



Morningstar's *SunGuard* is the most advanced small, economical solar charge controller on the market today.

***SunGuard's technology provides:***

- Exceptional Reliability
- PWM Battery Charging
- Consistent High Quality
- Low Cost

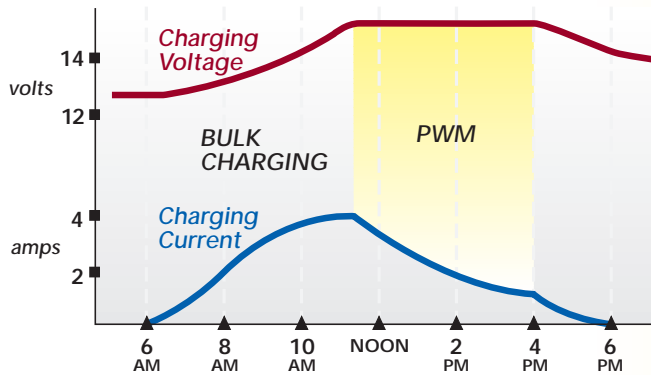
The SunGuard is able to match the quality and performance of the world-leading SunSaver controllers because:

- SunGuards are made on the same high speed, automated production lines
- SunGuards use the same charging circuit
- SunGuards use the same high quality components

***Features:***

- ISO 9002 quality programs
- Series design (not shunt)
- 100% solid state
- True 0 to 100% PWM duty cycle
- Setpoint accuracy to 60 mV
- Temperature compensation
- Rated for 25% overloads
- No need to derate
- Lightning protected with 1500 W transorbs
- Self-consumption is 6 mA
- Fully encapsulated in epoxy potting
- ABS plastic, impact-resistant case
- Outdoor rated, Hypalon connecting wires

### Advanced PWM Battery Charging

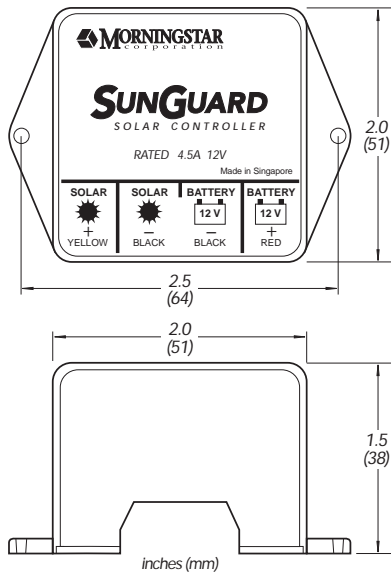


### Advantages

SunGuard's PWM charging compared to On-Off solar regulators:

- Typically 30% more solar energy into the battery per day
- Average battery State-of-Charge is 90 - 95% compared to 55 - 60% for On-Off regulators

• • • • •

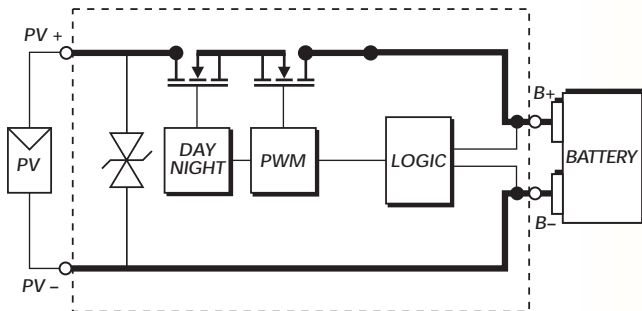


### Mechanical Specifications

- Wire size #16 AWG
- ABS plastic case
- Epoxy encapsulated
- Weight is 3 oz (0.09 kg)

### Electrical Specifications

Rated Solar Input	4.5	Amps
Max. Input (5 min.)	5.5	Amps
System Voltage	12	Volts
Max. Solar Voltage	30	Volts
Regulation Voltage	14.1	Volts
Accuracy	60	mV
Self-consumption	6	mA
Temp. Compensation	-28	mV/°C
Reverse Current Leakage	<10	µA
Operating Temperature	- 40 to +85°C	



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

**AUTHORIZED MORNINGSTAR DISTRIBUTOR:**



1098 Washington Crossing Road  
 Washington Crossing, PA 18977 USA  
 Tel: 215-321-4457 Fax: 215-321-4458  
 E-mail: [info@morningstarcorp.com](mailto:info@morningstarcorp.com)  
 Website: [www.morningstarcorp.com](http://www.morningstarcorp.com)

