

# Imtra Captiva PowerLED and PWM Dimmer Instructions

The Captiva PowerLED is an attractive recessed spot with adjustable inner "eyeball" making the pivoting center perfect to accent artwork, use as a wall wash, or for general illumination. A fully-functional LED eyeball directs light just where you need it without compromising overall lumen output. Captiva is an ideal selection for sloped ceilings commonly found above companionways; the light may be directed straight down preventing temporary "blinding" as one steps down to lower living quarters. Captiva's frosted lens aperture is pleasing to the eye, eliminating any harsh "hot spots" and making the Captiva the premiere LED product of choice. A built-in dimmer interface allows for effortless touch-control dimming using our Captiva PowerLED PWM Dimmer.

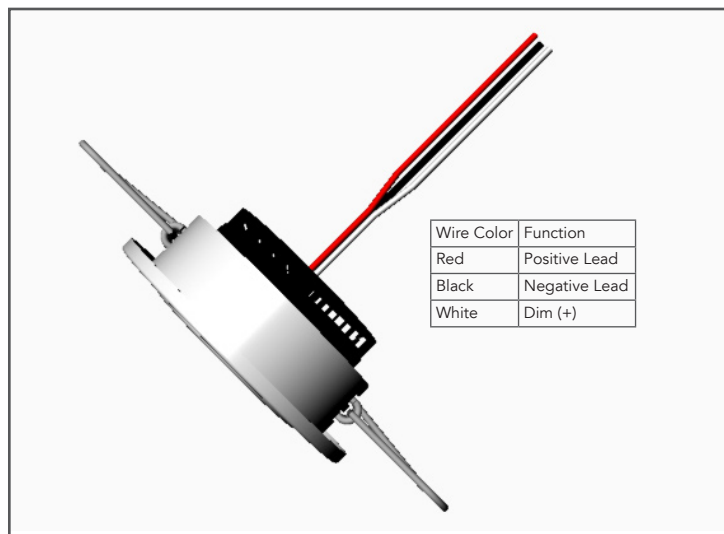
## Imtra PowerLED Installation

Before beginning, please read these instructions. Verify the ship's voltage and obtain the appropriate tools necessary to complete the installation. The wire type and circuit protection used in the installation of these products should be selected in accordance with any applicable regulatory standards and codes in order to provide each unit with its rated power consumption. Using a DVM or oscilloscope, verify the power at each unit has the correct voltage. Imtra PowerLED products operate with input voltage of 10-30VDC from breaker panel supplied by ship's batteries. Ensure the breaker is turned off before beginning the installation.

Each of these products is designed to dissipate heat generated within the LED circuit through its integral heatsink/housing. It is important that the unit not be wrapped in insulation and that it be exposed to open airspace above the ship's "headliner". This allows for proper convection along the unit's cooling fins and will assure a junction temperature that will result in maximum life of the LED diode(s).

The Captiva PowerLED has three lead wires. The red (pos.) and black (neg.) lines are for power. The white wire is for the dimmer interface. If a Captiva PWM dimmer is to be used, the white input lead is to be connected to the "DIM - out" signal from the Imtra dimmer. If dimming is not to be used, the "dim" line should be capped and stowed.

\*Note: Power provided to the Captiva PowerLED must not go through conventional dimmers which would affect voltage input. Power must come directly from power source (i.e. battery, DC power supply).

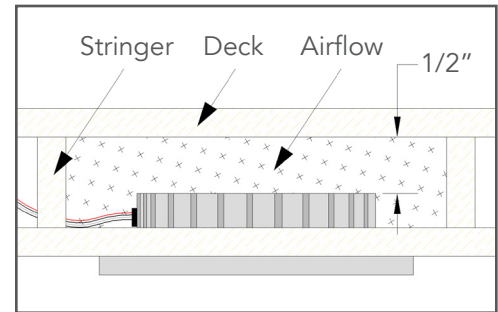


## Installation Recommendations

### Thermal Management

Imtra PowerLED products are designed for extremely long lifetimes (in excess of 35,000 hours of use), which for most boat owners, could exceed the time of boat ownership. With any power LED based product, thermal management provisions of the fixture (good design practices) and how it is installed are key to achieving this long life.

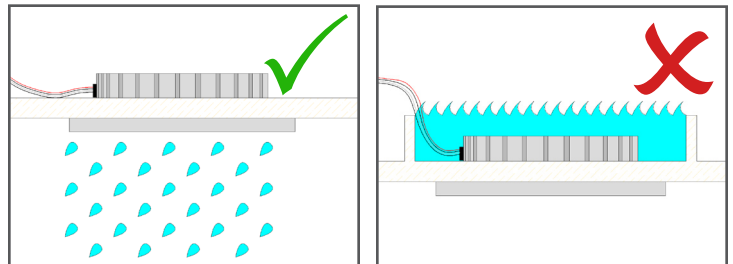
- Allow for some volume of airspace around fixture to allow convective mechanism to work.
- Provide some airflow in overhead ceiling compartments.
- Avoid covering LED fixtures with insulation, foam or other materials that will prevent convection or conduction cooling.
- Provide 1/2" minimum overhead airspace above fixture.



### Ingress Protection

The Captiva PowerLED has an IP Rating (Ingress Protection) of IP20 to protect it from ingress of foreign materials and substances that could cause premature failure. This rating is for "exposed" areas of the fixture, and is not applicable to the concealed part of the fixtures (i.e. behind the mounting surface). The space where the fixture is installed must be free from water intrusion.

- Do not submerge lights in water
- Do not install fixtures in compartments that may fill with water
- Ensure proper drainage of areas where fixtures are mounted
- Do not recess fixtures into areas where water may accumulate.



### Limited Warranty

Imtra warrants the light-emitting LSA (LED spotlight assembly) component of our IML PowerLED spot lights & fixtures for 5 years from the date of purchase. If the LSA should cease to function within 5 years, return the complete spot light assembly to Imtra for repair or replacement.

This warranty does not apply to damage resulting from actions of the user such as misuse, improper wiring/installation, operation outside of specification, improper maintenance or repair, unauthorized modification, lightning strike or damage from a power surge.

The trim ring (bezel) of the IML Power LED spot lights are warranted for either two years (stainless steel or powder coated) or one year (gold or satin-nickel) depending on the finish of the fixture.

Imtra specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Imtra's total liability is limited to repair or replacement of the product.

The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

If it should become necessary to return a fixture for service during or beyond the warranty period, please refer to Imtra's standard Return Policy as detailed on Imtra's website ([www.imtra.com](http://www.imtra.com)) or call Imtra customer service at (508) 995-7000.

No returns are accepted without a Return Authorization (RA) number.

## PWM Dimmer Installation

For installation of the Captiva PWM Dimmer, refer to **Figure 1** (picture of dimmer) and **Figure 2** (Dimmer wiring diagram).

Input voltage range is 10-30VDC.

The red and black wires grouped with the white wire are for power.

The Dim-Out (white wire) of the dimmer connects to the Dim-In (white wire) from the LSA.

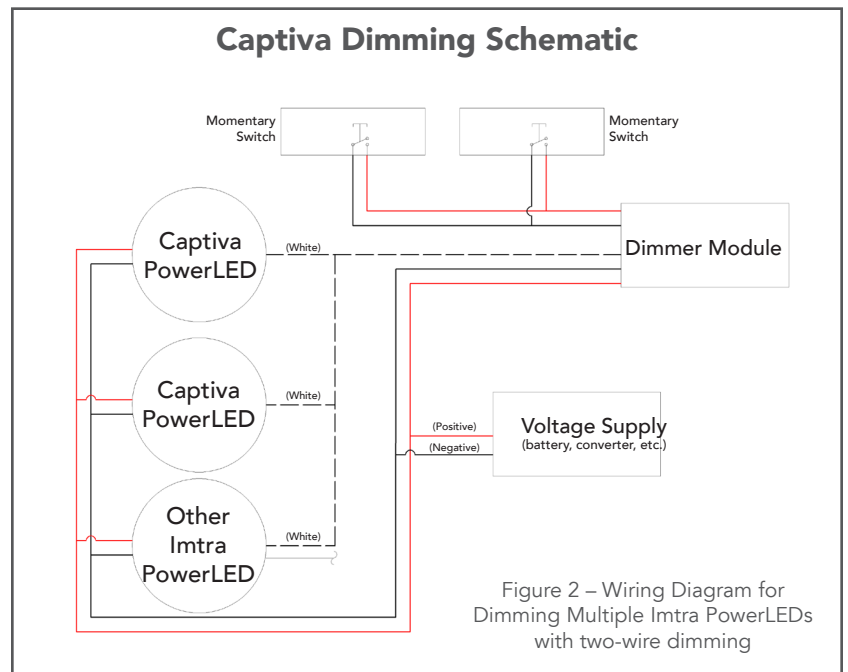
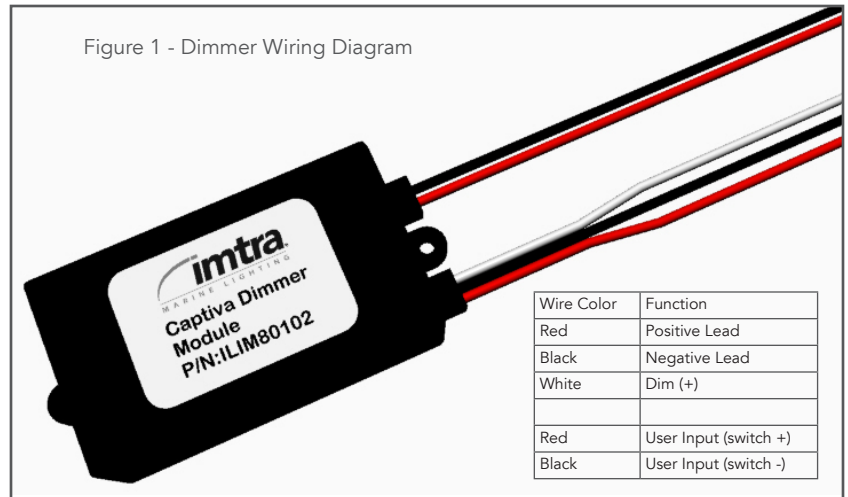
Each Dimmer supports up to 50 Captiva PowerLED units.

The dimmer is compatible with any normally-open momentary pushbutton switch (closure type) control device.

It is recommended that the dimmer module be located within 30' of the first control switch (i.e. the yellow and green control wires). This minimizes the possibility of electromagnetic interference.

Wire the other red and black wires across this type of switch. The dimmer supports a 3-way on/off control feature whereby a second (or more) switch can be used to turn on or off the IML PowerLED.

These additional momentary pushbutton switches may be wired in parallel to the yellow and green control lines.



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