**MORNINGSTAR SUNSAVER DUO**TWO BATTERY SOLAR CONTROLLER

Morningstar's *SunSaver Duo* is an advanced PWM two battery controller for RV's, caravans, boats and cottages.

This product will charge two separate and isolated batteries at the same time, such as a "house" and an engine battery, based on user selectable priorities.

The SunSaver Duo employs Morningstar's legendary SunSaver controller technology, whose long-term track record for high reliability and improved battery charging is well-recognized in the solar industry. This controller also includes a backlit remote meter which may be mounted in or on a wall, and displays digital and pictorial status information about the solar power system.

The SunSaver Duo is epoxy encapsulated for environmental protection, is user adjustable via DIP switch or connection to a personal computer, and has an optional remote temperature sensor.

#### **Key Features and Benefits:**

#### Two Battery Charging

Solar charge current is shared between the two batteries based on a user selectable priority. When one battery is fully charged, all of the charge current flows to the other battery.

#### Provides Useful Information

The remote meter and LED's display system status data and any system errors. Custom icons and back lighting make the meter easy to read and understand.





#### Lower Cost

Two battery charging eliminates the added cost of two separate solar charging systems and the need for isolation between the batteries.

#### Easy to Install

The controller is installed near the batteries using the clearly labeled large wire terminals. The remote meter may be mounted in the wall or on the wall using the included frame. Also includes the meter wiring with RJ-11 connector.

#### Longer Battery Life

Four stage series PWM pulse charging and temperature compensation increases the useful life of the batteries.

#### Extensive Electronic Protections

The controller will not be damaged by wiring mistakes during installation. There are no fuses to replace, and the controller will automatically re-set after a wiring mistake.

#### Highly Reliable

Epoxy encapsulation protects the controller against dust and high humidity. Efficient electronics and a conservative thermal design allow the controller to operate reliably at high temperatures. Five year warranty and estimated 15 year life.

Product shown with optional meter.



# SUNSAVER DUO SOLAR CONTROLLER



#### S AL ΑΤΙΟΝS

#### Electrical

- Rated Solar Input 25 amps
- Rated Load Output Not applicable
- Battery Voltage 12 volts
- Min. Battery Voltage 1 volt
- Max. Battery Voltage 15 volts
- Max. Solar Voltage 30 volts
- Self Consumption
  - Controller 6 to 10 milliamps Remote meter 6 to 15 milliamps

### Environmental

- Operating Ambient Temperature
  - Controller
  - Meter
- Humidity

 Tropicalization Controller

Meter

### Meter Displays

 Backlighting • LED's Displays

Epoxy encapsulation Anodized aluminum case Corrosion resistant terminals Conformal coated printed circuit board Push button activated Charging status

100% non-condensing

Errors Battery level Battery #1 & #2 voltage Battery charge priority Minimum / maximum voltages Solar charging amps / amp-hours Temperature Errors

#### Electronic Protections • High Temperature

- Solar Short Circuit
- Solar Over Current Reverse Polarity
  - Reverse Current at Night

Lightning

## **Battery Charging**

- Regulation Voltage
  - 14.1 volts (at 25°C, 77°F) Sealed Battery Flooded Battery 14.4 volts (at 25°C, 77°F)
- Float Voltage
- Equalization Voltage\* 14.8 volts
- Temp. Compensation –30 millivolts per °C (25°C reference)
- Type of Charging
- Battery Charging Priority

#### Mechanical

- Meter
- Meter back
- Weight
  - Controller Meter

### **Options**

• Remote Temperature Sensor — Measures temperature at battery for improved battery charging

#### Certifications

- CE Compliant
- Manufactured in a certified ISO 9001 facility

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

AUTHORIZED MORNINGSTAR DISTRIBUTOR:



8 Pheasant Run Newtown, PA 18940 USA Tel: +1 215-321-4457 Fax: +1 215-321-4458 E-mail: info@morningstarcorp.com Website: www.morningstarcorp.com

-40°C to +45°C / -40°F to +113°F -20°C to +60°C / -4°F to +140°F Controller

Largest wire

Fits 7.6 cm / 3 in. round hole

Meter wire

260 g / 0.57 lb 135 g / 0.30 lb 16 mm<sup>2</sup> (#6 AWG)

10 m / 33 ft

13.7 volts

Series PWM

90% / 10%

50% / 50%

and equalize\* \*used on flooded battery only

4 stage: bulk, PWM, float,

17.0 x 5.6 x 4.1 cm / 6.7 x 2.2 x 1.6 in. 9.7 x 9.7 x 3.1 cm / 3.8 x 3.8 x 1.2 in. 7.4 cm / 2.9 in. diameter 2.8 cm / 1.1 in. deep

Customize via PC connection