

KEY FEATURES

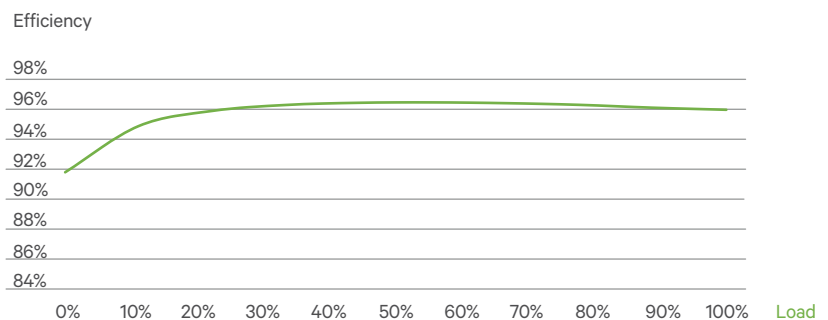
- Highest density (50.2 W/inch³ in DC Power Industry saves costly space.
- High efficiency, reduces power consumption for lower operating costs.
- Full output power (3.5kW) up to +45 C allows savings on climate system and operating costs.
- Wide input voltage range to operate in the most demanding environments.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



Technical Specifications, R48-3500e3

AC INPUT

Input Voltage, Nominal	00 to 277 VAC
Input Voltage, Permitted Variation	85 to 305 VAC
Line Frequency	45 Hz to 65 Hz
Max Input Current	22 A
Power Factor	>0.99 for 50%-100% load
THD (Total Harmonic Distortion)	≤5% for 50%- 100% load at 208 VAC, 220 VAC, 230 VAC, 240 VAC

DC OUTPUT

Output Voltage, Adjustment Range	-42 VDC to -58 VDC
Output Power, Maximum	3500 W
Output Power, Derated for Input Voltage	See diagram
Output Current	73 A @ -48 VDC
Output Current Limit Set Point	0 to 73 A
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

Temperature Range, Operating	-40 to 75°C, -40 to +167°F (See diagram for de-rating)
Temperature Range, Storage	-40 to +75°C, -40 to +167°F
Relative Humidity	0 to 95%
Altitude	2000 m, 6560 ft at full power
EMC	ETSI EN300 386: 2005, Class B. EN55022, Class B
Safety	EN 60950-1; IEC 60950; UL; BSMI; CE

MECHANICS

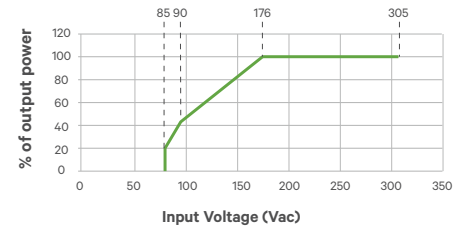
Dimensions (H x W x D)	41 x 84.5 x 330 mm / 1.6 x 3.3 x 13.0 inches
Weight	1.7 kg / 3.75 lbs

Ordering Information

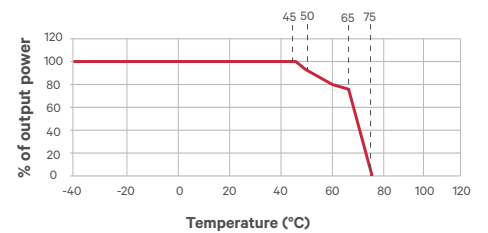
PART NUMBER	DESCRIPTION
1R483500e3	High efficiency eSure™ rectifier , -48VDC, 3500W

Diagrams

Output Power vs. Input Voltage
at Tamb 45 °C



Output Power vs. Temperature
at Uin ≥ 176VAC



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

