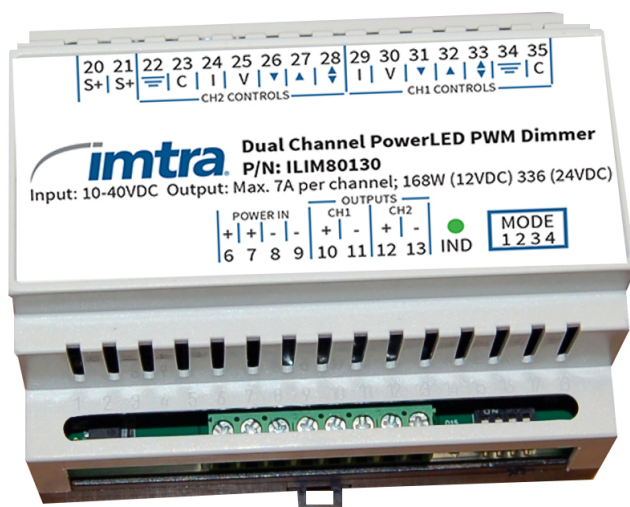




PowerLED PWM Dimming Control Reference Manual – ILIM80130



Overview

Imtra’s model ILIM80130 LED 2 Channel Dimmer Module provides dimming for “PWM Enabled” PowerLED Downlights and supports a broad range of lighting configurations and control methods.

The ILIM80130 can control many PowerLED Downlights on each channel, only limited by the total current being drawn. It supports PWM current switching of up to 7A per channel (168W/12VDC and 336W/24VDC combined). It also supports Imtra Bi-color Downlights up to 2A per channel (48W/12VDC and 96W/24VDC).

Control interfaces are provided to support:

- Single and dual momentary pushbuttons
- 0-10V Analog control (external voltage or potentiometer)
- 4-20mA Analog control

The two channels may be operated as totally independent lighting zones or “Paired” together so that both channels are controlled in unison.

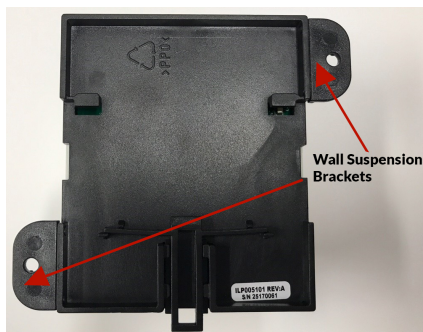
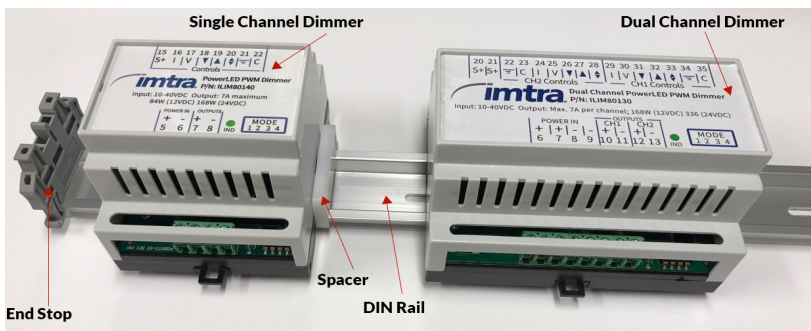
Specifications

ILIM80130	
Length	4.13” / 105mm
Width	3.39” / 86mm
Height	2.32” / 59mm
Input Voltage Range	10-40VDC
Capacity	Up to 7A per channel (14A total)* : Single Color Up to 2A per channel (4A total)* : Bi-Color
Control Interface	N.O. Contacts
IP Rating	IP40

***Note:** Exceeding maximum current can permanently damage dimmer module.

Installation

The ILIM80130 dimmer may be mounted on standard 35mm DIN Rail or via the wall suspension brackets (provided). When mounting on a vertical surface, be sure that the orientation is such that the air vents are on top and bottom to allow for sufficient air flow.



Wiring and Controls

The ILIM80130 PowerLED PWM Dimmer is used to operate up to two circuits of Imtra PowerLED fixtures with on/off, dimming, and dual color control. Before making any connections, be sure all power in the circuit is turned off at the breaker. To install your PowerLED Dimmer, connect the wires in accordance with the following wiring schematics. Failure to follow the wiring schematic exactly as shown could result in failure and permanent damage to the dimmer.

The various modes are set using the DIP SW settings (shown below) as indicated in the wiring diagrams: Dimmers are shipped with DIP SW set to 0000 and a mode **MUST** be set by the installer to achieve desired configuration.



The mode may be changed by turning power off to the dimmer, using a small screw driver to set the appropriate DIP Switch settings ("1" is "ON", "0" is "OFF"). The new mode will be recognized by the dimmer the next time it is powered up.

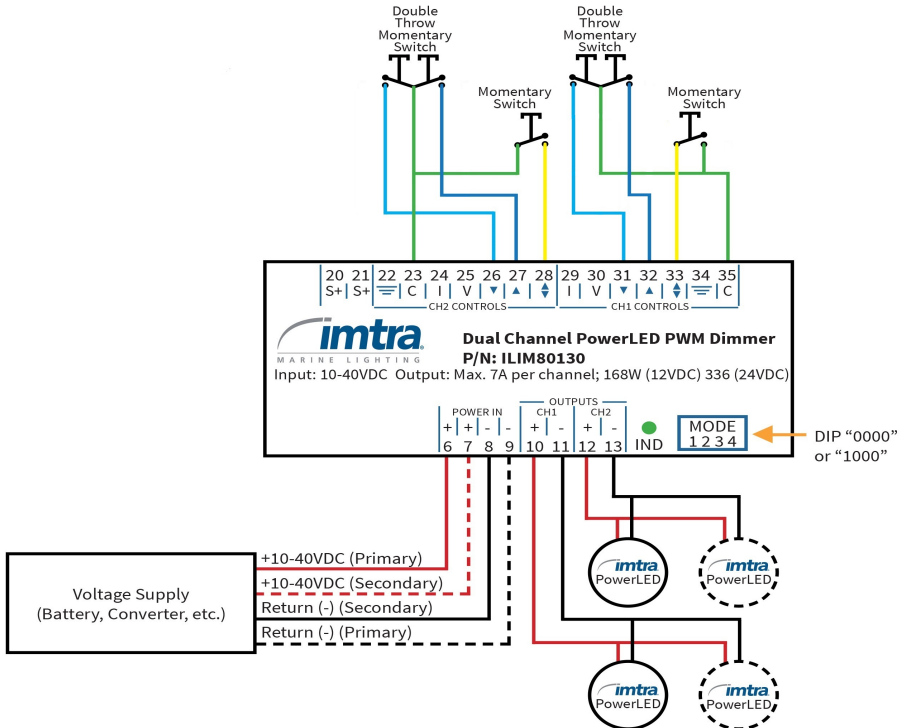
1. Pushbutton Controls: Standard Modes

This wiring configuration is used to manually, independently control single color PowerLED fixtures on each channel using Single and Double Momentary switches.

This Mode is selected by setting “0000” or “1000” on the DIP SW, with power off to the dimmer.

MODE: 0000 (Default Digital Controls – Lights off when power applied)

MODE: 1000 (Digital Controls – Lights return to last state when power applied)



- For single momentary push button operation
 - Tap any one pushbutton to turn on or off
 - Press and hold any one pushbutton to dim up or down
- For double momentary pushbutton operation
 - Tap the button wired to the UP terminal to turn on
 - Tap the button wired to the DOWN terminal to turn off
 - Press and hold any one of the momentary pushbuttons to dim up or down
- When the PowerLED Dimmer and Lights are set to off, a tap of the single or UP momentary pushbutton will always turn them on to the previous setting

- When the PowerLED Dimmer and Lights are set to off, pressing and holding the single or UP momentary pushbutton will increase intensity up from 0%

Power Up Default

When the unit is set to Mode “0000” and power is turned off and back on, the default setting when powered up again is always off.

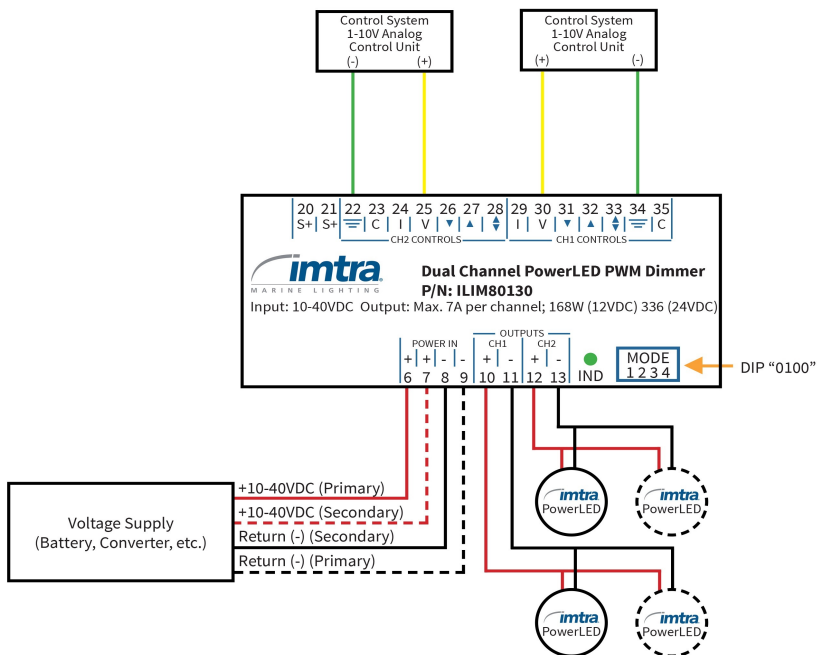
When the unit is set to Mode “1000” and power is turned off and back on, the default setting upon power up will be the last DIM level selected.

2. Analog External Control (0-10V)

This wiring configuration is used to independently control Imtra PowerLED fixtures on each channel from vessel centralized control systems that employ 0-10V analog control signals. This Mode is selected by setting “0100” on the DIP SW, with power off to the dimmer.

For 0-10V interfaces, wire the positive signal to the “V” terminal & the return signal to “ground” as shown in the wiring diagram. The PWM dimming level & 0-10V signal input are linearly related (0V - 0%; 10V - 100%).

MODE: 0100 (0-10V Analog External Control)



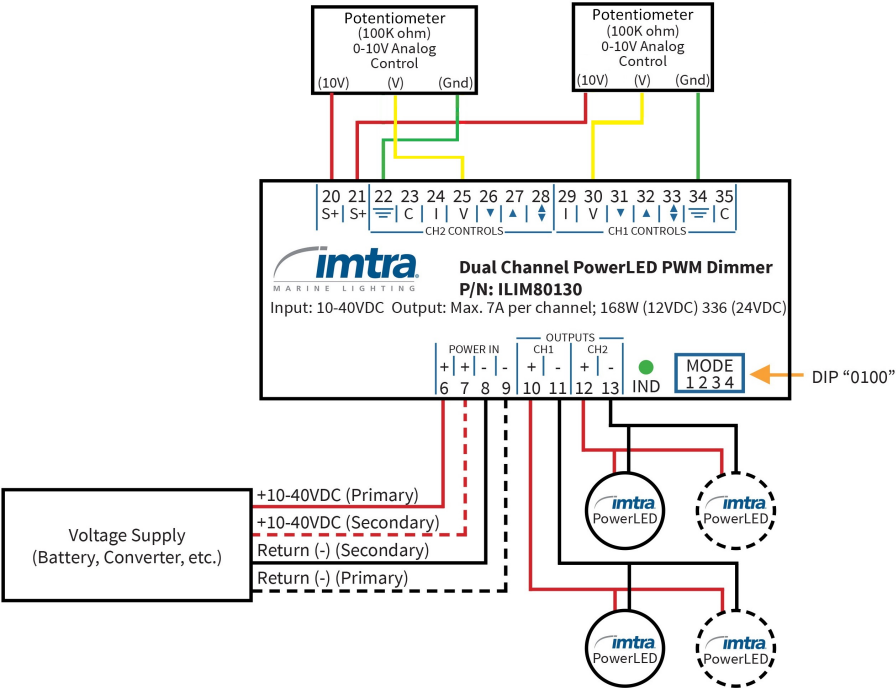
3. Potentiometer Control

This wiring configuration is used to independently control Imtra PowerLED fixtures on each channel from a dedicated potentiometer (100k ohm). This Mode is selected by setting “0100” on the DIP SW, with power off to the dimmer.

For 0-10V interfaces using a potentiometer, wire the “S+” terminal to the positive input of the potentiometer, the “V” terminal to the positive DIM signal (wiper on potentiometer) and the return signal to “ground” as shown in wiring diagram.

The PWM dimming level and 0-10V signal input are linearly related (0V - 0%; 10V - 100%).

MODE: 0100 (0-10V Analog Potentiometer Control)



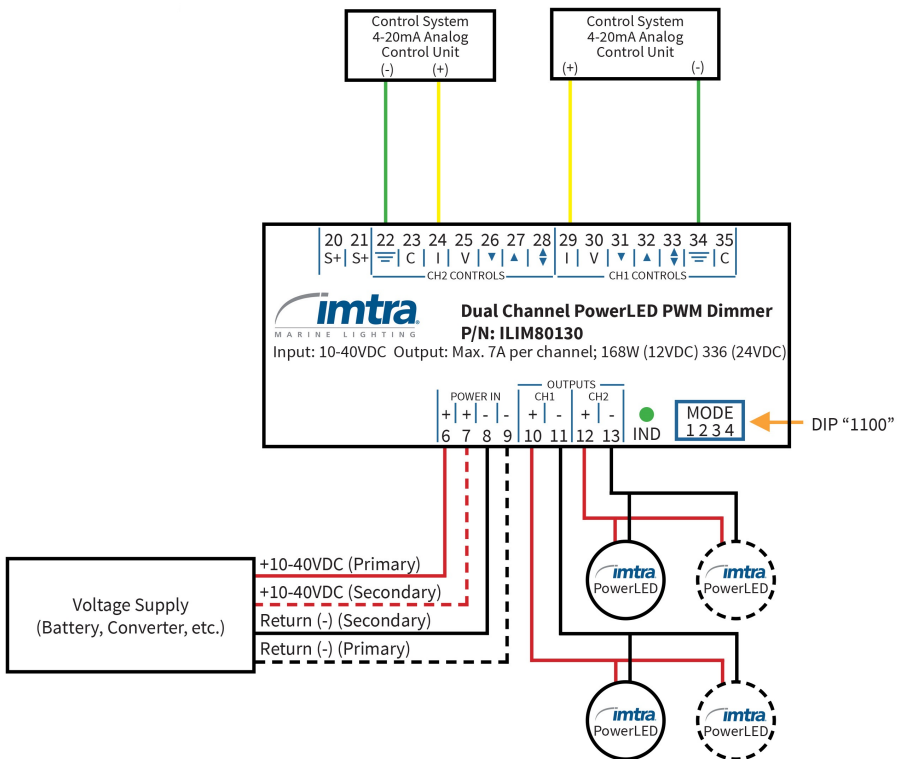
4. Analog External Control (4-20mA)

This wiring configuration is used to independently control Imtra PowerLED fixtures on each channel from vessel centralized control systems that employ 4-20mA current loop analog control signals. This Mode is selected by setting “1100” on the DIP SW, with power off to the dimmer.

For 4-20mA interfaces, wire the positive signal to the “I” terminal and the return signal to “ground” as shown in the wiring diagram.

The PWM dimming level and 4-20mA signal input are linearly related (4mA - 0%; 20mA - 100%).

MODE: 1100 (4-20mA Analog External Control)



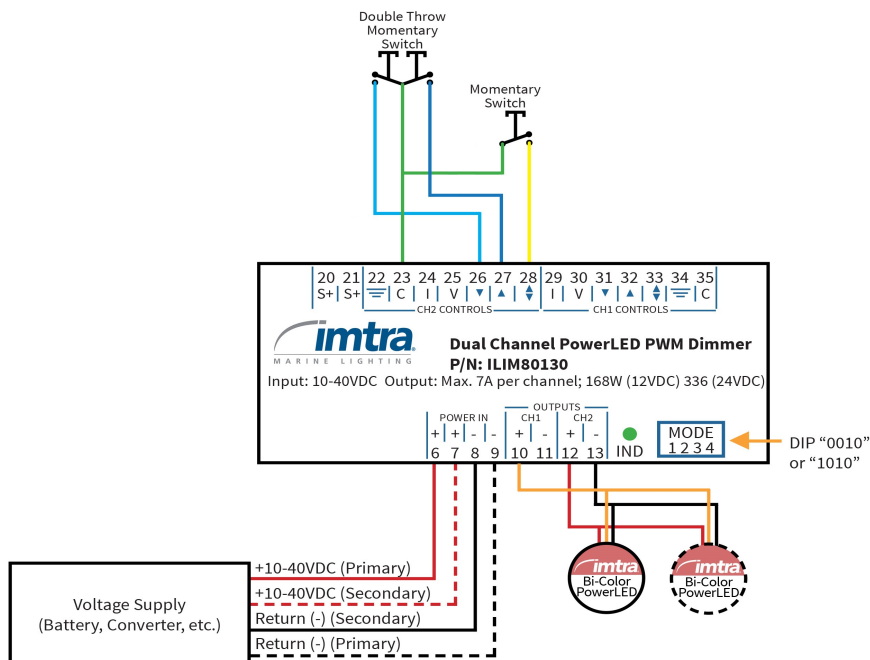
5. a) Pushbutton Controls: Bi-Color Lights

This wiring configuration is used to control Imtra Bi-color PowerLED fixtures using Single and Double Momentary switches. Each Dimmer channel is used to control each color of the Bi-color Light.

This Mode is selected by setting “0010” or “1010” on the DIP SW, with power off the dimmer.

MODE: 0010 (Bi-Color Digital Controls – Lights off when power applied)

MODE: 1010 (Bi-Color Digital Controls – Lights return to last state when power applied)



- For single momentary push button operation
 - Tap any one pushbutton to turn on or off
 - Press and hold any one pushbutton to dim up or down
 - Double tap to change color
- For double momentary pushbutton operation
 - Tap the button wired to the UP terminal to turn on
 - Tap the button wired to the DOWN terminal to turn off
 - Press and hold any one of the momentary pushbuttons to dim up or down
 - Double tap the UP terminal to change color
- When the PowerLED Dimmer and Lights are set to off, a tap of the single or UP momentary pushbutton will always turn them on to the previous setting

- When the PowerLED Dimmer and Lights are set to off, pressing and holding the single or UP momentary pushbutton will increase intensity up from 0%

5. b) Pushbutton Controls: Bi-Color Lights & Single Color Lights (mixed)

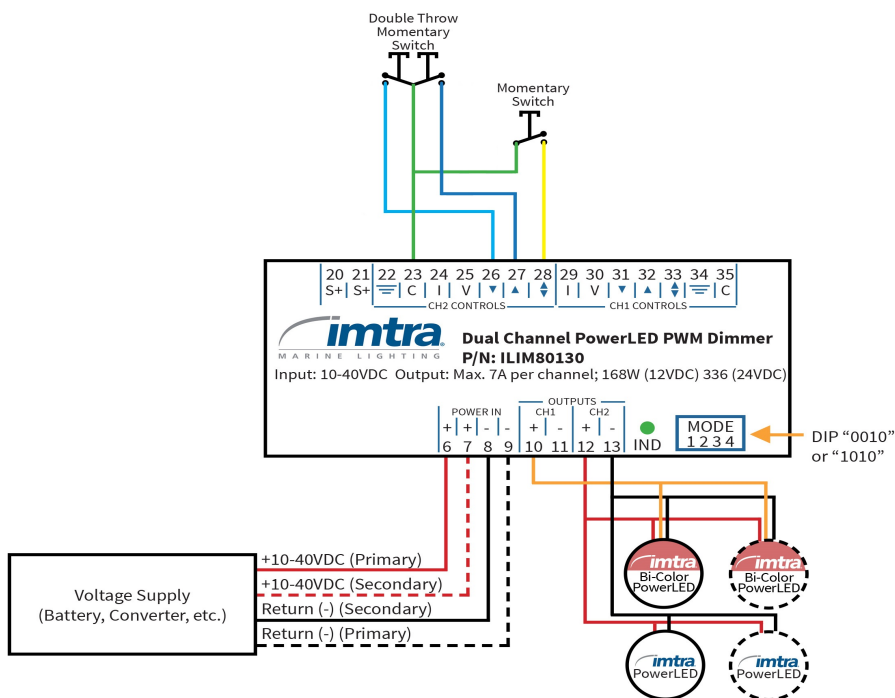
The user may operate a mix of “white only” and Bi-color light fixtures on same dimmer circuits. However, the white only lights must be connected on same circuit as the white channel on the Bi-color lights as shown below. Thus, the white only lights will only come on with the “white” channel of the Bi-color. See wiring in diagram below.

Also, if Red or Blue “Only” light fixtures are being used with Bi-color lights, they may be connected on the “color” channel (orange wire circuit) and will come on when the color channel of the Bi-color units is commanded on.

MODE: 0010 (Bi-Color Digital Controls – Lights off when power applied)

MODE: 1010 (Bi-Color Digital Controls – Lights return to last state when power applied)

Mixed White and Bi-Color Lights



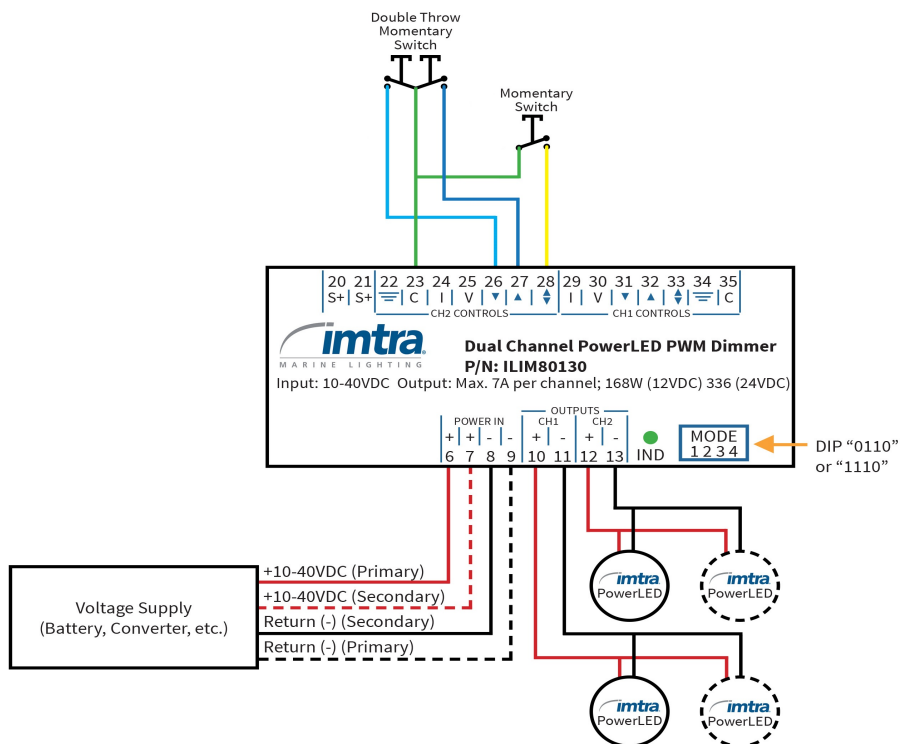
6. Pushbutton Controls – Paired Control

This wiring configuration is used to control single color Imtra PowerLED lights on both channels using Single and Double Momentary switches.

This Mode is selected by setting “0110” or “1110” on the DIP SW, with power off to the dimmer.

MODE: 0110 (Paired Digital Controls – Lights off when power applied)

MODE: 1110 (Paired Digital Controls – Lights return to last state when power applied)



- For single momentary push button operation
 - Tap any one pushbutton to turn on or off
 - Press and hold any one pushbutton to dim up or down
- For double momentary pushbutton operation
 - Tap the button wired to the UP terminal to turn on
 - Tap the button wired to the DOWN terminal to turn off
 - Press and hold any one of the momentary pushbuttons to dim up or down
- When the PowerLED Dimmer and lights are set to off, a tap of the single or UP momentary pushbutton will always turn them on to the previous setting

- When the PowerLED Dimmer and lights are set to off, pressing and holding the single or UP momentary pushbutton will increase intensity up from 0%

7. Other Features

LED Mode Indicator: On the front of dimmer between the Outputs and Mode graphics is a small LED indicator marked “IND”. A blinking green indicates stand-by mode (power to dimmer but lights off) and a steady green indicates lights on and functioning.

Primary/Secondary Power Inputs: There are two +/- power input terminals. This allows the flexibility to split the current by running two sets of (smaller diameter) power cables in order to prevent/limit voltage drop when presented with extra-long runs.

Limited Warranty

Imtra warrants these dimming control products for 2 years from the date of purchase. If the dimmer module should cease to function within 2 years, return it 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.

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) or call Imtra customer service at (508) 995-7000.

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



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