

CLX-1DIMU4-HP/CLX-2DIMU8/CLT-1DIMU4/CLT-2DIMU8

Dimmer Module and Terminal Block

The Crestron® CLX-1DIMU4-HP and CLX-2DIMU8 dimmer modules provide universal dimming control for LED, incandescent, magnetic low-voltage, electronic low-voltage, and 2-wire dimmable fluorescent lighting loads.

The dimmer modules pair with CLT-1DIMU4 and CLT-2DIMU8 terminal blocks to facilitate simple system wiring. The terminal blocks ship separately to allow termination and testing of the field wiring prior to the installation and setup of the CLX-1DIMU4-HP and CLX-2DIMU8.

The CLX-1DIMU4-HP ratings:

- Power feed: One - 16 A, 120 VAC
- Dimming channels: Four - 10 A (1,200 W) max per channel
- Maximum output: 16 A (1,920 W)

The CLX-2DIMU8 ratings:

- Power feed: Two - 16 A, 120 VAC
- Dimming channels: Eight - 4 A (480 W) max per channel
- Maximum output: 32 A (3,840 W)

The dimmer modules and terminal blocks are designed to install in a CAEN enclosure (not supplied) as part of a centralized lighting control system.

Check the Box

Item	Qty
CLX-1DIMU4-HP or CLX-2DIMU8*	1
Cable, Interconnect (P/N 4500250)	1
Screw, 8-8B x 1/4 in., Pan Head, Phillips (P/N 2007277)	4
CLT-1DIMU4 or CLT-2DIMU8*	1
Label, Terminal Block, 120 V, Left	1
Label, Terminal Block, 120 V, Right	1
Screw, 8-8B x 1/4 in., Pan Head, Phillips (P/N 2007277)	2

* The dimming modules and terminal blocks ship separately.

Installation Overview

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.

Contact Crestron customer support if an assembled UL® Listed panel is required. This includes complete in-factory system configuration and assembly by Crestron for an additional fee.

WARNING:

- The CLX-2DIMU8 can be powered from multiple circuit breakers.
- A licensed electrician must mount these devices into the CAEN enclosure in accordance with all national and local codes.
- When connecting to a third-party arc fault breaker, ensure the load does not exceed 1,000 watts total. Crestron certified breakers have a 2,000-watt limit.

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).

IMPORTANT NOTES: When controlling magnetic low-voltage transformers:

- Do not use to dim or switch magnetic transformers greater than 100 VA for the CLX-2DIMU8 and 300 VA for the CLX-1DIMU4-HP.
- Do not hot plug transformers or add or remove bypass jumpers while the output channel is energized.
- Do not mix magnetic and electronic transformers on the same output channel.

Failure to follow the guidelines above can lead to damage of the dimmer module and transformers.

Install and Wire the Terminal Block

Install the Terminal Block

Install the terminal blocks into the lowest available space in the CAEN enclosure. Mount additional terminal blocks into the next space above it. Refer to the CAEN Installation Guide (Doc. 5940) at www.crestron.com for complete mounting information.

1. Turn the power OFF at the circuit breaker(s) or fuse panel(s).
2. Remove the backing from the terminal block label. Align the holes on the label with the holes on the enclosure and attach the label to the enclosure.
 - Use the Left Terminal Block Label when mounting into a single-wide CAEN enclosure or into the left side of a double-wide CAEN enclosure
 - Use the Right Terminal Block Label when mounting into the right side of a double-wide CAEN enclosure.
3. Place the terminal block over the terminal block label and secure the terminal block to the enclosure using two supplied 8-8B x 1/4 in. screws. The colors on the terminal block match the colors on the terminal block label.

CAUTIONS:

- 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 jumpers on the white sections of the terminal block that tie the neutral in and neutral out wires.

Wire the Terminal Block

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.

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

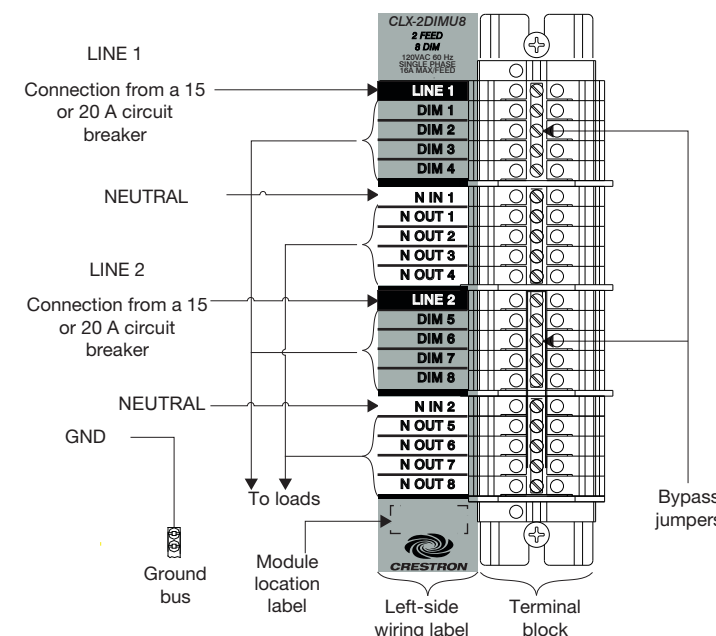
When connecting wires:

- Use 14-10 AWG wire.
- Strip wire to 1/2 in. (13 mm).
- Tighten the terminal blocks to 9 in.-lb.

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.

Connect the Feed and Load Wires to the Terminal Block (CLT-2DIMU8 Terminal Block Shown)



NOTES: When wiring the terminal block on right-side double-wide, the connection points on the label are reversed.

Test the Terminal Block Wiring:

1. Turn the power ON at the circuit breaker(s) or fuse panel(s).
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 dimmer module alongside the terminal block. Refer to the CAEN Installation Guide (Doc. 5940) at www.crestron.com for complete mounting information.

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.

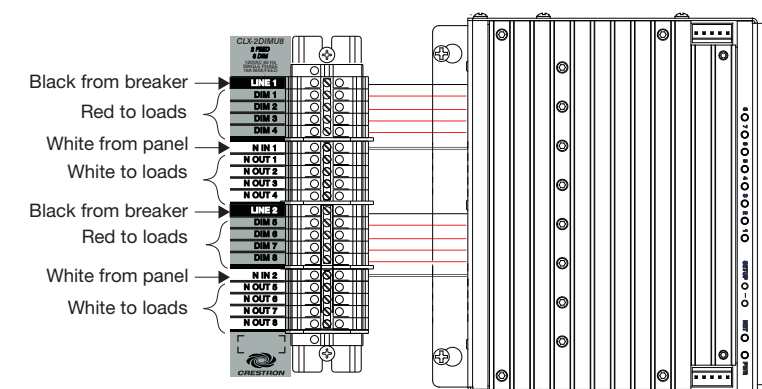
NOTE: Install the dimmer module after the enclosure has been completely wired. Refer to "Install and Wire the Terminal block" for details.

Install the Dimming Module

1. Turn the power OFF at the circuit breaker(s) or fuse panel(s).
2. Secure the dimming module to the enclosure using four 8-8B x 1/4 in. screws. The wires on the dimming module should face the terminal block and align with the terminal block label.
3. Connect the wires from the dimming 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: The CLX-2DIMU8 is powered from the LINE 1 connection.

Wiring the Terminal Block to the Module (CLT-2DIMU8 and CLX-2DIMU8 Shown)

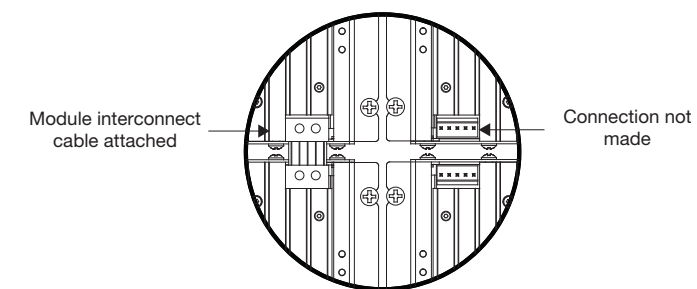


Install the Module Interconnect Cable (Optional)

If multiple modules are installed within an enclosure, use the module interconnect cable (supplied) to pass control system communication to the module. The illustration below 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



Test the Dimming Module Wiring:

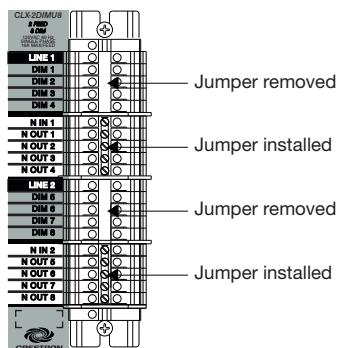
1. Turn the power ON at the circuit breaker or fuse panel.
2. Verify the following:
 - The circuit breakers do not trip.
 - The power is delivered to the proper loads.
 - The green PWR LED on the module lights.
3. Repeat steps 1 and 2 for the other circuit breaker.
4. Turn the power OFF at the circuit 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.

1. Turn the power OFF at the circuit breaker or fuse panel.
2. 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 (CLT-2DIMU8 Shown)



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

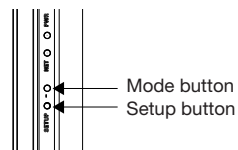
Test the System

Use Local mode to verify that each load is connected to the proper output on the modules. Refer to the illustration below for button locations.

1. Press the **SETUP** button to enter Local mode. Output 1 turns on and its associated LED lights.
2. Press the mode button to cycle through the dimming modes until the desired dimming mode is selected. The dimming mode is identified by a flashing LED.
 - Yellow/green: Auto-load detection, reverse-phase dimming.
 - Yellow/red: Auto-load detection, forward-phase dimming.
 - Green: Forced reverse-phase dimming.
 - Red: Forced forward-phase dimming.
 - Red/green: Forced non-dim (switch).
3. Press the **SETUP** button to accept the dimming mode and to advance to output 2. Repeat step 2 for the remaining outputs.
4. After the last output is accepted, all loads turn on. Confirm that all outputs are operating correctly.
5. Press the **SETUP** button to turn off all outputs and LEDs and exit Local mode.

NOTE: Changing the dimming mode using the local controls is disabled if the dimming mode is defined in the control system program.

Mode and SETUP Button Locations



Operation

NOTE: Before using the dimming module, ensure the device is using the latest firmware. Check for the latest firmware for the dimming module at www.crestron.com/firmware. Load the firmware onto the device using Crestron Toolbox™ software.

Buttons

- **SETUP** - Press to enter Local mode or to identify the device when Touch Settable ID (TSID) is active.
- **Mode** - Press and hold to display the current dimming phase modes of all channels.

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 two seconds.
- **1-8** - The LED lights red to indicate that the load is on, flashes to indicate the dimming mode, or flashes to indicate an error on the output.

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.

Troubleshoot Symptoms

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

Symptom	Issue	Action
The output does not appear to dim below 50%.	The dimmer channel may have been damaged.	Contact Crestron customer service.
The connected LED load buzzes and flickers when dimmed.	An incompatible LED fixture is installed.	Verify the connected LED load is dimmable and has been tested. Refer to Crestron's Light Fixture Compatibility Listing at www.crestron.com/resources/lighting-fixture-compatibility .
	An incorrect dimming phase is selected.	Set the dimming phase to Auto or Reverse Phase mode to reduce current spikes to load.
The connected LED load flickers or turns off when dimmed to a low level.	The minimum dimming level is set too low.	Adjust the minimum dimming level to match the minimum level required by the LED load.
The LED load does not dim to a low brightness level.	An incorrect dimming phase is selected.	Set the dimming phase to Forward Phase mode.

The dimming module displays error codes using the 1 - 8 LEDs. The LED flashes a pattern, such as 1-2 or 2-4, to indicate an error on that output. For example, the LED during a 1-2 error flashes one time, pauses for one second, flashes two times, pauses for two seconds, and then the pattern repeats until the error is corrected. The LED during a 2-4 error flashes two times, pauses for one second, flashes four times, pauses for two seconds, and then the pattern repeats until the error is corrected. Refer to the following table for possible corrections.

Error Code	Error Name	Fault Description
1-1	Dimming Module in Bootloader	The firmware upgrade has failed or has been aborted. Power-cycle the unit to reinitiate the firmware upgrade.
1-2	Dimming Processor Unresponsive	Communications to the corresponding dimming processor have failed. Confirm that power is supplied to the line input(s) and then reboot the unit.
1-3	Dimming Processor Firmware Upgrade Failed	The firmware upgrade has failed or has been aborted, leaving the dimming processor in bootloader. Reinitiate the firmware upgrade from Crestron Toolbox.

Error Code	Error Name	Fault Description
2-1	Overcurrent Tripped	A short circuit or overload has been detected and the output has been switched off. <ul style="list-style-type: none"> • Check wiring for shorts. • Verify that the total load connected to the channel is less than 4 A for the CLX-2DIMU8 and less than 10 A for the CLX-1DIMU4-HP. • Verify that the dimming phase is not set to Forward Phase mode if an incandescent or electronic load is connected. <p>The channel attempts to resume normal operation after receiving another command to turn on.</p>
2-2	Shorted FET	The dimmer channel has failed. Disconnect the load and contact Crestron Technical Support.
2-3	Over-temperature Tripped	The dimming channel has overheated and shut down due to excessive load. <ul style="list-style-type: none"> • Verify that the total load connected to the channel is less than 4 A for the CLX-2DIMU8 and less than 10A for the CLX-1DIMU4-HP. • Verify that the panel ventilation is not blocked. <p>The channel resumes normal operation after cooling.</p>
2-4	Overvoltage Detected	High voltage spikes have been detected and output has been shut down. If a magnetic load is connected, verify that the dimming phase has been set to Forward Phase mode.
3-1	Zero Cross Fault	The dimmer is unable to lock onto the AC line. If the unit is powered by a generator, verify that generator output is 50/60 Hz and stable.
3-2	No AC Power on LINE 2	The CLX-2DIMU8 powers itself from LINE 1 input. Verify that the breaker providing LINE 2 input power is energized.

For Additional Information

Scan or click the QR code for detailed product information.



CLX-1DIMU4-HP



CLX-2DIMU8



CLT-1DIMU4



CLT-2DIMU8

Compliance and Legal

Original Instructions: The U.S. English version of this document is the original instructions. All other languages are a translation of the original instructions.

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

Industry Canada (IC) Compliance Statement

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

SCCR: 30 kA

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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