

# 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.



### 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.

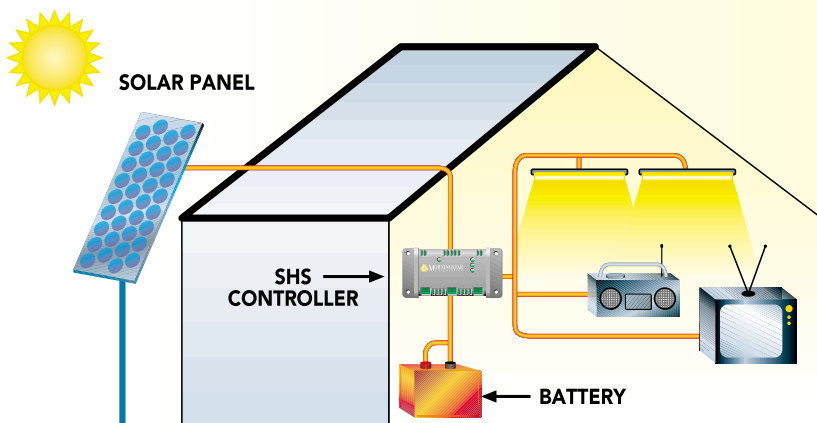
#### ■ Tropicalization

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<br>4 Stage: Bulk, PWM, Boost and Float<br>Temperature compensated charging   | • Self-consumption | 8 mA maximum                        |
| • Electronic Protections | Short circuit and overcurrent —<br>solar and load<br>Reverse polarity — solar, load, battery<br>Reverse current at night<br>High voltage — load<br>Lightning — solar, load, battery | • Temperature      | -25°C to +50°C                      |
| • Tropicalization        | Circuit Board — conformal coated<br>Terminals — corrosion protected   | • Humidity         | 100% non-condensing                 |
| • LED Indications        | Green charging<br>Green-Yellow-Red battery levels<br>Red low voltage warning<br>and disconnect<br>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:**

**MORNINGSTAR**  
corporation

1098 Washington Crossing Road  
Washington Crossing, PA 18977 USA  
Tel: +1 215-321-4457 Fax: +1 215-321-4458  
E-mail: [info@morningstarcorp.com](mailto:info@morningstarcorp.com)  
Website: [www.morningstarcorp.com](http://www.morningstarcorp.com)

