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Photon 48V/2000W

Solar Charger

To support renewable installations in telecom networks in areas of poor grid or no grid, Exicom has introduced Photon 48V/2000W Solar Charger. With the MPPT algorithm ensuring close to 100% panel utilization and converter efficiency up to 95.0%, the galvanic isolated solar charger sets new standards for renewable power in telecom.

Key Specification

High efficiency of 95.0% of solar charger and MPPT efficiency of >99%

Galvanic isolation required as per telecom standards

Inbuilt firmware for daily energy calculation of solar kWh

Wide input voltage range of 120 - 400Vdc ensures max utilization of daylight and supports optimization of l&C costs

Global Compliance

Works with M2000 controller platform with minor configuration change making future expansion flexible

Application

- Telecom: Renewable or hybrid base station sites, LTE/WiMax, hub sites
- Smart Cities: Solar powered smart poles, surveillance etc.
- Commercial & Industrial solar installations, DC homes

Photon 48/2000W

Technical Introduction

AC Input

Nominal Voltage	185 - 300Vdc
Operating Voltage	120-400Vdc
Input Distribution	Off < 120-400Vdc < Off Fuses on both lines (+&-) Reverse polarity protection MOV transient protection
Galvanic Isolation	
Input to Output	3000Vac
Input to Ground	1500Vac
Output to Ground	650 Vdc

DC Output

Voltage	54.0V; Adj: 42.0 - 58.0V
Output Power	2000W above 185Vdc 1200W at 120Vdc
Maximum Current	42A @ 48V
Current Sharing	± 5% of max. current
Static Voltage regulation	± 0.5% for 10%-100% load
Dynamic Voltage Regulation	± 5% for 90% - 10% load
Hold up time	>10ms
Ripple Noise	<200 mVp-p 30MHz bandwidth
Output Protection	Over voltage shutdown Short circuit proof Hot-plugin inrush current limiting, output fuse Over temperature shut-off
Efficiency	Peak 95%

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Technical Introduction

Other Specifications

MTBF	>300,000 Hrs. (25°C ambient)
Operating Temperature	-40°C to + 75°C, linear derating from 50°C onwards
Storage Temperature	-40°C to + 85°C
Cooling	5% to 95% non-condensing
Humidity	Forced Air
Acoustic Noise	Less than 55dB(A)
Communication Interface	CAN bus
Control & Monitoring	M1000 Controller
Dimensions (wxhxd)	106 x 41.5 x 360 (mm)
Weight	<2.2kg

LED Indications	
Green	On: No faults Flash - Charger comm. ok Slow flash – Sleep mode
Yellow (Warnings)	On - Input low / high, Charger in power de-rate mode, current limit Flash - Charger comm. fail
Red (Alarms)	On - Abnormal temp or input shutdown, low O/p voltage alarm, over-voltage shutdown on output Flash - Charger fan fail

Applicable Standards

Electrical Safety	EN 60950-1
EMC / EMI	EN 55022 (Class B), EN 55024
Environmental	EN 300019-1-1 /-2/-3, ROHS complied

Part No. Description

HE-513180	Photon 48V/2000W Charger

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