GREEN CUBES
THE POWER TO PERFORM

GUARDIAN

FPV30.48G SOLAR CONVERTER 60 Amps | 2900 Watts

Overview

The compact FPV30.48G 2.9kW 48VDC Solar PV Converter joins the ranks of the Guardian product family supporting up to 14.5kW solar arrays in a 1RU 23" shelf. Maximum energy harvest from the valuable photovoltaic (PV) array is accomplished through a >99% Maximum Power Point Tracking (MPPT) algorithm.

The FPV solar converter provides a modular building block for Renewable Energy and Hybrid sites and caters for a broad blend of CapEx, OpEx and ROI models. Accompanied by the Guardian Power System, indoor and outdoor enclosures and PV string combiners, UNIPOWER provides a total site solution across a wide range of challenging environments.

Features

- True MPPT >99% energy harvest
- Auto-detection of PV array size
- 2.9kW output power
- Rugged input voltage from 130-300VDC
- 95% efficiency
- International standards compliance
- Thermal protection
- Modular design, interoperable with AC-DC rectifiers in Guardian Systems
- Three Year Warranty

Ordering Guide

Max. Power	Output Voltage	Output Current	Input Voltage [2]	Input Current	Model No.
2900W	53.5VDC [1]	60A	130-300VAC	16.0A nom. 17.6A max.	FPV30.48G

Notes:
1. Default factory setting.
2. Units will operate over the full range from 130VAC to 300VAC, automatically limiting output current according to the actual input voltage range applied.

Safety Certification

CAN/CSA C22.2 No 62368-1:2014
UL 62368-1:2014
EN 62368-1:2014/A11:2017

FPV30.48G Specifications

Input	
Voltage	Nominal MPPT: 130 – 300VDC (Safety approved range) Startup: 120VDC Shutdown: > 400VDC Derated Output Power: < 180VDC
Current	16Arms nominal, 17.6Arms max
Surge Immunity	EN61000-4-5

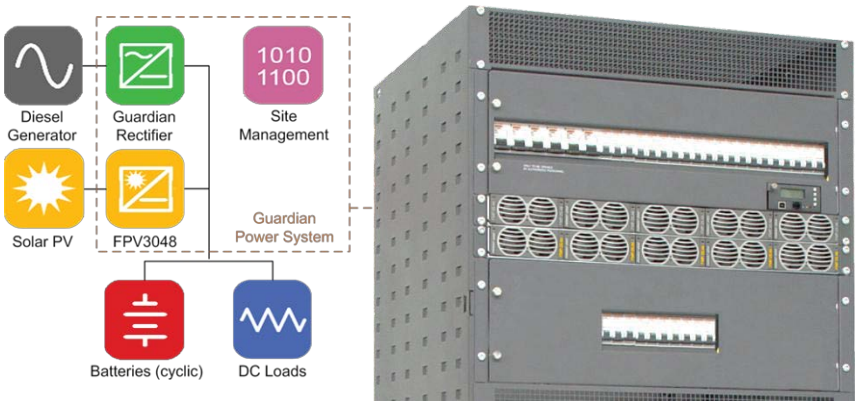
Output	
Voltage Range	46-57.6VDC
Power	2900W @ 180-300VDC input, derating linearly to 2060W @ 130VDC input
Current	60A maximum
Efficiency	95% peak
Tolerance	Vout ±1.0%
Transient Response	±5% at load variation 10-90% or 90-10%, recovery time 20ms
Load Sharing	MPPT unconstrained, otherwise <5% of nominal current
Ripple	<250mV p-p (BW 20MHz)
Psophometric	<2mV, according to CCITT norms

Standards	
EMC	EN61000-6-2, EN61000-6-3, FCC Part 15 Class B, EN61000-6-2, EN 61000-6-4
Safety	CAN/CSA C22.2 No 62368-1:2014 UL 62368-1:2014 EN 62368-1:2014/A11:2017
Environmental	Storage: ETS 300 019-2-1 Transport: ETS 300 019-2-2 Operation: ETS 300 019-2-3; Earthquake: GR 63 Core Zone 4

Mechanical	
Dimensions, inches (mm)	4.2 W x 14.0 D x 1.6 H (107 W x 355 D x 41 H)
Weight	4.6lbs. (2.1kg)
Cooling	Fan-cooled, speed controlled
Insulation	4.25kVDC primary-secondary 2.12kVDC primary-ground 0.2kVDC secondary-ground
Enclosure	IP20
Mounting	19in/23in x 1RU sub-rack up to 4/5 modules

General	
Protection	Short circuit protection, automatic current/power limiting, input/output overvoltage protection, thermal protection.
Alarms	High output voltage/ shutdown, Low voltage / module failure
LED Indicators	Green: Power ON Yellow steady: Current limit, Thermal protection Yellow flashing: Comms. failure Red: Module failure / high output voltage/ shutdown
Audible Noise	<60dBA
Operating Temperature	-40°C to +65°C up to 2000m, Reduced spec -40°C to -20°C. Derate linearly from full power at 45°C to ~70% output power at ~74°C. Thermal shutdown at 75°C. For 3000m altitude derate by 5°C
Storage Temperature	-60°C to +85°C
MTBF @ 25°C (without fan)	Telcordia (Belcore) SR-332 Iss.1: 450kh @ 25°C, with fan MIL-HDBK-217F-2: 273kh @ 25°C, with fan

Typical Hybrid Site Topology



ABOUT GREEN CUBES TECHNOLOGY

Green Cubes Technology harnesses over 30 years of industry experience to ensure we design, develop and deliver solutions for the most challenging energy needs. We offer battery technology innovation, application design and performance management to drive productivity, scalability and sustainability.

Green Cubes provides complete power systems to the stationary power industry. With the addition of the Guardian and Aspiro Product lines offered under the UNIPOWER brand, these industry proven DC plant systems serve critical applications all around the world. Green Cubes offers complete power solutions including energy storage, power conversion, and seamless integration.

For more information, email **contact@greencubes.com** or visit **greencubes.com**

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