

## KEY FEATURES

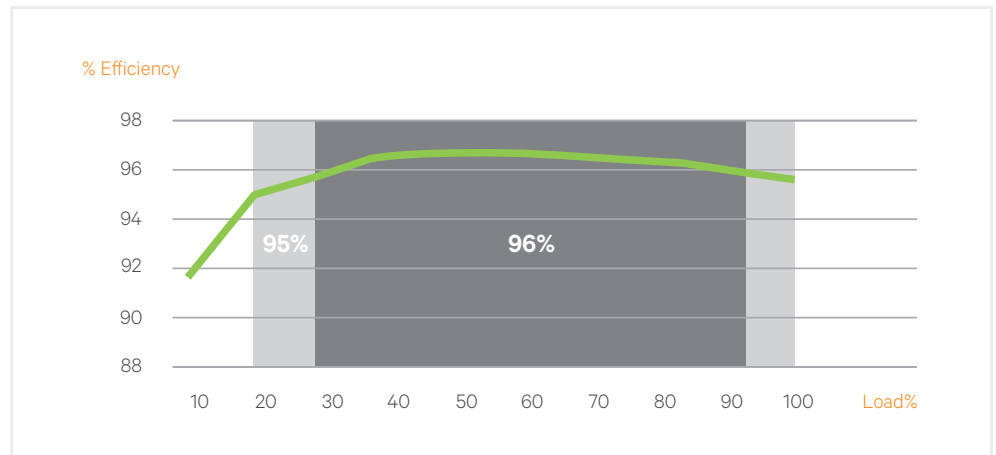
- Highest density (50.2 W/inch<sup>3</sup> in DC Power Industry saves costly space.
- High efficiency, reduces power consumption for lower operating costs.
- Full output power (3.5kW) up to +45 C allows savings on climate system and operating costs.
- Wide input voltage range to operate in the most demanding 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

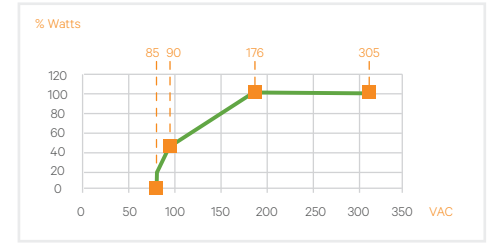
## Technical Specifications, R48-3500e3

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

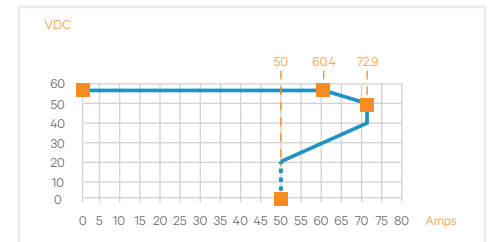
## Ordering Information

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

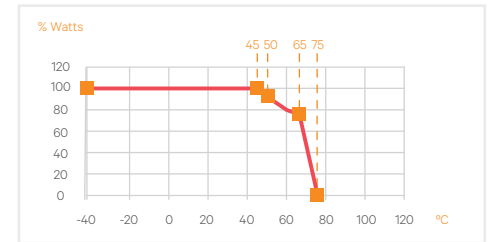
## Figures



**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