COLORCAST 14

INSTALLATION GUIDE

COLOR KINETICS®

CHROMACORE®
BY COLOR KINETICS

POWERCORE®
BY COLOR KINETICS

OPTIBIN®
BY COLOR KINETICS

CE

c(UL)us
LISTED
13PE

GETTING STARTED

Color Kinetics® ColorCast™ 14 offers indoor/outdoor wall washing, up to 15 feet, and large alcove lighting in a compact linear housing. It's power-on-board feature makes it easy to install.

This guide contains important information on planning, installing, and operating your new ColorCast 14. For your protection, read it carefully and save it for future reference.

Included in this box

• 1 ColorCast 14 fixture
• Installation Guide
• Warranty and Registration cards

Additional items needed

• Color Kinetics Data Enabler (ITEM# 106-000003-04/05)
• ColorCast 14 Leader Cable with terminator (ITEM# 108-000017-00 US or 108-000017-01 EU)
• #10 mounting screws (M5) and tools

Optional items needed

• ColorCast 14 Jumper Cables (ITEM# 108-000016-00/01)
• 3/16" OD braided safety cable and hardware as required.

SCOPE OF THIS USER GUIDE

The goal of this user guide is to explain in an easily understandable language the necessary steps to install ColorCast 14 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.

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 installation or wiring, ColorCast 14. Failure to adhere to these instructions will result in death or serious injury.

DANGER: ColorCast 14 must be installed by a qualified electrician in accordance with NEC and relevant local codes. Failure to comply will result in death, serious injury, or property damage.

WARNING: Do not attempt to install or use ColorCast 14 until you read and understand the installation instructions, and safety labels. Failure to adhere to these instructions could result in serious injury or property damage.

WARNING: Do not use ColorCast 14 if the power cables are damaged. Doing so can result in death, serious injury, and property damage.

WARNING: As dictated by a Structural Engineer and/or local code, install safety cables to ColorCast 14 fixtures. Failure to do so can result in injuries or property damage.

WARNING: When using safety cables, ensure that they comply to the specifications given in this user guide. Failure to comply can result in injuries or property damage.

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

CAUTION: ColorCast 14 has no user serviceable parts. Do not attempt to open the fixture. Doing so will result in property damage and void the warranty.

CAUTION: Do not exceed the specified voltage and current input. Doing so will result in property damage and void the warranty.

CAUTION: Do not exceed the maximum number of specified fixtures in a light run. Doing so will result in current overload.

CAUTION: Do not use sharp tools near or on the fixture lens. 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: ColorCast 14 is a Class 2 LED product with LED radiation. Do not stare into beam or view directly with optical instruments.

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 ColorCast 14 in such a manner as to comply with all state and local laws, ordinances, regulations, and the American National Standard Institute Safety Code.

PLAN THE INSTALLATION

The nature and complexity of ColorCast 14 installation requires in-depth planning to ensure timely, successful installation with minimal complications and down time.

PLANNING SUGGESTIONS

When planning ColorCast 14 installation, Color Kinetics suggests doing the following:

• Consult an Electrical Inspector to approve all wiring plans.
• Refer to local and state codes for installation compliance.
• Create a Layout Plan drawing.
• Create a Mapping Grid. Use this grid to record serial numbers for easy reference and addressing.
• Employ Color Kinetics Application Engineering Services.

INSTALLATION CONSIDERATIONS

When creating your installation plan, consider the following:

• Location of Data Enabler in relationship to lights. Each Data Enabler can support up to 36 (120VAC) or 61 (240VAC) ColorCast 14 fixtures, using a 50-foot, field-cuttable leader cable. The Data Enabler supports a slightly greater or fewer number of fixtures depending on customized installation parameters.

  NOTE: By decreasing the length of the leader cable you can increase the number of ColorCast 14 fixtures per run. For more information contact Color Kinetics or refer to the Configuration Calculator located at www.colorkinetics.com/support.

• Calculate the number of fixtures per iW Data Enabler. Use the *Configuration Calculator* located at www.colorkinetics.com/support to calculate the number of fixtures you can put on a data enabler. The fixtures to iW Data Enabler ratio is determined by the parameters of your installation. Installation parameters include all or part of the following: line voltage, fixture type, leader length, jumper lengths, and wire gauge.

• Location of the fixture and method of attaching. Mounting hardware is dictated by the mounting surface. Ensure that the hardware used is appropriate for the mounting surface.

• Install and wire the Data Enabler before installing ColorCast 14 fixtures. Refer to the Data Enabler Installation Guide.

STEPS TO A SUCCESSFUL INSTALLATION

1. Record serial numbers and identify fixtures as you unpack them. Note the installation location on a mapping grid.
2. Address the fixtures.
3. Install the Data Enablers.
4. Install fixtures.
5. Connect power and data from the Data Enabler to the fixtures.

RECORD SERIAL NUMBERS

1. As you unpack the fixtures record the serial numbers. Each ColorCast 14 fixture has a unique serial number programmed at the time of manufacture.
2. Write the serial numbers onto a Mapping Grid.
3. Using the Layout Plan, assign the fixture to a layout position in the installation.
4. Using a weatherproof label, identify the fixtures installation position. Place an identifying label in an inconspicuous location.

ADDRESS THE FIXTURES

The ColorCast 14 fixtures are pre-addressed to light number 1 at the time of manufacture. Address each fixture with a new light number, as needed, using one of the follow methods.

ZAPI: Use Color Kinetics Zapi to reset the DMX address for each serial number. Refer to the Zapi User Guide for step-by-step addressing instructions.

SAS: When using a PC with iPlayer 2 or a PC with Smart Jack 3 to address the serial numbers, download the Serial Addressing Software and instructions from http://support.colorkinetics.com.

LIGHT SYSTEM COMPOSER: When using ColorCast 14 fixtures in an Ethernet application, the lights can be addressed after installation using the Light System Composer Management Tool.

TO SET DMX ADDRESS:

1. With power disconnected, connect a single ColorCast 14 fixture or a series of fixtures to a Data Enabler.
2. Attach the DMX interface (Zapi, iPlayer 2, or Smart Jack 3) to the *DMX IN* port on the Data Enabler.
3. Connect power to the Data Enabler.
4. Use Zapi or Serial Addressing Software (SAS) to set the light address for each serial number.
5. If addressing individual fixtures, disconnect power and then disconnect the addressed fixture. Repeat steps 1 through 5.

NOTE: Serial addressing gives you the option of post-installatioin addressing multiple fixtures through a single Data Enabler or multiple Data Enablers using the recorded serieal numbers. Refer to the Zapi User Guide or SAS Instruction Guide for details.

INSTALL THE DATA ENABLER

Determine a location for the Data Enabler.

Things to remember:

• Install the Data Enabler according to state and local codes.
• Consult a Electrical Inspector to approve all wiring plans.

DANGER: Ensure that the power source is off before wiring the Data Enabler or connecting fixtures. Failure to do so can can result in serious injuries or death.
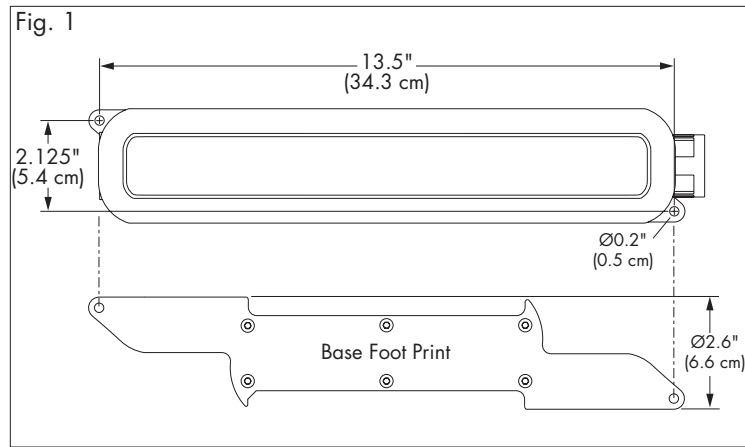
Refer to the Data Enabler Installation Guide for complete instructions. After running power and data to the Data Enabler, you are ready to attach the ColorCast 14 fixtures.
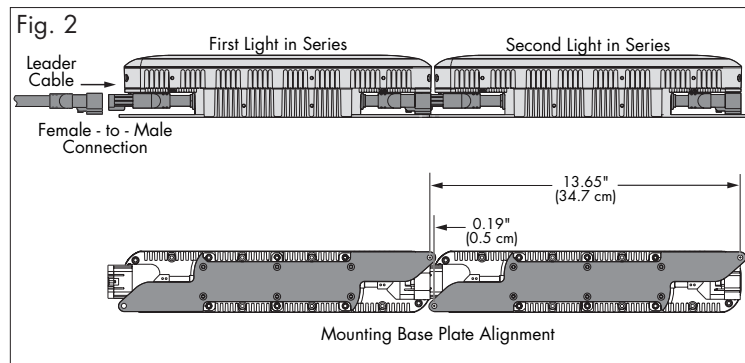
INSTALL THE FIXTURE

ColorCast 14 fixtures are installed in series. The in-line connectors provide an end-to-end fixture butt for the best visual effects. Jumper cables are available to add space between the fixtures when needed.

Mount fixtures by using the two mounting holes located on the base. Use hardware suitable for the mounting surface. See Fig. 1
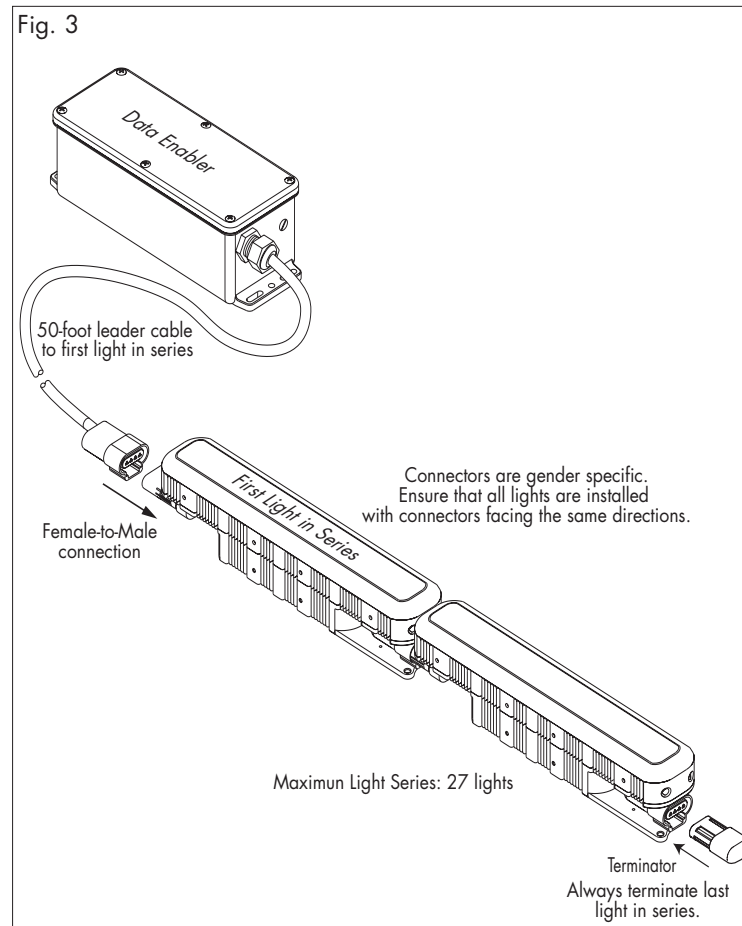
Note: The ColorCast 14 fixture can be used as a template when pre-drilled pilot holes are required. Hold the fixture in place and mark the two screw holes.

Fig. 1

1. Position the first fixture in a series and attach with two #10 mounting screws suitable for the mounting surface. Ensure that the male connector is in position to receive data and power from the leader cable. See Fig. 2.

2. Position the next fixture in the series, matching the male connector end to the female connector of the previously mounted fixture. Attach the fixture to the surface. See Fig. 2.

   The flexible connector cables allow for up to 180° turning radius.

Fig. 2

3. Continue mounting the fixtures, making power/data connections as you go, until all lights in the series are mounted.

4. Once all fixtures are mounted and connected, connect the leader cable from the Data Enabler to the first fixture in the series. Ensure power is off when making this connection.

5. Insert the terminator into the last fixture of each light series.

6. Repeat Steps 1 through 5 for each Data Enabler in the installation until all lights are installed. See Fig. 3.
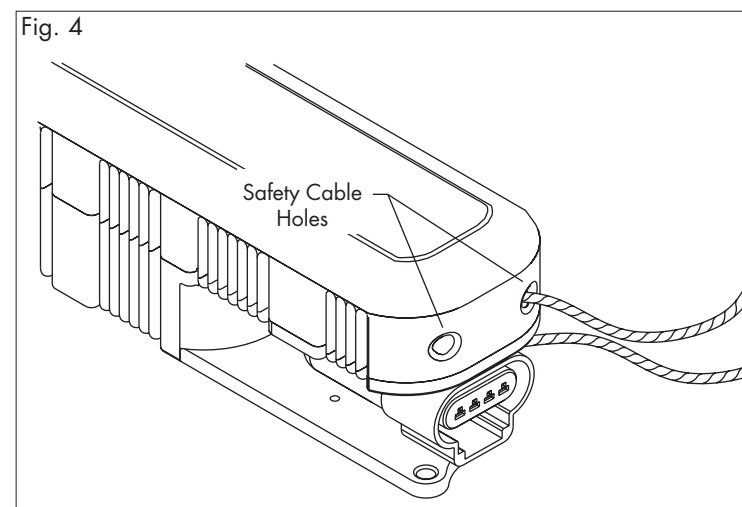

Fig. 3

CAUTION: Ensure terminator is inserted into last fixture of each series. Failure to do so can result in product failure and void the warranty.

ATTACH SAFETY CABLE

Each fixture is designed for use with a safety cable. When dictated by local or state code, or by a Structural Engineer, attach a safety cable from the fixture to the mounting surface.

1. Locate the four cable holes are designed into each fixture–two at each end of the fixture. See Fig. 4.

2. Thread a cable through one of the cable holes.

3. Attach the safety cable to the mounting surface.

   For the proper mounting method of the safety cable to the installation surface, refer to a Structural Engineer or applicable standards for your specific application.

Fig. 4

The safety cables used in the installation should meet the following minimal requirements:

MATERIAL: 316 Stainless Steel
SIZE: 5/64-inch (0.78-inch nominal diameter) or larger, minimum break load must be greater than 400 pounds. Maximum diameter is 3/16-inch.
CONSTRUCTION: 7 x 7 (49 wires) performed stranded
END TERMINATIONS: Determined by installer and/or owner
MOUNTING METHOD: Determined by installer or owner

COLORCAST 14 SPECIFICATIONS

COLOR RANGE	16.7 million (24bit) additive RGB colors; continuously variable intensity output range
SOURCE	High intensity, surface mount, power LEDs
BEAM ANGLE	90° (at 50% of peak illuminance)
HOUSING	Die cast aluminum
	Fixture: 13.5" x 3.6" x 1.4" (34.3 cm) x (9.1 cm) x (3.6 cm)
	Base: 8.9" x 1.9" x 2" (22.6 cm) x (4.8 cm) x (5 cm)
CONNECTORS	Over-molded, integral male/female connectors
LISTINGS	C-UL US, CE certified

COMMUNICATION SPECIFICATIONS

DATA INTERFACE	Color Kinetics Data Enabler
CONTROL	Color Kinetics full line of controllers or other DMX512 (RS485) sources

ELECTRICAL SPECIFICATIONS

INPUT	100-240VAC, 50-60 Hz
OUTPUT	100-240VAC, 50-60 Hz
POWER	
CONSUMPTION	30 Watts @ full power
POWER FACTOR	0.95 or greater at 120VAC

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	-40°F to 122°F (-40°C to 50°C) operating temperature
	-4°F to 122°F (-20°C to 50°C) starting temperature
PROTECTION RATING	IP66 (Suitable for wet locations.)

TEMPERATURE MONITORING

For protection from extreme temperatures, the ColorCast 14 has been designed with a temperature monitoring feature. If operating temperatures rise to an unsafe level, a compensation circuit is triggered and the ColorCast 14 operation is interrupted causing the lights to turn dull red.

To prevent additional power shut-downs, determine the cause of the overheating and correct the problem. Power-cycle the system to return to full intensity.

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 80,000-100,000 hours. This is LED manufacturers' test data. High output is defined as any LED device that is 1/2 watt or above. For more detailed information on source life, please see 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.