



SunGuard-4

## Morningstar

### SunGuard-4

The SunGuard is an economical controller that uses the same charging circuit as the SunSaver controller. It offers true 0-100% PWM duty cycle and setpoint accuracy to 60mV. The SunGuard is fully encapsulated in epoxy potting and has an ABS plastic, impact-resistant case. Five-year limited warranty.

**Features:**

- Temperature compensation
- Series design
- Outdoor rated
- Lightning protected
- No need to derate
- Operating temperatures of -40°C to +85°C

Model	Voltage	Rated PV Current	Dimensions	Unit Weight	MSRP
SunGuard4	12V	4.5 amps	2" x 2.5" x 1.5"	3 oz.	\$30.00



SunLight

### SunLight

The SunLight solar lighting controller combines the SunSaver PWM battery charging circuit with a microcontroller for automatic lighting functions. The SunLight features a rotary switch to select among ten lighting time options including pre-dawn settings and LVD override protection. Detects day and night using the PV array. Five-year limited warranty.

**Features:**

- Sealed/flooded battery select
- Parallel operation compatible
- Temperature compensation
- Adjustable 2-10 hours, 4 + 2, 6 + 2 or dusk to dawn

Model	Voltage	Rated PV Current	Rated Load Current	Dimensions	Unit Weight	MSRP
SL 10-12	12V	10 amps	10 amps	6" x 2.18" x 1.32"	9 oz	\$108.00
SL 10-24	24V	10 amps	10 amps	6" x 2.18" x 1.32"	9 oz	\$116.00
SL 20-12	12V	20 amps	20 amps	6" x 2.18" x 1.32"	9 oz	\$141.00
SL 20-24	24V	20 amps	20 amps	6" x 2.18" x 1.32"	9 oz	\$148.00



TriStar

### TriStar Controller

The TriStar is a three-function controller providing reliable solar battery charging, load control or diversion regulation. This controller operates in only one of these modes at a time but two or more controllers may be used to provide multiple functions. The digital meter option displays self-test results, system information and controller setpoints. Remote temperature sensor option rated from -30°C (-22°F) to +80°C (+176°F). White power-coated steel, indoor rated, vertical mounting enclosure. UL listed. Five-year warranty.

**Features:**

- Standard model switch selectable for 12/24V or 48V battery
- Choice of 7 regulation or LVD setpoints
- Conduit-ready enclosure for large wire sizes
- RS-232 comm port provides custom setpoints
- Self test runs continuously

**Charge Controller Mode:**

- Temperature compensation
- PWM may be changed to "on-off" controller to minimize any possible telecom noise

**Load Control Mode:**

- Starts all loads including inductive
- Short circuit and overload protection with automatic reconnect

**Diversion Control Mode:**

- May be used for solar, wind or hydroelectric

Model/Description	Rated Voltage	Rated PV Current	Unit Load Current	Dimensions	Weight	MSRP
TS-45	12/24/48V	45 amps	45 amps	10.1" x 4.9" x 2.3"	4 lbs	\$169.00
TS-60	12/24/48V	60 amps	60 amps	10.1" x 4.9" x 2.3"	4 lbs	\$219.00
TS Digital Meter						\$99.00
TS Remote Digital Meter						\$136.00
Remote Temperature Sensor						\$32.00