

## KEY FEATURES

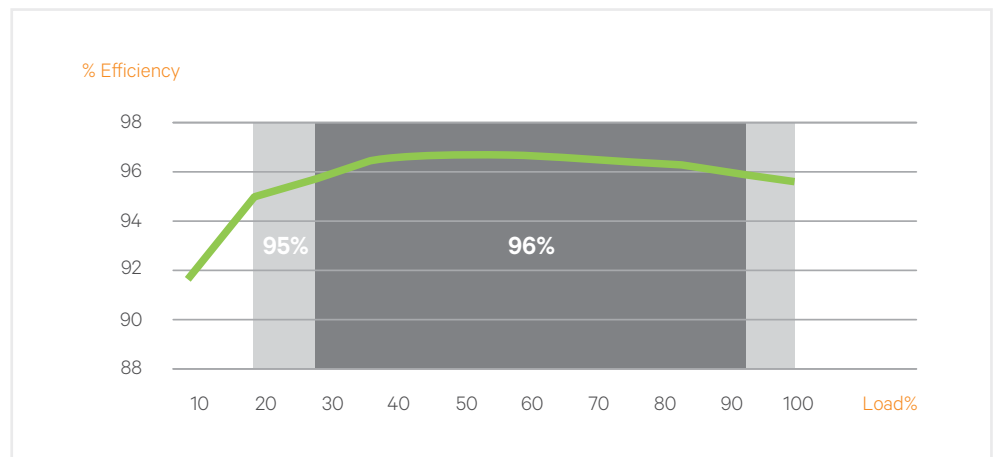
- Highest density (50.2 W/inch<sup>3</sup> in DC Power Industry saves costly space.
- High efficiency, reduces power consumption for lower operating costs.
- Full output power (3.5kW) up to +45 C allows savings on climate system and operating costs.
- Wide input voltage range to operate in the most demanding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

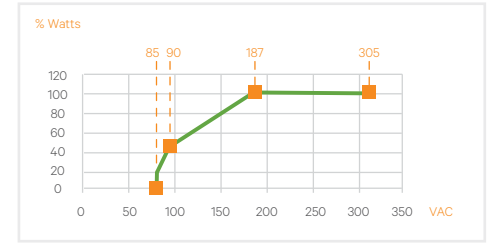
## Technical Specifications, R48-3500e3

| AC INPUT                      |  |
|-------------------------------|--|
| Voltage                       | 85 to 305 VAC (see figure 1)<br>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<br>Yellow LED: Alarm<br>Red LED: Failure               |
| ENVIRONMENTAL                 |  |
| Operating                     | -40 to 75°C, -40 to +167°F (See diagram for de-rating)                             |
| Storage                       | -40 to +75°C, -40 to +167°F  |
| Relative Humidity             | 0 to 95%   |
| Altitude                      | 2000 m, 6560 ft at full power  |
| 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  |

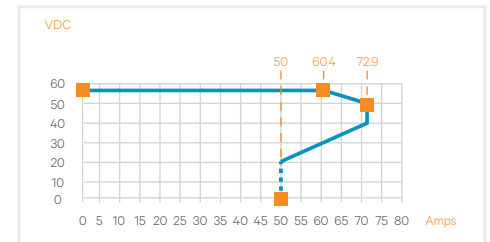
## Ordering Information

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

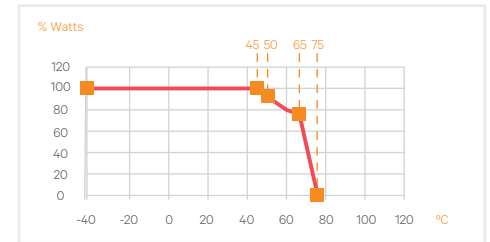
## Figures



**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