

Photon-III 48V/3000W

Solar Charger



To support renewable installations in telecom networks in areas of poor grid or no grid, Exicom has introduced Photon-III 48V/3000W Solar Charger. With the MPPT algorithm ensuring close to 100% panel utilization and converter efficiency up to 96.0%, the galvanic isolated solar charger sets new standards for renewable power in telecom

Key Specification



High efficiency of 96.0% 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 I&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

DC Input

Nominal Voltage	176 - 350Vdc
Operating Voltage	120-400Vdc
Max Input Current	18A Max
Input Protection	Off < 120-400Vdc < Off Fuses on both lines (+&-) MOV transient protection Reverse polarity protection
Galvanic Isolation	
Input to Output	3700Vdc
Input to Ground	2500Vdc
Output to Ground	700 Vdc

DC Output

Output Power	3000W above 176Vdc 1850W at 150Vdc
Maximum Current	62.5A @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-plug inrush current limiting, output fuse Over temperature shut-off
Efficiency	Peak 96.0 %

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Technical Introduction

Other Specification

MTBF	>300,000 Hrs. (25°C ambient)
Operating Temperature	- 40°C to + 75°C, linear derating from 45°C onwards
Storage Temperature	- 40°C to + 85°C
Cooling	5% to 95% non-condensing
Humidity	Forced Air
Acoustic Noise	Less than 55 dB (A)
Communication Interface	CAN bus
Control & Monitoring	M2000 controller
Dimension (wxhxd)	105x40.8x269(mm)
Weight	<2.0kg
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	EN60950-1, IEC62368-1
EMC / EMI	EN 55022 (Class B),EN 55024
Environmental	EN 300019-1-1/-2/-3,ROHS complied

Part No. Description

HE513460	Photon-III 48V/3000W Charger
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