

Softswitch128® Switching System

System Overview

Softswitch128® is a switching system that is ideal for small to medium sized switching projects. A system consists of panels, control stations, occupancy sensors, and photocells. Softswitch128® panels contain Lutron's one million cycle Softswitch® relay and the Softswitch128® Controller.

Softswitch128® is easy to install and simple to program. Softswitch128® also includes a CEC/Title24 approved astronomical time clock for system automation.

System Features

- Digital control for up to 512 circuits.
- Add up to 32 digital control stations (wallstations and interfaces) for multiple points of control.
- Up to sixteen (16) Softswitch128® panels may be used.
- Add the Softswitch128® Expansion Module (XPS-E-120/277-FT) to the system for increased control station capacity. Three links of up to 32 control stations each (96 control stations total) may be added with the Expansion Module present.
- Integrated CEC Title 24 listed astronomical time clock.
- Lutron® Softswitch® technology for every switched output (resistive, inductive and capacitive) to full 20 A¹.
- Softswitch® relays are rated for all light sources as well as AC general use motors.
- RS232 interface available (OMX-RS232).
- Contact closure input and output devices available (OMX-IO and OMX-CCO-8).
- Keyswitch wallstations available (NTOMX-KS).
- Normal or emergency panel capability.
- Softswitch128® panel is prewired and pre-tested.
- Panels for 120/277 V~, 347 V~, and 480 V~ applications. Contact a Lutron® representative for details on 347 V~ and 480 V~ switching.
- 208 V~ loads are wired phase-to-phase in 120 V~ panels. See Lutron® Application Note #102 for details.
- Feed-through, branch circuit breaker, and rough-in type panels are available.



Softswitch128® Panel

¹ See load types for ratings for all voltages

LUTRON® SPECIFICATION SUBMITTAL

Page

Job Name: Job Number:	Model Numbers:
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Softswitch128® Controller

Overview

The Softswitch128® Controller is used to configure the entire Softswitch128® system. The controller features an LCD user interface to facilitate programming all switching system and astronomical time clock (ATC) parameters.

Features

- Program wallstations to recall light patterns, to toggle any switch leg(s), to activate delay-to-off and to activate contact closures on a button by button basis.
- Integrated astronomical time clock (ATC) automates switching and contact closure outputs with up to 500 user-defined events within 7 daily schedules and 40 holiday schedules. Each day may have 25 events.
- ATC events automatically select patterns, start after-hours mode, or end after-hours mode.
- Events may be copied and pasted for fast programming.
- ATC events may be triggered by time of day or by an offset from sunrise or sunset.
- System location is programmable by internal city database or by specifying latitude and longitude.
- ATC automatically adjusts for leap year and daylight savings time (where applicable).
- Programmable after-hours mode with user-selectable “blink warn” and user programmable refresh time.
- Two integrated user-configurable contact closure inputs.
- Override capability is available at the panel for controls, timeclock, and switch legs.
- Controller is located in the Softswitch128® panel for easy access.



Softswitch128® Controller

Job Name: Job Number:	Model Numbers:
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Specifications

Standards

- UL® Listed
- CSA
- NOM
- Seismic Certified Available¹ (Test Method AC156. Reference OSHPD Pre-approval OSP-0215-10)

Power

- Input power: 120/277 V~, 347 V~² and 480 V~². All voltages 50/60 Hz, phase-to-neutral.
- Branch Circuit Breakers: UL-rated thermal magnetic AIC ratings:
120 V~ 10,000 A
277 V~ 18,000 A
347 V~ 14,000 A
- Lightning strike protection: Meets ANSI/IEEE standard 62.41-1980. Can withstand voltage surges up to 6000 V~ and current surges up to 3000 A.
- 10-year power failure memory: restores lighting to levels prior to power interruption.

Load Types (relay ratings)

Load Type	Relay Rating				
	120 V~	230 V~ (CE)	220-240 V~	277 V~	347 V~
Tungsten	20 A	16 A	16 A	20 A	16 A
AC General Use	20 A	16 A	16 A	20 A	16 A
Electric Discharge Lamp	16 A	16 A	16 A	16 A	16 A
Electronic Ballast NEMA 410	16 A	N/A	N/A	16 A	N/A
Resistive	20 A	16 A	16 A	20 A	16 A
Inductive	20 A	16 A	16 A	20 A	16 A
Motor	1.0 HP	N/A	N/A	2.0 HP	N/A

Load

- When using the Switching Module to control receptacles, it may be used with, but is not limited to, the following:

- Monitors
- Fans
- Humidifiers
- Printers

Note: Refer to the manufacturer's guidelines for acceptable switching methods.

- When using the Switching Module to control receptacles, it may NOT be suitable for use with devices that require any of the following:
 - Shut-down process before power is interrupted, such as computers.
 - Cool-down process before power is interrupted, such as projectors.
 - Programming, such as clocks or DVRs.
 - Long warm-up cycle.
- **Not for use with loads that present a hazard if automatically energized, for example heaters.**
- **Any receptacles that are controlled by an automatic control device must be marked with “⏻” located on the controlled receptacle outlet where visible after installation as stated in 2014 NEC® Article 406.3(E).**

Switching Modules (120, 277, 347 V~)

- Able to control 20 A receptacles.
- Switch legs rated at 20 A.
- Patented Softswitch® circuit eliminates arcing at mechanical contacts when loads are switched, which prolongs relay life to an average of 1,000,000 cycles at 16 A.
- 10 BTU/hour per module.

¹ Contact your Lutron® representative for details.
² Contact your Lutron® representative for details on 347 V~ and 480 V~ switching.

Continued on next page...

Job Name:	Model Numbers:
Job Number:	

Specifications *(continued)*

Wiring

- **Internal:** Wired and tested by Lutron.
- **System communications:** low voltage IEC PELV/NEC® Class 2 wiring connects Softswitch128® panels to control stations.
- **Line (mains) voltage:** feed and load wiring only (feed-through Softswitch128® panels also require a feed for the Softswitch128® controller).

Physical Design

- Enclosure: NEMA-Type 1, IP-20 protection; 16 U.S. gauge steel. Indoors only.
- Weight:
 - 27 lb (13 kg) for Mini panels
 - 80 lb (37 kg) for Standard panels
 - 135 lb (62 kg) for Large panels
 - 150 lb (69 kg) for Extra Large panels
- Seismic Certification Limits: $S_{cs} = 2.5$ g, $z/h = 1.0$, $I_p = 1.5$. Contact Lutron for details.

Mounting

- Mini and Standard size panels: surface mount or recess mount between 16 in (40 cm) studs.
- Large or Extra Large panels: surface mount only.

Environment

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

Short Circuit Current Ratings (other ratings available)

Panel Type	Voltage	Std. SCCR Rating
XP Feed-through (all sizes)	120/277 V~	25,000 A
XP Main Lug Panels (all sizes)	120/277 V~	25,000 A

Softswitch128® Controller

- Configures entire Softswitch128® system.
- Two low voltage (15 to 24 V \approx) contact closure inputs, momentary or maintained, pull up or pull down.
- Emergency Sensing.
- Astronomical Time Clock.
- Digital Control Link.
- Mounted in Softswitch128® panel.

Astronomical Time Clock (ATC)

- 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.
- CEC Title 24 listed.

OMX-RS232

- Interfaces the Softswitch128® system to a PC, touchscreen, or building management system (BMS).
- Use RS232 strings to set light levels and enable/disable time clock events.
- Refer to Softswitch128® programming guide for more information and programming features.

Job Name:	Model Numbers:
Job Number:	

Specifications *(continued)*

OMX-AV

- 5 low voltage contact closure inputs and 5 outputs.
- Inputs may select patterns, toggle lights, or activate delay-to-off.
- Interfaces with occupancy sensors or daylight sensors (with relay) to activate patterns or turn off lights in an unoccupied space.
- Contact closure outputs are activated by button presses, contact closure inputs, time clock events, or emergency status.
- See OMX-AV specification for mounting, wiring, contact closure output ratings, and voltage limits.

Note only the features listed are supported by Softswitch128®.

OMX-CCO-8

- Integrates third party motorized window treatments or A/V equipment.
- Outputs are activated by button presses, contact closure inputs, time clock events or emergency status.
- See OMX-CCO-8 product specification for mounting, wiring and voltage limits.

Contact Closure Inputs

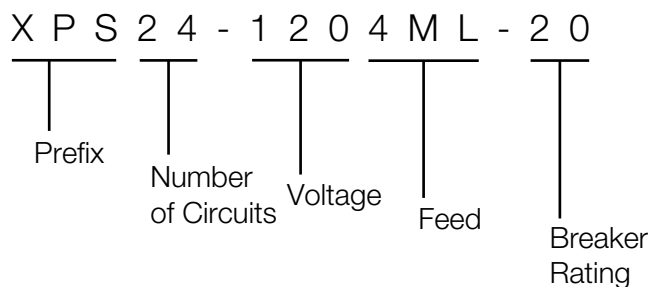
- Two closure inputs are available at the Softswitch128® controller.
- May be configured as pull up to 15 or 24 V_{DC} (externally supplied) or pulled down to common.
- Programmable as maintained or momentary.
- Functions are programmable on contact close, contact open or both.

Wall Stations

- One to seven button seeTouch® and single button FOMX controls are available.
- Buttons are programmable to select patterns, toggle circuits or activate delay-to-off.
- Buttons are programmed at the Softswitch128® controller.
- Wall controls are powered by and communicate via the Softswitch128® low-voltage communication link.
- See specification submittals for seeTouch® and FOMX wallstations for wiring and mounting details.
- Keyswitch control is also available.

Job Name: Job Number:	Model Numbers:
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How to Build a Model Number



Prefix:

XPS (Softswitch128® panels)

Number of Circuits:

Total number of circuits (switch legs) in the panel.

Voltage:

Omit for feed-through panels.

120 (100 to 127 V~ or 208 V~)

277 (277 V~)

347¹ (347 V~)

Feed:

FT (feed-through panels)

4ML (3 phase 4 wire feed)

3ML (1 phase 3 wire feed)

Breaker Rating:

Omit for feed-through panels.

20 (20 A branch circuit breakers; 20 A branch circuit breakers have a 16 A continuous load rating).

Example Model Numbers

Example 1

Model number for 120 V~ Softswitch128® panel with 28 circuits and Lutron® installed 20 A branch circuit breakers:

XPS28-1204ML-20

Example 2

Model number for 120/277 V~ Softswitch128® panel with 12 circuits without circuit breakers:

XPS12-FT

Example 3

Model number for a 120 V~ Softswitch128® panel with 12 circuits and 20 A branch circuit breakers and a split-phase feeder:

XPS12-1203ML-20

Example 4

Model number for a 347 V~ Softswitch128® panel with 24 circuits with Lutron® installed 20 A branch circuit breakers:

Contact your Lutron® Representative

¹ Custom panel construction required, contact Lutron for model number and lead time.

Job Name:	Model Numbers:
Job Number:	

Feed-through Softswitch128® Panel Models

(without branch circuit breakers)

Mini Softswitch128® Dual-Voltage Feed-through Models for 120 V~, 277 V~, or 347 V~¹

Model Prefix	Switch Legs	Feed Type	Maximum Feed
XPS8	8	Feed-through	20 A
XPS12	12		
XPS16	16		

Standard Softswitch128® Dual-Voltage Feed-through Models for 120 V~, 277 V~, or 347 V~¹

Model Prefix	Switch Legs	Feed Type	Maximum Feed
XPS20	20	Feed-through	20 A
XPS24	24		
XPS28	28		
XPS32	32		
XPS36	36		
XPS40	40		
XPS44	44		
XPS48	48		

Wire Sizes

- 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²) for Feed Wiring and Switch Legs (to loads).
- Power (Line/Hot) and Switched Line/Hot connect directly to Terminal Block for Switch Legs.

¹ Custom panel construction required, contact Lutron for model number and lead time.

Job Name:	Model Numbers:
Job Number:	

Softswitch128® Panels with Branch Circuit Breakers

Standard Softswitch128® Panels with Circuit Breakers for 120 V~ (max. feed is 200 A)

Model Prefix	Switch Legs	FeedType	Maximum Feed
XPS8	8	3Ø 4 W or 1Ø 3 W Main Lug Accepts 4 AWG (25 mm ²) to 250 kcmil (mcm) (120 mm ²)	20 A
XPS12	12		
XPS16	16		
XPS20	20		
XPS24	24		
XPS28	28		

Large Softswitch128® Panels with Circuit Breakers for 277/347 V~² (max. feed is 250 A)

Model Prefix	Switch Legs	FeedType	Maximum Feed
XPS8	8	3Ø 4 W Main Lug Accepts 4 AWG (25 mm ²) to 350 kcmil (mcm) (185 mm ²)	20 A
XPS12	12		
XPS16	16		
XPS20	20		
XPS24	24		
XPS28	28		

Large Softswitch128® Panels with Circuit Breakers for 120 V~ (max. feed is 225 A)

Model Prefix	Switch Legs	FeedType	Maximum Feed
XPS32	32	3Ø 4 W or 1Ø 3 W Main Lug Accepts 4 AWG (25 mm ²) to 250 kcmil (mcm) (120 mm ²)	20 A
XPS36	36		
XPS40	40		
XPS42	42		

Extra Large Softswitch128® Panels with Circuit Breakers for 277/347 V~² (max. feed is 300 A)

Model Prefix	Switch Legs	FeedType	Maximum Feed
XPS32	32	3Ø 4 W Main Lug Accepts 4 AWG (25 mm ²) to 350 kcmil (mcm) (185 mm ²)	20 A
XPS36	36		
XPS40	40		
XPS42	42		

Wire Sizes for Switch Legs

- 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²)

¹ 20 A breaker, 16 A continuous load rating.

² Custom panel construction required, contact Lutron for model number and lead time.

Job Name:	Model Numbers:
Job Number:	

General Use Breakers

120 V~ and 277 V~ XP Panels with branch circuit breakers may be ordered with general use breakers populated in the positions available after the switching modules have been pre-wired. Circuit breakers for switched circuits may also be selected; the options are 10, 15, and 20 A single-pole circuit breakers. The following tables list available options.

120 V~ Breaker Options

Type	Standard									GFI		EPD		AFI	K	HID			SWN	
AIC Rating (kAIC)	10			22	42	65			10	22	10	10	10	10	10	10	10	10	10	10
Number of Poles	1	2	3	1	2	1	2	3	1	2	1	2	1	1	1	1	2	3	1 ¹	2 ²
Ampere Rating																				
10 A	X	X	X												X				X	X
15 A	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20 A	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25 A	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X
30 A	X	X	X	X		X	X	X	X	X	X	X	X		X	X	X	X	X	X
35 A	X	X	X																	
40 A	X	X	X		X				X				X			X	X		X	X
45 A	X	X	X		X															
50 A	X	X	X		X				X				X			X	X		X	X
60 A	X	X	X		X				X				X							
70 A	X	X	X		X															
80 A		X	X		X															
90 A		X	X		X															
100 A		X	X		X															
110 A		X			X															
125 A		X			X															

277 V~ Breaker Options

Type	Standard								
AIC Rating (kAIC)	18			35			65		
Number of Poles	1	2	3	1	2	3	1	2	3
Ampere Rating									
15	X	X	X	X	X	X	X	X	X
20	X	X	X	X	X	X	X	X	X
25	X	X	X	X	X	X	X	X	X
30	X	X	X	X	X	X	X	X	X
35	X	X	X	X	X	X	X	X	X
40	X	X	X	X	X	X	X	X	X
45	X	X	X	X	X	X	X	X	X
50	X	X	X	X	X	X	X	X	X
60	X	X	X	X	X	X	X	X	X
70	X	X	X	X	X	X	X	X	X
80		X	X		X	X		X	X
90		X	X		X	X		X	X
100		X	X		X	X		X	X
110		X	X		X	X		X	X
125		X	X		X	X			

Legend

- GFI – Ground Fault Circuit Interrupter (6 mA)
- EPD – Equipment Ground Fault Protection (30 mA)
- AFI – Arc Fault Interrupter
- K – Key Operated
- HID – For High Intensity Discharge Lighting
- SWN – Switch Neutral Breaker

Contact Lutron for detailed ordering information.

¹ 1 Pole SWN Breaker occupies 2 spaces
² 2 Pole SWN Breaker occupies 3 spaces

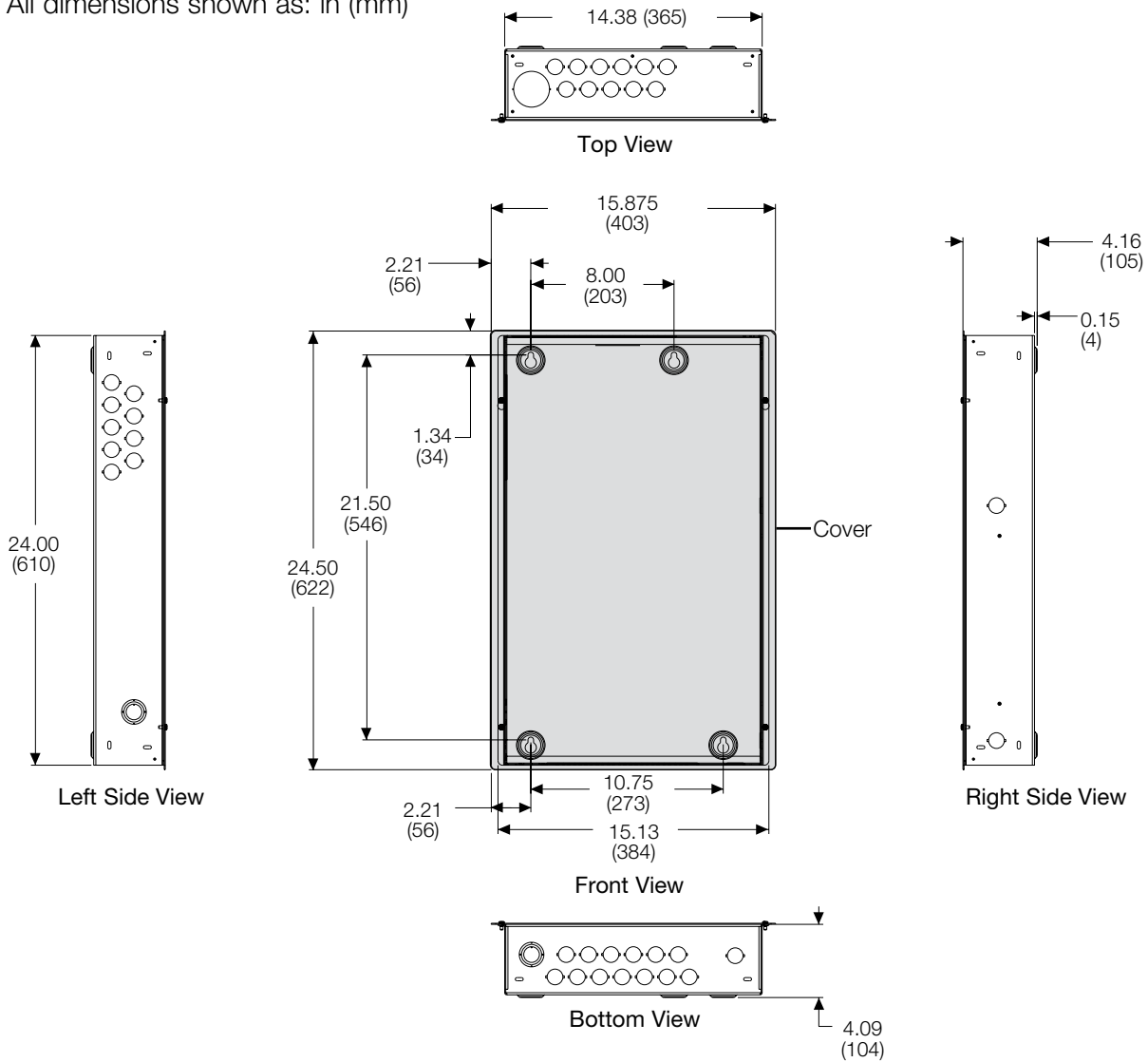
Job Name:	Model Numbers:
Job Number:	

Mini Softswitch128® Panel Dimensions

Suggested Mounting Height

Mount Mini Softswitch128® at a height of 45 in (1140 mm), measured from floor to bottom of panel for optimal LCD viewing.

All dimensions shown as: in (mm)



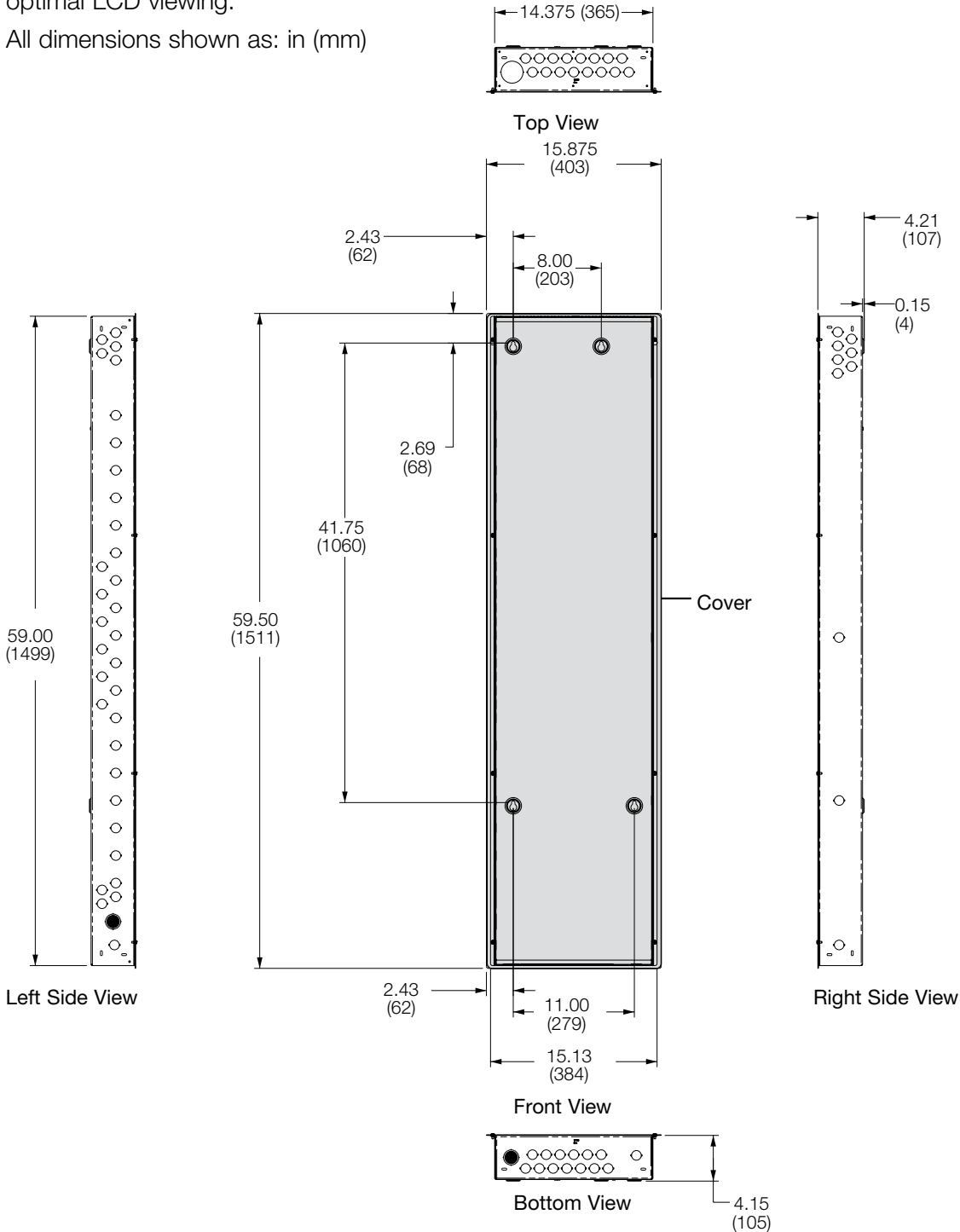
Job Name:	Model Numbers:
Job Number:	

Standard Softswitch128® Panel Dimensions

Suggested Mounting Height

Mount Standard Softswitch128® at a height of 26 in (660 mm), measured from floor to bottom of panel for optimal LCD viewing.

All dimensions shown as: in (mm)



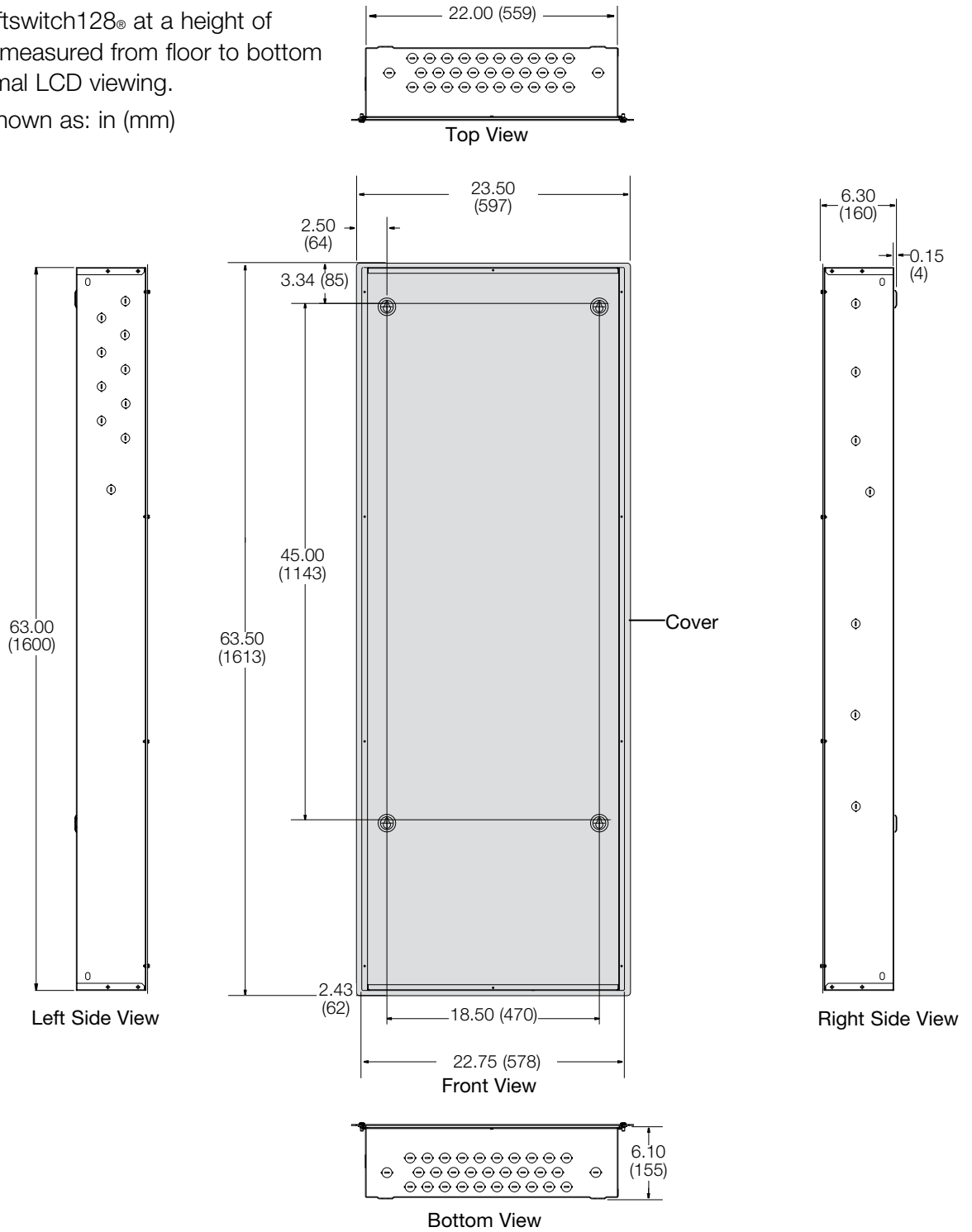
Job Name:	Model Numbers:
Job Number:	

Large Softswitch128® Panel Dimensions

Suggested Mounting Height

Mount Large Softswitch128® at a height of 10 in (254 mm), measured from floor to bottom of panel for optimal LCD viewing.

All dimensions shown as: in (mm)



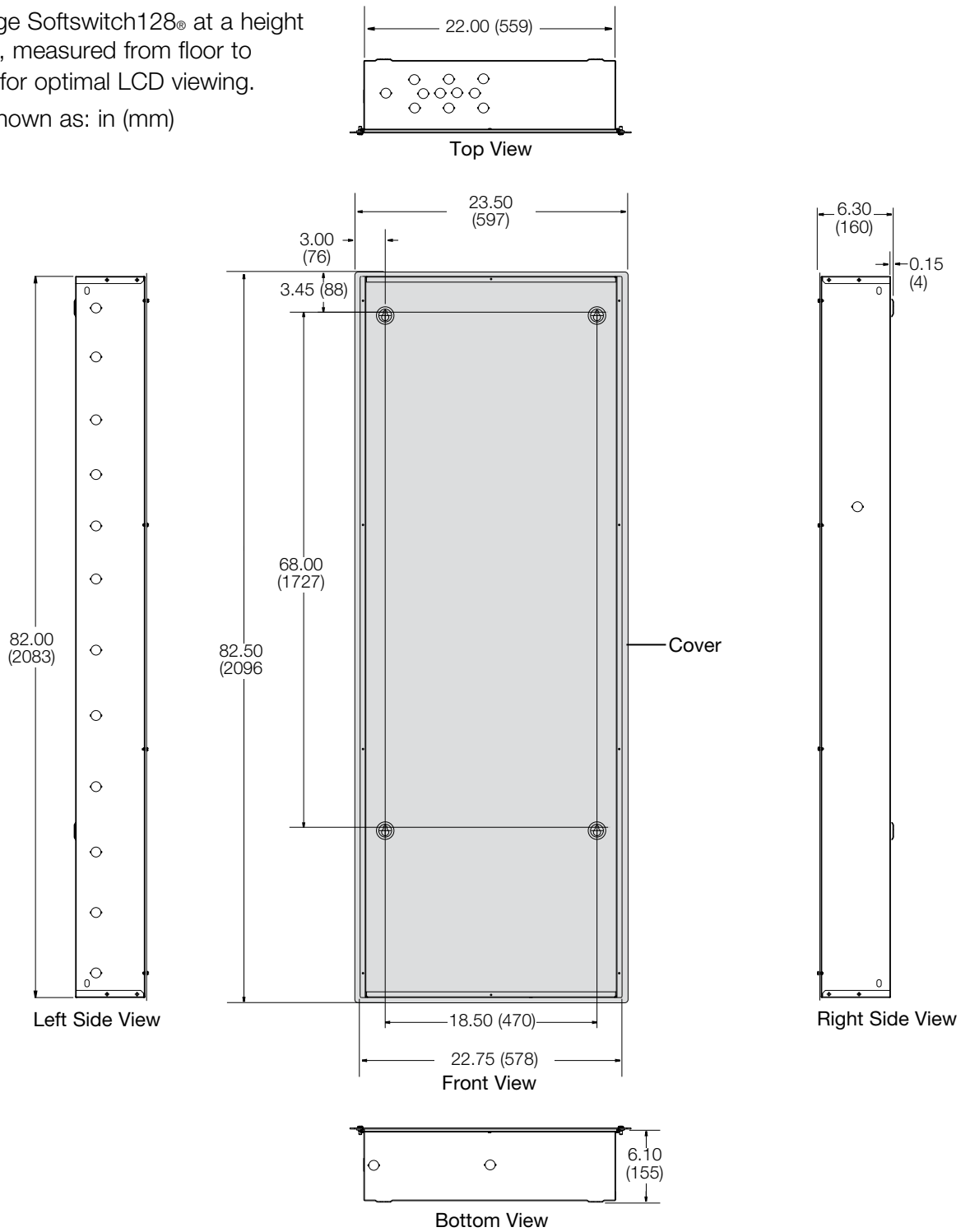
Job Name:	Model Numbers:
Job Number:	

Extra Large Softswitch128® Panel Dimensions

Suggested Mounting Height

Mount Extra Large Softswitch128® at a height of 7 in (178 mm), measured from floor to bottom of panel for optimal LCD viewing.

All dimensions shown as: in (mm)



Job Name:	Model Numbers:
Job Number:	

Mounting for Softswitch128® Panels

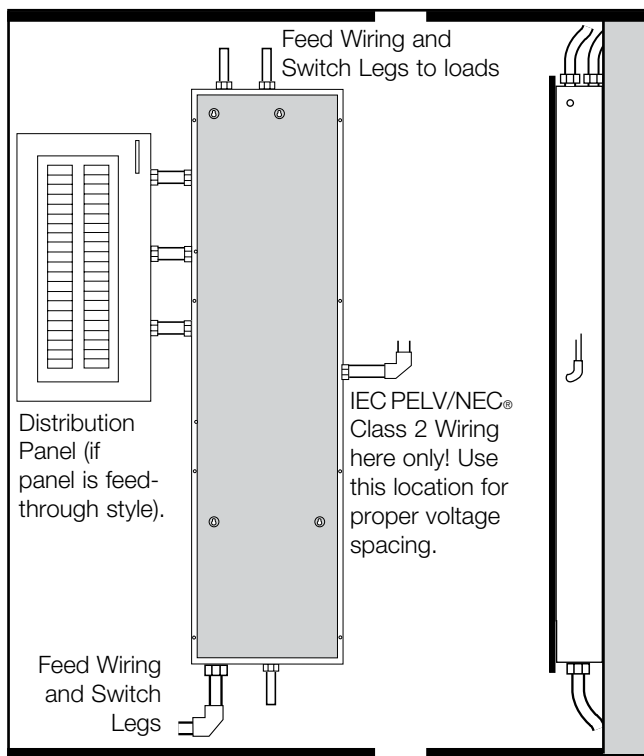
- For indoor use only.
- Consult dimensions pages for panel size, conduit knockouts, and mounting holes.
- Mount where ambient temperature is 32 °F to 104 °F (0 °C to 40 °C).
- Panels weigh up to 150 lb (68.5 kg). Reinforce wall structure for weight and local codes.
- Mount panel where audible noise is acceptable. (internal relays click.)
- Mount panel so line (mains) voltage wiring is at least 6 ft (1.8 m) from sound or electronic equipment and wiring.
- Mount within 7° of true vertical.

Surface-Mounting

- Lutron recommends using 0.25 in (6 mm) mounting bolts.
- Leave 1.25 in (32 mm) clearance on each side of panel for cover.

Front View

Side View



Suggested Mounting Height

For optimum viewing of the Softswitch128® Controller, mount Softswitch128® panels at the recommended distance from the floor (measured from floor to bottom of panel).

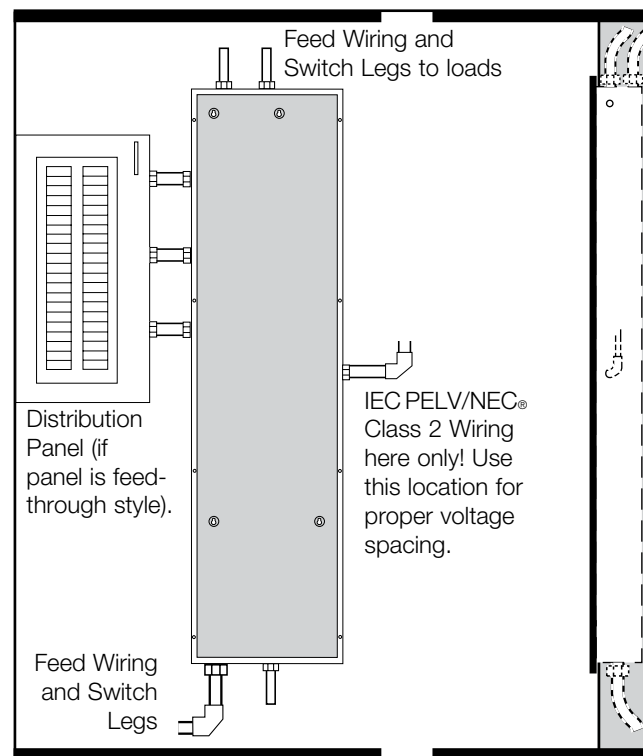
Panel Size	Distance
Mini and TUB16	45 in (1140 mm)
Standard and TUB48	26 in (660 mm)
Large	10 in (254 mm)
Extra Large	7 in (178 mm)

Recess-Mounting

- Mount to wall stud by screwing through slots in corners of panel.
- Mount panel between flush and 0.125 in (32 mm) below finished wall surface.

Front View

Side View



Job Name:	Model Numbers:
Job Number:	

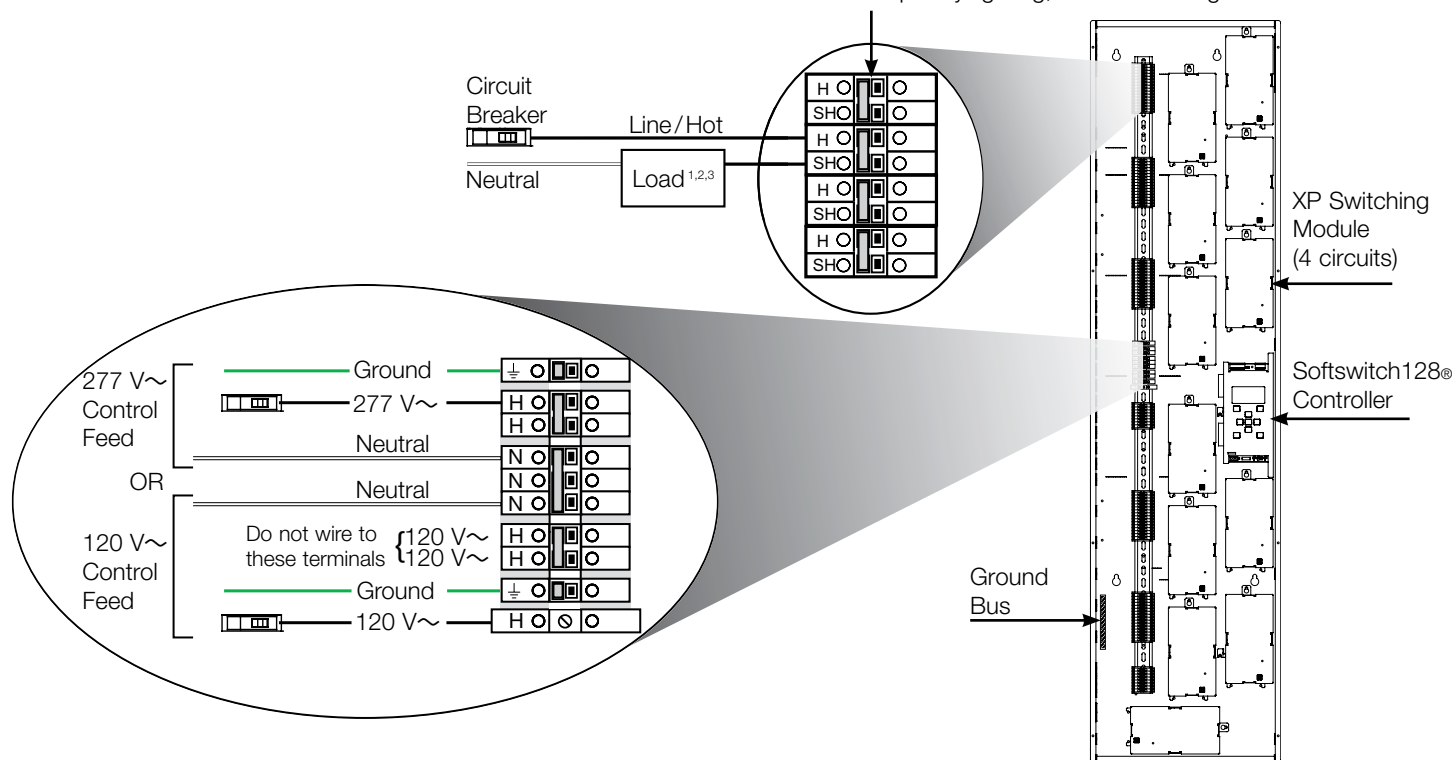
Feed-through Softswitch128® Wiring Overview

Wire the Softswitch128® panel as shown. Use a trough when the Softswitch128® Panel is not adjacent to a distribution panel. Splice Neutrals in trough.

Switched Load Wiring

Each switched circuit requires a dedicated 20 A circuit breaker and feed wiring to/from a distribution panel.

Do not remove bypass jumpers until load wiring is verified. Leaving bypass jumpers installed allows Softswitch128® panels to be used to provide temporary lighting, until load wiring is verified.



Control Wiring

Control wiring requires a dedicated feed and circuit breaker.

Wire Sizes

- 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²) for Feed Wiring and Switched Load Wiring.
- Power (Line/Hot) and Switched Line/Hot connect directly to Terminal Block for Switch Legs.

Control Circuit

- Supplies power for internal operation.
- Lutron recommends a dedicated 120 V~ or 277 V~, 20 A, 1 phase 2 wire feed to power the control circuit in the panel.
- If control circuit is tapped from a circuit that powers a relay in the panel, it draws a maximum of 1.5 A toward the total load for that circuit.

¹ Load can be either lighting or 20 A receptacle

² Any receptacles that are controlled by an automatic control device must be marked with "⓪" located on the controlled receptacle outlet where visible after installation as stated in 2014 NEC Article 406.3(E).

³ To avoid the risk of entrapment, serious injury, or death, these controls must not be used to control equipment which is not visible from every control location or which could create hazardous situations such as entrapment if operated accidentally. Examples of such equipment which must not be operated by these controls include (but are not limited to) motorized gates, industrial doors, space heaters, etc. It is the installer's responsibility to ensure that the equipment being controlled is visible from every control location and that only suitable equipment is connected to these controls. Failure to do so could result in serious injury or death.

Job Name:	Model Numbers:
Job Number:	

Softswitch128® with Branch Circuit Breakers Wiring Overview

Wire switched loads as shown:

Notes

- For 120 V~ and 277 V~ panels that have 28 or less switch legs, a dedicated 20 A breaker is provided to power the control circuit.
- For 120 V~ and 277 V~ panels that have 32 or more switch legs, the control circuit is powered from circuit breaker #1 which also powers relay #1. The control circuit could draw a maximum of 1.5 A toward the total load capacity for that circuit.

Wire Sizes

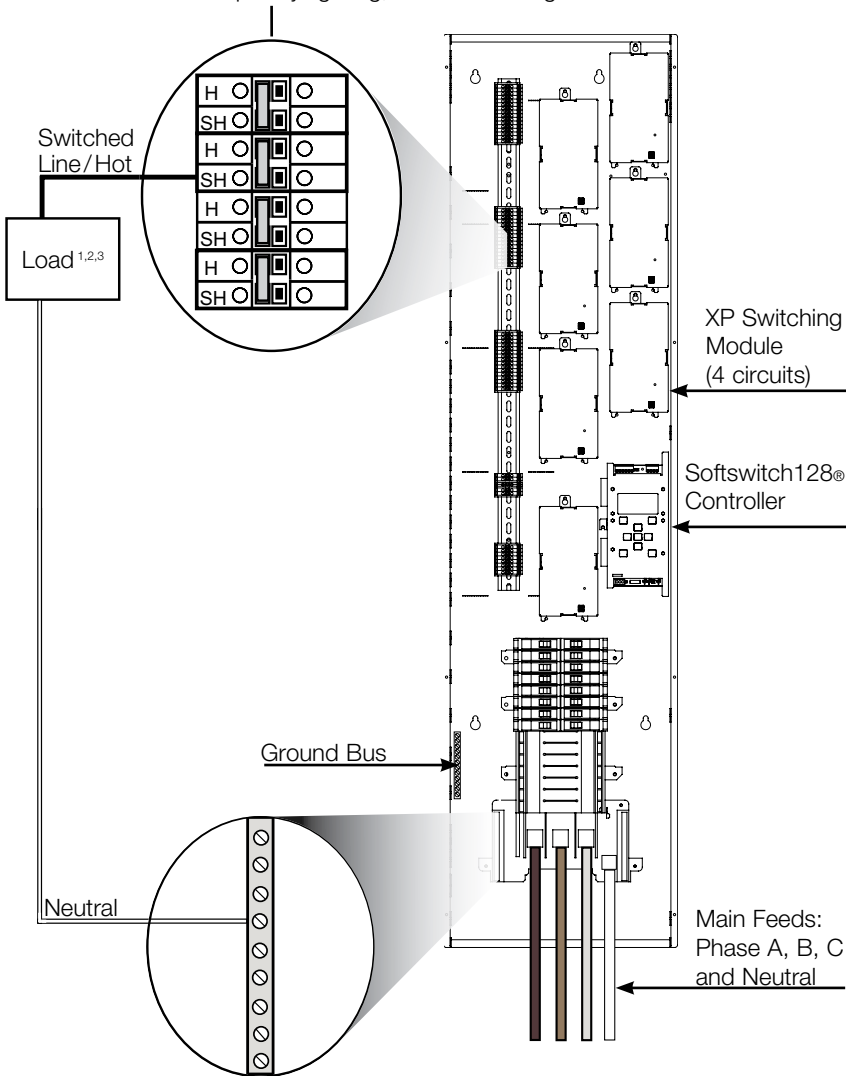
Softswitch128® panel load center accepts the following feeder wire sizes:

120 V~	277 / 347 V~
4 AWG (25 mm ²) to 250 kcmil (mcm) (120 mm ²)	4 AWG (25 mm ²) to 350 kcmil (mcm) (185 mm ²)

All load wiring sizes must be between 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²).

Do not remove bypass jumpers until load wiring is verified.

Leaving bypass jumpers installed allows Softswitch128® panels to be used to provide temporary lighting, until load wiring is verified.



¹ Load can be either lighting or 20 A receptacle

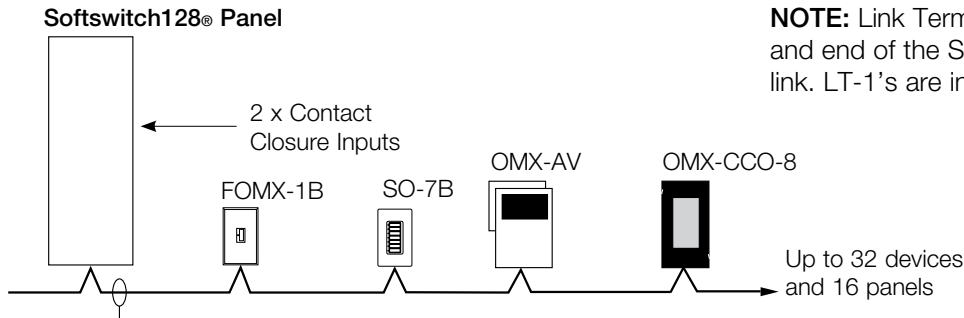
² Any receptacles that are controlled by an automatic control device must be marked with "⓪" located on the controlled receptacle outlet where visible after installation as stated in 2014 NEC Article 406.3(E).

³ To avoid the risk of entrapment, serious injury, or death, these controls must not be used to control equipment which is not visible from every control location or which could create hazardous situations such as entrapment if operated accidentally. Examples of such equipment which must not be operated by these controls include (but are not limited to) motorized gates, industrial doors, space heaters, etc. It is the installer's responsibility to ensure that the equipment being controlled is visible from every control location and that only suitable equipment is connected to these controls. Failure to do so could result in serious injury or death.

Job Name:	Model Numbers:
Job Number:	

Low-Voltage IEC PELV/NEC® Class 2 Wiring

- Low-voltage IEC PELV/NEC® Class 2 wiring is used for all system communications.
- Wiring must be daisy-chained.
- Low-voltage wiring must run in a separate trough from line (mains) voltage.
- Must be less than 2000 ft (600 m) long.
- Install Link Terminators (LT-1) at the start and end of the IEC PELV/NEC® Class 2 Link.



NOTE: Link Terminators (LT-1) are required at the start and end of the Softswitch128® IEC PELV/NEC® Class 2 link. LT-1's are included with the Softswitch128® panel.

IEC PELV/NEC® Class 2 wiring link requires:

- Two 12 AWG (4.0 mm²) conductors for control wiring.
- One shielded, twisted pair 18 AWG (0.75 mm²) for data link.

Softswitch128® Controller Wiring Details

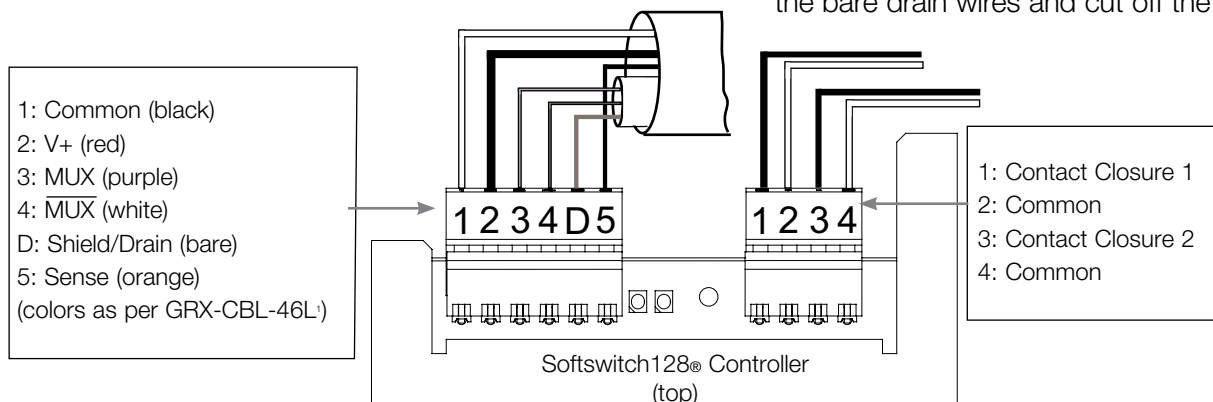
For the IEC PELV/NEC® Class 2 link, use GRX-CBL-46L or equivalent. The cable consists of:

- Two 12 AWG (4.0 mm²) wires.
- One 22 AWG (0.34 mm²) twisted shielded pair.
- One 18 AWG (0.75 mm²) wire for Emergency Sense.

For contact closure input wiring use 18 AWG (0.75 mm²) or larger. Keep wire runs less than 500 ft (152 m).

NOTES

- **Emergency Power:** The additional 18 AWG (0.75 mm²) wire is a “sense” line from terminal 5 of another Panel. This sense line allows an Emergency (Essential) Lighting Panel to “sense” when Normal (Non-Essential) power is lost. If more than one Emergency Lighting Panel needs to sense from a specific Normal Panel, a dedicated wire between each pair of Normal (Non-Essential) and Emergency (Essential) panels may be required.
- **Shield/Drain:** Connect shielding as shown. Do not connect to Ground (Earth) or Circuit Selector. Connect the bare drain wires and cut off the outside shield.



¹ Lutron has approved cable from Belden, Liberty, Alpha, and Signature. Ask for Lutron® GRAFIK Eye® Cable.

Job Name:	Model Numbers:
Job Number:	

Rough-In Softswitch128® Panels – Feed-through Only

(without branch circuit breakers)

Rough-in panels are ordered and delivered as two parts: an empty tub and a pre-wired baseplate. The pre-wired baseplate includes switching modules, terminal blocks, Softswitch128® controller, power supply and panel cover.

The following tables detail the model numbers for the two components required for available rough-in panels.

Mini Softswitch128® Rough-In Panels

(maximum feed per circuit: 20 A)

Switch Legs	Tub Part Number	Baseplate Number (120/277 V~)
8	TUB16	SINT8-FT
12	TUB16	SINT12-FT
16	TUB16	SINT16-FT

Standard Softswitch128® Rough-In Panels

(maximum feed per circuit: 20 A)

Switch Legs	Tub Part Number	Baseplate Number (120/277 V~)
20	TUB48	SINT20-FT
24	TUB48	SINT24-FT
28	TUB48	SINT28-FT
32	TUB48	SINT32-FT
36	TUB48	SINT36-FT
40	TUB48	SINT40-FT
44	TUB48	SINT44-FT
48	TUB48	SINT48-FT

Wire Sizes

- 14 AWG to 10 AWG (2.5 to 4.0 mm²) for Feed Wiring and Switch Legs (to loads).
- Power (Line/Hot) and Switched Line/Hot connect directly to Terminal Block for Switch Legs.

Mini Baseplate



SINT12-FT

Standard Baseplate



SINT44-FT

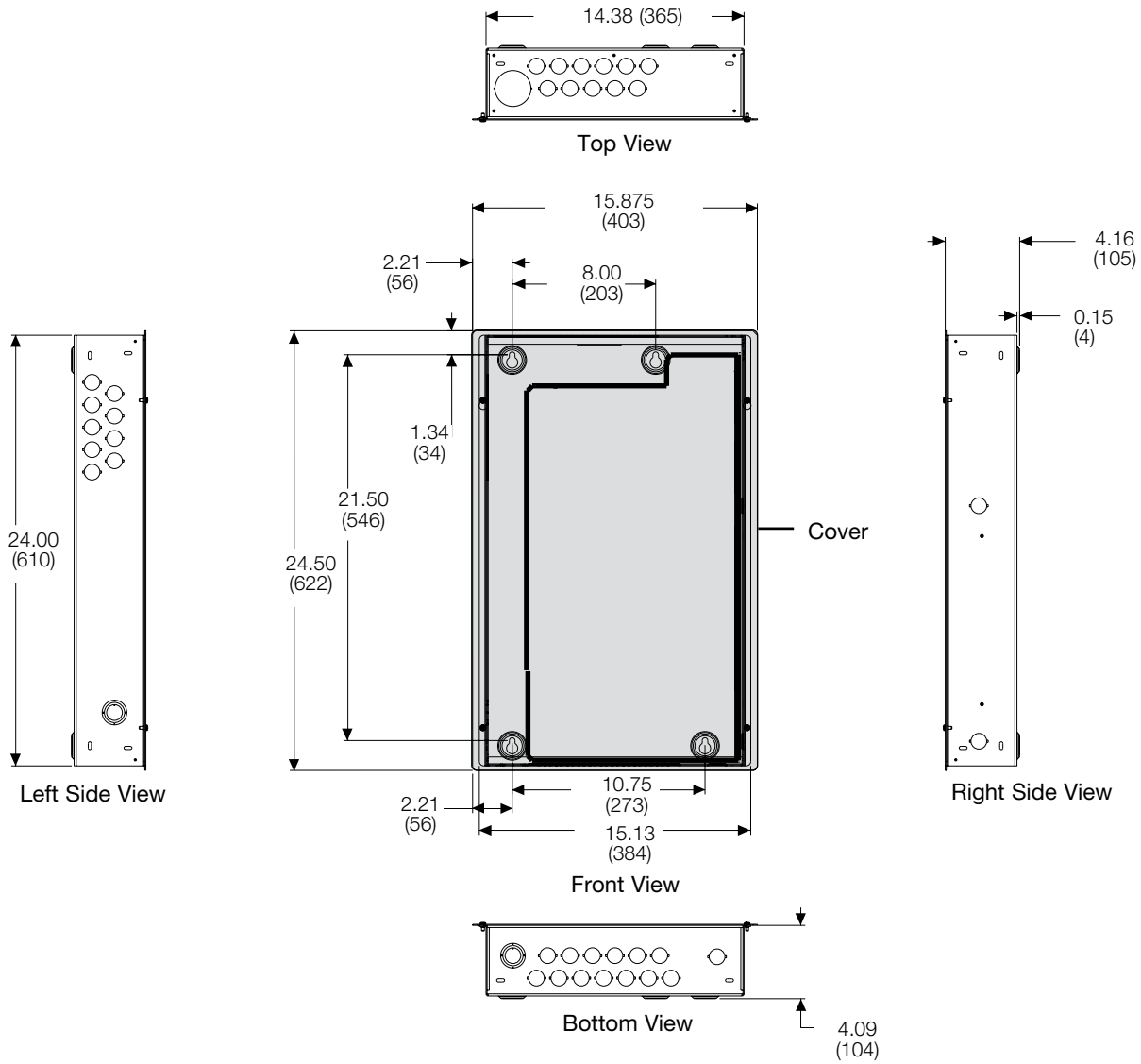
Job Name:	Model Numbers:
Job Number:	

TUB16 Dimensions

Suggested Mounting Height

Mount TUB16 at a height of 45 in (1140 mm), measured from floor to bottom of panel for optimal LCD viewing.

All dimensions shown as: in (mm).



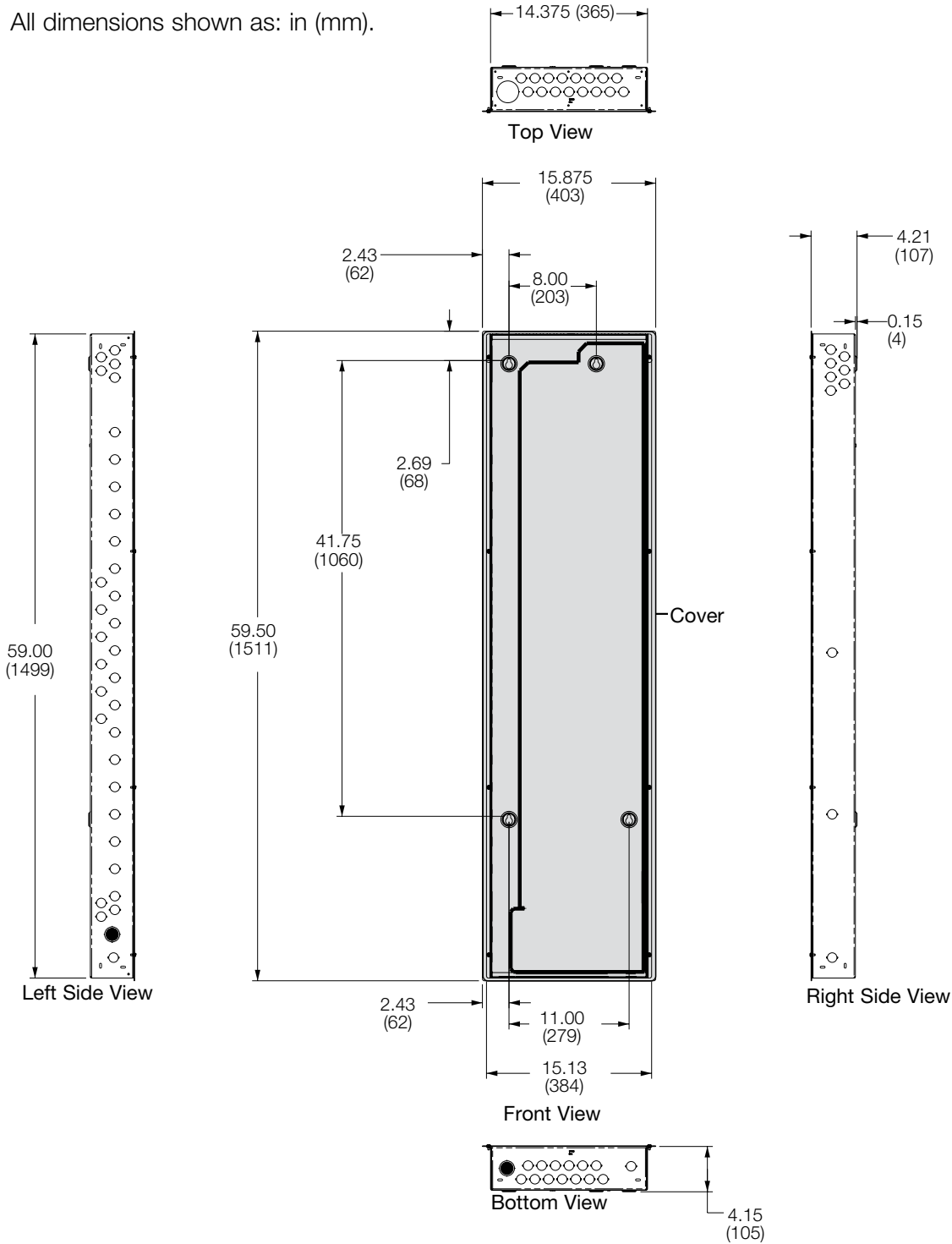
Job Name:	Model Numbers:
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TUB48 Dimensions

Suggested Mounting Height

Mount TUB48 at a height of 26 in (660 mm), measured from floor to bottom of panel for optimal LCD viewing.

All dimensions shown as: in (mm).

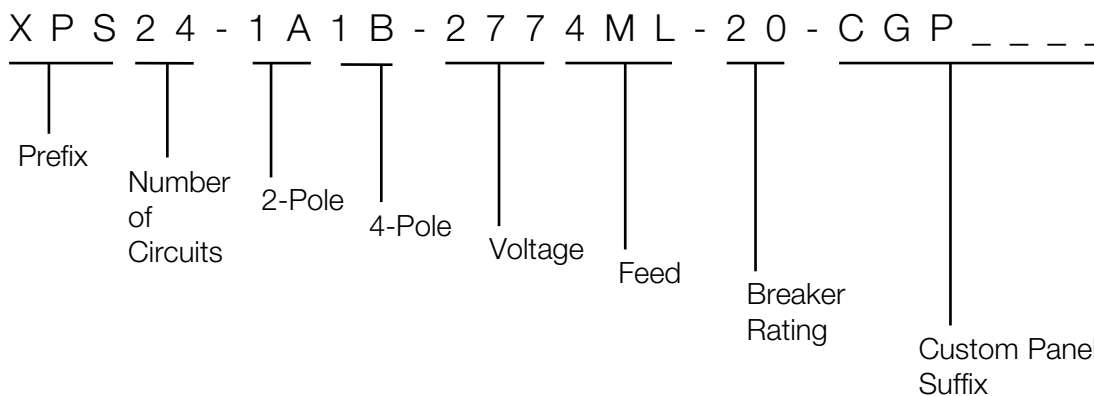


Job Name:	Model Numbers:
Job Number:	

Softswitch128® Panels with 480 V~ Contactors

- Available in large enclosure size only.
- Branch circuit breaker and feed-through models are available.
- Contactors provided in 2 pole and 4 pole, 30 A maximum.

How to Build a Model Number with 480 V~ Contactors



Prefix:

XPS (Softswitch128® panels)

Number of Circuits:

Total number of circuits (switch legs) in the panel not including 480 V~.

2-Pole (A):

Total number of 2-pole 30 A contactors in the panel.

4-Pole (B):

Total number of 4-pole 30 A contactors in the panel.

Voltage:

277 (277 V~)

Omit for feed-through panels.

Feed:

FT (feed-through panels)

4ML (3 phase 4 wire feeders)

Breaker Rating:

Omit for feed-through panels.

20 (20 A branch circuit breakers; 20 A branch circuit breakers have a 16 A continuous load rating).

Custom Panel Suffix:

Indicates panel with special options.

Contact Lutron for specific options.

Job Name:	Model Numbers:
Job Number:	

Feed-through Softswitch128® Panels with 480 V~ Contactors

(without branch circuit breakers)

Large Softswitch128® Feed-through Models for 277 V~ and 480 V~ Contactors:

Model Prefix	Switch Legs	2-Pole	4-Pole	Feed Type	Maximum Feed
XPS8	8	8 Contactors Maximum		Feed-through	277 V~ 20 A
XPS12	12				
XPS16	16				
XPS20	20				
XPS24	24				
XPS28	28				
XPS32	32				
XPS36	36				
XPS40	40				
XPS44	44				
XPS48	48				

Wire Sizes

- 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²) for Feed Wiring and Switch Legs (to loads).
- Power (Line/Hot) and Switched Line/Hot connect directly to Terminal Block for Switch Legs.

¹ Contact Lutron for lead time.

Job Name:	Model Numbers:
Job Number:	

Branch Circuit Breaker Softswitch128® Panels with 480 V~ Contactors

Large Softswitch128® Panels with Circuit Breakers for 277 V~ (max. feed is 250 A) and 480 V~ Contactors¹

Model Prefix	Switch Legs	2-Pole	4-Pole	Feed Type
XPS8	8	5 Contactor Maximum		3Ø 4 W Main Lug Accepts 4 AWG (25 mm ²) to 250 kcmil (mcm) (120 mm ²)
XPS12	12	5 Contactor Maximum		
XPS16	16	5 Contactor Maximum		
XPS20	20	5 Contactor Maximum		
XPS24	24	1 Contactor Maximum		
XPS28	28	1 Contactor Maximum		

Large Softswitch128® Panels with Circuit Breakers for 277 V~ (max. feed is 250 A) and 480 V~ Contactors with 2-Pole Breakers² to Power the 480 V~ load¹

Model Prefix	Switch Legs	2-Pole	4-Pole	Feed Type
XPS8	8	5 Contactor Maximum (20 Pole Maximum)		3Ø 4 W Main Lug Accepts 4 AWG (25 mm ²) to 250 kcmil (mcm) (120 mm ²)
XPS12	12	5 Contactor Maximum (8 Pole Maximum)		
XPS16	16	5 Contactor Maximum (6 Pole Maximum)		
XPS20	20	5 Contactor Maximum (4 Pole Maximum)		
XPS24	24	1 Contactor Maximum (2 Pole Maximum)		
XPS28	28	1 Contactor Maximum (1 Pole Maximum)		

Wire Sizes

- 14 AWG to 10 AWG (2.5 mm² to 4.0 mm²)

¹ Contact Lutron for lead time.

² Each 480 V~ pole requires a 2 pole breaker. The Softswitch® panel has a 30 position load center.

Job Name:	Model Numbers:
Job Number:	

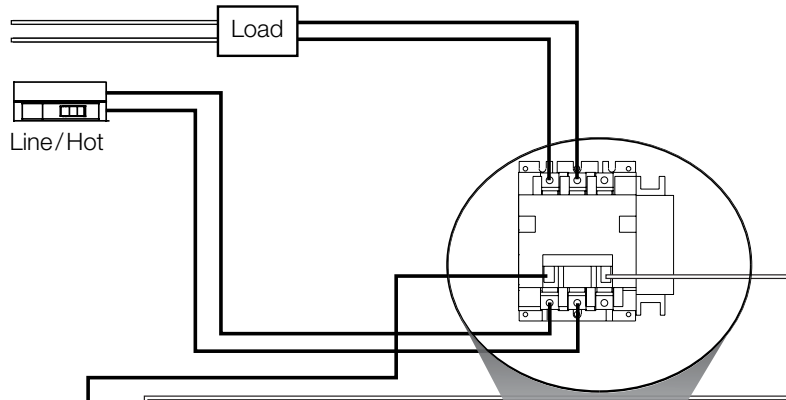
480 V~ Contactor Softswitch128® Panels, Feed-through Wiring Overview

(without branch circuit breakers)

Wire the Softswitch128® panel as shown. Use a trough when the Softswitch128® Panel is not adjacent to a distribution panel. Splice Neutrals in trough.

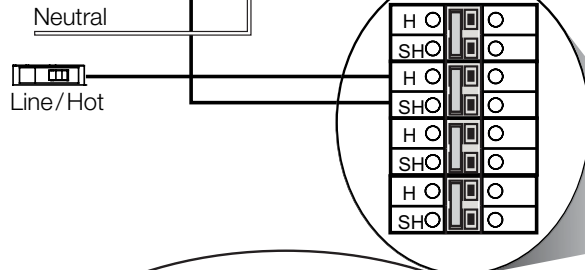
480 V~ Contactor Load Wiring

Each contactor circuit requires a dedicated 2-pole 277 V~ 30 A max. circuit breaker.



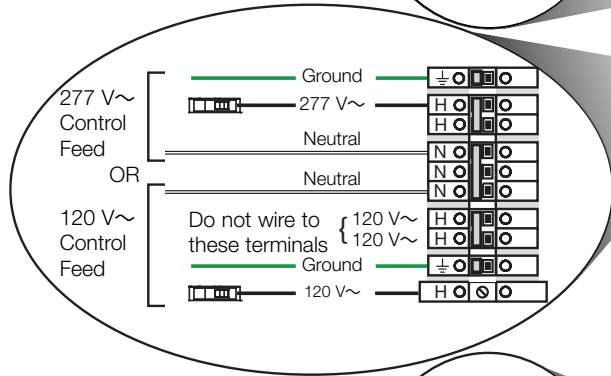
480 V~ Control Wiring

The contactors need to be wired to an XP output.



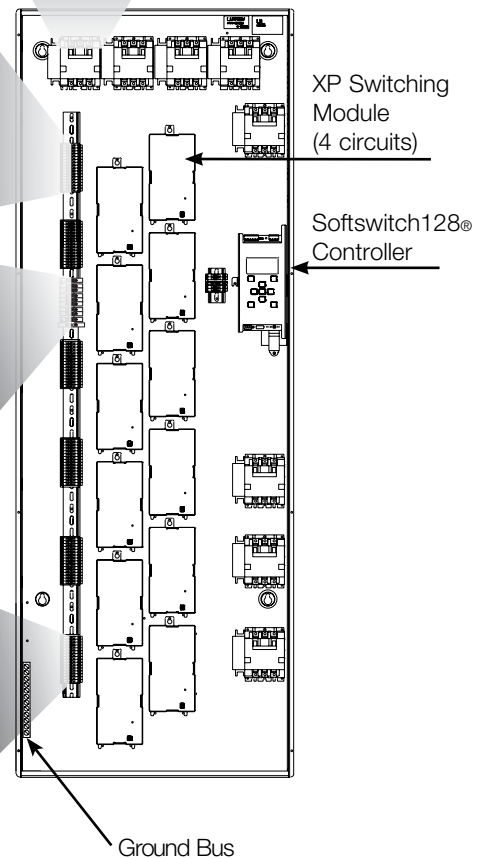
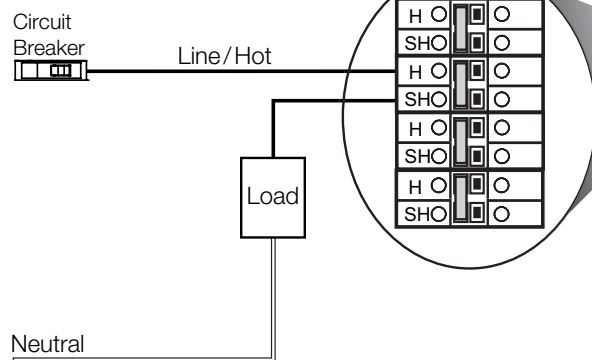
Control Wiring

Control wiring requires a dedicated feed and circuit breaker.



Switched Load Wiring

Each switched circuit requires a dedicated 20 A max. circuit breaker and feed wiring to/from a distribution panel.



Job Name:	Model Numbers:
Job Number:	

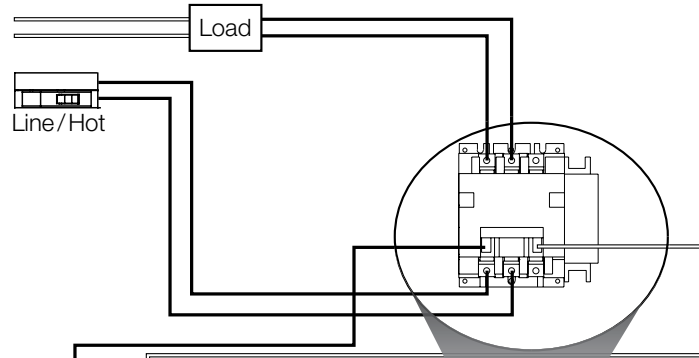
480 V~ Contactor Softswitch128® Panels with Branch Circuit Breakers

Load Wiring Overview

Wire the Softswitch128® panel as shown.

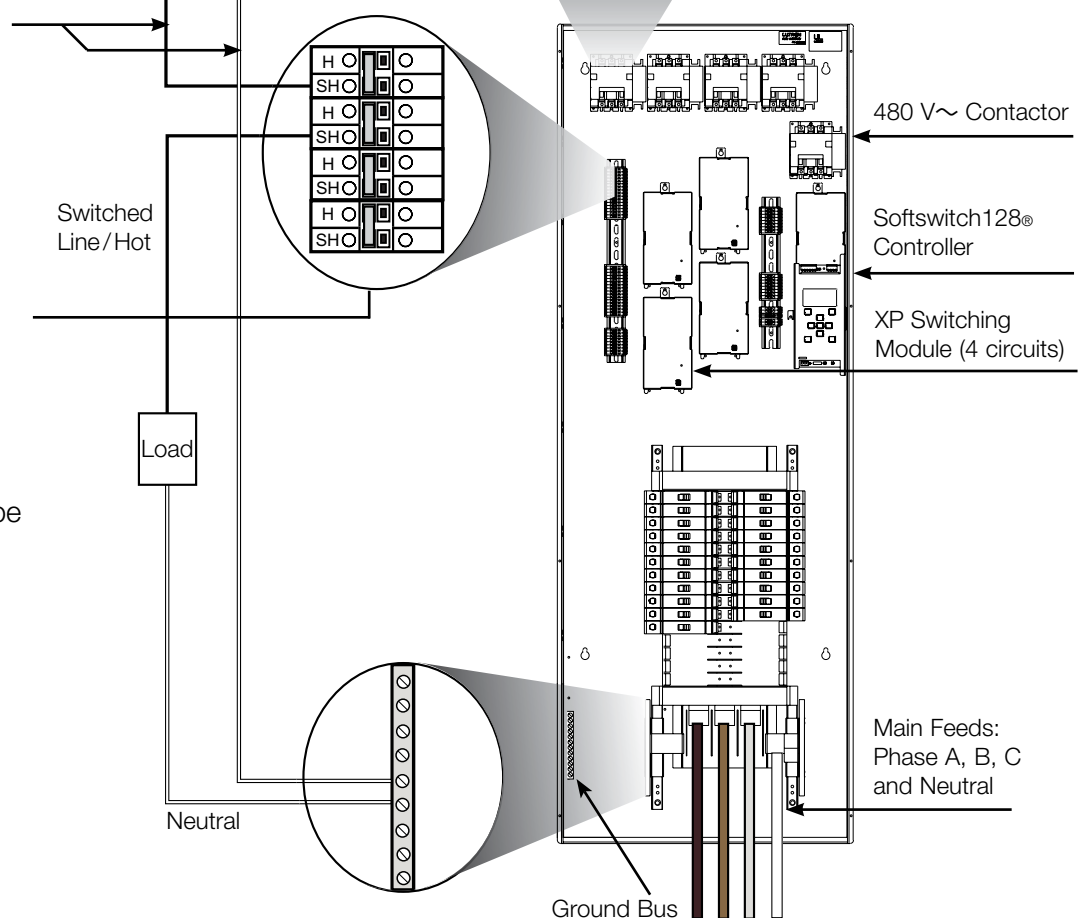
480 V~ Contactor Load Wiring

Each contactor circuit requires a dedicated 2-pole 277 V~ 30 A circuit breaker. The 2-pole breaker could be installed in the Softswitch128® panel or in a distribution panel by others.



480 V~ Control Wiring

The contactors need to be wired to an XP output.



Do Not Remove bypass jumpers until load wiring is verified.

Leaving bypass jumpers installed allows Softswitch128® panels to be used to provide temporary lighting until load wiring is verified.

Job Name:	Model Numbers:
Job Number:	