



Guardian Installation Instructions:  
Light Mounting:  
Revision C: 03-20-2017

The Guardian Underwater boat light is designed to be installed with minimal damage and maximum safety to the vessel. A single 10mm hole is required for the wiring penetration through the hull. The rest of the light is adhered with the recommended 4200 or 5200 3M products.

Due to the power and heat generated by the Guardian LED's, it is necessary to have adequate cooling to protect the light from damage. The Ribs on the back side of the LED provide this cooling by allowing water to pass behind the light removing the generated heat.

An internal temperature sensor monitors the LED temperature and if the temperature exceeds 120°C, the light will shut down until the temperature drops. This will normally occur during extended periods out of the water or obstructions to the water channels on the back of the light.

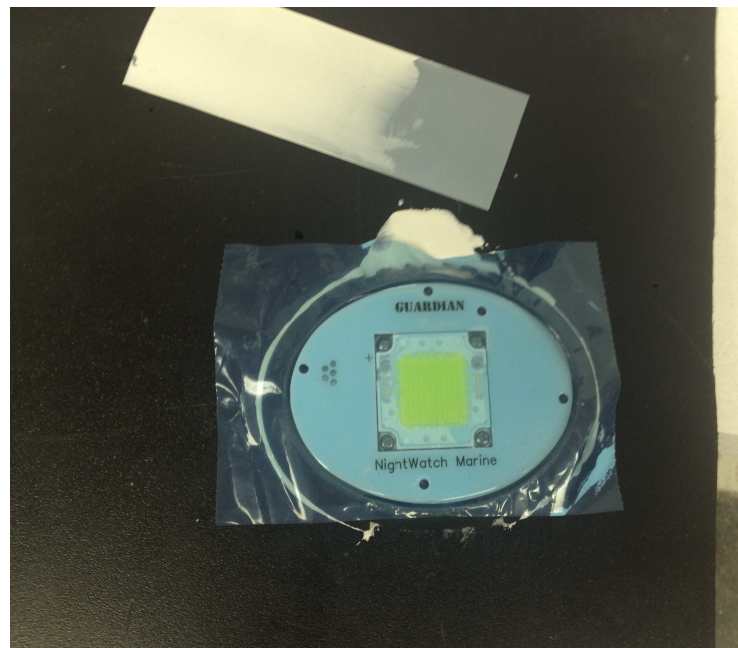
During installation, care must be taken to avoid adhesive from obstructing this water flow through the channels. To aid in the installation and provide protection from the adhesive, an installation cover is provided for use during the adhesive process of installation.

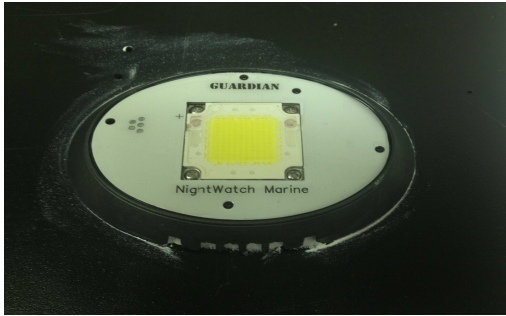
Removal of the Guardian light from the packaging reveals the following items:

A Guardian light with protective cover over lens.

A Stainless steel push nut is located on one of the tie wraps and is optional for use depending on hull thickness.

- 1) After locating the desired location for the light, Drill a 10mm hole through the hull of the vessel. Note the protrusion of the wire of the light is not centered behind the light.
- 2) Prepare the hull surface for adhesive mounting of the light by removing any bottom paint and lightly roughening the surface with sandpaper.
- 3) Apply preferred adhesive to boat or light with adequate quantities so that the adhesive will completely cover the surface of the light once pressed into place.  
  
NOTE: Apply thin adhesive to cooling fins as well as these also provide needed adhesion to the vessel hull.
- 4) Feed the wire through the hole in the hull and place light against the hull.
- 5) Install provided push nut over wire and onto SS protrusion as needed for thin hulls, less than ½" thick.
- 6) Apply firm pressure slightly pivoting the light to force out excess adhesive.





- 7) Visually verify no adhesive obstructions within the ribs.
- 8) Apply tape to hold light in place to hull during the adhesive curing process, usually 24 hours.

#### Wiring Instructions:

##### Single Color:

The single color guardian will have a two conductor wire with colors of Red and Black and are the only connections needed. The Guardian accepts 12V or 24V systems automatically.

1. Connect the **Red** to positive and Black to negative.
2. Current draw is about 3.5 amps at 24V and about 5.5 amps at 12V. Follow standard marine wiring practices for wire size and fusing based on circuit demands.

##### Color Change:

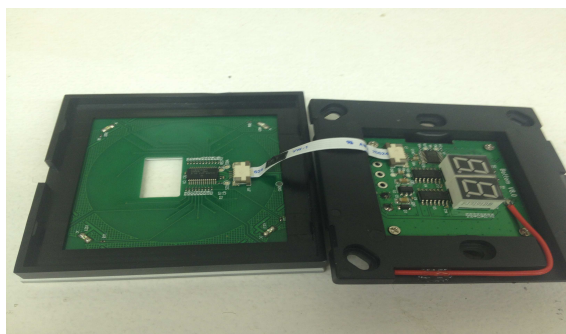
The Guardian Color Change light consist of an RGB color range using a 5 wire connection. The power wires are **White** for positive and **Black** for negative. The Blue, Red and Green wires are signal wires to be connected to the Color Change controller.

Power connection wires **White**, positive and **black**, negative will carry the current load and should be sized appropriately and fused.

While the Guardian is Reverse polarity protected for all wires. However, **DO NOT APPLY POWER TO LIGHT WITH BLACK (-OV) WIRE CONNECTED TO A COLOR CONTROL WIRE**. This will immediately damage the light and Voids the warranty.

Below is a schematic layout for the RF and Wi-Fi color change controller offered by NightWatch Marine.

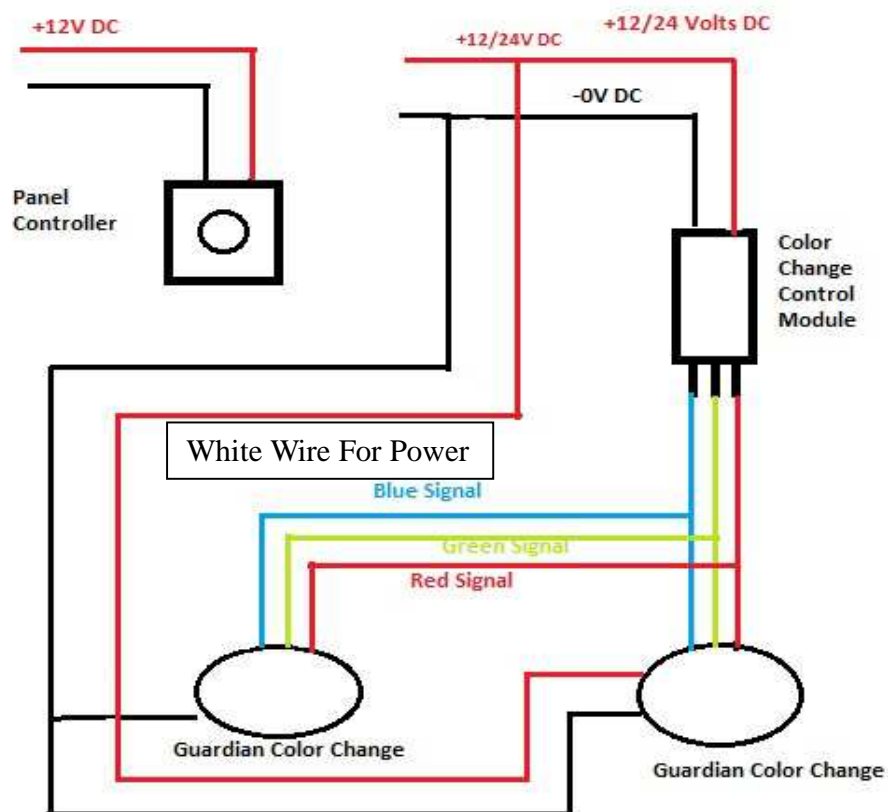
1. Mount the Color Change panel controller in the desired location. This unit communicates with the Controller module through an RF signal so no wiring is needed between the panel controller and controller module. The color change panel controller is limited to a 12V system to power it or an AC adapter is provided.
2. Open up the panel controller with to mount the backing plate to the desired location. Attach the 12V + and - wires to terminal block.
3. Before placing the face plate back on, the white flex cable needs to be connected to its connector located on the back of the front face panel. Same connector type as where the other end is already plugged in.



4. Refer to Panel mount instructions for operations

5. Install the controller module, VT-A153 unit in a dry location but a location that provides ease of access to the installed Guardian lights. This unit communicates with RF to the panel mount controller and uses Wi-Fi for the smart phone app control.
6. The VT-A153 needs only supply signals to the lights and does not provide significant current. The total current draw is less than one amp for all conditions. Therefore the minimum wire size is needed. One VT-A153 can run up to 10 lights due to the low current draw of the signal wires.
7. Wire the +V and -V wires to the input of the VT-A153 which will be the power input to the unit.
8. Connect the Red, Blue and Green wires from the Guardian to the labeled connections. No other connection is needed and the V+ pins on the output will not be used.

The 3 signal wires, Red, Blue and Green will float to about 5 volts when the controller module is off resulting in the Guardian light shutting off. When the controller turns on a color, it takes that wire to ground internally, which signals the internal light circuitry to turn the light on. Pulse Width Modulation (PWM) controls the Guardian light brightness and color changes.



#### Maintenance:

Maintenance includes cleaning of the light lens with a soft cloth to remove growth and debris as needed as well as cleaning of the cooling channels behind the light using the Stainless steel nylon brushes provided with each light.

Because the light is filled with a very high quality epoxy and hard coated, no other maintenance should be required.