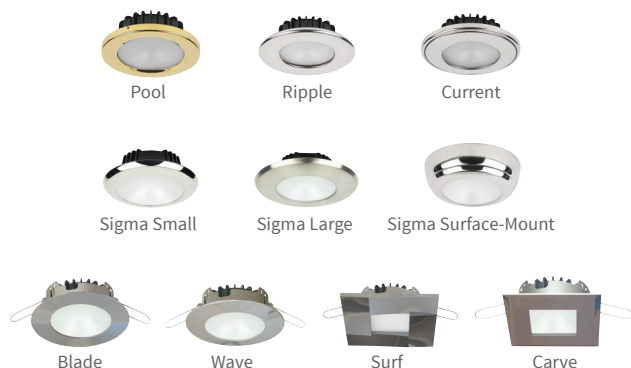




## Tri-Color Series Installation & Operation Manual



## OVERVIEW

Imtra PowerLED fixtures are uniquely suited for marine, automotive, and architectural lighting applications. They have been engineered specifically to take advantage of the latest LED (Light Emitting Diode) technology offering superior reliability, minimal power consumption, and far less radiated heat than traditional incandescent light sources. When installed properly, these products will provide years of flawless performance.

The downlights in this series provide the unique ability to switch between three different LED colors using a single on/off switch. All models are available in either red/blue/warm white or red/blue/cool white. With just two wires for power and color selection, replacing older halogen two-wire lights couldn't be simpler.

We encourage you to read this installation guide thoroughly as there are particular electronic & electrical criteria and other critical installation details that should be met in order to assure many years of enjoyment from your new PowerLED product(s). The Imtra PowerLED family of products is compatible with several Automated Control Systems. For more information on integrating our PowerLEDs with your control system, please contact us at 508-995-7000 or via email at [lighting@imtra.com](mailto:lighting@imtra.com).

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## GENERAL SPECIFICATIONS

	Blade, Wave, Surf, Carve Tri-Color	Pool, Ripple, Current Tri-Color	Sigma Tri-Color
Beam Angle (FWHM)	90°		83°
Power Consumption	5.0 Watts		
Luminous Flux (lm)*	183		197
Input Voltage	10-40 VDC		
Ingress Protection Rating (IP)	IP65** (Stainless Steel or White Finish Only)		

\*Luminous Flux: Figures are for Warm White only. Cool White figures are available on our website

\*\* The ingress protection rating applies only to frontal water exposure

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## DIMENSIONAL SPECIFICATIONS

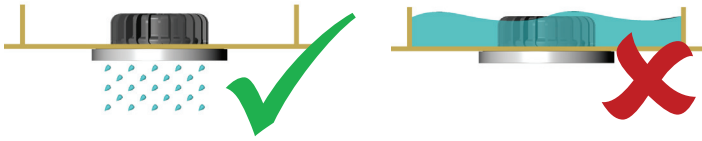
	Trim Ring Diameter	Base Diameter	Recessed Depth	Cutout	Overall Height
Pool	3.43" (87mm)	N/A	1.05" (27mm)	2.40" (61mm)	N/A
Ripple	3.80" (96mm)	N/A	1.05" (27mm)	2.40" (61mm)	N/A
Current	3.71" (94mm)	N/A	1.05" (27mm)	2.40" (61mm)	N/A
Sigma Small	3.57" (91mm)	N/A	0.90" (23mm)	2.56" (65mm)	N/A
Sigma Large	4.35" (10mm)	N/A	0.90" (23mm)	2.56-3.42" (65-87mm)	N/A
Sigma Surface Mount	3.57" (91mm)	4.07" (103mm)	N/A	N/A	1.25" (32mm)
Wave	Ø3.63" (Ø92mm)	N/A	1.06" (27mm)	2.65" (67mm)	N/A
Surf	3.63" x 3.63" (92 x 92mm)	N/A	1.05" (27mm)	2.65" (67mm)	N/A
Blade	Ø3.63" (Ø92mm)	N/A	1.09" (28mm)	2.65" (67mm)	N/A
Carve	3.14" x 3.14" (80 x 80mm)	N/A	1.05" (27mm)	2.65" (67mm)	N/A

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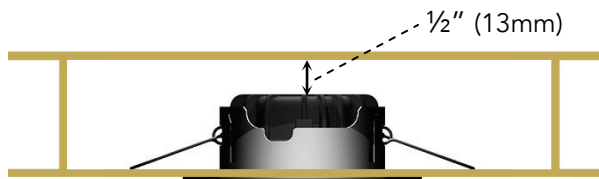
## PHYSICAL INSTALLATION

(Blade, Wave, Surf, Carve Tri-Color)

It is imperative that the lights are mounted in a location that the fixtures are protected from the rear again water exposure.



Also, it is important that the lights are mounted with airspace around the heat sink housing to allow for convective cooling of the lights. We recommend a distance of ½" (13mm) of free space above the housing.



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## INSTALLATION INSTRUCTIONS

(Blade, Wave, Surf, Carve Tri-Color)

1. Cut a circle in the mounting surface according to the cutout diameter required by your light. (See Dimensional Specifications on page 3)
2. Connect the light to a DC power source following the wiring instructions in the next section of this guide.
3. Once all electrical connections are made and secure, gently bend back the mounting springs of your PowerLED and insert the spring tips into the cutout circle in the mounting surface. (See Figure 1)
4. Gently push the light into the mounting hole allowing the springs to come to rest on the inside of the surface, holding the light in place. (See figure 1)

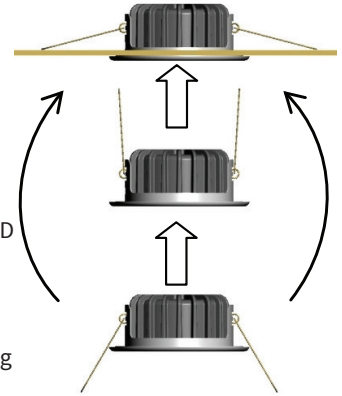


Figure 1

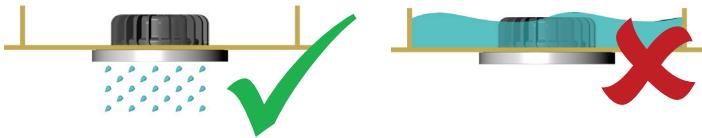
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## PHYSICAL INSTALLATION

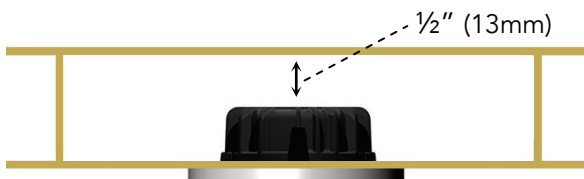
(Pool, Ripple, Current Tri-Color)

It is imperative that the lights are mounted in a location that the fixtures are protected from the rear again water exposure.

Also, it is important that the lights are mounted with airspace around



the heat sink housing to allow for convective cooling of the lights. We recommend a distance of ½" (13mm) of free space above the housing.



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## INSTALLATION INSTRUCTIONS

(Pool, Ripple, Current Tri-Color)

1. Cut a circle in the mounting surface according to the cutout diameter required by your light. (See Dimensional Specifications on page 3)
2. Connect the light to a DC power source following the Wiring Instructions in the next section of this guide.
3. Once all electrical connections are made and secure, twist and remove the trim ring of your PowerLED and insert it into the cutout circle in the mounting surface. Fasten with #6 flat head screw. (See Figure 2)
4. Place the trim ring/lens over the light making sure the tabs of the trim ring engage with the openings in the housing. Twist the trim ring on to secure it.

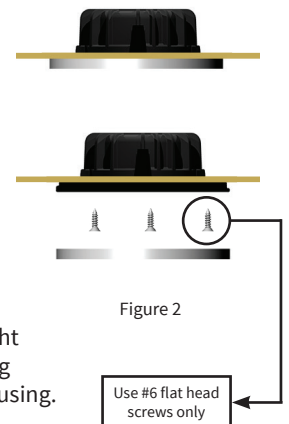


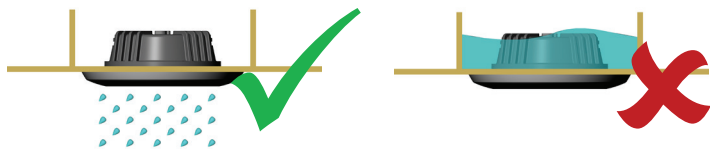
Figure 2

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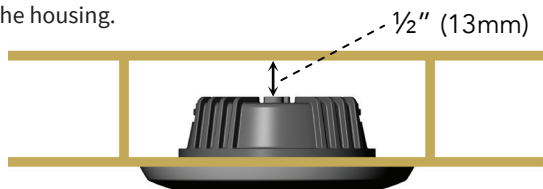
## PHYSICAL INSTALLATION

(Sigma Small, Sigma Large Tri-Color)

Whether the lights are installed using the springs provided or by screw-mounting, it is imperative that the lights be mounted in such a location that the fixtures are protected from the rear against water exposure.



It is important that the lights are mounted with airspace around the heat sink housing to allow for convective cooling of the lights. For recessed applications (this does not apply for surface-mount installations), we recommend a distance of 1/2" (13mm) of free space above the housing.



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## INSTALLATION INSTRUCTIONS

(Sigma Small, Sigma Large Tri-Color)

These models are supplied with stainless steel mounting springs for convenience. If your application requires a more secure and water-tight installation, you may screw-mount the fixtures but only after removing the springs. This can be done by first squeezing the coils together and then angling the free side up and away from the spring retaining tabs. (See Figure 3)

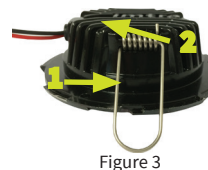


Figure 3

**A. Spring-Mount Version (Sigma Small or Sigma Large):** With trim ring attached, gently bend back the mounting springs and insert the spring tips into the cutout hole in the mounting surface. (See Figure 4)

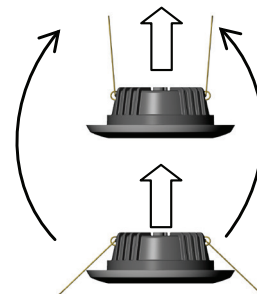


Figure 4

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## INSTALLATION INSTRUCTIONS

(Sigma Small, Sigma Large Tri-Color)

**B. Screw-Mount Version (Sigma Small or Sigma Large):** Twist and remove the trim ring and insert it into the cutout hole in the mounting surface. Fasten with three #4 flat head screws. (See Figure 5) Place the trim ring over the light making sure the tabs of the trim ring engage with the openings in the housing. Twist the trim ring on to secure it.

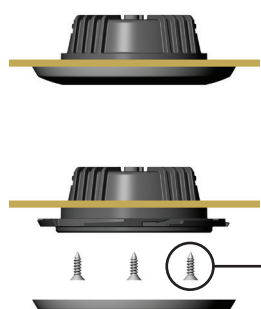


Figure 5

Use #4 flat head screws only

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## INSTALLATION INSTRUCTIONS

(Sigma Surface-Mount Tri-Color)

1. Position mounting base in desired location and secure using (3) #4 flat head screws.
2. Twist and remove the trim ring from the LED subassembly. Connect the LED subassembly to a DC power source by passing the wires through the mounting base following the wiring instructions in the next section of this guide.
3. Once all electrical connections are made, place the led subassembly housing into the base, line up the holes and secure with (3) machine screws which are included. (See Figure 6)
4. Place the trim ring over the light making sure the tabs of the trim ring engage with the openings in the housing. Twist the trim ring on to secure it.

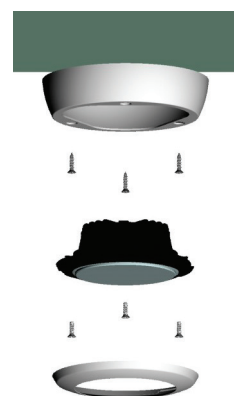


Figure 6

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# WIRING INSTRUCTIONS

All the models in the Tri-Color Series may be controlled with a single on/off switch. Power input and color sequencing instructions are carried over just two wires (DC-/DC+). Connect the light to a DC power source (DC breaker panel or DC power supply). Connect the red wire to positive DC voltage and the black wire to negative or ground.

Wire	Function
Red	+ Power/Color
Black	- Power/Color

## Notes on wire sizing

The PowerLED family of products comes equipped with integrated driver electronics. These components are sensitive to DC systems with voltage drops. Therefore, it is imperative to select the correct wire size to supply DC voltage to the lights. This prevents excessive impedance and voltage drops which can cause premature failure in the PowerLEDs. It is recommended that the supply wire size be selected according to the ABYC Wiring Recommendations Chart for a 10% voltage drop. These charts can be found at [www.imtra.com](http://www.imtra.com).

# OPERATION

Turn on power to the lighting circuit (at breaker panel).

If lights were ON when power to the circuit was shut down, then the lights will come on RED regardless of the color they were previously set at.

If lights were OFF when power to the circuit was shut down, then the lights will need to be turned on at the switch that controls the lighting circuit.

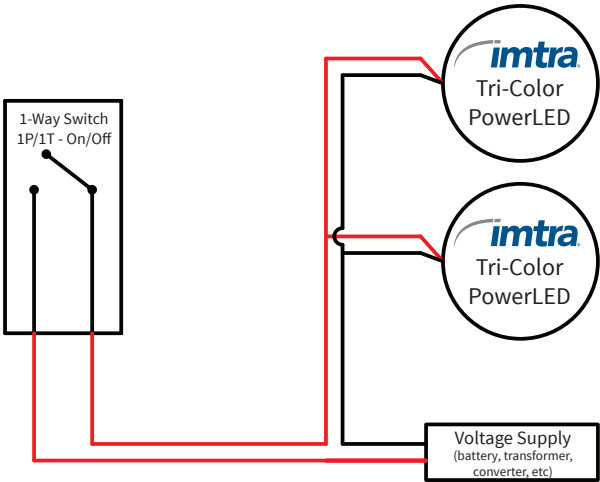
With power to the circuit ON, using standard on/off (toggle) switch, toggle the switch once to ON. The RED mode will always be the first color to activate.

To change to the next color (blue), toggle the switch OFF and then ON again within 4 seconds. To go the next color (white), repeat this step. The correct sequence is always RED-BLUE-WHITE. If you wait more than 5 seconds before toggling the switch back ON, all the lights will revert to RED automatically. Due to tolerance settings of internal components it is possible that some lights could require more time (milliseconds) than others to reset. If your lights should get out of sequence, you may need to delay the toggle just beyond 5 seconds (but not more than 6 seconds).

Toggling too quickly can result in lights getting out of sequence. If this should happen, simply turn off the circuit at the toggle switch and wait at least 5 seconds before turning back ON again. The lights should all return to RED mode and return to default sequence. If the lights should still be out of sequence then repeat this step but delay turning back ON for an additional second or two.

## Wiring Diagram

- Tri-Color Sequencing & Selection
- No Dimming
- Single Switch Location



# LIMITED WARRANTY

Imtra warrants the light-emitting LSA (LED subassembly) 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 one year.

Imtra specifically disclaims any implied warranties, 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.