

3-30 AMP Modular DC-DC Converter with 3 AMP Converter Modules

Key Features

- **Modular Design**—for expansion of operating capacity in small increments
- **High Efficiency**—for long term energy savings
- **Positive or Negative Input**—to match your system requirements
- **Isolated Input to Output**—allows grounding at either pole
- **UL Listed**—compliance with local codes
- **Quiet Operation**—permits installation near the system, eliminating long cable runs&B text

Description

The Lorain® MZHSA30CAB DC-DC converter utilizes the latest technology to offer the performance characteristics and features needed for today's sophisticated communications systems. Positive or negative 24 VDC input and expandable -48 VDC output makes them ideal for both cellular radio and microwave sites with -48 VDC requirements.

Modular design allows the converter's capacity to expand as your system expands. The MZHSA30CAB cabinet can accept 10 individual, 3 amp plug-in converter modules. The modules can be easily field installed without system shutdown.

Standard features include converter fail alarm, fan fail alarm, current limiting, overvoltage protection, overtemperature protection, slope load sharing for parallel operation and easily accessible input and output connections for simplified installation.

Application

The MZHSA30CAB's compact size, ability to configure to either polarity and expandability is ideal for 24 VDC wireless sites requiring -48 VDC systems.

Additional Information

For additional specification, engineering or installation information, specify model MZHSA30CAB, spec. number 588241300 (cabinet) and spec. number 486808500 (module).



MODEL MZHSA30CAB DC-DC CONVERTER

3-30 AMP Modular DC-DC Converter with 3 AMP Converter Modules

Specifications

Input

Voltage: 24.0 (21 to 28) VDC, either polarity

Current: 73.3 amps (at full load e/w ten 3 amp modules)

Circuit Protection: 12 amp fuses are located in both the negative and positive input leads of each converter module.

Filtering: Noise reflected back to the battery is less than 32dBrnC and is within the parameters set forth in Bellcore technical reference TR-TSY-000009, using test measurements in PUB43802, pages 5 and 6.

Efficiency: 81% minimum, nominal input, 30 amp load

Output

Voltage: -48.0 VDC

Current: 30 amp maximum

Regulation: Steady state output voltage remains within ± 1 volt of the set point for any load current from no load to full load for the specified input voltage range.

Dynamic Response: For a step load change of 50% within the range of 10% to 100% of full load, the maximum voltage transient does not exceed 5% of the initial steady state voltage.

Filtering: Voice band noise is less than 32dBrnC. Wide band noise does not exceed 200 mV peak to peak over the frequency range of 0 to 20 MHz.

Load Sharing: Each DC-DC converter module has slope load sharing and an output isolation diode for parallel operation.

Protection

Overvoltage Protection: Each DC-DC converter module will automatically shut down and lock out should its output voltage exceed 115% to 135% of nominal voltage.

Overcurrent Protection: When the output current of each DC-DC converter module tries to increase beyond a preset value (105% to 125% of full load), the output voltage of the module will decrease to limit current to this value. The output will recover to within specified limits when the overload condition is removed.

Overtemperature Protection: Each DC-DC converter module will automatically shut down and lock out should the

internal temperature of the module exceed a predetermined value.

Status/Alarm Indicators

Minor Alarm: single DC-DC Converter Module fail LED

Major Alarm: more than one DC-DC Converter Module fail or cooling fan fail LED

Fan-Fail LED, Major Alarm LED also illuminates; -48V output-power-On LED; Converter-Fail-Alarm LED on the top of each DC-DC converter module when output voltage falls below a preset limit of 40 VDC

Environmental

Operating Temperature: -30° C to +60° C (-22° F to +140° F) at 12 amps

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

Humidity: 0% to 95% relative humidity, non-condensing

Ventilation/Altitude: The maximum ambient operating temperature should be derated linearly at an elevation of 10,000' (3,048m).

Audible Noise: The audible noise at any point 5' (1.52m) from any vertical surface of the cabinet conforms to ANSI S1.4.

Heat Dissipation: When equipped with —
(1) module, 153 Btu/hr maximum
(10) modules, 1,050 Btu/hr maximum

EMI/RFI Suppression: This unit conforms to the radiated noise requirements of FCC rules Part 15, Subpart B, Class A. Additionally, conducted EMI on the DC input leads conforms to the requirements of NEMA PE-7-1985.

Physical Characteristics

Mounting: This unit is designed for 23" (58.42cm) mounting with 1" (2.54cm) or 1.75" (4.45cm) multiple drilling.

Dimensions:

Height: 6.88" (17.46cm)

Width: 23" (58.42cm)

Depth: 15.88" (40.32cm)

Weight: 43 lbs. (19.51 kgs)



www.marconi.com/power
Marconi Communications
1122 F Street
Lorain, OH 44052
800-800-1280
Fax: 440-246-4876

Lorain® is a trademark of Marconi Communications Inc.
© 2000 Marconi Communications Inc.
Printed in the USA. All rights reserved. Any unauthorized reproduction or transmission without the prior consent of Marconi Communications Inc. is prohibited.