

Rectifier

DC Power System

-48 V DC, 2900 W

R48-2900U

Description

The R48-2900U rectifier converts standard AC supply voltages into stable nominal -48 V DC voltage adjustable to the needs of the application. The R48-2900U is a constant power rectifier designed with the latest patented switch-mode 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.

Features and benefits

- 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, up to 92% – 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



Technical specifications, R48-2900U

AC input

Input voltage, nominal	200 to 240 V AC
Input voltage, permitted variation	85 to 290 V AC
Line frequency	45 to 65 Hz
Max input current	18 A
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	2900 W @ $V_{out} > 48$ V DC
Output power, derated for input voltage	See diagram
Output current	60 A
Output current limit set point	0 to 60 A
Efficiency	92%
Psophometric noise (system)	<1mV at 5 to 100% of rated load <32 dBrc at 5 to 100% of rated load
Temperature derating	See diagram

Control and monitoring

Rectifier alarm and signalling	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	-5 to +65°C, +23 to +149°F
Temperature range, storage	-40 to +75°C, -40 to +167°F
Relative humidity	0 to 95%
Altitude	2000 m, 6560 ft at full power
EMC	EN 300 386:2001 class B, FCC part 15 class B
Safety	IEC 60950, EN 60950, UL 60950

Mechanics

Dimensions (HxWxD)	132 x 85.3 x 287 mm, 5.20 x 3.36 x 11.3 inches
Weight	3,5 kg, 7,7 lbs

Other parts

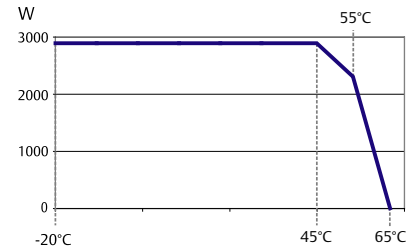
Controller units	See separate ACU, SCU and LAU datasheets
------------------	--

Ordering information

Product name

Rectifier R48-2900U
Shelf 19 inch with 5 rectifier positions
Shelf 19 inch with 4 rectifier positions + 1 controller position
Shelf 23 inch with 6 rectifier positions
Shelf 23 inch with 5 rectifier positions + 1 controller position

Output power vs. Temperature at $U_{in} > 176$ VAC



Output power vs. Input voltage at $T_{amb} < 45$ °C

