**CRESTRON**

## Description

The Crestron® CLS-EXP-DIMFLV enables the expansion of iLux® Integrated Lighting System (CLS-C6 Series) and other Crestron lighting dimmers to allow control of 0-10 volt fluorescent dimming ballasts. It can also be used to switch nondimmable loads including LED, incandescent, MLV, ELV, HID, fluorescent ballasts, and motors. The CLS-EXP-DIMFLV supports 120, 230, or 277 volt loads up to 16 amps.

Any output channel of the iLux system can be used to control the CLS-EXP-DIMFLV to dim a fully loaded circuit. It is also compatible with CLW-series in-wall dimmers and select CLX-series lighting control modules. The metal enclosure is designed for mounting to a vertical surface and can be installed in an environmental air-handling space above a suspended ceiling. Conduit knockouts are provided on the bottom and lower sides. All connections are made via screw terminals behind the front cover.

**NOTE:** CLX-series lighting control modules are compatible only with forward-phase dimming modules.

*CLS-EXP-DIMFLV Specifications*

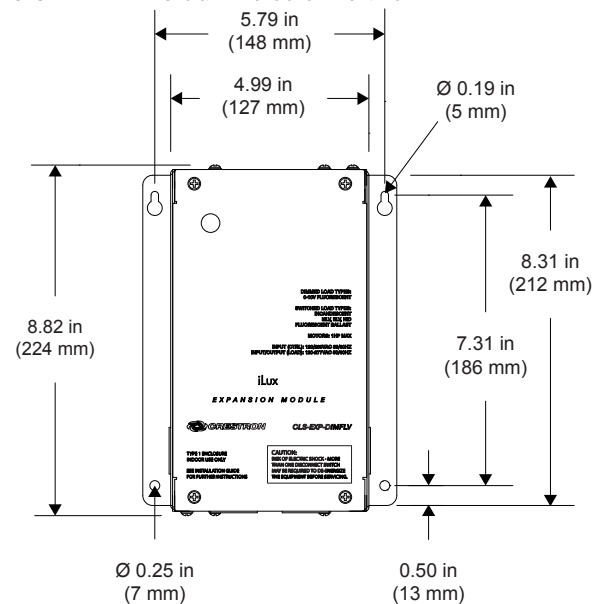| Specification | Details |
|---|---|
| **Load Ratings** | |
| Dimmer Channels | 1 |
| Lamp Load Rating | 16 Amps @ 120 to 277 Volts; |
| Motor Load Rating | 0.5 HP @ 120 Volts, 1 HP @ 230/277 Volts |
| Minimum Load | |
| at 120 volts | 15 watts |
| at 230 volts | 25 watts |
| at 277 volts | 30 watts |
| Load Types | |
| Dimmable Load | 0-10 Volt fluorescent ballast or LED driver (4-wire) |
| Switch Load | LED, incandescent, fluorescent, magnetic low voltage, electronic low voltage, neon/cold cathode, high-intensity discharge (HID), motors |
| **Input Voltages** | |
| Line Power | 120–277 Vac, 50/60 Hz |
| Control Input | 120–230 Vac, 50/60 Hz, phase independent of line power and load; Presents a 25 watt load to the controlling device |
| **Electrical Terminals** | Captive screw type; Accommodates two 22–12 AWG (0.34–4.0 mm²) wires |
| **Enclosure** | Surface mount module with (2) integral mounting flanges, galvanized steel with gray matte powder coat front panel, extruded aluminum heat sink, (4) 1/2 in (13 mm) and 3/4 in (20 mm) conduit knockouts provided on bottom and lower left and right sides |
| **Environmental** | |
| Temperature | 32° to 104 °F (0° to 40 °C) |
| Humidity | 10% to 90% RH (noncondensing) |
| Heat Dissipation | 70 Btu/h at maximum load, 16 amps |
| **Dimensions** | |
| Height | 8.82 in (224 mm) |
| Width | 6.39 in (163 mm) |
| Depth | 3.18 in (81 mm) |
| **Weight** | 3.3 lbs (1.5 kg) |
| **Maximum Expansion Modules per Controller Output** | 5 |

## Additional Resources

Visit the product page on the Crestron website (www.crestron.com) for additional information and the latest firmware updates. Use a QR reader application on your mobile device to scan the QR image.
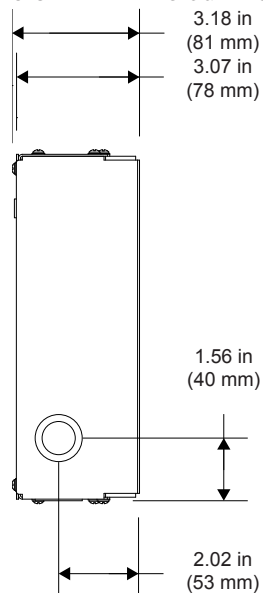
## Physical Description

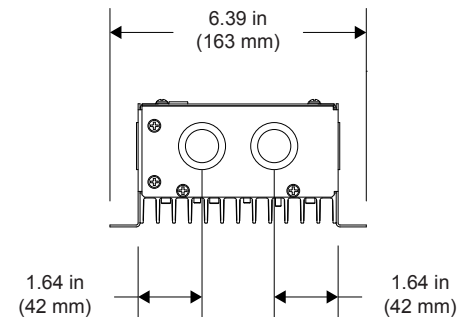This section provides information on the connections and indicators available on the CLS-EXP-DIMFLV.

*CLS-EXP-DIMFLV Overall Dimensions - Front View*



5.79 in (148 mm)
4.99 in (127 mm)
Ø 0.19 in (5 mm)
8.82 in (224 mm)
8.31 in (212 mm)
7.31 in (186 mm)
Ø 0.25 in (7 mm)
0.50 in (13 mm)

*CLS-EXP-DIMFLV Overall Dimensions - Side View*



3.18 in (81 mm)
3.07 in (78 mm)
1.56 in (40 mm)
2.02 in (53 mm)

*CLS-EXP-DIMFLV Overall Dimensions - Rear View*
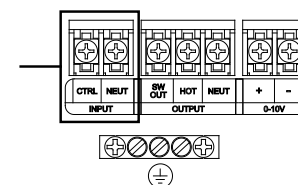


6.39 in (163 mm)
1.64 in (42 mm)
1.64 in (42 mm)

*CLS-EXP-DIMFLV Hardware Connections*

*INPUT*

CTRL:  Control input from CLS(I)-C6 Series, CLW-DIM Series, CLX(I)-DIM Series, GLX-DIM6, GLXX-2DIM8, DIN-1DIM4, or DIN1-DIMU4 dimmers
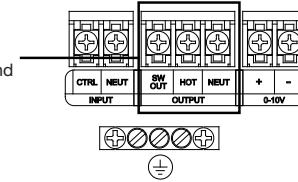
NEUT: Neutral connection for control input

*OUTPUT*

SW OUT:  Switched load output

HOT:  Line power input
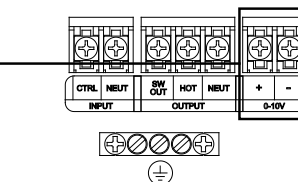
NEUT:  Neutral connection for line power input and load

*0-10V*
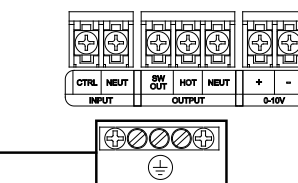
+/-:
(2) Captive screw terminals,1 dimming control output;
Class 1 or Class 2 wiring allowed;
Control voltage: 0-10 Vdc, 70 mA

*Ground*

(1) 3-terminal chassis ground bus bar

## Installation

Refer to the following diagram when installing a CLS-EXP-DIMFLV module.

**NOTE:** Install in accordance with all local and national electrical codes.

**NOTE:** To prevent potential heat damage to the drywall, do not mount the CLS-EXP-DIMFLV directly onto drywall. Mount a piece of 1/2 in (13 mm) minimum thick plywood between the CLS-EXP-DIMFLV and the drywall.

**NOTE:** To ensure proper ventilation, the device must be installed vertically on a vertical surface. Install the device with 6 inches (153 mm) of clearance from the top and bottom of the device.

*Module Installation*



Mounting surface

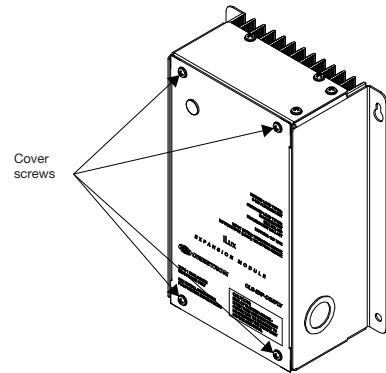CLS-EXP-DIMFLV

#8 mounting screw (not included)
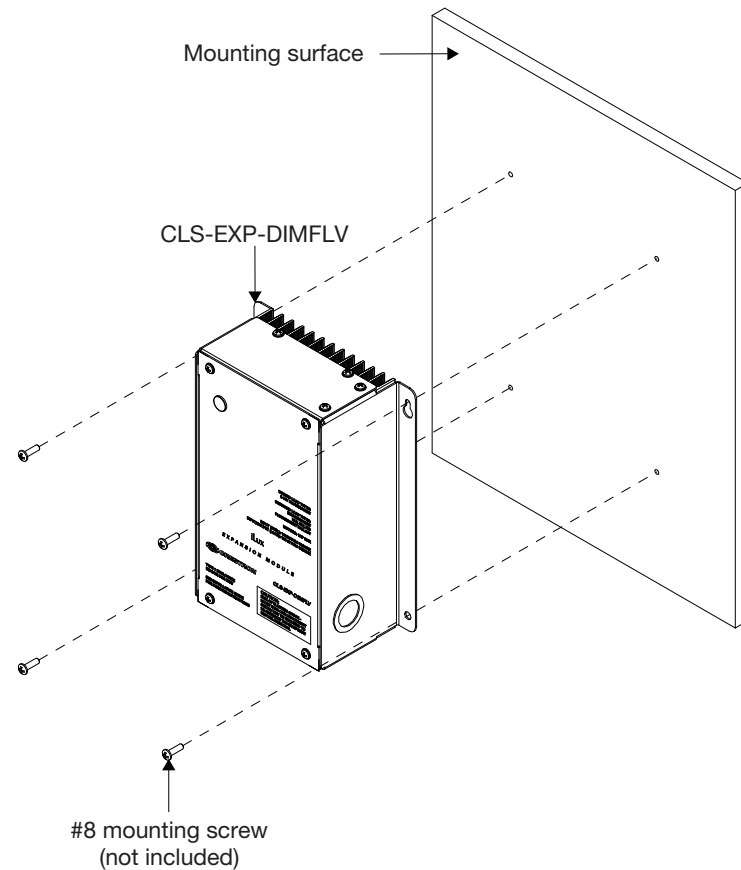
## Wiring

To wire the CLS-EXP-DIMFLV, remove the cover and make the connections.

**WARNING:** RISK OF SERIOUS PERSONAL INJURY. Turn off power at the circuit breaker(s) prior to installation. Installing with the power on can result in serious personal injury and damage to the device.

### Remove the Cover

Use a #2 Phillips screwdriver to remove the cover screws and then the cover.
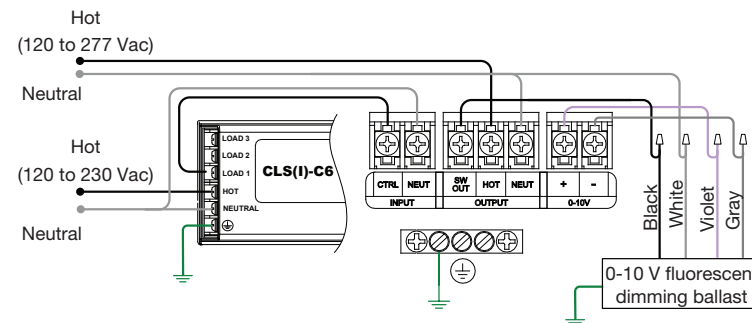
*Remove Cover Screws*



Cover screws

### Make the Connections

There are seven captive screw terminals on the CLS-EXP-DIMFLV that allow power input, power output, and load control.

**NOTE:** Observe the following points:

- Strip wires to 7/16 in (12 mm).
- Tighten terminal screws to 7 in-lbs (0.79 Nm).
- Captive screw terminals accept up to two 22 to 12 AWG (0.34 to 4 mm$^2$) wires per terminal.
- Dimmer channels controlling one or more CLS-EXP-DIMFLV modules must not be wired to control any other type of load.
- While these diagrams show a CLS-C6 as the controlling source, other Crestron products such as CLW-series wall dimmers (Cresnet® and infiNET™ dimmers) and CLX-series dimming modules can be used as well. Refer to "CLS-EXP-DIMFLV Specifications" on page 1 for details.
- Use a neutral wire for a CLW-Series wall dimmer.
- Use 75°C copper wire only.
- The CLS-EXP-DIMFLV presents a 25 W load to the controlling dimmer. A maximum of five CLS-EXP-DIMFLV modules may be connected to the controlling dimmer, which cannot be wired to control any other loads besides the CLS-EXP-DIMFLV modules.
- Separate Class 1 and Class 2 wires. When wiring a 0-10 V fluorescent dimmer, the + and – make connections using Class 1 or Class 2 wiring. If Class 1 wiring is used, the barrier between the NEUT and + terminals can be removed.

Wire the CLS-EXP-DIMFLV for a 0-10 V dimming or a switching application.

*CLS-EXP-DIMFLV Wiring for 0-10 V Dimming*



*CLS-EXP-DIMFLV Wiring for Switching Application*
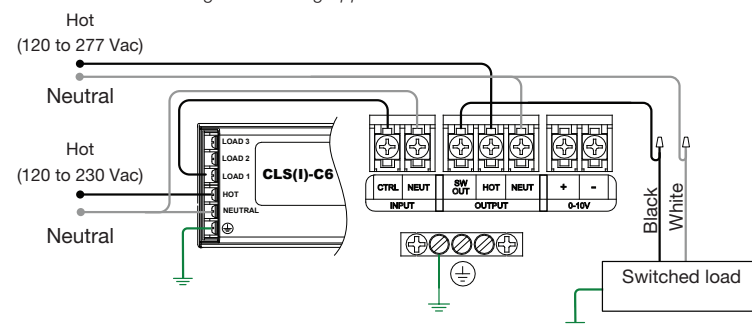


After wiring is complete, replace the cover and the cover screws. Apply power to the line or load and turn on the controlling device. The power indicator LED lights indicating that power is supplied to the module.

## Problem Solving

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

*CLS-EXP-DIMFLV Troubleshooting*

| Trouble | Possible Cause(s) | Corrective Action |
|---|---|---|
| The load does not turn on. | The controlling dimmer or switch is not working. | Make sure that the controller is powered on. Make sure that a compatible dimmer is being used. |
| | No power is applied to the HOT terminal. | Check the circuit breaker. Check that the green power LED inside the unit is lit. |
| The load turns on and off but does not dim. | The controlling unit is either not a dimmer or has been set to non-dim. | Verify that dimmer is compatible with the CLS-EXP-DIMFLV. Refer to "CLS-EXP-DIMFLV Specifications" on page 1. |
| | | Verify that the controlling channel has not been programmed as non-dim. |
| The lights do not dim properly. | An incompatible dimmer is being used. | Make sure that the dimmer is one of those listed in "CLS-EXP-DIMFLV Specifications" on page 1. |