

# PHOTON 48V, 2700W MPPT BASED SOLAR CHARGE CONTROLLER

Telecom operators and infrastructure companies look for reliable, high quality, high efficiency cost effective power solutions. Exicom is proud to introduce one of the first commercially available dynamically and digitally controlled ultra-high efficiency solar charge controller, the **PHOTON 48V, 2700W module**.



BENEFITS	DETAILS
<b>High efficiency</b>	Extensive use of DSP controls, managing a dynamically optimized topology that yields a flat efficiency curve between 30 to 90% load while minimizing component count.
<b>Ultra-high power density - 26.5W/in<sup>3</sup></b>	Reduced energy losses with an optimized topology enables a small footprint, creating both a lower capital investment and lower operating cost, compared to similar installations.
<b>Maximum Peak Power Tracking (MPPT)(typical 99.5%)</b>	The Charger uses a digitalized advanced control algorithm that finds the solar panel voltage that generates the maximum power independent of sun availability. The Charging is continuous according to performance profile for panels. In addition to finding the profiles peak power a full scan is performed at a fixed interval to stay on peak even with panel failures and major shadings. This gives close to 100% panel utilization.
<b>Wide input voltage range</b>	Operational: 120VDC – 400VDC; self-protection up to 500V; auto restart. Protection against High DC Voltages caused due to wrong array connections and transient on DC line. High reliability, robust protection is designed into all Photon products, to combat these weaknesses.
<b>Applications</b>	
<b>Telecom</b>	Cell Sites, LTE/4G, MSC/BSC, Broadband, Microwave, Central Offices, Fiber Optics, Cable Stations, Broadband
<b>Data / IT Centers</b>	Network routers, switches and storage systems
<b>Micro - Grids</b>	C&I buildings
<b>Irrigation</b>	Water pumps
<b>Miscellaneous</b>	Hospital, Colleges, Schools , Street lights, Buildings, etc.

# Technical Specifications (Photon 48V, 2700W)

DC Input	
Voltage	Nominal: 200VDC-350VDC Operating: 120VDC-400VDC
Maximum Current	<18.0A
Input Protection	Varistors for transient protection, Fuses in both line reverse polarity

DC Output	
Voltage	54VDC (42VDC - 58VDC)
Output Power	2700W
Maximum Current	50A
Static Voltage regulation	+/-0.5% from 10% - 100% load
Dynamic Voltage Regulation	+/-5% for 10% - 90% load, 90%-10% load variation; regulation time<50ms
Ripple Noise	<300 mV p-p <2mVrms psophometric
Output Protection	Over Voltage Shutdown Overload Foldback Short Circuit Proof Output Fuse Protection Over Temperature Shut-Off Hot-plug Inrush Current Limiting

Part No.	Description
HE512880	PHOTON 48V/2700W

Other Specifications	
Operating Temperature	-10°C to +75°C, derating from 45°C onwards
Storage Temperature	-40°C to +85°C
Cooling	Forced Air
Humidity: Operating Storage	0% to 95% non-condensing Upto 99% non-condensing
Acoustic Noise	Less than 60dB(A)
Dimensions	106.4 x 50 x 360.5 (mm) (wxhxd)
IP rating	IP20
Weight	2.2kg (4.8 lbs)
Alarms	Input Abnormal Converter OK /Fail Communication Failure Fan Fail Output OVP Output Low Voltage Temperature Shut Down
Visual Indicator	Input OK-Green, Comm.- Flashing Warning (Current limiting, Input Abnormal)- Yellow, Comm. Fail-Flashing Alarm (Over Voltage, Temp Shut down)- Red

Applicable Standards	
Electrical Safety	IEC60950-1
EMC	IEC 61000
Environmental	IEC60068-2-2
	IEC60068-2-30
	IEC 60068-2-78