

GUARDIAN

FMPe30.48J

48VDC RECTIFIER

62.5 Amps | 3000 Watts

Overview

The FMPe30.48J rectifier incorporates resonant technology to reduce component stresses, providing increased system reliability and a peak efficiency of 96.2%. The rectifier features a wide input operating voltage range to maximize power availability within demanding utility power environments.

These compact rectifiers support up to 15kW in a 1RU 23" shelf. A wide variety of distribution options are available to provide

the maximum system flexibility for a wide range of communications applications that demand efficiency, reliability, and flexibility including wireless base stations, remote switches, and broadband access.

FMPe30.48J is one of several rectifier types that can be installed in the Guardian Series DC power systems.

Features

- High efficiency and energy saving
- 96.2% peak efficiency
- Leading power density up to 32W/in³
- Rugged input voltage range
- Thermal protection
- Hot-swappable
- International standards compliance
- Three Year Warranty

Ordering Guide

Max. Power	Output Voltage	Output Current	Input Voltage ²	Input Current ⁴	Model No.
3000W	48.0VDC 53.5VDC ¹	62.5A 56.1A	85-275VAC	18.5A/13.1A	FMPe30.48J

Notes:

1. Default factory setting.
2. Units will operate over the full range from 85VAC to 275VAC, automatically limiting output current according to the actual input voltage range applied.
3. Input currents shown are nominal values at 110VAC/240VAC as appropriate.



Safety Certification

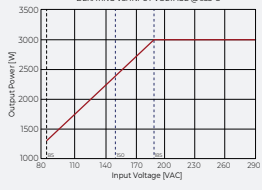
CAN/CSA C22.2 No 62368-1:2014
 UL 62368-1:2014
 EN 62368-1:2014/A11:2017

FMPe30.48J Specifications

Input

Voltage	Operating Range: 85-275VAC
	Permitted variation: 85-300VAC (L-PE and N-PE <250VAC)
Current	<13.1A @ 240VAC <18.5A @ 110VAC
Frequency	47-63Hz
Power Factor	>0.99 at >25% load
Fuse	Two 25A fast blow (L & N)

Output

Voltage Range	46-57.6VDC	
Power	3000W at ≥185VAC; 1720W at 110VAC; 1300W at 85VAC	
		
Current	@ 48V	62.5A at ≥185VAC; 35.8A at 110VAC; 27.1A at 85VAC
	@ 53.5V	56.1A at ≥185VAC; 32.1A at 110VAC; 24.3A at 85VAC
Derating	18.2W/Vin from 185-85Vin	
Efficiency	96.2% peak	
Tolerance	Vout ±1.0%	
Transient Response	±5% at load variation 10-90% or 90-10%, recovery time 20ms	
Load Sharing	<5% of nominal current	
Ripple	<250mV p-p (BW 20MHz)	
Psophometric	<2mV, according to CCITT norms	

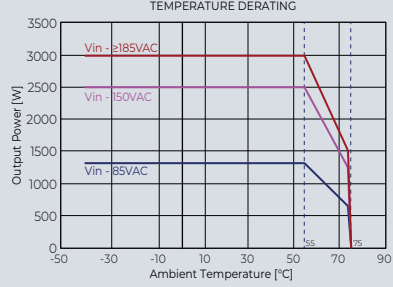
Standards

Inrush Current	ETSI ETS 300 132-1
Harmonics	EN61000-3-2
EMC	ETSI EN300 386 V.1.3.2 EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4 EN55024 performance criterion A EN55022 Class B Telcordia NEBS GR1089
Safety	CAN/CSA C22.2 No 62368-1:2014 UL 62368-1:2014 EN 62368-1:2014/A11:2017
Environmental	Storage: ETSI EN300 019-2-1 Transport: ETSI EN300 019-2-2 Operation: ETSI EN300 019-2-3 Damp Heat: IEC60068-2-78

Mechanical

Dimensions, inches (mm)	4.2 W x 14.0 D x 1.6 H (107 W x 355 D x 41 H)
Weight	4.6lbs. (2.1kg)
Cooling	Fan-cooled, speed controlled
Insulation	4.25kVDC primary-secondary 2.12kVDC primary-ground 0.2kVDC secondary-ground
Enclosure	IP20
Mounting	19in/23in x 1RU sub-rack up to 4/5 modules

General

Protection	Short circuit protection, automatic current/power limiting, input/output overvoltage protection, thermal protection.
Alarms	Fan failure Short circuit/arcing protection High temperature/output voltage Low output voltage Input voltage out of range Low fan speed (warning) Internal communication failure
LED Indicators	Green: AC normal operation Yellow steady: Low fan speed, High temperature Yellow flashing: Comms. failure Red: Module alarm / shutdown
Audible Noise	<45dBA @ ≤25°C (50% load) <60dBA (100% load)
Operating Temperature	-40°C to +75°C up to 2000m Reduced spec -40°C to -20°C
	
Storage Temperature	-60°C to +85°C
MTBF @ 25°C (without fan)	>832,000 hours Telcordia (Belcore) SR-332 Iss.1

ABOUT GREEN CUBES TECHNOLOGY

Green Cubes Technology harnesses over 30 years of industry experience to ensure we design, develop and deliver solutions for the most challenging energy needs. We offer battery technology innovation, application design and performance management to drive productivity, scalability and sustainability.

Green Cubes provides complete power systems to the stationary power industry. With the addition of the Guardian and Aspiro Product lines offered under the UNIPOWER brand, these industry proven DC plant systems serve critical applications all around the world. Green Cubes offers complete power solutions including energy storage, power conversion, and seamless integration.

For more information, email contact@greencubes.com or visit greencubes.com

