ESURE™ RECTIFIER

R48-2000e



KEY FEATURES

Rectifier, 48 VDC, 2000 W

- Optimized depth-reduced footprint allows installation in short-depth racks and cabinets
- DSP (Digital Signal 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, 96.5%-reduces power consumption for lower operating costs
- Hot pluggable-facilitates future extensions
- Wide input voltage range-operates in the most demanding environments where input voltage changes
- Wide temperature operating range from -40°C to +80°C / -40 °F to +176°F meets the harshest climatic environment requirements

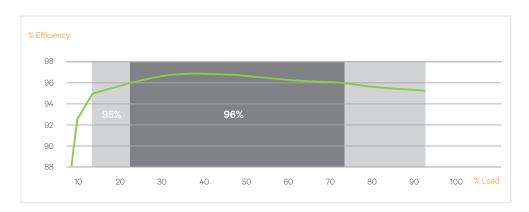
Description

The eSure R48-2000e rectifier converts standard AC supply voltages into stable nominal -48V DC voltage adjustable to the needs of the application. The R48-2000e is a constant power rectifier designed with the latest patented switch-mode technology using DSP (Digital Signal 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.



R48-2000e



R48-2000e Efficiency Curve at 220 VAC Nominal

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Technical Specifications, R48-2000e

Start Star	AC INPUT		
Maximum Current 13 A	Voltage	•	
Power Factor DC OUTPUT Voltage	Frequency	45 Hz to 65 Hz	
Voltage -42 VDC to -58 VDC Maximum Power 2000 W @ Vout >48 VDC Maximum Current 417 A @ -48 VDC, limit set point 0 to 42 A (see figure 2 for derating) Peak Efficiency 96.5% peak Psophometric Noise (System) 2 mV typical; <38 dBmc typical Temperature Derating See Diagram (see figure 3) CONTROL AND MONITORING Rectifier Alarm and Signaling Alarm and status reported via CAN bus to system controller Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure Flashing Red LED: Fan Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE ENVIRONMENTAL EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, ROHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Maximum Current	13 A	
Voltage -42 VDC to -58 VDC Maximum Power 2000 W @ Vout ×48 VDC Maximum Current 417 A @ -48 VDC, limit set point 0 to 42 A (see figure 2 for derating) Peak Efficiency 96.5% peak Psophometric Noise (System) <2 mV typical; <38 dBrnc typical Temperature Derating See Diagram (see figure 3) CONTROL AND MONITORING Rectifier Alarm and Signaling Alarm and status reported via CAN bus to system controller Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H × W × D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Power Factor	0.99	
Maximum Power 2000 W @ Vout >48 VDC Maximum Current 41.7 A @ -48 VDC, limit set point 0 to 42 A (see figure 2 for derating) Peak Efficiency 96.5% peak Psophometric Noise (System) 7 my typical; <38 dBrnc typical Temperature Derating See Diagram (see figure 3) CONTROL AND MONITORING Rectifier Alarm and Signaling Alarm and status reported via CAN bus to system controller Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure Flashing Red LED: Fan Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H × W × D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	DC OUTPUT		
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Peak Efficiency 96.5% peak	Maximum Power	2000 W @ Vout >48 VDC	
Psophometric Noise (System) 72 mV typical; <38 dBrnc typical Femperature Derating 8ee Diagram (see figure 3) CONTROL AND MONITORING Rectifier Alarm and Signaling Alarm and status reported via CAN bus to system controller Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure Flashing Red LED: Fan Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Maximum Current	The state of the s	
Temperature Derating See Diagram (see figure 3) CONTROL AND MONITORING Rectifier Alarm and Signaling Alarm and status reported via CAN bus to system controller Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure Flashing Red LED: Fan Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Peak Efficiency	96.5% peak	
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Green LED: Normal Operation Yellow LED: Alarm Red LED: Failure Flashing Red LED: Fan Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	CONTROL AND MONITORING		
Visual Indications Yellow LED: Failure Red LED: Failure Flashing Red LED: Fan Failure ENVIRONMENTAL Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity O to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Rectifier Alarm and Signaling	Alarm and status reported via CAN bus to system controller	
Operating -40°C to +80°C / -40°F to +176°F Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Visual Indications	Yellow LED: Alarm Red LED: Failure	
Storage -40°C to +80°C / -40°F to +176°F Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	ENVIRONMENTAL		
Relative Humidity 0 to 95% Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Operating	-40°C to +80°C / -40°F to +176°F	
Altitude 2000 m / 6560 ft at full power STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS B6 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Storage	-40°C to +80°C / -40°F to +176°F	
STANDARDS COMPLIANCE Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Relative Humidity	0 to 95%	
Safety 60950-1 (EN, IEC and UL) EMC ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Altitude	2000 m / 6560 ft at full power	
ETSI EN 300 386 class B, FCC CFR 47 Part 15 class B, Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	STANDARDS COMPLIANCE		
Telcordia GR-1089-CORE class B Environment REACH, RoHS, WEEE MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Safety	60950-1 (EN, IEC and UL)	
MECHANICS Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	EMC		
Dimensions (H x W x D) 86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	Environment	REACH, RoHS, WEEE	
	MECHANICS		
Weight 2.4 kg / 5.3 lbs	Dimensions (H x W x D)	86 x 84.5 x 272 (mm) / 3.39 x 3.33 x 10.71 (inches)	
	Weight	2.4 kg / 5.3 lbs	

Figures

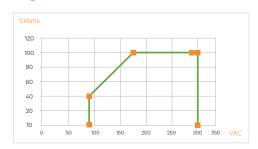


Figure 1

R48-2000e Output power vs.
Input voltage and Vo>48V at Temp≤55°C

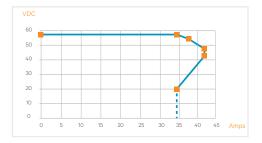


Figure 2 R48-2000e Output voltage vs. Output current at max. Power

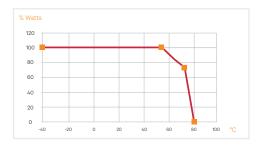


Figure 3 R48-2000e Output Power vs. Temperature at 290V≥Vin≥176 Vac

Ordering Information

PRODUCT CODE	DESCRIPTION
1R482000EXXX	High efficiency eSure rectifier, 48 VDC, 2000 W

 $\textbf{VertivCo.com} \hspace{0.2cm} \textbf{I} \hspace{0.2cm} \textbf{Vertiv Headquarters,} \hspace{0.1cm} \textbf{1050 Dearborn Drive, Columbus,} \hspace{0.1cm} \textbf{OH,} \hspace{0.1cm} \textbf{43085,} \hspace{0.1cm} \textbf{USA} \\$

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