ESURE[™] RECTIFIER

R48-3500e3

KEY FEATURES

- Highest density (50.2 W/inch³ in DC Power Industry saves costly space.
- High efficiency, reduces power consumption for lower operating costs.
- Full output power (3.5kW) up to +45 C allows savings on climate system and operating costs.
- 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.

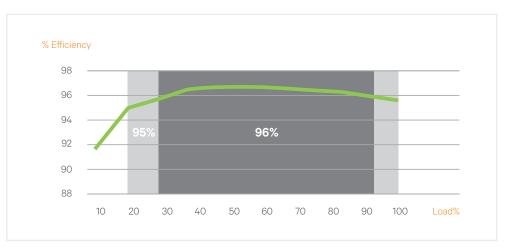
In addition to reducing power consumption and lowering operating cost, eSure[™] high-efficiency rectifiers offer superior performance and uncompromised reliability.

Description

The 3500W high-efficiency eSure[™] rectifier (model R48-3500e3) is designed to convert standard AC supply voltages into stable nominal -48 V DC voltage that is adjustable to application needs. The R48-3500e3 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.





R48-3500e3 Efficiency Curve at 230 VAC Nominal



Technical Specifications, R48-3500e3

AC INPUT		
Voltage	85 to 305 VAC (see figure 1) 200 to 277 VAC (nominal)	
Line Frequency	45 Hz to 65 Hz	
Maximum Current	22 A	
Power Factor	>0.99 for 50%-100% load	
DC OUTPUT		
Voltage	-42 VDC to -58 VDC	
Maximum Power	3500 W	
Maximum Current	73 A @-48 VDC limit set point 0 to 73 A (see figure 2 for derating)	
Peak Efficiency	96.3 %	
Temperature Derating	Full output power up to +45°C at input voltage range of 176-305 VAC when Vout ≥48V	
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 to 75°C,-40 to +167°F (See Figure 3 for de-rating)	
Storage	-40 to +70°C, -40 to +167°F	
Relative Humidity	0 to 95%	
Altitude	4000 m; above 2000 m (6562 feet) de-rate operating ambient temperature range by 3°C per 305 m (1000 feet).	
STANDARDS COMPLIANCE		
Safety	EN 60950-1; IEC 60950; UL; BSMI; CE	
EMC	ETSI EN300 386: 2005, Class B. EN55022, Class B	
Environment	REACH, R6,WEEE	
MECHANICS		
Dimensions (H x W x D)	41 x 84.5 x 330 mm / 1.6 x 3.3 x 13.0 inches	
Weight	1.7 kg / 3.75 lbs	

Ordering Information

PART NUMBER	DESCRIPTION
1R483500e3	High efficiency eSure™ rectifier , -48VDC, 3500W

Figures



Figure 1:

Output Power vs. Input Voltage, at Tamb 45 °C

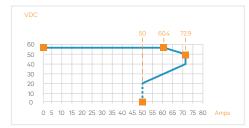


Figure 2:

Output voltage vs. Output current, max. output power 3500 W

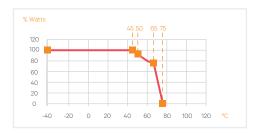


Figure 3: Output Power vs. Temperature, at Uin ≥ 176VAC

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