

KEY FEATURES

Rectifier, -48 VDC, 3500 W

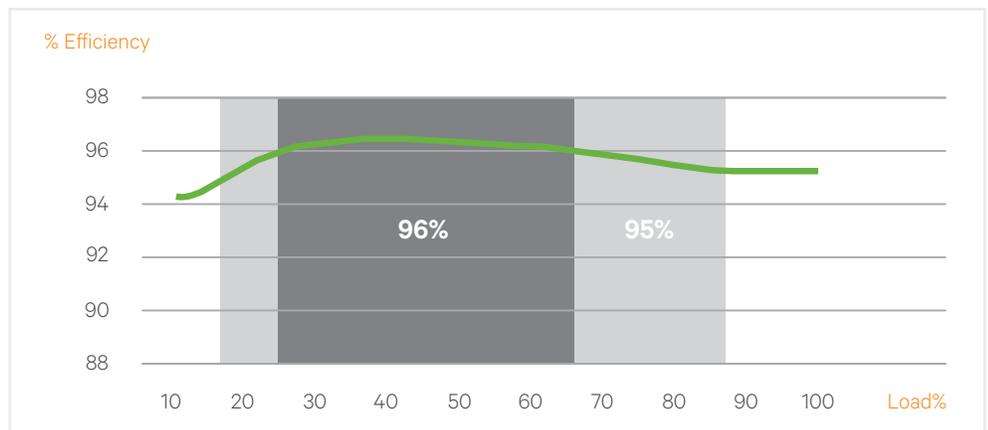
- 3500 Watt high-efficiency rectifier designed for -48V DC power applications
- Optimized depth – reduced footprint allows installation in short-depth racks and cabinets
- DSP (Digital Signal Processor) – means fewer components, optimized operation and active load sharing for increased reliability
- Compliant with global standards – delivers quality, performance and reliability no matter what the application or location demands
- High efficiency, approaching 97% – reduces power consumption for lower operating costs
- Hot pluggable – facilitates future extensions
- Wide input voltage range to operate in the most demanding environments where input voltage changes
- Wide temperature operating range from -40°C to +75°C / -40°F to +167°F meets the harshest climatic environment requirements

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

Description

The eSure R48-3500e high-efficiency rectifier is designed to convert standard AC supply voltages into stable nominal 48 VDC voltage that is adjustable to application needs. The R48-3500e is a constant power rectifier designed with the latest patented switchmode technology, using DSP (Digital Signal Processor) functionality for efficient operation.

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



R48-3500e Efficiency Curve at 230 VAC Nominal

Technical Specifications

AC INPUT	
Voltage	85 VAC to 305 VAC (see figure 1) 200 VAC to 277 VAC (nominal)
Frequency	45 Hz to 65 Hz
Maximum Current	22.5 A
Power Factor	0.99
DC OUTPUT	
Voltage	-42 VDC to -58 VDC
Maximum Power	3500 W @ $V_{out} > 48$ VDC
Maximum Current	73 A @ -48 VDC, limit set point 73A to 73 A (see figure 2 for derating)
Peak Efficiency	96.3%
Psophometric Noise (System)	<2 mV ; <32 dBrc
Temperature Derating	See figure 3
CONTROL AND MONITORING	
Rectifier Alarm and Signaling	Alarm and status reported via CAN bus to system controller
Visual Indications	Green LED: Power On Yellow LED: Protection Red LED: Alarm Flashing Red LED: Fan Failure
ENVIRONMENTAL	
Operating	-40°C to +75°C / -40°F to +167°F
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 (EN, IEC and UL)
EMC	ETSI EN300 386: 2005, FCC CFR 47 Part 15, Telcordia GR-1089-CORE issue 6 (Class B conducted and radiated)
Environment	REACH, R5, WEEE
MECHANICS	
Dimensions (H x W x D)	132 x 85.3 x 287 (mm) / 5.2 x 3.36 x 11.3 (inches)
Weight	3.5 kg / 7.7 lbs

Ordering information

PRODUCT CODE	DESCRIPTION
1R483500E	eSure rectifier, 48 VDC, 3500 W

Figures

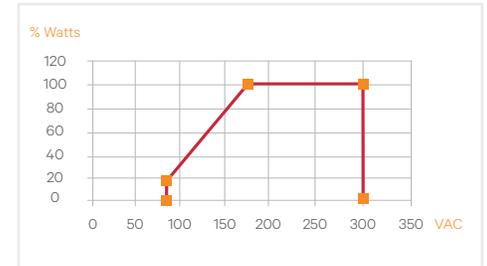


Figure 1:
Output Power vs. Input Voltage and $V_o > 48$ V at Temp <45°C

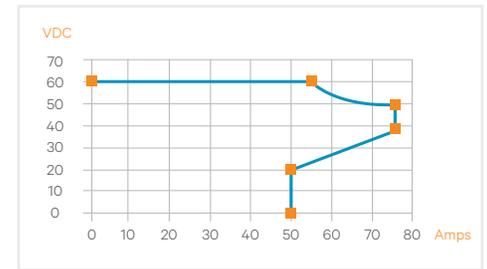


Figure 2:
Output Voltage vs. Output Current at Maximum Output Power 3500 W

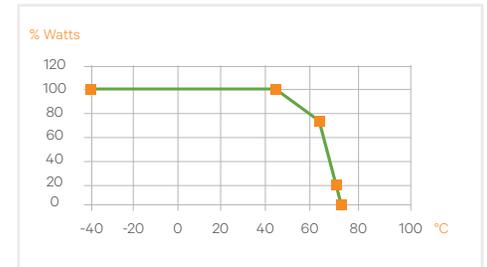


Figure 3:
Output Power vs. Temperature at $264 \geq V_{in} \geq 176$ VAC