

KEY FEATURES

Rectifier, +48 VDC, 1000 W

- High efficiency above 95% reduces power consumption for lower operating costs
- Full power output up to +45°C and continued operation up to +75°C lowers operating cost
- High power density (45 W/in³) – reduced footprint allows installation in short-depth racks and cabinets
- Wide input voltage range to operate in the most demanding environments
- Hot pluggable – facilitates future expansions and easy maintenance
- Compliant with global standards – delivers quality, performance and reliability no matter what the application or location demands

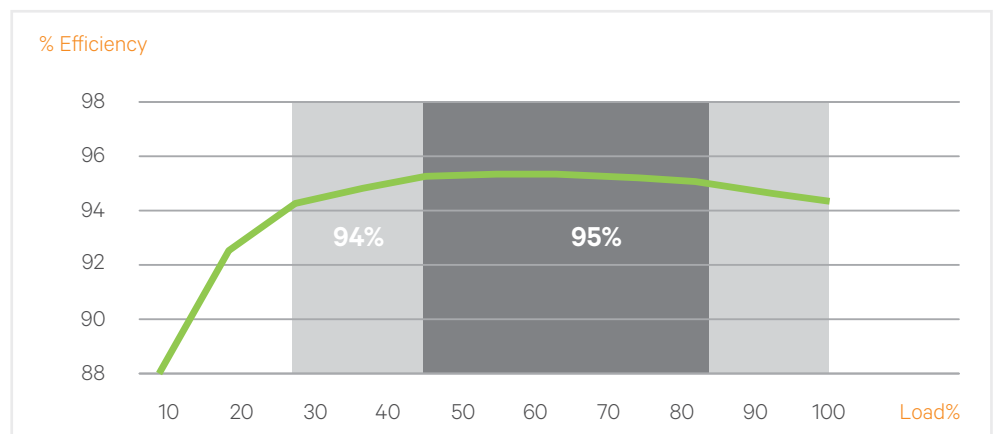
In addition to reducing power consumption and lowering operating cost, eSure™ high-efficiency rectifiers offer superior performance and uncompromised reliability.

Description

The 1000W high-efficiency eSure™ rectifier (model R48-1000e3) is designed to convert standard AC supply voltages into stable nominal -48 V DC voltage that is adjustable to application needs. The R48-1000e3 is a constant power rectifier designed with the latest patented switchmode technology, using DSP (Digital Signaling Processor) functionality for efficient operation.

This 1000W high density rectifier is ideal for outdoor enclosures and small cell applications where space is at a premium. At 45 W/in³ and only 152 mm (6 inches) deep, the R48-1000e3 fits into tight spaces where other rectifiers cannot.

For higher load capacities rectifiers can be connected in parallel, and intelligent control can be added with the help of a separate controller.



R48-1000e3 Efficiency Curve at 230 VAC Nominal

Technical Specifications

AC INPUT	
Voltage	85 VAC to 300 VAC (see figure 1) 120 VAC, 200 VAC to 250 VAC (nominal)
Frequency	45 Hz to 65 Hz
Maximum Current	6 A
Power Factor	>0.99 for 75% to 100% load

DC OUTPUT	
Voltage	-42 VDC to -58 VDC
Maximum Power	1000 W (see figure 2 for derating)
Maximum Current	20.83 A @ -48 VDC, limit set point 0 to 20.83 A (see figure 2 for derating)
Peak Efficiency	95.4%

CONTROL AND MONITORING	
Rectifier Alarm and Signaling	Alarm and status reported via CAN bus to system controller
Visual Indications	Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure

ENVIRONMENTAL	
Operating	-40°C to +75°C / -40°F to +167°F (see diagram 3 for derating)
Storage	-40°C to +70°C / -40°F to +158°F
Relative Humidity	0 to 95%
Altitude	2000 m / 6560 ft at full power

STANDARDS COMPLIANCE	
Safety	60950-1 (EN, IEC and UL)
EMC	EN55022, CISPR22, ETSI EN300 386: 2005, FCC CFR 47 Part 15, Telcordia GR-1089-CORE issue 6 (Class B conducted and radiated)
Environment	REACH, RoHS, WEEE

MECHANICS	
Dimensions (H x W x D)	41 x 52 x 152 (mm) / 1.61 x 2.05 x 5.98 (inches)
Weight	0.6 kg / 1.32 lbs

Ordering Information

PRODUCT CODE	DESCRIPTION
1R481000E3	eSure™ rectifier, -48 VDC, 1000 W

Figures

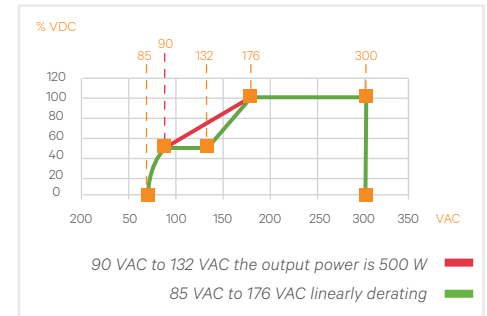


Figure 1:
Output power vs. input voltage
at $T_{amb} < 45^{\circ}\text{C}$

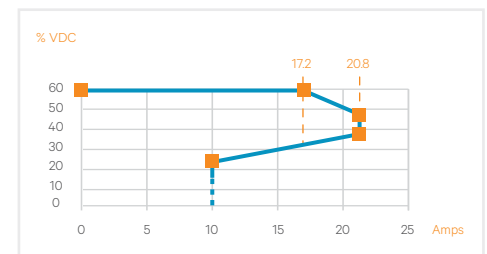


Figure 2:
Output voltage vs. Output current
max. output power 1000 W

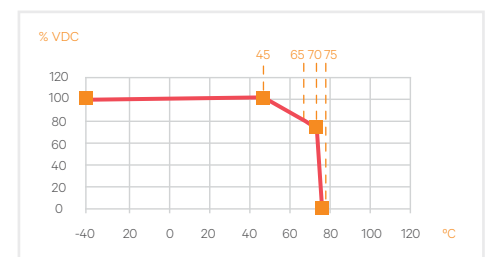


Figure 3:
Output power vs. Temperature
at $264\text{ VAC} \geq V_{in} \geq 176\text{ VAC}$