

Introduction

CRESTRON GREEN LIGHT architectural dimming cabinets come pre-configured with GLX architectural dimming and switching modules already installed. In addition, branch circuit breakers come preinstalled and prewired to the modules. The cabinets only require installation and wiring of feed and load circuits.

Industry Compliance

The cabinet and modules are Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.

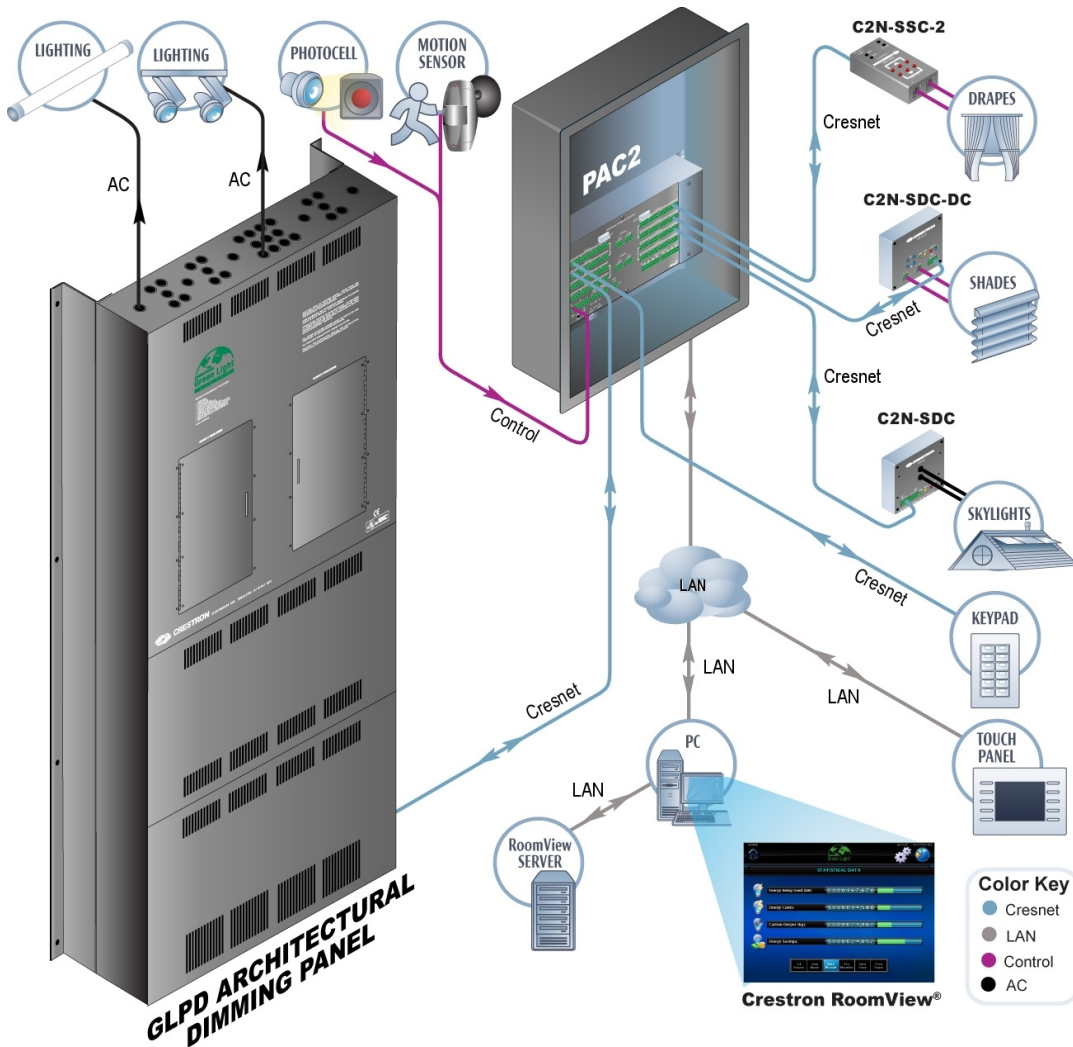


(E227280 (cabinet) and E103692 (modules))

Application

The following diagram shows CRESTRON GREEN LIGHT architectural dimming cabinets in a lighting application that is controlled by an IPAC system.

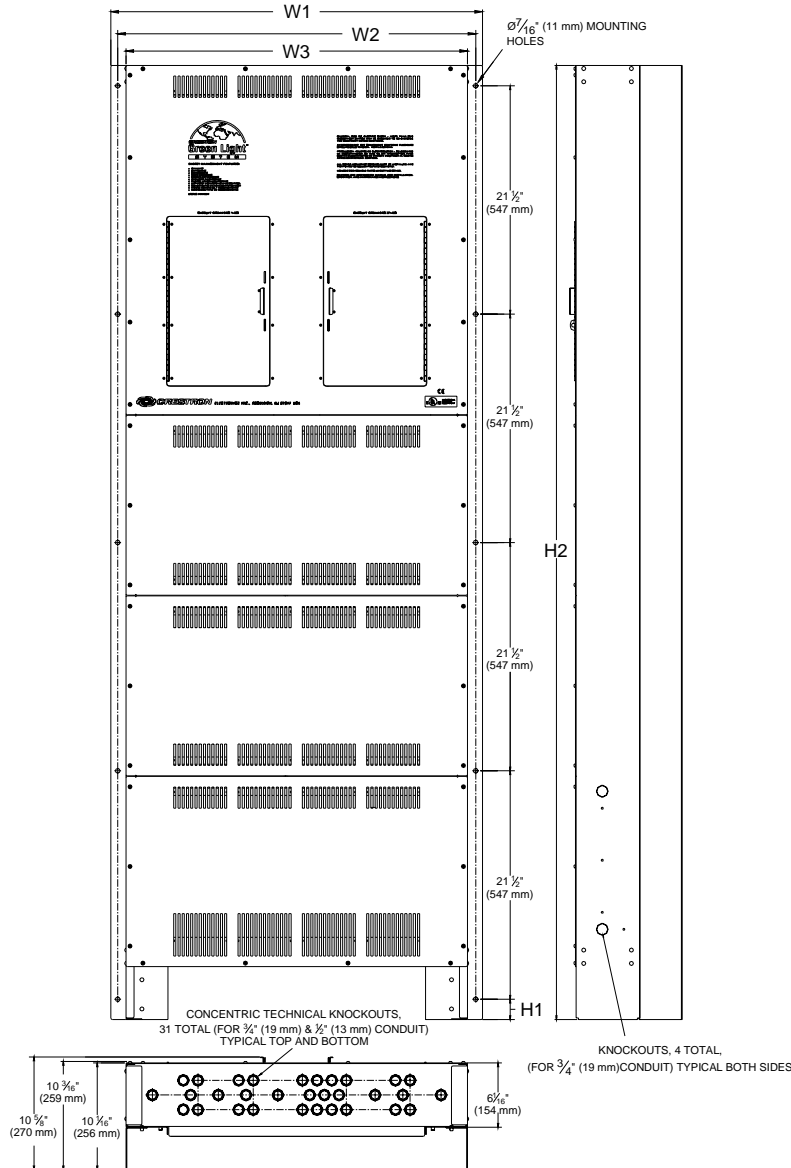
CRESTRON GREEN LIGHT Architectural Dimming Cabinets in a Typical Lighting Application



Physical Description

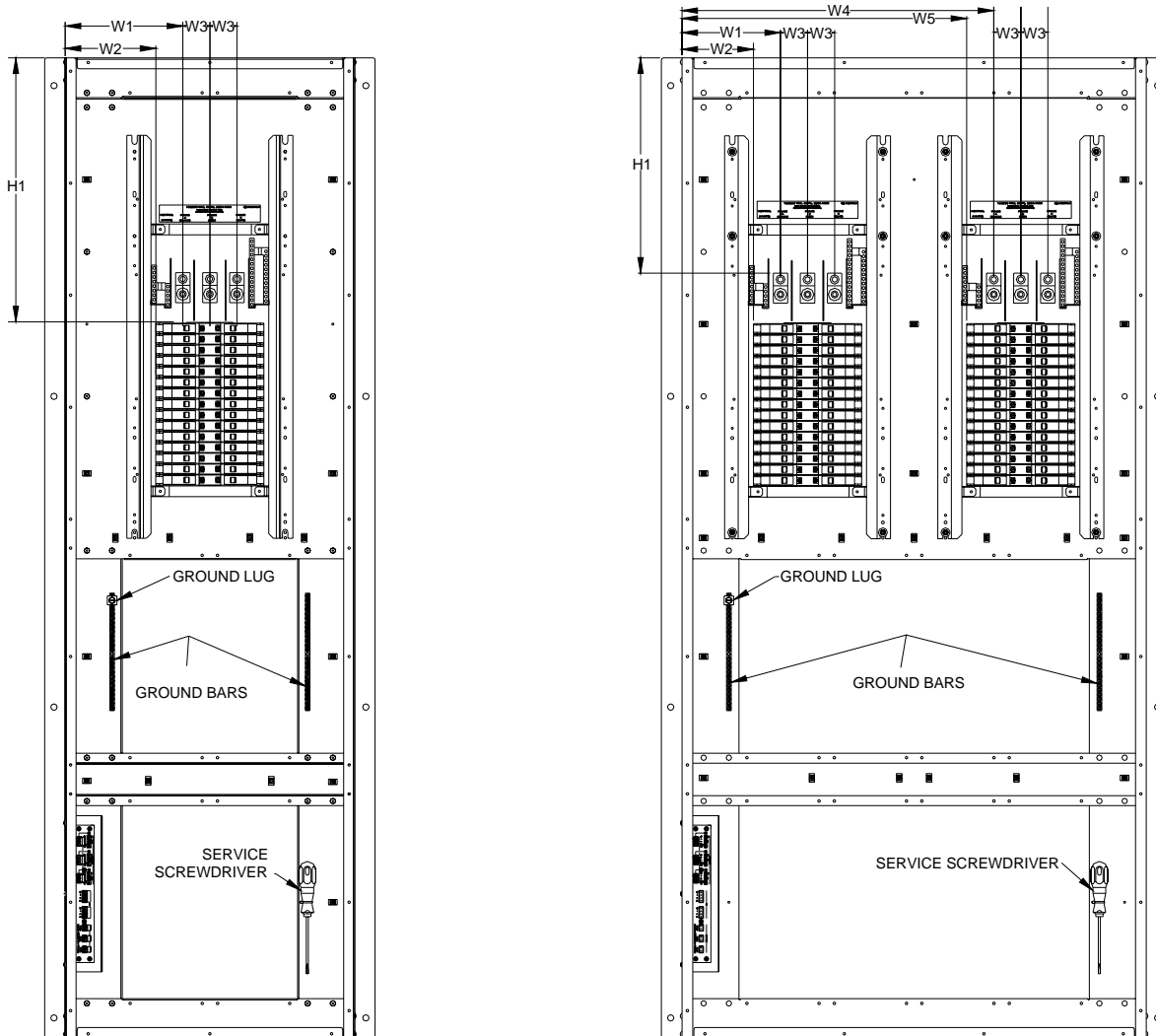
This section shows the exterior and interior dimensions of the CRESTRON GREEN LIGHT Architectural Dimming cabinet.

External Dimensions of CRESTRON GREEN LIGHT Architectural Dimming Cabinets



DIMENSION	GLE-*-2X2	GLE-*-3X2	GLE-*-2X4	GLE-*-3X4
Module Spaces	4	6	8	12
W1	22 7/8" (582 mm)	22 7/8" (582 mm)	35 1/16" (891 mm)	35 1/16" (891 mm)
W2	21 5/8" (550 mm)	21 5/8" (550 mm)	33 3/4" (858 mm)	33 3/4" (858 mm)
W3	20 1/16" (510 mm)	20 1/16" (510 mm)	32 3/16" (818 mm)	32 3/16" (818 mm)
H1	1 7/16" (37 mm)	5" (27 mm)	1 7/16" (37 mm)	1 15/16" (50 mm)
H2	67 13/16 (1723 mm)	96" (2439 mm)	67 7/8" (1725 mm)	89 13/16 (2282 mm)

Interior Dimensions of CRESTRON GREEN LIGHT Architectural Dimming Cabinets (GLE-XXX-Xx2, left; GLE-XXX-Xx4, right)



Interior Dimensions of CRESTRON GREEN LIGHT Architectural Dimming Cabinets

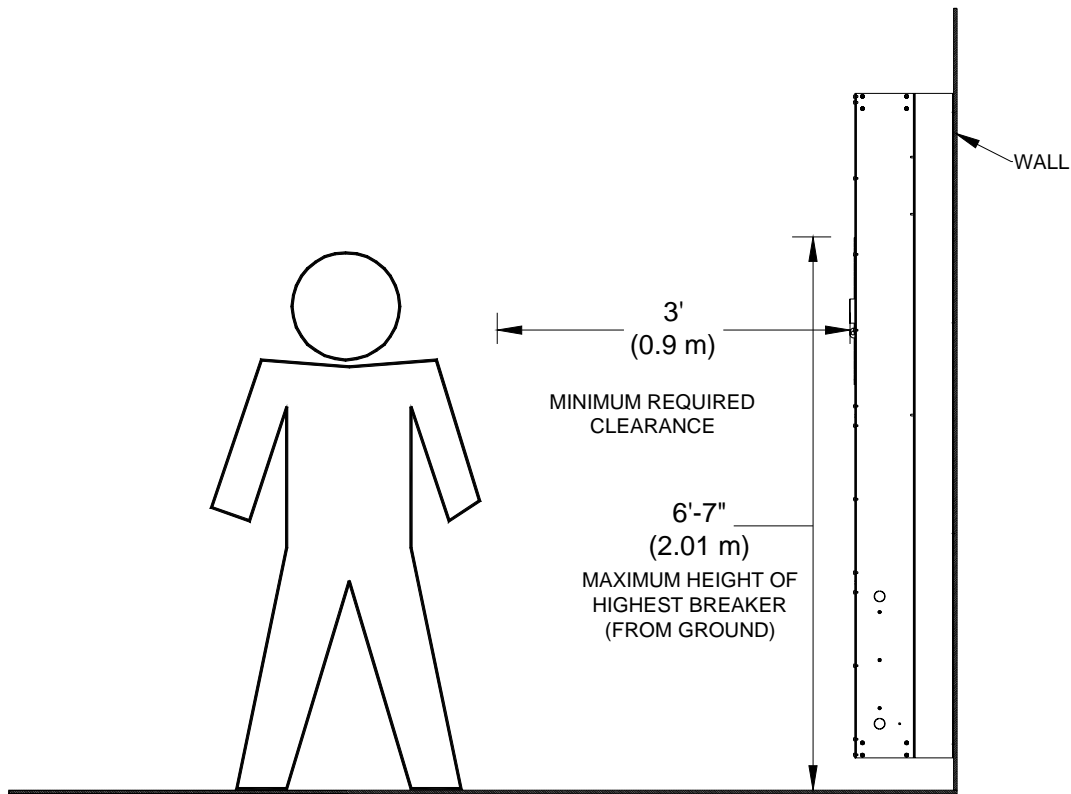
DIMENSION	GLE-120				GLE-277			
	2X2	3X2	2X4	3X4	2X2	3X2	2X4	3X4
H1	14 7/8" (378 mm)	18 1/4" (464 mm)	14 7/8" (378 mm)	14 7/8" (378 mm)	11 11/16" (297 mm)	15 1/16" (383 mm)	11 11/16" (297 mm)	11 11/16" (297 mm)
W1	8 3/16" (208 mm)	8 3/16" (208 mm)	6 13/16" (174 mm)	6 13/16" (174 mm)	8" (204 mm)	8" (204 mm)	6 11/16" (170 mm)	6 11/16" (170 mm)
W2	6 5/16" (161 mm)	6 5/16" (161 mm)	4 15/16" (126 mm)	4 15/16" (126 mm)	3 7/8" (99 mm)	3 7/8" (99 mm)	2 9/16" (66 mm)	2 9/16" (66 mm)
W3	1 7/8" (48 mm)	1 7/8" (48 mm)	1 7/8" (48 mm)	1 7/8" (48 mm)	2" (51 mm)	2" (51 mm)	2" (51 mm)	2" (51 mm)
W4	-	-	21 5/8" (550 mm)	21 5/8" (550 mm)	-	-	21 1/2" (547 mm)	21 1/2" (547 mm)
W5	-	-	19 3/4" (502 mm)	19 3/4" (502 mm)	-	-	17 3/8" (442 mm)	17 3/8" (442 mm)

Installation

Observe the following when installing the cabinet:

- The cabinet must be mounted by a licensed electrician in accordance with all national and local codes. Refer to the diagram below for specific requirements.
- Allow adequate clearance in front of the cover for servicing.
- The cabinet is designed for surface mounting on a wall.
- Cabinets are intended for indoor use only.
- The ambient temperature range should be 32°F to 104°F (0°C to 40°C). The relative humidity should range from 10% to 90% (non-condensing).

Mounting Location



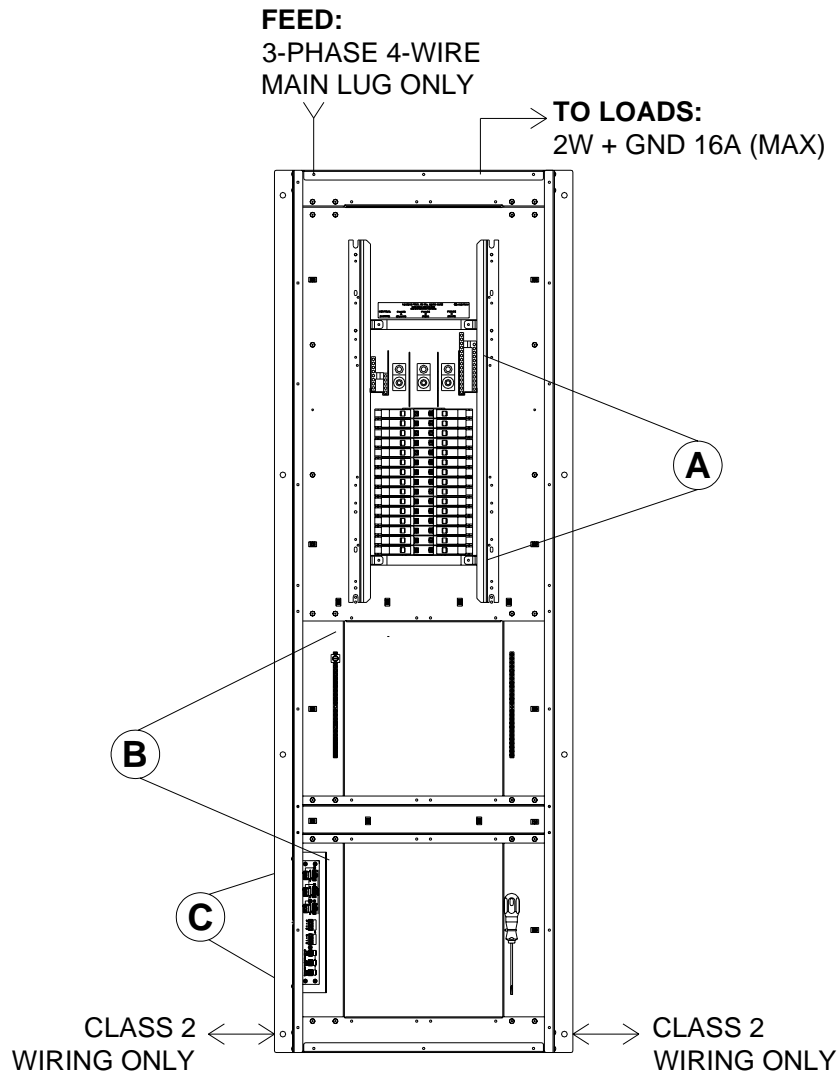
Wiring

NOTE: All wiring must be installed in accordance with all local and national electrical codes.

NOTE: Refer to the torque settings specified on pages 6, 7 and 8.

CRESTRON GREEN LIGHT cabinets are shipped with GLX modules installed and prewired to the branch circuit breakers. The following must be performed after installation:

- Connect incoming feed conductors to the breaker panel (section **A** of the following diagram)
- Connect load wiring to GLX module outputs (section **B** of the following diagram)
- Connect control wiring (section **C** of the following diagram)

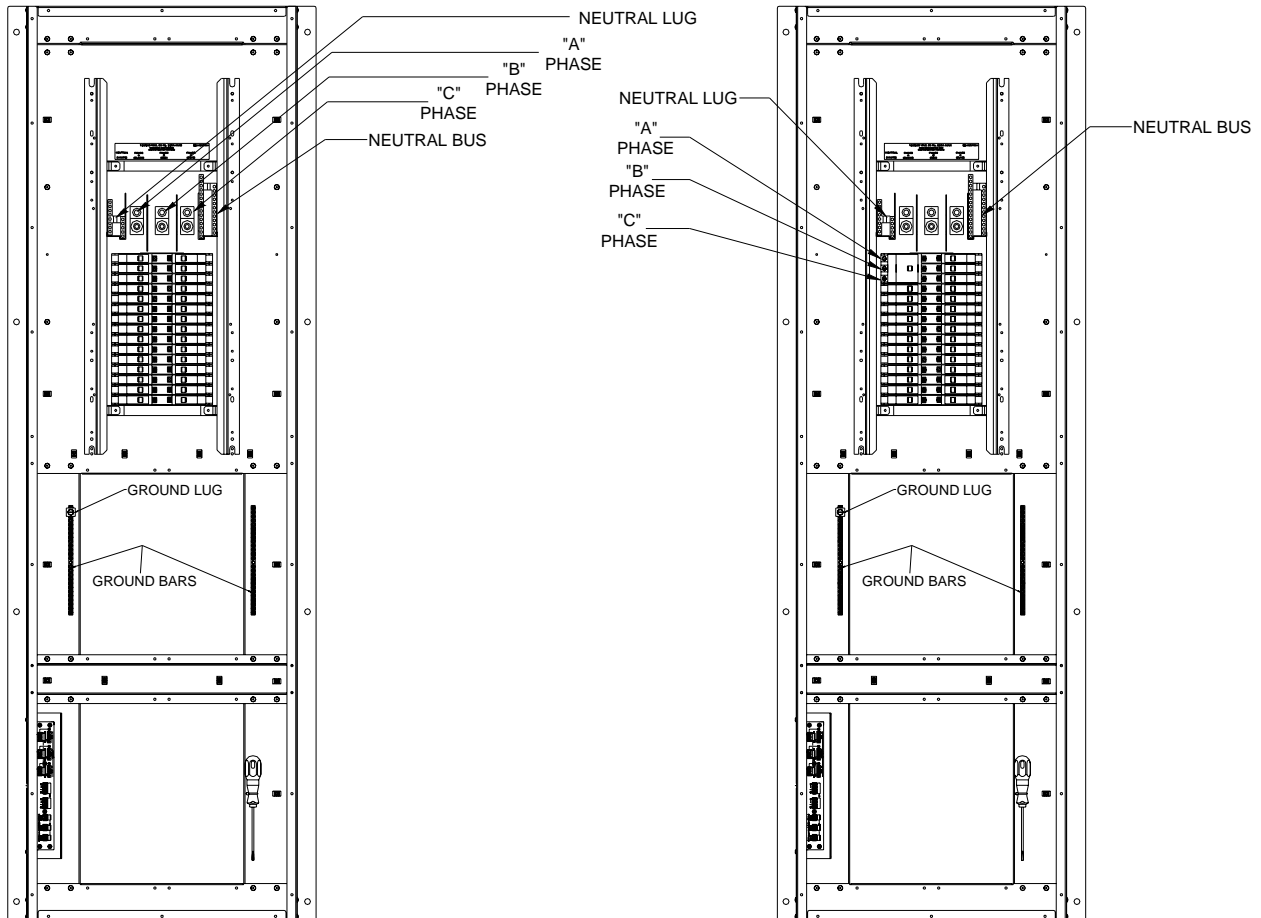


Feed Wiring (Section A)

Feed Wiring for MLO and MCB Applications

MLO BREAKER DETAIL

MCB BREAKER DETAIL



Refer to the following table for information on wiring the feed to the panel.

Feed Wire Information

TERMINAL	120 Volt Models		Max Current	277 Volt Models		Max Current
	CONNECTOR MAX WIRE RANGE	TORQUE		CONNECTOR MAX WIRE RANGE	TORQUE	
Neutral and Main Lugs	10-2/0 AWG (CU) or 6-2/0 AWG (AL)	15 lb-ft (20.3 Nm)	225 Amps	6-350 kcmil (CU or AL) 1/0-750 kcmil (CU or AL)	275-300 lb-in (31.1-33.9 Nm)	250 Amps
Neutral Bus	6 - 300 kcmil (CU or AL)	21 lb-ft (28.5 Nm)		14-6 AWG (CU or AL) 14-2/0 AWG (CU or AL)	24-35 lb-in (2.7-4.0 Nm) 40-50 lb-in (4.5-5.6 Nm)	
Use copper or aluminum conductors only – rated 75°C.						
WARNING: Failure to properly tighten lugs may result in poor electrical connection and overheating of the terminals.						

Load Wiring (Section B)

CAUTION: Bypass jumpers are provided on each output to allow testing and to protect the module during installation. The jumper shorts the **L**, **SW** and **DM** terminals so that the load circuit is energized when the branch breaker is on. Do not remove the bypass jumper until all feed and load wiring has been completed, and the circuits have been tested for electrical faults.

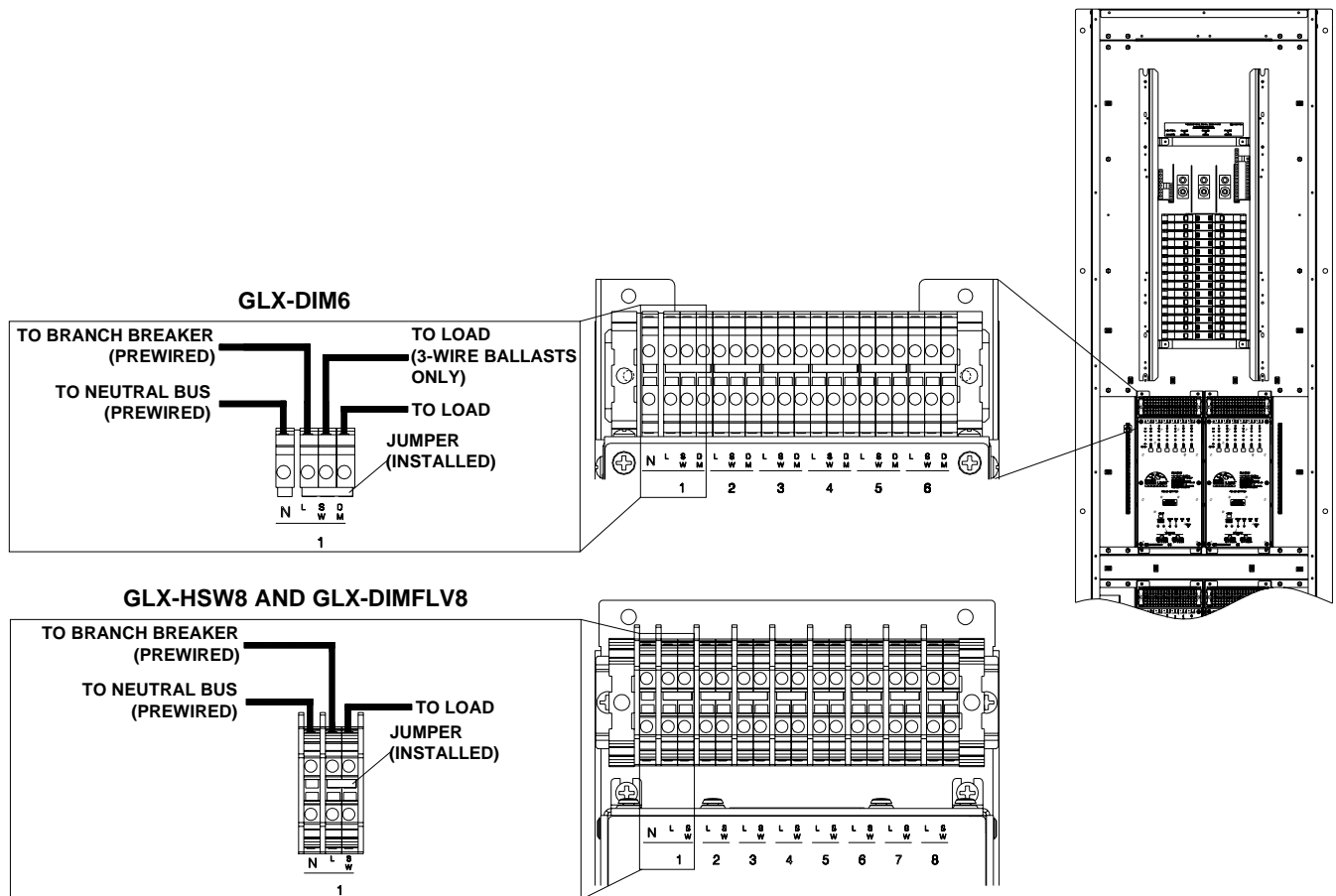
NOTE: Use copper conductors only – rated 75°C.

Wire Gauge and Torque Values

TERMINAL	CONNECTOR MAX WIRE RANGE	TORQUE	STRIP LENGTH
LOAD & DM OUTPUTS	26-10 AWG	5.31 lb-in (0.6 Nm) to 7.08 lb-in (0.8 Nm) max	3/8" (9 mm)
DIM CONTROL (GLX-DIMFLV8 only)	28-12 AWG	4.43 lb-in (0.5 Nm)	5/16" (8 mm)
GROUND BAR	14-10 AWG	35 lb-in (4.0 Nm)	5/16" (8 mm)
GROUND LUG	14-4 AWG	45-25 lb-in (5.1-2.8 Nm)	3/4" (19 mm)

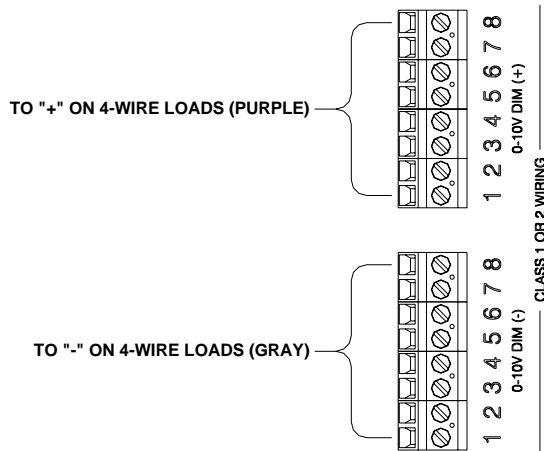
- Each output has a label with the number of the controlling circuit breaker printed on it. With the corresponding circuit breaker turned off, connect the controlled circuit (LOAD) wires to the output per the markings on the module as shown in the following diagrams. Terminals for load wiring accept one 10 – 14 AWG wire.

Load Wiring for GLX-DIM6, GLX-DIMFLV8, and GLX-HSW8 (Jumper Installed)



The GLX-DIMFLV8 also requires wiring the terminals for 0-10 VDC control wire. Refer to the following diagram when connecting the dimmable ballast. Each control wire terminal accepts one 12 – 28 AWG wire.

0-10 VDC Control Wiring for GLX-DIMFLV8 Only



2. Test the circuit for electrical faults by turning on each circuit breaker, checking that the breakers do not trip, and that power is delivered to the proper loads.
3. Turn off the circuit breaker(s) and remove all jumpers.
4. Turn on the circuit breakers.

Control Wiring (Section C)

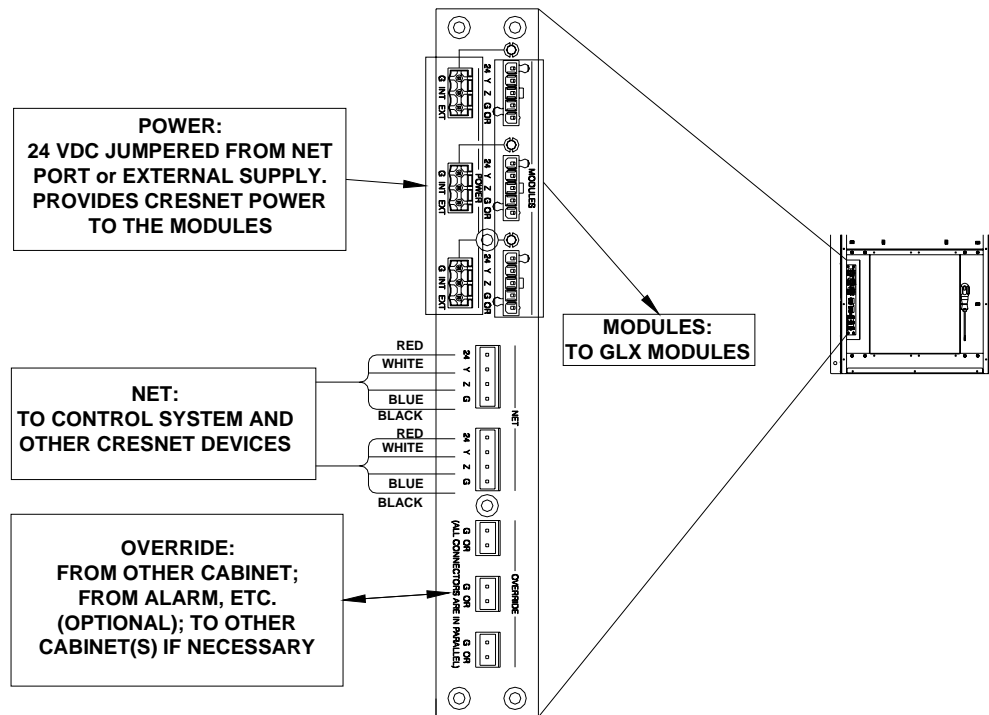
The bottom of the cabinet contains Cresnet® connections for interfacing to the rest of the Crestron® control system. It also provides an override input which can be tied to devices such as the GLS-PLS-120/277 phase-loss sensor, or other devices that provide a dry contact closure (manual switch, fire alarm relay, etc.).

NOTE: Interface connectors for **NET** (x2), **POWER** (x3), and **OVERRIDE** (x3) ports are provided.

Wire Gauge and Torque Values

TERMINAL	CONNECTOR MAX WIRE RANGE	TORQUE	STRIP LENGTH
NET	26-12 AWG	4.43 lb-in (0.5 Nm)	1/4" (6 mm)
POWER	26-12 AWG	4.43 lb-in (0.5 Nm)	1/4" (6 mm)
OVERRIDE	26-12 AWG	4.43 lb-in (0.5 Nm)	1/4" (6 mm)

Connector Wiring



NET Port Wiring

When wiring the supplied **NET** connectors for connection to a Crestron control system or other device on the Cresnet network, use Crestron certified wire such as CRESNET-NP or CRESNET-P.

To ensure optimum performance over the full range of your installation topology, use Crestron certified wire. Failure to do so may incur additional charges if support is required to identify performance deficiencies because of using improper wire.

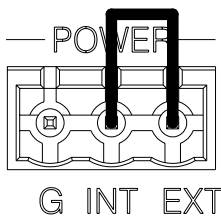
When daisy-chaining connections between **NET** ports, strip the ends of the wires carefully to avoid nicking the conductors. Twist together the ends of the wires that share a pin on the network connector, insert the connection into the Cresnet connector, and tighten the retaining screw. Repeat the procedure for the other three conductors.

POWER Port Wiring

Low voltage (24 VDC) power must be supplied to the modules either internally via devices connected to the **NET** port or externally via a Cresnet power supply connected to the **POWER** port.

To power the modules internally from line power, install a jumper from the **INT** pin on the supplied **POWER** connector to the **EXT** pin on the **POWER** connector as shown in the following diagram.

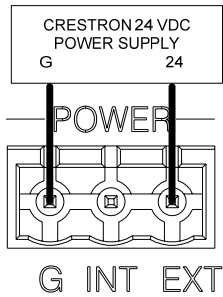
Providing Cresnet Power Internally



When a lighting module is powered from line power, the module's **PWR** LED will illuminate.

To power the modules externally from a Cresnet 24 VDC power supply, connect the external power supply to the **EXT** and **G** pins on the **POWER** supplied connector as shown in the following diagram.

Providing Cresnet Power Externally



When properly connected and receiving 24 VDC power externally, the green LED next to the **MODULES** port will light.

Under normal operation, each lighting module will draw power from the line voltage on circuit 1. In this case the green **PWR** LED on the module will be lit. If AC power to circuit 1 is interrupted for some reason (e.g. because the breaker trips), the module will automatically draw power from the 24VDC supply, if available. In this case, the **PWR** LED will flash.

***VERRIDE* Port Wiring**

Low-voltage input devices such as the Crestron GLS-PLS-120/277 phase-loss sensor or any device that provides a dry contact closure can be connected to the supplied **VERRIDE** connector on the bottom of the cabinet.

When a dry contact closure is applied to the **VERRIDE** terminals, all modules in the cabinet will enter into *Override* mode. In this mode they will recall their override levels, and will ignore any external commands (e.g. from keypads, touchpanels, or timeclock events) until the override contacts are removed.

For more details, refer to “*Override Mode*” on page 11.

Testing

Manual Control

A lighting module can be manually controlled from its front panel.

Switch Function

The GLX-HSW8 is a power switching module that can be used to turn loads on and off.

The GLX-DIM6 and the GLX-DIMFLV8 are dimming modules whose outputs can be set to operate as dimmable or non-dimmable outputs. The state of each output can be manually controlled from the front panel.

To use a module's switch function:

- Ensure that the output's mode switch is set to **NON-DIM** (GLX-DIM6 and GLX-DIMFLV8 only). The **DIM LED** will be off.
- Press the ▲ button to turn the output on. The corresponding **ON LED** illuminates and the output state is shown on the **NET ID** display ("On" for on) for two seconds after the button is released.
- Press the ▼ button to turn the output off. The corresponding **ON LED** extinguishes and the output state is shown on the **NET ID** display ("oF" for off) for two seconds after the button is released.

NOTE: The control system program may change the settings if the *Override* mode is not enabled.

Dimming Function (GLX-DIM6 and GLX-DIMFLV8 Only)

The lighting level of each of the outputs can be manually controlled from the front panel.

- Ensure that the output's mode switch is set to **DIM** (GLX-DIM6 and GLX-DIMFLV8 only).
- Press the ▲ button to turn the output on (100%). The corresponding **ON** and **DIM LED**s illuminate and the output state is shown on the **NET ID** display ("On" for on) for two seconds after the button is released.
- Press the ▼ button to turn the output off. The corresponding **ON LED** extinguishes and the output state is shown on the **NET ID** display ("oF" for off) for two seconds after the button is released.
- To ramp the lighting level up or down (until it reaches 100% or turns off), press and hold the output's ▲ or ▼ button. The corresponding **ON LED** illuminates while the load is ON. The **DIM LED** illuminates while the output level is less than 100%. The output level is shown on the **NET ID** display as a percentage (01-99, "oF" for off, or "On" for on) for two seconds after the button is released.

NOTE: The control system program may change the settings if the *Override* mode is not enabled.

Override Mode

The *Override* mode overrides the control system program and sets all of the output states to the stored override values. For instructions on saving override settings, refer to "Save Override Settings" on page 12.

To enable *Override* mode, press and release the **OVR** button. The **OVR LED** flashes slowly.

NOTE: If the *Override* mode was enabled from an external device (i.e. a contact closure is present on the **OVERRIDE** terminals), the **OVR LED** will flash quickly. Pressing the **OVR** button has no effect.

To disable *Override* mode, press the **OVR** button again. The **OVR LED** extinguishes and the outputs return to the states set by the control system program.

NOTE: If override states have not been stored, the factory default override state is all loads on.

Save Override Settings

The state of each output can be saved as an override setting, which can be automatically recalled when the *Override* mode is enabled.

NOTE: The control system program has a setting that can prevent locally saving the override state. If this setting is enabled, the display shows “Er” when trying to save override states. For more information, refer to the SIMPL Windows help file.

To save the state of all of the outputs as an override setting, press and hold the **OVR** button for three seconds. The **OVR** LED blinks to indicate the new override settings have been stored.

System Operation and Commissioning

This cabinet has been designed as a component of a programmed Crestron system. System commissioning by an authorized Crestron representative **must** be performed to ensure system operation.

Once the cabinet has been wired and the modules have been tested, contact Crestron at 1-888-CRESTRON [1-888-273-7876] to schedule commissioning.

Problem Solving

Troubleshooting

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

Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Module(s) does not function.	Power not delivered to the module.	If the module is powered internally, verify that the circuit breaker connected to the first channel on the module is on and delivering power to the module. If module is powered externally, verify that the POWER port is correctly wired and receiving power.
	System commissioning not complete.	Arrange for system commissioning.
Module's PWR LED is flashing.	AC power not present on L1 .	Check that the branch breaker feeding L1 has not tripped. Note that unit will continue to function, but will draw power from the backup Cresnet power supply.
Unit cannot be taken out of <i>Override</i> mode	Short (contact closure) exists between G and OVR terminals on any of the OVERRIDE terminals present at bottom of the cabinet.	Determine the reason for the short. Remove or remedy the short (e.g. GLS-PLS-120/277 phase-loss sensor may not have been installed properly, or actual phase-loss has been detected).
Load does not dim.	Mode switch is set to NON-DIM .	Set switch to DIM .
	Module is not wired correctly.	Verify that module is wired for dimming.
Fluorescent lamps stay at minimum intensity (0-10V dimmable fluorescents only).	+ or - wires are reversed or shorted.	Verify polarity of + and - wires at ballasts and GLXP-DIMFLV8.
Fluorescent lamps stay at maximum intensity (0-10V dimmable fluorescents only).	+ or - wires are not connected.	Verify polarity of + and - wires at ballasts and GLXP-DIMFLV8.

Further Inquiries

If you cannot locate specific information or have questions after reviewing this guide, please take advantage of Crestron's award winning customer service team by calling Crestron at 1-888-CRESTRON [1-888-273-7876].

You can also log onto the online help section of the Crestron website (www.crestron.com/onlinehelp) to ask questions about Crestron products. First-time users will need to establish a user account to fully benefit from all available features.

Appendix A: Setting Module Net IDs

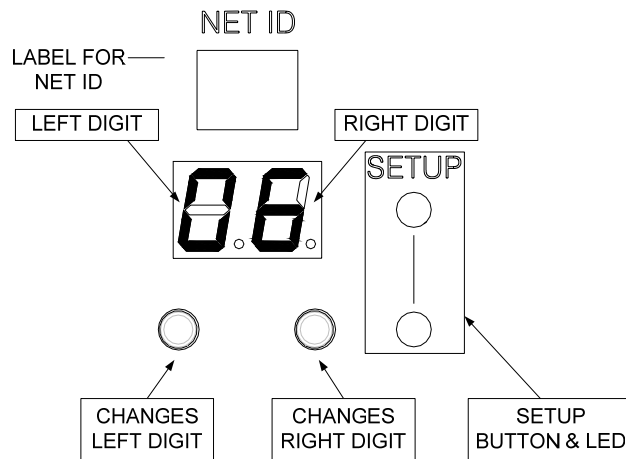
The following procedure will normally be performed by an authorized Crestron representative as part of the System Commissioning phase. For system wiring and basic testing as described on pages 5 and 11, it is not necessary to perform this step. Only perform this step if instructed by an authorized Crestron representative, or when replacing modules on a system that have already been commissioned (in the latter case the Net ID should be set to match the Net ID of the module being replaced).

The Net ID of each module in the cabinet can be changed from the front panel of each module. The Net IDs of each module in the system must be unique.

To set the Net ID using the front panel:

1. Press the recessed **SETUP** button to enter the *Setup* mode. The **SETUP** LED illuminates.
2. As shown in the following diagram, press the left button under the **NET ID** display to change the left digit of the Net ID or press the right button under the **NET ID** display to change the right digit of the Net ID number.

Changing the Net ID



3. When the desired Net ID is displayed, press the **SETUP** button to exit the *Setup* mode. The **SETUP** LED extinguishes.

If the **SETUP** button is not pressed, the *Setup* mode will time out after one minute activity and the Net ID will revert back to its original value.

Appendix B: Module Specifications

Specifications for the GLXP modules are listed in the following table.

GLXP Module Specifications

SPECIFICATION	GLX-DIM6	GLX-HSW8	GLX-DIMFLV8
Description	6 Channel Dimming/Switching Module	8 Channel High-Inrush Switch Module	8 Channel 0-10V Fluorescent Dimmer Module
Number of Outputs	6	8	8
Cresnet Power Usage*	5 Watts	5 Watts	5 Watts
Input Voltage	100 – 277 VAC 50/60 Hz	100 – 277 VAC 50/60 Hz	100 – 277 VAC 50/60 Hz
Supported Load Types	Incandescent, magnetic low voltage (MLV), electronic low voltage (ELV), neon/cold cathode, fluorescent ballast	Incandescent, magnetic low voltage (MLV), electronic low voltage (ELV), neon/cold cathode, fluorescent ballast, HID, motor	<p>Dimmable Loads: 0-10 VDC dimmable fluorescent ballasts (i.e. Advance Mark 7 or other ballasts that comply with the specifications for control by DC voltage in ANSI C82.11:2002 and IEC60929:2006)</p> <p>Non-Dim Loads: Incandescent, HID, magnetic low voltage (MLV), electronic low voltage (ELV), neon/cold cathode, and fluorescent ballasts, motor</p>
Maximum Load			
Lighting	16 A per output	16 A per output	16 A per output
Motor	N/A	½ HP @ 120V 1 HP @ 230V, 1 HP @ 277V	½ HP @ 120V 1 HP @ 230V, 1 HP @ 277V
Environmental			
Temperature	32° to 104° F (0° to 40° C)	32° to 104° F (0° to 40° C)	32° to 104° F (0° to 40° C)
Humidity	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)	10% to 90% RH (non-condensing)
Heat Dissipation	10 BTU/Hr	10 BTU/Hr	10 BTU/Hr

* Power usage will be zero whenever AC power is present on circuit 1 on the module. Use of Cresnet power is optional.

Return and Warranty Policies

Merchandise Returns / Repair Service

1. No merchandise may be returned for credit, exchange or service without prior authorization from CRESTRON. To obtain warranty service for CRESTRON products, contact an authorized CRESTRON dealer. Only authorized CRESTRON dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
2. Products may be returned for credit, exchange or service with a CRESTRON Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to CRESTRON, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. CRESTRON reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
3. Return freight charges following repair of items under warranty shall be paid by CRESTRON, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

CRESTRON Limited Warranty

CRESTRON ELECTRONICS, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from CRESTRON, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touchscreen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from CRESTRON or an authorized CRESTRON dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

CRESTRON shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall CRESTRON be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. CRESTRON is not liable for any claim made by a third party or made by the purchaser for a third party.

CRESTRON shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, CRESTRON makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

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