SOLAR BOOST™ 6024H

MAXIMUM POWER POINT TRACKING PHOTOVOLTAIC CHARGE CONTROLLER

• The Ultimate Photovoltaic Charge Controller... Increases Charge Current Up To 30% Or More!

Patented Maximum Power Point Tracking (MPPT) technology allows Solar Boost 6024H to increase charge current up to 30% or more compared to conventional charge controllers. Don't waste money by throwing PV power away! Get the power you paid for with a Solar Boost charge controller.

Solar Boost 6024H is specially designed to receive a high voltage 36V or 48V PV array input, and charge a 12V or 24V battery at up to 60A. A high efficiency DC-DC voltage converter combined with MPPT technology allows Solar Boost 6024H to provide a cost effective solution for installations where the PV array must be located far from the batteries and charge controller. High voltage input reduces both wiring expense and wiring power loss.

Solar Boost 6024H also provides an advanced fully automatic three stage charge control system to ensure the battery is properly and fully charged, resulting in enhanced battery performance with less battery maintenance. An equalize function is also included to periodically condition liquid electrolyte lead-acid batteries.

An optional user friendly digital display is available to monitor PV charge performance. Optional temperature compensation of charge voltage is also available to further improve charge control and battery performance.

Contact us today for more information

Visit our web site: www.blueskyenergyinc.com
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Get Improved Performance From Your PV Modules And Batteries

- Patented MPPT technology increases charge current up to 30% or more!
- Special high voltage input design accepts 36V or 48V solar module arrays
- Charges 12V or 24V batteries at up to 60A output charge current
- Three stage PWM charge control optimizes charge parameters to battery size & type
- Electronic current limit prevents overload or nuisance fuse blow
- Available digital display monitors PV charge performance
- Durable powder coat finish & conformal coated electronics resist corrosion
- Fully protected against excess current, temperature, transient voltage & polarity
- Full 36 month limited warranty, optional extended coverage available
- ETL listed to UL STD. 1741, certified to CAN/CSA STD. E335-1/2E, CE labeled

Blue Sky ENERGY

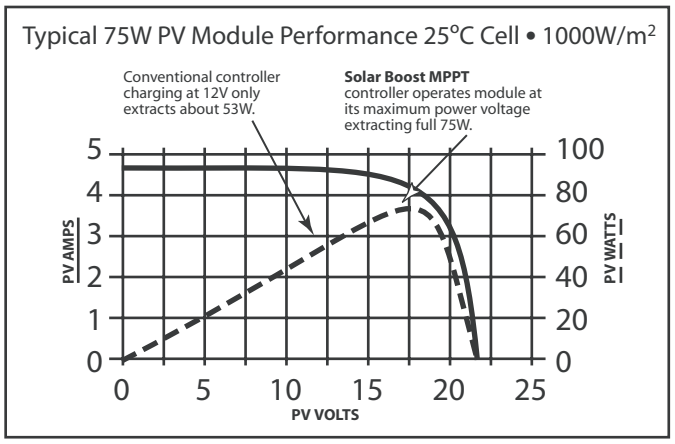
Manufactured by Blue Sky Energy Inc. and offered by a large network of quality distributors and dealers. Call us today for information or a dealer near you

Covered under one or more of the following US Patents 6,111,391 • 6,204,645

How Do Solar Boost™ Controllers Increase Charge Current?

Solar Boost controllers increase charge current by operating the PV module in a manner that allows the module to produce all the power it is capable of. A conventional charge controller simply connects the module to the battery when the battery is discharged. When the 75W module in this example is connected directly to a battery charging at 12 volts its power production is artificially limited to about 53 watts. This wastes a whopping 22 watts or nearly 30% of the available power!

Patented MPPT technology used in Solar Boost controllers operates in a very different fashion. The Solar Boost controller continually calculates the module's maximum power voltage, in this case 17 volts. It then operates the module at its maximum power voltage to extract maximum power. The higher power extracted from the module is then provided to the battery in the form of increased charge current. In conditions where extra PV power is not available, Solar Boost controllers will operate as a conventional controller with very low voltage drop.



The actual charge current increase you will see varies primarily with module temperature and battery voltage. In comfortable temperatures, current increase typically varies between 10 to 25%, with 30% or more easily achieved with a discharged battery and cooler temperatures. What you can be sure of is that Solar Boost charge controllers will deliver the highest charge current possible for a given set of operating conditions.

SPECIFICATIONS	Solar Boost 6024H
Output Current Rating	60 Amp Maximum
Nominal Battery Voltage	12 /24VDC Field Selectable
Nominal PV Voltage	36 VDC / 48VDC (3 or 4 series modules) Field Selectable
PV Open Circuit Voltage	140VDC Maximum
Standby Power Consumption	30mA Typical
Charge On Power Consumption	190 / 120mA @ 12 / 24VDC (with fan operating)
Charge Algorithm	3 stage charge. Acceptance/Float transition based on charge current matched to battery amp-hours. Can accept external shunt signal for optimal charge control with widely varying loads. Selectable for 2 stage charge.
Acceptance Voltage Setpoint	13 - 16VDC / 26 - 32VDC
Float Voltage Setpoint	0 - 2VDC / 0 - 4VDC < Acceptance
Equalization Voltage	Acceptance + 1.0 / 2.0VDC
Voltage Step-Down	Cannot operate as conventional 12VDC or 24VDC charge controller. Must operate in high voltage input / low voltage output step-down mode
Temperature Compensation	Optional temperature sensor adjusts charge voltage setpoint based on measured battery temperature. Field selectable slope, -5.0mV/°C/cell (lead-acid), or -2.0mV/°C/cell (NiCd)
Power Conversion Efficiency	95% @ 28 Volt 50 Amp Output
Digital Display	Available in the unit, as a remote, or both. Shows PV input current, output charge current, battery voltage, charge mode, and state of charge. Remote display mounts in standard duplex box, includes 25 Ft. (7.6m) cable. Maximum cable length to 300 Ft. (91.4m)
Cabinet Dimensions	10"H x 8 3/4"W x 3"D (25.5cm x 22.6cm x 8.74cm)
Digital Display Range / Accuracy	Voltmeter, 70.0VDC / ±0.30% F.S. Ammeter, 60.0A / ±0.50% F.S.
Specified Temperature Range	0 to +40C (Extended range –40°C to +50°C, will operate but may not meet spec. - see Technical Bulletin 100206)

• Available From

• Part Numbers & Shipping Weight

Solar Boost 6024H	SB6024H	9 1/4 lbs	4.20 kg
Solar Boost 6024H w / Digital Display	SB6024H	9 1/2 lbs	4.32 kg
SB 6024HL Front Panel Digital Display	SB6024H	2 1/4 lbs	1.02 kg
Remote Display, 25' Cable	SB50RD25	2 lbs	0.91 kg
Battery Temp. sensor, 20' cable	930-0022-20	1 lbs	0.46 kg

As a part of our continuous improvement process specifications are subject to change without prior notice

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