

# Nuclear Battery Chargers



- DC Voltages-24, 48, 110, 130, 220, & 260 VDC
- Thyristor-Based Operation -Full-Wave Rectifier (6 Pulse)
- DC Output Isolated from AC Input
- Output Filter
- Battery Overcharge Protection
- Wide Range of Options
- Seismic and Environmental Qualifications to meet your 1E Safety Related Applications
- Replacement in existing Charger footprints are accommodated



AMETEK Solidstate Controls, LLC. (ASC) has designed, manufactured and maintained hundreds of safety related, (1E) and non-safety, yet essential, Battery Chargers in Nuclear generating facilities around the globe. Each application requires a unique set of solutions in which ASC will help create the optimum Battery Charger System for your plant. SCI Battery Chargers are thyristor-based systems designed for high-efficiency conversion (>90%) of commercial AC power to DC power, for charging station type batteries. They are also compatible with our inverter systems to be used as an Uninterruptible Power System (UPS) as a float system, or as stand alone Charger for DC only applications. All models are equally compatible with all lead acid type batteries including, lead calcium & antimony, nickel cadmium, or valve regulated for station DC systems.

A dry type isolation transformer is used to isolate the DC output from the AC input and to provide the proper voltage for the rectification process. Standard output ripple filter, 2% with battery connected, is provided. Optional low ripple and battery eliminator low ripple options are available. The Charger can also be utilized, and packaged



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### General Specifications

<p><b>Cabinet</b> NEMA-1 (IP-20), Seismic Grade</p> <p><b>Cable Entry/Termination</b> Top (rear) Standard Optional Bottom (front), side and custom entry/termination locations available.....consult the Factory</p>	<p><b>Controls</b> Float/Equalize Push buttons 0-100 Hr Equalize Timer, manual start, auto reset. Independent float and equalize potentiometers on front panel</p>
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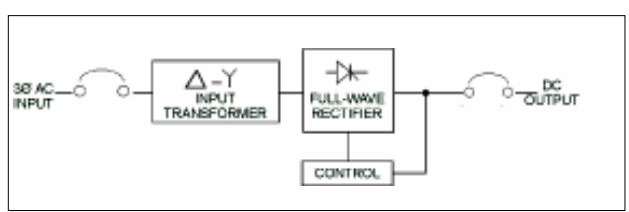
<p style="text-align: center;"><b>Environmental</b></p> <p>Ambient Temp.: 0°C to 40°C (50°C optional)</p> <p>Relative Humidity: 0-95% non-condensing</p> <p>Operating Altitude: 0 to 2500 meters (0-8300 ft.)</p> <p>Audible Noise: &lt;60 dB(A) at 1 meter</p> <p><b>AC Input</b> Voltages: 208, 220, 380, 415, 480 &amp; 600 VAC/3-phase, 3 wire (*custom voltages available)</p> <p>Range: +10, -10% for 1% output regulation</p> <p>Range: Optional +10, -15% additional ranges available</p> <p>Frequency: 50 or 60 Hz±5%</p> <p><b>DC Output</b> Float Voltage: 135, 270 ±5% adjustment</p> <p>Equalize Voltage: 140, 280 ±5% adjustment</p> <p>Regulation (Float): ±1.0%</p> <p>Regulation (Equalize): ±1.0%</p> <p>Ripple: &lt;2% RMS with battery connected per NEMA PE-5 *optional &amp; custom ripple filters available</p> <p>Current Limit: Factory set at 125%, adjustable</p>	<p style="text-align: center;"><b>Standard Features</b></p> <p><b>Circuit Breakers</b> AC Input: 3 pole molded case (Rated 14 KAIC) DC Output: 2 pole molded case (Rated 10 KAIC) (High KAIC ratings optional-*Consult the Factory) Meters (2% Panel type) DC Output Voltmeter DC Output Ammeter Custom meter locations and meter types available including 1% switchboard and digital. *Consult the Factory Indicators and Alarms</p> <p>Standard "LED" Indicators</p> <p>Isolated Form "C" Contacts</p> <p>Custom Capabilities Modular packaging for limited installation access Multiple alarm capabilities Fail safe alarms Custom metering Transducers Mimic panels Louvered recessed breakers Annunciators</p>
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**Additional sizes up to 1200 AMPS available-Consult Factory** **Weight (est)**

Model	Output	AC/DC	Cabinet Style		Heat Loss (Watts)		130 VDC		260 VDC	
	Amps	%Eff	130VDC	260VDC	130VDC	260VDC	Lbs.	Kg.	Lbs.	Kg.
85-CC0500-XX	50	91	D	D	642	1200	615	278	740	336
85-CC0750-XX	75	91	D	D	964	1760	720	326	940	426
85-CC1000-XX	100	92	D	D	1100	2100	765	347	975	442
85-CC1500-XX	150	93	D	D	1400	2750	940	426	1365	619
85-CC2000-XX	200	93	A	G	1830	3650	1255	569	1955	887
85-CC3000-XX	300	94	A	G	2350	4580	1535	696	2680	1216
85-CC4000-XX	400	94	G	H	3100	6250	1720	780	2960	1343
85-CC5000-XX	500	94	H	H	3900	7800	1950	885	3535	1603
85-CC6000-XX	600	94	H	GH	4700	9300	2565	1163	4650	2109

\*Weight of 60 Hz units, 50 Hz 7% more 24 & 48 VDC also available...consult the factory. Larger sizes also available \*\*Cabinet styles subject to change based on selection of filters and options

\* Custom enclosures and dimensions are available to meet your specific needs. Please consult the Nuclear Engineering Team at AMETEK Solidstate Controls for assistance.



**Battery Charger Block Diagram**

Standard Cabinet Dimensions*							
Cabinet Style	Inches (mm)			Cabinet Style	Inches(mm)		
	H	x	W x D		H	x	W x D
<b>D</b>	57	x	29 x 28 (1448 x 737 x 711)	<b>G</b>	85	x	29 x 36 (2159 x 737 x 914)
<b>A</b>	78	x	29 x 36 (1981 x 737 x 914)	<b>H</b>	85	x	56 x 36 (2159 x 1422 x 914)
<b>GH</b>	85	x	85 x 36 (2159 x 2159 x 914)	Specifications are subject to change without notice.			