

DCR240 Series DC/DC Voltage Converter



Benefits

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

Applications

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

DC/DC Converters

DCR240 (isolated)

Description

The DCR240 series consists of PWM DC-DC converters, with a galvanic isolation between input and output. The converters operate at a fixed switching frequency and use push-pull converter topology.

There are two options to choose:

- 1 - With remote sensing
- 2 - With low output voltage alarm

For maximum regulation, the remote sensing terminals can be connected to the load. This will allow a power cable voltage drop of up to 0.3 V on each cable to be offset.

The device is protected against overload and short-circuits by means of a current limiting circuit.

The device is also protected against reverse polarity input voltage, and the input fuse blows if an improper connection is made.

When a converter input under voltage condition occurs, the converter is disabled, thus preventing the battery from becoming totally discharged.

Features

- Designed according to EN50155
- Fire and smoke: EN45545-2 approved
- High input-output isolation
- Standard size Eurocard 3U
- Adjustable output voltage
- Input voltage OK LED
- Output voltage presence LED
- Remote inhibit
- Option: remote sensing or alarm
- Full electronic protection
- 2 years parts and labour warranty

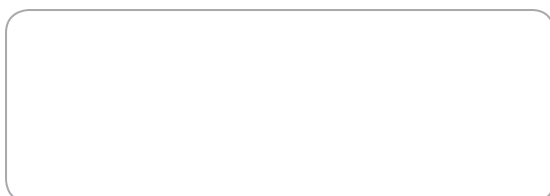
Specifications (Specifications Subject to Change Without Notice)

	24Vin 14,4V ... 30V 16,8V ... 30V ⁽¹⁾	36Vin 21,6V ... 47V 25,2V ... 47V ⁽¹⁾	48Vin 28,8V ... 60V 33,6V ... 60V ⁽¹⁾	72Vin 43,2V ... 90V 50,4V ... 90V ⁽¹⁾	110Vin 66V ... 144V 77V ... 144V ⁽¹⁾
5Vout	DCR240-24-5 180W 80%	DCR240-36-5 180W 80%	DCR240-48-5 180W 80%	DCR240-72-5 180W 81%	DCR240-110-5 180W 81%
12Vout	DCR240-24-12 240W 83%	DCR240-36-12 240W 83%	DCR240-48-12 240W 84%	DCR240-72-12 240W 88%	DCR240-110-12 240W 86%
24Vout	DCR240-24-24 240W 87%	DCR240-36-24 280W 87%	DCR240-48-24 280W 88%	DCR240-72-24 280W 90%	DCR240-110-24 280W 91%
48Vout	DCR240-24-48 240W 88%	DCR240-36-48 280W 88%	DCR240-48-48 280W 89%	DCR240-72-48 280W 90%	DCR240-110-48 280W 92%

INPUT	
Input voltage range	See table
Input undervoltage shutdown	55% to 60% Vi nom
Maximum allowed input ripple	15% Vin nom (EN50155)
OUTPUT	
Output voltage	See table
Output voltage adjustment	
Vi min = 60% Vi nom	-10% ... +0% Vo nom
Vi min = 70% Vi nom	-10% ... +15% Vo nom ⁽¹⁾
Line regulation (Io = nom)	< 0,2 % (Io = nom)
Load regulation (Vin = nom)	< 0,2 % (Vin = nom; Io: 0...100%)
Ripple	< 50 mVpp
Noise (BW = 20MHz)	< 100 mVpp
ENVIRONMENTAL	
Storage temperature	-40°C ... 85°C
Operating temperature range Io: 100%	-25°C ... 60°C (-40°C ... 60°C, see note-1)
Operating temperature range Io: 75%	-25°C ... 70°C (-40°C ... 70°C, see note-1)
Operating temperature range Io: 37.5%	-25°C ... 85°C (-40°C ... 85°C, see note-1)
Maximum Relative humidity	95% with no condensation
Shock and vibration	EN61373 Category 1 class B body mounted
MTBF	400.000h @ 40°C according to IEC61709
EMC	
Emission	EN61000-6-3 EN50121-3-2
Immunity	EN61000-6-2 EN50121-3-2
SAFETY	
Safety	EN60950 EN50155
Dielectric strength Input-Output	3000Vac, 4200Vdc 1min.
Dielectric strength Input-GND	1500Vac, 2100Vdc 1min.
Dielectric strength Output-GND	1500Vac, 2100Vdc 1min.
Fire and smoke	EN45545-2
MECHANICAL	
Approximate weight	640g
Dimensions	100 x 220 x 38.5mm
CONTROL	
Remote inhibit range	5V ... 24V
Remote sense (option)	< 0.3V per pole
Low output voltage alarm (option)	Threshold: 0.85...0.90 Vo nom. Open when alarm Isolated solid state relay: max.100mA, 160V
PROTECTIONS	
Against overloads and short-circuits	Current limiting
Against reverse input voltage.	Input fuse
Against input under-voltage.	Under-voltage lock-out
Against Input over-currents	Input fuse

Note-1: The unit can start up and work at an ambient temperature of -40°C with the following restrictions:
1) Do not actuate over the connectors below -25°C. 2) The output ripple can rise up to 150mVpp at -40°C

Available from:



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