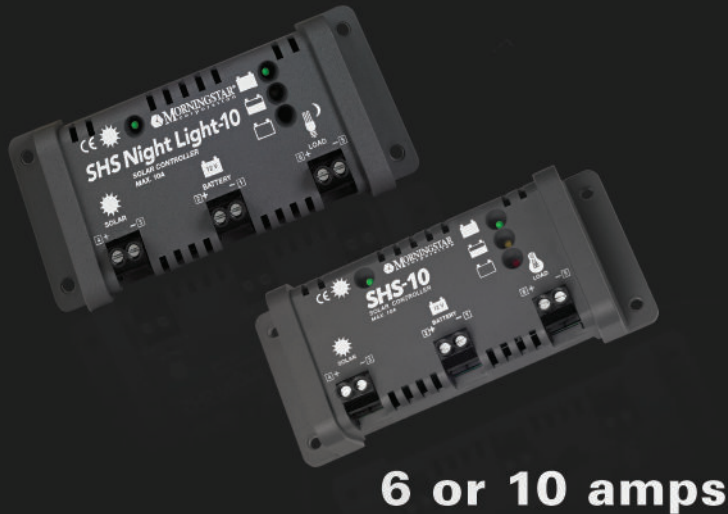




SHS™ Solar Controller

FOR SOLAR HOME SYSTEMS UP TO 170 WATTS

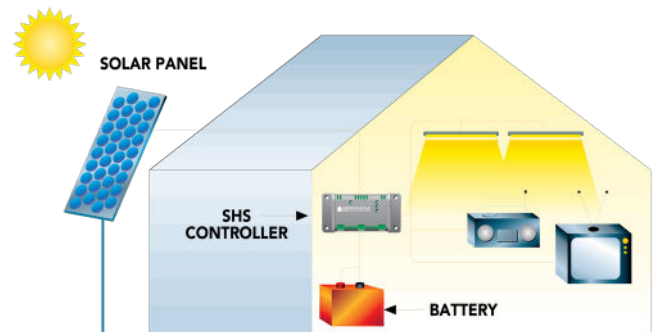
- High Reliability
- Low Cost
- Electronic Protections
- Tropicalization
- Easy to Use

Morningstar's well-known high quality and reliability is now available in a low cost solar controller. The SHS Controller is ideal for rural electrification systems with one to three solar panels. This controller meets World Bank specifications and provides many features and benefits. The SHS Night Light version has automatic lighting control.

ADVANTAGES OF THE SHS CONTROLLER

Morningstar's SHS Controller has many advantages compared to other controllers:

- **Low Cost**
The SHS was specifically designed to meet the needs of the rural electrification market. The low cost resulted from using the latest electronic technology and high volume manufacturing.
- **Designed for High Quality and Reliability**
The SHS controller has no moving parts which greatly reduces failure rates.
- **Electronic Protections**
The SHS has built-in electronic fuses that do not require replacement.
Any wiring mistakes during installation will not damage the controller.
- **Tropicalization**
The SHS electronics are protected with a moisture-tight coating, minimizing damage from humidity and from nesting insects.
- **Easy to Use**
The SHS controller is fully automatic and requires no adjustments or user selections.



BENEFITS OF A SOLAR CONTROLLER

It is important to include a controller in a solar power system

- **Reduces Cost of Battery Replacements**
The low voltage disconnect will increase battery life. The loads are automatically disconnected when the battery is low and automatically reconnected after the battery is recharged.

Complete charging will increase battery life and storage capacity. The controller will maximize the amount of solar energy into the battery and avoid drying out the battery.
- **Provides Useful Information**
LEDs display status information and battery level which helps the user to better operate the solar power system.

The SHS Solar Controller has not been certified to comply with USA & Canada electrical codes.

Technical Information

Ratings (All 12 Volt)	
SHS-6	100 WATTS or 6 AMPS for Solar and Load
SHS-10	170 WATTS or 10 AMPS for Solar and Load
SHS NIGHT LIGHT-6	100 WATTS OR 6 AMPS FOR SOLAR AND LIGHT
SHS NIGHT LIGHT-10	170 WATTS OR 10 AMPS FOR SOLAR AND LIGHT
Regulation Point	14.3 Volts
Low Voltage Disconnect	11.5 Volts
Low Voltage Reconnect	12.6 Volts
Type of Charging	Series PWM 4 Stage: Bulk, PWM, Boost and Float Temperature compensated charging
Electronic Precautions	Short circuit and overcurrent —solar and load Reverse polarity — solar, load, battery Reverse current at night High voltage — load Lightning — solar, load, battery
Tropicalization	Circuit Board — conformal coated Terminals — corrosion protected
LED Indications	All three LEDs blink to indicate faults or alarms Green - Charging Green/Yellow/Red - Battery levels Red - Low voltage warning and disconnect
Terminals	For wire sizes to 4 mm ²
Dimensions	15.1 x 6.6 x 3.6 cm
Weight	113 g
Self-consumption	8 mA maximum
Temperature	-25°C to +50°C
Humidity	100% non-condensing
Enclosure	IP 22
Compliance	CE, World Bank
Warranty	Two year warranty period. Contact Morningstar or your authorized distributor for complete terms.

