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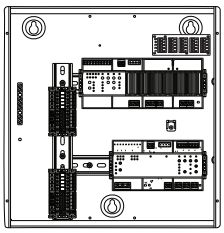
Athena DIN Rail Panel 120/277 V~

Configurable Lighting Control panels are pre-assembled and tested power panels that are configurable to control multiple load types. Panels are available in different sizes and panel types.

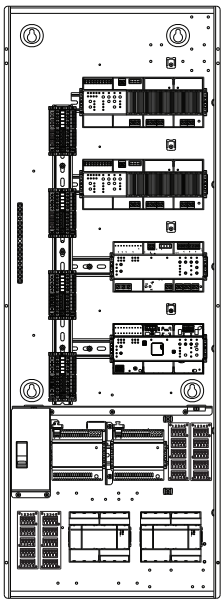
- **Satellite Panel:** For mounting DIN Power Modules (DPMs) only. Does not include circuit breakers.
- **Satellite Panel with Breakers:** Comes with DPMs and a branch circuit breaker for each DPM.
- **System Panel:** Comes with DPMs and a control gear compartment that can house a processor and power supply, and other low-voltage gear. Does not include circuit breakers.

Features

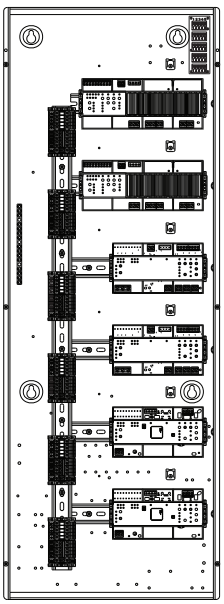
- Panels are pre-wired and tested prior to shipping.
- Supports various load types using DIN power modules (DPMs):
  - 120 V~ Switching (QSN-4S8-120-D)
  - 120/277 V~ PRO LED+ Phase Adaptive (QSN-4A5-D)
  - 120 V~ 0–10 V⎓/Switching control (QSN-4T5-120-D)
- System panels are rated for 120/277 V~ applications and offer easy access to Class 2 control equipment which can include up to 2 interfaces or processors.
- Satellite panels are rated for 120/277 V~ applications and maximize the quantity of DPMs in a panel.
- Satellite panels with breakers are rated for 120/240 V~ (single phase 3-wire) and 120/208 V~ (three phase 4-wire) applications and offer a 120 V~ branch circuit breaker for each DPM.
- Easily integrates with Lutron QS devices.
- Scalable from a single area or floor; to a building or whole campus.
- Integral Athena Edge processor available in a system panel.
- Integral emergency contact closure input (CCI) on each DPM turns all lights on to a programmable level when activated using a LUT-ELI and ensures that the system is compliant with UL 924®.
- Bypass jumpers included for load mis-wire protection.
- Panels are available in three sizes: 16 in (406 mm), 42 in (1067 mm), and 65 in (1651 mm).
- Black, powder coated front cover with vents to maximize thermal performance included.



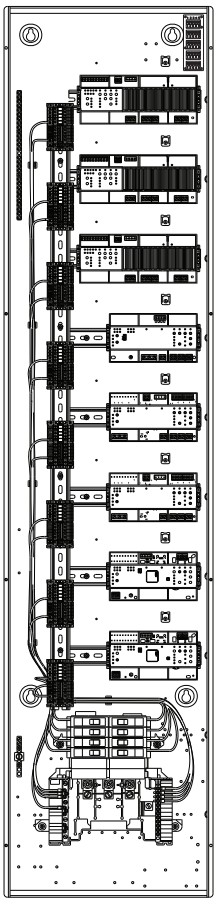
2 DPM Satellite Panel



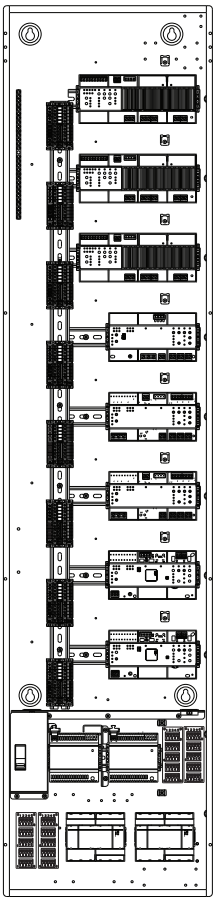
4 DPM System Panel



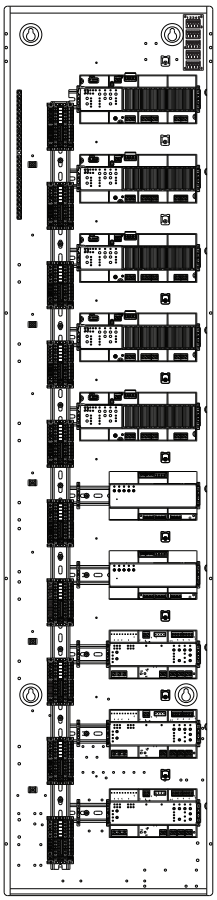
6 DPM Satellite Panel



8 DPM Satellite Panel with Breakers



8 DPM System Panel



10 DPM Satellite Panel

LUTRON SPECIFICATION SUBMITTAL

1

Job Name:	Model Numbers:	
Job Number:		

Specifications

Regulatory Approvals

- cULus®
- NOM
- cULus® Listed to be able to add and replace Lutron DPMs in the field

Power

- System and satellite panels:
  - 120/277 V~ 50/60 Hz 20 A max per DPM
- Satellite panel with breakers:
  - 120 V~ 15 A or 20 A branch circuit breakers (AIC Ratings: 10,000 A)
  - 125 A main lugs
  - 120/240 V~ 50/60 Hz (single phase 3-wire)
  - 120/208 V~ 50/60 Hz (three phase 4-wire)
- Lightning strike protection: Meets ANSI/IEEE standard C62.41-2000 and IEC 61000-4-5. 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.

DIN Modules Available (maximum of 10)

- 120/277 V~ PRO LED+ Phase Adaptive
- 120 V~ Switching
- 120 V~ 0–10 V⎓/Switching

Short-Circuit Current Ratings

Panel Type	Voltage	SCCR Rating
Feed-Through (all sizes)	120/277 V~	10,000 A
Main Lug	120 V~	10,000 A

Wiring

- **Internal:** Wired and tested by Lutron.
- **System communications:** NEC® Class 2 wiring connects panels to control station. Wired sensors must be wired to QS Sensor Module (QSM).
- **Line (mains) voltage:** only feed and load wiring required (feed-through panels require feeds for the module power).

Mounting

- Surface- or recess-mount.

Construction

- 16 AWG (1.5 mm) galvanized sheet metal enclosure (unpainted).
- 16 AWG (1.5 mm) powder-coated (black) metal cover with ventilation holes.
- System panel has a lockable access door to allow access to the low-voltage equipment (padlock not included).
- Satellite panel with breakers has a lockable access door to allow access to the branch circuit breakers (padlock not included).

Environment

- Enclosure: NEMA Type 1, IP-20 protection.
- Mount where ambient temperature is 32 °F to 104 °F (0 ºC to 40 ºC). Relative humidity less than 90%, non-condensing.
- Indoor use only.
- Passive cooling (fan is not required)
- DPMs generate heat. See device spec sheet for BTU ratings.

Wire Sizing

- DIN rail-mounted terminal blocks:
  - Line (mains) and load terminal blocks will accept one 26 AWG to 10 AWG (0.14 mm^2 to 6.0 mm^2) wire or two 26 AWG to 16 AWG (0.14 mm^2 to 1.5 mm^2) wires.
- Satellite panel with breakers main lugs will accept one 6 AWG to 2/0 AWG (16 mm^2 to 70 mm^2) wire per pole.

continued on next page

LUTRON SPECIFICATION SUBMITTAL 2

Job Name:	Model Numbers:	
Job Number:		

Specifications *(continued)*

Line Voltage (Mains) Connections (see Panel Wiring section for details)

- DIN rail-mounted terminal blocks provided for line-voltage (mains) power to DPMs and to control equipment power supply. Use copper wire only. (Satellite and System Panel only)
- DIN rail-mounted terminal blocks provided for load wiring. Use copper wire only.
- Satellite panel with breakers have main lug connections provided for line-voltage (mains) power.
  – It is available for single phase 3-wire or three phase 4-wire main input. Power is distributed to branch circuit breakers, and DPMs via internal wiring installed by Lutron. Use copper or aluminum wire (install and wire in accordance with all local and national codes).

Athena 120 V~ DIN Breaker Panel Phasing			
Model	**Feed-Type**	**DPM Position**	**Phase**
PD8-B-ASM ALPD8B15BL3* ALPD8B20BL3*	Single-phase 3-wire	8	L2
		7	L2
		6	L1
		5	L1
		4	L2
		3	L2
		2	L1
		1	L1
PD8-B-ASM ALPD8BI5BL4* ALPD8B20BL4*	Three-phase 4-wire	8	L1
		7	L1
		6	L3
		5	L3
		4	L2
		3	L2
		2	L1
		1	L1

Job Name:	Model Numbers:	
Job Number:		

Specifications *(continued)*

Maximum Panel Capacities

Panel Type	Panel Size	DPMs**	24 V⎓ Power Supplies (QSPS-DH-75)	Wire Landing Boards (QS-WLB)	Interfaces or Processors*
System Panel	42 in (1067 mm)	4	2	4	2
	65 in (1651 mm)	8	2	4	2
Satellite Panel	16 in (406 mm)	2	0	1	0
	42 in (1067 mm)	6	0	1	0
	65 in (1651 mm)	10	0	1	0
Satellite Panel with Breakers	65 in (1651 mm)	8	0	1	0

* Interfaces or Processors consist of the following:
- QP-2L or QP-1L (Athena Edge Processor)
- QSE-IO (Contact Closure Interface)
- QSE-CI-DMX (DMX Interface)
- QSE-CI-NWK-E (Network Interface)
- Q-POE-8 (8-port PoE Switch)

** DIN Power Modules consist of the following:
- QSN-4A5-D (PRO LED+ Phase Adapative)
- QSN-4S8-120-D (Switching)
- QSN-4T5-120-D (0-10 V/Switching)

Job Name:	Model Numbers:	
Job Number:		

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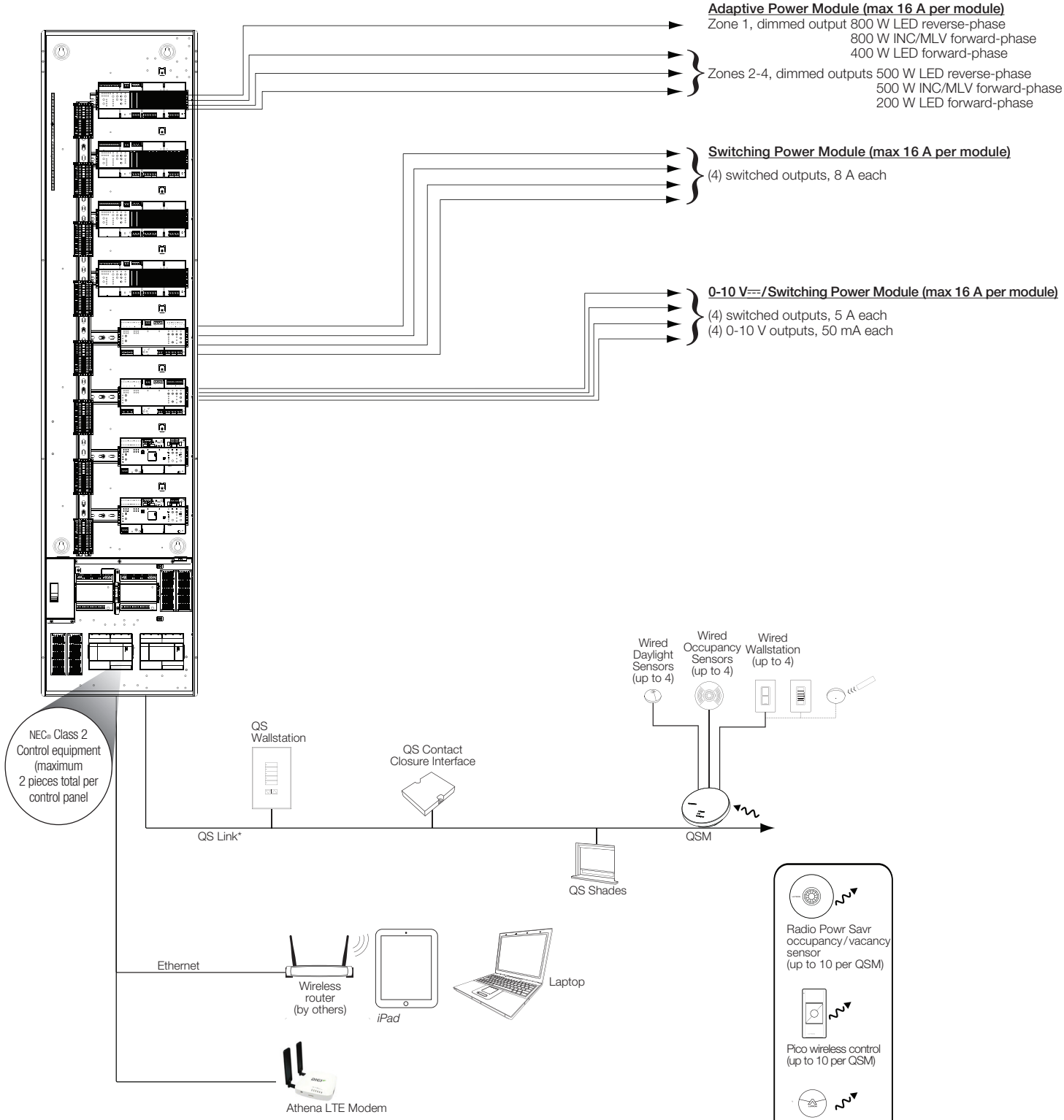
System Diagram

Note: 120 V~ output ratings shown are for reference only. Please refer to each DPMs spec sheet for complete zone output ratings. See last page for spec sheet part numbers.



* **Note**: All QS Devices inside panel are wired to link 1 of the processor when there is a 2 link processor.

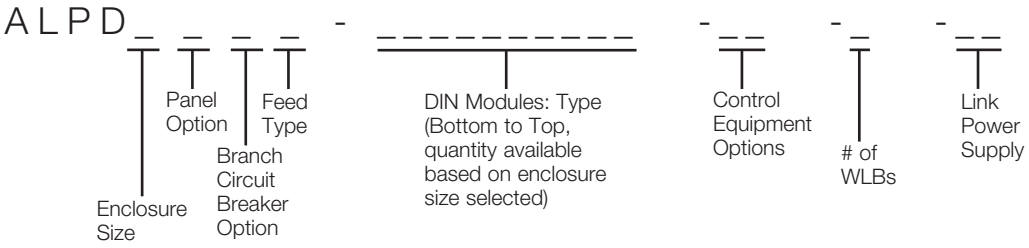
Job Name:	Model Numbers:	
Job Number:		

Panel Model Numbers

The following model numbers are non-orderable base models for the factory assembled QS DIN panels and must be configured to order. See Panel Configuration Nomenclature below for all assembly options.
PD2-S-ASM: 16 in (406 mm) Satellite Panel with up to 2 DPMs
PD4-C-ASM: 42 in (1067 mm) System Panel with up to 4 DPMs and a low-voltage compartment
PD6-S-ASM: 42 in (1067 mm) Satellite Panel with up to 6 DPMs
PD8-C-ASM: 65 in (1651 mm) System Panel with up to 8 DPMs and a low-voltage compartment
PD8-B-ASM: 65 in (1651 mm) Satellite Panel with Breakers with up to 8 DPMs and branch circuit breakers
PD10-S-ASM: 65 in (1651 mm) Satellite Panel with up to 10 DPMs

Panel Configuration Nomenclature

Note: The following information is given for general use only. Use Lutron Designer+ to configure panel combinations and for assistance with specifying module and control equipment. See page 6 and 7 for example configurations.



Example: ALPD**8B20BL4-GFFBBB00**
- 65 in (1651 mm) enclosure (8 DPMs)
- Satellite Panel with Breakers
- 120 V~ 20 A breakers
- 3 Ø 4 W
- (1) Four-circuit 0-10 V/Switching
- (2) Four-circuit Switching
- (3) Four-circuit Phase Adaptive
- (2) Open space for expansion

Enclosure Sizes

2 = 16 in (406 mm) enclosure (2 DPMs)
4 = 42 in (1067 mm) enclosure (4 DPMs)
6 = 42 in (1067 mm) enclosure (6 DPMs)
8 = 65 in (1651 mm) enclosure (8 DPMs)
10 = 65 in (1651 mm) enclosure (10 DPMs)

Panel Options

B = Satellite Panel with Breakers (breakers and modules, no control equipment)
C = System Panel (control equipment compartment and modules, no breakers)
S = Satellite Panel (modules only, no control equipment or breakers)

Branch Circuit Breaker Options (QTY: 8)

15B = 120 V~ 15 A Breakers
20B = 120 V~ 20 A Breakers
Blank = 120/277 V~ Feed-through

Feed Types

L3 = 1 Ø 3 W (125 A main lug, Satellite Panel with Breakers only)
L4 = 3 Ø 4 W (125 A main lug, Satellite Panel with Breakers only)
Blank = Feed-through (20 A per feed maximum)

DIN Modules

B = Four Output PRO LED+ Phase Adaptive Dimming
F = Four-Circuit Switching
G = Four-Circuit 0–10 V⎓/Switching
0 = Open space for expansion

Control Equipment Options (maximum of 2, System Panels only)

N = 2-Link Processor
R = 1-Link Processor
X = DMX Control
C = Contact Closure Interface
K = Network Interface
A = PoE Switch
0 = Open space for expansion

Wire Landing Boards (1-4, System Panels only)

_ = # of QS Wire Landing Boards

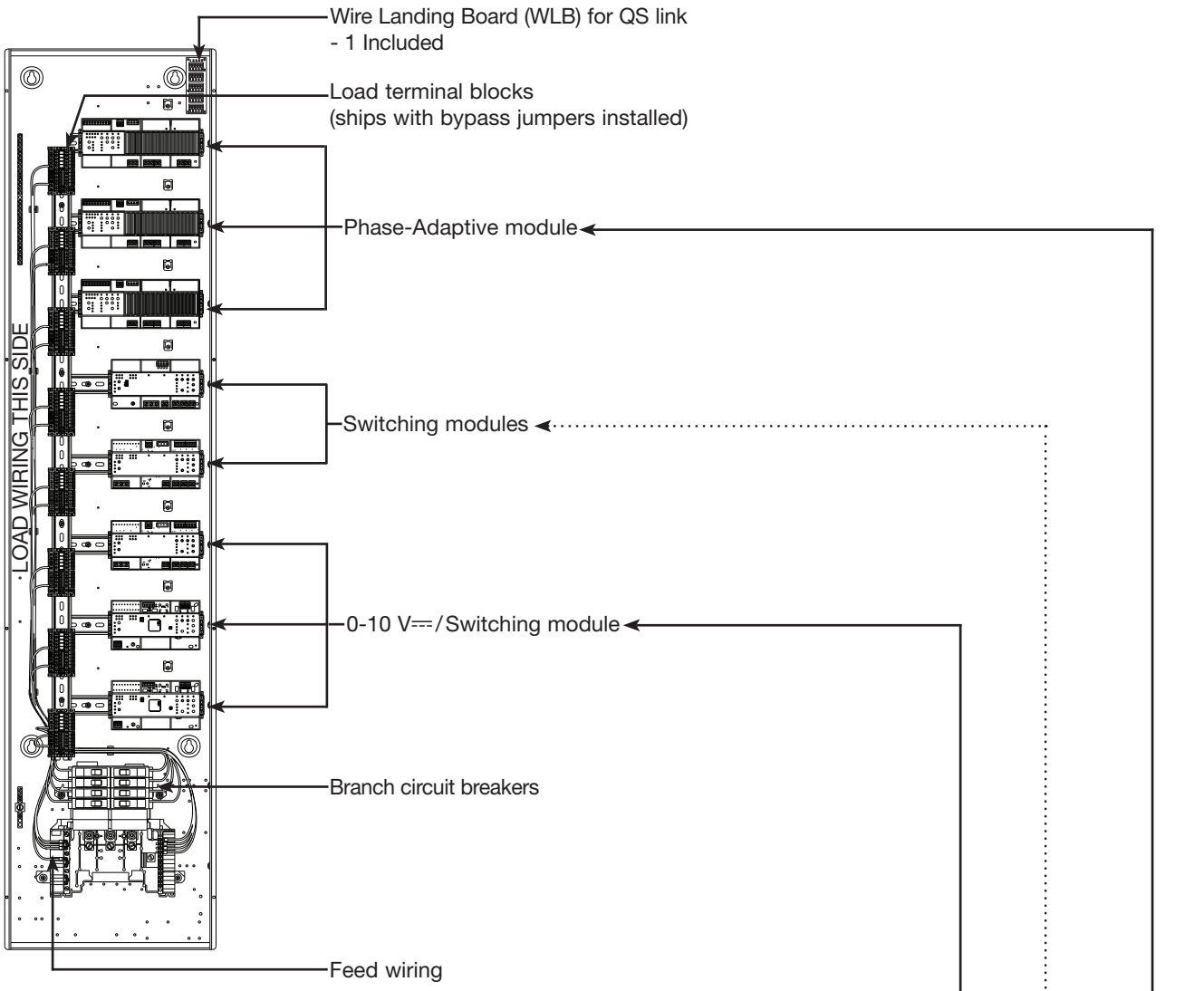
Link Power Supply (maximum of 2, System Panels only)

L = 75 PDU Power Supply (required if panel contains processor or PoE Switch)
0 = No Power Supply, open space for expansion

Job Name:	Model Numbers:	
Job Number:		

Example Configurations

Satellite Panel with Breakers
Base Model: PD8-B-ASM



Panel Configuration: ALPD8B20BL4-G G G F F B B B

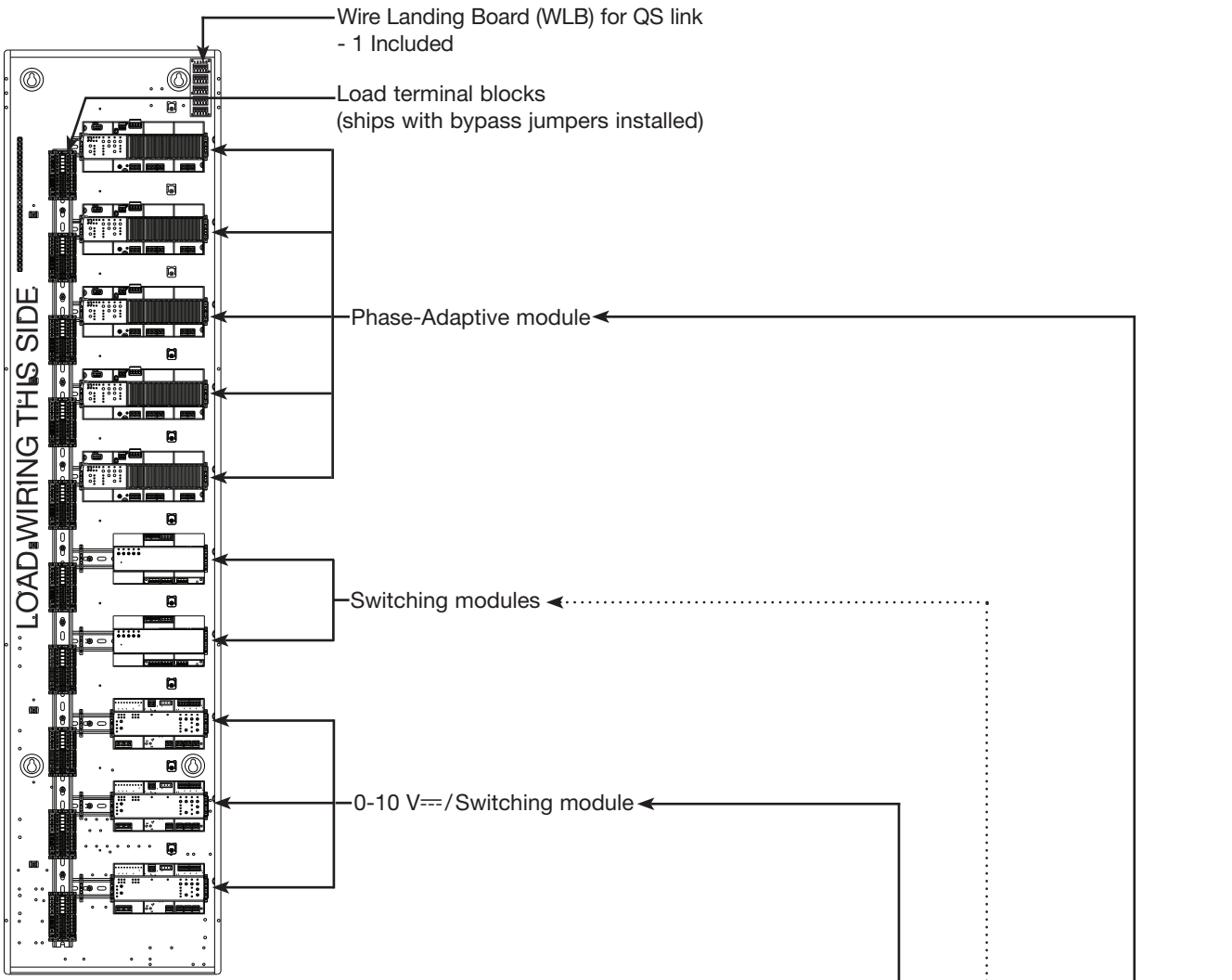
Example

ALPD8B20BL4-GGGFFBBB: 65 in (1651 mm) Satellite Panel with Breakers with 20 A branch circuit breakers and 3 Ø 4 W main input with (3) 0–10 V⎓/switching modules, (2) switching modules, (3) phase-adaptive modules.

Job Name:	Model Numbers:	
Job Number:		

Example Configurations *(continued)*

Satellite Panel
Base Model: PD10-S-ASM



Panel Configuration: ALPD10S-G G G F F B B B B B

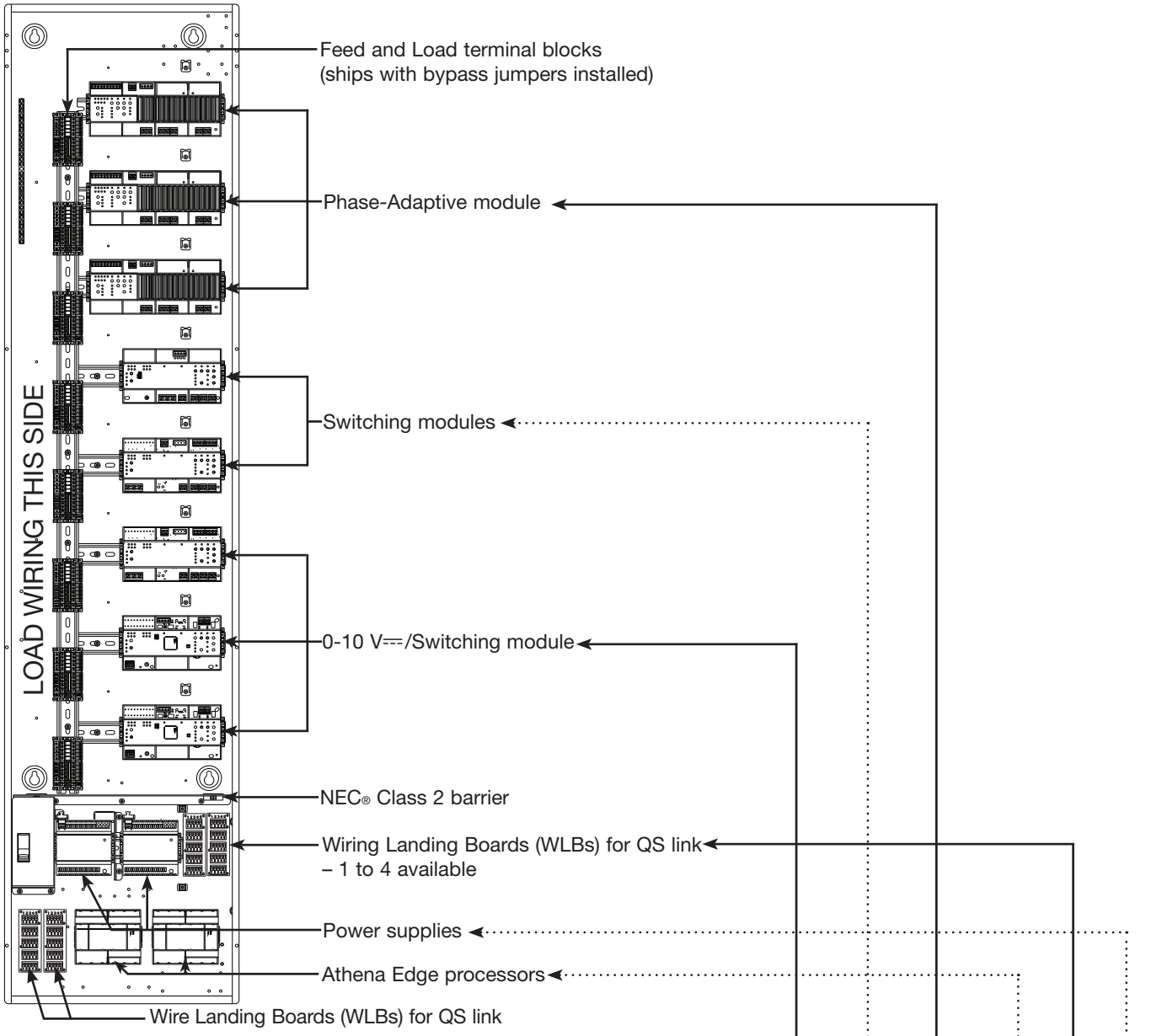
Example

ALPD10S-GGGFFBBBBB: 65 in (1651 mm) Satellite Panel with (3) 0–10 V⎓/switching modules, (2) switching modules, (5) phase-adaptive modules.

Job Name:	Model Numbers:	
Job Number:		

Example Configurations *(continued)*

System Panel
Base Model: PD8-C-ASM



Panel Configuration 2:

ALPD8C-GGGFFBBB-NN-4-LL

Example

ALPD8C-GGGFFBBB-NN-4-LL: 65 in (1651 mm) System Panel with (3) 0–10 V⎓/switching modules, (2) switching modules, (3) phase-adaptive modules, (2) Athena Edge processors, (4) Wire Landing Boards, and (2) power supplies.

Job Name:	Model Numbers:	
Job Number:		

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Mounting for Panels

- For indoor use only.
- Consult dimensions page for panel size, conduit knockouts, and mounting hole locations.
- Panels weigh up to 110 lb (50 kg). Reinforce wall structure for weight and local codes.
- Mount panel where audible noise is acceptable.
- This equipment is passively air-cooled. Mount in a location where the vented cover will not be blocked. 12 in (305 mm) of clearance in front of the vents is required. Vents must not be blocked or the warranty will be voided.
- Mount the panel so that line-voltage wiring will be at least 6 ft (1.8 m) from audio and video equipment, or radio frequency devices equipment and wiring.
- For surface mount, mount the panel a minimum of 6 in (152 mm) from the floor and 12 in (305 mm) from the ceiling.
- Mount panel using one of the methods below (mounting hardware is not provided):

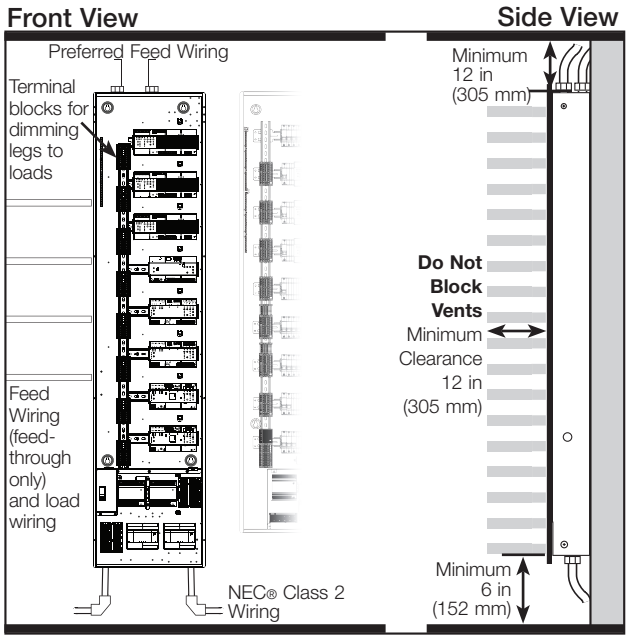
Surface-Mounting

- Use keyholes with bolts sufficient for 110 lb (50 kg) load, M6 (1/4 in) bolts recommended.
- Mount within 7° of true vertical
- Install in accordance with all local and national electrical codes.
- Limit vertical stacking of 2 DPM panels to three panels high and limit vertical stacking of 4 DPM panels to two panels high, while maintaining at least 12 in (305 mm) of air space at the top and bottom of each panel. Do not vertically stack 6 DPM, 8 DPM, or 10 DPM panels.

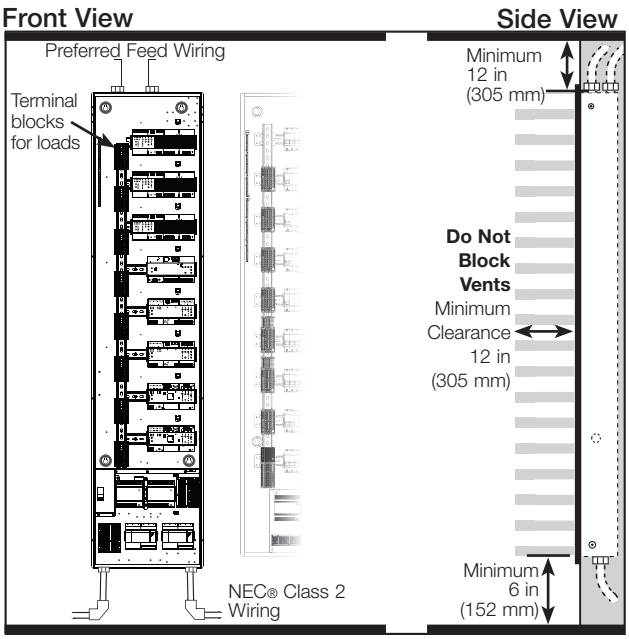
Recess-Mounting

- Mount panel between flush and 1/8 in (3.2 mm) below finished wall surface.
- Use screws sufficient for 110 lb (50 kg).

Surface-Mounting



Recess-Mounting



LUTRON SPECIFICATION SUBMITTAL

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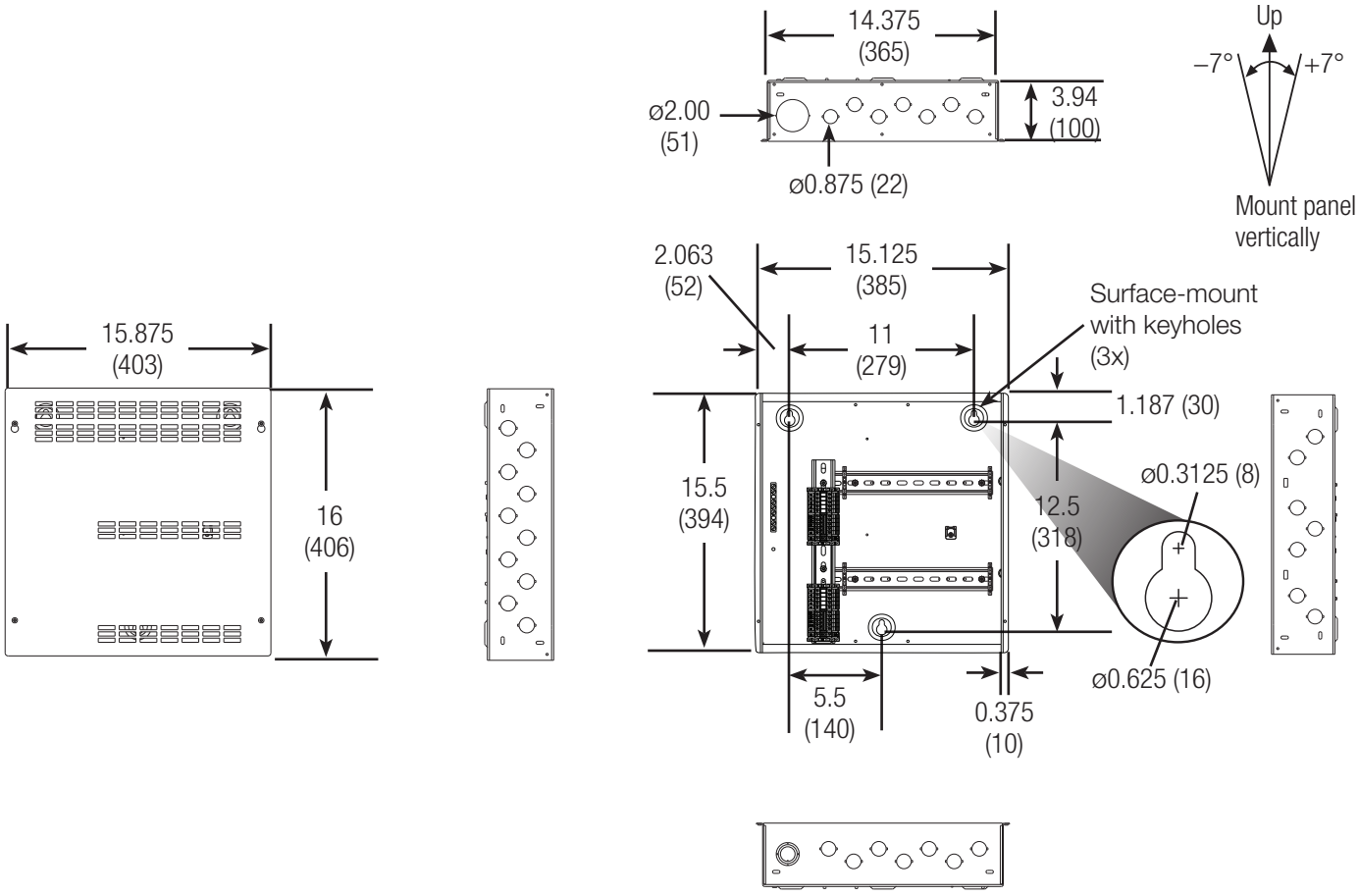
Job Name:	Model Numbers:	
Job Number:		

Dimensions and Mounting

2 DPM Satellite Panel

All measurements shown as: in (mm)

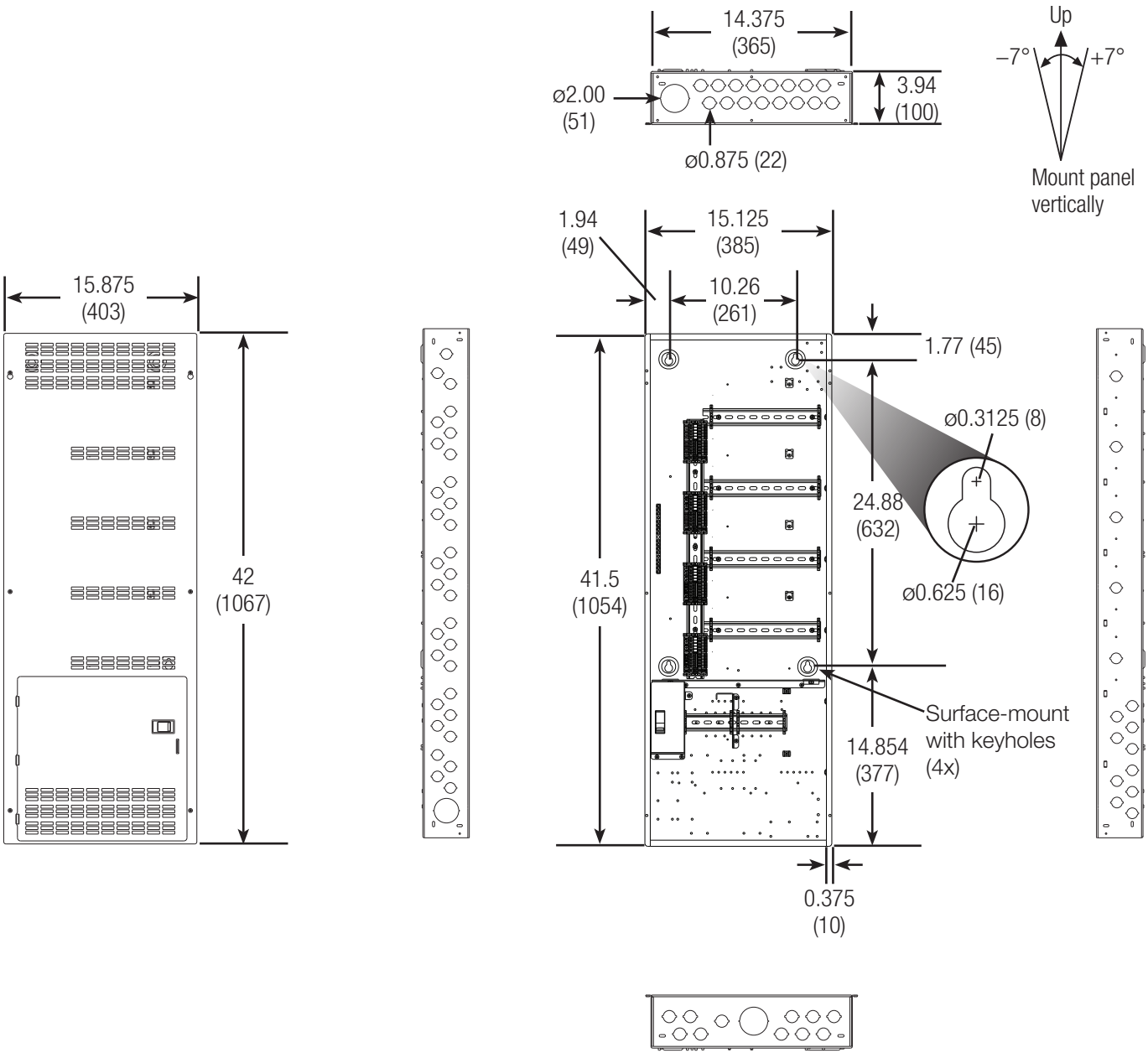


Job Name:	Model Numbers:	
Job Number:		

Dimensions and Mounting

4 DPM System Panel

All measurements shown as: in (mm)

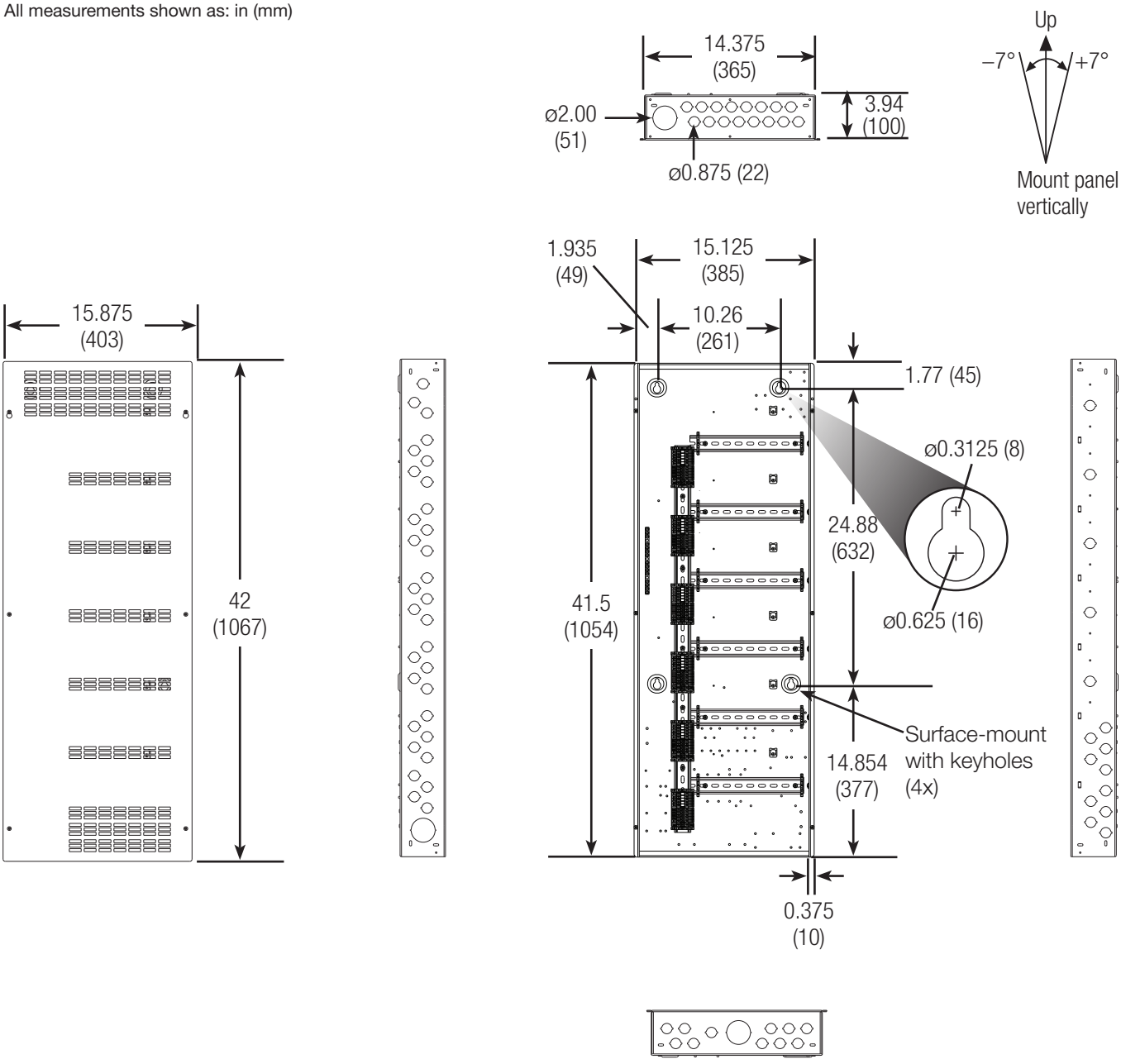


Job Name:	Model Numbers:	
Job Number:		

Dimensions and Mounting

6 DPM Satellite Panel

All measurements shown as: in (mm)

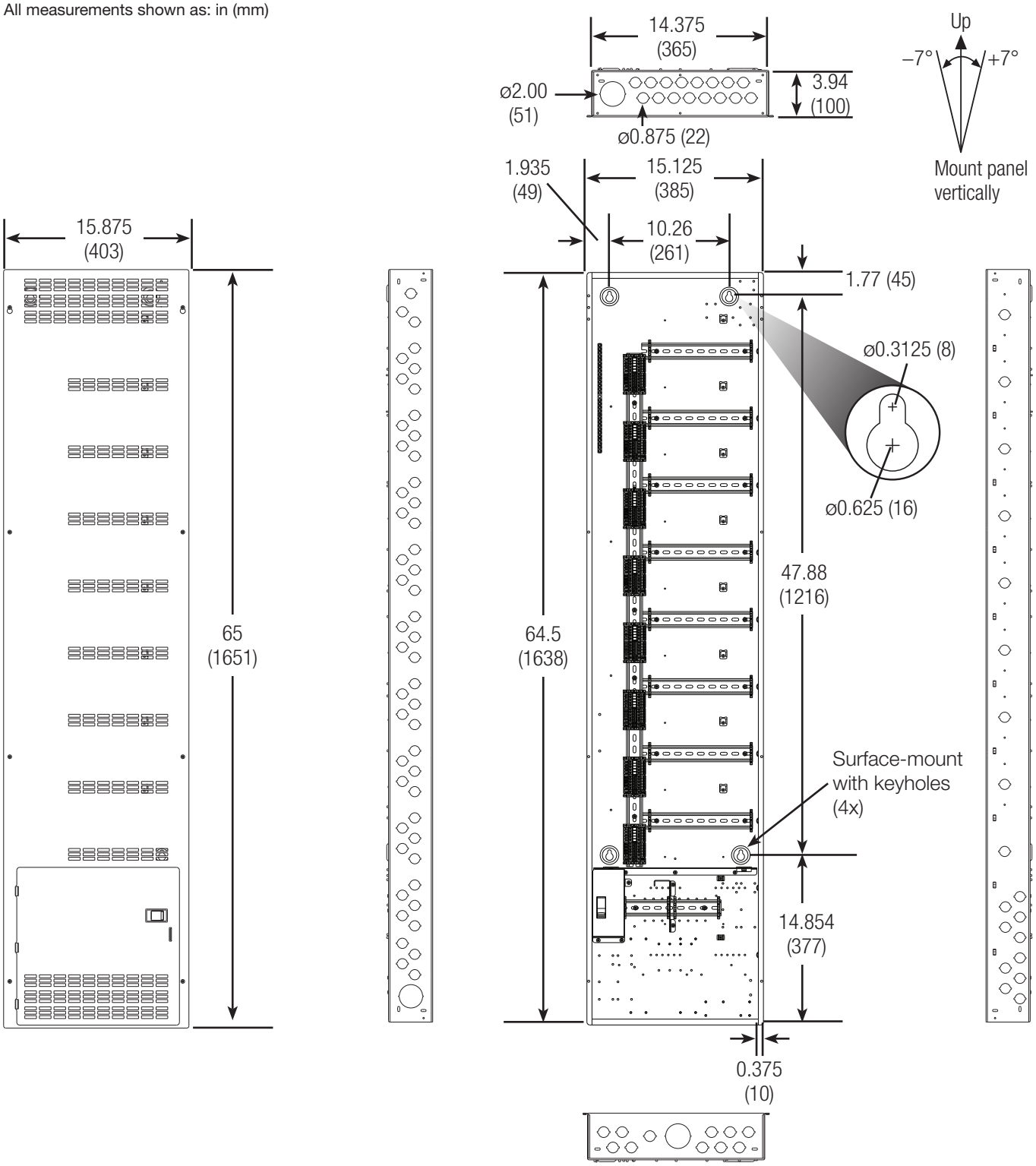


Job Name:	Model Numbers:	
Job Number:		

Dimensions and Mounting

8 DPM System Panel

All measurements shown as: in (mm)

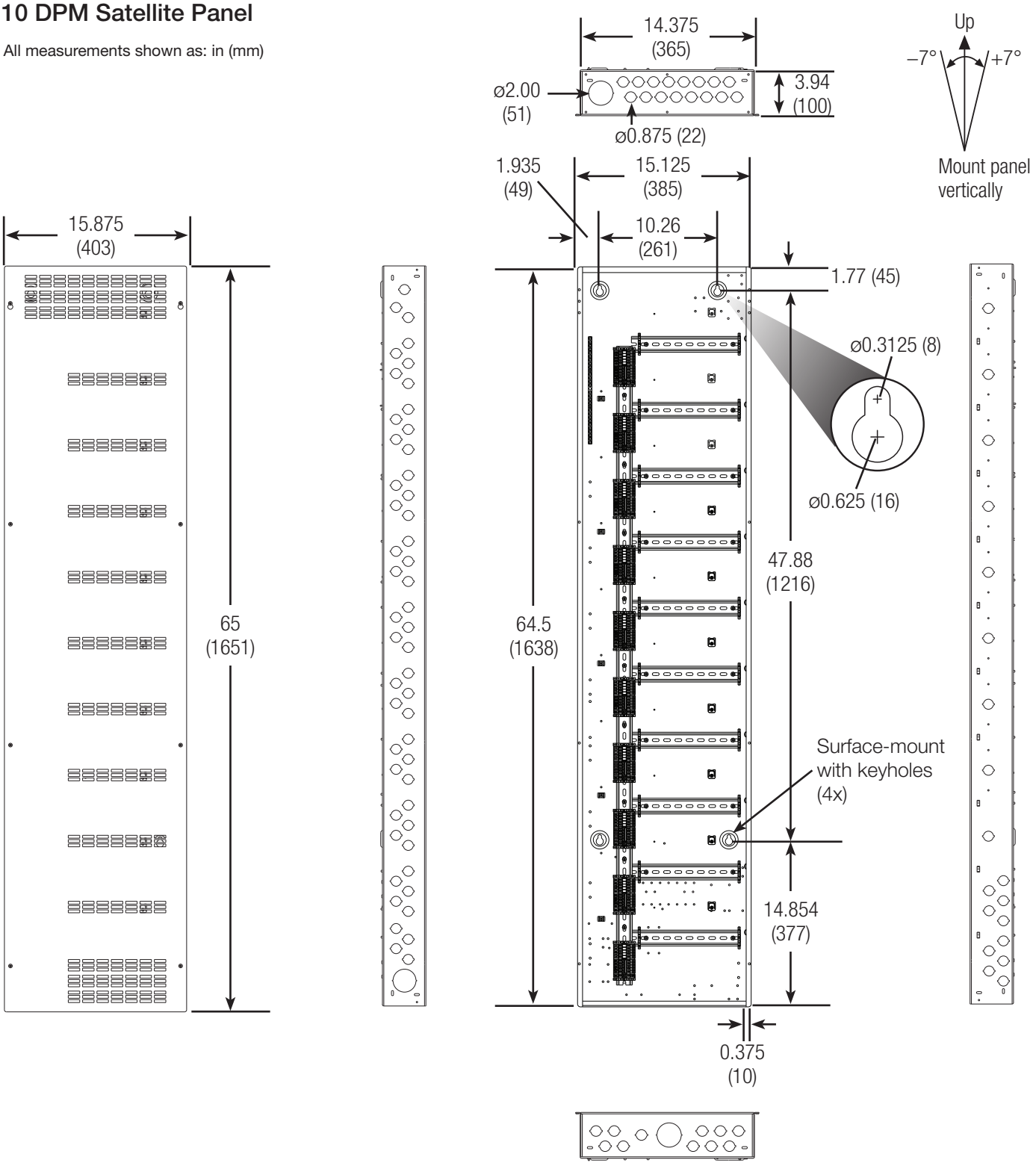


Job Name:	Model Numbers:	
Job Number:		

Dimensions and Mounting

10 DPM Satellite Panel

All measurements shown as: in (mm)

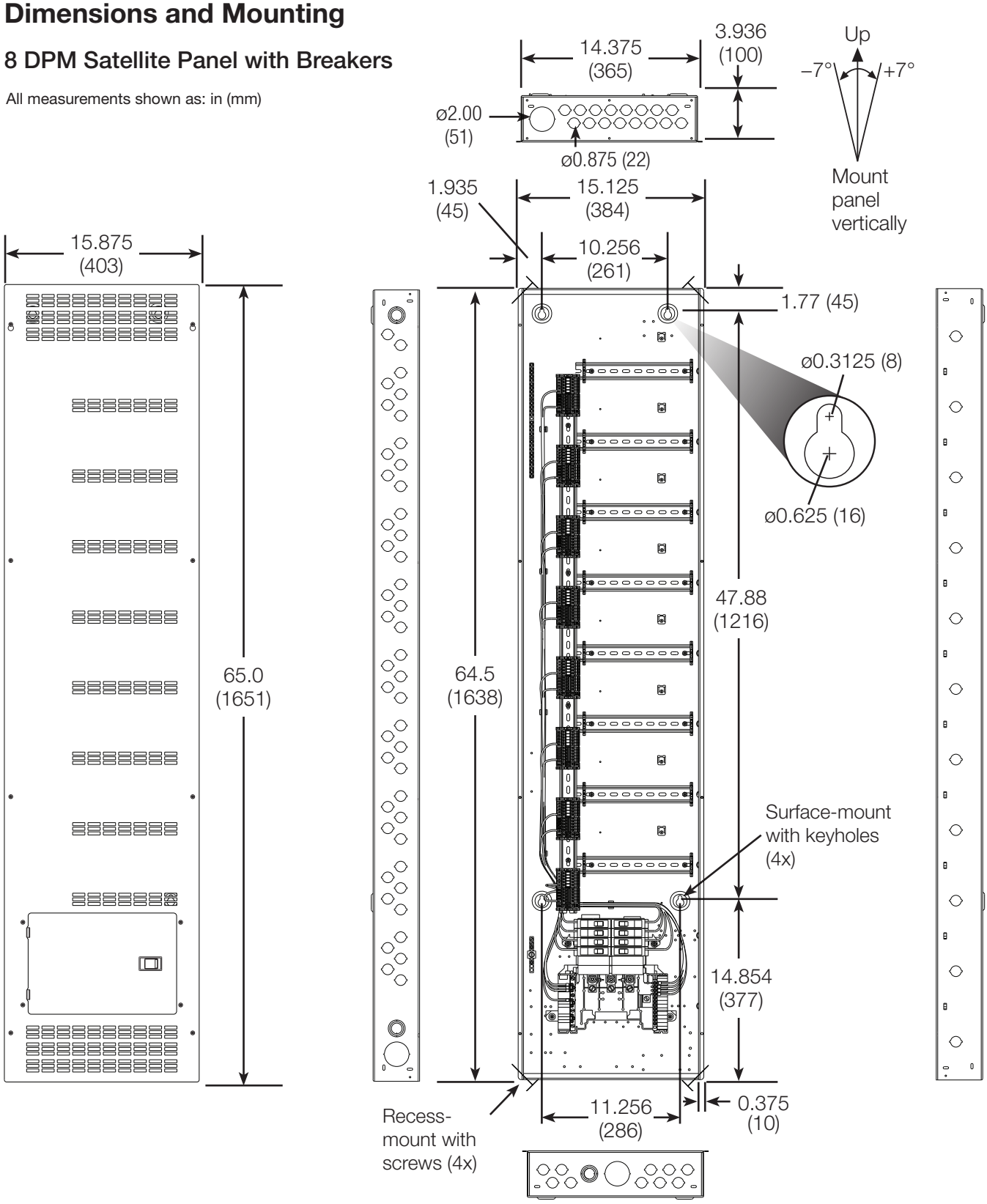


Job Name:	Model Numbers:	
Job Number:		

Dimensions and Mounting

8 DPM Satellite Panel with Breakers

All measurements shown as: in (mm)



Job Name:	Model Numbers:	
Job Number:		

Panel Wiring

Wire Sizes

- **Mains Feed (to main lugs, Satellite Panel with Breakers only):**
  6 AWG (16 mm²) to 2/0 AWG (70 mm²)
- **Mains Feed (to terminal block, Satellite and System Panels only):**
  26 AWG (0.14 mm²) to 10 AWG (6.0 mm²)
- **Dimmed Line (to terminal block):**
  26 AWG (0.14 mm²) to 10 AWG (6.0 mm²)
- **Load Neutral (to terminal block):**
  26 AWG (0.14 mm²) to 10 AWG (6.0 mm²)

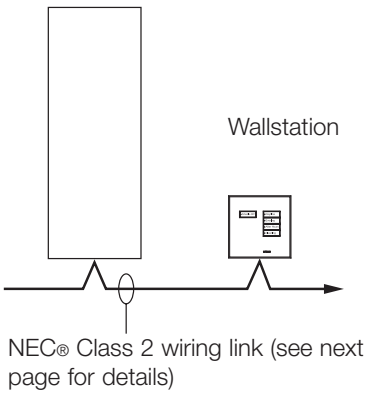
Wiring Tips

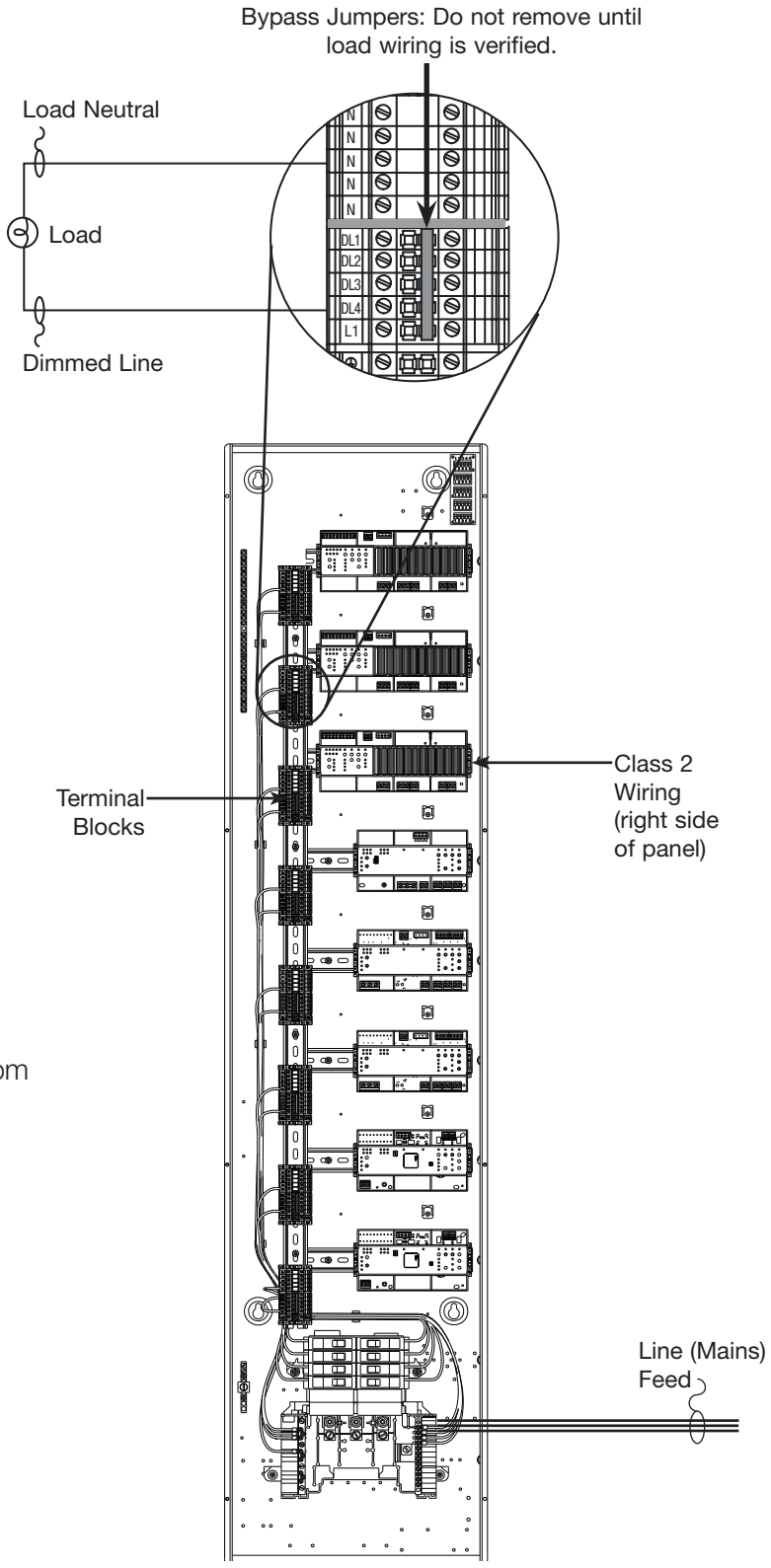
Wire the panel similar to a Lighting Distribution Panel:

- Run feed and load wiring to appropriate terminal blocks installed in the panel.
- For System Panels and Satellite Panels run separate neutrals for each module—no common neutrals across phases.
- The panel can provide temporary lighting:
  - – Wire all loads.
  - – Do not remove bypass jumpers that are pre-installed for load controlling modules.
  - – Use pre-installed breakers to switch lights on and off.

NEC® Class 2 Wiring

- NEC® Class 2 wiring is used for all system communications.
- NEC® Class 2 wiring must run in a separate trough from line (mains) voltage.
- Must be less than 2000 ft (600 m) long.





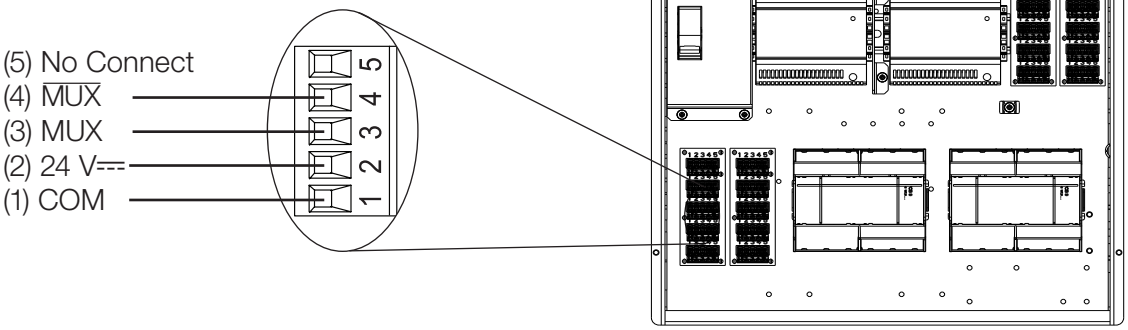
Job Name:	Model Numbers:	
Job Number:		

Configurable Link Wiring: QS Devices

QS Link Wiring:

22 AWG to 12 AWG
(0.5 mm² to 4.0 mm²)

Tighten terminal blocks to 3.5 in-lb to 5.0 in-lb (0.4 N•m to 0.57 N•m). Do not overtighten.



QS Link Wiring with Available Power Supplies (QSPS-DH-1-75)

Available Power Draw Units (PDUs) per link	Maximum Link Length	Wire Gauge Required	Available from Lutron in one cable
32	500 ft (150 m)	Power (terminals 1 and 2) 1 pair 16 AWG (1.5 mm²) Data (terminals 3 and 4) 1 pair 22 AWG (0.5 mm²) twisted and screened	GRX-CBL-346S (non-plenum) GRX-PCBL-346S (plenum)
32	2000 ft (600 m)	Power (terminals 1 and 2) 1 pair 12 AWG (4.0 mm²) Data (terminals 3 and 4) 1 pair 22 AWG (0.5 mm²) twisted and screened	GRX-CBL-46L (non-plenum) GRX-PCBL-46L (plenum)

Notes

- System communication uses NEC® Class 2 wiring.
- Follow all local and national electrical codes when installing NEC® Class 2 wiring with line voltage/mains wiring.
- Each terminal accepts up to two 18 AWG (1.0 mm²) wires or one 12 AWG to 22 AWG (4.0 mm² to 0.5 mm²) wire.
- Make all connections inside the panel.
- Refer to the **QS Link Power Draw Units** Specification Submittal (Lutron P/N 369405 at www.lutron.com) and the table above for information concerning Power Draw Units (PDUs).
- Wiring can be T-tapped or daisy-chained.

Job Name:	Model Numbers:	
Job Number:		

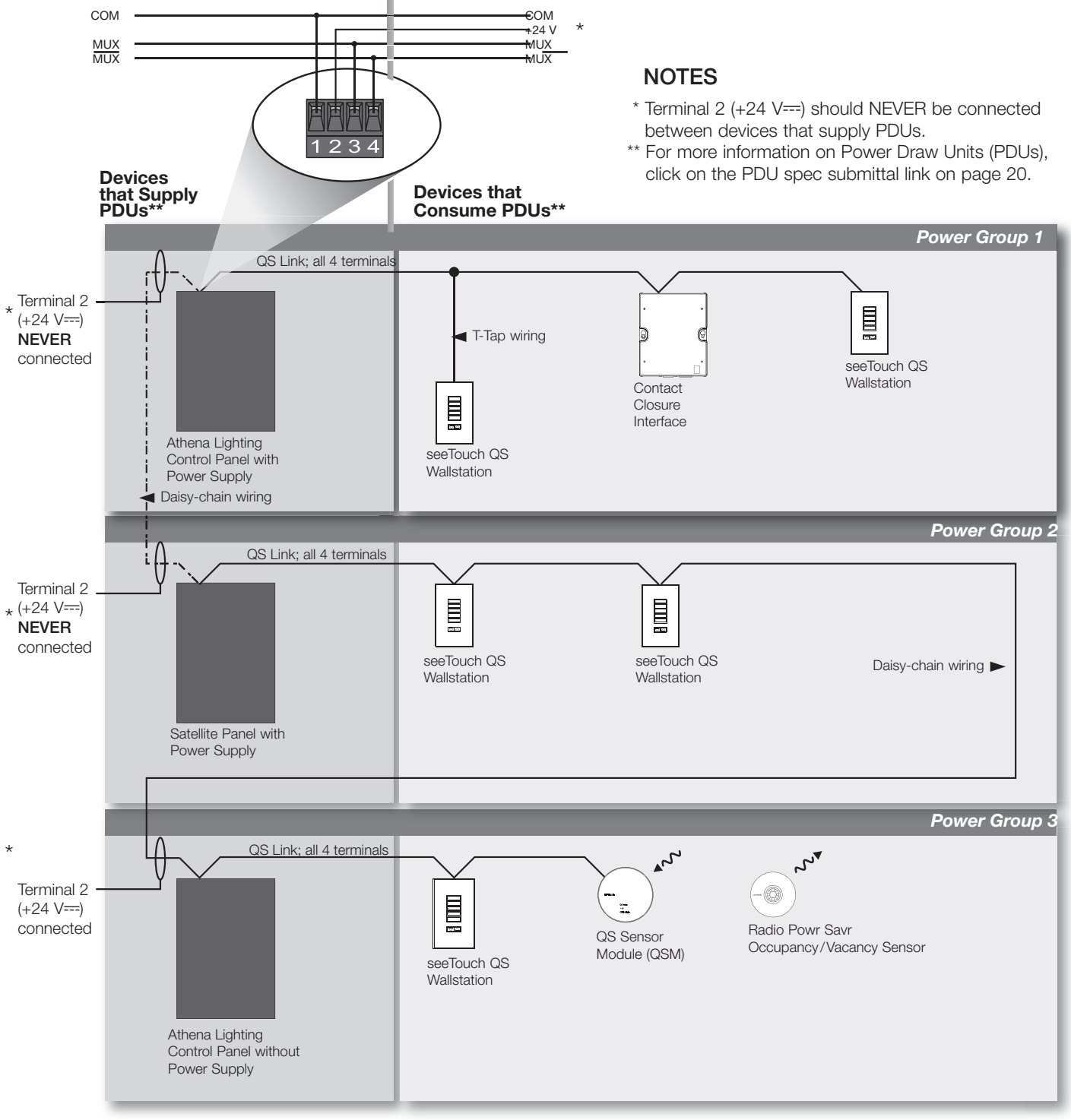
Wiring: QS Link

Between Power Groups

Only terminals 1, 3, and 4 connected between devices that supply PDUs**

Within Power Groups

All four terminals connected to QS link devices that consume PDUs**



NOTES

* Terminal 2 (+24 V⎓) should NEVER be connected between devices that supply PDUs.

** For more information on Power Draw Units (PDUs), click on the PDU spec submittal link on page 20.

Job Name:	Model Numbers:	
Job Number:		

Athena Security Statement

Lutron takes cybersecurity very seriously. We actively monitor the threat landscape and take a proactive approach to security and privacy, continuously working to update and enhance our systems and processes.

At Lutron, we call our approach to cybersecurity **"Secure Lifecycle"**, and we would like to present the following steps we take to protect your security and privacy:

- **Security by Design.** When building a new system, Lutron utilizes a dedicated security team to ensure best practices are implemented. Security is built in. It is not an afterthought or an add-on.
- **Third-Party Validation.** Security is complicated. Lutron has a dedicated team of internal experts, but we also leverage external experts to double-check our work, and to make security recommendations.
- **Continuous Monitoring and Improvements.** Security is a constantly moving target. Lutron uses a dedicated security team to continuously monitor for potential threats and, when needed, send out security patches to update installed systems.
- **Ongoing Support.** Lutron has the resources you need to answer questions about security when they arise

We incorporate a variety of security features into our product designs. These features include recommendations from the National Institute of Standards and Technology (NIST) among others, and they are aimed at meeting our secure lifecycle protections. While we do not publish a comprehensive list of our security features, the following list is a small example of some of the techniques employed in our system designs for Athena Edge processors, Light Management hubs, Clear Connect – Type X Gateway devices and associated services (such as mobile applications and cloud resources):

1. Secure and authenticated remote access with unique keys for every Athena system
2. A secure hardware element ("chip") on all Athena Edge processors and Clear Connect – Type X Gateway to guard the keys used for secure communication and authentication
3. Enforcing industry-standard encrypted communication and techniques for our integration protocols to the highest extent possible. Any integrated third-party components or systems should be evaluated independently.
4. Secure commissioning – all communication between the system programming software tool/app and the processors is encrypted and authenticated. Programming a system requires permission to access that system.
5. Security updates are pushed out automatically to the lighting system for urgent security patches. Lutron is committed to one year of security support from system start-up date.
6. Use of industry-standard techniques for cloud-based integrations, such as OAuth2.0
7. Signed processor firmware to ensure a firmware update is authentically from Lutron.

If you have additional questions or would like to make a vulnerability disclosure to Lutron, please contact Lutron's 24/7 Technical support Line at 1.844.LUTRON1 or email us at support@lutron.com.

Job Name:	Model Numbers:	
Job Number:		

Module and Interface Specification Submittals

Product	P/N
PRO LED+ Phase Adaptive Module	*3691173*
0–10 V⎓/Switching Module	*3691171*
Switching Module	*3691172*
QSE-CI-DMX Control Interface	*369372*
QSE-IO Control Interface	*369374*
QSE-CI-NWK-E Control Interface	*369373*
Power Supply	*369886*
Power Draw Units (PDU)	*369405*
QS Wire Landing Board	*369662*
Athena Edge Processor	*3691197*
PoE Switch	*3691204*

Job Name:	Model Numbers:	
Job Number:		