

DESCRIPTION

The FMD15.24G compact converters support up to 7.5 kW in a 1RU 23" shelf. They are fully compatible with the Guardian power system platform.

Rectifiers and FMD15.24G converters can be installed in the same shelf for increased flexibility and monitored by a single system controller. Ideal for use in installations where both +24VDC and -48VDC equipment is utilized.

The FMD15.24G meets international safety standards and is CE marked for the European Low Voltage (LVD) and RoHS Directives.

FMD15.48G is used alongside Guardian 48V rectifiers in the Guardian Dual DC power system, see additional information on the [UNIPOWER web site](#).

FEATURES

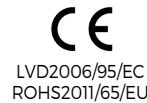
- ◆ High efficiency and energy saving
- ◆ >90.5% typical efficiency
- ◆ Power density of up to 31.3 W/in³
- ◆ Rugged input voltage range
- ◆ Thermal protection
- ◆ Hot-swappable
- ◆ International standards compliance

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	INPUT CURRENT	MODEL NO.
1500W	24.0VDC	62.5A	36-72VDC	53.5A	FMD15.24G



SHELF ORDERING GUIDE

APPLICATION	RECTIFIER POSITIONS	RACK WIDTH	MODEL NUMBER
Dual 48/24V	4	19"	XG1900G
	5	23"	XG2300G

SHELF ACCESSORIES

PART NUMBER	DESCRIPTION
XGB-01-G	Blank cover plate for empty slot.
1-157379-G	Bus Bar hardware kit for single shelf applications; consisting of set of screws and washers for attaching DC power cables. Must be ordered with each shelf used in standalone applications.
1-155302-G	Bus Bar hardware kit for parallel shelf applications; consisting of DC bus link bars and set of screws and washers for attaching DC power cables. Must be ordered with each shelf used in parallel applications.

Specifications

INPUT	
Voltage	Operating Range: 36-72VDC
Current	<53.5A
	Inrush <5Arms (timebase 100ms)
Fuse	Two 40A (negative wire)
OUTPUT	
Voltage Range	22-26VDC
Power	1500W
Current	Nominal: 62.5A Maximum: 72A
Efficiency	90.5% typical
Tolerance	Vout \pm 1.0%
Transient Response	\pm 5% at load variation 10-90% or 90-10%, recovery time 20ms
Load Sharing	<5% of nominal current
Ripple	<200mV p-p (BW 20MHz)
Psophometric	<2mV, according to CCITT norms
STANDARDS	
Inrush Current	ETSI ETS 300 132-1
EMC	ETSI EN300 386 V.1.3.2 EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4 EN55024 performance criterion A EN55022 Class B Telcordia NEBS GR1089
Safety	UL60950-1, EN60950-1 CSA-C22.2 No.60950-1-07
Environmental	Storage: ETSI EN300 019-2-1 Transport: ETSI EN300 019-2-2 Operation: ETSI EN300 019-2-3 Damp Heat: IEC60068-2-78, MILSTD-810D section 507.2 Earthquake: GR 63 Core Zone 4

Note: Input positive is connected to output negative.

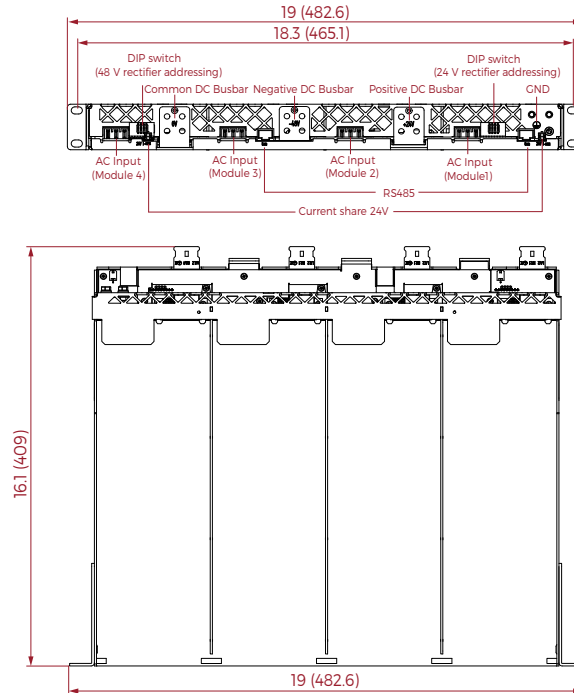
MECHANICAL	
Dimensions, inches (mm)	4.2 W x 14.0 D x 1.6 H (107 W x 355 D x 41 H)
Weight	4.4lbs. (2.0kg)
Cooling	Fan-cooled, speed controlled
Insulation	Input, output to PE
Enclosure	IP20
Mounting	19in/23in x 1U subrack up to 4/5 modules
GENERAL	
Protection	Short circuit/arcing, automatic current/power limiting, selective shutdown of modules at excessive output, input/output overvoltage, thermal
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: Input in range Yellow steady: Low fan speed, High temperature Yellow flashing: Comms. failure Red: Module alarm / shutdown
Audible Noise (nominal input)	<45dBA @ \leq 25°C (50% load) <60dBA (100% load)
Operating Temperature	-40°C to +75°C up to 2000m Reduced spec -40°C to -20°C Derated output power from 55°C linear derating to 75°C For 3000m altitude derated by 5°C
Storage Temperature	-60°C to +85°C
MTBF @ 25°C (without fan)	>350,000 hours MIL-HDBK-217F-2

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	-40°C to +55°C up to 2000m; Reduced specification: -40°C to -20°C
Extended Temperature and Altitude	Linear derating from 100% to 70% maximum power at 55 to 65°C Reduced ambient temperatures by 5°C at 3000m
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)	XG1900G: 19.0 (483) W x 1.75 (44.5) H x 16.1 (409) D XG2300G: 23.0 (584) W x 1.75 (44.5) H x 16.1 (409) D
Weight (no modules)	XG1900G: 13.2 lb (6.0 kg) XG2300G: 14.3 lb (6.5 kg)
Mounting	19" or 23"
Application	XG1900G & XG2300G - dual 48V & 24V or 24V only

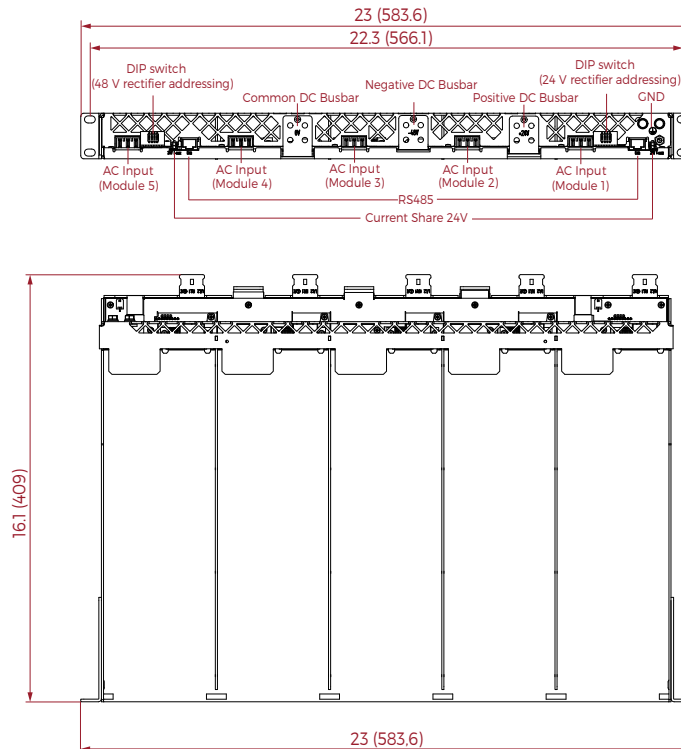
1RU Power shelf Mechanical - 19"

XG1900G - Top and rear view with position and description of connectors



1RU Power shelf Mechanical - 23"

XG2300G - Top and rear view with position and description of connectors



Dimensions in inches (mm)