

COLORBURST 4

INSTALLATION GUIDE



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116-000003-01 (Black)
116-000003-02 (Aluminum)
116-000003-03 (White, Clear Lens)
116-000003-04 (Black, Clear Lens)
116-000003-05 (Aluminum, Clear Lens)

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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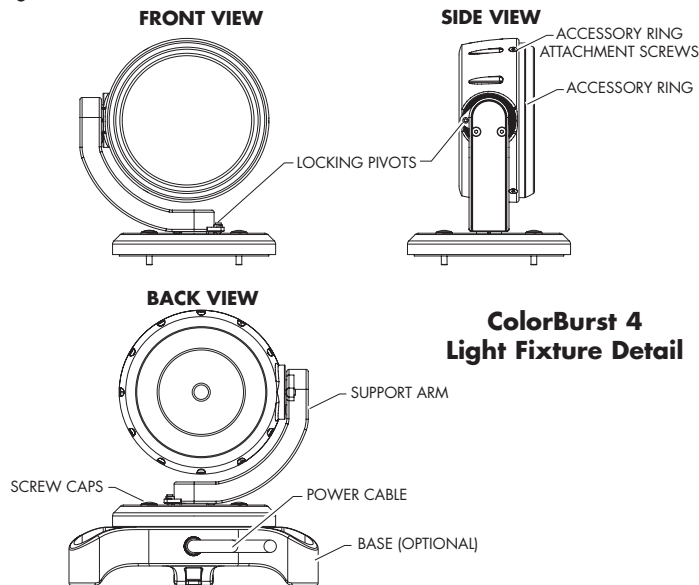
Specifications subject to change without notice.



Introduction

Welcome to a more colorful world brought to you by Color Kinetics and Chromacore®, our patented core technologies that generate and control millions of colors and a variety of lighting effects using a microprocessor to control LEDs. This guide contains important information about installing and operating your new ColorBurst® 4 safely.

Fig. 1



Included in this box:

- ColorBurst 4 with accessory attachment ring
- 1-Accessory retention spring
- 4-Screws, Phillips, 8-32 standard with color-matched screw caps, for indoor junction box installations.
- 4-Screws, Phillips pan head, 10-24, stainless steel, for outdoor junction box installations.
- 1-Gasket for outdoor junction box installations.
- Allen wrench
- Warranty and Registration cards
- Installation Guide

Additional items needed:

- 4" Electrical junction box (rated for your application) with 3.5-inch center to center mounting locations or ColorBurst base (Item# 116-000005) for indoor applications
- 18AWG, 3-conductor, stranded wire cable (when not using base)
- Wire nuts
- 24VDC power supply - PDS-150e (Item# 109-000008-01)
- Controller - Color Kinetics or DMX compatible
- Color Kinetics Zapi (Item# 103-000005-00, US/103-000005-01, EU) or Serial Addressing Software (SAS)

Scope of This User Guide

The goal of this user guide is to explain in an easily understood language the necessary steps to install ColorBurst 4 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 provisions of a regulation or state and/or local code.

Identification and Warnings of Safety Hazards

In accordance with ANSI MH29.1 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 the main power supply is off before installing or wiring ColorBurst 4 and PDS-150e power supply. Failure to adhere to these instructions will result in death or serious injury.

WARNING: ColorBurst 4 and PDS-150e power supply must be installed by a qualified electrician in accordance with NEC and relevant local codes. Failure to comply can result in death, serious injury, or property damage.

WARNING: Do not attempt to install or use ColorBurst 4 or PDS-150e 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 ColorBurst 4 if the power cables are damaged. Doing so can result in death, serious injury, and property damage.

CAUTION: ColorBurst 4 has no serviceable parts. Do not attempt open the fixture. Doing so will result in property damage and void the warranty.

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 the 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 ColorBurst 4 in such a manner as to comply with all state and local laws, ordinances, regulations, and the American Standard Institution Safety Code

Plan the Installation

The nature of ColorBurst 4 installation requires planning to ensure a timely, successful installation with minimal complications and down time.

Planning suggestions

When planning ColorBurst 4 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 Mapping Grid. Use this grid to record serial numbers for easy reference and addressing.
- Create a Layout Plan drawing, per Lighting Designer or Architect.
- Employ Color Kinetics Application Engineering Services.
- Get detailed wiring diagrams and additional support from <http://support.colorkinetics.com>.

Installation considerations

When creating your installation plan, consider the following:

- Location of PDS-150e in relationship to lights. The maximum cable length for a single ColorBurst 4 fixture is 150 feet and the maximum total cable run from the PDS-150e is 400 feet. Therefore, the PDS-150e must be located within 150 feet of the furthest supported fixture, and the total distance of all supported fixtures must not exceed 400 feet. The maximum daisy chain length for one to four fixtures is 50 feet.
- Location of fixture and method of mounting. ColorBurst 4 can be installed indoors or outdoors on walls, ceilings, or floors. Junction boxes and mounting methods vary according to location.
- Record the serial numbers and identify lights as you unpack the fixtures.
- Install and wire PDS-150e power/data supplies before installing ColorBurst 4 fixtures. Refer to the PDS-150e Installation Guide.

Installing ColorBurst 4

Steps to a successful installation

1. Record serial numbers and identify fixtures as you unpack them.
2. Address the fixtures.
3. Install the power/data supplies.
4. Install ColorBurst 4 fixtures.
5. Connect power and data.

Record Serial Numbers

1. As you unpack the fixtures record the serial numbers. Each ColorBurst 4 has a unique serial number programmed at the time of manufacture.
2. Write the serial numbers onto a Mapping Grid or use a bar code scanner along with Color Kinetics Address Programmer software to record each serial number. Color Kinetics Address Programmer software and instruction are located at <http://support.colorkinetics.com>.
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 based on the Layout Plan. Place the identifying label in an inconspicuous location noting the order or placement in the installation. This step not only minimizes installation mistakes, but aids in post installation light show programming.

Addressing the Lights

Important: Before you begin the installation, consider the scope of your lighting application and installation. Your ColorBurst 4 is set to DMX address one at the factory. If your application requires other addresses, set the DMX addresses before installing ColorBurst 4 using one of the following methods.

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

PROGRAM: Use a PC with iPlayer 2, or a PC with Smart Jack 3 to address the fixtures. Download the Address Programmer software and instructions from <http://support.colorkinetics.com>.

Setting Individual Addresses:

1. With power disconnected, connect a single ColorBurst 4 to the PDS-150e.
2. Attach the DMX interface (Zapi, iPlayer 2, or Smart Jack 3) to the DMX IN port on the PDS-150e.
3. Connect power to the PDS-150e.
4. Use Zapi or Serial Addressing Software to set the light address.
5. Disconnect power and then disconnect the addressed ColorBurst 4 fixture.
6. Repeat steps 1 through 5 for each fixture.
7. After all fixtures are addressed, disconnect the DMX interface.

NOTE: To assign unique addresses to each ColorBurst 4, fixtures must be addressed individually. Designate a PDS-150e as the addressing power/data supply and address all fixtures before installing them.

Setting the Same Address to Multiple Lights:

1. With power disconnected, connect up to six ColorBurst 4 fixtures to the PDS-150e (one per terminal block).
2. Attach the Zapi to the DMX IN port on the PDS-150e.
3. Connect power to the PDS-150e.
4. Use Zapi to set the light addresses. All ColorBurst 4 fixtures connected to the PDS-150e are addressed simultaneously. **NOTE:** If you are using Serial Addressing Software, you must address the fixtures individually.
5. Disconnect the DMX interface.

NOTE: For applications using multiple, daisy chained power supplies, you can address all lights in the chain by attaching Zapi to the first power supply in the series.

Install the PDS-150e Power/Data Supply

Following the Layout Plan, install the PDS-150e power/data supplies according to state and local codes. Refer to the PDS-150e Installation Guide for complete instructions.

Things to remember:

- ColorBurst 4 requires 24VDC provided by the PDS-150e.
- PDS-150e must be installed an appropriate distance from fixtures to support all ColorBurst 4 fixtures without exceeding the 400-foot total cable run maximum.
- Each PDS-150e supports 12 ColorBurst 4 fixtures.
- Consult a Electrical Inspector to approve all wiring plans.

WARNING: Ensure that power supply is off before wiring the PDS-150e. Failure to do so can result in serious injuries or death.

Electrical Connections

After installing the PDS-150e, pull 18AWG, 3-conductor, stranded wire cable from the power supply to the junction boxes for the fixtures. When using ColorBurst base, pull cable from fixture location to PDS-150e.

Connect the cables to the PDS-150e snap-in connectors. Each PDS-150e supports up to 12 ColorBurst 4 fixtures—two per terminal or one chain of four junction box-to-junction box fixtures per fuse block. See Fig. 5 for acceptable installation configurations.

Connecting Power

WARNING: Ensure that power supply is off before wiring or connecting fixtures to the PDS-150e. Failure to do so can result in serious injuries or death.

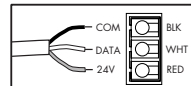
CAUTION: Do not overload PDS-150e. Doing so will result in property damage and void the warranty.

NOTE: Each ColorBurst 4 can receive power directly from a power supply or be junction box-to-junction box daisy chained. See Fig. 3.

If using the ColorBurst Base, the 3-conductor cable is provided with the following color-coded wires:

- Black = Com (ground, shield)
- White = Data
- Red = +24VDC

Fig. 2



Wire each fixture to the provided connectors as illustrated in Fig. 2. Snap connectors into connector terminals located in the PDS-150e

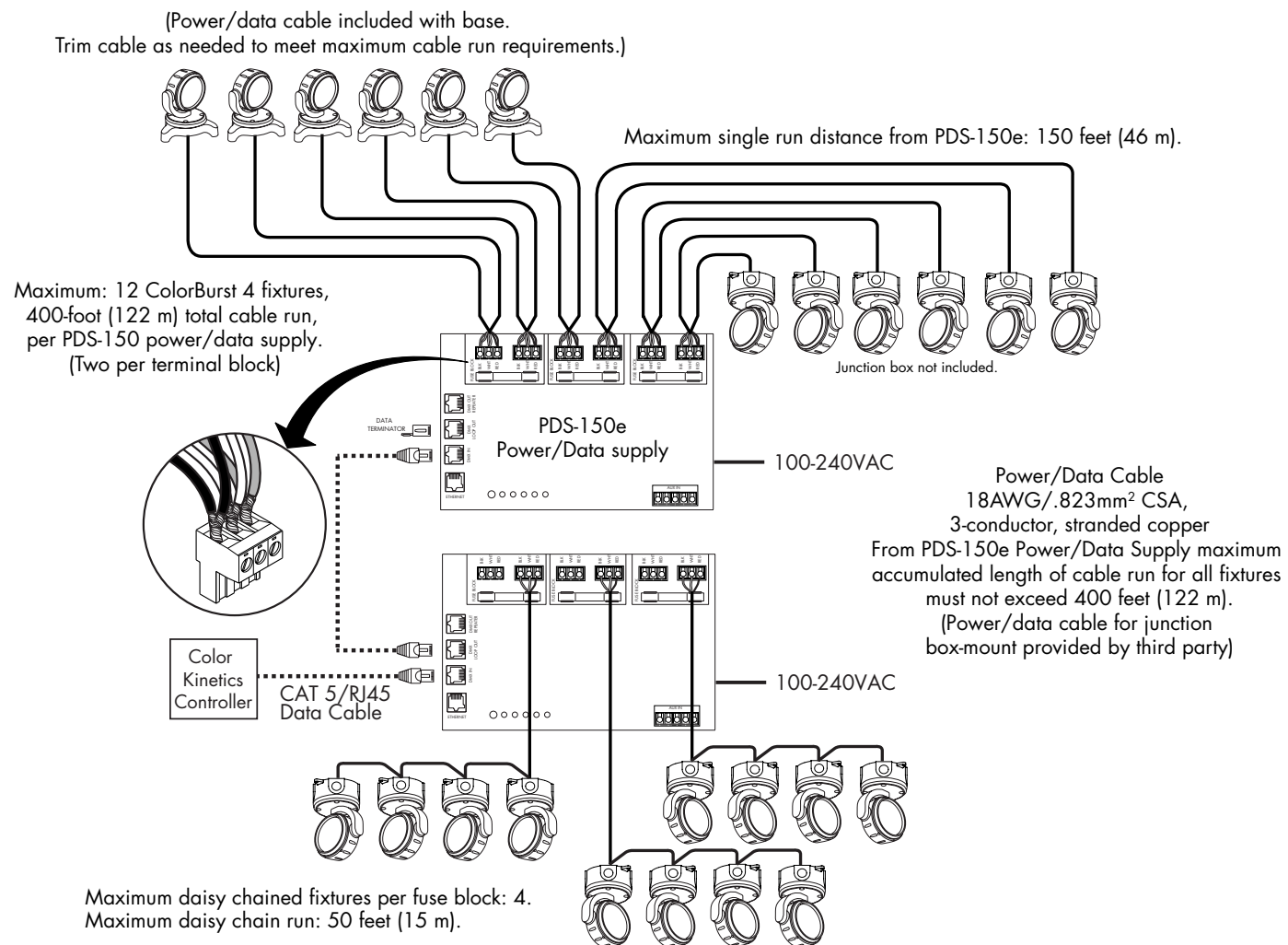
CAUTION: When not using the base, you must provide 18AWG, 3-conductor stranded copper cable. Failure to provide the proper cabling can result in damage to the fixture and void warranty

Install ColorBurst 4

This fixture shall be installed by a qualified professional in accordance with NEC and relevant local codes for Class 2 power sources.

WARNING: Power must be off before installing the ColorBurst 4. ColorBurst 4 can be installed indoors or outdoors. Use an electrical junction box rated for your application for surface mounts.

Fig. 3



Connecting the Fixtures

After pulling 3-conductor, stranded wire cable from the PDS-150e to the indoor rated junction box, use wire nuts to connect the three wire leads from the fixture.

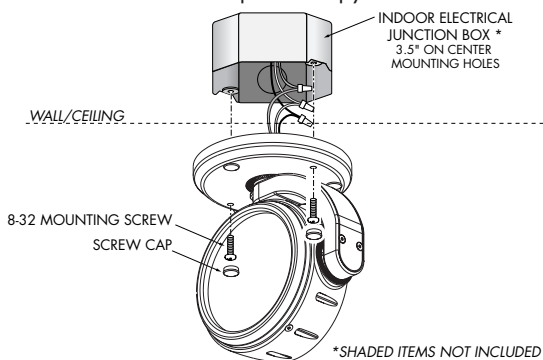
Connect: Red to +24VDC
White to Data
Black to Common

NOTE: The fixture wire leads are 24-inches long and can be trimmed as necessary. The Color connections must correspond to color connections on the PDS-150e.

Indoor: Junction Box Mount

1. After wiring the fixtures, neatly tuck the conductors into the junction box.
2. Insert two fastening screws included with the ColorBurst 4 through the holes in the canopy assembly, then through the mounting holes in junction box, and tighten. See Fig. 4
3. Cover screw heads and open canopy holes with screw caps.

Fig. 4



Outdoor: Junction Box Mount

1. Neatly tuck the conductors into the junction box.
2. Insert four fastening screws through the holes in the canopy assembly, then through gasket, into the mounting holes in junction box, and tighten. See Fig. 5
3. Cover screw heads with screw caps.

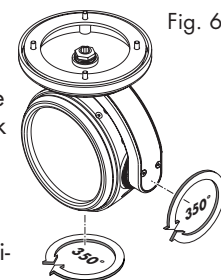
Fig. 5

Note: Use the screws that came with the outdoor junction box. Do not use the screws that came with the ColorBurst 4.

Aiming the fixture

Positioning the ColorBurst 4 is simple with the dual swivel, aim-and-lock feature.

1. After installing and energizing the light, rotate the fixture arm to the desired position.
2. Using the provided Allen wrench, tighten the locking set screw located on the base to lock the arm in place.
3. Rotate the fixture and lock it into place by tightening the set screw located on the arm.



NOTE: Each swivel provides a 350° turning radius with hard stops to prevent over rotation.

CAUTION: Do not force hard stops to over rotate. Doing so will damage the fixture and void the warranty.

CAUTION: Do not over tighten set screws.

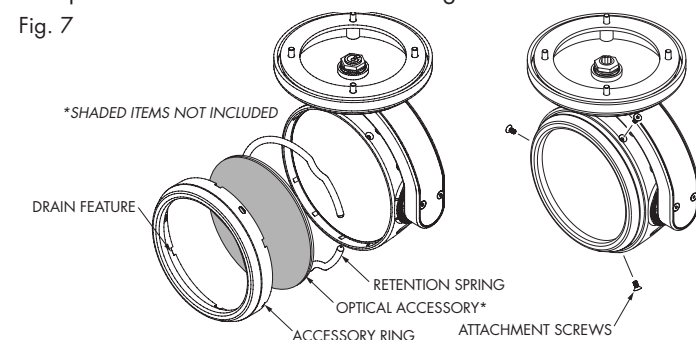
Using Accessory Lenses

ColorBurst 4 is designed to accommodate louvers, filters, and lenses with a maximum 4-inch outer diameter and up to 3/16-inch thick.

To install accessory louvers, filters, or lenses:

1. Remove the three attachment screws from the fixture housing. The attachment ring will separate from the fixture housing.
2. A retention spring retains the accessory securely to the accessory ring. Squeeze the spring to remove it from the ring.
3. Place the accessory into the ring.
4. Replace the spring to hold the accessory in place while reattaching the ring to the housing.
5. Align the through holes on the accessory ring with the screw holes on the fixture housing, ensuring the drain features align. Replace the attachment screws. See Fig. 7.

Fig. 7



Important Information

Strobe Warning

There is some anecdotal evidence that strobe lighting may induce epileptic symptoms in certain susceptible individuals, although no associated product warnings have been issued by United States government according to the Food and Drug Administration.

If strobe lights are used, some international regulatory agencies¹ recommend keeping flicker rates at or below four flashes per second (as less of the flicker-sensitive population will then be at risk of an attack). This flicker rate applies only to the overall output of any group of lights in direct view. However, when more than one strobe light is used, the flashes should be synchronized. End users should also consider issuing a warning, alerting audience or viewers to the presence of strobe lighting.

Temperature Monitoring

For protection from extreme temperatures, the ColorBurst 4 has been designed with a temperature monitoring feature. If operating temperatures rise to an unsafe level, a compensation circuit is triggered and the ColorBurst 4 operation is interrupted causing the lights to turn dull red. After 30 minutes the lights will auto-cycle and return to full intensity.

To prevent additional power shut-downs, determine the cause of the overheating and correct the problem.

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
support@colorkinetics.com

COLORBURST 4 SPECIFICATIONS

COLOR RANGE	16.7 million (24bit) additive RGB colors Continuously variable intensity output range
SOURCE	High brightness colored LEDs
BEAM ANGLE	33° beam angle
DATA INTERFACE	Color Kinetics full line of controller products
PACKAGING	Black, white, or aluminum powder coated die cast aluminum housing
CONNECTORS	Unified power and data cable
LISTINGS	UL and CE listed
POWER REQUIREMENT	24VDC (10W)

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.

¹ Guide to Health, Safety and Welfare at Pop Concerts and Similar Events, HMSO Publications (UK)