

OptoLum Trim Linear Light Strips

Trim HO, MO, LO

SAVE THESE INSTRUCTIONS

Important Safety Instructions

- a) Read all instructions.
- b) Do not conceal or extend exposed conductors through a building wall.
- c) Do not install this luminaire in wet or damp locations.
- d) To reduce the risk of fire and burns, do not install this lighting system where the exposed bare conductors can be shorted or contact any conductive material.
- e) To reduce the risk of fire and overheating, make sure all connections are tight.
- f) Do not install any luminaire closer than 6 inches (150mm) from any curtain, or similar combustible materials.
- g) **Turn off electrical power before modifying the lighting system in any way.**

GETTING STARTED

OptoLum Trim offers indoor cove lighting, display case lighting, and wall washing in a compact, linear form. This guide contains important information on planning, installing, and operating your new Trim Luminaire. For your protection, read it carefully and save it for future reference.

INCLUDED IN THIS BOX

- 1 - Trim Luminaire with mating power connector to attach to power supply.
- 1 - Set of mounting clips, *or* foam tape, *or* magnetic strips. Mounting clips are pre-drilled to accommodate a #4 Pan Head Screw (Not Included). Foam tape and magnetic strips will be pre-applied to Trim Luminaire at manufacturer specified locations.
- 1 - Installation Guide

ADDITIONAL ITEMS NEEDED

- 1 - UL Listed, Class 2, 24VDC power supply with mating secondary power connector that matches to Trim power connector, and wire leads for connection to primary 120VAC.
- #4 Pan Head Mounting Screws (1 per Mounting Clip)
- Screwdriver
- Drill
- Level or Chalk Line

SCOPE OF THIS USER GUIDE

The goal of this user guide is to explain, in an easily understandable language, the necessary steps to install Trim Luminaires and assure peak performance. Its intended use is for reference only, by persons who are fully qualified. This document should never be considered a substitute for any provision of a regulation or state and/or local code.

OWNER/USER RESPONSIBILITIES

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate Trim Luminaires in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standard Institute Safety Code.

IDENTIFICATION AND WARNINGS OF SAFETY HAZARDS

In accordance with ANSI Z535.4-2002 the following system of identifying the severity of the hazards associated with the products is used:

“DANGER”: Imminently hazardous situation which, if not avoided, will result in death or serious injury.

“WARNING”: Potentially hazardous situation that, if not avoided, could result in death or serious injury.

“CAUTION”: Potentially hazardous situation that, if not avoided, may result in minor or moderate injury or property damage.

DANGER: Ensure that main power supply is off before installing or wiring Trim Luminaires. Failure to adhere to these instructions will result in death or serious injury.

DANGER: Trim Luminaires must be installed by a qualified electrician in accordance with NEC and relevant local codes. Failure to comply will result in death or serious injury.

WARNING: Do not install or use Trim Luminaires before reading and understanding the installation instructions and safety labels. Failure to do so could result in death or serious injury.

WARNING: Do not use Trim Luminaires if the power cables are damaged. Doing so could result in death or serious injury.

CAUTION: Use appropriate materials and mounting methods to support the fixture adequately. Failure to do so will result in property damage and void the warranty.

CAUTION: Trim Luminaires have no user serviceable parts. Do not attempt to service the fixture. Doing so will result in property damage and void the warranty.

CAUTION: Trim Luminaires must be used with a UL Listed, Class 2, 24VDC power supply. Failure to do so will result in property damage and void the warranty.

CAUTION: Do not exceed recommend length of Trim Luminaires type per 96W power supply (see Luminaire Length Table). Doing so will result in current overload, causing property damage and voiding the warranty.

CAUTION: Do not use sharp tools near or on the fixture’s electrical components. Doing so will result in property damage and void the warranty.

CAUTION: Do not hot swap. Ensure that power to the fixture is off before connecting or disconnecting fixtures. Hot swapping will result in property damage and void the warranty.

CAUTION: Trim Luminaires are a Class 2 LED product with LED radiation. Do not stare into beam or view directly with optical instruments.

CAUTION: To prevent the risk of fire, do not install a 12” (300mm) section closer than 0.25” (6.35mm) to a wall or in a compartment smaller than 13” by 1” by 1” (330mm by 25 mm by 25 mm).

NOTE: The instructions and precautions set forth in this user guide are not necessarily all-inclusive, all conceivable, or relevant to all applications as OptoLum cannot anticipate all conceivable or unique situations.

OPERATING TEMPERATURE

The Trim Luminaire is designed with the latest LED technology to provide the maximum possible light output in a slim linear fixture. Although Trim Luminaires operates at much cooler temperatures than traditional high illumination light fixtures, the housing can reach temperatures of 145 °F (63 °C) (HO). For this reason, provide adequate ventilation to the fixture and handle with care to prevent injuries. Adequate ventilation refers to the airflow over the surface of the fixture and air flow within the room, not the room temperature. A Trim Luminaire in a hot (40 °C) room with a fan or ventilation system that keeps air moving can actually run cooler on its surface than in a cool (20 °C) room with stagnant air. During normal operation, the luminaire housing becomes very hot and remains hot for an extended time after operation is suspended. Exercise caution when handling the fixture after extended operation to prevent injury.

PLAN THE INSTALLATION

The nature and complexity of Trim Luminaires installation requires in-depth planning to ensure timely, successful installation with minimal complications and down time. When planning Trim Luminaire installation, OptoLum suggests doing the following:

- Consult an Electrical Inspector to approve all wiring plans
- Refer to local and state codes for installation compliance
- Contact OptoLum Technical Support Services for troubleshooting

INSTALLATION CONSIDERATIONS

When creating your installation plan, consider the following:

- **Zones:** Create luminaire zones by laying out where the fixtures will be installed that will be designated to a power supply. All fixtures attached to that power supply reside within the designated zone. Each zone must not exceed the recommended load on its designated power supply (**See Luminaire Length Table**). For installations where groups of luminaires are controlled individually, set unique zones each with their own power supply.
- **Location of power supply in relationship to luminaires:** Ensure that the appropriate wire gauge is used to support the distance from the power supply to the luminaire to avoid voltage drop. Voltage drop will cause damage to the luminaire.
- **Location of the fixture and method of attaching:** Fixture locations need to be determined to mark mounting clip locations. Trim Luminaires are supplied with plastic clips that are to be attached by inserting a #4 pan head screw (not included) through the hole in the base of the mounting clip and securing it to a mounting surface such as metal, wood, or plastic. When the location has been determined, the hole location in the base of the clip should be marked to indicate predrilling locations for screw installation. Use a level, or chalk line, to ensure that the hole locations are in line. The mounting clips provided are to be installed to the mounting surface approximately every 6-8 inches (300mm). In the case of a 6-12 inch (300mm) fixture the mounting clips should be installed to the mounting surface two inches (50mm) in from both ends of the fixture to ensure a strong installation. Fixtures supplied with foam tape or magnetic strip mounting may disregard this consideration, but should still use a level or chalk line to ensure proper fixture placement.

Luminaire Length Table

Length of luminaire to power supply (Standard power supply: 96 Watts)

Luminaire:	Trim HO	Trim MO	Trim LO
Watt/Foot; (Watt/Meter):	4.5 W/ft (14.8 W/m)	2.9 W/ft (9.5 W/m)	2.1 W/ft (6.9 W/m)
Max Length / 96 Watt Supply:	20 ft (6.1 m)	32 ft (9.75 m)	45 ft (13.7 m)
Max Supply Lead Length (18Ga Wire):	10 ft (3 m)	16 ft (4.8 m)	22 ft (6.7 m)
Max Supply Lead Length (16Ga Wire):	15 ft (4.5 m)	24 ft (7.3 m)	33 ft (10 m)

Mounting Clip/Foam Tape Table

Minimum required quantity of mounting clips / foam tape segments

Fixture Length	Minimum Quantity Required
up to 6"	1
6" - 12"	2
12" - 24"	3
24" - 36"	4
36" - 48"	5
48" - 60"	6

STEPS TO A SUCCESSFUL INSTALLATION

1. Install the junction box/power supply
2. Install the fixture
3. Connect power from the power supplies to the fixture

DANGER: Ensure that the power source is off before wiring the power supply or connecting fixtures. Failure to do so will result in serious injuries or death.

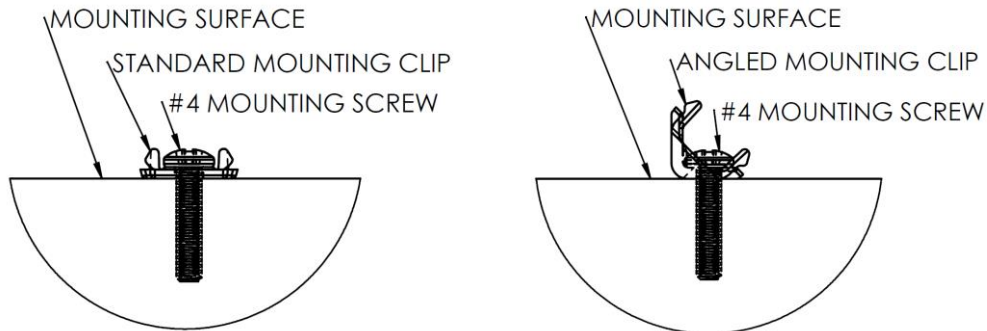
1. INSTALL THE JUNCTION BOX/POWER SUPPLY

Determine a location for the junction box/power supply. Verify the length of Trim Luminaire that can be supported by the power supply. Multiple power supplies are required for installations that exceed the allowable length per power supply. **(See Luminaire Length Table)**

2. INSTALL THE FIXTURE

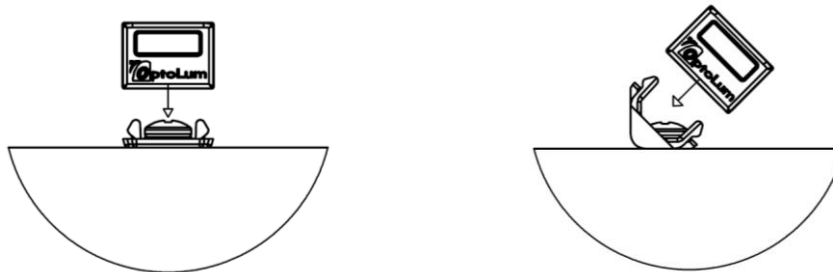
First, install the mounting clips in the marked locations with the appropriate length and type of screw for the surface that it is being mounted to (See diagrams below).

- Note: Use a level, or chalk line, to ensure that mounting clips remain linear.



When the clips are securely in place the fixtures can be mounted by simply pushing the fixture into the secured clips that are mounted to the surface.

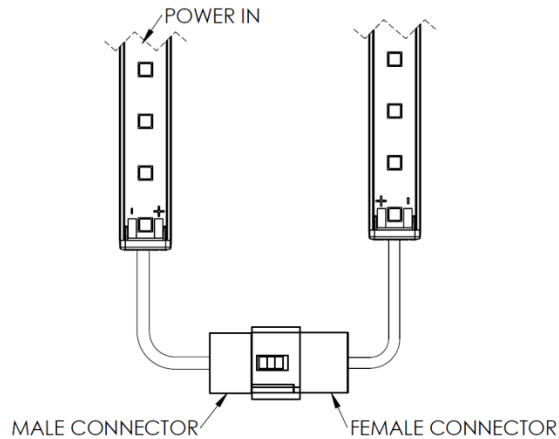
- Note: It can be helpful to install the fixture on one side of the clip and apply pressure to the opposite side to snap the fixture into place.



For foam tape or magnetic strip mounted fixtures, simply remove the adhesive liner, place the fixture in its pre-defined position and apply pressure to activate the adhesive.

- Note: Magnetic strip mounted fixtures will arrive with the magnets already together and one side attached to the fixture. It is recommended that the magnets remain together while positioning the fixture for installation, which will prevent mismatch during final installation. Once the fixture is positioned in the mounting location, the magnets may be detached and pressure applied to activate the adhesive.

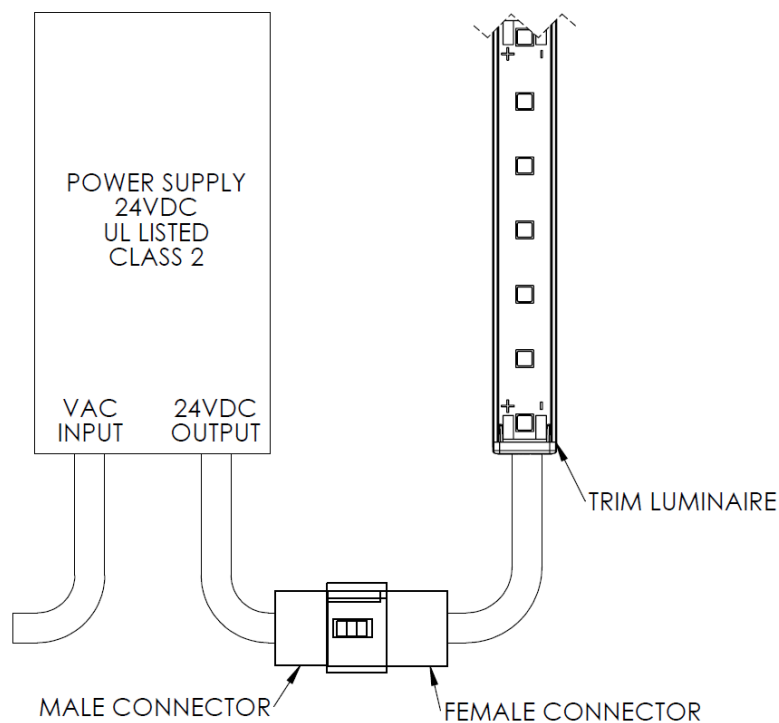
When all fixtures are installed, connect the mating connector to the next fixture when applicable.
DO NOT CONNECT THE FIXTURES TO POWER until all fixture connections are complete.



3. CONNECT THE POWER

Connect the secondary power cable from the junction box/power supply to the power lead on the first Trim Luminaire in the series using the mating connectors at the ends of the wires to finalize the power connection.

If the provided connectors will not be used, ensure that the power supply positive wire is connected to the positive (white) wire of the Trim Luminaire and the power supply negative wire is connected to the negative (white with black stripe) wire of the Trim Luminaire. All connections must be made in accordance with local and state code.



TRIM SPECIFICATIONS

Color Temperature

Warm White

2400K 2700K 3000K 3500K 4000K

Cool White

4500K 5000K

Additional colors are available upon request

Housing Anodized Aluminum

Cable 2 wire 18AWG with Molex mating connectors

Listings UL 2108

ELECTRICAL SPECIFICATIONS

Input 24VDC

Junction Box/Power Supply UL Listed, Class 2, 24VDC Required

ENVIRONMENTAL SPECIFICATIONS

Temperature Range -4°F to 104°F (-20°C to 40°C)

Spacing Requirements Power Supply: minimum 4" (100mm) on each side and 2" (50mm) above

U.S. AND FOREIGN PATENTS AND PATENTS PENDING

U.S. Patent #6,573,536, U.S. Patent #6,815,724, and U.S. Patent #6,831,303, U.S. Patent # 7,242,028, U.S. Patent #7,288,796, other patents pending. OptoLum Inc. grants the purchaser of its lighting products and controllers a personal and non-transferable license to use ThermoLum™, its patented technology for thermally optimized LED-based lighting fixtures for illumination, display and design. This license is granted only by OptoLum Inc., and may not be transferred except by the grantor. The design, duplication, manufacture, or sale of other products using thermally optimized LED-based lighting may be prohibited and is not licensed hereunder.

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Specifications subject to change without notice.

SOURCE LIFE

OptoLum illumination products utilize high brightness LEDs as the illumination source. LED manufacturers predict LED life of up to 50,000 hours at 70% of lamp lumen output, *however*, like all basic light sources, LEDs also experience lumen depreciation over time. So while LEDs can emit light for an extremely long period of time, MTBF is not the only consideration in determining useful life. LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations. OptoLum systems are expertly engineered to optimize LED life when used under normal operating conditions [ambient temperature: -4° F to 104° F (-20° C to 40° C), humidity: 0-95% non-condensing humidity, adequate ventilation and air volume]. Long-term operation outside of these ranges or conditions, or at the upper limits of these ranges or conditions, may subject the product to further degradation of the LED source life, or in extreme cases, failure of internal components. Source life information is based on LED manufacturer's data, as well as other third party testing.

FIVE YEAR LIMITED HARDWARE WARRANTY

OptoLum, Inc. warrants its products, if properly used and installed, will be free from defects in materials and workmanship and will substantially conform to OptoLum's publicly available specifications for a period of five (5) years after the date the product was purchased by the end user. If the product fails during the warranty period, purchaser's remedy under this limited warranty shall be at OptoLum's sole election:

- Repair the product by means of hardware and/or software or
- Replace the product with another product

This limited warranty does not cover damages due to external causes, including, but not limited to, accident, problems with electrical power, usage not in accordance with product instructions, misuse, neglect, modification, repair, improper installation, or improper testing. OptoLum is not responsible for indirect, incidental, or consequential damages resulting from any breach of warranty or under any other legal theory including, but not limited to, lost profits, downtime, goodwill, damage to or replacement of equipment and property. All Damage claims must be reported within 30 days of purchase. To obtain warranty service, you may contact your distributor in accordance with its instructions, or you may contact OptoLum. To request warranty service you should call OptoLum during the warranty period. Proof of purchase is required. When calling within warranty, please provide:

- 1) Your name, shipping address, and telephone number
- 2) A description of the model
- 3) An explanation of the problem

A Return Authorization (RA) number & ship-to address will be provided to send the product back. The warranty and remedies set forth above are exclusive and in lieu of all others, whether oral or written, express or implied. OptoLum specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. No OptoLum distributor, dealer, agent or employee is authorized to make any modification, extension, or addition to this warranty. This warranty gives you specific legal rights, and you may also have other rights that vary from jurisdiction to jurisdiction.

Unless modified in writing signed by both OptoLum and Purchaser/User, this Limited Warranty is understood to be the complete and exclusive agreement between OptoLum and Purchaser, including without limitation any statements made by salespersons or other representatives of OptoLum. No employee or other representative of OptoLum or any other party is authorized to make any warranty in addition to the warranty contained in this document.

Items Explicitly NOT covered by this Warranty. OptoLum does not warrant: Defects caused by failure to provide a suitable installation environment (i.e., temperature above 104°F, humidity above 95%). Acts of God including but not limited to lightning surges, flooding, or earthquakes. Damage caused during shipment. Damage caused by any primary side (line voltage) power source problem including but not limited to unregulated power, short circuits, or lightning induced power surges. Damage caused by use of product for purposes other than those for which it was designed. Products incorporating white LED's (Light Emitting Diodes) are not covered for color temperature variations or changes, brightness reduction or diminished light output. Products installed by other than electricians, will not be covered.

OPTOLUM DOES NOT COVER LABOR COST ASSOCIATED WITH REPLACEMENT OF PRODUCTS IN END APPLICATIONS. OPTOLUM CANNOT WARRANTY OR EXTEND ITS WARRANTY TO WORK PROVIDED BY OUTSIDE CONTRACTORS. OPTOLUM WILL HOWEVER WARRANTY LABOR IF THE INSTALLATION IS DONE BY OPTOLUM QUALIFIED PERSONNEL.

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