

Vertiv™ eSure™ Rectifier

R48-1000e3

Key Features

Rectifier, +48 VDC, 1000 W

- High efficiency above 95% reduces power consumption for lower operating costs
- Full power output up to +45°C and continued operation up to +75°C lowers operating cost
- High power density (45 W/in³) – reduced footprint allows installation in short-depth racks and cabinets
- 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

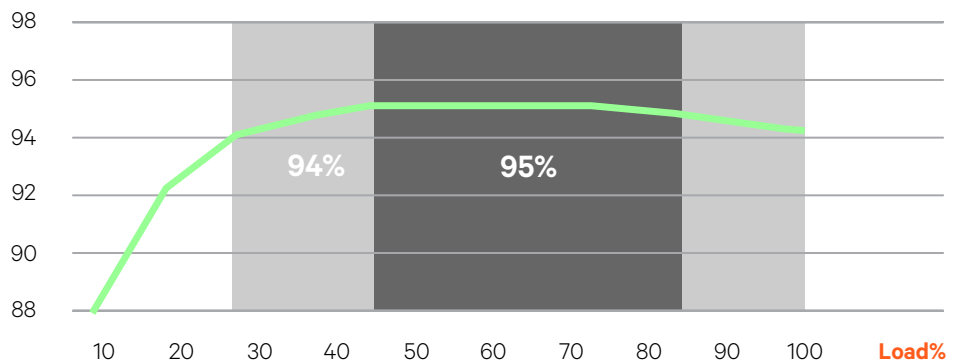
The 1000W high-efficiency eSure™ rectifier (model R48-1000e3) is designed to convert standard AC supply voltages into stable nominal -48 V DC voltage that is adjustable to application needs. The R48-1000e3 is a constant power rectifier designed with the latest patented switchmode technology, using DSP (Digital Signaling Processor) functionality for efficient operation.

This 1000W high density rectifier is ideal for outdoor enclosures and small cell applications where space is at a premium. At 45 W/in³ and only 152 mm (6 inches) deep, the R48-1000e3 fits into tight spaces where other rectifiers cannot.

For higher load capacities rectifiers can be connected in parallel, and intelligent control can be added with the help of a separate controller.



% Efficiency



R48-1000e3 Efficiency Curve at 230 VAC Nominal

Technical Specifications

| AC Input | | R48-1000E3 |
|------------------------|---|------------------|
| Voltage | 85 VAC to 300 VAC (see figure 1) 120 VAC, 200 VAC to 250 VAC (nominal) | |
| Frequency | 45 Hz to 65 Hz | |
| Maximum Current | 6 A | |
| Power Factor | >0.99 for 75% to 100% load | |
| DC Output | | R48-1000E3 |
| Voltage | -42 VDC to -58 VDC | |
| Maximum Power | 1000 W (see figure 2) | |
| Maximum Current | 20.83 A @ -48 VDC, limit set point 0 to 20.83 A (see figure 2) | |
| Peak Efficiency | 95.4% | |
| Control and Monitoring | | R48-1000E3 |
| Alarms 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 | | R48-1000E3 |
| Operating Temperature | -40°C to +75°C / -40°F to +167°F (see figure 3) | |
| Storage Temperature | -40°C to +70°C / -40°F to +158°F | |
| Relative Humidity | 0 to 95% | |
| Altitude | 2000 m / 6560 ft at full power | |
| Standards Compliance | | R48-1000E3 |
| Safety | EN 60950-1, IEC 60950, UL 60950 | |
| EMC | EN55022, CISPR22, ETSI EN300 386: 2005, FCC CFR 47 Part 15, Telcordia GR-1089-CORE issue 6 (Class B conducted and radiated) | |
| Environment | REACH, RoHS, WEEE | |
| Mechanics | | R48-1000E3 |
| Dimensions (H x W x D) | 41 x 52 x 152 mm / 1.61 x 2.05 x 5.98 inches | |
| Weight | 0.6 kg / 1.32 lbs | |

Figures

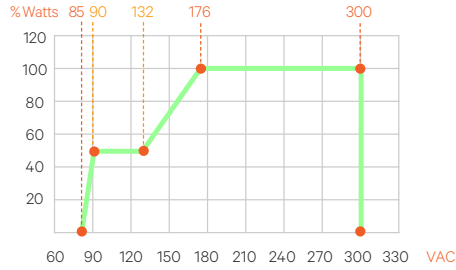


Figure 1: Output Power vs. Input Voltage at $T_{amb} < 45^{\circ}\text{C}$

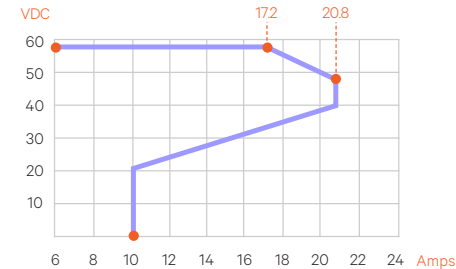


Figure 2: Output Voltage vs. Output Current at Maximum Output Power 1000 W

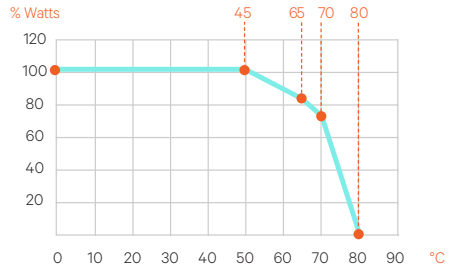


Figure 3: Output Power vs. Temperature at 264 VAC $\geq V_{in} \geq 176$ VAC

Ordering Information

| Part Number | Description |
|-------------|-----------------------------------|
| 1R481000E3 | eSure™ rectifier, -48 VDC, 1000 W |

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