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ELCD 1008

Branch Circuit Emergency Lighting Transfer Switch

INSTALLATION AND OPERATING INSTRUCTION

The ELCD 1008 Branch Circuit Emergency Lighting Transfer Switch (BCELTS) transfers a single lighting circuit from its normal power source to an emergency power source in the event of the loss of power or an external trigger (e.g., fire alarm).

ELCD FEATURES AND FUNCTIONS

- Front panel accessible Test Switch
- Front panel accessible Laser Test, enabling remote testing with the use of a laser pointer (or similar)
- Front panel status indicators for utility power, emergency power, and system faults
- 12-24V AC/DC Fire Alarm input
- Line Voltage dimming passthrough in normal operation
- 0-10V or Digital Addressable Lighting Interface (DALI) passthrough in normal operation
- Field selectable 0-10V dimmable zone in emergency operation
- Field selectable AC voltage (120V/277V)
- Field Selectable Transfer delay

COMPLIANCE

- The ELCD 1008 meets or exceeds the following regulatory standards:
- UL Listed to UL1008 for Branch Circuit Emergency Transfer Switch Equipment
- cUL Listed to CSAC22.2 Emergency Transfer Switch Equipment
- UL Listed to UL2043 for plenum rated products
- Complies with ANSI/ NFPA110, Standard for Emergency and Standby Power Systems
- Satisfies requirements of the National Electrical Code (NFPA70):
- Article 700–Emergency Systems
- Article 701–Legally Required Standby Systems
- Article 702–Optional Standby Systems
- Section 518.3(C)–Assembly Occupancies
- Section 520.7–Theatres and Similar Locations
- Section 540.11(C)–Motion Picture Projection Rooms

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Installation Environment:

Install the ELCD 1008 in a location that is accessible by qualified personnel for testing of the transfer function using either a laser pointer (or similar) or the on board test switch.

NEMA Type1 Enclosure suitable for installation locations that conforms to the following ambient environment: 0–40°C, 5%–95% non–condensing humidity

NOTE: Suitable for use in other spaces used for environmental air (plenums) in accordance with Article 300 of the National Electrical Code (NFPA70).

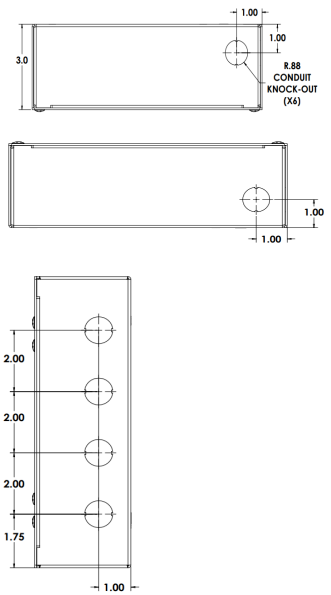
Mounting and Conduit:

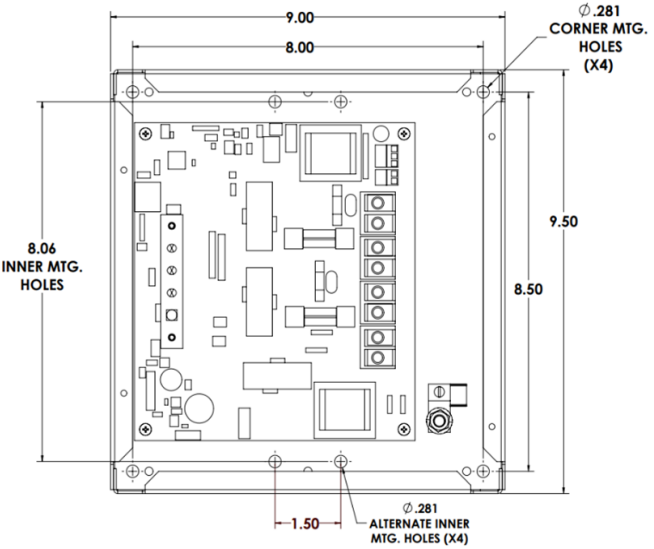
The ELCD 1008 installs to a flat surface, has six conduit entry locations, and has four mounting holes. Mounting and conduit hardware are not provided.

Using the mounting holes in the back of the enclosure, secure the ELCD 1008 enclosure to a flat surface using four 1/4-20 mounting bolts or screws.

Feed all wires through conduits and Install conduit fittings (not provided).

NOTE: The ECLD1008 enclosure can be rotated 180°, to change the orientation as needed for the installation. The front cover has a legend printed on both sides to ensure correct indication of status LEDs and Test Switch.





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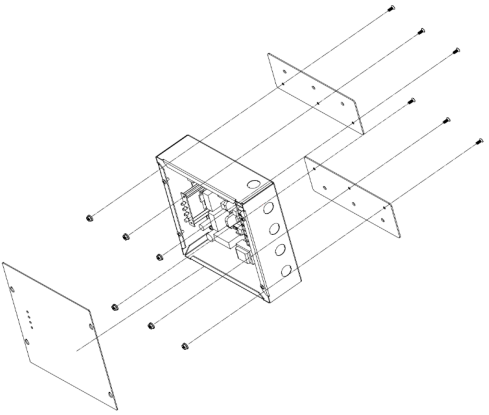
Wall Mount Bracket (Optional):

A separate wall bracket is available for purchase to accommodate alternative mounting schemes.



Electrical Specifications:

Utility and Emergency Inputs:	120 – 277 VAC +/-10%, 50/60Hz (field selectable with voltage select jumper)
Fire Alarm Input:	12 - 24 VAC/DC
Dimming Terminal:	0 - 10 DC
Short Circuit Current Rating:	10KA short circuit capacity
Load Rating:	20A for tungsten and resistive load (For use with lighting loads only including Incandescent, Tungsten, LED and Electric Discharge Lamp)

NOTE: Continuous load current not to exceed 80% of the switch rating. Use copper wire only, minimum 75°C conductors.

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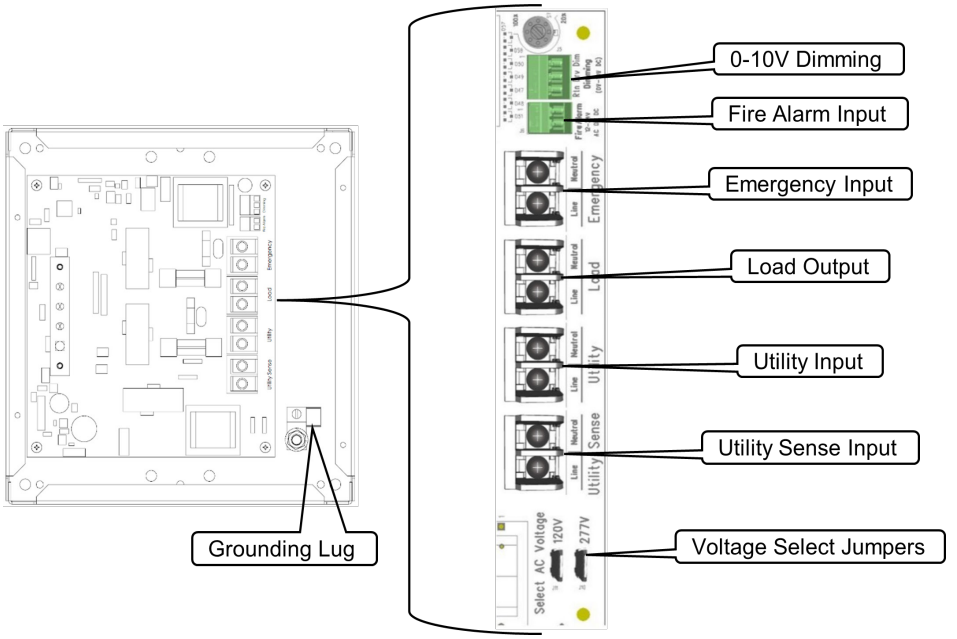
Wire Terminations:



Wire and Terminal Specifications

Terminal	Wire Range	Strip Length	Torque Rating
Line / Load	10–18 AWG (copper wire solid/stranded)	3/8" (10mm)	10 in–lbs
Control (signal)	10–20 AWG (copper wire stranded only)	1/4" (6mm)	4 in–lbs
Earth Ground (On Cabinet)	6–14 AWG (copper wire solid/stranded)	3/8" (10mm)	35 in–lbs

WARNING: Before terminating wire to the ELCD 1008 BCELTS enclosure, make sure the main circuit breaker or other readily accessible input power disconnect device for both normal and emergency power inputs are locked-out and tagged-out. Enclosures installed without an accessible input power disconnect device cannot be serviced or operated safely. Follow all local codes and restrictions. When the disconnect device is not located near the installed enclosure, the disconnect must allow for proper lockout/tagout.

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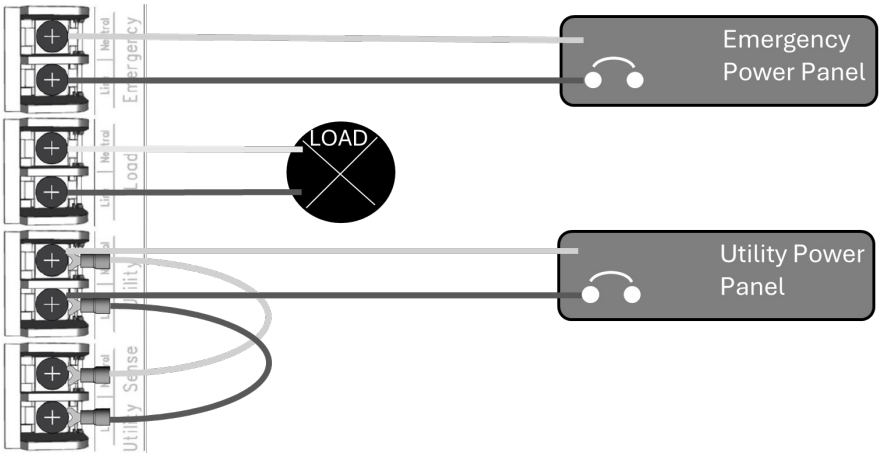
The ELCD 1008 can be configured for a simple transfer of normal and emergency power sources by landing the source and load wires in their designated screw terminals. It can also be configured to pass through dimmed and switched utility lines.



1. Load Terminals

a. Run neutral and hot wires from the load through the conduit and terminate to the load terminals on the ELCD 1008.

2. Utility power and Utility Sense terminals.

a. For a simple transfer, run neutral and hot wires through the conduit from the normal power source and terminate to the utility terminals on the ELCD 1008. Leave the jumpers to the utility senses terminal installed.

b. For switched and line voltage dimmed utility inputs, remove the sense jumpers and land neutral and hot utility sense wires to the utility sense terminal with full rated voltage.

3. Emergency Terminals

a. Run neutral and hot wires through the conduit from the emergency power source and terminate to the emergency terminals on the ELCD 1008.

0-10V Dimming Passthrough:

The 0– 10V Auxiliary Output provides an additional single pole relay that opens when the unit is in the emergency state. This allows connection of 0 – 10V or DALI drivers that need the removal of the control signal to illuminate at full in an emergency state.

NOTE: All low–voltage Class 2 wiring must be separated from all Class 1 wiring. Follow local codes and installation restrictions. Go2Power recommends limiting the distance run for the 0–10V control wiring from the controller to the last ballast (driver) to 300ft, based on 18 AWG wire.

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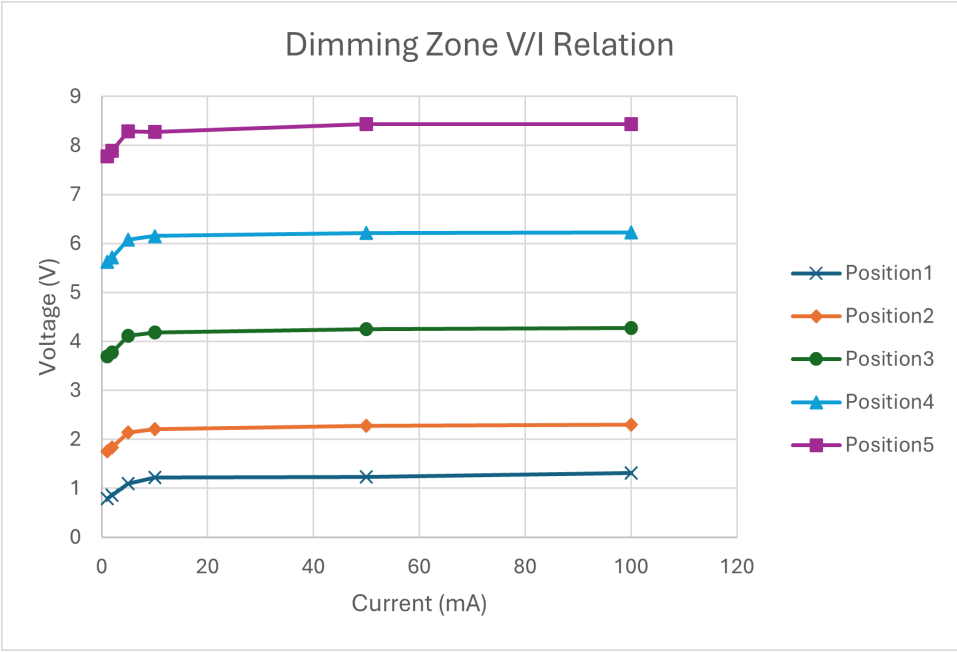
Emergency Operation Dimming:

There are 5 user presets (when using 0-10V interface) which can be changed by rotating the DIM ADJ. either clockwise (CW) for brighter and counterclockwise (CCW) for dimmer. The furthest CW rotation is an Open Circuit or 100% light level and the furthest CCW rotation is about 1V or 10% dimming level. The User Presets are current dependent which means that the values will change depending upon how much current the Dimmer Module has to sink. Provided below is a typical V/I Relation curve for the different USER PRESET positions with various LED driver current levels. 100% levels are not shown (open circuit) as these are only Position 1-5 dimming levels.

NOTE: If the DIM ADJ. is set to provide 100% light levels to the fixture, the pink (common) wire is not needed. The pink wire is a current return path for the driver and is only required when dimming to light levels lower than 100%.

NOTE: All low–voltage Class 2 wiring must be separated from all Class 1 wiring. Follow local codes and installation restrictions. Go2Power recommends limiting the distance run for the 0–10V control wiring from the controller to the last ballast (driver) to 300ft, based on 18 AWG wire.



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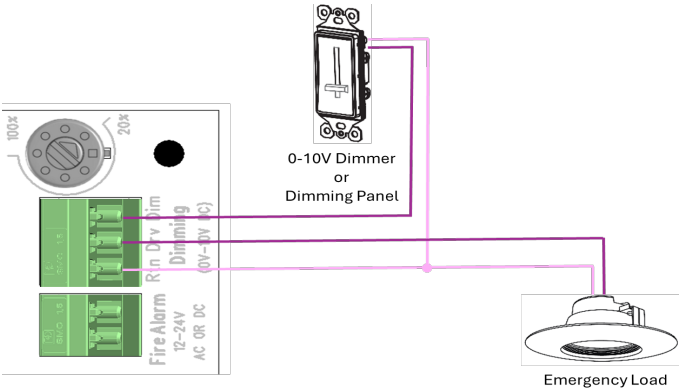


1. Run a +10V wire (typically violet) from the 0–10V controller to the ELCD 1008 plug in the Dim position.

2. Run a +10V wire (typically violet) from 0–10V ballast to the ELCD 1008 plug in the Drv position.

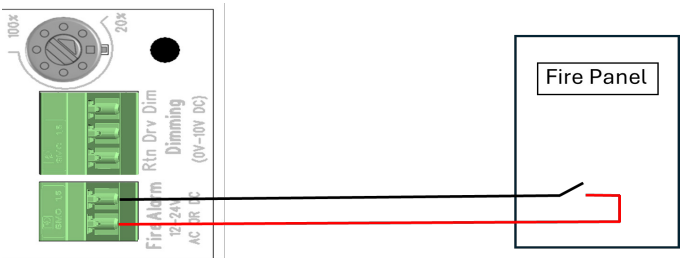
3. Run a common wire (typically pink) from the 0–10V controller and the 0–10V ballast to the ELCD 1008 plug in the Rtn position.

Fire Alarm:

The Fire Alarm Input allows power transfer to the emergency power source (if emergency power is present) when triggered by an external system.

NOTE: The fire alarm input functions with up to 1,000ft (300m) of 18AWG wire connected between the input and the switch. Fire Alarm Inputs of up to 10 ELCD 1008 units can be wired together using a single control. signal

NOTE: This transfer is activated even when normal power is still present.



1. Run 12-24V AC or DC fire alarm control signal through the ELCD 1008 enclosure.

2. Terminate to the Fire alarm plug provided

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Emergency LED	Utility LED	Fault LED	State	Notes
On	On	Off	Utility and Emergency power are both present. The ELCD 1008 is supplying utility power to the load.	
Blinking	Off	Off	The ELCD 1008 is supplying Emergency power to the load	This occurs during loss of utility power.
Off	On	Off	Utility power is present, Emergency power is not.	The ELCD 1008 is supplying Utility power to the load and will not transfer
Off	Off	Off	Neither utility nor emergency power are being supplied to the unit.	If the LEDs are not lit as expected when power is present
Alternating Blinking	Alternating Blinking	Off	Brownout condition has been detected	
		On	Relay Fault Detected	
		Blinking	Fuse Fault Detected	See ***Fuse Replacement*** (page 9)

Fuse Replacement:

In–line fuses are installed for both utility and emergency power inputs. Replace fuses only with Class G SLC 20A fuses.

1. Disconnect both power supply sources and lock/tag out appropriately.
2. Loosen the four screws and remove the cover.
3. Use a multimeter to test if the fuses and replace any blown fuses.
4. Replace the cover to the enclosure.
5. Re-apply power from both sources and test the unit.

WARNING: RISK OF ELECTRIC SHOCK! More than one live circuit is present inside the enclosure. Make certain the main circuit breaker cabinet or other readily accessible input power disconnect device for both Normal and Emergency power input is locked out and tagged out before removing the cover from this enclosure.

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Transfer Events:

When any of the conditions below occur, the unit transfers the output load to the emergency power source.

- Loss of utility power
- Brownout condition
- Initiation of test switch
- Initiation of laser test
- Fire alarm activation

Unit will transfer when utility power is restored to above 90VRMS

Testing:

Test Button

Pressing the Test button will transfer the load from utility power to emergency power. For the default setting, the ELCD1008 remains in emergency mode until you release the test button. Holding the test button for 5 seconds will begin the programable transfer delay function (see details below). If emergency power is not present for the test, the ELCD1008 will not transfer.

Laser Test

Directing a laser pointing device at the "SYSTEM FAULT" LED located on the front of the ELCD 1008 enclosure transfers the load from utility power to emergency power. The ELCD1008 will pass through emergency power for the set time delay and then return to utility power. If emergency power is not present for the test, the ELCD 1008 will not transfer.

NOTE: It is important to test the ELCD 1008 regularly because it is a life safety device. NFPA 101 Life Safety code requires testing of life safety devices every 30 days.

Programable Transfer Delay:

1. To initiate time delay programming, press and hold the test button for 5 seconds until the fault LED turns on and the Emergency LED begins to blink.

2. Tap test button for time delay selection (Refer to chart for desirable time selection)

3. Hold Test Button for 3 seconds until all LEDs go out to save current time delay duration period.

Time Delay Blinks	Time Delay Duration
1 Blink	1 Second
2 Blinks	2 Seconds
3 Blinks	1 Minute
4 Blinks	5 Minutes
5 Blinks	15 Minutes

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