

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 1O/ and / or 3 O/
- » 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<300msec)
- » 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 I/I, 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)