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60 Amp Rectifier – Guardian FMPe30.48G

Guardian

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Product Information

The Guardian FMPe30.48G 60 amp rectifier incorporates resonant technology to reduce component stresses, providing increased system reliability and a best-in-class efficiency. The rectifier features a wide input operating voltage range to maximize power availability within demanding utility power environments.

These compact 60 amp rectifiers support up to 14.5kW 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.

THREE YEAR WARRANTY

Features and Options

- High efficiency and energy saving
- >95% typical efficiency
- Leading power density of up to 31.3W/in³
- Rugged input voltage range
- Thermal protection
- Hot-swappable
- International standards compliance

SPECIFICATIONS

INPUT

Voltage	Operating Range: 85-275VAC
	Permitted variation: 85-300VAC (L-PE and N-PE <250VAC)
Current	<12.7A @ 240VAC <17.9A @ 110VAC
Frequency	47-63Hz
Power Factor	>0.99 at >25% load
Fuse	Two 25A fast blow (L & N)

OUTPUT

GUARDIAN FAMILY RECTIFIERS

Model Number ¹	Input Voltage	Output Power ₂	Output Current ²	Max. Temp.
<i>FMPe20.48</i>	120VAC	1100W	22.9A @ 48V	55°C
			20.6A @ 53.5V	
	208VAC	2000W	41.7A @ 48V	55°C
			37.4A @ 53.5V	

SPECIFICATIONS

Voltage Range	46-57.6VDC	
Power	2900W at ≥180VAC 1700W at 110VAC 1271W at 85VAC	
Current	48V NOMINAL	53.5V FLOAT
	60.4A at ≥180VAC 35.4A at 110VAC 26.5A at 85VAC	54.2A at ≥180VAC 31.8A at 110VAC 23.8A at 85VAC
Derating	17.1W/Vin from 180-85Vin	
Efficiency	>95%	
Tolerance	Vout ±1.0%	
Transient Response	±5% at load variation 10-90% or 90-10% 20ms recovery	
Load Sharing	<5% of nominal current	
Ripple	<250mV p-p (BW 20 MHz)	
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
Environmental	Storage: ETSI EN300 019-2-1 Transport: ETSI EN300 019-2-2 Operation: ETSI EN300 019-2-3 Damp Heat: IEC60068-2-78 MIL-STD-810D section 507.2 Earthquake: GR 63 Core Zone 4

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 1U subrack

GUARDIAN FAMILY RECTIFIERS

	240VAC	2000W	41.7A @ 48V 37.4A @ 53.5V	55°C
<i>FMP25.48</i>	120VAC	1400W	29.2A @ 48V 26.2A @ 53.5V	55°C
	208VAC	2500W	52.1A @ 48V 46.7A @ 53.5V	55°C
	240VAC	2500W	52.1A @ 48V 46.7A @ 53.5V	55°C
<i>FMPe30.48</i>	120VAC	1700W	35.4A @ 48V 31.8A @ 53.5V	55°C
	208VAC	2900W	60.4A @ 48V 54.2A @ 53.5V	55°C
	240VAC	2900W	60.4A @ 48V 54.2A @ 53.5V	55°C

NOTES:

- Models shown in italics are other members of the product family. Click on the model number to go to the relevant product page.
- Ratings are up to the Max. Temp. ambient indicated. See individual product pages or datasheets for deratings at higher temperatures. The absolute maximum ambient temperature is 75°C.

SPECIFICATIONS

up to 4/5 modules

GENERAL

Protection	Short circuit automatic current/power limiting input/output overvoltage thermal
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 (nominal input)	<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 Derated output power from 55°C linear derating to 75°C For 3000m altitude derated by 5°C
Storage Temperature	-60°C to +85°C
MTBF @ 25°C (without fan)	>832,000 hours to Telcordia (Belcore) SR-332 Iss.1

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