

## Reliability, efficiency and power density

The Flatpack2 48/3000 HE is installed in vast numbers all over the globe and has an unmatched proven field performance. This, in combination with an efficiency exceeding 95% and its high power density, provides a low total cost of ownership.

Power systems for the Flatpack2 48/3000 HE can be designed with output power from 3kW to 3 MW and can hence power any application in your network.



# FLATPACK2 RECTIFIER

48V / 3000W HE

Doc 241119.903.DS3 – v7

### 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<sup>3</sup>
- HIGH EFFICIENCY
- PROVEN RELIABILITY
- APPLICATION FLEXIBILITY 2KW-3MW
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY



108KW SYSTEM

# FLATPACK2 RECTIFIER

48V / 3000W HE



Model	48/3000
Part number	241119.903
<b>INPUT DATA</b>	
Voltage (nominal)	176 - 275 V <sub>AC</sub>
Voltage (operating range)	85 - 300 V <sub>AC</sub>
Frequency	45 - 66 Hz
Current (maximum)	19 A <sub>RMS</sub>
Power Factor	> 0.99 at 50-100% load
Protection	Fuse in L & N, Varistor, Shutdown above 300 V <sub>AC</sub>
<b>OUTPUT DATA</b>	
Voltage (default)	53.5 V <sub>DC</sub>
Voltage (adjustable range)	43.2 - 57.6 V <sub>DC</sub>
Power @ 230 V <sub>AC</sub>	3000 W
Power @ 85 V <sub>AC</sub>	1380 W
Current	62.5 A (@ 48 V <sub>DC</sub> )
Current sharing (10 - 100% load)	±5% of maximum current from 10 to 100% load
Static Voltage regulation (10 - 100% load)	±0.5%
Dynamic Voltage regulation	±5.0% for 10-90% or 90-10% load variation, regulation time < 50ms
Hold up time, 1500 W / 3000 W output power	>20ms / >10ms ; output voltage > 43 V <sub>DC</sub>
Ripple	< 150 mV peak to peak, 30 MHz bandwidth
Protection	Fuse, Short circuit proof, High temperature protection, Overvoltage shutdown, Hot plug-in inrush current limiting
<b>OTHER SPECIFICATIONS</b>	
Efficiency @ nominal input	> 95%
Isolation	3.0 kV <sub>AC</sub> - input to output, 1.5 kV <sub>AC</sub> - input to earth, 500 V <sub>DC</sub> - output to earth
Alarms: Red LED	Low mains shutdown, High and low temperature shutdown, Fan failure, Rectifier Failure, Overvoltage shutdown on output, Low output voltage alarm, CAN bus failure
Warnings: Yellow LED	Rectifier in power de-rate mode, Remote battery current limit activated, Input voltage out of range, flashing at overvoltage
Normal operation: Green LED	
Cooling	Fan (front to back airflow, temperature and output current regulated speed)
Acoustic noise, full load @ T <sub>ambient</sub> = 25°C full load @ T <sub>ambient</sub> = 40°C	< 40 dBA < 58 dBA
MTBF (Telcordia SR-332 Issue I method III (a))	>300 000 (@ T <sub>ambient</sub> : 25 °C)
Operating temperature	-40 to +75°C (-40 to +167°F), humidity 5 - 95% RH non-condensing
Temperature de-rating above 45°C (110°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") / 1.85 kg (4.1 lbs)
<b>DESIGN STANDARDS</b>	
Electrical safety	UL 60950-1:2007, IEC 60950-1:2005 + A1:2009 EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011
EMC	EN 61000-6-1:2007, -6-2:2005, - 6-3:2007 + A1:2011, - 6-4:2007 + A1:2011 ETSI EN 300 386 V.1.6.1, FCC Part 15 Subpart 109
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 RoHS (2011/65/EU) and WEEE (2002/96/EC) compliant