



SMART LIGHT 2000™

INSTALLATION AND OPERATIONS INSTRUCTIONS

THANK YOU FOR CHOOSING THE SMART LIGHT 2000™!

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 2000™** represents a giant step forward! Developed and designed in the United States, the **Smart Light 2000™** has the versatility to adapt to differing park conditions, or to dry camping conditions. Your new **Smart Light 2000™** 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 2000™** for years to come.

Jason P. Weaver
President, CEO
Starlights, Inc.

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The **Smart Light 2000™** packaging should include the following parts to make the Installation simple and convenient.

1. One lighting fixture
 2. Four mounting screws
 3. Instruction Manual
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BULB REQUIREMENT for the **Smart Light 2000®** -"1156" or the **NEW "Revolution LED line of Bulbs"**. This New line of LED Bulbs can be reviewed at www.starlightsinc.com

OPTIONAL ACCESSORIES

- **Revolution LED Bulbs.**
 - **Smart Light 1000™ Motion Light**
 - **Smart Light 2000 Scare Light™**
 - **Revolution 2000 FB™ Fused Relay Box**
 - **Amberizer™ Antibug Bulbs**
 - **Amber Lens**
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INSTALLATION & SAFETY INSTRUCTIONS

For the **Smart Light 2000®** 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 2000™** 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 2000™** installation instructions before installing the fixture.

IMPORTANT NOTES

- Attaching other accessories or devices without the uses of the **Revolution 2000 FB™ Fused Relay Box** can cause a hazard, may damage the unit, and **WILL VOID the WARRANTY**.

INSTALLING THE Smart Light 2000™

IMPORTANT-DISCONNECT THE BATTERY

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

*NOTE: If you are using the optional **Fuse Box** to activate your **Scare Light** now is the time to add that accessory using the installation instruction included with the **Fuse Box**.*

STEP 2: Attach the WHITE wire marked positive (+) on the SL-2000™ fixture to the positive wire (+) coming from the RV.

STEP 3: Attach the WHITE wire marked negative (-) on the SL-2000™ fixture to the negative wire (-) coming from the RV

STEP 4: Using the FOUR (4) screws provided, attach the **Smart Light 2000™** 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 2000™**. 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: Remove the Clear plastic plug to gain access for the adjustment of the Variable Resistor (*Potentiometer*) for sensitivity. The adjustment is *clockwise* to increase sensitivity, and *counterclockwise* to decrease sensitivity. When adjusting this resistor, take care not to touch the mother board, which could damage the unit and **WILL VOID the WARRANTY**. Please note that the **Smart Light 2000™** fixture comes from the factory set at the *most sensitive setting and may need adjustment to a lower sensitive setting to match the camping environment*

IMPORTANT – DISCONNECT THE BATTERY BEFORE ADJUSTING

The *Potentiometers* are located on the circuit board mounted in the electronics compartment of the **Smart Light 2000™** 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.

Please keep in mind outside temperatures when adjusting sensitivity.

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 2000™** “communicates” with the PIR sensors in code. This code allows your **Smart Light 2000™** 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.

STEP 6: Replace the Clear plastic plug removed in STEP 5 if adjustment was necessary.

Very Important: Please ensure that the **PLASTIC FRAME AND THE CLEAR PLUG** which seals the electronics compartment is installed properly over the electronics compartment opening.

To install properly, follow the procedure below;

1. Place the clear plug in the opening and seat backside into the sealing ridge,
2. Then insert the plastic cover over the clear plug and press gently on the plastic frame until it sets into housing.

You may now reconnect the Battery.

IMPORTANT NOTE:

The **Smart Light 2000™** 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 2000™** 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 clear plastic plug as a warning of a low battery condition. **Star Monitor™** *will not* turn the **Smart Light 2000™** 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 2000™** 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 2000™** 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 unit will activate the light bulb. If you have

questions about this nuance, please contact our engineering help desk for a more thorough explanation.

Starlights' exclusive **Star Monitor™** continuously monitors the RV's Battery Voltage Level. If the voltage drops to the predetermined level, a **RED** LED will blink behind the clear plastic plug as a warning of a low battery condition. **Star Monitor®** will, in the auto mode, turn the **Smart Light 2000™** fixture off. When the battery rises past the predetermined level, the **Smart Light 2000™** fixture will reset itself automatically and continue operation.

Side note: Customers have asked why we deactivate the **Smart Light 2000™** 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) at which point you will only have 30% of your battery left. Also, at 11.5 volts, your batteries are working at less than 35% capacity.

The **Smart Light 2000™** 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**"
2. When activated in the "**NIGHT-TIME Auto Mode**" function, the Multi-Colored LED will blink "**GREEN**"
3. When the **Smart Light 2000™** 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**"

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 (805) 685-8500 or (800) 883-5444 for instructions on how to have the defective product repaired or replaced.

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, specifically in lieu of all special, indirect, incidental, or consequential damages, including but not limited to, a 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 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™** fixture's Fresnel lenses and sensors, do not spray the **Smart Light 1000™** fixture directly with a high-pressure hose, or pressure washer.

Smart Light 2000™ 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 Condition - <i>(Line Voltage to fixture dropped to 11.5 Volts or below for a period of 45 seconds).</i>	• Charge or replace the Coach the Battery. • 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 2000™ only works as a Porch light	• Smart Light 2000™ wired incorrectly	• 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.
Smart Light 2000™ will not energize the bulb, in auto mode, when there is motion with in the detection area	• Smart Light 2000™ is blinking "BLUE" not "GREEN"	• Wait until night time, as the Smart Light 2000™ 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 shinning 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.
Light keeps cycling "ON" & "OFF"	• Current Sensitivity setting set too "high"	• Adjust to a "less sensitive" setting.
	• Changes in heat are being detected from a fixed heat source	• Check the field of view for hot gas vents, camp fires or other heat sources and either reposition coach or mask, if possible with awning or chair.
	• Light and Heat are being reflected back onto the sensor	• Mask the reflective surface to eliminate the reflection, or again reposition coach or mask, if possible with awning or chair. .
	• Sudden temperature changes due to storms or high winds or rain	• Turn sensor off until storm passes.

Smart Light 2000™ Trouble Shooting Guide

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SYMPTOM	CAUSE	POSSIBLE SOLUTION
<p>While in "Auto Mode" the LED flashes "RED" but the Light Bulb does "NOT" Work.</p>	<ul style="list-style-type: none"> • Low Battery Condition - (Line Voltage to fixture dropped to 11.5 Volts or below for a period of 45 seconds). 	<ul style="list-style-type: none"> • Charge or replace the Coach the Battery. • Check breaker on Coach charging system and reset if necessary.
	<ul style="list-style-type: none"> • Too much load on wire supplying power to the fixture. 	<ul style="list-style-type: none"> • Up-size wire gauge from distribution panel to Fixture.
		<ul style="list-style-type: none"> • Up-size wire gauge to distribution panel from battery.

If it is necessary to return any Starlight product, please get a **RETURN CONFIRMATION NUMBER** by calling (805) 685-8500 or (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 (805) 685-8500
 Phone (800) 883-5444
 Fax (805) 685-3754



THANK YOU FOR
 YOUR TRUST IN US!

RETURNS:

Starlights, Inc.
 283 Pamela Way,
 Unit 104
 Buellton, CA 93427

For technical issues:
 Gregg Wilson

gregg.wilson@starlightsinc.com



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PO Box 80246
Goleta, CA 93118
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Phone (800) 883-5444
Fax (805) 685-3754