



Description

Control up to eight channels of dimmable lighting using the Crestron® CLX-2DIMFLV8 dimming module. The module controls 0-10 V dimmable fluorescent ballasts and LED drivers. Install the dimming module in a CAEN or CAEN-MLO enclosure (sold separately) for a centralized lighting cabinet installation.

The dimming module is available in 120 VAC (CLX-2DIMFLV8) and 277 VAC (CLX-2DIMFLV8-277) models that accept up to two single-phase 16 A power feeds. The power feed phases can be the same or different (for example, A-A or A-B).

The color-coded CLT-2DIMFLV8 terminal block facilitates quick and simple wiring within the enclosure. The terminal block is typically installed before the dimming module which allows the field wiring to be completed and tested for the installation and wiring of the module.

Important Safeguards

When using electrical equipment, basic safety precautions should always be followed, including the following:

Read and follow all safety instructions.

- Do not use outdoors.
- Do not mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- Do not use this equipment for other than its intended use.
- All servicing should be performed by qualified service personnel.
- If any Emergency Circuits are fed or controlled from this panel, it must be located electrically where fed from a UPS, generator, or other guaranteed source of power during emergency and power outage situations.

Save these instructions.

Installation Overview

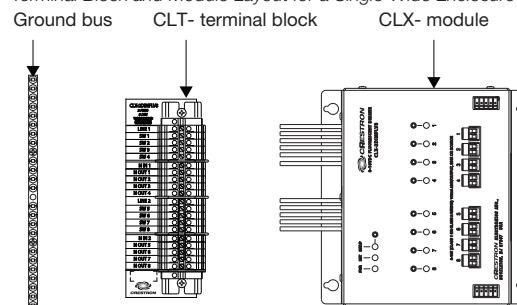
The terminal block installs along the left side of a single-wide enclosure and along the outside edges of double-wide enclosures. The dimming module installs along the right side of a single-wide enclosure and side-by-side in the center of a double-wide enclosure. Refer to the illustration below for the layouts.

CAUTION: This equipment is for indoor use only and needs to be air cooled. Mount in a well-ventilated area. The ambient temperature must be 32° to 104 °F (0° to 40 °C). The relative humidity must be 0% to 90% (noncondensing).

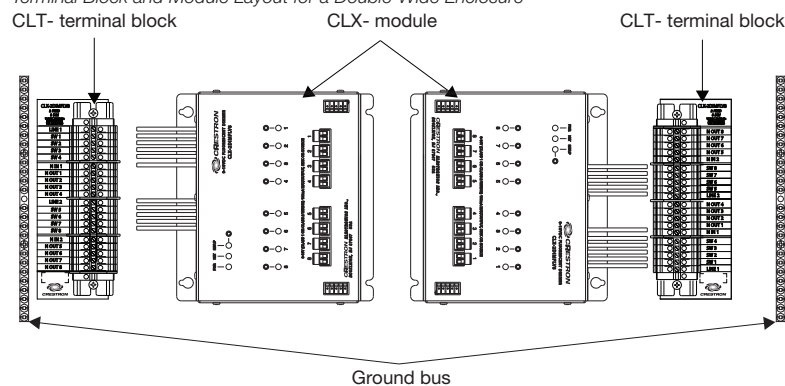
NOTE:

- Rotate the terminal block and the dimming module 180-degrees when installing them on the right side of a double-wide enclosure.
- Both left-side and right-side adhesive wiring labels are provided. The left-side labels are used in both single- and double-wide enclosures. The right-side labels are used only in double-wide enclosures.
- Modules and terminal blocks must be installed into the lowest available spaces and continue toward the top of the enclosure.
- Unless otherwise indicated, the lighting system specified in this guide is modular, requiring assembly in the field by a licensed electrician in accordance with all national and local codes. If an assembled UL® Listed panel is required, Crestron offers this service through its UL Listed panel shop. This includes complete in-factory system configuration and assembly by Crestron for an additional fee.
- A licensed electrician must mount the terminal block and module into an enclosure in accordance with all national and local codes.
- When connecting to an arc fault breaker, ensure the load does not exceed 1,000 watts total. Crestron certified breakers have a 2,000-watt limit.

Terminal Block and Module Layout for a Single-Wide Enclosure



Terminal Block and Module Layout for a Double-Wide Enclosure



Install and Wire the Terminal Block

WARNING: The dimming module may be powered from multiple circuit breakers.

Install the Terminal Block

1. Turn the power OFF at the circuit breaker or fuse panel.
2. Remove the backing from the left- or right-side adhesive wiring label. Align the holes on the label with the holes on the enclosure and attach the label to the enclosure.
3. Secure the terminal block to the enclosure using the two supplied self-tapping Phillips pan head screws (8B x 1/4-inch L). The wiring label lies beneath the terminal block.

CAUTION: Bypass jumpers are provided to test the circuits and to protect the module during installation. When properly secured by five screws, the jumpers on the black and red sections of the terminal block shorts line in to dim out so that the circuit is energized. Do not remove the bypass jumpers until all feed and load wiring has been completed, the circuit has been tested for electrical faults, and the module has been installed. Refer to Module Installation and Wiring for details.

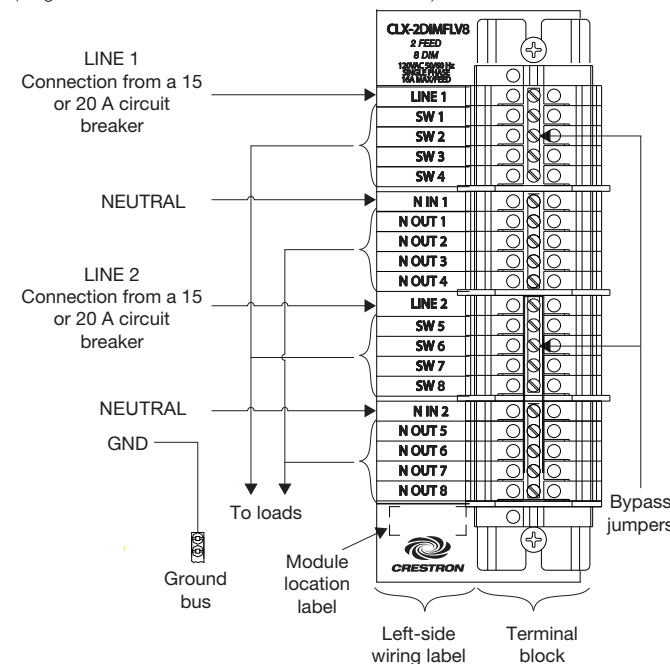
Do not remove the two jumpers on the white sections of the terminal block that tie the neutral in and neutral out wires.

NOTE: Use copper conductors only, rated 75 °C or greater.

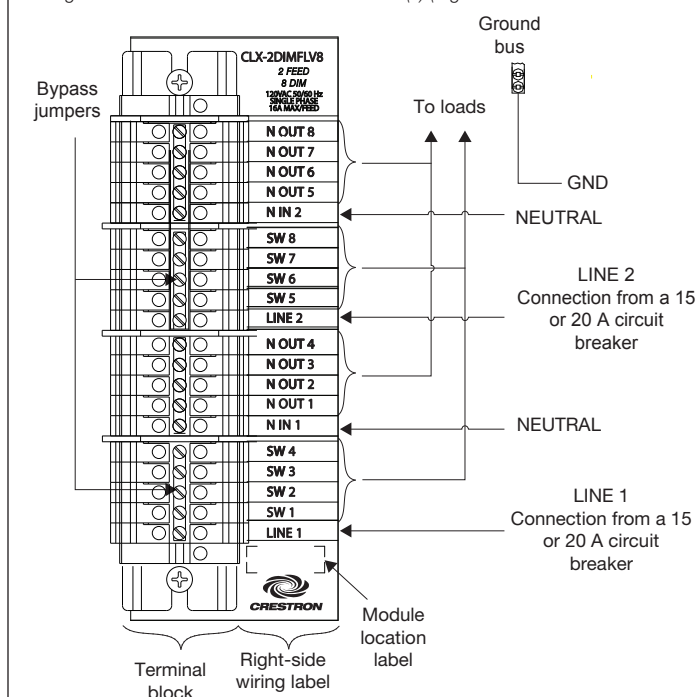
Wire the Terminal Block

1. Connect the feed (Line and Neutral) and the load (controlled circuit) wires to the terminal block. For 2-feed systems, the two power feeds can be different phases. Follow the labeling on the wiring label. When connecting wires:
 - Use 14-10 AWG wire.
 - Strip wire to 1/2 in (13 mm).
 - Tighten the terminal blocks to 9 in.-lb.
2. Connect the Ground wires to the ground bus inside the enclosure:
 - Strip wire to 1/2 in (13 mm).
 - Tighten 14-10 AWG wire to 35 in.-lb.
 - Tighten 8 AWG wire to 40 in.-lb.
 - Tighten 6-4 AWG wire to 45 in.-lb.

Wiring the Terminal Block to the Feed and Load(s)
(Single-Wide and Left-Side Double-Wide Enclosures)



Wiring the Terminal Block to the Feed and Load(s) (Right-Side Double-Wide Enclosures)



Test the Terminal Block Wiring:

1. Turn the power ON at the circuit breaker or fuse panel.
2. Verify that the circuit breakers do not trip.
3. Verify that the power is delivered to the proper loads.
4. Repeat steps 1-3 for the other circuit breaker.

Install and Wire the Dimming Module

Install the dimming module along the right side of a single-wide enclosure and side-by-side in the center of a double-wide enclosure. Install the dimming module next to the terminal block and in the lowest available space.

WARNING: The dimming module may be powered from multiple circuit breakers.

CAUTION: The module contains electrostatic sensitive devices (ESDs); the unit must be handled from the metal chassis. Do not touch the PC board or components.

NOTE:

- A licensed electrician must mount the terminal block and module into an enclosure in accordance with all national and local codes.
- When connecting to an arc fault breaker, ensure the load does not exceed 1,000 watts total. Crestron certified breakers have a 2,000-watt limit.
- Install the modules after the enclosure has been completely wired. Refer to Install the Terminal block for details.

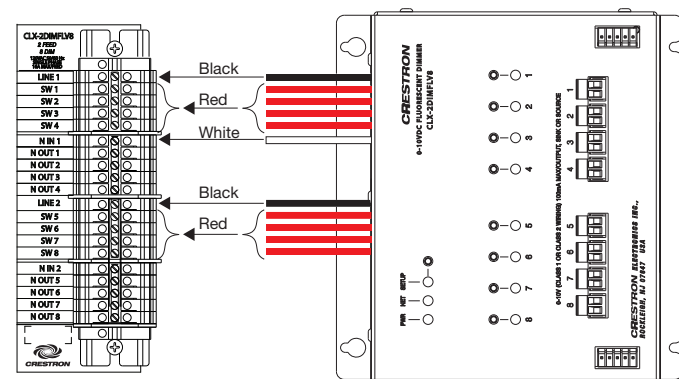
Install the Dimming Module

- Turn the power OFF at the circuit breaker or fuse panel.
- Secure the dimming module to the enclosure using the four supplied self-tapping Phillips pan head screws (8B x 1/4-inch L). Rotate the dimming module 180-degrees when installing on the right side of a double-wide enclosure.
- Connect the wires from the module to the terminal block. Each wire exits the module directly in line with, and is the same color as, the terminal to which it should be connected. Wires are prestripped to 1/2 in (13 mm). Tighten to 9 in-lb.

NOTE: Power is supplied to the dimming module from the LINE 1 connection.

Wiring the Terminal Block to the Module

(Single-Wide and Left-Side Double-Wide Enclosures)



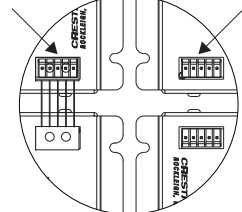
Install the Module Interconnect Cable (Optional)

If multiple modules are installed within an enclosure, use the module interconnect cable (supplied) to pass control system communication to the module. The illustration that follows shows the area within a double-wide enclosure where the corners of four modules meet.

NOTE: One wire on the module interconnect cable may be a different color from the rest. The color has no bearing on its orientation during installation.

Using Module Interconnect Cable to Wire One Module to Another

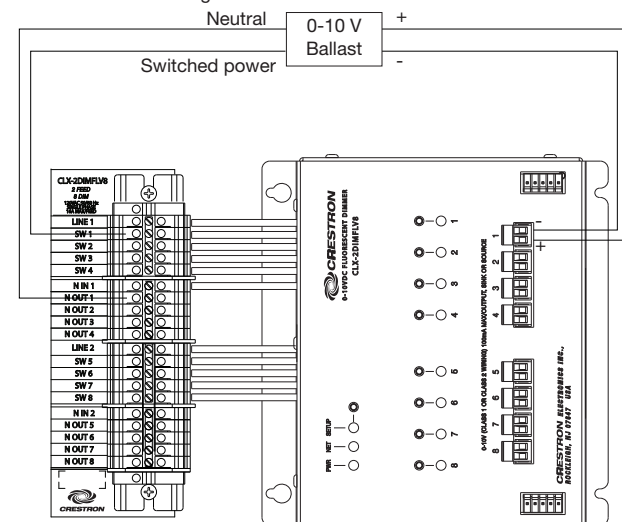
Connection made Connection not made



Wire the Ballast

Make the neutral, switched power, +, and - connections to the ballast.

- The 0–10 V control wires to driver attach directly to the module using 2-pin pluggable connectors. The 0–10 V should be kept clear of the ac wiring.
- The 0–10 V wiring can be run as Class 1 or Class 2.



Test the Dimming Module Wiring:

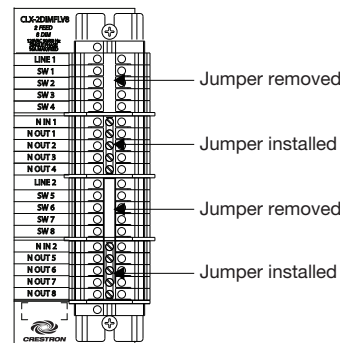
- Turn the power ON at the circuit breaker or fuse panel.
- Verify the following:
 - The circuit breakers do not trip.
 - The power is delivered to the proper loads.
 - The green PWR LED on the module lights.
- Turn the power OFF at the circuit breaker or fuse panel.
- Repeat steps 1 through 3 for the other circuit breaker or fuse panel.

Remove the Bypass Jumpers

NOTE: Before removing the bypass jumpers, make sure to properly connect and program the control system that provides functionality to the system.

- Turn the power OFF at the circuit breaker or fuse panel.
- Remove the bypass jumpers on the black and red sections of the terminal block. The jumpers on the white sections of the terminal block must remain installed.

Removing the Bypass Jumpers after Testing (Single-Wide and Left-Side Double-Wide Enclosures and Right-Side Mounted CLT-2DIMFLV8 Shown)



- Turn the power ON at the circuit breaker or fuse panel.

Test the System

Use the individual output controls to test the functionality of each output.

- Press the button above each 1–8 LED to toggle the load. The LED lights red to indicate that the load is on.
- Press and hold the button above each 1–8 LED to cycle-dim the load. The LED lights red to indicate that the load is on.

Operation

NOTE: Before using the CLX-2DIMFLV8, ensure the device is using the latest firmware. Check for the latest firmware for the CLX-2DIMFLV8 at www.crestron.com/firmware. Load the firmware onto the device using Crestron Toolbox software.

Buttons

- SETUP - Press to identify the device when Touch Settable ID (TSID) is active.
- 1–8 - Press to toggle the load. Press and hold to cycle dim the load.

LEDs

- POWER - Lights to indicate that the device is receiving power.
- NET - Lights to indicate that the device has been polled on the Cresnet network within the last 2 seconds.
- 1–8 - The LED lights red to indicate that the load is on.

Specifications

| SPECIFICATION | DETAILS |
|---------------------|---|
| Load Ratings | |
| Dimmer Channels | 8 |
| Per Channel | 16 A |
| Per Group | Channels 1–4: 16 A Channels 5–8: 16 A |
| Module Total | 32 A |
| 0-10 Vdc Output | 100 mA Max per output, sink or source |
| SCCR | 30 kA |
| Load Types | |
| Dimmed Load Types | 0-10 V fluorescent ballast or LED driver (4-wire) |
| Switched Load Types | LED, incandescent, fluorescent, MLV, ELV, HID |
| Power Requirements | |
| CLX-2DIMFLV8 | 120 Vac, 50/60 Hz; requires one or two single-phase feeds (may be same or different phases) |
| CLX-2DIMFLV8-277 | 277 Vac, 50/60 Hz; requires one or two single-phase feeds (may be same or different phases) |
| Environmental | |
| Temperature | 32° to 104 °F (0° to 40 °C) |
| Humidity | 10% to 90% RH (noncondensing) |
| Heat Dissipation | 45 Btu/h |

Troubleshooting

The following table provides corrective actions for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

CLT-2DIMFLV8 and CLX-2DIMFLV8 Troubleshooting

| TROUBLE | POSSIBLE CAUSE(S) | CORRECTIVE ACTION |
|--|--|---|
| The connected loads are not on. No LEDs are lit on the module. | LINE1 breaker is off. | Check the breaker. |
| | The internal fuse for LINE 1 may have blown due to a short circuit on a switched output. | Find and correct the short. Contact Crestron customer support. |
| The loads connected to channels 5-8 do not turn on. | LINE 2 breaker is off | Check the breaker. |
| | The internal fuse for LINE 2 may have blown due to a short circuit on a switched output. | Find and correct the short. Contact Crestron customer support. |
| The loads on a specific channel stay at a dim level. | The 0-10 V wiring to the ballast or driver may be shorted. | Check the wiring. |
| | The 0-10 V wiring may be reversed. | Check the wiring. |
| | Two or more 0-10 V wires may be shorted to ground. | Unplug the 0-10 V connections to identify the faulty wire run. Check the wiring. |
| The SETUP LED flashes error code 2-1 (2 flashes, pause, 1 flash, long pause, then repeat). | One or more 0-10 V outputs are shorted | Unplug the 0-10 V connections to identify the faulty wire run. Check the wiring. |

Perform the following basic steps to troubleshoot 0–10 V driver or ballast issues.

- Apply bypass jumpers so that all fixtures are energized.
- Disconnect the purple and gray wires (0–10 V control) from the module. The fixtures should go to full brightness. If fixtures do not go to full brightness, then one of the following has occurred:
 - There is a short in the wiring (purple to gray).
 - A ballast or driver has the purple and gray wires reversed.
 - One or more purple and one or more gray wires are shorted to ground.
- There is a faulty driver or ballast.
- Create a short by connecting the purple and gray wires. The fixtures should go to their minimum brightness. If a fixture does not dim down, then one of the following has occurred:
 - There is a break in the gray or purple control wires.
 - There is a faulty driver or ballast.

Additional Resources

Visit the product page on the Crestron website (www.crestron.com) for additional information and the latest firmware updates. Click the QR code or use a QR reader application on your mobile device to scan the QR image.



CLT-2DIMFLV8 CLX-2DIMFLV8

This product is Listed to applicable UL® Standards and requirements tested by Underwriters Laboratories Inc.

Ce produit est homologué selon les normes et les exigences UL applicables par Underwriters Laboratories Inc.



Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

The product warranty can be found at www.crestron.com/warranty.

The specific patents that cover Crestron products are listed at www.crestron.com/legal/patents.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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Specifications subject to change without notice.