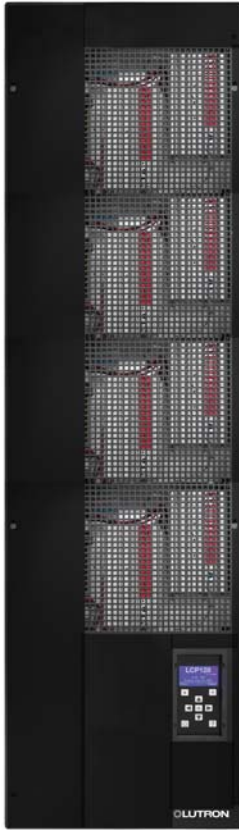


LCP128 Dimming & Switching System



LCP128 Panel

System Overview

LCP128 is a combination dimming and switching system that provides a complete lighting control solution. The system consists of panels and control station devices. An integrated astronomical time clock provides system automation capability.

System Features

- 32 global lighting scenes and off.
- Connect up to 8 power panels for up to 128 dimmed/switched outputs.
- Connect up to 32 wallstations or control devices for multiple points of control.
- Entire system is programmed using the LCD controller mounted in the panel.
- Astronomical time clock provides automated selection of lighting scenes.
- Works directly with incandescent, magnetic low voltage, reverse-phase electronic low voltage, neon, Lutron Tu-Wire™ and switched load types.
- Works with DSI, DALI, and 0-10 V dimming ballasts using Ten Volt Modules in the panel.
- Motor modules are also available.
- Panel may be surface or recess mounted.
- Feed-through or branch circuit breaker panels are available.
- Panel is pre-wired and pre-tested.

Job Name:	Model Numbers:
Job Number:	

LCP128 Controller



LCP128 Controller

Overview

Lighting control may be automated by using the astronomical time clock integrated into the LCP128 controller. The controller has an LCD screen for easy programming.

Features

- Controller LCD screens may be displayed in English, Spanish, German, French, Portuguese, Dutch, and Italian.
- LCD interface simplifies scene, time clock event, and control station programming.
- Time clock events automatically recall presets at a specific time of day or at an offset from sunrise or sunset.
- Up to 500 total events are programmable within 7 daily schedules and 40 holiday schedules.
- Holiday schedules are programmable to run once or repeat up to ninety days in a row.
- Two integrated Contact Closure Inputs provide an interface with occupancy sensors or Building Management Systems.
- Select system location from a built-in city database or by entering latitude and longitude.
- Time clock is battery backed; time and event settings are remembered even after power failures.

Job Name:	Model Numbers:
Job Number:	

Specifications

Standards

- CE

Power

- Input power: 230 V (CE), 220-240 V (non-CE). All voltages 50/60 Hz, phase-to-neutral.
- Branch Circuit Breakers (if applicable): IEC-rated thermal magnetic.
AIC rating:
230 V (CE) — 6,000 A
220-240 V (non-CE) — 6,000 A
- Lightning strike protection: meets ANSI/IEEE standard 62.41-1980. Can withstand surges of up to 6000 V and up to 3000 A.
- 10-year power failure memory: automatically restores lighting to scene selected prior to power interruption.
- RTISS™ filter circuit technology compensates for incoming line voltage variations: no visible flicker with +/-2% change in RMS voltage/cycle and +/-2% Hz change in frequency/second.
- Softswitch™ arcless relay technology featured in every 16 A switched circuit.

Lighting Sources/Load Types

- Incandescent (Tungsten)/Halogen
- Magnetic Low Voltage Transformer
- Lutron Tu-Wire™
- Neon
- HID (full-conduction non-dim basis only)
- Switched
- DSI, DALI, and 0-10V dimming ballasts using Ten Volt Modules in the panel.
- Motor
- Electronic Low Voltage Transformer

Physical Design

- Enclosure: NEMA-Type 1, IP-20 protection; #16 U.S. Gauge Steel. Indoors only.
- Weight: 80 lb. (37 kg).

Mounting

Surface mount or recess mount between 16 in. (40 cm) studs.

Environment

32-104 °F (0-40 °C). Relative humidity less than 90% non-condensing.

Wiring

- Internal: prewired by Lutron.
- System communications: Low-voltage Class 2 (PELV) wiring connects dimming panels to wallstations.
- Line (mains) voltage: Feed and load wiring only. No other wiring or assembly required.

Dimming Modules

4-Output Dimming Modules:

- Each Dimming Module can control a fully loaded electrical circuit (16 A max.), with four dimming outputs per Module.

Switching Modules

- 4 Switched circuits (relays) per Module.
- Softswitch relay is rated for 16 A continuous use.
- Patented Softswitch circuit eliminates arcing at mechanical contacts when loads are switched. Extends relay life to an average of 1,000,000 cycles (on/off) for resistive, capacitive or inductive sources.
- Relay is mechanically held.

Job Name:	Model Numbers:
Job Number:	

Specifications (continued)

LCP128 Controller

- Configures entire LCP128 System.
- Two low-voltage (15-24 VDC) contact closure inputs, momentary or maintained, pull-up or pull-down.
- Emergency sensing.
- Astronomical Time Clock.
- Digital Control Link.
- Mounted inside LCP128 panel.

Astronomical Time Clock

- Capable of up to 500 events.
- 7 daily schedules and 40 holiday schedules are available.
- 25 events per day.
- Holiday events are programmable one year in advance.
- Holiday schedules are programmable to run for up to 90 days.
- ATC location programmable by built-in city database or by entering latitude and longitude, plus a sunrise or sunset offset to adjust for local geography.

Control Station Devices

- One to seven button seeTouch™ wallstations.
- EOMX wallstations.
- Buttons are programmable to select scenes or patterns, toggle circuits, or activate delay-to-off.
- Buttons are programmed at the LCP128 controller.
- Key Switch control is also available.
- Controls are powered by and communicate via the LCP128 low-voltage communication link.
- OMX-CCO-8 integrates third party motorized window treatments or A/V equipment.
- OMX-AV interfaces with occupant or photo sensors.
- OMX-RS232 interfaces the LCP128 system to a PC, touchscreen, or building management system.
- See specific product specification sheets for further details.

Job Name:	Model Numbers:
Job Number:	

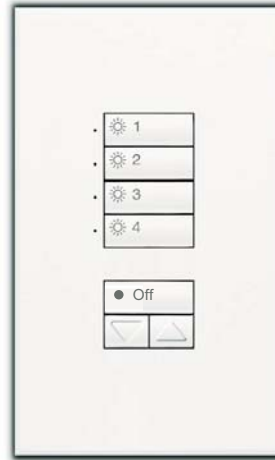
seeTouch™ Wallstations

Description

- Each seeTouch Wallstation features engraved, backlit buttons allowing quick and easy recall of lighting presets, even in low light conditions.
- Button functionality is fully programmable.

Specifications

- Low-voltage type Class 2 (PELV)
Operating voltage: 24 V.
- Meets IEC 801-2. Tested to withstand 15 kV electrostatic discharge without damage or memory loss.
- Faceplate snaps on with no visible means of attachment.
- Terminals accept up to two #18 AWG (1.0 mm²) wires typical.
- Environment: 32-104 °F (0-40 °C). Relative humidity less than 90% non-condensing.



seeTouch Wallstation
(SO-4SN-WH-EGN)

seeTouch Models

- Models available with one to seven buttons, with or without raise/lower.
- Use SO series model numbers.
- Available with all standard colors and engraving.

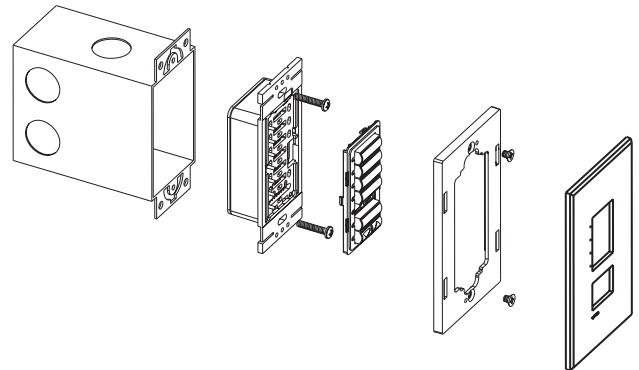
Button Programming

- Each button may be programmed for scene selection, toggle, delay-to-off, raise, or lower functionality.
- Button programming can be used to provide specialized manual control of multiple areas.

Button Engraving

Custom engraving is available using button/wallplate replacement kits.

To order, contact Lutron Customer Service at 1-888-LUTRON1 (1-888-588-7661).

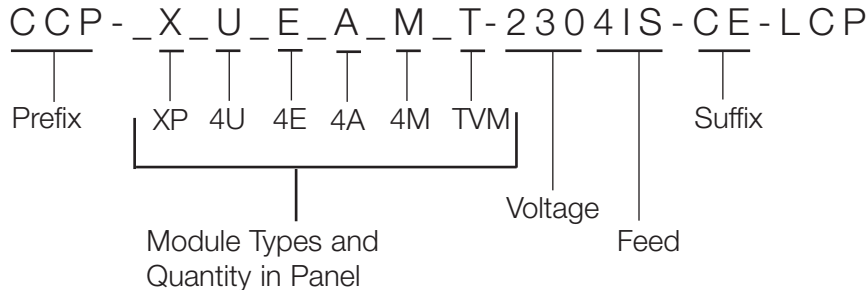


Typical wallbox dimensions: 3.74" (95 mm) high, 2.17 in. (55 mm) wide, 2.75 in. (70 mm) deep.

<p>Job Name:</p>	<p>Model Numbers:</p>
<p>Job Number:</p>	

How to Build a LCP128 Panel Model Number

Note: The following information is given for general use only. Consult Lutron for available module combinations and assistance with specifying appropriate model numbers.



Example:

2U3E = Two 4U modules
and Three 4E modules

Module Types

- XP** = Four-Circuit Switching (Relay) Module
- 4U** = Four-Output Dimming Module
- 4E** = Four-Output Electronic Low Voltage Dimming Module
- 4A** = Four-Output Adaptive Dimming Module
- 4M** = Four-Output Motor Module
- TVM** = 0-10 V Ballast Control Module

Voltage:

- 230** for 230 V (CE)
- 240** for 220-240 V (non-CE)

Feed:

- FT** = Feed-Through Panel (circuit breakers not included)
- 4IS** = 3 Phase 4 Wire Feed with Isolation Switch

Suffix:

- CE** for 230 V (CE)
- AU** for 220-240 V (non-CE)

Job Name:	Model Numbers:
Job Number:	

Model Numbers – 230 V (CE), 220-240 V (non-CE)

LCP128 Combo Panels with Branch Circuit Breakers, No XP Switching Modules (Standard panels only)

Number of Modules	Feed Type	Feed Size (A)	Panel Size
2	1Ø, 2 W	16 A	Mini
3	3Ø, 4 W	16 A	Mini
4	3Ø, 4 W	125 A	Standard
5	3Ø, 4 W	125 A	Standard
6	3Ø, 4 W	125 A	Standard
7	3Ø, 4 W	125 A	Standard
8	3Ø, 4 W	125 A	Standard

LCP128 Combo Panels with Branch Circuit Breakers, With XP Switching Modules (Standard panels only)

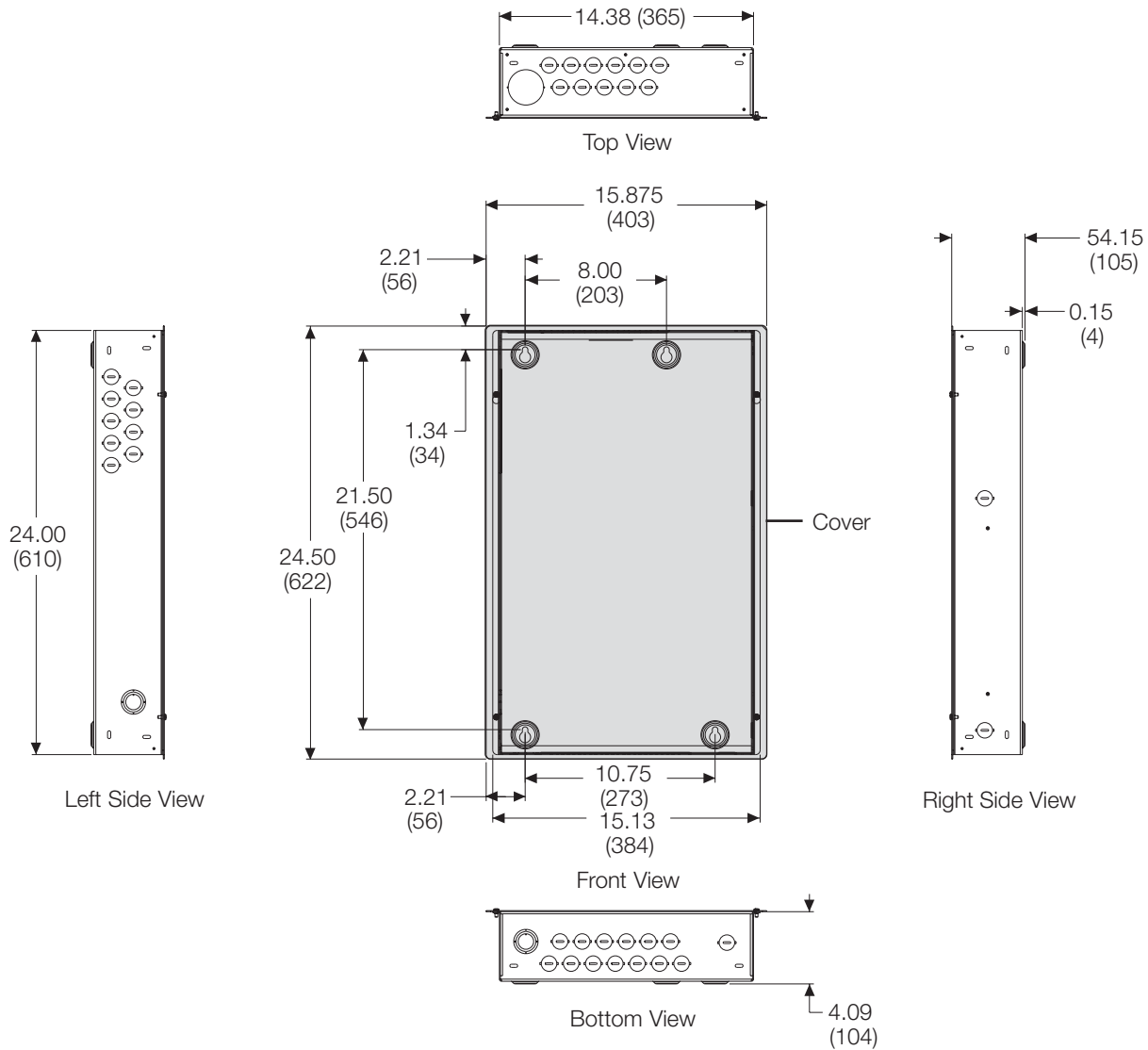
Number of Modules	Feed Type	Feed Size (A)	Panel Size
2	3Ø, 4 W	125 A	Standard
3	3Ø, 4 W	125 A	Standard
4	3Ø, 4 W	125 A	Standard
5	3Ø, 4 W	125 A	Standard
6	3Ø, 4 W	125 A	Standard

Feed-Through LCP128 Combo Panels (Without branch circuit breakers)

Number of Modules	Feed Type	Feed Size (A)	Panel Size
2	1Ø, 2 W	16 A	Mini
3	1Ø, 2 W	16 A	Mini
4	1Ø, 2 W	16 A	Standard
5	1Ø, 2 W	16 A	Standard
6	1Ø, 2 W	16 A	Standard
7	1Ø, 2 W	16 A	Standard
8	1Ø, 2 W	16 A	Standard

Job Name:	Model Numbers:
Job Number:	

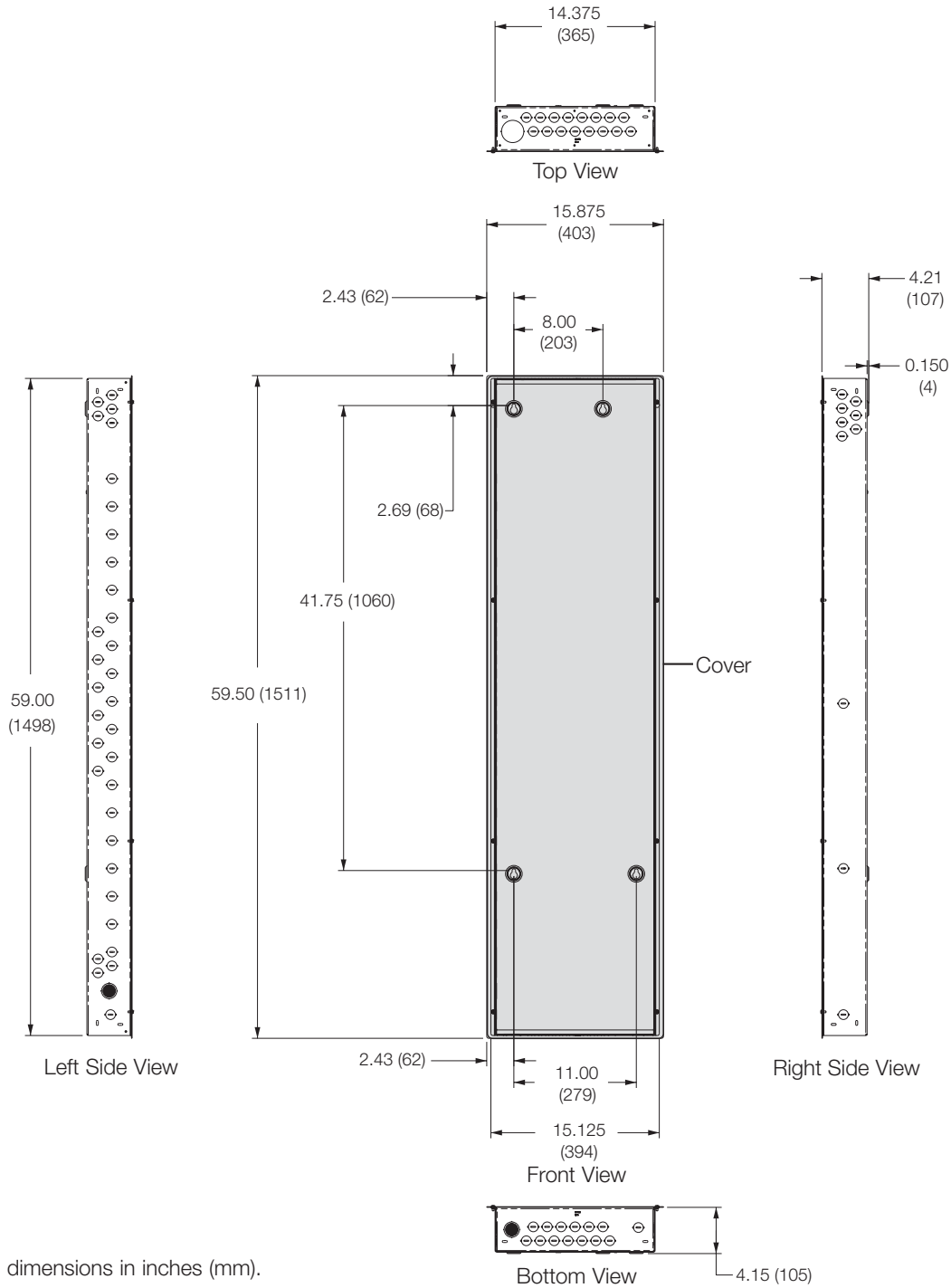
Mini Panel Dimensions



All dimensions in inches (mm).

Job Name:	Model Numbers:
Job Number:	

Standard-Size Panel Dimensions



All dimensions in inches (mm).

Job Name:	Model Numbers:
Job Number:	

Panel Mounting

- Surface or recess mount indoors.
- Panel generates heat – mount only where ambient temperature is 32-104 °F (0-40 °C).
- This equipment is air-cooled. Do not block vents or the warranty will be void. Leave 12 in. (31cm) clearances in front of panel.
- Reinforce wall structure for weight and local codes.
- Mount panels where audible noise is acceptable. (Panels hum slightly and internal relays click).
- Mount panels so line (mains) voltage wiring (including load wiring) is at least 6 ft. (1.8 m) from sound or electronic equipment and wiring.
- Mount panel within 7° of true vertical.

Surface Mounting

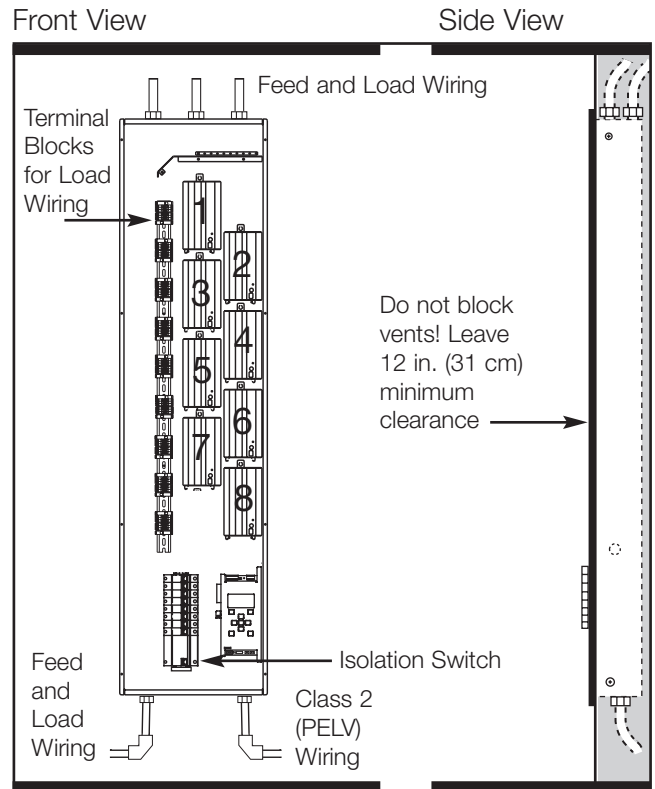
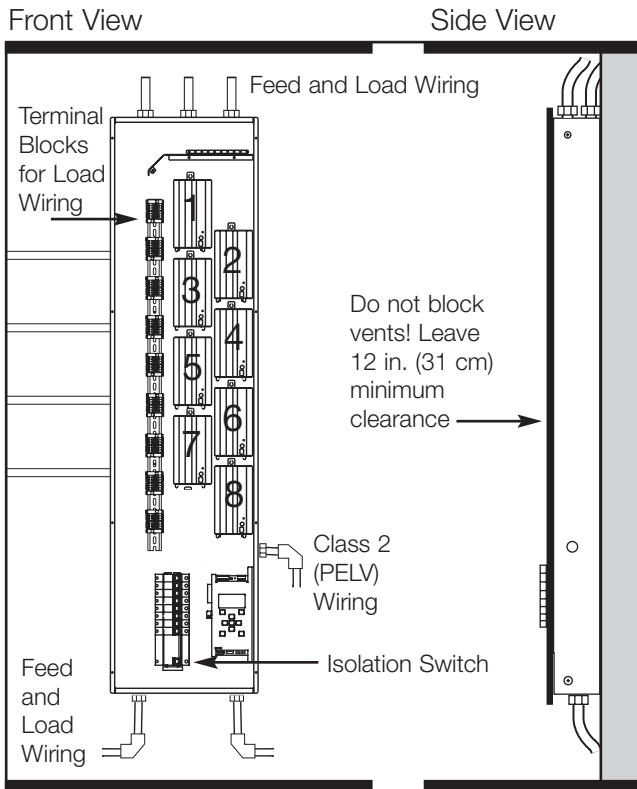
- Surface mounting keyholes accept 1/4 in. (6 mm) max. mounting bolts. This size is recommended.

Panel Power Dissipation and Weight

Dimming Modules	Maximum BTUs/hour	Weight without packaging
2	170	35 lbs (16 kg)
3	250	37 lbs (17 kg)
4	330	55 lbs (25 kg)
5	410	57 lbs (26 kg)
6	490	59 lbs (27 kg)
7	570	61 lbs (28 kg)
8	650	63 lbs (29 kg)

Recess Mounting

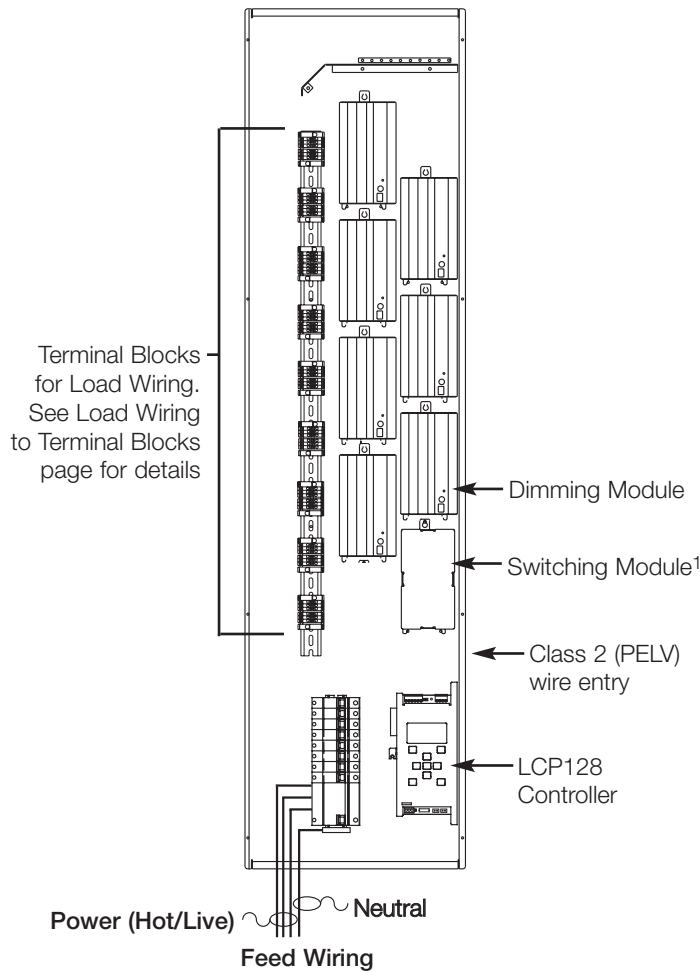
- Mount panel flush to 1/8 in. (3 mm) below finished wall surface.
- Front cover overlaps wall 3/4 in. (18 mm) on each side.



Job Name:	Model Numbers:
Job Number:	

Wiring Details – Isolation Switch with Breakers Panel 230 V (CE), 220-240 V (non-CE)

Note: Actual number and type of modules in panel may vary from example shown.



Wire Sizes for Power Feed, Panels without XP Switching Modules

- **Power Feed:**
#14 AWG (2.0mm²) to #2 AWG (35mm²)
- **Neutral Feed:**
#14 AWG (2.0mm²) to #2 AWG (35mm²)

Wire Sizes for Power Feed, Panels with XP Switching Modules

- **Power (Hot/Live):**
#14 AWG (2.0mm²) to #2 AWG (35mm²)
- **Neutral:**
#14 AWG (2.0mm²) to #2 AWG (35mm²)

Wire Sizes for Load Wiring, All Models

- **Dimmed/Switched Hot (Live):**
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)
- **Load Neutral:**
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)

Note: See Load Wiring to Terminal Blocks page for load wiring details.

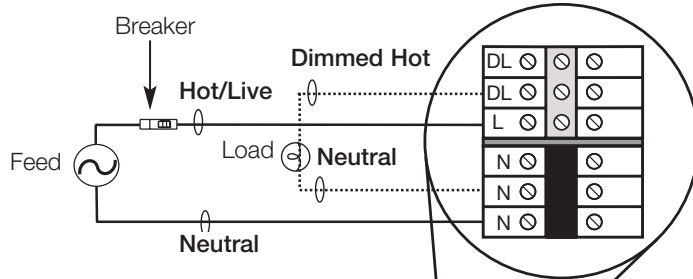
¹Switching modules shown for identification purposes only. Breaker panels with switching modules require 4 breakers per module (not shown). Limitations on number of modules in panel may also apply.

Job Name:	Model Numbers:
Job Number:	

Wiring Details – Feed-Through Panel – 230 V (CE), 220-240 V (non-CE)

Note: Actual number and type of modules in panel may vary from example shown.

Typical Dimming/Switching Leg



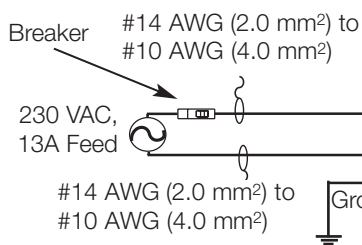
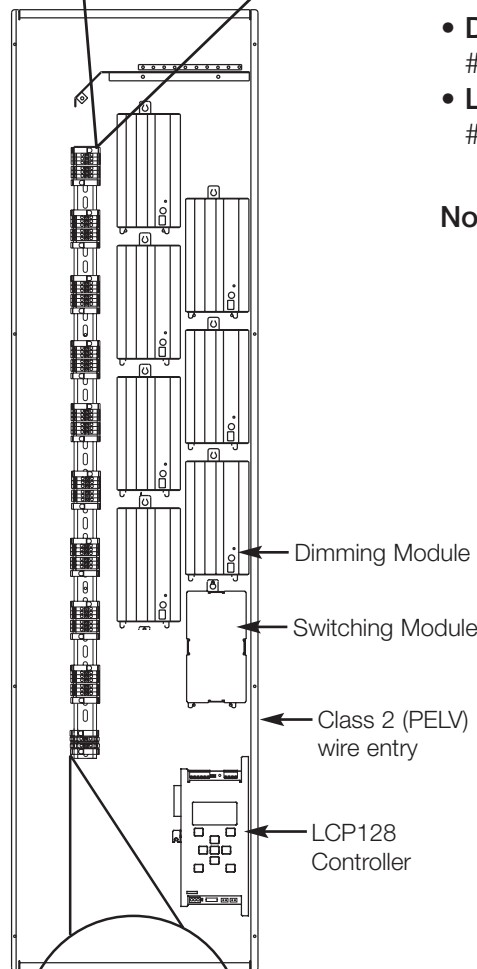
Wire Sizes for Power Feed, To Each Circuit

- **Power Feed:**
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)
- **Neutral Feed:**
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)

Wire Sizes for Load Wiring, From Each Output

- **Dimmed/Switched Hot (Live):**
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)
- **Load Neutral:**
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)

Note: See Load Wiring to Terminal Blocks page for load wiring details.



Control Feed

An additional feed (230V on a dedicated breaker) is required for feed-through panels to power the low voltage control transformer.

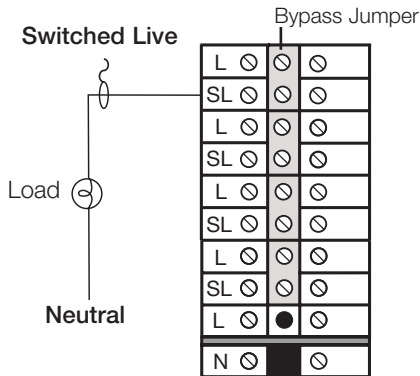
Job Name:	Model Numbers:
Job Number:	

Load Wiring to Terminal Blocks – 230 V (CE), 220-240 V (non-CE)

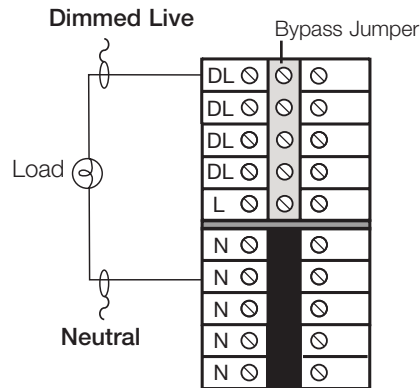
Typical Dimming/Switching Leg Shown

Note: Do not remove bypass jumpers until after load wiring has been verified.

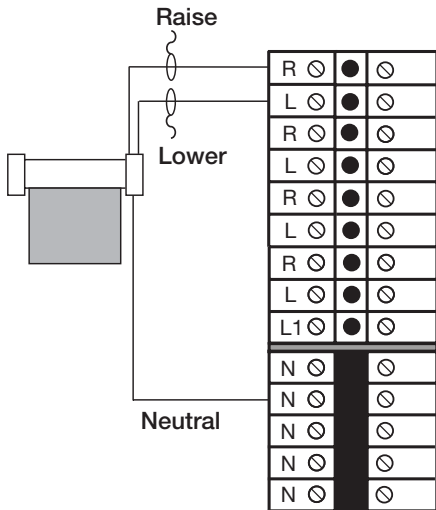
4-Output Switching Module (XP)



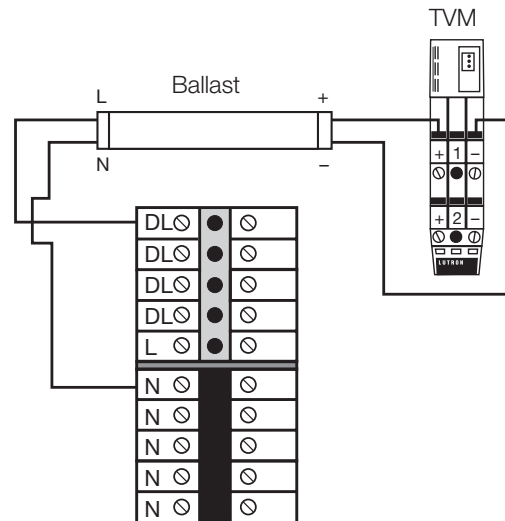
4-Output Dimming Module (4U) 4-Output ELV Dimming Module (4E)



4-Output Motor Module (4M)



0-10 V Ballast Control Module (TVM)



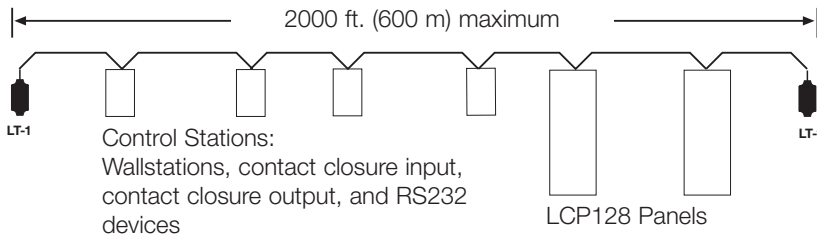
Job Name:	Model Numbers:
Job Number:	

Class 2 (PELV) Wiring

The LCP128 system communicates to control stations using a Class 2 (PELV) low voltage link. Control stations include wallstations, contact closure input and output devices, and RS232 interfaces.

Wire the Class 2 (PELV) link according to the following guidelines:

- Link must be daisy chained.
- Must run in separate trough from line (mains) voltage.
- Link must be less than 2000 ft. (600 m) long.
- Make wire connections inside the wallbox and LCP128 panel.
- Install Link Terminators (LT-1) at the start and end of the Class 2 (PELV) daisy-chained link.
- The order of controls on the control link is not important.
- Use Lutron GRX-CBL-46L cable or equivalent.



Note: Link Terminators (LT-1) are required at the start and end of the LCP128 Class 2/PELV Link.

Maximum total length of the control link is 2,000 ft. This distance is based on proper shielding of the twisted/shielded pair, proper wire size, and the use of link terminators (LT-1) at each end of the link. If unapproved cable or smaller wire is used, control link length must be de-rated according to the following chart:

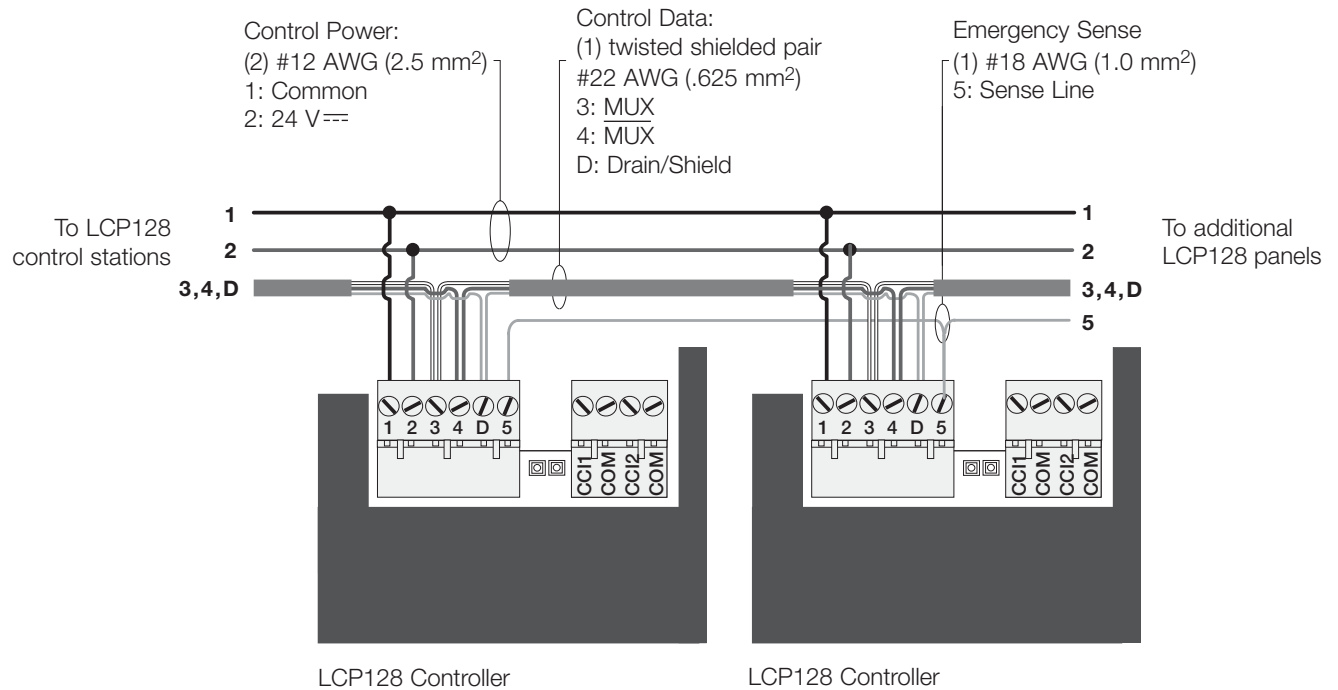
Terminal 1 & 2 Wire Sizes	Max. Control Link Length
#12 AWG	2000 ft. (600 m)
#14 AWG	1400 ft. (425 m)
#16 AWG	900 ft. (275 m)
#18 AWG	600 ft. (180 m)
2.5 mm ²	450 m (1500 ft.)
1.0 mm ²	200 m (650 ft.)



Notice! If Link Terminators (LT-1) are not used or improper wiring topology is employed, the system will not communicate properly.

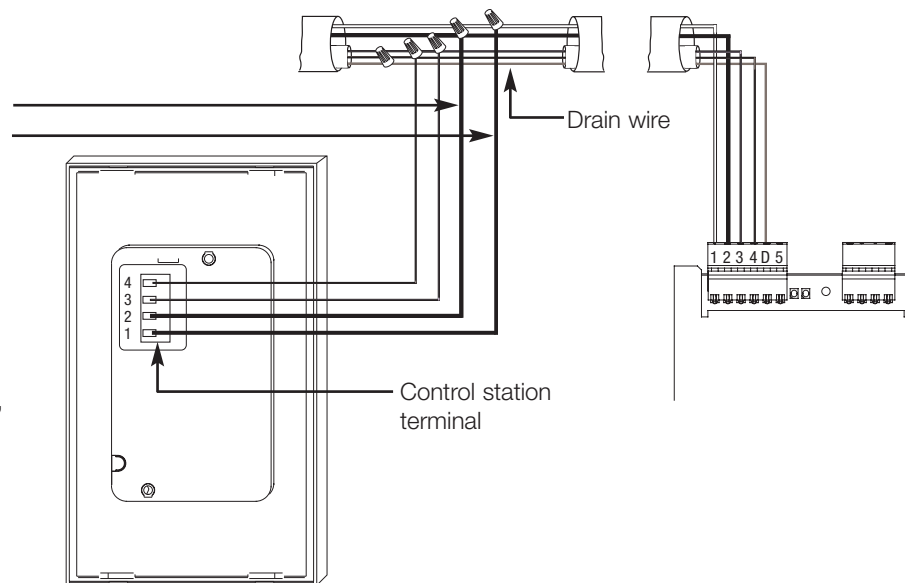
Job Name:	Model Numbers:
Job Number:	

Class 2 (PELV) Wiring Panel to Panel and Panel to Control Stations



Wiring Notes:

- Use a wire connector to attach one #18 AWG wire for Common (terminal 1) and one #18 AWG wire for 24 V $\overline{=}$ (terminal 2) from the Class 2 (PELV) link to the control. Two #12 AWG wires cannot both be terminated on the control station. Maximum wire length from link to control is 8 ft. (2.5 m).
- Only connect the Drain/Shield wire (bare copper) to terminal 'D' in LCP128 panels. Maintain the shield throughout the link but do not allow it to touch ground (earth) or wallstation circuitry.



Job Name:	Model Numbers:
Job Number:	