

# eSure™ Rectifier

## R48-3500e

### Key Features

- 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 Signaling 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 (-40°C / -40°F to +75°C / 167°F) to meet 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 -48V DC 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 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

### AC Input

Input Voltage, Nominal	200 to 250 VAC
Input Voltage, Permitted Variation	85 to 300 VAC
Line Frequency	45 to 65 Hz
Max Input Current	22.5A
Power Factor	0.99
THD (Total Harmonic Distortion)	<5% from 50 to 100% of rated load

### DC Output

Output Voltage, Adjustment Range	-42 to -58 V DC
Output Power	3500W@Vout >48VDC
Output Power, Derated for Input Voltage	See diagram
Output Current	73A
Output Current Limit Set Point	7.3 to 73A
Efficiency	96.5% peak
Psophometric Noise (system)	<2 mV; <32 dBnc
Temperature Derating	See diagram

### 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
	Flashing Red LED:	Fan Failure

### Environmental

Temperature Range, Operating	-40 to +75°C, -40 to +167°F
Temperature Range, Storage	-40 to +70°C, -40 to +158°F
Relative Humidity	0 to 95%
Altitude	2000 m, 6560 ft at full power
EMC	ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B
Safety	IEC 60950, EN 60950, UL 60950

### Mechanics

Dimensions (H x W x D)	132 x 85.3 x 287mm / 5.2 x 3.36 x 11.3 inches
Weight	3.5kg / 7.7lbs

### Other Parts

Controller Units	See separate ACU/ACU+ and SCU/SCU+ datasheets
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## Ordering Information

Model Number	Description
1R483500E2	Rectifier 48V, 3500W

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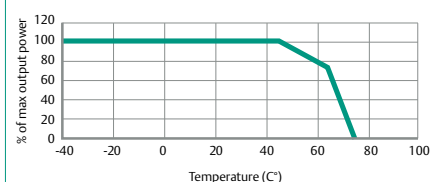
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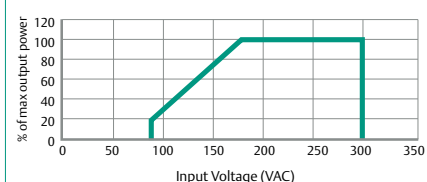
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## Diagrams

**Output Power vs. Temperature at 264 ≥ Vin ≥ 176Vac**



**Output Power vs. Input Voltage and Vo > 48V at Temp <45°C**



**Output voltage vs. Output current at max. output power 3500 W**

