

CM-150 CA gen2

Control module for large scale architectural
and media applications
using Flex or Vaya Tube luminaires

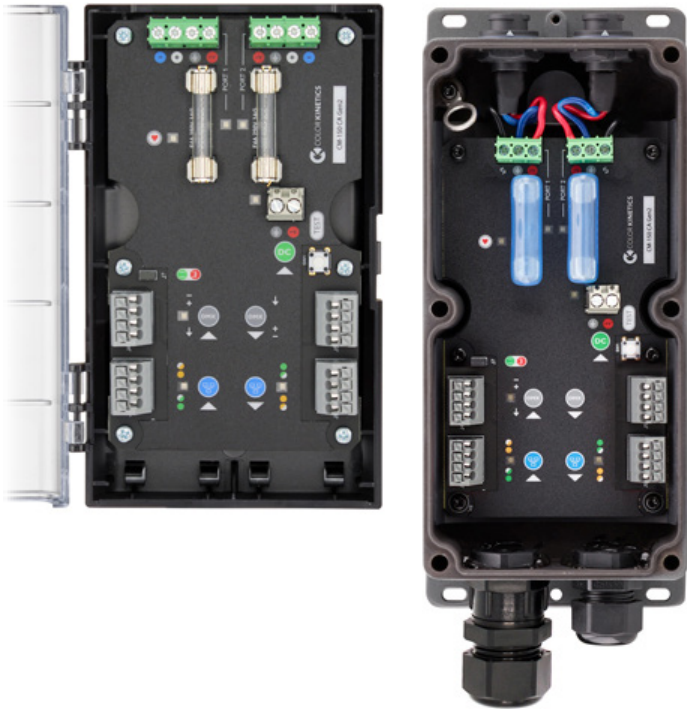
CM-150 CA gen2

Control module for large scale architectural and media applications using Flex or Vaya Tube luminaires

CM-150 CA gen2 delivers integrated data and power to either Flex Compact or Flex Micro and Vaya Tube luminaires. With multiple mounting options and 3 and 4 channel control, CM-150 CA gen2 is the single solution for all large-scale installations. 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 gen2 accommodates input and output voltage of 7.5 volts compatible with Flex Micro gen3, RGB or 24 volts compatible with all Flex Compact, Flex Micro eW, and Vaya Tube products. The CM-150 CA gen2 features two output ports. Each port supports a 75 node strand of Flex Compact, or up to 12 m (40 ft) of Vaya Tube luminaires.

Both 3 and 4 channel control

CM-150 CA gen2 features both 3 and 4 channel control of Color Kinetics luminaires. 3 channel control ensures backward compatibility with Flex RGB luminaires. 4 channel control enables the control of 4 channel luminaires such as Vaya Tube RGBW.

DMX and Ethernet input and output

CM-150 CA gen2 can accept DMX or Ethernet data. DMX and Ethernet output ports allow for daisy-chaining of CM-150 CA gen2 units. Surface mount units include a single and double hole gland for watertight seal around one or two cables.

Modular and versatile

CM-150 CA gen2 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 gen2 is compatible with third-party power supplies, so you can purchase the power supplies that work best for your installation.

Integrated test button

CM-150 CA gen2 features an onboard button for testing luminaires 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 luminaires, confirming that your devices are working just as you expect them to. Press the button again, and your luminaires will resume normal operation. On-board indicator LEDs provide visual feedback for normal operation, DMX and Ethernet connection detection, and Ethernet data transmission.

Compatible with Interact Landmark

CM-150 CA gen2 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 gen2 or attached luminaires from anywhere in the world.

Specifications and information

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

General information

Electrical

Input Voltage	7.5 or 24 VDC
Fuse Rating	Two 4 A, fast blow fuses - for 24 V Flex Compact family and Flex Micro, eW Two 5 A, fast blow fuses - for 7.5 V Flex Micro gen3, RGB Two 8 A, fast blow fuses - for 24 V Vaya Tube family
Power Consumption	3 W at 24 VDC, power for nodes not included 3 W at 7.5 VDC, power for nodes not included
Power Output	150 W maximum at 24 VDC for the Flex Compact family and Flex Micro, eW luminaires 75 W maximum at 7.5 VDC for Flex Micro gen3, RGB luminaires 280 W maximum at 24 VDC for Vaya Tube luminaires
Surge Protection	For Surge Protection Requirements for LED Lighting Systems, please refer to www.colorkinetics.com/KB/surge-protection .

Connections

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

Physical

Dimensions (Height x Width x Depth)	DIN-Rail: 153 x 97 x 35 mm (6.0 x 3.8 x 1.375 in) Surface Mount: 208 x 90 x 38.5 mm (8.2 x 3.5 x 1.5 in)
Weight	DIN-Rail: 0.2 kg (0.4 lb) Surface Mount: 0.7 kg (1.6 lb)
Housing	DIN-Rail: Plastic housing Surface Mount: Die-cast aluminium, powder-coated finish
Startup Temperature Operating Temperature Storage Temperature	-20 to 50 °C (-4 to 122 °F) -30 to 50 °C (-22 to 122 °F) 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 Surface Mount: UL/cUL, CE
Environment	DIN-Rail: Dry location, IP00 Surface Mount: Dry/Damp/Wet Location, IP66

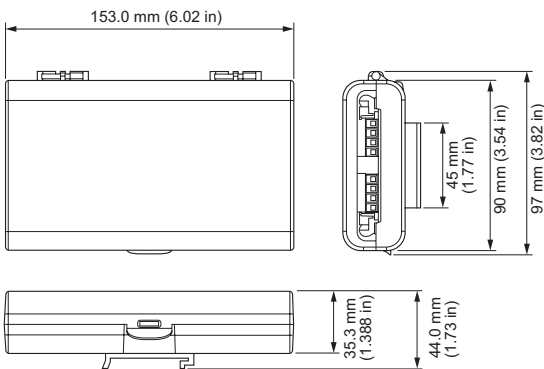
[†] Terminal block connectors accept wire sizes from 0.5 to 2.1 mm² (14 to 20 AWG).

[‡] Double-pair terminal block connectors accept wire sizes from 22 – 26 AWG (0.326 – 0.129 mm²).

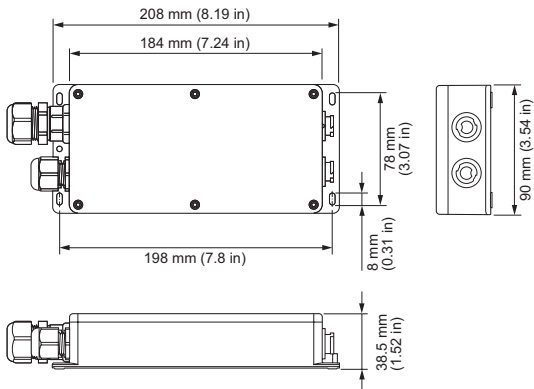
[§] KiNET is the Ethernet lighting protocol from Color Kinetics.

Dimensions

CM-150 CA gen2 DIN Rail



CM-150 CA gen2 Surface Mount



Part Numbers

	Item Number	Item 12NC
CM-150 CA gen2, DIN Rail Mount, Four-Wire Terminal, 4A 24V, IP00	109-000041-00	912400137430
CM-150 CA gen2, Surface Mount, Four-Wire Terminal, 4A 24V, IP66	109-000041-02	912400137432
CM-150 CA gen2, Surface Mount, Three-Wire Terminal for Vaya Tube, 8A 24V, IP66	109-000041-03	912400137433
CM-150 CA gen2, DIN Rail Mount, Four-Wire Terminal, 5A 7.5V, IP00	109-000041-04	912400137981
CM-150 CA gen2, Surface Mount, Four-Wire Terminal, 5A 7.5V, IP66	109-000041-05	912400137982

For further information

CM-150 CA gen2 details including Installation Instructions, Specification Sheets, and product drawings, can be found at: www.colorkinetics.com/global/products/pds/cm150ca2



CM-150 CA gen2

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 gen2 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 gen2 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 gen2 devices, power supplies, controllers, switches, and cables.

DMX and Ethernet Configurations

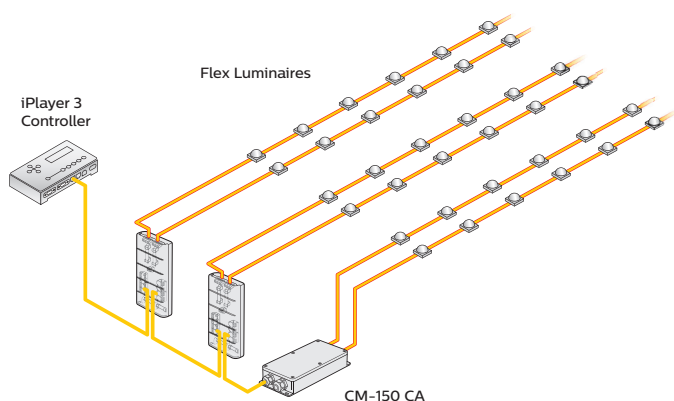
CM-150 CA gen2 can be used in either DMX or Ethernet networks. DMX is appropriate for relatively simple installations, or for installations in which groups of lights operate in unison—for example, for accent lighting.

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 gen2 devices. CM-150 CA gen2 devices can be connected in series to deliver DMX data from a single controller to all connected lights.

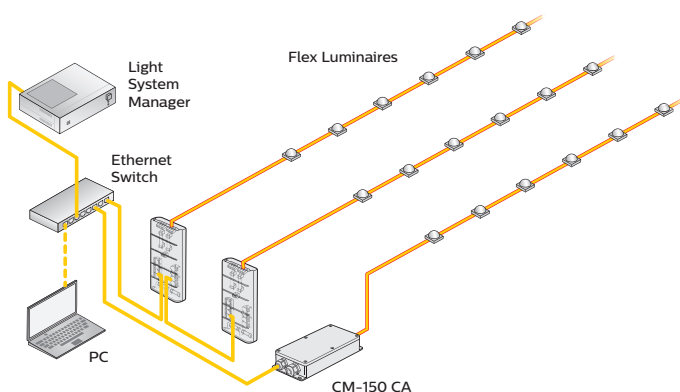
Because it is not subject to the DMX addressing limitations, Ethernet is the preferred environment for large-scale, color-changing light shows and video displays, both of which require large numbers of unique addresses.

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 gen2 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 luminaires each CM-150 CA gen2 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 luminaires each CM-150 CA gen2 can support, assuming a suitable power supply is used.

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

Luminaire	Per port	Per CM-150 CA gen2
Flex Micro gen3, RGB	75 nodes	150 nodes
Flex Compact gen3, RGB	75 nodes	150 nodes
Flex Compact, iW	75 nodes	150 nodes
Flex Compact, eW	75 nodes	150 nodes
Flex Micro, eW	75 nodes	150 nodes
Vaya Tube, RGBW	12 m (40 ft)	24 m (80 ft)

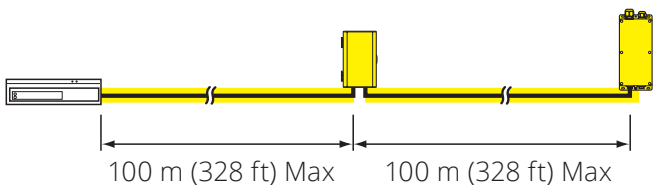
CM-150 CA gen2 must be installed in a location that allows air to move freely around the device. Startup and operating temperatures are rated to 50 °C (122 °F). Exceeding this temperature limit may cause device damage or failure.

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 luminaires, you will need to select the right form factor, leader cable, and third party power supplies. **NOTE: Do not mix 3 channel and 4 channel luminaires on the same CM-150 CA gen2 unit as this can cause unpredictable results.**



Ethernet maximum data cable length between CM-150 CA gen2 devices

Surface Mount or DIN Rail Mount?

CM-150 CA gen2 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 gen2 passes voltage from the power supply to the attached luminaires, 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.

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

Power supply requirement

Luminaire	Power supply
Flex Micro gen3, RGB	≤ 7.7 VDC
Flex Compact gen3, RGB	≤ 24.5 VDC
Flex Compact, iW	≤ 24.5 VDC
Flex Compact, eW	≤ 24.5 VDC
Flex Micro, eW	≤ 24.5 VDC
Vaya Tube, RGBW	≤ 24.5 VDC

Leader Cables

The type of leader cable you select depends on the distance from the control module to the first luminaire, the form factor of your CM-150 CA gen2, and whether your CM-150 CA gen2 has three-wire or four-wire output.

Installation

Multi-language installation instructions can be found at:
www.colorkinetics.com/global/products/pds/cm150ca2

In addition to the CM-150 CA gen2 Control Module and associated parts found in the box, the following items are required to mount and connect CM-150 CA gen2:

- 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:

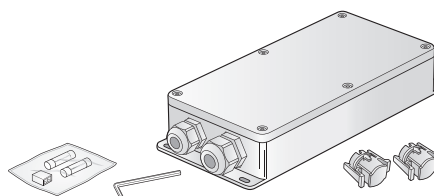
www.colorkinetics.com/global/products/pds/cm150ca2

CM-150 CA gen2, Surface Mount Control Module

2.5 mm (0.25 in) hex wrench

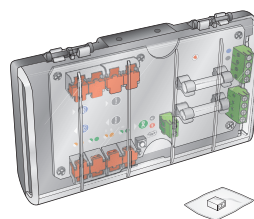
DMX termination pin jumper

(2) Connector caps



CM-150 CA gen2, DIN Rail Mount Control Module

DMX termination pin jumper



Configuration

QuickPlay Pro 2 enables discovery, configuration, testing and demonstration of all luminaires and devices, including CM-150 CA gen2 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.

Updating CM-150 CA Firmware

CM-150 CA gen2 firmware is periodically updated to improve system performance and functionality. We recommend confirming that your devices are running the most recent firmware version at:

www.colorkinetics.com/global/support/downloads/firmware

After downloading firmware, you can use QuickPlay Pro 2 to update your CM-150 CA gen2 devices.

