS-Technik GmbH
High - System - Technik

Im Martelacker 12

D-79588 Efringen-Kirchen, Germany

Phone +49 76 28 - 91 11-0

Fax +49 76 28 - 91 11-90

E-mail: info@hs-technik.com

Internet: www.hs-technik.com

2. Basic safety information

2.1. Information contained in this document

- A basic prerequisite for safety-compliant handling and problem-free operation is knowledge of the basic safety information and safety regulations.
- Also be sure to observe all local rules and regulations.

2.2. Owner responsibilities

The owner is obligated to only allow persons who are familiar with basic work safety and accident prevention rules and who have been briefed on proper workplace handling to work at this workplace. The safety-conscious work of personnel must be verified at regular intervals.

2.2.1. Personnel responsibilities

All persons who are tasked with working at this workplace are obligated, before beginning with work, to observe the basic regulations covering work safety and accident prevention.

2.2.2. Personnel training

Only personnel that have been trained and briefed in advance may work at this workplace.

Personnel responsibilities for installation, placement into service, operation, maintenance and repair must be clearly defined.

Personnel still to be trained may only work at this workplace under the supervision of someone who is trained and experienced.



The device is designed using state-of-the-art technology and according to recognized safety standards. Nonetheless, operating the device can entail the risk of life-threatening injury to the user, third parties or property.



The workplace is only to be used:

- For intended purposes
- If it is in proper and safe working condition

2.3. Electrical hazards



Only allow work to be carried out by electrical specialist.
Regularly check the electrical equipment.
Rectify loose connections immediately.

2.3.1. Basic safety measures (must always be observed!):

- Keep your work area in good condition
- A disorderly work area can result in an accident
- Take environmental factors into account
Do not expose the charger station to rain.
Do not use the charger station in a humid or wet environment.
Ensure that there is sufficient illumination.
Do not use the charger station in the proximity of flammable liquids or gases.
- Keep children away
Do not allow other persons to touch the device or cable; keep them away from your work area.
- User the correct device
Do not use the charger station for purposes and work for which it was not intended.
- Do not misuse the cable
Do not pull the plug out of the power socket by the cable.
Protect the cable against heat, oil and sharp edges.
- Maintain your device with care
Keep your charger station clean in order to work better and more safely.
Regularly inspect the cable and, in case of damage, have it replaced by a qualified expert. Keep the device dry and free of oil and grease.
- Pull out the mains power plug
when not in use and before maintenance.
- Inspect your device for damage
Before using the charger station, the protective equipment or damaged parts must be tested to ensure problem-free functionality according to their intended purpose.
Check whether moving parts function properly and determine whether or not they jam, whether any parts are broken, whether all other parts are flawless, are correctly installed and whether all factors that could influence operation of the device are OK. Damaged protection equipment, switches and other parts should be properly repaired or replaced by a customer service center.
- Protect yourself against electric shock
Avoid any body contact with grounded parts, e.g. pipes, radiators, stoves, refrigerators.
- Replacement parts
For repair and maintenance, only original replacement parts obtained from HS-Technik GmbH may be used.



EXPLOSION HAZARD!

Do not open batteries or the battery charger, and protect them against jolts, heat and fire. Do not toss used batteries in a fire or dispose of them in regular garbage.

- Defective batteries
Do not use the battery charger with any defective batteries and vice versa.
- Symbols
Observe the symbols marked on the power rating plate of the battery charger, charging current 3.0 A.
- Dismantling
Do not disassemble either the battery or the battery charger.



Protect the battery charger against metal objects, as there is a risk of short circuiting. The ventilation slits on the battery charger must also be protected against metal and/or metal shavings.

2.3.2. Observing the line voltage



CAUTION!

Adhere to the correct line voltage.

Using a higher voltage than is specified can lead to **serious injuries** of the operator and cause damage to the device itself.

In case of doubt, do not connect the device and first verify the line voltage.

2.4. Structural modifications

No changes, extensions or modifications may be carried out on the device without the approval of the manufacturer.

All modifications require written confirmation by HS-Technik GmbH.

Immediately replace device parts that are not in flawless condition.



Only use original replacement parts.

2.5. Cleaning and disposal of the device

Handle and dispose of the substances and materials utilized in a proper manner, especially when cleaning with solvents.

3. Placement into service

Only use the charger station in dry rooms.

- ! All ventilation slits must be unobstructed. Place the device as far away as possible from exposure to heat and solar energy, as an ambient temperature of more than 35° C can lead to substantially longer charging times.

- ! Prior to connecting the device, the specifications on the type plate concerning line voltage, frequency and current consumption must be observed. Once the mains power cable has been inserted in the power socket, the charger station is operationally ready. Nothing else needs to be switched on.

3.1. Operation

Left red LED (light-emitting diode)

If the device has been connected to the mains power supply, the left LED lights up red. The battery charger is operating properly.

If there is a fault, the left LED blinks red. This indicates a malfunction of the battery charger – continuing the charging operation is not possible! A new battery or one that has not been used for a lengthy period only provides its maximum output after approx. five charge and discharge cycles.



CAUTION!

Care must always be taken to ensure the correct polarity +/-.



CAUTION!

When charging two batteries consecutively, it is recommended to allow the charger to cool down between charges.

There is no OEM concern with the charger remaining plugged and a fully charged battery residing in the charger following full charge levels.

If the battery is fully charged on the charger, no charging current flows; result, the charging process has stopped.

3.2. Charging process

The inserted battery is checked for voltage, temperature, short circuits and reverse polarity. Before beginning charging, the safety elements (bi-metallic or NTC) are checked via the temperature contact. If the safety elements in good condition, the right LED lights up green and the charging process starts with the special battery surge protection (ADAS)[®]. What is special about this charging process is the detection of the state of charge. By modifying the charging current, both the rise in the battery's internal pressure and the rise in charging voltage are prevented.

Green blinking lamp (right LED)

The battery is fully charged and the battery charger switches automatically to maintaining charge.

Thanks to this charging process, the battery is treated sparingly and always kept completely charged.

The battery can remain for an indefinite time period in the battery charger without being damaged.

Overcharging is impossible.

Red blinking lamp (right LED)













The safety elements are not OK or the battery is too hot or too cold.

In this case, the battery should be removed from the battery charger until it has reached an appropriate temperature.

Red continuous light (right LED)

The battery is defective.

Legend to symbols

LED left, red		
Red LED lights up	 	Battery charger is connected to mains power supply and ready for charging
Red LED blinks	 	Battery charger is defective
Right LED, multicolored		
LED lights up green	 	Charging process begins
LED blinks green	 	Battery is fully charged
LED lights up red	 	Battery is defective
LED blinks red	 	Battery is too hot or too cold

3.3. Charging times

The durations of the charging times are shown in the following table.
The charging time depends on the stage of discharge of the battery.

Battery type	Nominal capacity (Ah)	Max. charging time
Ni-MH/Li-Ion	1.4	35 min
Ni-MH/Li-Ion	1.7	40 min
Ni-MH/Li-Ion	2.0	50 min
Ni-MH/Li-Ion	2.4	70 min
Ni-MH/Li-Ion	2.6	65 min
Ni-MH/Li-Ion	3.0	75 min



WARNING!

If there is a fault in the battery charger, the left LED blinks red.
This signals a battery charger malfunction.

With new batteries or those that haven't been used for a longer time period, it is possible that they do not attain their nominal capacity.

In this case the occurrence is not faulty but instead normal.

The full capacity is attained after approx. 5 charge/discharge cycles.

The battery charger monitors the temperature of the battery pack.

Therefore, batteries that have a temperature above 40°C or less than 5°C will not be charged.

The battery charger was built to handle Ni-MH and Li-Ion batteries.

Ni-MH batteries can generate more heat in their cells, which is in this case not faulty but instead normal.

4. Technical data

Connection:	220 – 240 volts / 50-60 Hz	USA=110V
Charging current per box:	3 A	
Output:	9.6 V – 28.8 V	
Discharge current:	30 mA	
Charging time:	max. 75 min at 3.0 Ah battery	
Switch-off criteria:	– ΔU , temperature termination	

4.1. Dimensions

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Size (W x H x D):	82 x 90 x 150 mm
Weight:	ca. 0.5 kg

4.2. Additional characteristics

- Universal quick charger for 9.6 V- 28.8V battery pack
- Battery defect detection
- Battery surge protection
- Microprocessor-controlled charging
Charging time 30-75 min., depending on the capacity of the battery (1.4 Ah - 3.0 Ah)
- Automatic voltage detection
- for Ni-MH / Li-Ion battery packs
- Reverse polarity protection
- Charging current 1.8 A - 3.0 A

Declaration of EU conformity

We hereby declare that the devices stated below comply with the relevant EC Directives listed below with regard to the design and construction type. Any modifications to the devices without our consent render this declaration null and void.

Manufacturer:

Company: HS-Technik GmbH
Address: Im Martelacker 12
D-79588 Efringen-Kirchen, Germany
Tel.: +49 7628-9111-0
Fax: +49 7628-9111-90

Device description:

Universal quick charger for charging Ni-MH and Li-Ion batteries
from 9.6 V – 28.8 V and 1.2 Ah – 3.0 Ah.

Model name:

HST-BL-2830MS & HST-BL-2830MS-USA

Applicable EU guidelines:

89 / 336 EEC – Electromagnetic Compatibility Directive
73 / 23 EEC – Low Voltage Directive
EN60335, EN55014, EN55014-2:98 , EN61000-3-2 + A12:97+A1, A2:99

HS-Technik GmbH
Im Martelacker 12, D-79588 Efringen-Kirchen, Germany



H.-Martin Hanke
Managing Director

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