

High efficiency converter for data centers

The Flatpack2 DCDC 380/48 3000 SHE enables a high efficiency end to end DC power solution for data centers. It converts the 380VDC bus voltage down to 54 VDC with an efficiency of 98.2%.

With this Flatpack2 380V to 54V converter, central 380VDC-UPS becomes a competitive alternative for a wider range of data centers.

The advantages of DC power systems as reliability, modularity, redundancy and high end to end efficiency, can be fully utilized to ensure optimal power availability.



Flatpack2 HVDC/DC Converter DCDC 380/48 3000 SHE

Doc 241119.907.DS3 – rev0D

APPLICATIONS

DATA CENTERS

- Front-end conversion from HVDC (260-400 V_{DC}) to 50-55 V_{DC}



2U 24kW Power shelf

KEY FEATURES

- HIGH POWER DENSITY - 33 W/IN³
- SUPER EFFICIENCY UP TO 98.2%
- MODULAR – BUILD AS YOUR LOAD GROWS
- WIDE INPUT RANGE
- PATENTED HE TECHNOLOGY
- OR-ING PROTECTION ON OUTPUT



Flatpack2 HVDC/DC Converter



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Model	DCDC 380/48 3000 SHE
Part number	241119.907
INPUT DATA	
Voltage (nominal)	381 V _{DC}
Voltage (operating range)	260 - 400 V _{DC}
Maximum current	12.3 A _{DC}
Protection	Fuse, shutdown when V _{IN} is out of range
OUTPUT DATA	
Voltage (default)	54.5 V _{DC}
Voltage (adjustable range)	50 - 55 V _{DC}
Max power, nominal input	3000 W
Max current, @V _{OUT} = 50 V _{DC}	60 A
Current sharing	±5% of maximum current from 10 to 100% load
Static voltage regulation	±0.5% from 0 - 100% load and nominal input
Dynamic voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms
Ripple	< 150 mV _{PP} , 30 MHz bandwidth
Protection	Overvoltage shutdown, short circuit proof, high temperature, hot plug-in inrush current limiting, OR-ing FET
OTHER SPECIFICATIONS	
Peak Efficiency	98.2 %
Isolation	4.2 kV _{DC} – input and output, 2.2 kV _{DC} – input earth, 0.5 kV _{DC} – output earth
Alarms (Red LED)	Low mains shutdown, High and low temperature shutdown, Converter Failure, Overvoltage shutdown on output, Fan failure, Low voltage alarm, CAN bus failure
Warnings (Yellow LED)	Converter in power derate mode, Remote current limit activated, Input voltage out of range, flashing at overvoltage
Normal (Green LED)	Input and output ok
MTBF (Telcordia SR-332 Iss.I method III (a))	>510 000 (@ T _{ambient} : 25 °C)
Operating temperature (5 - 95% RH non-cond.)	- 40 – 75°C [-40 – 167°F]
Max output power de-rates above temp / to	55°C [+131°F] / 1400W
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing
Dimensions[WxHxD] / Weight	109 x 41.0 x 327mm [4.25 x 1.61 x 13"] / 1.950 kg [4.3lbs]
DESIGN STANDARDS	
Electrical safety	EN 60950-1:2006+A11:2009+A1:2010+A12:2011, UL 60950-1:2011
EMC	EN 61000-6-1:2007, -6-2:2005, -6-3:2007 + A1:2011, -6-4:2007 + A1:2011 EN 300 386:v1.6.1, FCC CFR 47 Part 15:2013
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) ETSI EN 300 132-3-1 v2.1.1, 2011/65/EU (RoHS) & 2008/98/EC (WEEE)