

DESCRIPTION

The XR04.48G is an 400W single-phase, hot-pluggable, fan cooled rectifier. The high power density of this product offers the optimum 1U shelf solution for space-critical applications.

This rectifier offer excellent efficiency as well as wide operating temperature and wide input voltage range. Together with advanced technology they enable cost effective and reliable solutions.

Typical applications for these rectifiers are both in indoor and outdoor environments, which is ideal for broadband access, cable head ends, micro/pico BTS Cells, Enterprise E911, and GSM-R applications.

The XR04.48G is one of three rectifier types that can be installed in the Aspiro Series DC power systems, see additional information on the [UNIPOWER web site](http://www.unipowerco.com).

FEATURES

- ◆ Wide AC input; 85 to 300VAC
- ◆ Wide operating temperature range
- ◆ Designed for 300mm deep ETSI compliant systems
- ◆ Input overvoltage disconnection
- ◆ Thermal protection
- ◆ Hot-swappable
- ◆ 90% typical efficiency
- ◆ International standards compliance

THREE YEAR WARRANTY

SAFETY CERTIFICATIONS

UL60950-1 2nd Edition
 CSA22.2, No. 60950-1 2nd Edition
 EN60950-1 2nd Edition

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RECTIFIER MODULE ORDERING GUIDE

MAX. POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	INPUT VOLTAGE ²	INPUT CURRENT ³	MODEL NO.
400W	48.0VDC 53.5VDC ¹	8.3A 7.5A	85-275VAC	4.1A/1.9A	XR04.48G

Notes:

1. Default factory setting.
2. Units will operate without derating over the full range from 85VAC to 275VAC.
3. Input currents shown are nominal values at 110VAC/240VAC as appropriate.



4-BAY 19" SHELF ORDERING GUIDE

MAX. POWER	DESCRIPTION	PART NUMBER
3200W	Single Phase Input	XS1948-E1R0R0R0ROG
3200W	Three Phase Input	XS1948-E4R0R0R0ROG

ACCESSORIES

DESCRIPTION	PART NUMBER
Shelf Paralleling Kit	YGA.01611

INDUSTRIES & APPLICATIONS



Telecom



Cable



Utilities



Government



Industrial

Specifications

INPUT	
Voltage	Nominal: 100-240VAC
	Fully compliant: 85-275VAC Permitted variation: 85-300VAC (L-PE and N-PE <250VAC)
Input	<5.5A
Frequency	47-63Hz
Power Factor	>0.98 typical
Fuse	Two 8A fast blow (L & N)
OUTPUT	
Voltage Range	46-57VDC
Power	400W
Current	@ 48V 8.3A
	@ 53.5V 7.5A
Efficiency	<p style="text-align: center;">EFFICIENCY (@ 230VAC)</p>
Tolerance	Vout ± 1.0%
Transient Response	±3% at load variation 10-90% or 90-10% recovery time 50ms
Load Sharing	<5% of nominal current
Ripple	<5% of nominal current
Psophometric	<2mV, according to CCITT norms
STANDARDS	
Inrush Current	ETSI EN 300 132-1
Harmonics	EN 61000-3-2
EMC	ETSI EN300 386 V.1.3.2 EN61000-6-1, EN61000-6-3 EN55024 performance criterion A EN61000-6-2, EN61000-6-4 EN55022 Class B Telcordia NEBS GR1089
Safety	IEC60950-1, EN60950-1 CAN/CSA-C22.2 No.60950-1-3
Environmental	Storage: ETSI EN300 019-2-1 Transport: ETSI EN300 019-2-2 Operation: ETSI EN300 019-2-3 Damp Heat: IEC60068-2-78

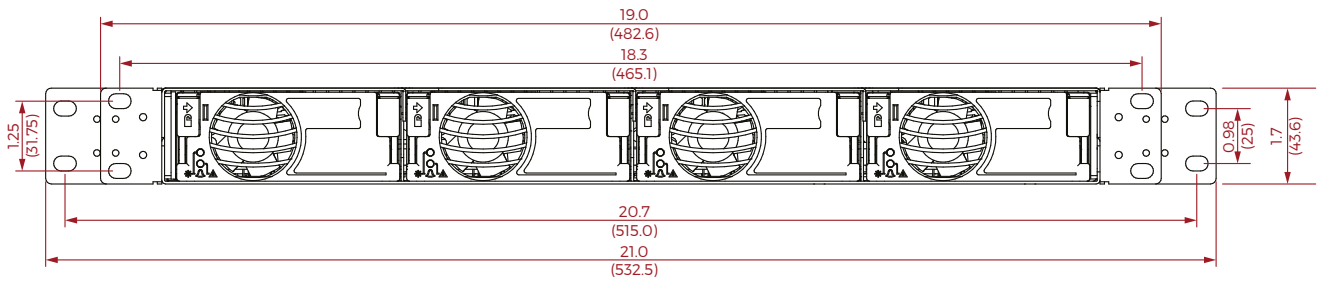
MECHANICAL	
Dimensions, inches (mm)	4.0 W x 9.0 D x 1.6 H (102 W x 229 D x 41 H)
Weight	2.4lbs. (1.1kg)
Cooling	Fan-cooled, speed controlled
Insulation	4.25kVDC primary-secondary 2.12kVDC primary-ground 0.5kVDC secondary-ground
Enclosure	IP20
Mounting	19in/23in x 1U subrack up to 4 modules
GENERAL	
Protection	Short circuit protection, automatic current/power limiting, input/output overvoltage protection, thermal protection.
Alarms	Fan failure Short circuit/arcing protection High temperature/output voltage Low output voltage Input voltage out of range Low fan speed (warning) Internal communication failure
LED Indicators	Green: AC in range Yellow steady: Low fan speed or high temperature Yellow flashing: Comms. failure Red: Module failure / shutdown
Audible Noise (nominal input)	<55dBA according to ISO7779
Operating Temperature	-40°C to +75°C up to 2000m. Reduced spec: -40°C to -20°C. <p style="text-align: center;">TEMPERATURE DERATING</p> <p>For 3000m altitude derate by 5°C.</p>
Storage Temperature	-60°C to +85°C
MTBF at 25°C (without fan)	>265,000 hours Telcordia (Belcore) SR-332 Iss.1

TRU Power shelf Specifications

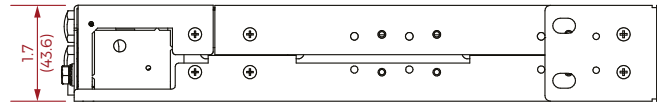
INTERFACE / SIGNALING	
Addressing	For controller supervision each module position is addressed via DIP switches. Each switch can set 4-bit binary address, which means up to 16 Power Shelves (with up to 64 modules) can be supervised. Addressing is performed by setting the four bits to ON or OFF (ON=1, OFF=0).
Communication	Internal Communication bus RS485
DESIGN STANDARDS	
EMC	IEC/EN61000-4-6; GR-1089; IEC/EN61000-4-3; EN55022/CISPR 22 Class B; FCC E222CFR
Safety	UL60950-1 CSA60950-1 EN60950-1 (UL approval only for input voltage levels 120 VAC / 250 VAC) IEC60950-1 CB report CE-mark for LVD/EMI
GENERAL	
Environmental Immunity	IEC/EN60068-2-64 - 1993-05-28; IEC/EN60068-2-27 - 1987-06-15; IEC/EN60068-2-27 - 1987-06-15; IEC/EN60068-2-29 - 1987-03-30
Storage	ETSI EN 300 019-2-1
Transport	ETSI EN 300 019-2-2
Operation	ETSI EN 300 019-2-3
Damp Heat	IEC60068-2-78
Operating Temperature and Altitude	see individual rectifier specifications
Extended Temperature and Altitude	see individual rectifier specifications
Cooling	Designed for fan cooled, speed controlled modules (front to rear airflow)
Module Configuration	Hot-swappable modules (N+1)
Insulation	Basic: from input to chassis Reinforced: from input to output
Enclosure	IP21
Dimensions, inches (mm)	16.8 (427) W x 1.72 (43.6) H x 9.5 (241) D
Weight (no modules)	7.7lb 3.5kg
Mounting	19" or ETSI (using appropriate brackets)

1RU Power shelf Mechanical

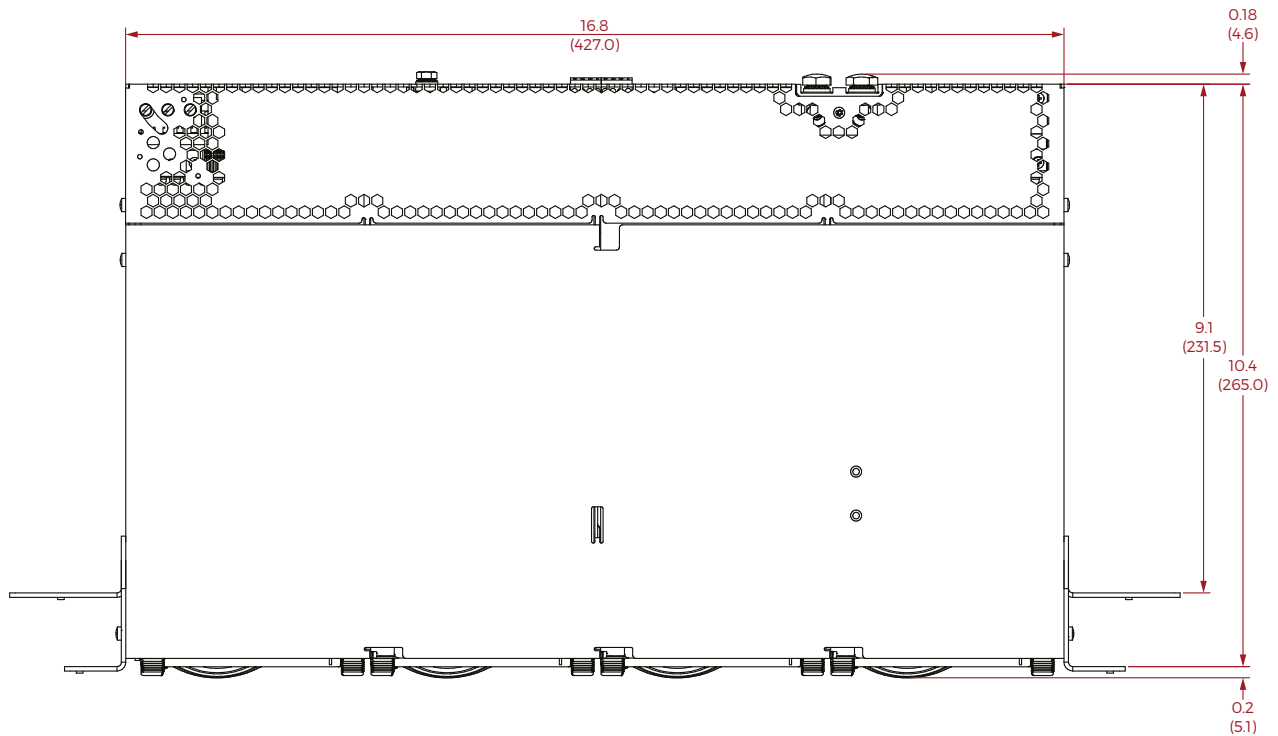
FRONT VIEW



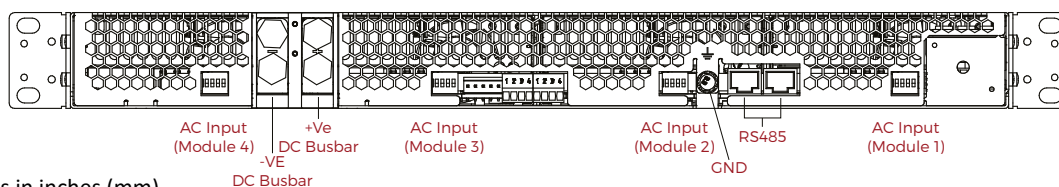
SIDE VIEW



TOP VIEW



REAR VIEW



Dimensions in inches (mm)

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