MORNINGSTAR
World's Leading Solar Controllers & Inverters

SunSaverMPPT™

SOLAR CONTROLLER WITH MAXIMUM POWER POINT TRACKING

15 Amps at
12/24 Volts DC

Morningstar's **SunSaver MPPT** solar controller with TrakStar Technology™ is an advanced maximum power point tracking (MPPT) battery charger for off-grid photovoltaic (PV) systems. The controller features a smart tracking algorithm that maximizes the energy harvest from the PV and also provides load control to prevent over discharge of the battery.

The SunSaver MPPT is well suited for both professional and consumer PV applications including automatic lighting control. Its charging process has been optimized for long battery life and improved system performance. This product is epoxy encapsulated for environmental protection, may be adjusted by the user via four settings switches or connection to a personal computer, and has an optional remote meter and battery temperature sensor.

Key Features and Benefits

Maximizes Energy Harvest
Our TrakStar MPPT Technology features:
- Peak efficiency of over 97%
- Almost no power losses
- Recognition of multiple power peaks during shading or mixed PV arrays
- Excellent performance at low solar insolation levels

Use of High Voltage Modules
Enables the use of high voltage and thin film modules for off-grid battery charging.

Higher Voltage PV Arrays
Provides a means to use a higher voltage PV array to charge either a 12V or 24V battery.

Lower System Cost
Less expensive than other MPPT controllers and is affordable in smaller PV systems up to 400Wp. Allows system costs to be reduced by down-sizing the PV array, using on-grid or thin film modules and decreasing cable sizes.

Load Control
Automatically disconnects loads when the battery has been discharged to a low state of charge.

Personal Computer Connectivity
- *NEW* USB MeterBus Adapter for laptop compatibility.
- PC MeterBus Adapter for RS-232.
- Fully adjustable user selection via on-board preset switches or customized with PC connection.
- Advanced automatic custom programmable lighting control with a PC connection.
- Extensive controller and system data is provided by the status LED's and optional meter. Monitoring is also available with a personal computer.
- 30 days of internal data logging of key PV system operating parameters.

Smaller Size
Mechanical dimensions are less than other MPPT controllers, making it easier to install in equipment enclosures.

Highly Reliable
Efficient electronics, a conservative thermal design and tropicalization result in high reliability and long life.

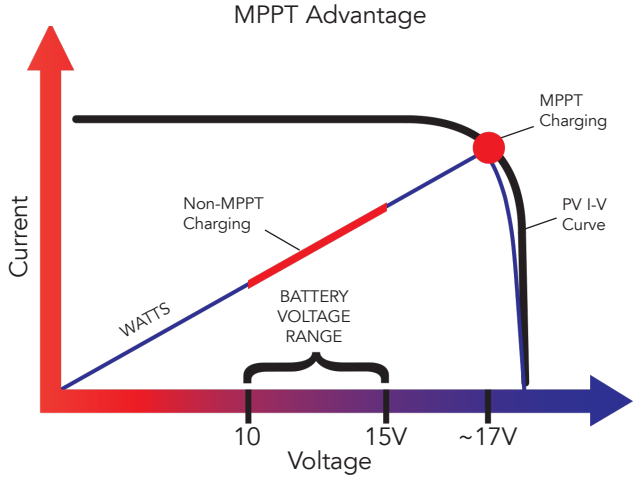
Extensive Electronic Protections
Fully protected against most system errors and faults.

Longer Battery Life
Efficient MPPT tracking and 4-stage charging increases battery life.

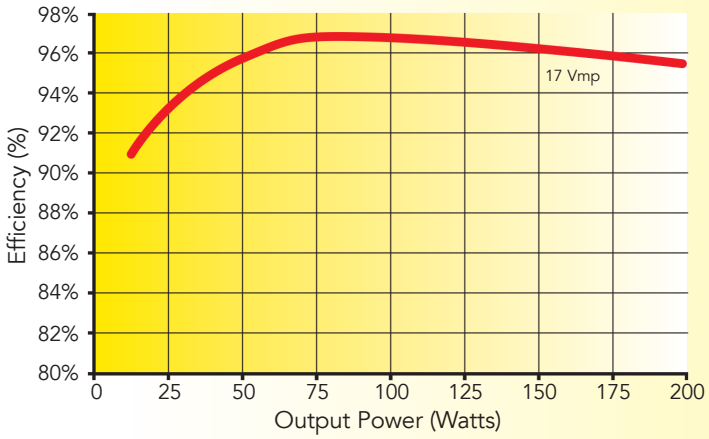
SUNSAVER MPPT™ SOLAR CONTROLLER

TRAKSTAR™
MAXIMUM POWER POINT TRACKING

MPPT Advantage



SS-MPPT Efficiency (12 Volts)



TECHNICAL SPECIFICATIONS

Electrical

- **Peak Efficiency** 97.5%
- **Nominal Battery Voltage** 12 or 24 volts
- **Maximum Battery Charging Current** 15 amps
- **Battery Voltage Range** 7-36 volts
- **Nominal Maximum Operating Power***
  - 12 volt battery 200 Watts
  - 24 volt battery 400 Watts
- **Maximum PV Open Circuit Voltage**** 75 volts
- **Rated Load Current** 15 amps
- **Self Consumption** 35 milliamps
- **Transient Surge Protection** 4 x 1500 Watts

Environmental

- **Operating Temperature** –40°C to +60°C
- **Storage Temperature** –55°C to +100°C
- **Humidity** 100%, non-condensing
- **Tropicalization** Epoxy encapsulation Conformal coating Marine rated terminals

Electronic Protections

- **PV: Overload, Short Circuit, High Voltage**
- **Load: Overload, Short Circuit**
- **Reverse Polarity: Battery, PV and Load**
- **Lightning and Transient Surges**
- **High Temperature**
- **Reverse Current at Night**

Battery Charging

- **Battery Types** Gel, Sealed, AGM, Flooded
- **4 Stage Charging** Bulk, absorption, float, equalize (optional)
- **Temperature Compensation**
  - Coefficient –5mV/°C / cell (25°C ref)
  - Range –30°C to +60°C
  - Set points Absorption, float, equalize

Mechanical

- **Dimensions** 16.9h x 6.4w x 7.3d cm
  6.6h x 2.5w x 2.9d in
- **Weight** 0.60 kg / 1.3 lbs
- **Power Terminal** 16 mm^2 / #6 AWG
- **Enclosure** Die cast aluminum with plastic cover

Options

- **Remote Meter**
- **Remote Temperature Sensor**
- **USB MeterBus Adapter (UMC-1)**
- **PC MeterBus Adapter for RS-232**
- **DIN Rail Mounting Clips**

Certifications

- **CE Compliant**
- **RoHS Compliant**
- **UL 1741 / CSA 107.1-01 recognized component**
- **Manufactured in a Certified ISO 9001 Facility**

*Input power can exceed Nominal Maximum Operating Power, but controller will limit and provide its rated continuous maximum output current into batteries. This will not harm the controller (reminder: do not exceed Voc).

**Exceeding Maximum PV Open Circuit Voltage may damage the controller.

WARRANTY: Five year warranty period. Contact Morningstar or your authorized distributor for complete terms.

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www.morningstarcorp.com

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