



MSIP20-H

SOLAR CONTROLLER FOR SOLAR HOME SYSTEMS

MORNING SOLAR's high quality and reliability is now available in a low cost solar controller. The MSIP-20 Controller is ideal for rural electrification systems. It provides many features and benefits.

BENEFITS OF A SOLAR CONTROLLER

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

- **Reduce 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 battery operate the solar power system.

ADVANTAGES OF THE MSHC CONTROLLER

MSHC controller has many advantages compared to other controllers:

- **Low Cost**

The MSHC 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**

MORNING SOLAR is a dynamic manufacturer of solar charge controllers. All our controllers are designed for high quality and high reliability. The MSHC controller has a low failure rate and will last a long time, and got very good feedback from customers until now.

- **Electronic protections**

The MSHC has build-in electronic fused that do not require replacements. Any wiring mistakes during installation will not damage the controller.

- **Tropicalization**

The MSHC electronics are protected with moisture-tight coating(APL lacquer), minimizing damage from humidity and from nesting insects.

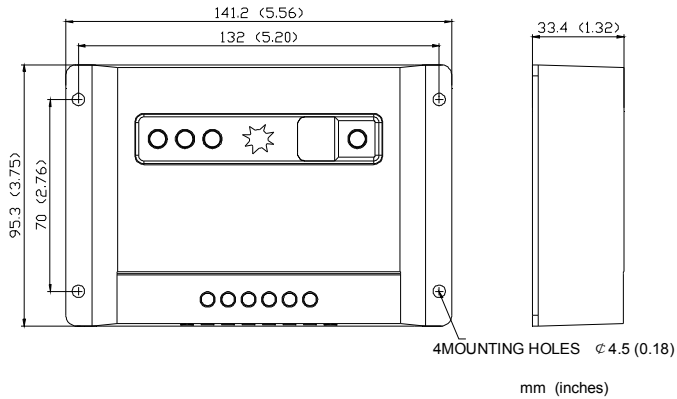
- **Easy to use**

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

MSIP-20 SOLAR CONTROLLER



MECHANICAL



TECHNICAL INFORMATION

RATINGS: 12/24 VOLT auto-work
MSIP-20: 12 VOLT or 12/24 VOLT auto work, 15AMPS
MSIP-20: 12 VOLT or 12/24 VOLT auto work, 20 AMPS

Regulation point: 14.4 Volt

Low voltage disconnect: 11.1 Volt

Low voltage Reconnect: 13.1 Volt

Type of Charging: series PWM, state of charge(SOC)
4 stages Bulk,PWM,Boost and Float

Electronic protections: short circuit and over current
-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: Green charging
Green-Yellow-Red battery levels
Red low voltage warning and disconnect
Green-Yellow-Red battery levels
All 3 LEDs blink-to show mistakes

Self-consumption: 10mA maximum

Dimension: 141*96*34mm

Terminals: for wire sizes to 6mm²

Weight: 350g

Temperature: -35°C to +55°C

Humidity: 100% non-condensing

Enclosure: IP 22

Case: ABS

Compliance: CE world Bank

Morning Solar Ltd.

Email: morningsolar@hotmail.com ;
info@morningsolar.com.cn

Phone: +86-1381-1394-135 Fax: +86-10-51411315

MSN: morningsolar@hotmail.com

Skype: morningsolar