



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

SunGuard's technology provides:

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

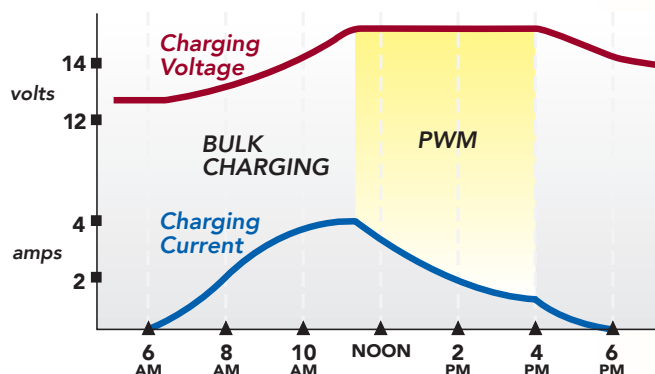
The SunGuard is able to match the quality and performance of the world-leading SunSaver controllers because:

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

Features:

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

Advanced PWM Battery Charging

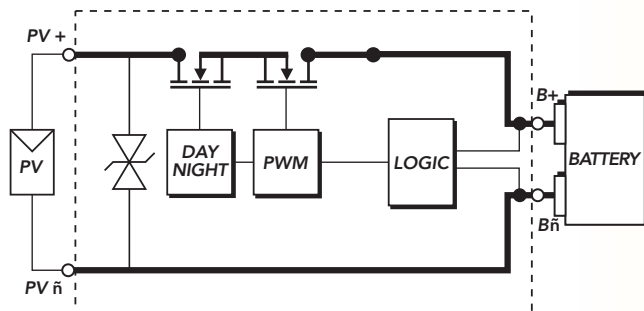
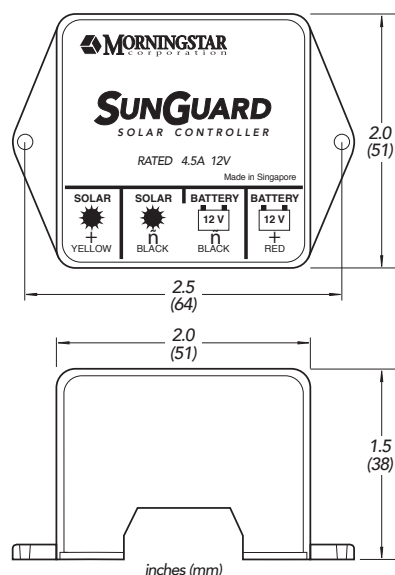


Advantages

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

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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	A
Operating Temperature	-40 to +85C	

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