

NiCd battery charging just got smarter and faster!

The FiveStar® Alarm Fast Charger

Meet the MSA Fast Charger—a NiCd battery charger with microprocessor control and a patented charging scheme that **improves battery performance, maximizes battery life, and cuts charging time** down to a mere four hours.

Unlike conventional battery chargers, which can overcharge batteries, the MSA Fast Charger predicts when the peak voltage will occur and terminates charging **just before the peak**. By not overcharging batteries, the MSA Fast Charger prevents electrolyte crystallization—the leading cause of reduced battery capacity over time. And with its unique “refresh” function, the MSA Fast Charger can restore capacity to near original levels in NiCd batteries charged on conventional chargers.

Also unique to the MSA Fast Charger is a **four-stage charging sequence** that gradually increases current to fast-charge mode. The next stage is a pulsed charge/discharge sequence that repeats every second until the battery is fully charged. The Fast Charger then applies current to “top off” the charge, followed by a discrete series of pulses that maintain the charge by continually assessing battery voltage and bringing it up to peak.

Living up to its name, the MSA Fast Charger charges the FiveStar Alarm NiCd battery pack in **only four hours**. And with no risk of overcharging, users can leave the FiveStar Alarm battery pack in the Fast Charger indefinitely **without damaging the battery**.



- Charges battery pack in only four hours
- No risk of overcharging



The MSA Fast Charger Delivers an Innovative Charging Scheme...

(Diagram A) The MSA Fast Charger's patented charging scheme begins with Soft-Start, in which the current is gradually increased, and then moves to Fast Charge by sending a series of charge/discharge pulses. When the battery is charged, the Fast Charger initiates a Topping Charge by applying a C/10 charging current, followed by Maintenance Charge, in which current pulses are sent at a C/40 rate to maintain peak charge.

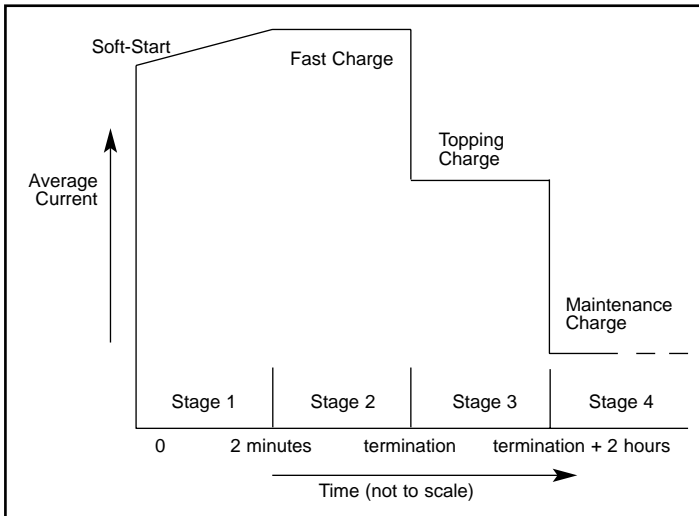


Diagram A

(Diagram B) During the Fast Charge stage, the Fast Charger applies a series of one-second charge/discharge pulses. During each charging cycle, a positive charging pulse is followed by a high-current, short-duration discharge pulse. The Fast Charger then momentarily turns off to allow the battery voltage to stabilize and to avoid "noise" that can affect the voltage reading.

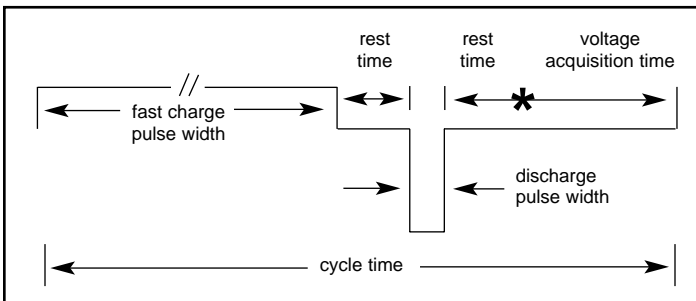
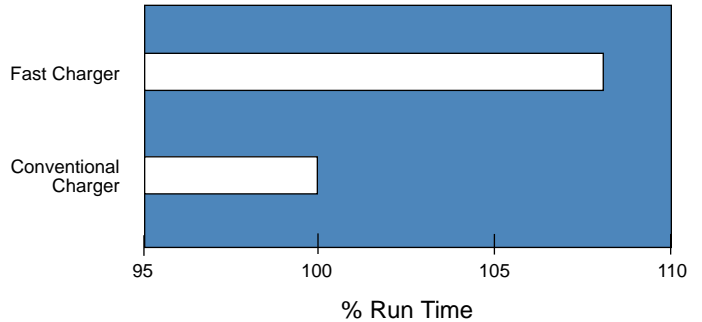


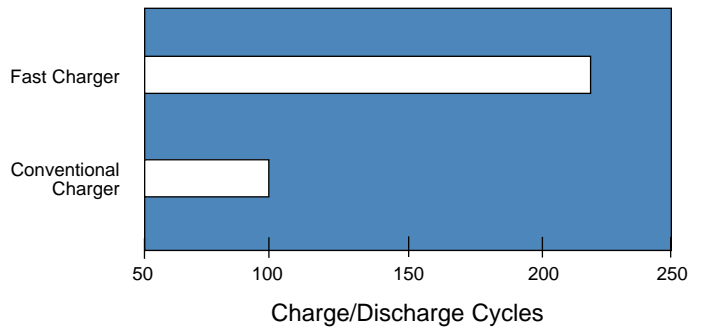
Diagram B

For Improved Battery Performance and Longer Battery Life.

In tests conducted at the NASA Johnson Space Center, the charging scheme for the MSA Fast Charger delivered 8% more run time than conventional charging schemes...



...and in independent tests, the charging scheme more than doubled battery cycle life, as compared to conventional charging methods.



Ordering Information

FiveStar Fast Charger Part No. 710989

For more information on the FiveStar Alarm Fast Charger, see "The FiveStar Alarm Assemble-To-Order System and Pricing Guide" (Bulletin No. 0816-07-MC).

Note: This Data Sheet contains only a general description of the products shown. While uses and performance capabilities are described, under no circumstances shall the products be used by untrained or unqualified individuals and not until the product instructions including any warnings or cautions provided have been thoroughly read and understood. Only they contain the complete and detailed information concerning proper use and care of these products.

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