

## PowerFilm, Inc. Limited Product Warranty

PowerFilm, Inc. warrants that this PowerFilm® Solar product is free from defects in materials and workmanship that impact performance for a period of two (2) years. The duration of the Limited Warranty is from the date of initial purchase. To obtain warranty from purchases made from our dealer/distributor network a purchase receipt must be provided with the product. The foregoing warranty does not apply to any defect, failure or damage caused by improper use, unauthorized modifications, neglect, improper testing, attempt to repair, inadequate maintenance, or damage from accident, fire, abuse or other hazard.

PowerFilm's sole obligation and liability for a product failing to comply with this warranty shall be, at PowerFilm's choice, either to repair the product or replace the defective product with a new or re-manufactured equivalent at no charge provided that the warranty procedures have been followed.

To obtain service under this warranty, customers must return a failed unit to PowerFilm with the return authorization number, original proof of purchase, description of the failure, contact information, and a return shipping address. PowerFilm will return a repaired or replacement product at PowerFilm's cost.

Need more information about your LightSaver Max?

For frequently asked questions and other resources visit:  
[www.powerfilmsolar.com](http://www.powerfilmsolar.com)

Mailing Address:  
1287 XE Place, Ames, Iowa 50014

Connect With Us!



[www.powerfilmsolar.com](http://www.powerfilmsolar.com)

**LIGHTSAVER™**  
E-MAX  
RELIABLE SOLAR POWER

The LightSaver Max is made with amorphous silicon solar material which is incredibly thin, flexible, lightweight and durable. Our thin film solar technology is also extremely sensitive to light. This means it works better in cloudy or shaded environments than traditional solar panels, turning on earlier and staying on later each day.

## Operation

The LightSaver Max collects energy from the sun when available, storing it in the internal battery. That energy is then available to charge a USB or 12V device anytime, eliminating the need to leave your device out in the sun plugged into the LightSaver Max to charge. The LightSaver Max can also be charged using USB or 12V inputs if the solar panel is fully rolled up. A second LightSaver Max or other PowerFilm Solar panel can be connected to the 12V input to increase solar charging speed.

**Single button press** - Turns the outputs on allowing the LightSaver Max to charge devices. Outputs will stay enabled until the system is shut off with the button, or about 90 minutes have passed with no load on the outputs. If the LightSaver Max is fully discharged, it will disable outputs. This protects against draining a device's battery by turning it on and off, which is common in many other solar chargers.

**Double button press** - Changes the state of the flashlight. With the flashlight turned off, the first double press will turn the flashlight on to the high setting, the second double press will change the flashlight to the low setting, and the third double press will shut it off.

**Press and hold** - Turns off the unit. After a press and hold all LEDs on the outputs will be shut off indicating the unit has been turned off.

## Specifications

**Internal Battery:** 18,000mAh (66Wh)

**Input:** USB-C (3A), 12V (2A)

**Output:** Dual USB-A (2.5A), 12V (5A peak)

**Weight:** 1.5 lbs

**Size:** Rolled: 13.5" x 2.5" Unrolled: 34.5" x 13.5"

## Caring For Your LightSaver Max

### Avoid Physical Damage

The LightSaver Max's solar material is thin, light and durable, but creasing or puncturing the solar panel will reduce efficiency. Reasonable care in handling will assure a long life.

### Charging Temperatures

Avoid leaving the LightSaver Max on the dash of a hot car or in other similarly hot environments as the heat may damage the battery.

The LightSaver Max charges most effectively between 35 and 115 degrees Fahrenheit.

When charging the LightSaver Max from solar, roll the tube under the solar panel to prevent potential overheating of the batteries.

### Avoid Excessive Water

A little water on the LightSaver Max is not a problem, but allowing significant water inside the unit may corrode components. Saltwater is particularly corrosive and should be kept out of the device.

### Battery Care

If your LightSaver Max's battery is completely drained, it may need to charge for a few minutes before the indicator light illuminates.

Always store your LightSaver Max with a battery charged over 50% in a cool environment.

The LightSaver Max will give you many years of excellent service with proper battery care.

## Mounting

The LightSaver Max features four attachment points allowing it to be mounted securely on a backpack, tent, etc. Keep in mind the expected direction of the sun when choosing where to mount the LightSaver Max. The easiest and most effective approach is usually to mount horizontally (Example: mounting on the top of a backpack rather than the back is better). The LightSaver Max's solar panel is far more tolerant to shading than most solar devices, but any shade will reduce the amount of charge collected. If you are mounting the LightSaver Max on the top of a tent, choose a location which will face the sun for the longest portion of the day.

## Maximizing Use of the Sun

Facing the unrolled LightSaver Max directly toward the sun results in the maximum amount of energy collection. A day's worth of exposure, 6-8 hours, on a mostly sunny day while laying horizontally should give you a full charge.

Clouds and haze reduce the sunlight that reaches the LightSaver Max. Windows reflect a portion of the sunlight, so a LightSaver Max sitting on a windowsill will take longer to charge than if it were sitting outside at the same angle. Car windows, particularly windshields, block a significant amount of light.

## Charge Indicator

The LightSaver Max's charge indicator turns on when there is electrical current flowing from either the solar panel, 12V input or the USB-C input to the battery and turns off at all other times to conserve battery.

### Battery Status:



**Red:** 0-15%

**Yellow:** 15-80%

**Green:** 80-100%