

800 amp, -48 VDC Rectifier

Key Features

- **UL Listed**—compliance to local codes
- **Paralleling and Load Sharing**—for increased load capacity or rectifier redundancy
- **Selective High Voltage Shutdown**—provides greater reliability
- **Remote Operation**—remote control of float/equalize operation
- **Current Walk-In**—delivers smooth start-up and eliminates step loading
- **Remote Voltage Sensing**—provides precise voltage control at the battery
- **Battery Eliminator Filter**—externally mounted
- **Phase Shifting**—low line distortion when operating rectifiers in parallel (400 and 800 amp models only)
- **Remote Rectifier On/Off Control**

Description

The Lorain® RHM rectifier is available in an 800 amp model to provide regulated power and high operating efficiencies in a -48 volt system.

Performance is assured with Marconi produced transformers, gold printed circuit board contacts to resist oxidation and specially rated filter capacitors that last four times longer than standard capacitors.

The units have full metering with $\pm 2\%$ output voltmeter and ammeter for monitoring rectifier operation. Voltmeter reads zero when the rectifier is turned off. They also offer vital system alarms with LED indicators for power on, low current, high voltage, low voltage and fuse failure. 800 amp models have one set of contacts for rectifier failure alarms and signals for end cell switch inhibit, high voltage shutdown alarm and low current alarms.

Application

The RHM rectifiers are ideal for a wide range of large communications power systems requirements.

Accessories

External battery eliminator filter:

Reduces noise to less than 32dBnC with resistive load. The filter is 5.22" (13.26cm) high x 15" (38.1cm) deep and is available on panels for 19" (48.26cm), 23" (58.42cm), 27.5" (69.85cm) and 30" (76.2cm) relay rack mounting.

Spare fuse and spare parts kits:

Recommended spare parts and spare fuse kits.
Spare fuse kits — 548502500FK, Spare parts kits — 548502500PK

Additional Information

For additional specification, engineering and installation information, specify model number 548403300 or 548502500.

Specifications

Input

Voltage:

D models — taps for 208 (184-220) and 240 (212-254) VAC

E models — 480 (424-508) VAC

Frequency: 3 phase, 60 (57-63) Hz. For 50 Hz models, consult the factory.

Circuit Protection: Refer to rectifier specifications for recommended external fusing.



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Specifications (continued)

Output

Voltage:

Float — 48.0 to 54.0 VDC

Equalize — 48.0 to 57.0 VDC

Current: 800 amps

Regulation: Steady-state $\pm 5\%$ from no load to full load over the specified input voltage, frequency, and ambient temperature ranges

Dynamic Response (on battery): Maximum voltage transient will not exceed $\pm 5\%$ of initial steady-state voltage for a step load change of 250 amps within the range of 5% to 100% of full load. Recovery to steady-state voltage regulation range does not exceed 200 ms and all transient behavior disappears within 500 ms.

Filtering:

Voice band noise — less than 32dB_{BrnC} on batteries rated in amp-hours at four times the rated charger current

Wide band noise — less than 500 mv peak to peak over the frequency range of 10 Hz to 14 MHz when measured on a battery rated in amp-hours at four times the rectifier output current

Audible Noise: Less than 65dBA at any point 5' (1.52m) from any vertical surface of the rectifier

Protection

Current Limit: Circuit prevents the further application of current to the load if output current exceeds a preset value (adjustable from 90% to 125% of rated load)

Fusing: Refer to rectifier specifications for output fuse ratings

High Voltage Shutdown: Circuit causes shutdown if output voltage exceeds a preset (adjustable) value

Thermal: Circuit reduces output current to 66% of rated load if heat sink temperature reaches +85° C (+185° F)

Disconnect: RHM Rectifiers are furnished with an output (fuse, switch, or bus link) disconnect which provides a readily available means for disconnecting the load from the rectifier for maintenance, testing, etc.

Environmental

Operating Temperature: 0° C to +50° C (+32° F to +122° F)

Storage Temperature: -40° C to +85° C (-40° F to +185° F)

Humidity: 0-95% relative humidity

Heat Dissipation: Refer to rectifier specifications for rating

Ventilation Requirements: Ventilation openings must be unobstructed and air entering the unit should not exceed +50° C (+122° F). Floor mounted rectifiers require 3' (.91m) in front and 2' (.61m) of top free air space.

Altitude: Unit is capable of operation from sea level, maximum ambient temperature +50° C (+122° F) to 10,000' (3,048m), maximum ambient temperature +40° C (+104° F).

Model	RHM800D50	RHM800E50
Spec. No.	548403300	548502500
DC Output: Volts Amps	-48 800	-48 800
AC Input: Volts frequency Amps*	208/240 60 Hz 144.0	480 60 Hz 62.2
Efficiency	92.7%	92.9%
Heat Dist. (Btu/hr)	11,256	11,666
Protection: Input** Output	200A 1000A	100A 1000A

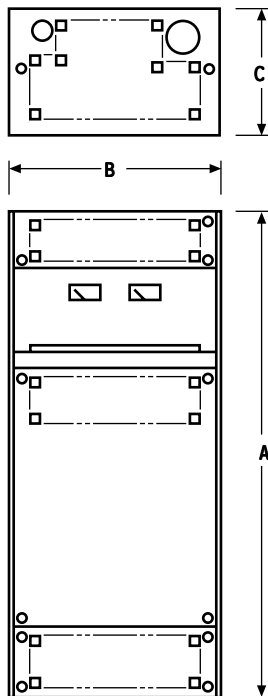
*Data taken at 52.08 VDC, 208 VAC or 480 VAC, full load.

**Recommended input fusing, external to rectifier.

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Overall Dimensions

Model	Dimensions - inches (cm)			Weight - lbs. (kgs.)	
	A	B	C	Net	Ship
RHM800D50	84.25 (214.00)	36 (91.44)	15 (38.1)	1470 (666.79)	1570 (712.15)
RHM800E50					





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