



# SHS™

## SOLAR CONTROLLER FOR SOLAR HOME SYSTEMS UP TO 170 WATTS

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.



### 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.

### 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.

#### ■ High Reliability

All our controllers are designed for high quality and high reliability. The SHS controller is **100% solid state**, has a low failure rate and will last a long time.

#### ■ 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.

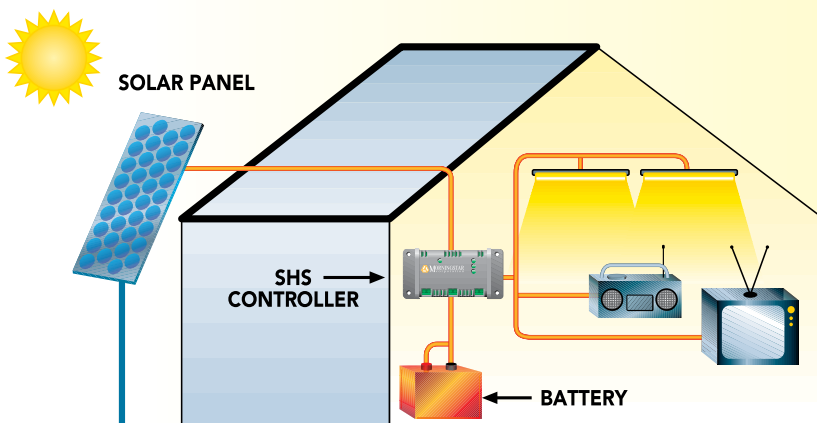
#### ■ Easy to Use

The SHS controller is fully automatic and requires no adjustments or user selections.

#### ■ Automatic Lighting Control (Night Light version only)

Automatically turns light on at dusk and turns light off at dawn.

# SHS™ SOLAR CONTROLLER



## 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	• Terminals	For wire sizes to 4 mm <sup>2</sup>
• Low voltage Disconnect	11.5 Volts	• Dimensions	15.1 x 6.6 x 3.6 cm
• Low voltage Reconnect	12.6 Volts	• Weight	113 g
• Type of Charging	Series PWM 4 Stage: Bulk, PWM, Boost and Float Temperature compensated charging	• Self-consumption	8 mA maximum
• Electronic Protections	Short circuit and overcurrent — solar and load Reverse polarity — solar, load, battery Reverse current at night High voltage — load Lightning — solar, load, battery	• Temperature	-25°C to +50°C
• Tropicalization	Circuit Board — conformal coated Terminals — corrosion protected	• Humidity	100% non-condensing
• LED Indications	Green charging Green-Yellow-Red battery levels Red low voltage warning and disconnect All 3 LEDs blink — to show mistakes	• Enclosure	IP 22
		• Compliance	CE, World Bank

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

**AUTHORIZED MORNINGSTAR DISTRIBUTOR:**

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