



# FLL1 Series Installation Guide

**The FLL1 series are linear fixtures that can be used in a variety of applications including linear or flood lighting patterns. This guide includes important information on how to safely & effectively install your new FLL1 fixtures.**

**Items you will need to complete the installation (\*=items not included in this box)**

This installation guide

FLL1 fixtures (a maximum of 8' can be installed in a single run with a 13-15VAC supply or 16' with a 24VDC supply)

\*1 FLL1-START10' input cable for the 1<sup>st</sup> fixture off each power supply

\*FLL1-EXT20' cable(s) if more than 1' of space is required between fixtures operating off a single power supply

\* NOTE, use ONLY 13-15V supply for wet locations

\*Class 2 13-15VAC or 24VDC output power supply (wattage rating must be sufficient to accommodate fixture load).

\* 4pcs #6 Screws to affix brackets to mounting surface

\*Screwdriver

**Heed Hazard Warnings! Failure to follow these installation instructions will void any warranty.**

**WARNING:** Risk of electric shock. Ensure that main power supply is off before installing or wiring the FLL1 & the power supply

**WARNING:** FLL1 fixtures, associated cables, and power supplies must be installed by a qualified electrician or technician in accordance with NEC and relevant local codes.

**WARNING:** Do not attempt to install or use the FLL1 fixture, cables or power supply until you have read and understand these instructions.

**CAUTION:** The FLL1 fixtures have no serviceable parts. Do not attempt to open.

**CAUTION:** Do not use sharp tools near or on the fixture lens or cables.

**CAUTION:** Do not hot swap. Ensure that power supply is disconnected or turned off before connecting or disconnecting FLL1.

**CAUTION:** Use FLL1 fixtures only with a 13-15V AC or 24VDC output Class2, power supply. Use ONLY 13-15V for **wet** locations.

**NOTE:** The instructions and precautions set forth within this guide are not necessarily all inclusive, or relevant to all applications as manufacturer cannot anticipate all conceivable or unique installation situations.

**NOTE:** It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate FLL1 fixtures in such a manner as to comply with all state & local laws, ordinances and regulations, as well as the ANSI safety codes.

## **Planning the installation**

The FLL1 installation requires planning to ensure timely successful installation with minimal complications & down time.

### **Suggestions**

Consult an electrical inspector to review all wiring plans

Refer to local & state codes for installation compliance

Create a layout plan drawing, per a lighting designer's or architect's recommendation

Consult Factory as needed

### **Installation Considerations**

**Location of FLL1 fixtures.** Manufacturer recommends that the fixtures be positioned at least 1' away from the illuminated surface to allow for proper light mixing and to minimize hot spots.

**Selection of mounting hardware:** The mounting screws to be used to affix the FLL1 mounting brackets are dictated by the mounting surface. Ensure that the hardware selected is sufficiently strong to bear the weight of the fixtures.

**FLL1 connectors & cables:** Always insert the connectors after mounting the respective fixtures with mounting screws. Consider the design of the layout carefully before installation.

**Alignment of connectors & cables:** Connectors on the cables must be aligned to mate properly. Do not use excess force.

## **Steps to a successful installation**

**Select & install the power supply.** FLL1 fixtures consume approximately 8 watts of power per linear foot. Ensure that the power supply has a sufficiently high wattage rating to operate all of the fixtures in a run. Example, 8 feet of FLL1 in a run operating off a power supply x 8watts/ft = 64W min power supply rating to run properly. Use ONLY 13-15VAC or 24VDC output, class2 power supplies. For wet locations, use ONLY 13-15V supplies.

Ensure that the main voltage is NOT connected before connecting the power supply to the FLL1-START10' input cable. Install the power supply in accordance with the manufacturers stated instructions as well as all state & local codes & the National Electric Code.

**Mount the fixtures to the desired surface.** FLL1 fixtures each come with two mounting brackets (see figure #1, A). The mounting brackets can be placed in the channel on either the back or side of the fixture (see "A" in figure #1). The position of mounting brackets in the channel can be adjusted by loosening the screws (Fig #1, B), sliding the bracket to the desired position, and re-tightening the screws. The angle of the mounting bracket can be adjusted by loosening the bolt (Fig #1, C), adjusting the angle, and re-tightening. Each mounting bracket must be affixed with 2 screws to the desired mounting surface with appropriate hardware.

### Install & connect the FLL1 cables.

**Step A:** Connect the connector side of the FLL1-START10' cable to the input side (12" cable) on the FLL1 fixture (see figure #2)

**Step B:** To install a subsequent FLL1 fixture directly connected to the previous one with the spacing not more than 1' between the 2 fixtures, connect the input side (12" cable) on the 2<sup>nd</sup> fixture to the output side (2" cable) on the previous fixture. (see figure #3) Do not connect more than 8 feet of Fixtures per run on 13-15V power supply or more than 16 feet of fixtures per run on 24V power supplies!

**Step C:** To install a subsequent FLL1 fixture directly connected to the previous one with spacing of more than 1' but less than 11', connect the FLL1-EXT20' cable to the input side on the 2<sup>nd</sup> fixture and the other end of the FLL1-EXT20' cable to the output side of the first fixture. (see figure#4)

**Step D:** Place dust cap on the output side cable on the last fixture in each run.

### Make the electrical connections

The opposite side of the FLL1-START10' cable has 2 wires. The connections are as follows

Red wire to positive 13-15VAC (or +24VDC)      Black wire to negative 13-15VAC (or -24VDC)

