

# CM-150 CA

Control module for large scale architectural and media applications using Flex Micro nodes





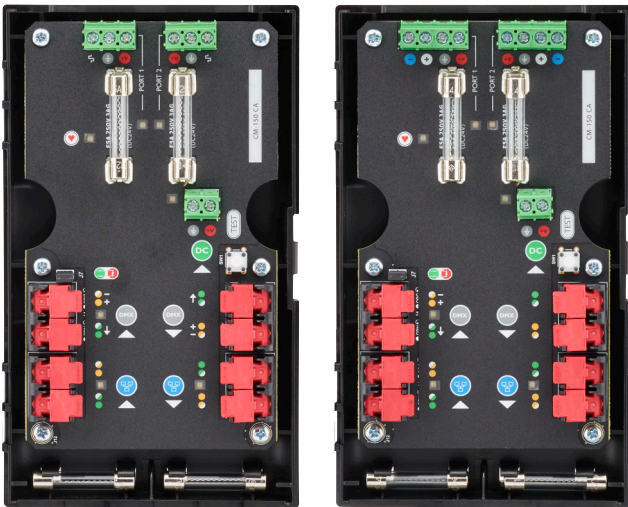
# CM-150 CA

Control module for large scale architectural and media applications using Flex Micro nodes

CM-150 CA delivers integrated data and power to Flex LED luminaires from Color Kinetics. With multiple mounting options, CM-150 CA is the single solution for all large scale installations using Flex Micro gen3, RGB nodes. An integrated test button instantly confirms proper functioning of your devices, saving time and simplifying integration.



# Take a closer look



## Supports up to 150 W of power output

CM-150 CA accommodates input and output voltages of 7.5, and 12V, so it's compatible with current Flex Micro gen3, RGB and discontinued products from Color Kinetics. CM-150 CA supports up to two strands of Flex Micro, with up to 75 nodes per strand.

## Compatible with Interact Landmark

CM-150 CA is designed to work with Interact Landmark. With Interact Landmark, you can check the devices on your lighting network right from your web browser. And because Interact Landmark knows the status of your control module, you can instantly pinpoint a problematic CM-150 CA or attached luminaires from anywhere in the world.

## Integrated test button

CM-150 CA features an onboard button for testing LED nodes that are attached to the control module, even before fully installing your control system. Press this button to instantly show a color wash on attached Flex nodes, confirming that your devices are working just as you expect them to. Press the button again, and your Flex nodes will resume normal operation. On-board indicator LEDs provide visual feedback for normal operation, DMX and Ethernet connection detection, and Ethernet data transmission.

## Available with 3-wire or 4-wire output

3-wire output is a cost-effective option for shorter runs of up to 7.6 m (25 ft) from the CM-150 CA to your Flex strands. 4-wire output offers more flexibility of placement and can be used in runs of up to 30.5 m (100 ft) from the CM-150 CA to your Flex strands. Longer leader cables are available for custom configurations.

## Modular and versatile

CM-150 CA is available in a surface mount or DIN rail mount form factor, allowing placement in indoor and outdoor environments, or in your own custom housing. CM-150 CA is compatible with third-party power supplies, so you can purchase the power supplies that work best for your installation.

## DMX and Ethernet input and output

CM-150 CA can accept DMX or Ethernet data. DMX and Ethernet output ports allow for daisy-chaining of control modules.

## Environment

CM-150 CA, DIN Rail Mount can be used in a Dry Location, IP00 CM-150 CA, Surface Mount can be used in a Dry/Damp/Wet Location, IP66.

# Specifications and information

Due to continuous improvements and innovations, specifications may change without notice.

## General information

### Electrical

|                   |                                                                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input Voltage     | 7.5 or 12 VDC                                                                                                                                                                          |
| Fuse Rating       | (2) 5 A, fast blow fuses                                                                                                                                                               |
| Power Consumption | 3 W at 7.5 or 12 VDC                                                                                                                                                                   |
| Power Output      | 60 W maximum at 7.5 VDC, or 96 W maximum at 12 VDC                                                                                                                                     |
| Surge Protection  | For Surge Protection Requirements for LED Lighting Systems, please refer to <a href="http://www.colorkinetics.com/KB/surge-protection">www.colorkinetics.com/KB/surge-protection</a> . |

### Connections

|                                     |                                                                                                                                                                                                                             |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data Input Source                   | Color Kinetics full range of controllers, third-party DMX controllers, or KiNET-compatible <sup>§</sup> third-party Ethernet controllers <sup>§</sup>                                                                       |
| Power Input                         | V+ and GND terminal block <sup>†</sup>                                                                                                                                                                                      |
| Data Input/Output                   | Double-pair, terminal block <sup>‡</sup>                                                                                                                                                                                    |
| Power/Data Output<br>(to luminaire) | DIN-Rail: (2) V+, GND, Data+, and Data- terminal blocks <sup>†</sup> , or (2) V+, GND, and Data terminal blocks <sup>†</sup><br>Surface Mount: (2) three-pin panel mount connectors, or (2) four-pin panel mount connectors |

### Physical

|                                                                     |                                                                                                                                                        |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions<br>(Height x Width x Depth)                              | DIN-Rail: 153 x 97 x 31 mm (6 x 3.8 x 1.2 in)<br>Surface Mount: 208 x 90 x 39 mm (8.2 x 3.5 x 1.5 in)                                                  |
| Weight                                                              | DIN-Rail: 0.2 kg (0.4 lb)<br>Surface Mount: 0.7 kg (1.6 lb)                                                                                            |
| Housing                                                             | DIN-Rail: Plastic housing<br>Surface Mount: Die-cast aluminium, powder-coated finish                                                                   |
| Startup Temperature<br>Operating Temperature<br>Storage Temperature | -20 to 50 °C (-4 to 122 °F)<br>-30 to 50 °C (-22 to 122 °F)<br>DIN-Rail: -40 to 70 °C (-40 to 158 °F)      Surface Mount: -40 to 80 °C (-40 to 176 °F) |
| Humidity                                                            | 0 to 95%, non-condensing                                                                                                                               |
| Cooling                                                             | Convection                                                                                                                                             |

### Certification and Safety

|               |                                                                            |
|---------------|----------------------------------------------------------------------------|
| Certification | DIN-Rail: UL/cUL Recognized, CE<br>Surface Mount: UL/cUL, CE               |
| Environment   | DIN-Rail: Dry location, IP00<br>Surface Mount: Dry/Damp/Wet Location, IP66 |

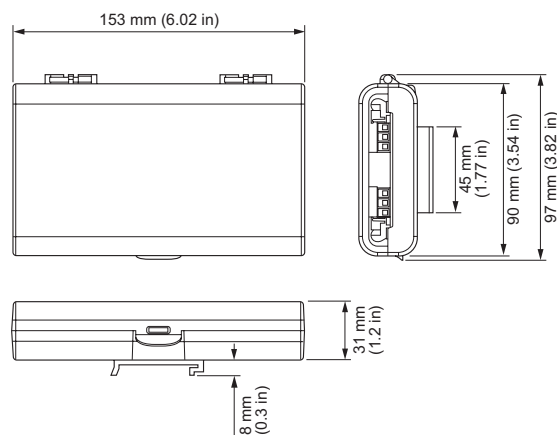
<sup>†</sup> Terminal block connectors accept wire sizes from 0.5 to 2.1 mm<sup>2</sup> (14 to 20 AWG).

<sup>‡</sup> Terminal block connectors accept wire sizes from 22 – 26 AWG (0.326 – 0.129 mm<sup>2</sup>).

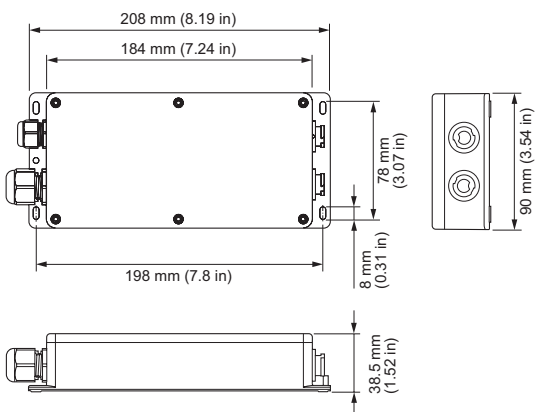
<sup>§</sup> KiNET is the Ethernet lighting protocol from Color Kinetics.

# Dimensions

CM-150 CA, DIN Rail



CM-150 CA, Surface Mount



# Part Numbers

|                                                               | Item Number   | Item 12NC    |
|---------------------------------------------------------------|---------------|--------------|
| CM-150 CA, DIN Rail Mount, Four-Wire Terminal, 7.5/12V, IP00  | 109-000033-01 | 912400135767 |
| CM-150 CA, DIN Rail Mount, Three-Wire Terminal, 7.5/12V, IP00 | 109-000033-03 | 912400135769 |
| CM-150 CA, Surface Mount, Four-Wire Terminal, 7.5/12V, IP66   | 109-000034-01 | 912400135771 |
| CM-150 CA, Surface Mount, Three-Wire Terminal, 7.5/12V, IP66  | 109-000034-03 | 912400135773 |

## For further information

CM-150 CA details including Installation Instructions, Specification Sheets, and product drawings, can be found at: [www.colorkinetics.com/global/products/pds/cm150ca](http://www.colorkinetics.com/global/products/pds/cm150ca)



CM-150 CA

# Configuration and planning

Regardless of the size and complexity of your installation, the planning time you spend up front can help streamline the installation and configuration of your luminaires. Keep these points in mind as you plan your installation:

## Installation

CM-150 CA integrates data and power transmission for the Flex family of luminaires. Installation specifics will vary depending on luminaire types, controller, environment (dry or damp/wet).

## Owner/User Responsibilities

It is the responsibility of the contractor, installer, purchaser, owner, and user to install, maintain, and operate CM-150 CA in such a manner as to comply with all applicable codes, state and local laws, ordinances, and regulations. Consult with the appropriate electrical inspector to ensure compliance.

## Installing in Damp or Wet Locations

When installing in damp or wet locations, seal all junction boxes, power supplies, and other devices with electronics-grade RTV silicone sealant so that water or moisture cannot enter or accumulate in any wiring compartments, cables, luminaires, or other electrical parts. You must use suitable outdoor-rated junction boxes when installing in wet or damp locations. Additionally, you must use gaskets, clamps, and other parts required for installation to comply with all applicable local and national codes.

## Plan the Installation

To streamline installation and ensure accurate configuration, start with a layout or a lighting design plan that shows the physical layout of the installation and identifies the locations of all luminaires, CM-150 CA devices, power supplies, controllers, switches, and cables.

## DMX and Ethernet Configurations

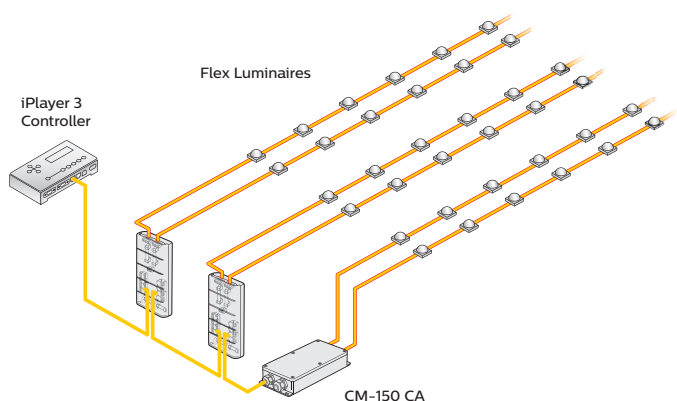
CM-150 CA can be used in either DMX or Ethernet networks. DMX is appropriate for relatively simple installations, or for installations in which groups of lights operate in unison—for example, for accent lighting.

Typical DMX installations with intelligent LED luminaires from Color Kinetics use a controller such as iPlayer 3, a Controller Keypad for turning the lighting system on and off and for triggering light shows, and one or more CM-150 CA devices. CM-150 CA devices can be connected in series to deliver DMX data from a single controller to all connected lights.

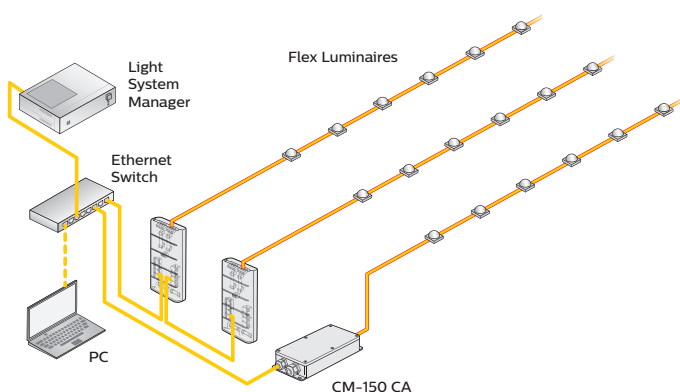
Because it is not subject to the DMX addressing limitations, Ethernet is the preferred environment for large-scale, color-changing light shows and video displays, both of which require large numbers of unique addresses.

Typical Ethernet installations with Color Kinetics LED luminaires use an Ethernet switch, an Ethernet controller such as Light System Manager or Video System Manager Pro, Antumbra Ethernet Keypads for push-button light show triggering, and one or more CM-150 CA devices. While your specific lighting network configuration may allow for additional devices, we recommend that you limit individual Ethernet runs to 15 or fewer CM-150 CA, DIN Rail Mount devices. For additional CM-150 CA devices in a network, use additional Ethernet switch ports.

## DMX Configuration



## Ethernet Configuration



Electrical Configuration Guidelines

The maximum number of nodes each CM-150 CA can support depends on the luminaire type, as well as on additional configuration details such as node spacing and leader cable length. The table below lists the maximum number of Flex nodes each CM-150 CA can support, assuming a suitable power supply is used.

Download the Power / Data Supply Compatability Chart for the latest guidelines.

| Luminaire            | Nodes per port | Nodes per CM-150 CA |
|----------------------|----------------|---------------------|
| Flex Micro gen3, RGB | 75 nodes       | 150 nodes           |

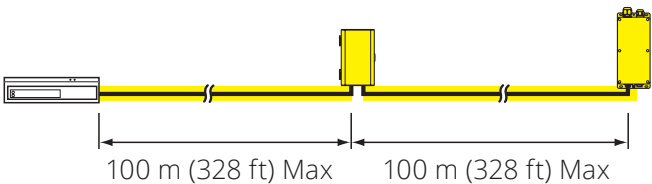
CM-150 CA must be installed in a location that allows air to move freely around the device. Startup and operating temperatures are rated to 50 °C (122 °F). Exceeding this temperature limit may cause device damage or failure.

Data Configuration Guidelines

In addition to maximum luminaire run lengths determined by the electrical configuration, each power supply imposes maximum run lengths based on data integrity. To ensure data integrity, maximum individual run length should not exceed 100m (328 ft), and the total number of daisy chained power supplies should not exceed 15.

Select the Right Components

To work with your Flex luminaires, you will need to select the right form factor, leader cable, and third party power supply.



Ethernet maximum data cable length between CM-150 CA devices

Surface Mount or DIN Rail Mount?

CM-150 CA is available in either a Surface Mount or a DIN Rail Mount form factor. The DIN Rail Mount form factor is suitable for dry locations only. It can be used indoors, or it can be mounted in a suitable outdoor enclosure. On the other hand, the Surface Mount form factor features an IP66 housing, and can be installed in dry, damp, and wet locations without needing a separate enclosure, allowing greater flexibility of placement.

Third Party Power Supply

Select a third-party power supply that matches the physical and electrical requirements of your lighting installation. **NOTE: Power supply must be isolated type.**

Because CM-150 CA passes voltage from the power supply to the attached Flex nodes, it is important that you use a power supply the has the right input voltage, output voltage, and wattage. Refer to the table to find the correct output voltage for your Flex nodes.

Some power supplies can be shared between multiple control modules. Refer to the specification sheets for your specific control module, Flex strands, and power supply to determine whether this can be done in your lighting installation.

Power supply requirements for Flex strands

| Luminaire            | Power supply   |
|----------------------|----------------|
| Flex Micro gen3, RGB | 7.5 to 7.7 VDC |

Leader Cables

The type of leader cable you select depends on the distance from the control module to the first Flex node, the form factor of your CM-150 CA, and whether your CM-150 CA has three-wire or four-wire output.

# Installation

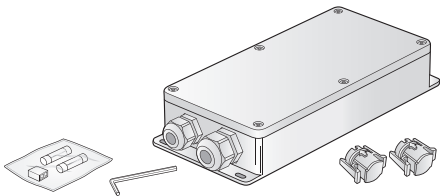
Multi-language installation instructions can be found at:  
[www.colorkinetics.com/global/products/pds/cm150ca](http://www.colorkinetics.com/global/products/pds/cm150ca)

In addition to the CM-150 CA Control Module and associated parts found in the box, the following items are required to mount and connect CM-150 CA:

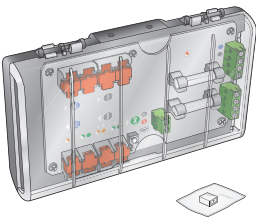
- For Surface Mount housing installations, four mounting screws suitable for the mounting surface
- For DIN Rail housing installations, Top Hat DIN rail (EN 50022), as needed
- Cat. 5e or better data cable, as required
- Associated cables as listed in Leader Cable Part Numbers table
- Electronics-grade RTV silicone for installations in damp and wet locations
- Screwdrivers, wire strippers, and other tools as needed

Important multi-language Installation Instructions can be found at:  
[www.colorkinetics.com/global/products/pds/cm150ca](http://www.colorkinetics.com/global/products/pds/cm150ca)

|                                         |
|-----------------------------------------|
| CM-150 CA, Surface Mount Control Module |
| 2.5 mm (0.25 in) hex wrench             |
| DMX termination pin jumper              |
| (2) Spare fuses                         |
| (2) Connector caps                      |



|                                          |
|------------------------------------------|
| CM-150 CA, DIN Rail Mount Control Module |
| DMX termination pin jumper               |
| (2) Spare fuses, attached inside housing |





# Configuration

QuickPlay Pro 2 enables discovery, configuration, testing and demonstration of all luminaires and devices, including CM-150 CA Control Modules, on your lighting network.

You can commission CM-150 CA gen2 devices using **QuickPlay Pro 2 software**. Automatically discover luminaires, CM-150 CA gen2 devices, and power supplies using QuickPlay Pro 2 with a computer connected to your lighting network.

The **Quick Start Guide** is a comprehensive guide to help you start using QuickPlay Pro2. It contains everything from Device Configuration through to Live Demonstration.

