



## **SMART LIGHT® 1000**

### **INSTALLATION AND OPERATIONS INSTRUCTIONS**

## THANK YOU FOR CHOOSING THE SMART LIGHT®1000!

We are very pleased that you have chosen our product to enhance your camping experience! At Starlights, Inc., we are passionate about improving your safety, security, and convenience. We feel that the **Smart Light® 1000** represents a giant step forward in improving an already wonderful experience – Rving!

Developed and designed in the United States, by RVers, for RVers, the **Smart Light® 1000** has the versatility to adapt to differing park conditions, or to dry camping conditions. Your new **Smart Light®1000** also monitors your battery levels, and will notify you of any serious reduction in power. We are confident that you will be completely satisfied with your new **Smart Light® 1000** for years to come. Happy camping!

Jason P. Weaver  
President, CEO  
Starlights, Inc.



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### CONTENTS of Box

The **Smart Light® 1000** packaging should include the following parts to make the installation simple and convenient.

1. One lighting fixture complete with Lens and Bulb
2. Four mounting screws
3. 2ea. Butt connectors
4. Instruction Manual

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### INSTALLATION & SAFETY INSTRUCTIONS

For the **Smart Light® 1000** RV Motion Light

#### IMPORTANT SAFETY INFORMATION

- ✓ Disconnect battery before installing or replacing the motion sensor lighting fixture.
- ✓ A person familiar with the installation of 12 Volt lighting products is recommended for the installation of this product.
- ✓ This motion sensor light is designed to be used only with 12 DC Power [Automotive type], any modifications of the unit may result in a hazard and will VOID the warranty.
- ✓ The **Smart Light® 1000** lighting fixture must be installed in accordance with any state and national codes.
- ✓ Please do not attempt to open the Motion Sensor back housing as there are no serviceable parts inside and doing so WILL VOID the warranty.
- ✓ Please read all of the **Smart Light® 1000** installation instructions before installing the fixture.

#### IMPORTANT NOTES

- Using or attaching other accessories or devices can cause a hazard, can damage the unit, and will VOID the warranty.

## INSTALLING The Smart Light® 1000

### IMPORTANT-DISCONNECT THE BATTERY

**STEP 1:** Remove the old lighting fixture from the RV and clean area of all old sealer, dirt, etc.

**STEP 2:** Attach the WHITE wire marked positive (+) on the SL-1000 fixture to the positive wire (+) coming from the RV.

**STEP 3:** Attach the WHITE wire marked negative (-) on the SL-1000 fixture to the negative wire (-) coming from the RV.

#### **NOTE: Perform functionality test at this step**

The **Smart Light® 1000** is **reverse polarity protected**. If it is wired backwards, the unit will not be damaged. However, if wired incorrectly, the motion sensing functionality will not work, even though the light can be turned on and off at the switch as with any other porch light. Thus, it is imperative that you perform this self test in order to assure proper functionality. To do this test you will have to reconnect the battery.

First, adjust your interior light switch to the on position. Then, turn the light switch off, then on again. If at this point you find that the light turns on, but the **BLUE LED does not blink on and off**, then switch the positive and negative wires connecting the Smart Light to your vehicle. Next, perform the self test once again as described above. If your light again fails to operate in the auto mode as indicated, please stop the installation process and contact us at 1-800-883-5444. If the functionality test is successful, again **DISCONNECT THE BATTERY** and proceed with the installation.

**STEP 4:** Remove the FIVE (5) screws that attach the lens on the **Smart Light® 1000** fixture and save them to reattach the lens in STEP (6). Place a bead of silicone sealant on the backside of the fixture in the shear groove, *being careful not to plug the water drain groove at the bottom of the Smart Light® 1000 fixture*. Use the FOUR (4) screws provided, or the (4) screws from your old fixture, to attach the **Smart Light® 1000** fixture to the exterior of the RV. In most cases, the previous holes used to mount the old fixture can be reused to mount the **Smart Light® 1000**. However, if you must drill new screw holes into your substrate, make sure to properly fill in the old holes before mounting your light.

#### **NOTE:**

Some models may have differing hole depths and/or widths. Thus, the screws provided may not be sufficient. If you find this to be the case on your model, simply substitute the enclosed screws for those that will fasten the unit properly.

**STEP 5:** Adjustment of the Variable Resistors (*Potentiometers*) for sensitivity is *clockwise* to increase sensitivity, and *counterclockwise* to decrease sensitivity. When adjusting these resistors, take care not to touch the mother board, which could damage the unit and void the warranty. The **Smart Light® 1000** fixture comes from the factory set at the *most sensitive setting*.

#### **IMPORTANT – DISCONNECT THE BATTERY BEFORE ADJUSTING**

The *Potentiometers* are located on the circuit board mounted in the electronics compartment of the **Smart Light® 1000** fixture. Once the lens has been removed, access for adjustment is through the opening, with the Potentiometers located *above* the light sensor and *below* the multicolored LED. Note that the bottom potentiometer is for the right sensor, and the top potentiometer is for the left sensor. Take great care when adjusting not to touch the circuit board, which would void the warranty.

**PIR (PASSIVE INFRARED SENSOR) NOTE:**

A note about this state of the art technology: These PIR sensors detect thermal mass. Additionally, the internal micro processor embedded in your **Smart Light® 1000** “communicates” with the PIR sensors in code. This code allows your **Smart Light® 1000** fixture to differentiate between a large thermal mass, and a small one (such as a cat, rabbit, small dog, etc.). When a small thermal mass is detected, the code tells the light not to turn on. When a larger mass is detected (i.e. humans, a bear, large dogs, etc.) the code enables the unit to turn on the light. However, thermal readings are dictated by outside temperatures. It is more difficult to trigger the fixture when the background temperature is close to the outside body temperature of the object moving across it, making it necessary to come closer to the fixture to turn it on. Likewise, if it’s very cold outside, the cold background makes it much easier to pick up any thermal mass, and thus the PIR sensors may detect an object further away than normal. *Please keep in mind outside temperatures when adjusting sensitivity.*

**STEP 6:** Replace the lens using the FIVE (5) screws removed in STEP (4).

**Very Important:** Please ensure that the **CLEAR** O-RING which seals the electronics compartment is located properly on the back side of the cover. If this O-RING is missing when the cover is reinstalled, water may intrude into the electrical compartment and disable the fixture. *The O-RING is embedded in the lens directly over the electronics compartment. To ensure proper placement of the O-Ring, rub your index finger around the outside of the oval portion of the lens which covers the electronics compartment. If you are unable to locate the O-RING, please contact us before installing the fixture.*

You may now reconnect the Battery.

#### IMPORTANT NOTE:

The **Smart Light® 1000** fixture was designed to operate in two (2) modes:

##### Mode 1 – Manual Mode

The Manual mode is triggered when switched “ON” by the **off-on switch** located inside the RV. In the manual mode, the daylight sensor will be inoperable and the **Smart Light® 1000** will work as a standard lighting product with the exception of **Star Monitor®**.

Starlight's exclusive **Star Monitor®** will monitor the RV's Battery Voltage Level. When the voltage drops to 11.5 volts for 45 consecutive seconds, a **RED** led will blink behind the lens as a warning of a low battery condition. **Star Monitor® will not** turn the **Smart Light® 1000** fixture off in this mode, but it will issue a warning. As a side note, several customers have called over the years claiming the **Star Monitor®** is inaccurate. Our trouble shooting efforts found that every customer had some sort of electrical malfunction. The **Star Monitor** utilizes a digital code and is 99.999% accurate. Thus, if you see the **RED LED** flash, please take care and check every facet of your electrical system.

##### Mode 2 - Auto Mode

The Auto mode is triggered by an “**ON-OFF-ON**” switching of the **off-on light switch** located inside the RV. However, if the fixture is already powered up in Manual Mode, then switching the fixture “**OFF** then **ON**” will trigger the Auto Mode function. In the Auto Mode, the daylight sensor, **Star Monitor®**, and motion sensors are operable. Once the **Smart Light® 1000** detects motion it will activate the bulb and stay on for one (1) minute. If the fixture again detects motion before the (1) minute is up, then the timer will reset, and the count-down will recommence. If no other motion is detected, then the light will deactivate, and the area around your coach will continue to be monitored. Finally, don't be alarmed if the **Smart Light® 1000** does not detect your motion at the exact same point each time. A variety of factors dictate when and at which point the motion detection units will activate the light bulb. If you have questions about this nuance, please contact our engineering help desk for a more thorough explanation.

Starlight's' exclusive **Star Monitor®** continues to monitor the RV's Battery Voltage Level. If the voltage drops to the predetermined level, a **RED LED** will blink behind the lens as a warning of a low battery condition. **Star Monitor®** will, in the auto mode, turn the **Smart Light® 1000** fixture off. When the battery rises past the predetermined level, the **Smart Light® 1000** fixture will reset itself automatically and continue operation.

**Side note:** Customers have asked why we deactivate the **Smart Light® 1000** at 11.5 volts. The reason is that at this voltage level, most of your major appliances will cease to operate (such as your refrigerator). Also, at 11.5 volts, your batteries are working at less than 35% capacity.

The **Smart Light® 1000** has three (3) operating phases as listed below:

1. When activated in the “**DAY-TIME Auto Mode**” function, the Multi-Colored LED will blink “**BLUE**”. This indicates that the fixture is activated, it is daytime, your battery is charged, and that the unit will not illuminate if it senses motion.
2. When activated in the “**NIGHT-TIME Auto Mode**” function, the Multi-Colored LED will blink “**GREEN**”. This indicates that the unit is activated, it is dark outside, your battery is charged, and that the light will illuminate if the proper motion is detected.
3. When the **Smart Light® 1000** fixture is in either mode and the **Star Monitor® function** has been activated by a low battery condition, the Multi-Colored LED will blink “**RED**”. Regardless of the time of day, the light will not illuminate with any motion until the low battery condition is remedied.

#### LIMITED WARRANTY

This product is warranted free from defects in material and workmanship for a period of one year. If a defect in material or workmanship occurs, call 1-800-883-5444 for instructions on how to have the defective product repaired, or replaced, free of charge.

#### LIMITATIONS

- This warranty is extended only to the original purchaser of the product.
- This warranty only covers the assembled motion lighting fixture.
- Unauthorized service to, or modification of this product will void the warranty in its entirety.
- A purchase receipt or other approved proof of purchase is required before warranty service is rendered.
- This warranty is expressly in lieu of all other warranties, expressed or implied, including any warranty, representation or condition of merchantability or that the products are fit for any particular purpose or use, and specifically in lieu of all special, indirect, incidental, or consequential damages, including but not limited to, any loss arising out of any breach of this warranty, as allowed by your state of domicile.
- This warranty gives you specific rights, and you may also have other rights that vary from state to state.

#### NOT COVERED

- Failure of the product as a result of an accident, abuse, negligence, alteration, or faulty installation, or any other failure not relating to faulty material or workmanship.
- Reimbursement for inconvenience, installation, setup, time, loss of use, postage or unauthorized service.

**CAUTION:** This unit should yield many years of quality service. However, to avoid damaging the **Smart Light® 1000** fixtures Fresnel lenses and sensors, do not spray the **Smart Light® 1000** fixture directly with a high-pressure hose, or pressure washer.

## Smart Light® 1000 Trouble Shooting Guide

SYMPTOM	CAUSE	POSSIBLE SOLUTION
Light won't come on.	Power not on.	• Turn on indoor switch or check fuse.
	• Grounded incorrectly.	• Check ground wire.
	• Light bulb blown.	• Check bulb and replace if necessary.
While in Porch Light Mode the LED flashes "RED" but the Light Bulb does work.	Low Battery	• Charge or replace the Coach the Battery.
	• Condition - (Line Voltage to fixture dropped to 11.5 Volts or below for a period of 45 seconds).	• Check breaker on Coach charging system and reset if necessary.
	• Too much load on wire supplying power to the fixture.	• Up-size wire gauge from distribution panel to Fixture. • Up-size wire gauge to distribution panel from battery.
Smart Light 1000® only works as a Porch light	SL1000® wired wrong	• Switch power leads to fixture.
Light stays on in AUTO MODE.	Fixture operating in PORCH LIGHT MODE.	• Re-program with indoor switch.
	Wired incorrectly.	• Check that wiring is connected properly.
	Frequent changes in heat are being detected.	• Check sensing area for possible heat sources i.e. water heater exhaust, moving vehicles, or other heat source. Adjust the sensitivity to a less sensitive setting.
SL1000® will not energize the bulb in auto mode when there is motion within the detection area	The SL1000® is blinking "BLUE" not "GREEN"	• Wait until night time, as the SL1000® will not change modes until the outside light has dropped to a certain Luminous level.
		• Make sure that a street light, parking lot lighting or other bright light is not directly shining on the fixture.
		• Wait until the fixture has time to determine which mode to operate in. It always defaults to daytime mode once triggered and takes 30 seconds to change modes.

## Smart Light® 1000 Trouble Shooting Guide (continued)

SYMPTOM	CAUSE	POSSIBLE SOLUTION
Light keeps cycling "ON" & "OFF"	<ul style="list-style-type: none"> <li>Changes in heat are being detected from a fixed heat source</li> </ul>	<ul style="list-style-type: none"> <li>Check the field of view for hot gas vents, camp fires, or other heat sources. If possible, reposition your coach.</li> </ul>
	<ul style="list-style-type: none"> <li>Light and Heat are being reflected back onto the sensor</li> </ul>	<ul style="list-style-type: none"> <li>Mask reflective surfaces to eliminate the reflection, or reposition the coach if possible.</li> </ul>
	<ul style="list-style-type: none"> <li>Sudden temperature changes due to storms or high winds or rain</li> </ul>	<ul style="list-style-type: none"> <li>Turn sensor off until storm passes.</li> </ul>
While in "Auto Mode" the LED flashes "RED" but the Light Bulb does "NOT" Work.	<ul style="list-style-type: none"> <li>Low Battery Condition - <i>(Line Voltage to fixture dropped to 11.5 Volts or below for a period of 45 seconds).</i></li> </ul>	<ul style="list-style-type: none"> <li>Start the generator if applicable. Otherwise, charge or replace the Coach the Battery.</li> <li>Check breaker on Coach charging system and reset if necessary.</li> </ul>
	<ul style="list-style-type: none"> <li>Too much load on wire supplying power to the fixture.</li> </ul>	<ul style="list-style-type: none"> <li>Up-size wire gauge to distribution panel from battery.</li> </ul>

If it is necessary to return your **Smart Light® 1000** fixture, please get a **RETURN CONFIRMATION NUMBER** by calling 800-883-5444. Then send the unit back in its original box with all original parts, as well as a copy of your receipt and a brief explanation of what kind of failure you experienced, to the address below.

### General Correspondence:

Starlights, Inc.  
PO Box 80246  
Goleta, CA 93118  
Phone (800) 883-5444  
Fax (805) 685-8500  
**THANKS FOR YOUR PURCHASE.**  
**HAPPY CAMPING!**



### RETURNS:

Starlights, Inc.  
PO Box 80246  
Goleta, CA 93118

For technical issues:  
Gregg Wilson  
[gregg.wilson@starlightsinc.com](mailto:gregg.wilson@starlightsinc.com)  
(805) 403-6533