XP Softswitch™ Panels

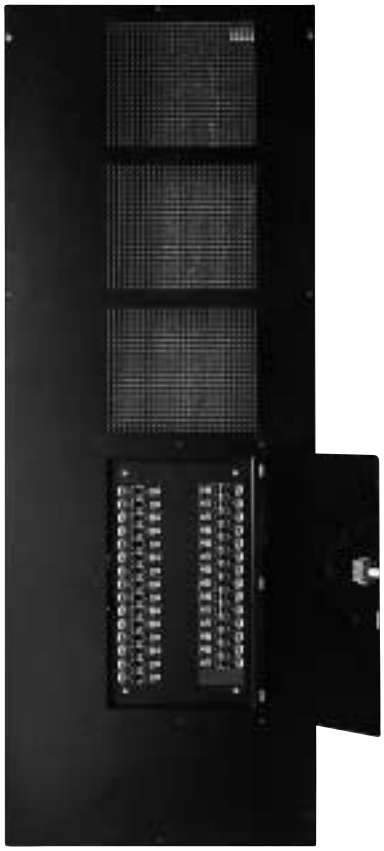
FEED THROUGH XP (WITHOUT BRANCH CIRCUIT BREAKERS)

Mini XP
- All voltages
- 4 to 16 switch legs

Standard-Size XP
- All voltages
- 20 to 48 switch legs

XP WITH BRANCH CIRCUIT BREAKERS

Standard-Size XP
- 100-127V, 4 to 28 switch legs
- 220–240V(non-CE), 4 to 24 switch legs
- 230V(CE), 4 to 24 switch legs



Large XP
- 277V and 347V
- 4 to 28 switch legs

DESCRIPTION

- Provide power and switching for up to 48 switch legs.
- Control any light source. Motors, too.

Models available:
- 100-127V, 220-240V(non CE), 230V(CE), 277V, and 347V.
- 4 to 48 switch legs.
- With or without branch circuit breakers.

XP Softswitch Panels work with:
- GRX-4000 Control Units
- GRAFIK 5000 and 6000 Systems
- GP and LP Dimming Panels
- DMX512 dimming systems via the 2LINK™ option.

SPECIFICATIONS

Standards
- UL Listed (Reference: UL File 42071).
- Complies with ISO-9000, CSA, NOM.

Power
- Input power: 100-127V, 220-240V (non CE), 230V(CE), 277V, and 347V. All voltages 50/60Hz, phase-to-neutral.
- Control circuit(Feed Through XP Panels only): Dedicated feed same voltage and phase as Panel.
- Branch Circuit Breakers: UL-rated thermal magnetic. Protected by bypass jumpers. AIC ratings:
  120V – 10,000
  220-240V – 6000
  277V – 18,000
  347V – 14,000
- Lightning strike protection: Meets ANSI/IEEE standard 62.41-1980. Can withstand voltage surges of up to 6000V and current surges of up to 3000A.
- 10-year power failure memory: Automatically restores lighting to levels prior to power interruption.

Sources/Load Types
- Incandescent (Tungsten)/Halogen
- Magnetic Low Voltage Transformer
- Electronic Low Voltage Transformer
- Neon/Cold Cathode
- Magnetic and Electronic Fluorescent Lamp Ballasts
- HID
- Motor Loads (1/3 HP @ 100-127V, 1/2 HP @ 220-347V)

Switching Modules
- Switch legs rated @ 16A.
- Patented Softswitch™ circuit eliminates arcing at mechanical contacts when loads are switched. Prolongs relay life to an average of 1,000,000 cycles (on/off). Handles 50 times inrush. Rated for resistive, inductive, or capacitive sources.

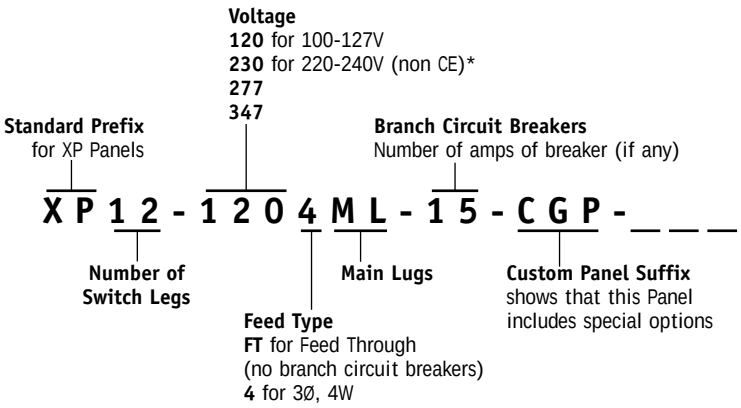
Wiring
- Internal: Prewired by Lutron.
- System communications: Low-voltage Class 2 (PELV) wiring connects XP Panels to other components.
- Line (mains) voltage: Feed and load wiring only.(Feed Through XP Panels also have control circuit wiring.) No other wiring or assembly required.

Physical Design
- Enclosure: NEMA-Type 1, IP-20 protection; #16 U.S. Gauge Steel. Indoors only.
- Weight: 27 pounds (13kg) for Mini XP, 80 pounds (37kg) for Standard-Size XP, 135 pounds (61.3kg) for Large XP.

Mounting
- Mini XP and Standard-Size XP: Surface mount or recess mount between 16" (40cm) studs.
- Large XP: Surface mount only.

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

WHAT A MODEL NUMBER TELLS YOU



* CE models are custom Panels

LUTRON® SPECIFICATION SUBMITTAL Page

JOB NAME:	MODEL NUMBERS:	
JOB NUMBER:		

XP MODELS WITH BRANCH CIRCUIT BREAKERS

Only standard Panels listed. Consult Lutron for options.

100-127V Standard-Size XP with Branch Circuit Breakers

	NUMBER OF SWITCH LEGS	FEED TYPE AND WIRE SIZES	MAXIMUM FEED	BRANCH CIRCUIT BREAKERS[1]
XP	**4**	• 3Ø, 4W • Main Lugs Only • Main Lugs accept #4 AWG (25mm²) to 250 KCMIL(MCM) (120mm²)	200A	15A or 20A
XP	**8**			
XP	**12**			
XP	**16**			
XP	**20**			
XP	**24**			
XP	**28**			

220-240V (non CE) Standard-Size XP with Branch Circuit Breakers

	NUMBER OF SWITCH LEGS	FEED TYPE AND WIRE SIZES	MAXIMUM FEED	BRANCH CIRCUIT BREAKERS
XP	**4**	• 3Ø, 4W • 100A Isolator Switch • Isolator Switch accepts 25mm² to 35mm² Feed Wiring	100A	16A
XP	**8**			
XP	**12**			
XP	**16**			
XP	**20**			
XP	**24**			

230V (CE) Standard-Size XP with Branch Circuit Breakers

	NUMBER OF SWITCH LEGS	FEED TYPE AND WIRE SIZES	MAXIMUM FEED	BRANCH CIRCUIT BREAKERS
XP	**4**	• 3Ø, 4W • 100A Isolator Switch • Isolator Switch accepts 16mm² to 95mm² Feed Wiring	100A	10A
XP	**8**			
XP	**12**			
XP	**16**			
XP	**20**			
XP	**24**			

277/347V Large XP with Branch Circuit Breakers

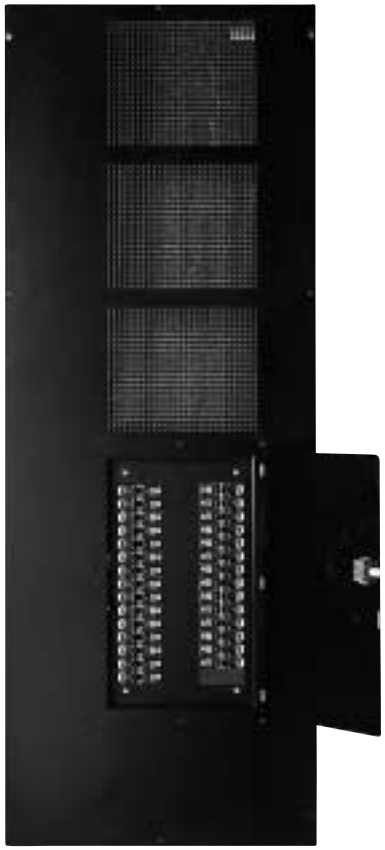
	NUMBER OF SWITCH LEGS	FEED TYPE AND WIRE SIZES	MAXIMUM FEED	BRANCH CIRCUIT BREAKERS[1]
XP	**4**	• 3Ø, 4W • Main Lugs Only • Main Lugs accept #4 AWG (25mm²) to 350 KCMIL(MCM) (185mm²)	250A	20A
XP	**8**			
XP	**12**			
XP	**16**			
XP	**20**			
XP	**24**			
XP	**28**			

[1] 20/16A, 15/12A continuous load rating.

WIRE SIZES FOR SWITCH LEGS (TO LOADS)

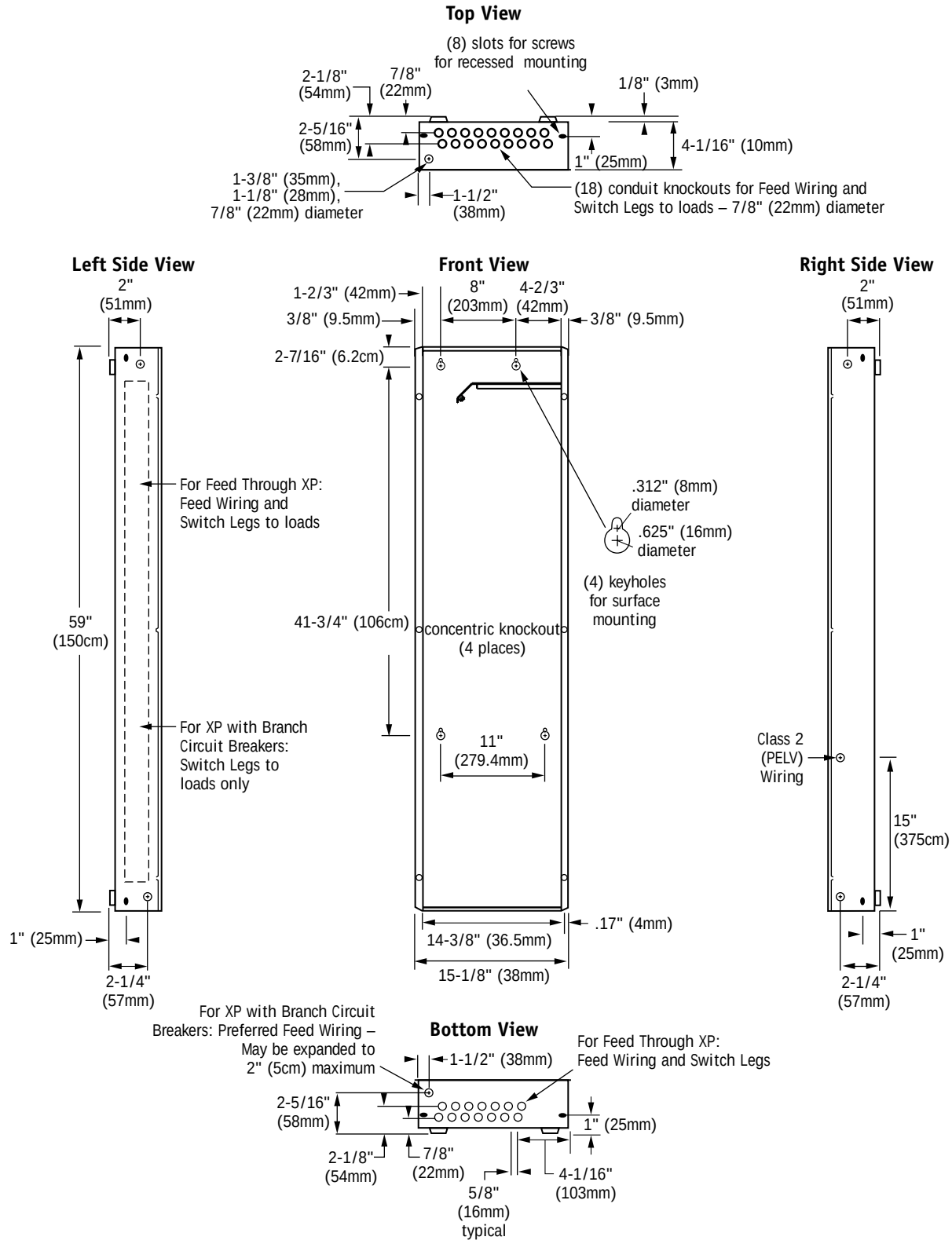
#14 AWG (2.0mm²) to #10 AWG (4.0mm²)

Standard-Size XP



Large XP

STANDARD-SIZE XP DIMENSIONS



MOUNTING FOR STANDARD-SIZE XP WITH BRANCH CIRCUIT BREAKERS

Surface or recess mount indoors.

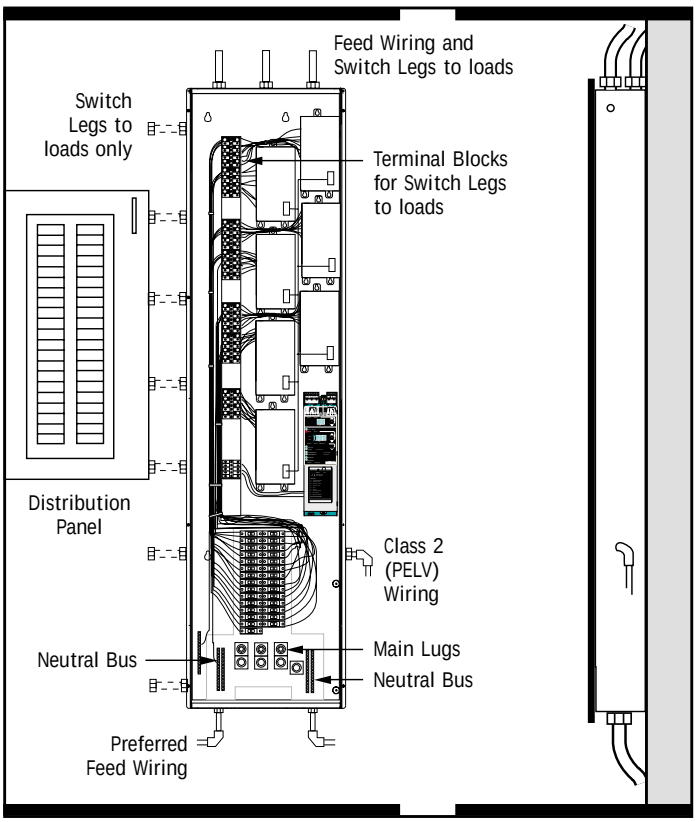
- Consult Dimensions page for dimensions, conduit knockouts, and mounting holes and hardware.
- Mount only where ambient temperature is 32-104°F (0-40°C).
- Standard-Size XP weighs 80 pounds (37kg). Reinforce wall structure for weight and local codes.
- Mount Panel where audible noise is acceptable. (Internal relays click.)
- Mount Panel so line (mains) voltage wiring is at least 6 feet (1.8m) from sound or electronic equipment and wiring.
- Mount Panel within 7° of true vertical.

Maximum Feed and Wire Sizes
Consult Wiring Overview page.

Surface Mounting

- Lutron recommends 1/4" (6mm) mounting bolts.
- Allow room for top cover. Leave 1 1/2" (38mm) clearance to each side of Panel.

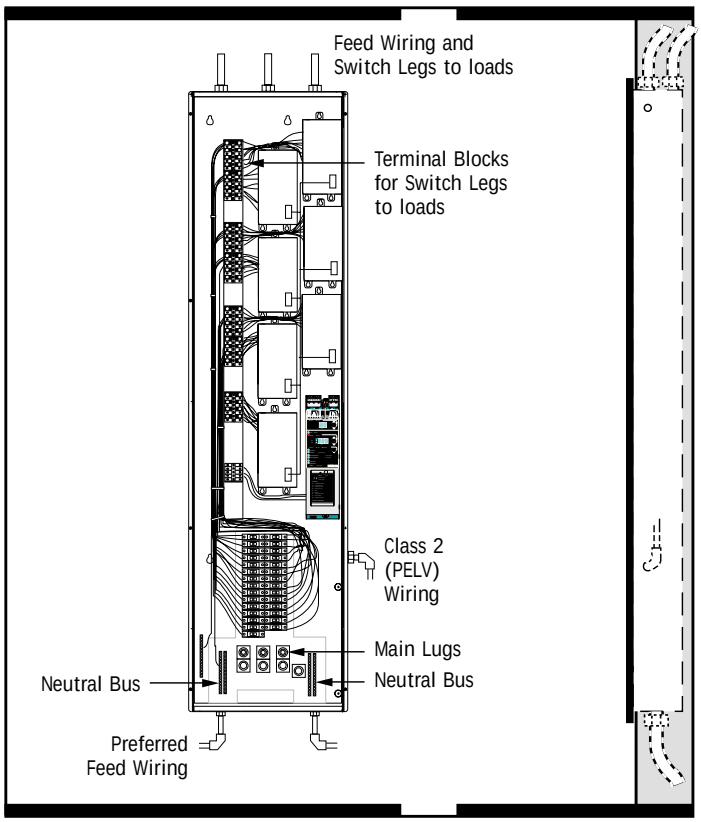
Front View **Side View**



Recess Mounting

- Mount Panel flush to 1/8" (3mm) below finished wall surface.
- Allow room for top cover. Leave 1 1/2" (38mm) clearance to each side of Panel.

Front View **Side View**



WIRING OVERVIEW FOR XP WITH BRANCH CIRCUIT BREAKERS

Wiring Tips!

You wire the XP similar to the way you wire a lighting Distribution Panel.

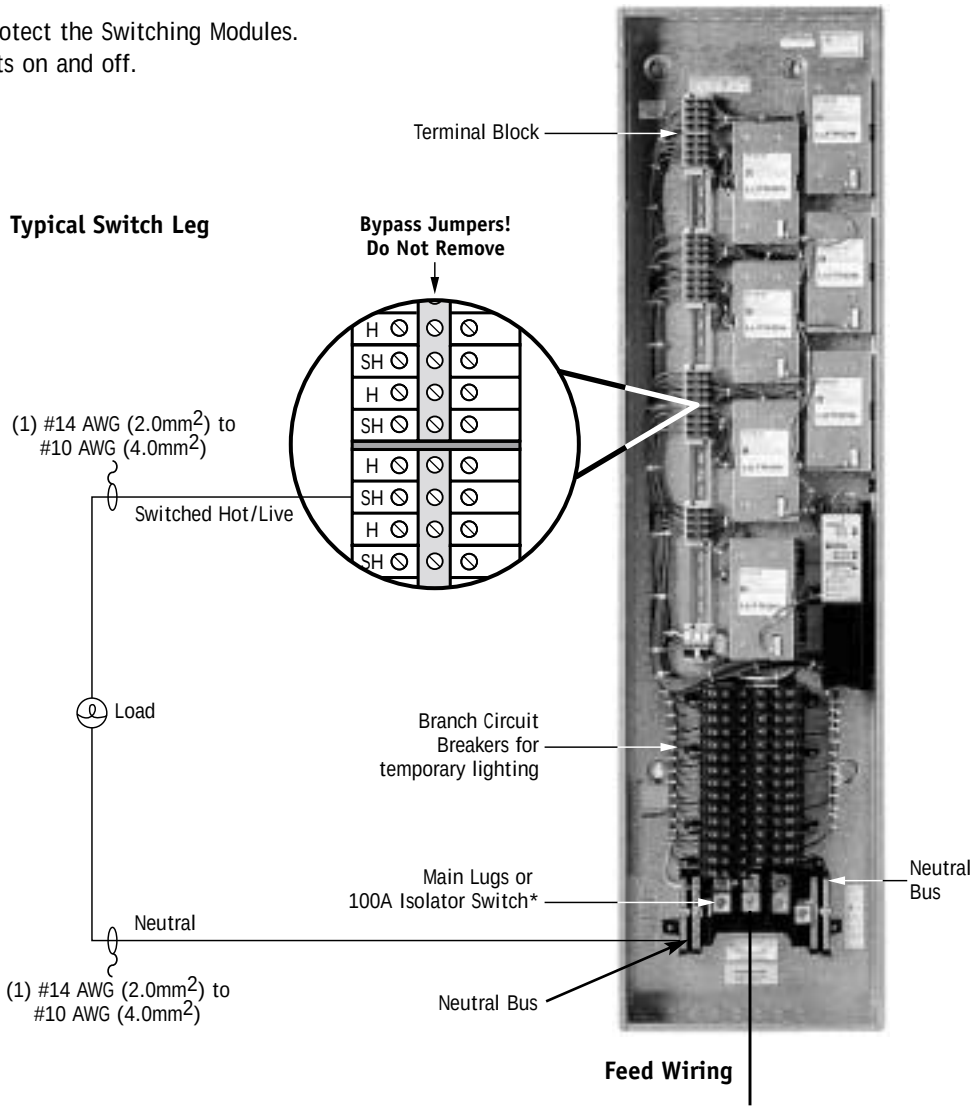
You run feed and load wiring. No other wiring or assembly required.

You can use the XP to provide temporary lighting.

- Wire all loads.
- Do not remove the bypass jumpers that protect the Switching Modules.
- Use Branch Circuit Breakers to switch lights on and off.

No Common Neutrals
Run separate neutrals for each load.

220-240V(Non Ce) and 230V(CE)Terminals Marked:
- L for Live
- SL for Switched Live.



100-127V	#4 AWG (25mm²) to 250 KCMIL (MCM) (120mm²)
220-240V	25mm² to 35mm²
230V(CE)	16mm² to 95mm²
277V/347V	#4 AWG (25mm²) to 350 KCMIL (MCM) (185mm²)

*Isolator Switch for 220-240V and 230V Panels

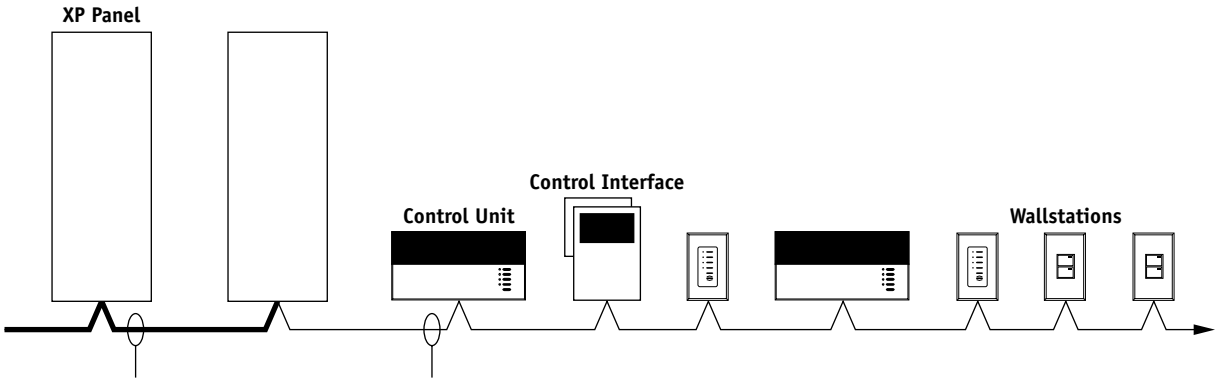
JOB NAME:	MODEL NUMBERS:	
JOB NUMBER:		

LOW-VOLTAGE CLASS 2 (PELV) WIRING (ALL MODELS)

Pull low-voltage type Class 2 wiring[1] for system communications.
- Must be daisy-chained!
- Must run separately from line (mains) voltage.

Series 4000 GRAFIK Eye

The Class 2 (PELV) wiring link for system communications must be less than 2000 feet (600m).

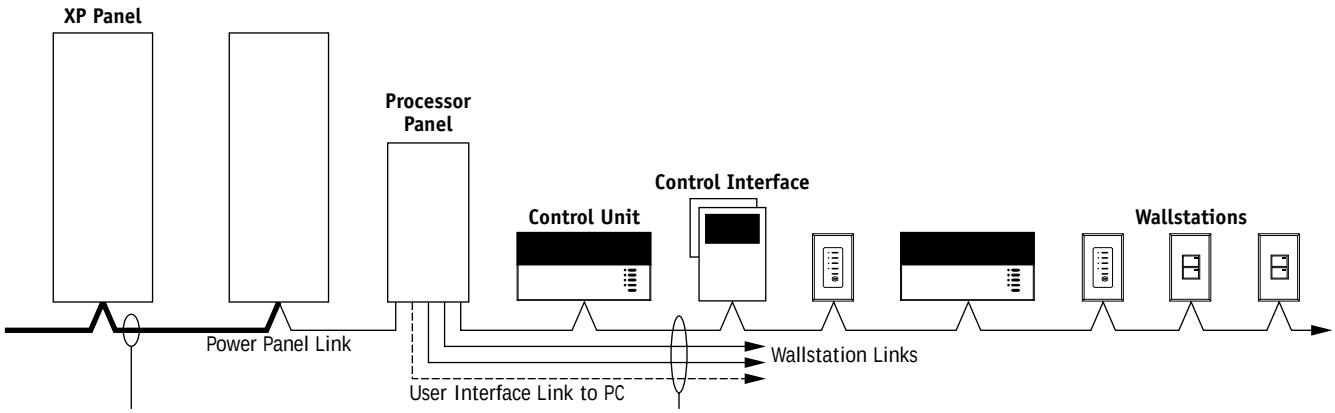


Panel-to-Panel wiring[1]
Include one extra #18AWG (1.0mm²). Used as a "sense line" for emergency (essential) lighting.

Class 2 (PELV) wiring link has:
- Two #12 AWG (2.5mm²) conductors for control wiring.
- One shielded, twisted pair #18 AWG (1.0mm²) for data link.

GRAFIK 5000/6000 Systems

The Class 2 (PELV) wiring links for system communications can be up to 4000 feet (1200m):
- Use Lutron's MUX-RPTR Interface and GRX-CBL-46L cable for links between 2000 feet (600m) and 4000 feet (1200m).
- Wire as shown for links 2000 feet (600m) and less.



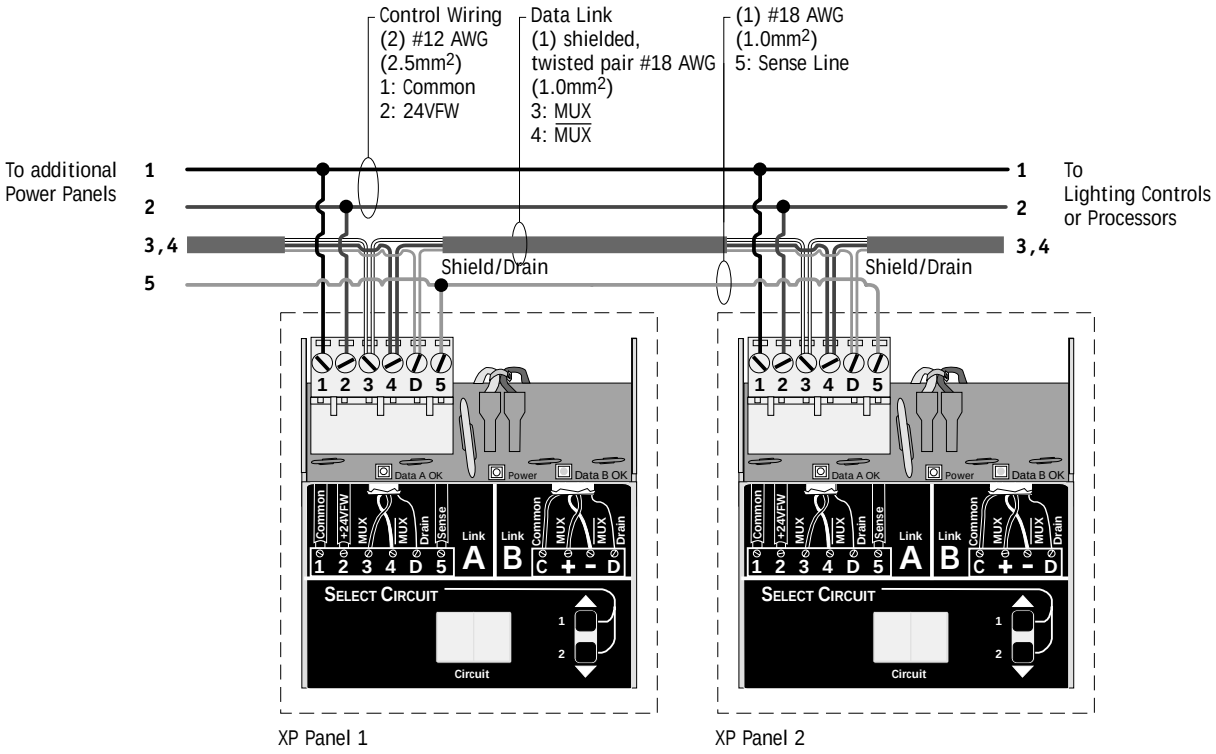
Panel-to-Panel wiring[1]
Include one extra #18AWG (1.0mm²). Used as a "sense line" for emergency (essential) lighting.

Each Class 2 (PELV) wiring link has:
- Two #12 AWG (2.5mm²) conductors for control wiring.
- One shielded, twisted pair #18 AWG (1.0mm²) for data link.

[1] If you use Lutron cable, you can use smaller-gauge wires.
- If a Class 2 (PELV) wiring link is less than 500 feet (150m), you can use GRX-CBL-346S:
  - Two #18AWG (1.0mm²) for control wiring.
  - One twisted, shielded pair #22AWG (.625mm²) for data link.
  - No "sense line" included - add your own #18AWG (1.0mm²).
- If a Class 2 (PELV) wiring link is 500 to 2000 feet (150 to 600m), you can use GRX-CBL-46L:
  - Two #12AWG (2.5mm²) for control wiring.
  - One twisted, shielded pair #22AWG (.625mm²) for data link.
  - One #18AWG (1.0mm²) for sense line between Panels.
- Lutron has also approved smaller-gauge cable from Belden, Liberty, Alpha, and Signature. Ask for Lutron GRAFIK Eye® Cable.

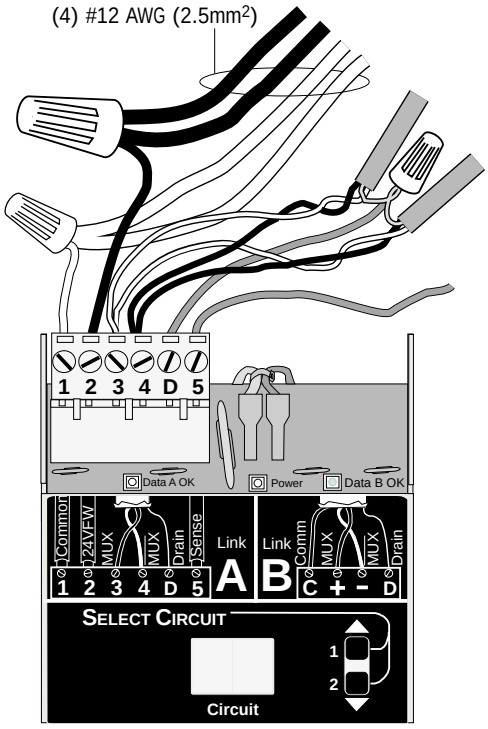
JOB NAME:	MODEL NUMBERS:	
JOB NUMBER:		

CLASS 2 (PELV) PANEL-TO-PANEL WIRING (ALL MODELS)



Notes:

1. Emergency Power: The additional #18 AWG (1.0mm²) 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 off a specific Normal Panel. You may have to run a dedicated wire between each pair of Normal (Non-Essential) and Emergency (Essential) panels.
2. 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.



CLASS 2 (PELV) TERMINAL CONNECTIONS

Each low-voltage Class2 (PELV) terminal can accept only two #18 AWG (1.0mm²) wires. Two #12 AWG (2.5mm²) conductors won't fit. Connect as shown.

OPTIONS

Consult Lutron for ordering information, model numbers, and ship times. Dimensions and wiring may change based on options chosen.

OPTION	DESCRIPTION	APPLICATION
Branch Circuit Protection	Branch Circuit Breakers have higher AIC ratings than those on standard Panels. Panels can also have circuit breakers with special ratings such as: • GFI (Ground Fault Interrupt) • ELB (Earth Leakage Breaker) • RCD (Residual Circuit Device).	
Lutron Ten Volt Module (TVM)	Allows Panels to operate fluorescent ballasts that meet IEC 929 standards for 0-10V control including: • Lutron's TVE ballasts • 0-10V neon • PWM fluorescent • Tridonic DSI (Digital Serial Interface). The TVM can sink or source 50mA (typically 25-50 ballasts) on each circuit.	Jobs with fluorescent ballasts that require 0-10V, PWM, or DSI control.
2Link™	• Allows a DMX512 theatrical console to operate Dimming Panels' load circuits. • Allows a GRAFIK Eye 4000 System to handle 128 zone (two links of 64 zones). • Allows two GRAFIK Eye 4000 Systems to share the same Dimming Panel.	• When you need to control architectural lighting from a DMX512 theatrical console. • When you need to mix architectural and theatrical lighting. • When you have multiple systems but not enough space to hang panels.