The original HE rectifier

Since setting the new standard for rectifier efficiency, the Flatpack2 HE family is now available in a variety of voltages and power ratings, all with superior efficiency up to 96.5%.

With more than 4 billion in-field operating hours and a proven cumulative field MTBF of more than 1,9 million hours, Flatpack 2 HE is the only HE (High Efficiency) rectifier with a proven track record.

The line of systems available for the ENERGY STAR® qualified Flatpack2 HE 48V rectifiers spans from 8kW 2U racks with complete distribution to multi-cabinet systems up to 2.8MW.

FLATPACK2 48V HE RECTIFIERS

2000W HE & 3000W HE

Doc 24111x.105.DS3 – v2

APPLICATIONS

TELECOM – MOBILE / WIRELESS

- RADIO BASE STATIONS/ CELL SITES
- LTE / 4G / WIMAX
- MOBILE SWITCHING CENTER (MSC)
- MICROWAVE
- BROADBAND

TELECOM – FIXED

- CENTRAL OFFICE
- TELEPHONY SERVERS / SWITCHES
- FIBER OPTICS
- MICROWAVE
- CABLE
- BROADBAND
- BROADCAST
- DATACENTERS

POWER UTILITIES

- SCADA

6U 300A SYSTEM

FLATPACK2 SYSTEM IN TYPE 3 OUTDOOR CABINET

KEY FEATURES

- POWER DENSE, UP TO 33 W/INCH^3
- HIGH EFFICIENCY
- PROVEN RELIABILITY
- APPLICATION FLEXIBILITY 2KW-3MW
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY

108KW SYSTEM

FLATPACK 2 48V HE RECTIFIERS

2000W HE & 3000W HE

Model	48V / 2000W HE	48V / 3000W HE
Part number	241115.105	241119.105
INPUT DATA		
Voltage (nominal)	185 - 275 V_{AC} / 185 - 275 V_{DC}	176 - 277 V_{AC}
Voltage (range)	85 - 275 V_{AC} / 140 - 275 V_{DC}	85 - 305 V_{AC}
Frequency	45 - 66 Hz / 0 Hz	45 - 66 Hz
Current (maximum) @ nominal input, full load	11.6 A_{RMS}	19.2 A_{RMS}
Protection	Fuse in both lines Varistor for transient protection Disconnect above 300 $V_{AC/DC}$	Fuse in both lines Varistor for transient protection Disconnect above 305 V_{AC}
OUTPUT DATA		
Voltage (default)	53.5 V_{DC}	
Voltage (adjustable range)	43.5 - 57.6 V_{DC}	
Power (maximum)	2000 W	3000 W
Power @ 85 V_{AC}	750 W	1380 W
Current (maximum) @ nominal input, full load	41.7 A	62.5 A
Ripple, 30MHz bandwidth	< 100 mV_{pp}	< 150 mV_{pp}
Psophometric noise	< 2 mV_{RMS}	< 2 mV_{RMS}
Static Voltage regulation	±0.5% for 10 - 100% load	
Dynamic Voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms	
Protection	Fuse Short circuit proof High temperature protection Hot plug-in inrush current limiting	
OTHER SPECIFICATIONS		
Efficiency @ nominal input	Up to 96.5 %	Up to 96.2 %
Isolation	3.0 kV_{AC} - input to output 1.5 kV_{AC} - input to earth 500 V_{DC} - output to earth	
Alarms: Red LED 'on'	Low mains shutdown, High and low temperature shutdown, Rectifier Failure, Overvoltage shutdown on output, Fan failure, Low voltage alarm, CAN bus failure	
Warnings: Yellow LED 'on'	Rectifier in power derate mode, Remote battery current limit activated, Input voltage out of range, flashing at overvoltage	
Normal (module running): Green LED 'on'		
Acoustic noise, full load @ $T_{ambient}$ = 25°C full load @ $T_{ambient}$ = 40°C	< 20 dBA < 56 dBA	< 40 dBA < 58 dBA
MTBF (Telcordia SR-332 Issue I method III (a))	>350 000 (@ $T_{ambient}$: 25 °C)	>300 000 (@ $T_{ambient}$: 25 °C)
Operating temperature	-40 to +75°C (-40 to +185°F), humidity 5 - 95% RH non-condensing	
Temperature de-rating above 45°C (110°F)	2000W to 1200W @ 75°C (167°F)	3000W to 2100W @ 75°C (167°F)
Storage temperature	-40 to +85°C (-40 to +185°F), humidity 0 - 99% RH non-condensing	
Dimensions[WxHxD] / Weight	109 x 41.5 x 327mm (4.25 x 1.69 x 13") / 1.95 kg (4.3 lbs)	
DESIGN STANDARDS		
Electrical safety	UL 60950-1, EN 60950-1, CSA 22.2	
EMC	EN 61000-6-1 / -2 / -3 / -4, EN 61000-3-2 ETSI EN 300 386 V.1.4.1, Telcordia NEBS GR1089 CORE	
Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2) ETSI EN 300 132-2 Telcordia NEBS GR63 CORE Zone 4 ROHS compliant	

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