24V Flexlum™ Modular Lighting Installation Instructions

Profile Dimensions

Rigid and Flexible Channel

Module

Please verify the contents of the packages!
Please read instructions entirely before starting installation. Be sure power is turned off before installing or modifying the system.

Call Tivoli, LLC tech support with questions.
Caution: Flexlum LED is designed to work with listed 24V DC Class 2 transformers only. Use of any other power source will cause damage, shorten the life of the fixture and may void the warranty.

Consult any and all applicable local and national codes for installation.

Do not conceal or extend exposed conductors through a building wall except per local electrical code.
Warning: With any luminaire for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injuries. This lighting system should be installed by a certified professional.

Overview

Flexible And Straight Channel Description

Segmented Flex and Rigid Channel fixtures are manufactured with Module Strand inserted at 2 7/8” OC spacing.

Flexlum™ is a modular, linear LED system for straight or curved applications (up to 6 ft. radius) to create continuous illumination in two different fixture styles: Straight Channel or Flex Channel.

Installation Instructions, Flex and Rigid Channel

There are three options for installing Flexlum™ using a mounting channel.
Note: Flexlum™ is shipped with the LED modules and lens pre-installed.

Option 1: Install a single Flexlum™ fixture.

Lead Wire Installation: Determine feedpoint and place Lead Wire in position. Flexlum™ Module Strands with Flex or Straight Channel with Diffuser Lens uses FXLM-LEAD-16 16 ft, 2 conductor, 18 ga lead wire with female connectors at one end.

Step 1: Position Channel with Lead End (Male Connectors) towards feedpoint. Mount first unit to desired surface with #4 screws (by others).
**Option 1 (Continued)**
**Step 2:** Connect Female Leads from the 16 ft Wire (FXLM-LEAD-16) to the Male Ends on the lead end of the Channel.

**Step 3:** Connect Transformer to the lead end of 16 ft wire. If a run longer than 16 feet is required, connect a J-Box at the end of the 16 Foot Wire. Locate the transformer up to 50 feet (linear wire length) away using 12 ga wire to connect the Transformer to the J-Box.

**Step 4:** Attach End Cap. Flexlum™ Flex or Straight Channel with Diffuser Lens can use FXLM-EC End Cap. Fill inside of End Cap with outdoor weather-proof clear silicon adhesive.

**Step 5:** Insert another Endcap at the Trail End of the Channel. Fill inside of End Cap FXLM-EC with outdoor weather-proof clear silicone adhesive. Refer to Step 10, Page 3 for instructions to cut and cap the trailing end wires.

**Option 2:** Connecting multiple channels using Weatherproof Interconnect Unit FXLM-IC.

**Step 1:** Locate Lead Wire (See “Lead Wire Installation”, Page 1)

**Step 2:** Position first Flexlum™ unit with Lead End (Male Connectors) towards feedpoint. Mount to desired surface with #4 screws (by others).

**Step 2a (Optional):** Pre-Mitered Connector Assembly (L, T, X): may be inserted at the feedpoint end to start the run. Mount pre-mitered shape with #4 screws (by others). The wires at the feedpoint end of the modules should be routed through the hole in the corner of the pre-mitered shape to connect to power. Mount next piece of channel ½” away from trail end of shape and connect pins at each end of module strands, as shown.

**Step 3:** Mount next unit at ½” distance.

**Step 4:** Remove any Lens Retaining Screws from the last 12” of each channel to allow the lenses of each channel to be pulled up.
Installation Instructions: Option 2 (Continued)

**Step 5:** Remove Screws from one module on each unit to access wiring channel. Pull back Diffuser Lens, if installed.

**Step 6:** Connect Leads (Male/Female).

**Step 7:** Secure the 2 removed modules and slide connected wires and connectors under the module with Black under one side and Red under opposite side.

**Step 8:** Apply silicon to the inside edge of both sides of the Interconnect Unit FXLM-IC, as shown, and insert over the uplifted end of both Diffuser Lenses. Press Interconnect into place between the two Strands while pushing Diffuser Lenses all the way down into Channel. Make sure the legs of the Interconnect go into the proper openings of each Diffuser. Replace any retaining screws.

**Step 9:** Repeat Steps 1 through 7 to mount any additional Flexlum Module Strands.

**Step 10:** Cut off trailing connectors from the final unit. Stagger cut the wires making one wire at least 1/8” shorter. Cap off the wire ends.

**Step 11:** Insert another Endcap at the end of the run. Fill inside of End Cap FXLM-IC with outdoor weather-proof clear silicone adhesive.
Installation Instructions: Option 3

**Option 3:** Connecting multiple channels without using Interconnect Unit.

**Step 1:** Position first Channel (or pre-mitered shape) with Lead End (Male Connectors) towards feedpoint. Mount first unit to desired surface with #4 screws (by others).

**Step 2:** Mount next unit flush with trail end of first unit.

**Step 3:** Remove any Lens Retaining Screws from the last 12" of each channel to allow the lenses of each channel to be pulled up.

**Step 4:** Pull back Diffuser Lenses. Remove Screws from one module on each unit to access wiring channel.

**Step 5:** Connect Leads (Male/Female).

**Step 6:** Secure the 2 removed modules and slide connected wires and connectors under the module with Black under one side and Red under opposite side (See Step 6, Page 3).

**Step 7:** Press diffuser lenses of both units down into position and replace retaining screws.

**Step 8:** Repeat Steps 2 through 6 to mount any additional Flexlum Module Strands.

**Step 9:** Cut off trailing connectors from the final unit. Stagger cut the wires making one wire at least 1/8” shorter. Cap off the wire ends.

**Step 10:** Insert another Endcap at the end of the run. Fill inside of End Cap FXLM-EC with outdoor weather-proof clear silicon adhesive.

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*FXLM-LEAD-16*
16 ft, 2 conductor, 18 ga lead wire with female connector

*FXLM-EC*
End Cap
Installation Instructions: Interconnecting with Butt Connectors

**NOTE:** The connecting pins that come attached to the Flexlum™ wires are suitable for indoor and outdoor use. However, some installers prefer to use the UL rated Butt Splice Connectors FXLM-SPLICE-CONN for outdoor installations. Refer to the following steps to achieve a water-tight seal.

**Step 1:** Cut off the Pin Connectors

**Step 2:** Strip ¼" of insulation from the end of each wire and insert one end of each wire into Butt Connector.

**Step 3:** Use Ratchet Crimping Tool to securely crimp each wire inside the Butt Connector in the areas shown.

**Step 4:** Use high power Heat Gun (600W) to heat Butt Connector. Continue to heat until Butt Connector shrinks to a tight seal around both wire ends. This will ensure a water-tight connection.

**Wiring Size:**

Installer calculates wire size between load and power supply to avoid voltage drop.

Please refer to NEC and local code requirements for wiring luminaire to transformer. Voltage drop calculations are the responsibility of the installer.

<table>
<thead>
<tr>
<th>LED Color</th>
<th>Spacing</th>
<th>Max Run Length</th>
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</thead>
<tbody>
<tr>
<td>2800°K, 3200°K, 4100°K, 5000°K, Blue, Green</td>
<td>2 7/8&quot; OC</td>
<td>24 ft</td>
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<tr>
<td></td>
<td>4 1/2&quot; OC</td>
<td>33 ft</td>
</tr>
<tr>
<td>Red, Yellow</td>
<td>2 7/8&quot; OC</td>
<td>48 ft</td>
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<td></td>
<td>4 1/2&quot; OC</td>
<td>63 ft</td>
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