

Portable Fast-Charge Solar Battery Charger

Features

- ◆ Maximum Power Point Tracking
 - Up to 30% more power
- ◆ Universal Charging Algorithm
 - Identifies battery chemistry automatically
- ◆ No User Input Required
- ◆ Fully Ruggedized Design
- ◆ Over Temperature Protection
- ◆ Universal Connector Interface
 - Charges all common batteries
- ◆ DC Input Capable
- ◆ Regulated DC Output Capable
- ◆ No Minimum Solar Panel Size



Description

The X90-Solar Charger is a portable solar battery charger capable of charging a wide array of typical portable rechargeable batteries. The charger features advanced digital control, which enables automatic battery detection, maximum power point tracking (MPPT) of the solar panel, and value-added features such as a fixed DC input mode and a fixed DC output mode. The charger is able to operate from any solar panel configuration with $V_{\text{open circuit}} < 65\text{V}$. The universal connector interface is designed to couple with the appropriate battery connector harnesses, which allows the user to charge all of their batteries with the same device. The advanced charge controller minimizes charge time by charging two battery strings simultaneously, while monitoring critical parameters to ensure safety and reliability. The implementation of high-speed MPPT delivers maximum charging current, even in low light or poor weather conditions. The simple LED interface informs the user when the batteries have been completely charged, and if there are any fault conditions.

Supported batteries	Chemistry
BB-2590/U	Li-Ion
BB-590/U	NiCd
BB-390B/U	NiMH

Electrical Characteristics

	Parameters	Min.	Typ.	Max.	Units
V_{in}	Input Voltage	$V_{\text{o}}+2$	40	60	V
V_{o}	Output Voltage	10	14	30	V
I_{o}	Output Current (Total)	0	-	6	A
P_{s}	Self Consumption	0.55	-	0.91	W
η	Converter Efficiency	-	96	-	%