



With Fully Adjustable Solar Lighting control

Maximum Power Point Tracking Photovoltaic Charge Controller with available load control and IPN™ Network Interface

SOLAR BOOST™ 1524iX

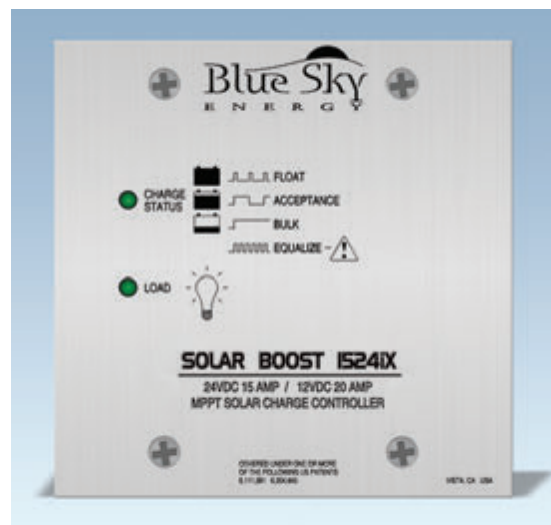
Improve PV Module and Battery Performance with Maximum Power Point Tracking

Patented Maximum Power Point Tracking technology allows Solar Boost 1524iX to increase charge current up to 30% or more compared to conventional charge controllers. Don't waste your money by throwing PV power away! Get the power you paid for with a Solar Boost charge controller.

Solar Boost 1524iX's advanced fully automatic 3-stage charge control system will properly charge flooded lead-acid, AGM and Gell batteries® resulting in improved battery performance with less battery maintenance. The dual 15/20 amp rating will deliver up to 15 amps in 24 volt systems, or up to 20 amps in 12 volt systems. An automatic or manual® equalize function is also provided to periodically condition flooded lead-acid batteries. To further enhance versatility, a user configurable auxiliary output and Blue Sky Energy's advanced IPN™ network interface are also included.

The user configurable auxiliary output can serve as either a 15/20 amp load controller, or as a 2 amp auxiliary battery charger. The load control feature can be used to limit excessive battery discharge in unattended remote systems, whereas the auxiliary battery charge feature is ideal for charging a separate battery such as the engine start battery in a boat or RV. The auxiliary output can also provide fully adjustable dusk to dawn lighting control®.

Blue Sky Energy's advanced Integrated Power Net™, or IPN Network, allows up to 8 IPN capable charge controllers to communicate with each other and operate as a single machine rather than separate charge controllers. The IPN network also allows networked controllers to share an optional battery temperature sensor and remote display. The IPN network does not require a display or other special hardware to operate.



Patented MPPT Technology Increases Charge Current up to 30% Or More!

- 15 Amp 24 Volt & 20 Amp 12 Volt Rating Supports A Wide Range Of Applications
- Optional IPN-ProRemote Display Provides Charge Control & Full-Featured Battery System Monitoring
- 3-Stage Charge Control with Filtered PWM Output Improves Battery Performance & Life While Minimizing Battery Maintenance
- Clear Anodized Faceplate, Galvanized Mounting Box & Conformal Coated Electronics Resist Corrosion
- Automatic or Manual® Equalization To Periodically Condition Flooded Lead-Acid Batteries
- IPN Network Interface Coordinates Multiple Controllers & Shares Optional Battery Temperature Sensor & Display
- Auxiliary Output Provides 15/20 Amp Load Control Or 2 Amp Auxiliary Battery Charge
- Lighting Control® Provides Separate Post-Dusk & Pre-Dawn timers
- Full 5 Year Limited Warranty



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

■ How Do Solar Boost Charge Controllers Increase Charge Current?

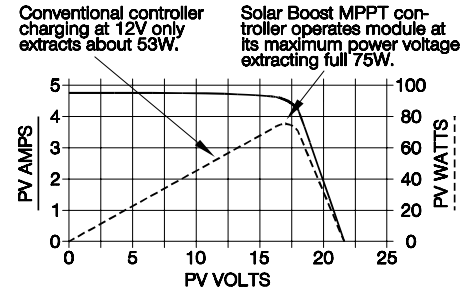
Solar Boost charge controllers increase charge current by harvesting more PV power. A conventional charge controller simply connects the PV module to the battery when the battery is discharged which can artificially limit how much power a PV module can deliver.

Patented Solar Boost MPPT technology operates the PV module at its optimum voltage where it can produce the greatest amount of power rather than at battery voltage. The higher power extracted from the module is then provided to the battery as increased charge current.

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.

Typical 75W PV Module Performance @ STC



SPECIFICATIONS	Solar Boost 1524iX
Output Current Rating [Ⓢ]	20 amp maximum (12V battery & 12V PV's) • 15 amp maximum (battery or PV's > 12V nominal)
Nominal Battery Voltage	12 / 24VDC
PV Input Voltage	57VDC maximum (Recommend Maximum Voc at STC ≤ 45.6VDC)*
Power Consumption	0.20W typical standby • plus 0.40W each for charge ON & Load ON
Charge Algorithm	3-stage Bulk/Acceptance/Float • plus automatic Equalize
Acceptance Voltage	14.2VDC [Ⓢ] fixed (range 10.0 – 40.0VDC [Ⓢ])
Float Voltage	13.2VDC [Ⓢ] fixed (range 10.0 – 40.0VDC [Ⓢ])
Equalization Voltage	15.2VDC [Ⓢ] fixed (range 10.0 – 40.0VDC [Ⓢ])
Voltage Setpoint Limit	15.5VDC [Ⓢ] fixed (range 10.0 – 40.0VDC [Ⓢ])
Auxiliary Output Function	Single output configurable as either: 20 amp 12V / 15 amp 24V load controller –or– 2A auxiliary battery charger
• Aux. Battery charge	2 Amp typical, same charge voltage as primary battery
• Load Control	20 amp / 15 amp maximum, ON ≥12.6VDC [Ⓢ] / OFF ≤11.5VDC [Ⓢ] (Range 10.0 – 40.0VDC [Ⓢ] , or battery amp-hours from full [Ⓢ])
• Dusk-to-Dawn Cntrl [Ⓢ]	Variable Post-Dusk and Pre-Dawn timers [Ⓢ] , Range 0.5 - 20.0 Hours
Temperature Compensation	Optional sensor adjusts charge voltage based on battery temperature -5.00 mV/°C/cell correction factor (Range 0.00 to -8.00 mV/°C/cell [Ⓢ]) • sensor range -60 to +80°C
Power Conversion Efficiency	97% Typical @ 28 Volt 12 Amp Output
Physical Configuration and Dimensions	Open frame construction with conformal coated electronics mounted to rear of 5.3" x 5.3" (13.5cm x 13.5cm) clear anodized aluminum face plate. Mounts into standard 411/16" (11.9cm) square electrical box which is included.
Volt/Amp Accuracy/Range	Battery voltmeters 40.0VDC±0.50% FS • PV voltmeter 60.0VDC±0.50% FS Ammeters 25.0A±0.50% FS
Communication	Blue Sky Energy's proprietary IPN Network interface
Environmental	-40 to +50°C, 10 – 90% RH non-condensing

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

*See technical bulletin #100214

[Ⓢ]Voltages double for 24V battery

[Ⓢ]With IPN-ProRemote which may be used as a setup tool only. Charge voltage setpoints may require modification with IPN-ProRemote based on battery manufacturer's recommendations.

[Ⓢ]Current rating and current limit are 20A when charging a 12V battery from nominal 12V PV modules. If PV VOC ever exceeds 30V (>12V nominal PV modules) current rating and current limit become 15A.

■ Available From:

■ Part Numbers & Shipping Weight

Solar Boost 1524iX.....	SB1524iX.....	1.3 lbs..	.59kg
IPN-ProRemote with shunt...	IPNPRO-S	1.8 lbs..	.82kg
IPN-ProRemote w/o shunt ...	IPNPRO	1 lbs45kg
500A / 50mV current shunt ..	506-0003-01 ...	1 lbs....	.45kg
IPN-Remote	IPNREM.....	1 lbs....	.45kg
Battery Temp. sensor, 20'	930-0022-20 ...	1 lbs....	.45kg

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