

CLT-2DIMU8-277/CLX-2DIMU8-277

Terminal Block and Module

Control up to eight channels of dimmed lighting using the Crestron® CLX-2DIMU8-277 module. The CLX-2DIMU8-277 supports two 277 VAC line power inputs and can dim LED, incandescent, magnetic low-voltage, electronic low-voltage, and 2-wire dimmable fluorescent lighting loads. The CLX-2DIMU8-277 auto-detects the dimmed load type and selects the appropriate operating mode for each channel.

The CLX-2DIMU8-277 pairs with the CLT-2DIMU8-277 terminal block to facilitate simple wiring. The CLT-2DIMU8-277 ships separately from the CLX-2DIMU8-277 to allow termination and testing of the field wiring prior to the installation and setup of the CLX-2DIMU8-277.

The CLT-2DIMU8-277 and CLX-2DIMU8-277 install in a CAEN enclosure as part of a complete Crestron centralized lighting control system.

Check the Box

Item	Qty
CLX-2DIMU8-277	1
Cable, Interconnect (P/N 4500250)	1
Screw, 8-8B x 1/4 in., Pan Head, Phillips (P/N 2007277)	4
CLT-2DIMU8-277	1
Label, Terminal Block, CLT-2DIMU8-277, Left (P/N 4524249)	1
Label, Terminal Block, CLT-2DIMU8-277, Right (P/N 4524250)	1
Screw, 8-8B x 1/4 in., Pan Head, Phillips (P/N 2007277)	2

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.

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.

WARNING:

- The CLT-2DIMU8-277 and CLX-2DIMU8-277 may be powered from multiple circuit breakers.
- A licensed electrician must mount the CLT-2DIMU8-277 and CLX-2DIMU8-277 into the CAEN 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.

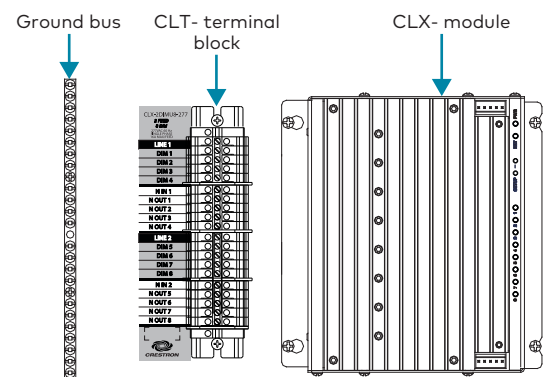
CAUTION: This equipment is for indoor use only and needs to be air cooled. Mount in a well-ventilated area. The ambient temperature must be 32° to 104 °F (0° to 40 °C). The relative humidity must be 0% to 90% (noncondensing).

IMPORTANT NOTES: When controlling magnetic low-voltage transformers:

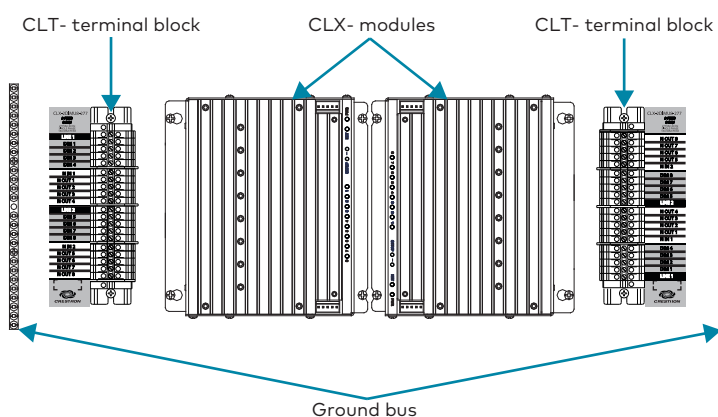
- Do not use a CLX-2DIMU8-277 module for switching or dimming large magnetic transformers (>100 VA).
- Do not connect more than eight magnetic transformers on any one output, regardless of lamp wattage.
- Do not hot plug transformers or add or remove bypass jumpers while the output channel is energized.
- 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.

CLT-2DIMU8-277 and CLX-2DIMU8-277 in a Single-Wide CAEN Enclosure



CLT-2DIMU8-277 and CLX-2DIMU8-277 in a Double-Wide CAEN Enclosure



Install and Wire the Terminal Block

Install the Terminal Block

Install the CLT-2DIMU8-277 into the lowest available space in the CAEN enclosure. Mount additional CLT-2DIMU8-277s into the spaces above it in ascending order.

The CLT-2DIMU8-277 installs along the left side of a single-wide enclosure and along the outside edges of a double-wide enclosure. Refer to the CAEN Installation Guide (Doc. 5940) at www.crestron.com/manuals for mounting information.

- Turn the power OFF at the circuit breaker(s) or fuse panel(s).
- 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 the CLX-2DIMU8-277 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 the CLX-2DIMU8-277 into the right side of a double-wide CAEN enclosure.
- Align the CLT-2DIMU8-277 with the terminal block label. The colors on the CLT-2DIMU8-277 match the colors on the terminal block label. Secure the CLT-2DIMU8-277 to the enclosure using two 8-8B x 1/4 in. screws. 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 short (connect) the line in to the 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.

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.

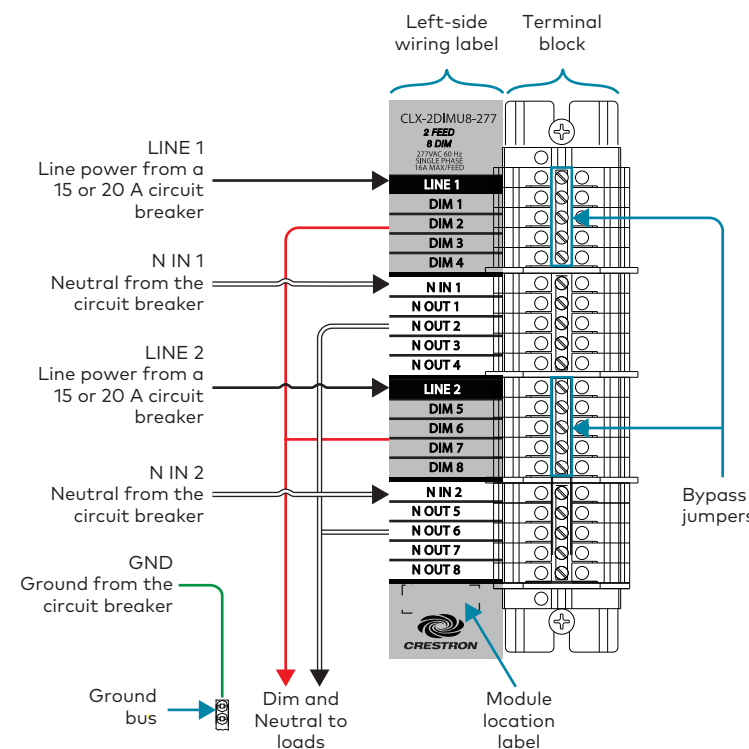
When connecting wires:

- 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 CLT-2DIMU8-277



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

Test the Terminal Block Wiring:

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

Install and Wire the Dimming Module

The dimming module installs along the right side of a single-wide CAEN enclosure and side-by-side in the center of a double-wide CAEN enclosure. Install the CLX-2DIMU8-277 next to the CLT-2DIMU8-277 and in the lowest available space. Refer to the CAEN Installation Guide (Doc. 5940) at www.crestron.com for 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.

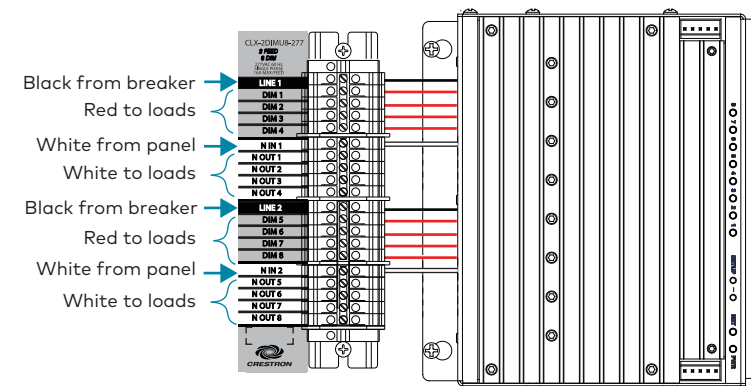
NOTE: Install the modules after the enclosure has been completely wired. Refer to "Install the Terminal block" for details.

Install the Dimming Module

- Turn the power OFF at the circuit breaker(s) or fuse panel(s).
- Secure the dimming module to the enclosure using four 8-8B x 1/4 in. screws.
 - The wires on the CLX-2DIMU8-277 should exit and face the left when installing in a single-wide CAEN enclosure or on the left side in a double-wide CAEN enclosure.
 - The wires on the CLX-2DIMU8-277 should exit and face the right when installing on the right side in a double-wide CAEN enclosure
- Connect the prestripped 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 inch (13 millimeters). Tighten to 9 in-lb.

NOTE: The CLX-2DIMU8-277 is powered from the LINE 1 connection.

Wiring the Terminal Block to the Module (Single-Wide and Left-Side Double-Wide Enclosures)

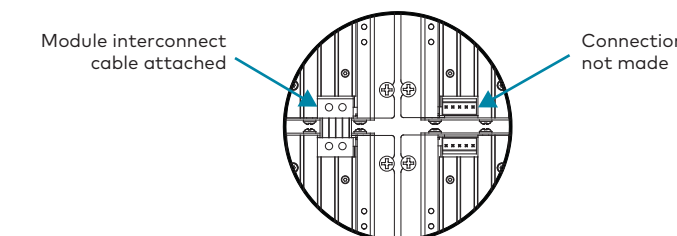


Install the Module Interconnect Cable (Optional)

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



Test the Dimming Module Wiring:

1. Turn the power ON at the circuit breaker(s) or fuse panel(s).
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. Turn the power OFF at the circuit breaker(s) or fuse panel(s).

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 (Single-Wide and Left-Side Double-Wide Enclosures and Right-Side Mounted CLT-2DIMFLV8 Shown)



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

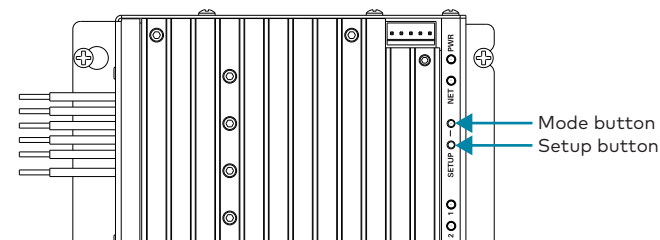
Test the System

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

1. Press the **SETUP** button to enter Local mode. Output 1 turns full on.
2. Press the mode button to cycle through the dimming modes, and press the **SETUP** button to save the setting and advance to the next output. The dimming mode is identified by the blinking LED.
 - Green indicates forced reverse phase.
 - Red indicates forced forward phase.
 - Yellow and green indicate auto-select reverse phase.
 - Yellow and red indicate auto-select forward phase.
 - Red and green indicate non-dim.
3. Press the **SETUP** button to advance to output 2. Repeat step 2 for the remaining outputs.
4. After turning on the last output, press the **SETUP** button again to turn on all outputs and verify that they are operating correctly.
5. Press the **SETUP** button to turn off all outputs and LEDs and exit Local mode.

NOTE: The dimming mode cannot be changed if the dimming phase is set in the SIMPL program.

CLX-2DIMU8 Mode and SETUP Button Locations



Operation

NOTE: Before using the CLX-2DIMU8-277, ensure the device is using the latest firmware. Check for the latest firmware for the CLX-2DIMU8-277 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	2.5A (692 W)
Per Group	Channels 1-4: 10 A (2770 W) Channels 5-8: 10 A (2770 W)
Module Total	20 A (5,540 W)*
Minimum Load	0 W
SCCR	30 kA
Dimming Modes	Auto-load detection, forced reverse-phase, forced forward-phase
Load types	LED, incandescent, MLV, ELV, 2-wire fluorescent, non-dimmable lighting
Power Requirements	
	One or two feeds (the same or different phases) 277 VAC, 50/60Hz, single-phase 10A max per feed
Environmental	
Temperature	32° to 104 °F (0° to 40 °C)
Humidity	10% to 90% RH (non-condensing)
Heat Dissipation	88 Btu/h maximum

* When connecting to a third-party arc-fault breaker, ensure that the total load does not exceed 1,000 W per feed.

Troubleshoot Symptoms

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

Error Code	Error Name	Fault Description
1-1	Master MCU Stuck in Bootloader	The firmware upgrade has failed or been aborted, leaving the master processor in bootloader. Reinitiate firmware upgrade from Crestron Toolbox software.
1-2	Dimming Processor Unresponsive	Communications to the corresponding dimming processor have failed. Confirm that power is supplied to LINE 2/N IN 2. Then reboot the unit or contact Crestron customer service.
1-3	Dimming Processor Firmware Upgrade Failed	The firmware upgrade has failed or been aborted, leaving the dimming processor in bootloader. Reinitiate the firmware upgrade from Crestron Toolbox.
2-1	Overcurrent Tripped	A short circuit or overload has been detected and 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. • Verify that the dimming phase has not been set to Forward Phase mode if an incandescent or electronic load is connected. The channel attempts to resume normal operation after receiving another command to turn on.

Error Code	Error Name	Fault Description
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. • Verify that the panel ventilation is not blocked. The channel resumes normal operation after cooling.
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.

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.

For Additional Information

Scan or click the QR code for detailed product information.



CLT-2DIMU8-277



CLX-2DIMU8-277

Compliance and Legal

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 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 A 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(A)/NMB-3(A)

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.