

# 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.



6 or 10 amps

### 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

Morningstar is a world-leading supplier of solar charge controllers. All our controllers are designed for high quality and high reliability. The SHS controller 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.

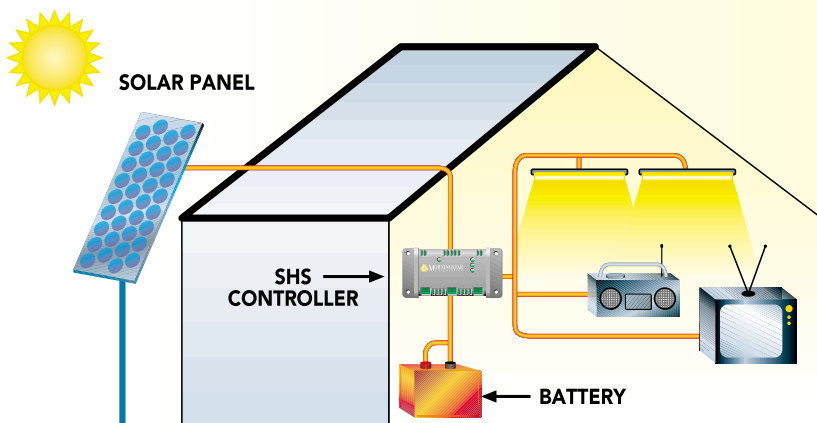
#### ■ Tropicalization

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.

# 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**

• Regulation Point	14.3 Volts	• Terminals	For wire sizes to 6 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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