

KEY FEATURES

Rectifier, 48 VDC, 2000 W

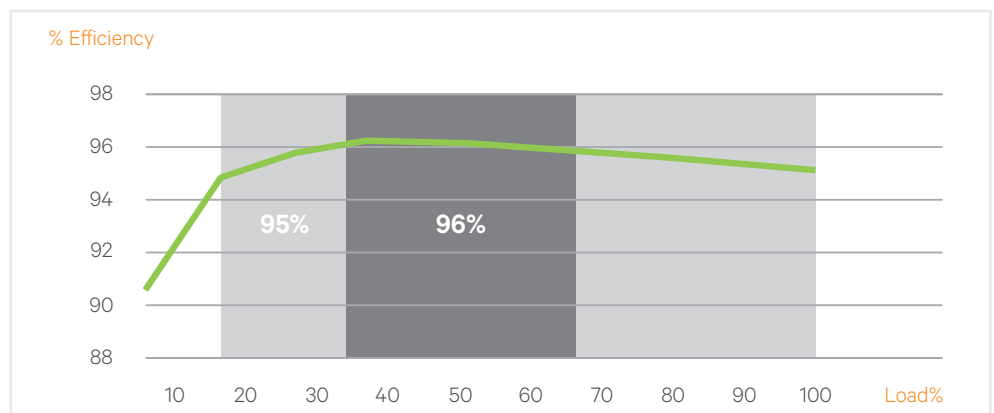
- High efficiency over 96% – reduces power consumption lowering operating costs
- High power density – provides more space for revenue generating equipment
- Hot pluggable and interchangeable – for easy expansions and maintenance
- DSP (Digital Signal Processing) – means fewer components, optimized operation and active load sharing for increased reliability
- Wide input voltage range (85 VAC to 300 VAC) – allows for flexibility, durability and resilience
- Wide full power operating temperature range from -40°C to +65°C – meets the harshest climatic environment requirements
- 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 2000 watt high-efficiency eSure rectifier (model R48-2000e3) converts standard AC supply voltages into stable nominal -48 VDC voltage that is adjustable to application needs. This constant power rectifier designed with the latest patented switch-mode technology, uses DSP (Digital Signal Processing) for efficient operation.

The R48-2000e3 can be connected in parallel with other rectifiers and converters to support a variety of telecom applications. Unified remote management and control of the power system is enabled when combined with a Vertiv™ controller.



R48-2000e3 Efficiency Curve at 250 VAC Nominal

Technical Specifications

AC INPUT	
Voltage	85 VAC to 300 VAC (see figure 1), 187 VAC to 264 VAC (nominal)
Frequency	45 Hz to 65 Hz
Maximum Current	12 A
Power Factor	>0.99 from 50 to 100% load
Protection	High and low voltage protection, surge and lightning protection Adapts to poor quality grid (voltage dip, weak mains) Disconnection at 415 VAC Mains fuses in both lines

DC OUTPUT	
Voltage	-42 VDC to -58 VDC
Maximum Power	2000 W
Maximum Current	42 A @ -48 VDC, limit set point 0 to 42 A (see figure 2)
Peak Efficiency	96.2%
Protection	Fuse for reverse connection and back feeding protection High voltage shutdown High temperature protection

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 80°C / -40°F to +176°F (see figure 3 for derating)
Temperature Derating	Full output power up to +65°C at input voltage range 200 to 250 VAC (see figure 3)
Storage	-40°C to +70°C / -40°F to +158°F
Relative Humidity	0 to 95%
Altitude	Full output power up to +65°C at input voltage range @200~ 250 VAC

STANDARDS COMPLIANCE	
Safety	60950-1 (EN, IEC and UL)
EMC	EN55022, CISPR22, ETSI EN300 286: 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 84.5 x 252.5 (mm) / 1.61 x 3.33 x 9.94 (inches)
Weight	1.13 kg / 2.49 lbs

Ordering Information

MODEL NUMBER	DESCRIPTION
1R482000E3	eSure™ rectifier, -48 VDC, 2000 W

Figures

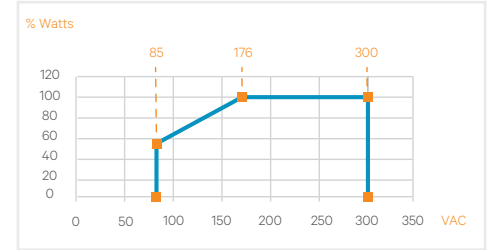


Figure 1:
Output Power vs. Input Voltage and $V_o > 48 V$ at $T_{amb} < 55^\circ C$

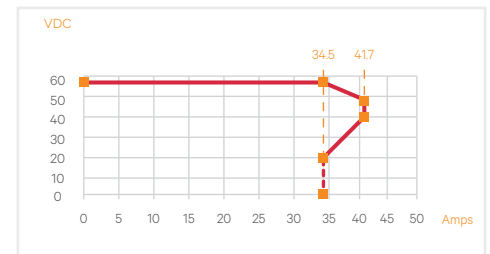


Figure 2:
Output Voltage vs. Output Current at Maximum Output Power 2000 W

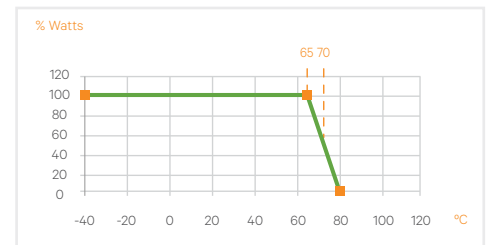


Figure 3:
Output Power vs. Temperature at $U_{in} > 200VAC$