

MSR

BATTERY CHARGER Stationary Industrial Charging System



High Performance and Reliability

- » Latest digital and power electronics technology
- » Rugged industrial design
- » User-definability control and alarm set-points
New simplified control menu
- » Simultaneous voltage and current readings
- » CE safety and EMC standards tested and compliant Built to ISO 9000 QA standards
- » NEMA PE-5 compliant
- » Increases battery life
- » Reduced maintenance
- » Reduced long term cost of ownership

Applications

Utility switchgear
Telecommunications
UPS units



Cabinet Dimensions

Cabinet Height	Width	Depth	Mounting
300	20 in	17 in	13 in wall, relay rack, floor
400	30 in	21 in	15 in wall, relay rack, floor
500	39 in	24 in	20 in wall, floor
650	51 in	24 in	20 in wall, floor
700	60 in	36 in	25 in floor



Standard Specifications

Basic Design Features

- » UL/ANSI 1012 Listed, CSA 22.2 107.1 Certified and applicable IEC standard compliant
- » ISO 9002-1994 Quality control compliant
- » SCR (Thyristor) based rectifier includes double wound isolation transformer
- » Electronic control, current limiting and voltage regulation
- » Modular construction using the latest power and microelectronic devices
- » Color coded PVC copper stranded wire for control and signals

Input

- » Available Voltages 110, 120, 208, 220, 240, 380, 400, 480, 550, 575, and 600 VAC
- » Phases 1Ø/ and / or 3 Ø/
- » Frequency 50 Hz or 60 Hz
- » Power Factor 0.75 (1 phase), 0.85 (3 phase) at full load when tested on battery and resistive load
- » Efficiency at Full Load Typical 90%

Output

- » Standard Nominal Voltages 12, 24, 36, 48, 72, 125, 250, 380, 480 and 600 VDC
- » Power From 60 W to 200+ kW
- » AC Ripple Voltage, Per NEMA PE-5
 - » Filtered: 30mVrms for 24 + 48VDC models, 100mVrms for 125VDC models when charger is connected to a battery capacity 4 times its current output. Additional filtering available.
 - » Eliminator: All MSR chargers operate as a battery eliminator, when connected to a resistive load without a battery
- » Static Regulation <0.5% for simultaneous variations of +10/-12% input voltage, +/- 5% input frequency and 0-100% load
- » Dynamic Regulation +/-6% from 10% - 90% and 90% - 10% load variation ($t < 300$ msec)
- » Parallel Operation
 - » Random: Similar chargers can be operated in random parallel
 - » Load sharing
- » EMC (CE Marked Units Only)
 - » Conducted (150kHz - 30mHz) and radiated (30MHz -1GHz): en55011 class A
 - » Electrostatic discharge EN61000-4 -2 level 2/3 (4kV contact, 8kV air)

- » Radiated susceptibility: EN61000-4-3 level 3 annex D (80MHz- 1GHz @ 10V/m)
- » Electrical fast transient: EN61000-4-4 level 3 (2kV)
- » Surge immunity: EN61000-4-5 level 3 (1kV l/l, 2 kV L/GND)
- » Conducted susceptibility: EN61000-4-6 level 3 (150kHz to 80mHz, 10v)
- » Voltage interrupt: EN61000-4-11 (30, 60 & 90%-10-10 & 5000 ms)

Protection

- » Over-Current
 - » Soft start
 - » Automatic current limiting circuit, adjustable from 20% to 120% of nominal rating
 - » Input thermal-magnetic circuit breaker and DC output fuse standard
- » Voltage Transients Surge suppression on input and output reverse polarity

Mechanical and Physical

- » Standard Enclosure
 - » CEMA/NEMA1 (IP20), 14GA (2mm) steel including hinged front access door
 - » Floor mounted models are provided with 3 in. (75 mm) clearance at the bottom to facilitate handling by lifting truck, pallet truck or slings
 - » Enclosure Options: All NEMA Standards
- » Finish Standard powder baked ASA61, light gray
- » Cooling Natural convection cooling up to 130A output current

Environmental

- » Audible Noise 45 to 65 dBa at 3 ft (1 m) rating dependent
- » Operating Temp. Range 32°F to + 122°F (0°C to 50°C)
- » Storage Temp. Range -40°F to 185°F (-40°C to 85°C)
- » Temp. De-Rating 0.83% / °F from 122°F to 140°F (1.5% / °C from 50°C to 60°C)
- » Operating Humidity Up to 95% (non-condensing)
- » Altitude De-Rating 0% for first 3300ft (1000m), 7% per 3300ft (1000m) over 3300ft (1000m)

