

# iColor Module FX

INSTALLATION INSTRUCTIONS

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**ITEM # 109-000060-00 (6:9)**  
**# 109-000060-01 (6:36)**

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PUB-000137-00 Rev 03

Specifications subject to change without notice. Refer to www.colorkinetics.com for the most recent version.

## GETTING STARTED

This guide contains important information not only for operating your new iColor® Module FX panel, but also for using it safely. For your protection, read it carefully before embarking on your colorful adventure. There are very few rules, but those that exist are there for your safety. This guide will show you how to get the most out of your Color Kinetics lighting.

### Included In This Box

- (1) iColor Module FX
- User Guide

### Additional Items Needed

- iColor Module FX leader cable, ITEM # 108-000018-00
- PDS-60ca 7.5V Power Supply, ITEM # 109-000015-03 or sPDS-480ca 7.5V Power Supply, ITEM # 109-000022-00
- (4) #6 Fasteners (suitable for mounting surface)
- iColor Module FX jumper cable, ITEM # 108-000019-00
- Standard strain relief cable clip

### Scope of This document

The goal of this document is to explain the steps necessary to install iColor Module FX and assure peak performance. Its intended use is for reference only, by a fully qualified electrician or technician. This document should never be considered a substitute for any provision of a regulation or state and/or local 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 iColor Module FX and PDS-60ca 7.5V power/data supply. Failure to adhere to these instructions will result in death or serious injury.

**WARNING:** iColor Module FX and PDS-60ca 7.5V power/data supply must be installed by a qualified electrician or technician in accordance with NEC and relevant local codes. Failure to comply could result in death, serious injury, or property damage.

**WARNING:** Do not attempt to install or use iColor Module FX or PDS-60ca 7.5V until you read and understand the installation instructions. Failure to adhere to these instructions could result in serious injury or property damage.

**WARNING:** Do not use iColor Module FX if any cables are damaged. Doing so can result in death, serious injury, or property damage.

**WARNING:** Use only with PDS-60ca 7.5V or sPDS 480 ca 7.5V Class 2 Power Unit.

**CAUTION:** iColor Module FX has no serviceable parts. Do not attempt to open the nodes and/or housing. Doing so will result in property damage and void the warranty.

**CAUTION:** Do not use sharp tools near or on the fixture lens or cable. Doing so will result in property damage and void the warranty.

**CAUTION:** Do not clean the fixture lens with harsh chemicals or abrasive materials. Doing so will result in property damage and void the warranty.

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

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

## Owner/User Responsibilities

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

## PLAN THE INSTALLATION

The nature of iColor Module FX installation requires in-depth planning to ensure timely, successful installation and operation with minimal complications and down time.

## Installation Considerations

- Consult an Electrical Inspector to approve all wiring plans.
- Refer to local and state codes for installation compliance.
- Create a Mapping Grid. Use this grid to record light addresses and power supply locations for easy reference.
- Employ Color Kinetics Application Engineering Services.

## CONFIGURING iCOLOR MODULE FX

The way in which iColor Module FX is addressed depends on the method of control and the power/data supply that you choose.

**DMX:** The DMX interface available on the PDS-60ca 7.5V lets you auto-configure the light numbers sequentially starting at one, up to 144 for each power/data supply. To assign unique base numbers for each sequential output run on multiple power/data supply or set all nodes to the same number, you must download the PDS-60 Configuration Tool from the Color Kinetics website. For complete instructions, refer PDS-60ca 7.5V User Guide and to the PDS-60ca-DMX Tool User Guide at [www.colorkinetics.com/support](http://www.colorkinetics.com/support).

**Ethernet:** The Ethernet interface available on the PDS-60ca 7.5V or the sPDS-480ca 7.5V is used in conjunction with Color Kinetics Light System Manager (LSM) or Video System Manager (VSM). With LSM and VSM, you can discover and map the module light nodes. No addressing is required. Refer to the LSM or VSM User Guide for complete instructions.

## INSTALLING iCOLOR MODULE FX

### Determining the Location of the Power Supply

**WARNING:** Ensure the power is off before installing iColor Module FX. Failure to do so can result in serious personal injury and major property damage.

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

- Determine a location out of direct view for the power supply(s).
  - One PDS-60ca 7.5V power/data supply is needed for every 144 light nodes: 4 iColor Module FX 6:36 fixtures or 16 iColor Module FX 6:9 fixtures.
  - One sPDS-480ca 7.5V is needed for every 1152 light nodes: 32 iColor Module FX 6:36 fixtures or 128 iColor Module FX 6:9 fixtures
  - The power/data supply can be located up to 30 feet (9 m) from the iColor Module FX fixture.
- Install the power/data supply according to the instructions in the PDS-60ca 7.5V or sPDS-480ca 7.5V User Guide.

### Installing iColor Module FX

iColor Module FX is a direct view, surface mounted fixture, designed for use on an interior wall or other indoor flat surface.

iColor Module FX is designed with four through-hole mounting standoffs for easy installation with minimal tools.

Using 12-inch jumper cables, all fixtures in a series can be connected prior to mounting, or you can use a connect-as-you-go approach. It is important to make data connections before mounting each fixture. Once a fixture is installed, the fixture must be removed to make or change a connection.

### Fixture-to-Fixture Connections

- Using the 1-foot jumper cables, connect all fixtures in a single series. Snap one end of the jumper cable into the Data Out (J2) connector on the back of the first fixture in the series.
- Snap the other end of the jumper cable into the Data In (J1) connector on the next fixture in the series. (See Fig. 1.)
- Continue connecting fixtures, Data Out (J2) to Data In (J1), until all fixtures for an output are connected. See Table 1 for maximum series runs per power/data supply, per output.
- Connect the 3-pin connector end of the leader cable to the Data In (J1) connector on the back of the first fixture in the series.

Fig. 1: Fixture-to-Fixture Connections

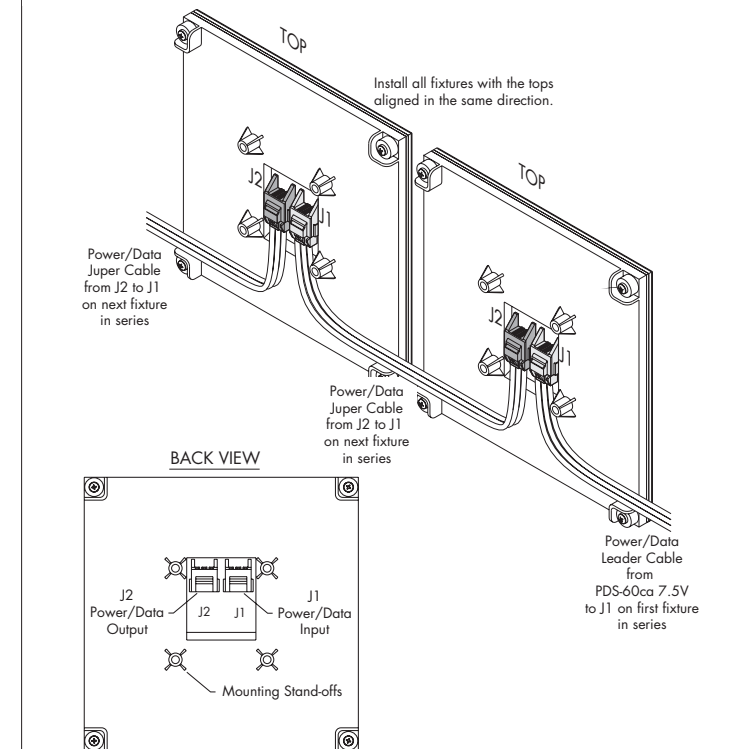


Table 1: Maximum Series Runs

	PDS-60ca	PDS-480ca	Per Output
TOTAL NODES	144	1152	72
36-NODE FIXTURES	4	32	2
9-NODE FIXTURES	16	128	8

## Connect As You Go Method

- Alternately, you can connect the leader cable to the Input connector (J1) on the back of the fixture. Connect a jumper cable to the Output connector (J2). Mount the first fixture
- Connect the jumper cable for the first fixture to the Input connector (J1) on the back of the next fixture and connect another jumper cable to the Output connector (J2). Mount this fixture.
- Continue making power/data connections and mounting the fixtures until all fixtures in a series are mounted.

**WARNING:** Do not connect the leader cable to the PDS-60ca 7.5V until after mounting the fixtures. Doing so can result in serious personal injury and major property damage.

## Mounting the Fixtures

- Use a level to make pencil or chalk lines for each row of fixtures. Marking a level horizontal line to use as a path for the modules ensures proper alignment. This is especially important to ensure that multiple tiles, installed in a grid, are square.
  - NOTE:** If pre-drilled pilot holes are required, use a fixture as a template or mark the surface using the dimensions provided. (See Fig. 2.)
- Position the fixture along the level line, with the top up, and mount to the surface using four #6 flat head screws suitable for the mounting surface. (See Fig. 3.)
  - Ensure that the jumper cables are firmly connected and run freely behind the fixtures and that they do not obstruct the mounting stand-offs.

Fig. 2: Vertical and Horizontal Mounting Dimensions

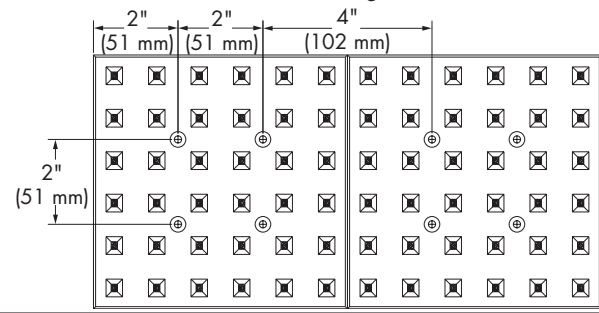
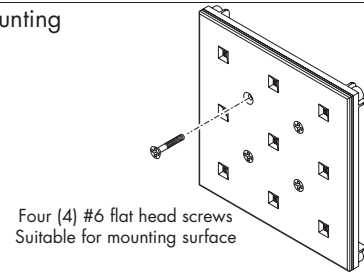


Fig. 3: Fixture Mounting



## Connecting Lights

- PDS-60ca 7.5V** - Insert the 4-pin connector end of the leader cable attached to the first light series run into the data connection chamber of the PDS-60ca 7.5V power/data supply. Snap it into the 4-pin connector labeled Output 1.
- Connect the leader cable from the second light run into the connector labeled Output 2.
- Use a standard strain relief cable clip to hold the cable. Follow local electrical codes for internal wire bending.
- NOTE:** If there is only one light run per PDS-60ca, then you must use Output 1.
- sPDS-480ca 7.5V** - Insert the 4-pin connector end of each leader cable into any output port located on the back of the supply.

### CONNECT DATA

- Data is connected to the iColor Module FX via a PDS-60ca 7.5V or sPDS-480ca 7.5V power/data supply.
- Data connections vary depending on the type of data used with the appropriate PDS-60ca 7.5V. Refer the following figures.
  - Fig. 4: DMX control via PDS-60ca 7.5V
  - Fig. 5: Ethernet control via PDS-60ca 7.5V
  - Fig. 6: Ethernet control via sPDS-480ca 7.5V

For complete instructions and wiring diagrams for your power/data supply, refer to the PDS-60ca 7.5V or sPDS-480ca 7.5V User Guide and wiring diagrams located at [www.colorkinetics.com/support](http://www.colorkinetics.com/support).

If any problems occur during usage, unplug the product immediately and call or email:  
 Color Kinetics Technical Support Group:  
 1-888-FULL RGB or 617-423-9999 or  
[www.colorkinetics.com/support](http://www.colorkinetics.com/support).

**WARNING:** Do not open, alter or tamper with the product case. This will void the manufacturer's warranty. To avoid electrical shock, never open the iColor Module FX case. Do not attempt to service the electronic components yourself. Non-expert handling may damage the product and cause injury to the user.

Fig. 4: PDS-60ca 7.5V DMX Control

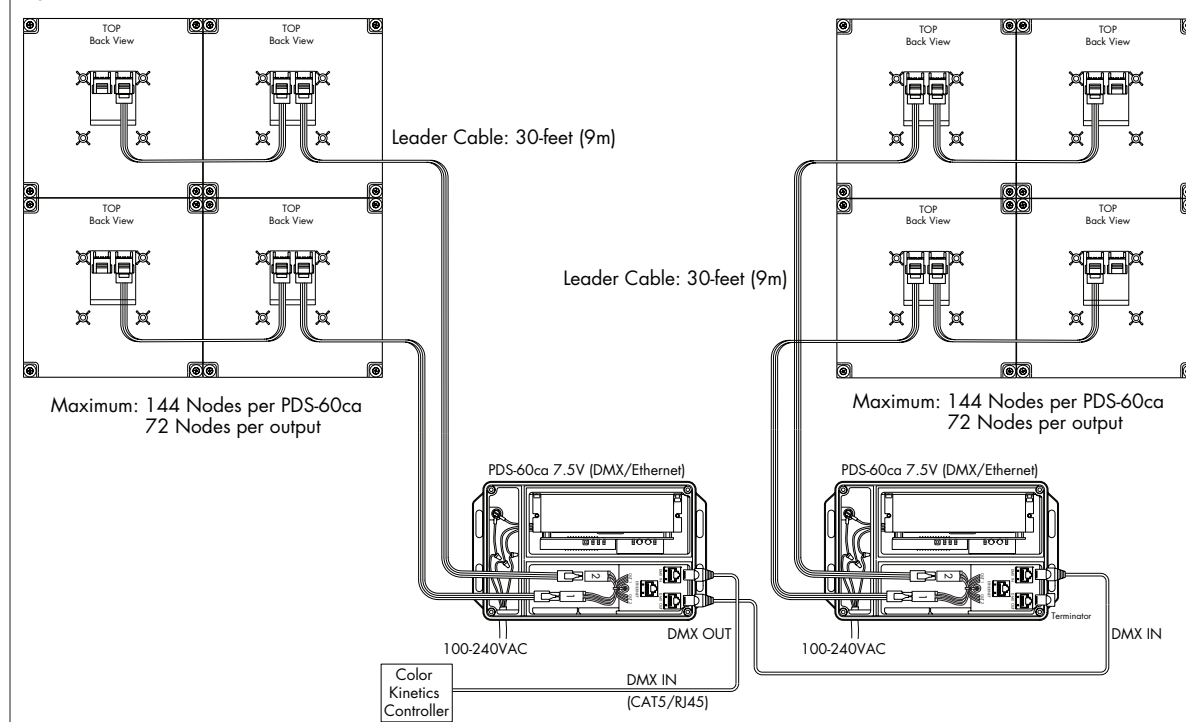


Fig. 5: PDS-60ca 7.5V Ethernet Control

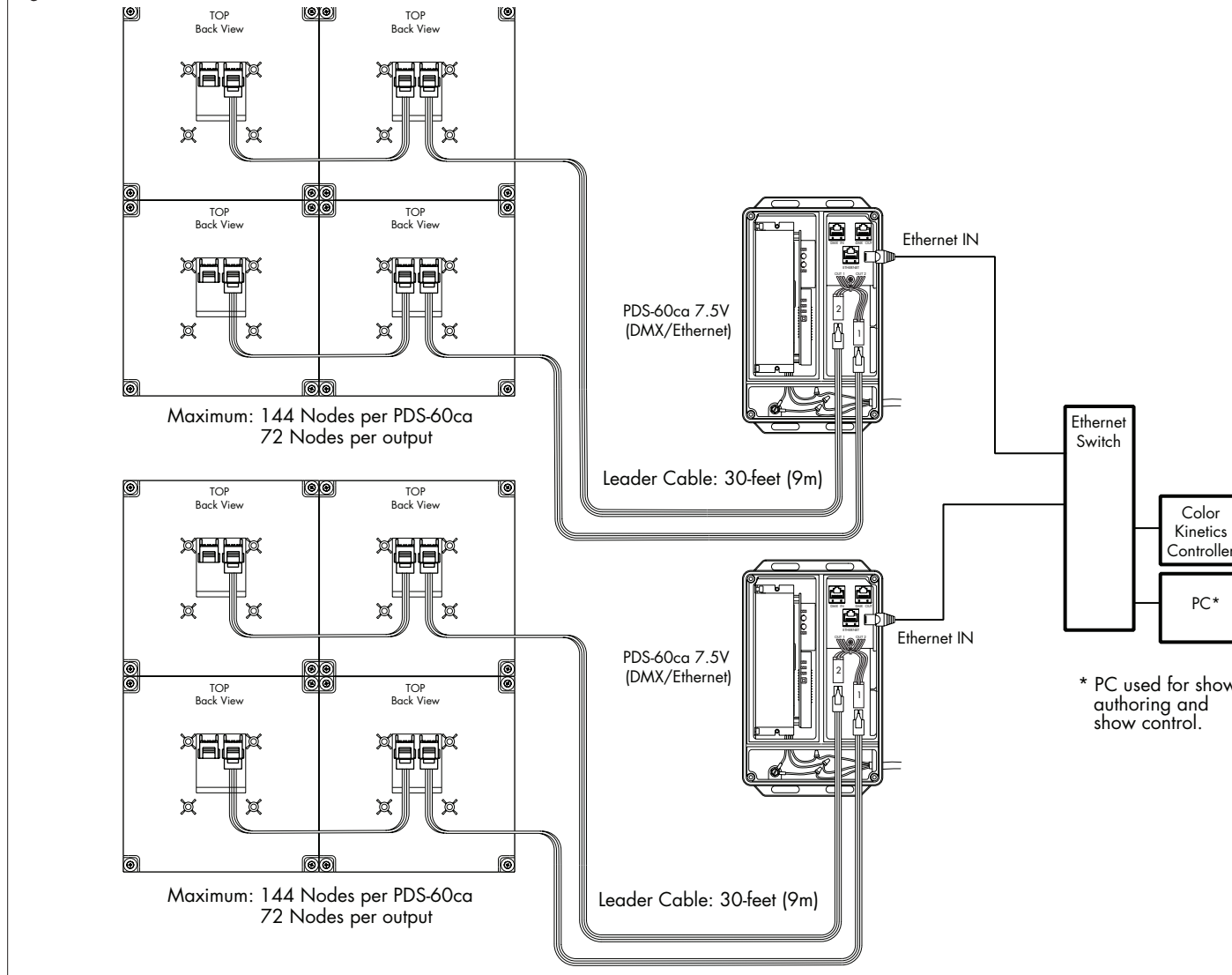
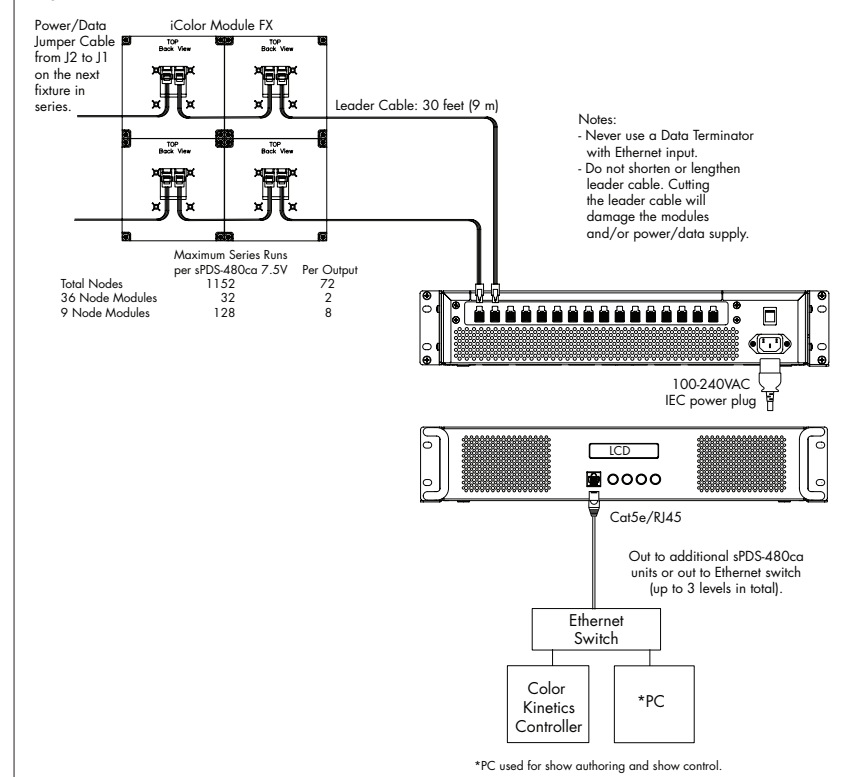


Fig. 6: sPDS-480ca 7.5V Ethernet Control



## iCOLOR MODULE FX SPECIFICATIONS

<b>COLOR RANGE</b>	64 billion (24-bit) additive RGB colors; continuously variable intensity
<b>SOURCE</b>	6:9 - 9 LEDs packaged in tri-color Red, Green & Blue nodes 6:36 - 36 LEDs packaged in tri-color Red, Green & Blue nodes
<b>HOUSING</b>	Matte Black Polycarbonate, 6" (15 cm) x 6" (15 cm) x 0.75" (2 cm)
<b>WEIGHT</b>	8.5 oz (0.24 kg)
<b>LISTINGS</b>	UL/cUL, CE certified
<b>DATA INTERFACE</b>	Color Kinetics data interface system
<b>CONTROL</b>	Ethernet, DMX
<b>POWER REQUIREMENT</b>	7.5VDC
<b>POWER CONSUMPTION</b>	6:9: 4W Max., 6:36 12W Max. at full intensity (full RGB)
<b>POWER SUPPLY</b>	PDS-60ca 7.5V (ITEM# 109-000015-03) or sPDS-480ca 7.5V (ITEM# 109-000022-00)
<b>POWER INPUT</b>	100VAC to 240VAC auto ranging (50Hz-60Hz) Power factor correction (PFC)
<b>POWER OUTPUT</b>	7.5VDC
<b>HEAT DISSIPATION</b>	25 percent of total power output
<b>HOUSING</b>	NEMA 4 indoor/outdoor rated enclosure
<b>CONNECTORS</b>	Data: RJ45 input/output connectors; Power: 4-pin connector
<b>TEMPERATURE RANGE</b>	-4°F to 122°F (-20°C to 50°C) based on testing of specific product

### LED SOURCE LIFE

In traditional lamp sources, lifetime is defined as the point at which 50% of the lamps fail. This is also termed Mean Time Between Failure [MTBF]. LEDs are semiconductor devices and have a much longer MTBF than conventional sources. However, MTBF is not the only consideration in determining useful life. Color Kinetics uses the concept of useful light output for rating source lifetimes. Like traditional sources, LED output degrades over time (lumen depreciation) and this is the metric for SSL lifetime.

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. Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions. Lumen depreciation information is based on LED manufacturers' source life data as well as other third party testing. Low temperatures and controlled effects have a beneficial effect on lumen depreciation. Overall system lifetime could vary substantially based on usage and the environment in which the system is installed.

Temperature and effects will affect lifetime. Color Kinetics rates product lifetime using lumen depreciation to 50% of original light output. When the fixture is running at room temperature using a color wash effect, the range of lifetime is in the range of 30,000-50,000 hours. This is LED manufacturers' test data. For more detailed information on source life, please see [www.colorkinetics.com/lifetime](http://www.colorkinetics.com/lifetime).

### WARRANTY

This product is sold pursuant to CK's Standard Terms and Conditions (the "T&Cs") which may be found at <http://colorkinetics.com/howtobuy/buy/terms> and which contain important provisions, including, among others, Limited Warranty, exclusions and limitations on CK's liability for damages, and restrictions on the remedies that are available to you.