

KEY FEATURES

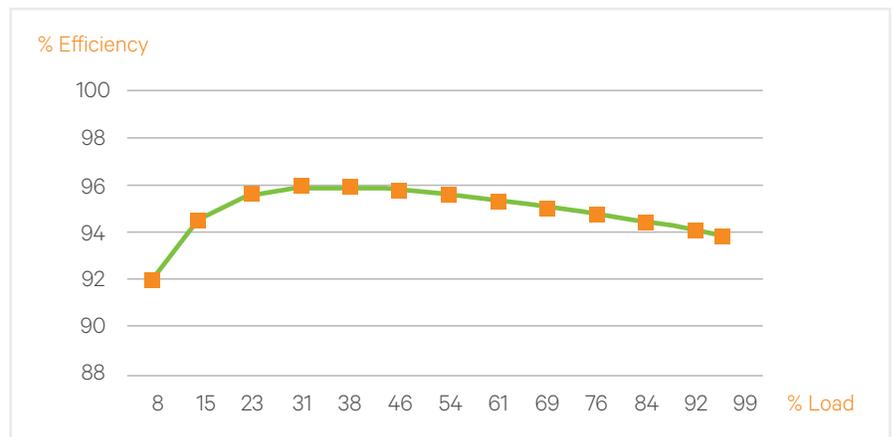
- 3500 Watt high-efficiency rectifier designed for -48V DC power applications
- Optimized depth – reduced footprint allows installation in short-depth racks and cabinets
- DSP (Digital Signaling Processor) – means fewer components, optimized operation and active load sharing for increased reliability
- 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 from -40°C to +75°C / -40°F to +167°F meets 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.



R48-3500e Efficiency Curve

Technical Specifications

| AC INPUT | |
|------------------------------------|---|
| Input Voltage, Nominal | 200 VAC to 277 VAC |
| Input Voltage, Permitted Variation | 85 VAC to 305 VAC |
| Line Frequency | 45 Hz to 65 Hz |
| Max Input Current | 22.5 A |
| Power Factor | 0.99 |
| THD (Total Harmonic Distortion) | <5% from 50 to 100% of rated load, <2% non load |

| DC OUTPUT | |
|---|-----------------------|
| Output Voltage, Adjustment Range | -42 VDC to -58 VDC |
| Output Power | 3500 W @ Vout >48 VDC |
| Output Power, Derated for Input Voltage | See diagram |
| Output Current | 73 A |
| Output Current Limit Set Point | 7.3 A to 73 A |
| Efficiency | 96.3% peak |
| Psophometric Noise (System) | <2 mV ; <32 dBrc |
| Temperature Derating | See diagram |

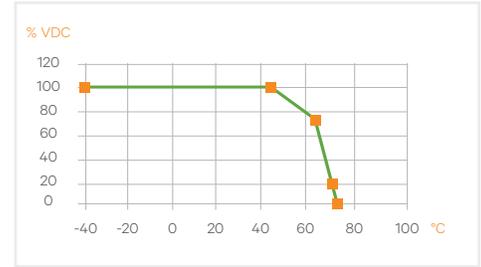
| CONTROL AND MONITORING | |
|-------------------------------|--|
| Rectifier Alarm and Signaling | Alarm and status reported via CAN bus to system controller |
| Visual Indications | Green LED: Power On Yellow LED: Protection Red LED: Alarm Flashing Red LED: Fan Failure |

| ENVIRONMENTAL | |
|------------------------------|---|
| Temperature Range, Operating | -40°C to +75°C / -40°F to +167°F |
| Temperature Range, Storage | -40°C to +70°C / -40°F 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 |

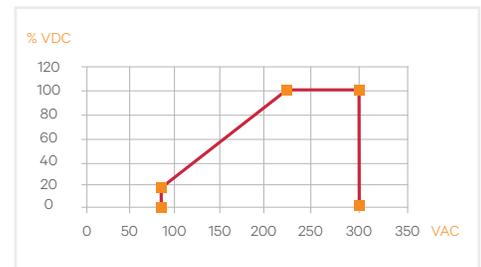
| MECHANICS | |
|------------------------|---|
| Dimensions (H x W x D) | 132 x 85.3 x 217 (mm) / 5.2 x 3.36 x 8.5 (inches) |
| Weight | 3.5 kg / 7.7 lbs |

Ordering information

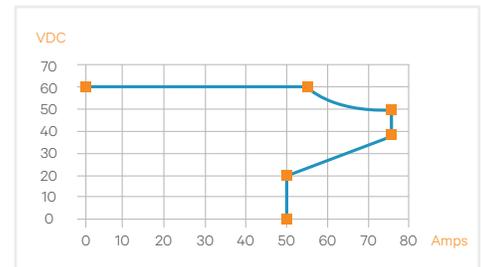
| PRODUCT CODE | DESCRIPTION |
|--------------|---------------------------------|
| 1R483500E | eSure rectifier, 48 VDC, 3500 W |



Output Power vs. Temperature at 264 ≥ Vin ≥ 176 VAC



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



Output Voltage vs. Output Current at Maximum Output Power 3500 W