

# DC400MIL Series DC/DC Voltage Converter



## Benefits

- Ultra-Quiet
- Power sensitive electronics without interference
- Rugged & Reliable
- Ensure years of safe and trouble free operation

## Applications

- Military Applications
- Marine / Automotive / RV
- Railway / Transportation
- Mining
- Oil Rigs
- Electric Utilities and Substations
- Telecom Power Plants
- Manufacturing Locations
- Steel Mills
- Industrial Controls
- OEM Applications

## DC/DC Converters

DC400MIL (isolated) Military Standard

## Description

The DC400MIL series single output, push-pull converter provides a maximum of 400W.

This high-density unit is entirely potted with a thermally conductive MIL-spec. silicon rubber compound for resistance against shock, vibration, humidity, moisture, dust and insects.

The converter is conduction cooled via a base plate and designed for operation within a wide temperature range without de-rating.

The use of components with many years of established reliability and generous headroom contribute to a the demonstrated MTBF exceeding 1,000,000 hours at typical operating temperatures.

The unit is intended for military, transportation, mining, oil rigs and other harsh environments.

This design meets the requirements of EN50155 for electronic equipment used on rolling stock.

## Features

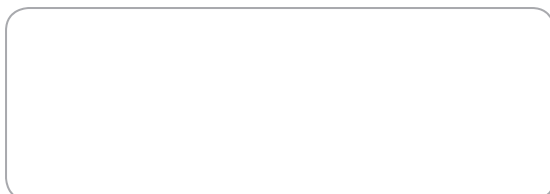
- Compact case
- Rugged construction
- Complete encapsulation
- Conduction cooling
- Single output
- 400W output power
- Meets EN50155 and EN60950
- Competitive price
- Full electronic protection
- Telecom quality
- Field-proven design
- 1 year parts and labour warranty

# Specifications ( Specifications Subject to Change Without Notice)

## Specifications

<b>Input Voltage range</b>	24V (14.4 – 37Vdc) Other inputs upon request
<b>Input Protection</b>	Inrush current limiting Reverse polarity protection Varistor Internal safety fuse Lower voltage than specified input min. will not damage unit
<b>Isolation</b>	According to EN50155. Typically: Input to chassis: 1500Vdc Input to output: 3000Vdc Output to chassis: 1500Vdc
<b>Output Voltages</b>	24V/16A Consult factory for other voltages Outputs are floating; either terminal can be grounded
<b>Switching Frequency</b>	80kHz ±5kHz
<b>Redundancy Diode</b>	None
<b>Line / Load Regulation</b>	+/- 1.5% combined from zero load to full load on each output
<b>Dynamic Response</b>	Max 5% voltage deviation for 10% to 50% load step, with better than 1ms recovery time
<b>Output Overvoltage Protection</b>	Second regulator loop completely stable and independent of main regulator loop
<b>Overload Protection</b>	Rectangular current limiting with hiccup type short-circuit protection
<b>Efficiency</b>	80 to 90% depending on input/output configuration
<b>EMI</b>	EN55022 Class B and EN50121-3-2 conducted and radiated
<b>Output Ripple/Noise</b>	Less than 1% peak-to-peak or 0.2% RMS of the output voltage (20MHZ BW)
<b>Immunity</b>	Meets criteria of EN50155 and EN50121-3-2 including EN 61000-4-2 (ESD), EN61000-4-3 (RF Immunity), EN61000-4-4 (Fast Transients), EN50155 (Surge), EN61000-4-6 (Conducted Imm.), EN50155 (Voltage Variations)
<b>MTBF</b>	200,000 hours @ 45°C Demonstrated MTBF exceeds 1,000,000 hours at typical operating temperatures
<b>Indicators</b>	None (Optional 'ON' LED available)
<b>Environmental Protection</b>	Full encapsulation
<b>Operating Temperature</b>	-40 to +70°C cooling surface temperature for full specifications
<b>Temperature Drift</b>	0.03% per °C over operating temperature range
<b>Cooling</b>	Conduction cooling via base plate to customer chassis or heat-sink
<b>Protection</b>	IP65
<b>Connections</b>	5-pole barrier-type terminal block with 3/8" spacing. Cover provided
<b>Dimensions</b>	20.4cm x 24.2cm x 5.1cm including terminal block and flanges.
<b>Weight</b>	1.8 Kg
<b>Safety</b>	Meets EN60950 and EN50155
<b>Warranty</b>	1 year

Available from:



## RIPEnergy®

The power conversion company

RIPEnergy AG  
Wägitalstrasse 24  
CH-8854 Siebnen  
Switzerland

Ph +41-(0)43-818 53 85  
Fax +41-(0)43-818 53 87  
www.ripenergy.ch