

5 amp, -48 VDC Battery Backup System

Key Features

- **Modular Design**—means easy on-site configuration for your current and future needs
- **Simplified Distribution**—six quick connect, DC load circuits
- **CSA Certified and UL Listed**—compliance to local codes
- **7 and 12 amp Hour Battery Cabinets**—cover a wide range of battery reserve needs
- **Connectorized Cabling**—assures error free wiring
- **Easy Access Test Points**—to measure load and battery status
- **Low Voltage Disconnect and Battery Circuit Breaker**—provides complete system protection
- **Local (LED) and Extended Alarms**—signal system status

Description

The Lorain® MZ5A50/BD compact modular battery backup system is a wall-mounted -48 VDC rectifier cabinet with a 5 amp rectifier module card and companion battery cabinet. This system can be specified in a number of configurations to meet your power requirements.

The rectifier cabinet contains a 5 amp rectifier module that supplies a -48 VDC load current while maintaining the battery charge. Six fuse protected distribution connections are provided. Input is supplied through a 120 VAC standard line cord.

Battery cabinets can be specified for 7 or 12 amp hour reserve requirements. These battery cabinets can be paralleled for added reserve. Each cabinet is equipped with a battery circuit breaker for added system protection. Connectorized cables simplify installation.

The battery backup system is protected by a full array of local and extended alarms to monitor system status.

Cabinets can be mounted near the equipment they power, reducing the need for long and costly wire runs.

Application

The Lorain MZ5A50/BD modular battery backup system serves a broad range of applications including PBX, fiber in the loop electronics, multiplexers, key systems, PCS equipment and microwave.

Additional Information

For additional specification, engineering and installation information, specify model number MZ5A50/BD, spec. number 582115700.

Specifications

Input

Voltage: 120 (105-127) VAC, single phase

Frequency: 60 (57-63) Hz

Operational: 95-135 VAC

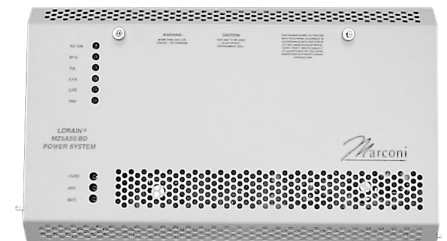
Current: 4.7 amps max. at output of 54V, 5 amps

Efficiency: Typically 77% min. above 50% load, 50% min. above 10% load

Power Factor: Typically 0.6 min. above 50% load

Telephone Influence: IT product 2000

max.



MZ5A50/BD 12AH Battery Backup System

5 amp, -48 VDC Battery Backup System

Specifications (continued)

Output

Voltage: 47-56 VDC (factory set at 54.8 VDC)
 Regulation: $\pm 1\%$ for all line and load conditions
 Voltage Drift: ± 0.25 max. over 8 hrs at constant line and load
 Dynamic Response: $\pm 5\%$ max. for 10% to 90% step load change, recovery in 1 msec
 Current: 5 amps, DC
 Filtering: 32dBrc max., 50 mV rms maximum
 Isolation: 1750 VDC to AC input

Protection

AC Input: 10 amps, internally fused
 Current Limiting: 5.5-5.8 amps, DC
 High Voltage Shutdown: If rectifier circuit card output voltage exceeds a preset high (57 volt limit), it will shut down and signal a rectifier failure alarm.
 Distribution: (6) Bussman[®] GMT 1.33 amp fuses
 Fault (Batteries): 7.5 amp circuit breaker
 Surge Protection: ANSI/IEEE C62.41 1980 Category B (6000V surges of 1.2 x 20 μ sec at 3000 amps and 0.5 μ sec, 100 KHz ring at 500 amps)
 Alarms/Indicators: AC Power On, Rectifier Failure, Fuse Open, Low Voltage, Low Voltage Disconnect, and Low Voltage Disconnect Inhibited
 Test Points: Output voltage test points located on front panel of rectifier cabinet.

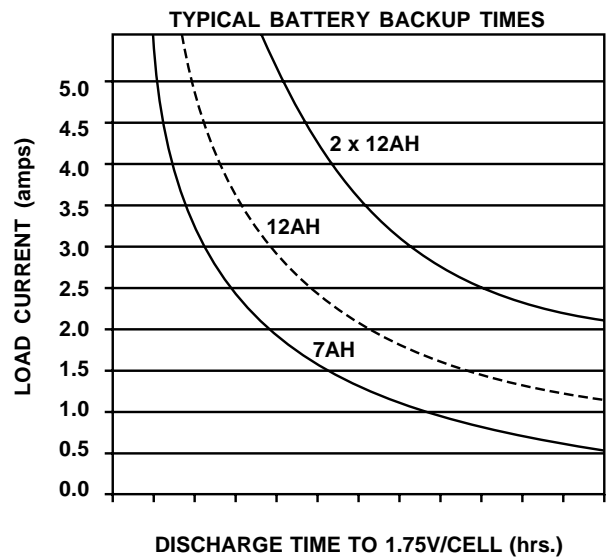
Environmental

Storage Temperature: -40° C to +70° C (-40° F to +158° F)
 Operating Temperature: -0° C to +40° C (+32° F to +104° F)
 Humidity: 0%-95% relative humidity, non-condensing
 Altitude: Sea level to 10,000' (3,048m)
 Ventilation: Convection cooled. Cabinets should be positioned so that ventilation is not blocked and air temperature does not exceed the operating temperature range specifications above.
 Audible Noise: Does not exceed 45dBA 5' (1.52m) from any vertical cabinet surface.

EMI Suppression: Conforms to FCC Rules, Part 15, Subpart B, Class A computing devices and DOC/CSA C22.2 Number 108.8 Class A.

Batteries

7 amp hour: (4) Eagle Picher[®], 12V, HE12V7.7
 12 amp hour: (4) Yuasa[®], 12V
 12 amp hour: (4) Eagle Picher 12V, HE12V12.7



BATTERY DISCHARGE TIMES		
Battery	Discharge Current (amps)	Discharge Time to 1.75V/Cell (hrs.)
7AH	0.50	12
	1.00	7.1
	1.50	4.8
	3.00	2
	5.00	1
12AH	1.00	12.3
	1.50	7.7
	3.00	3.3
	5.00	1.8
(2) 12AH	1.00	24.58
	1.50	15.4
	3.00	6.6
	5.00	3.6



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