

iW CAST 14 POWERCORE CONDUIT

INSTALLATION GUIDE



An INTELLIWHITE™ Product

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iW Cast 14 Powercore Conduit Conduit
ITEM# 501-000003-00, (Fixture, White)
501-000003-01, (Fixture, Black)
501-000003-02, (Fixture, Aluminum)
ITEM# 123-000003-00, (Base, White)
123-000003-01, (Base, Black)
123-000003-02, (Base, Aluminum)

This product is protected by one or more of the following patents: U.S. Patent Nos. 6,016,038, 6,150,774 and other patents listed at <http://colorkinetics.com/patents/>. Other patents pending.

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Specifications subject to change without notice.

GETTING STARTED

Color Kinetics® iW™ Cast 14 Powercore Conduit offers indoor/outdoor controllable white light wall washing, up to 15 feet, and large alcove lighting in a compact linear housing. It's patented Powercore™ technology makes it easy to install.

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

INCLUDED IN THIS BOX

- 1 iW Cast 14 Powercore Conduit fixture
- Installation Guide
- Warranty and Registration cards

ADDITIONAL ITEMS NEEDED

- ColorCast 14 Powercore Conduit Base (ITEM# 123-000003-00/01/02)
- Color Kinetics iW Data Enabler (ITEM# 506-000003-06)
- 12 AWG, 4 conductor, copper wire
- #10 mounting screws (M5) and tools
- 3/4" NPT conduit and hubs as required
- 5/16" hex wrench or adjustable wrench for seal plugs (shipped with base)
- Wire nuts sized for one 18 AWG or two 12 AWG wires

OPTIONAL ITEMS

- 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 easily understandable language the necessary steps to install iW Cast 14 Powercore Conduit 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, iW Cast 14 Powercore Conduit. Failure to adhere to these instructions will result in death or serious injury.

DANGER: iW Cast 14 Powercore Conduit 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 iW Cast 14 Powercore Conduit 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 iW Cast 14 Powercore Conduit if the lens, housing, or 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 iW Cast 14 Powercore Conduit 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.

WARNING: iW Cast 14 Powercore Conduit has line voltage risk of shock and no user serviceable parts. Do not attempt to open the fixture. Doing so can result in death, serious injury, and 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: 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: iW Cast 14 Powercore Conduit 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 iW Cast 14 Powercore Conduit 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 iW Cast 14 Powercore Conduit installation requires in-depth planning to ensure timely, successful installation with minimal complications and down time.

When planning iW Cast 14 Powercore 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.
- Employ Color Kinetics Application Engineering Services.

INSTALLATION CONSIDERATIONS

When creating your installation plan, consider the following:

- Zones. iW Cast 14 Powercore Conduit fixtures are dimmable, color temperature adjustable fixtures that are controlled by zones. Using the iW Scene Controller, you can set the brightness level and color temperature, from cool to warm, for all lights within a specified zone.

You create zones by internally designating each iW Data Enabler as a specific alphanumeric zone, 1-9 or A-F. All fixtures attached to that Data Enabler reside within the designated zone. For example, in an installation with two iW Data Enablers where the first Data Enabler is set to Zone 1 and the second is set to Zone 2, the lights attached to the first Data Enabler are in Zone 1 and the lights attached to the second Data Enabler are in Zone 2.

For installations where all lights are controlled in unison, set each iW Data Enabler in the installation to the same zone designator. For installations where groups of lights are controlled individually, set unique zone designators for each Data Enabler.

- 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-cutttable leader cable. The Data Enabler supports a slightly greater or fewer number of fixtures depending on customized installation parameters. A junction box will be required for the leader extension connections.

NOTE: Adhere to all state and local wiring codes when making the leader extension connections.

- 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 iW Data Enabler before installing iW Cast 14 Powercore Conduit fixtures. Refer to the iW Data Enabler Installation Guide.

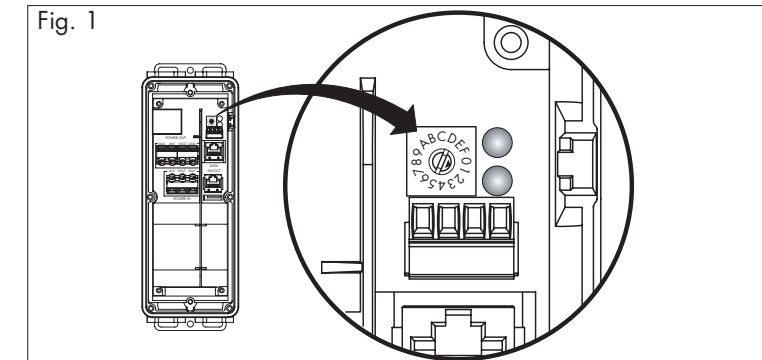
STEPS TO A SUCCESSFUL INSTALLATION

1. Set the zone(s) for the iW Data Enablers
2. Install the iW Data Enablers.
3. Install fixtures
4. Install iW Scene Controller
5. Connect power and data from the iW Data Enablers to the fixtures.

SET THE iW DATA ENABLER ZONE

To minimize installation time and effort, set the zone for each iW Data Enabler prior to installing. Zones can be set or changed after installing the Data Enabler; however, any settings or changes made after power is engaged requires a power cycle to recognize the change.

Using a small, flat-head screw driver, set the zone for the Data Enabler by rotating the zone switch, located next to the LED indicators, to a specific designator—1 to 9 or A to F. The designator zero (0) is reserved for future features. See Fig. 1.



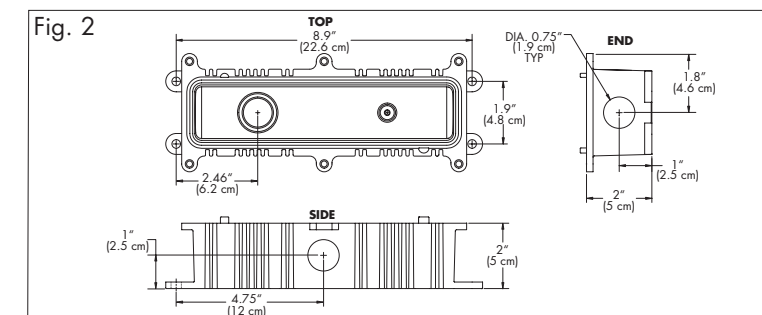
INSTALL THE FIXTURE

iW Cast 14 Powercore Conduit fixtures and bases are installed in series, end-to-end or spaced apart, using 12 AWG, 4-conductor, copper cable. To install iW Cast 14 Powercore Conduit, begin by installing the iW Cast 14 Powercore Conduit Base and conduit. After installing the bases and conduit, pull wiring through the conduit into the bases and then wire the fixtures. Finally mount the fixtures to the bases and attach safety cables as dictated.

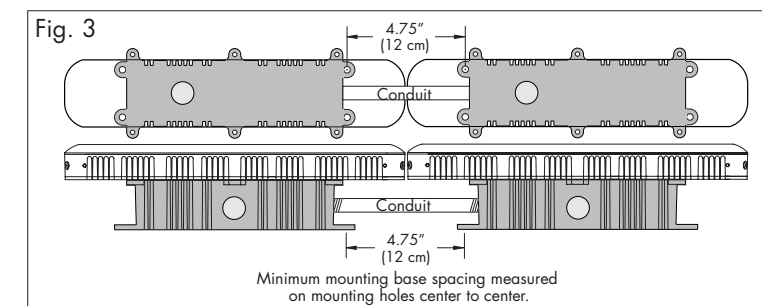
NOTE: iW Cast 14 Powercore Conduit can also home runned to the iW Data Enabler. Home run cables must be connected to a leader cable within a junction box located near the iW Data Enabler.

INSTALL iW CAST 14 POWERCORE CONDUIT BASE

The iW Cast 14 Powercore Conduit Base is designed with four 3/4" NPT conduit holes which accommodate threaded pipe, conduit hubs, and flexible conduit. The conduit holes are located on the side, ends, and bottom of the base for installation versatility. See Fig. 2. The type of conduit you use is dictated by your electrical design plan along with relevant state and local codes.



Attach Conduit: Prior to mounting the bases, attach the necessary conduit and use the seal plugs and gaskets provided, to seal all conduit holes not needed for the installation. Tighten plugs until gaskets are slightly compressed. Do not over tighten. When calculating the conduit length between fixtures, ensure that the spacing between fixtures is at least 4-3/4 (12 cm) inches, measured for the center of one base's mounting hole to the center of the next base's mounting hole. See Fig. 3.



NOTE: iW Cast 14 Powercore Conduit must be installed with each fixture oriented in the same direction for expected effects. The fixtures align and mount to the conduit base in one direction only. Ensure that all bases are aligned in the same direction when attaching conduit and installing. To ensure proper alignment, locate the side and/or bottom conduit holes on each base in the same direction.

NOTE: For outdoor installations, use RTV Silicone on the conduit coupler and plugs to ensure that the conduit connections to the base are water-tight.

Mount Base: After attaching the conduit to the base, mount the base by using the four mounting holes located at each end of the base. Use hardware suitable for the mounting surface. See Fig. 2.

NOTE: The iW Cast 14 Powercore Conduit base can be used as a template when pre-drilled pilot holes are required. Hold the fixture in place and mark the four screw holes. Ensure that the minimum spacing between base mounting holes is 4-3/4 inches (12 cm).

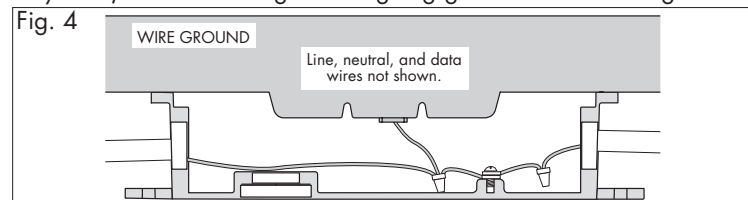
WIRE FIXTURE

DANGER: Turn off main power supply before wiring the fixtures. Failure to do so will result in death or serious injury.

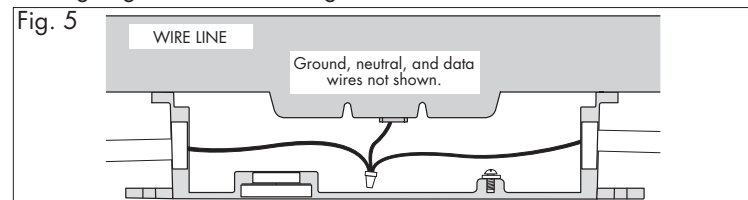
Pull 12 AWG, 4-conductor, stranded copper cable through the conduit and into the base.

Use wire nuts of suitable size to connect 3-12 AWG wires.

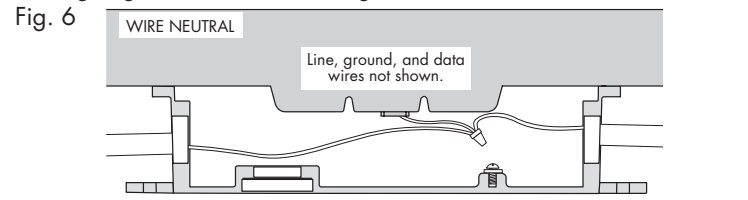
- Connect the chassis ground pig tail and the fixture ground (green/yellow) to the incoming and outgoing ground wires. See Fig. 4.



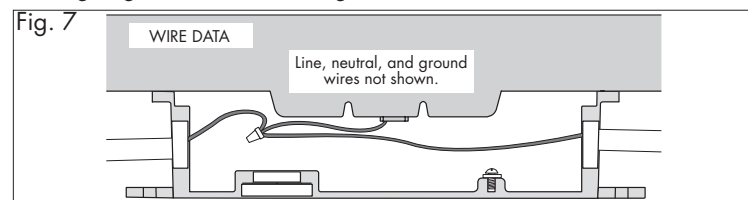
- Connect the fixture line (black, US/brown, EU) to the incoming and outgoing line wires. See Fig. 5.



- Connect the fixture neutral (white, US/blue, EU) to the incoming and outgoing neutral wires. See Fig. 6.



- Connect the fixture data (red, US/black, EU) to the incoming and outgoing data wires. See Fig. 7.



ATTACH FIXTURE TO BASE

After all wiring connections are complete, you are ready to attach the fixture to the base.

- Ensure that all wires are tucked completely into the base and that the gasket is seated properly.
- Align pins on base to fixture bottom plate. Attach the fixture to base using the six provided screws and lock washers. Tighten screws to 15 to 20 lbf-in (1.5 to 2.3 N-mm) to create a seal. Do not over tighten.

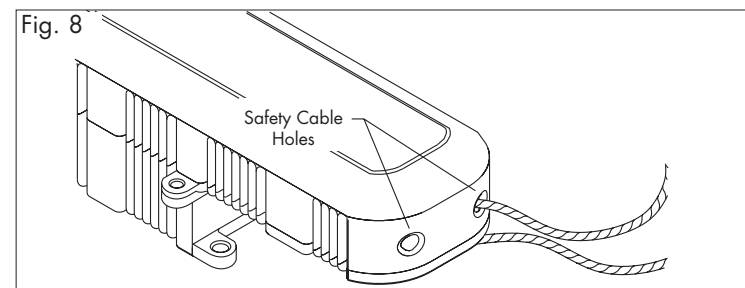
CAUTION: Do not over tighten the mounting hardware. Doing so can damage the base resulting in possible installation failure.

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. 8.
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.



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) preformed stranded
- END TERMINATIONS:** Determined by installer and/or owner
- MOUNTING METHOD:** Determined by installer or owner

INSTALL THE iW DATA ENABLER

Determine a location for the iW Data Enabler. One iW Data Enabler can support as many as 36 (120VAC) to 61 (240VAC) iW Cast 14 fixtures in a single zone. Use the *Configuration Calculator* located at www.colorkinetics.com/support to determine the exact number of allowed fixtures per iW Data Enabler for your application. Multiple iW Data Enablers are needed for installation that require multiple zones or that exceed the calculated number of fixtures allowed in a single zone.

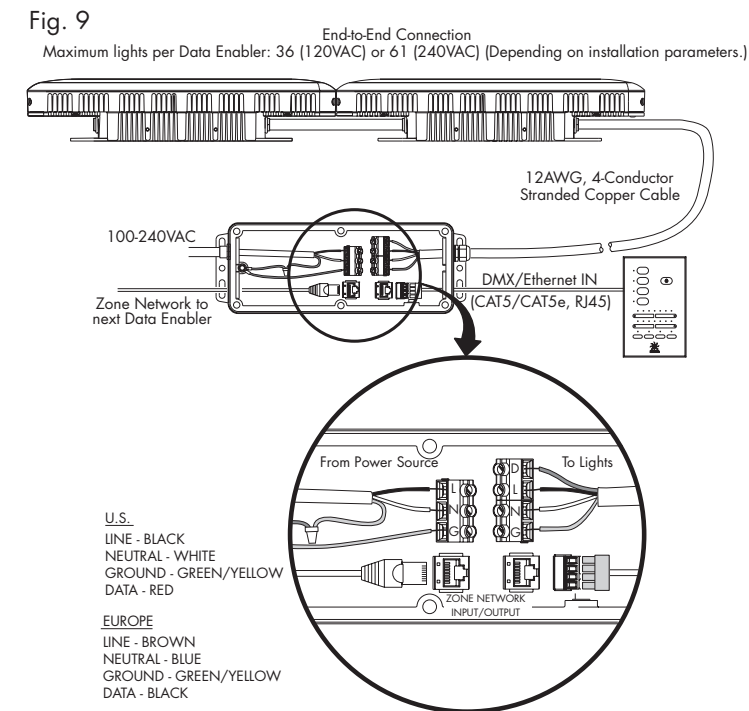
Things to remember:

- Install the iW Data Enabler according to state and local codes.
- Consult a Electrical Inspector to approve all wiring plans.
- Refer to the iW Data Enabler Installation Guide for complete installation, wiring and operating instructions. After running power and data to the iW Data Enabler and setting the zone, you are ready to attach the iW Cast 14 Powercore fixtures.

Refer to the Data Enabler Zone Control Installation Guide for complete installation, wiring and zone setting instructions. After running power and data to the Data Enabler and setting the zone, you are ready to attach the iW Cast 14 Powercore fixtures.

ATTACH FIXTURE RUN TO DATA ENABLER

After all fixture wiring connections are complete, attach the leader cable from the first light in the run to the Data Enabler. See Fig. 9. Refer to the Data Enabler Installation Guide for complete instructions.



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

iW CAST 14 POWERCORE CONDUIT SPECIFICATIONS

COLOR TEMPERATURE	Approximately 3000 K to 6000 K
HOUSING	Die cast aluminum, powder coated
CONNECTORS	Over-molded, integral male/female connectors
LISTINGS	C-UL US, CE

COMMUNICATION SPECIFICATION

SOURCE	Color Kinetics iW Data Enabler
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ELECTRICAL SPECIFICATIONS

INPUT	100-240VAC, 50-60 Hz
OUTPUT	100-240VAC, 50-60 Hz
POWER SUPPLY	Powercore™

ENVIRONMENTAL SPECIFICATIONS

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

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 70% of original light output. When the fixture is running on warm or cool, at room temperature, the LED lifetime is in the range 50,000 – 70,000 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.