

Vertiv™ eSure™ Rectifier

R48-3000E3A



Benefits

- Lower operating cost with high-efficiency eSure™ rectifiers, 96.5%
- Save on climate system dimensioning with 3 kW of full output power up to +50°C
- Operate your DC plant in the most demanding environments with wide input voltage range
- Easily expand capacity or perform maintenance during live system operation with hot-pluggable modules
- Rest assured with proven reliability that meets global safety standards no matter what the application or location demands

In addition to reducing power consumption and lowering operating cost, Vertiv™ eSure™ high-efficiency rectifiers offer superior performance and uncompromised reliability.

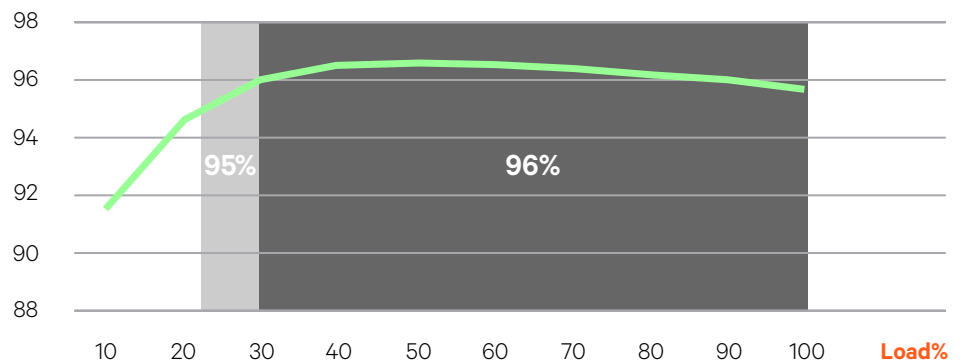
Description

The 3000W high-efficiency Vertiv eSure rectifier is designed to convert standard AC supply voltages into stable nominal -48 V DC voltage that is adjustable to application needs. This constant power rectifier offers 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 to support a variety of telecom applications. Remote management and control of the power system is enabled when combined with a Vertiv™ controller.



% Efficiency



Rectifier Efficiency Curve at 220 VAC Nominal

Technical Specifications

AC Input	R48-3000E3A
Voltage	85 VAC to 290 VAC (see figure 1) 200 VAC to 250 VAC (nominal)
Frequency	45 Hz to 65 Hz
Maximum Current	19 A @176 VAC
Power Factor	>0.99 for 50%-100% load

DC Output	
Voltage	-42 VDC to -58 VDC
Maximum Power	3000 W
Maximum Current	62.5 A @ -48 VDC, limit set point 0 to 62.5 A (see figure 2)
Peak Efficiency	96.5%

Control and Monitoring	
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	
Operating Temperature	-40°C to 70°C / -40°F to +158°F (See figure 3)
Storage Temperature	-40°C to 70°C / -40°F to +158°F
Relative Humidity	0 to 95%
Altitude	3000 m / 6560 ft at full power

Standards Compliance	
Safety	EN 60950-1; IEC 60950
EMC	ETSI EN300 386: 2005, Class A. EN55022, Class A
Environment	REACH, RoHS, WEEE

Mechanics	
Dimensions (H x W x D)	41 x 84.5 x 330 mm / 1.61 x 3.33 x 13 inches
Weight	2 kg / 4.41 lbs

Ordering Information

Part Number	Description
1R483000E3A	eSure™ rectifier, -48 VDC, 3000 W

Figures

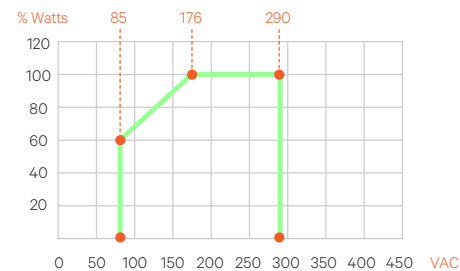


Figure 1: Output Power vs. Input Voltage and $V_o \geq 48$ VDC at Temperature $\leq 50^\circ\text{C}$

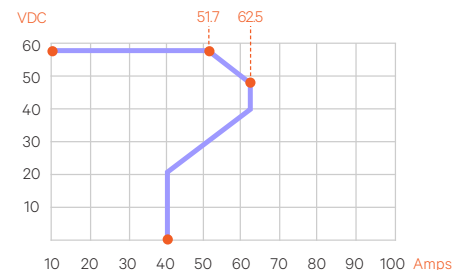


Figure 2: Output Voltage vs. Output Current at Maximum Output Power 3000 W

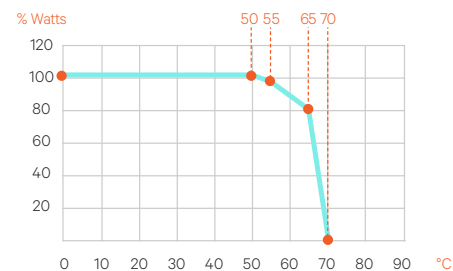


Figure 3: Output Power vs. Temperature at 264 VAC $\geq V_{in} \geq 176$ VAC and 58 VDC $\geq V_{out} \geq 48$ VDC