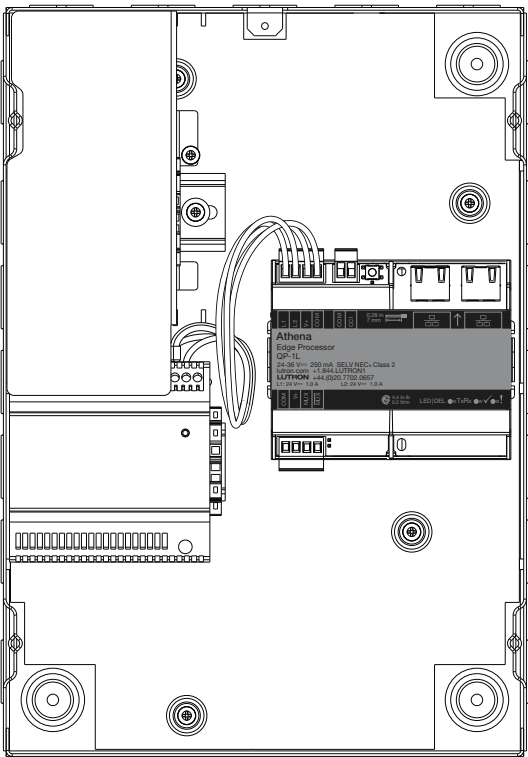# Athena Small Area Hub (QP6)

The Athena Small Area Hub (QP6) connects Lutron QS devices to your Athena lighting and shading control system.

Features

- Designed to control, manage, and monitor Lutron Energi Savr Node units, QS and Pico wallstations, Contract Roller QS shades, and QS drapery systems.
- The small enclosure size of 9.25 in x 3.14 in x 13.25 in (235 mm x 79.71 mm x 337 mm) allows almost any space to be enhanced with an Athena system.
- The Athena system brings switching, dimming, motorized window shades, digital ballasts, digital LED drivers, and smart sensors together under one software tool.
- Can be connected to the same network as the other Athena wireless processors and gateways, including:
  - A-RF2
  - Q-RF
  - QP5
  - QP6
  - POE and PNL panels
- Enables an Athena system to cost-effectively scale from a single floor, to multiple floors, to a whole building.
- Compatible with a Clear Connect Gateway–Type X but requires a Q-POE-PNL or separate IEEE 802.3af-2003 or 802.3at-2009 compliant Power over Ethernet (PoE), supply (not by Lutron).
- Supports both astronomic and time-of-day events to automatically control the lights and shades/draperies in the system.
- Supports integration via Lutron LEAP API and BACnet IP without additional interfaces. Refer to the Athena and myRoom XC API Integration specification submittal (P/N 3691208) at www.lutron.com for more details.

Hub Capabilities

- Each Athena Small Area Hub (QP6) includes an Athena Edge processor with one QS link that can communicate with up to 25 QS devices and control up to 256 switch legs.

Models Available

QP6-1L

Configurable Link/Switchleg Capabilities

Model	Limitations per Processor		
	Number of Processors per Panel	Number of QS Links	Number of Ethernet Ports
QP-6-1L	(1) 1-link	1	2

	Limitations per QS Link					
	QS Device Count	Wall Controls *	Occupancy Sensor Count	Daylight Sensor Count	Switchleg Count	DMX Interface Limit
	25	50	50	50	256	8

* Pico wireless controls, QS keypads, IR

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Job Name:	Model Numbers:
Job Number:	

Specifications

Regulatory Approvals

- cULus (Reference: UL® file E42071)
- CE
- NOM compliance
- Complies with requirements for use in other spaces used for environmental air (plenums) per NEC® 2014 300.22(C)(3)
- Meets the Canadian National Building Code plenum requirements for a concealed space used as a plenum within a floor or roof assembly

Power

- Input voltage: 100–277 V∼ 50/60 Hz normal feed
- Output: Processor: 24 V⎓ 1 A
- Input Current: 1.2 A (100 V∼)
                1.0 A (120 V∼)
                0.7 A (230 V∼)
                0.5 A (277 V∼)
- Power Dissipation (Max): 40 BTUs/hr

Physical Design

- NEMA Type 1, IP-20 protection
- Enclosure: W: 9.25 in (235 mm)
             H: 13.25 in (337 mm)
             D: 3.14 in (79.7 mm)
- Enclosure with Cover: W: 9.42 in (240 mm)
                        H: 13.41 in (341 mm)
                        D: 3.19 in (80.9 mm)
- Weight: 12 lb (5.4 kg) (without packaging)

Mounting

- Surface-mount only

Environment

- For indoor use only
- 32 ºF to 104 ºF (0 ºC to 40 ºC)
- Relative humidity less than 90% non-condensing
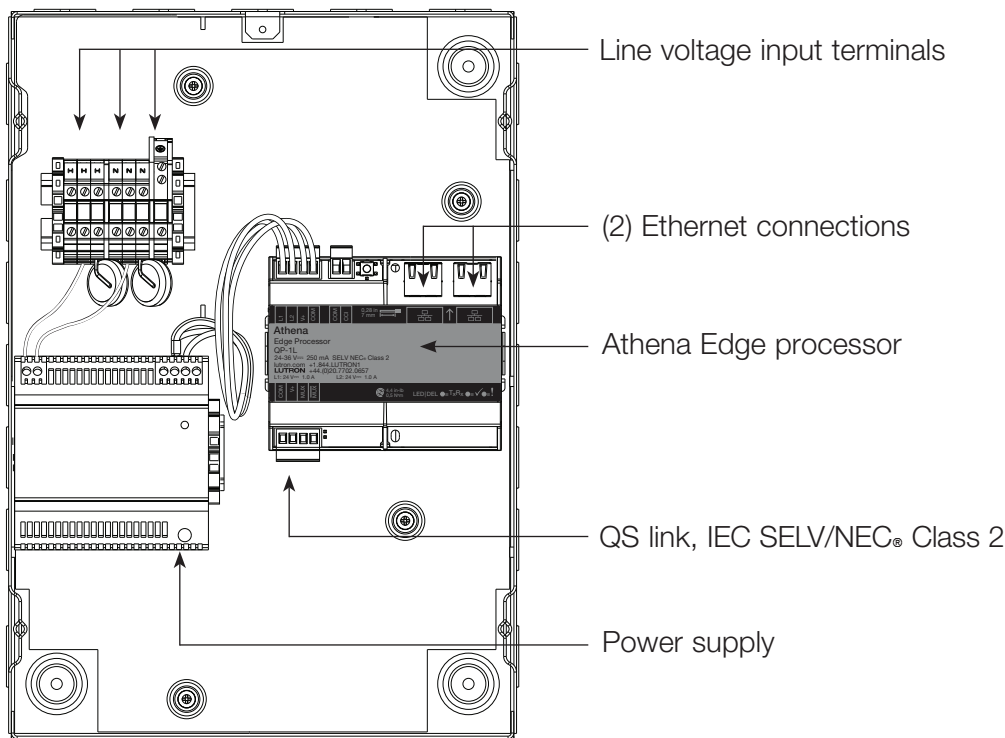
Internet Connection

- Providing Athena hub(s) with an Internet Connection is highly recommended for all projects and applications. The following Athena features require an Internet Connection:
  - Lutron dashboard
  - Control of the Athena system via the Lutron App, iOS and Android
  - Automatic firmware update
  - DALI emergency testing functionality
  - Remote diagnostics, service, and support
- This Internet connection is outbound from the Athena processor to the cloud (see the Athena IT Guide at www.lutron.com/AthenaITGuide for details). Lutron can provide temporary internet connection for start-up. See Athena LTE modem specification, P/N 3691159 for more details

Hub Overview

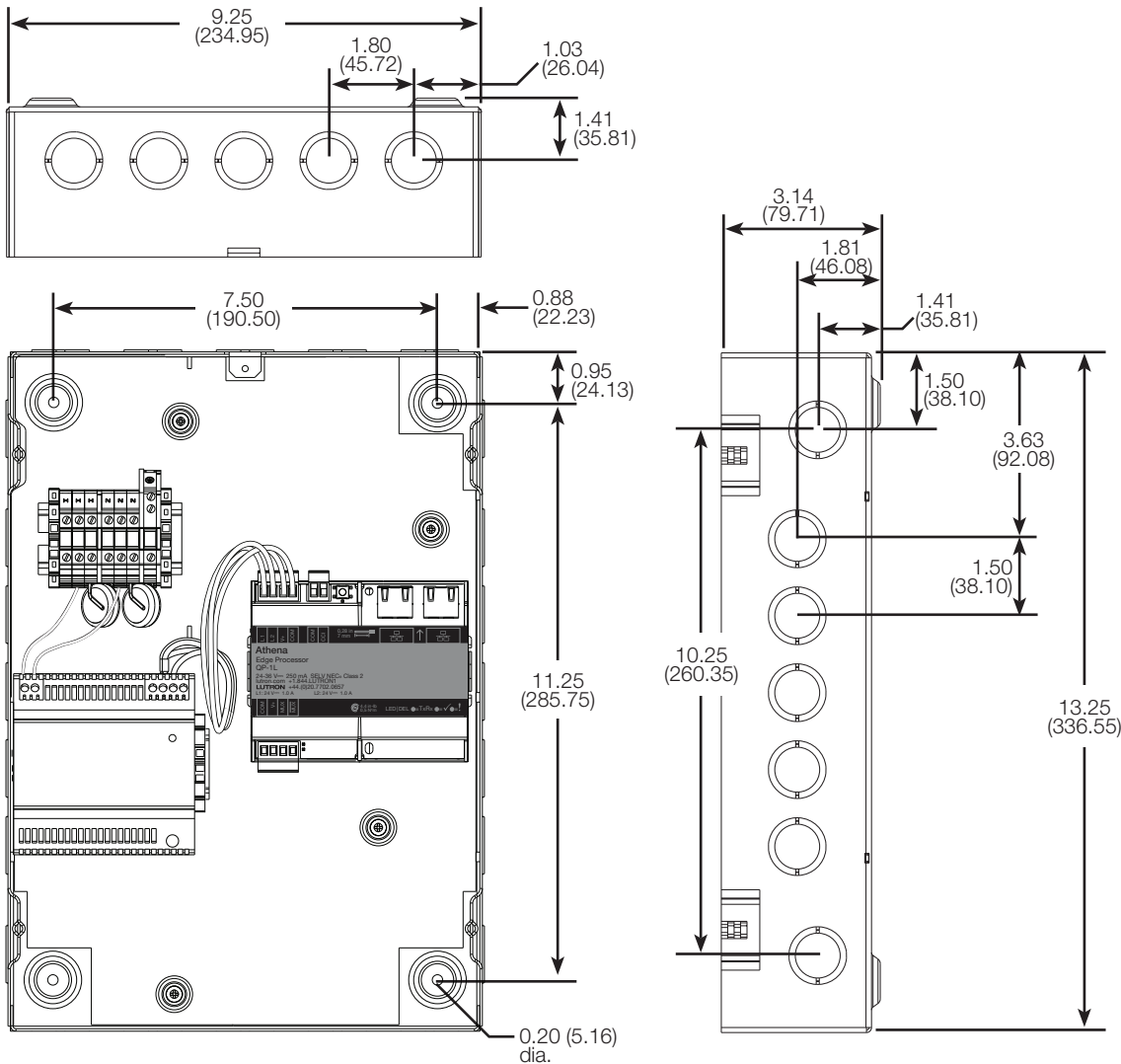- Line voltage input terminals
- (2) Ethernet connections
- Athena Edge processor
- QS link, IEC SELV/NEC® Class 2
- Power supply

Job Name:	Model Numbers:
Job Number:	

Dimensions

Shown as in (mm)

9.25 (234.95)
1.80 (45.72)
1.03 (26.04)
1.41 (35.81)
7.50 (190.50)
0.88 (22.23)
0.95 (24.13)
11.25 (285.75)
0.20 (5.16) dia.

Athena
Edge Processor
QP-1L

3.14 (79.71)
1.81 (46.08)
1.41 (35.81)
1.50 (38.10)
3.63 (92.08)
1.50 (38.10)
10.25 (260.35)
13.25 (336.55)

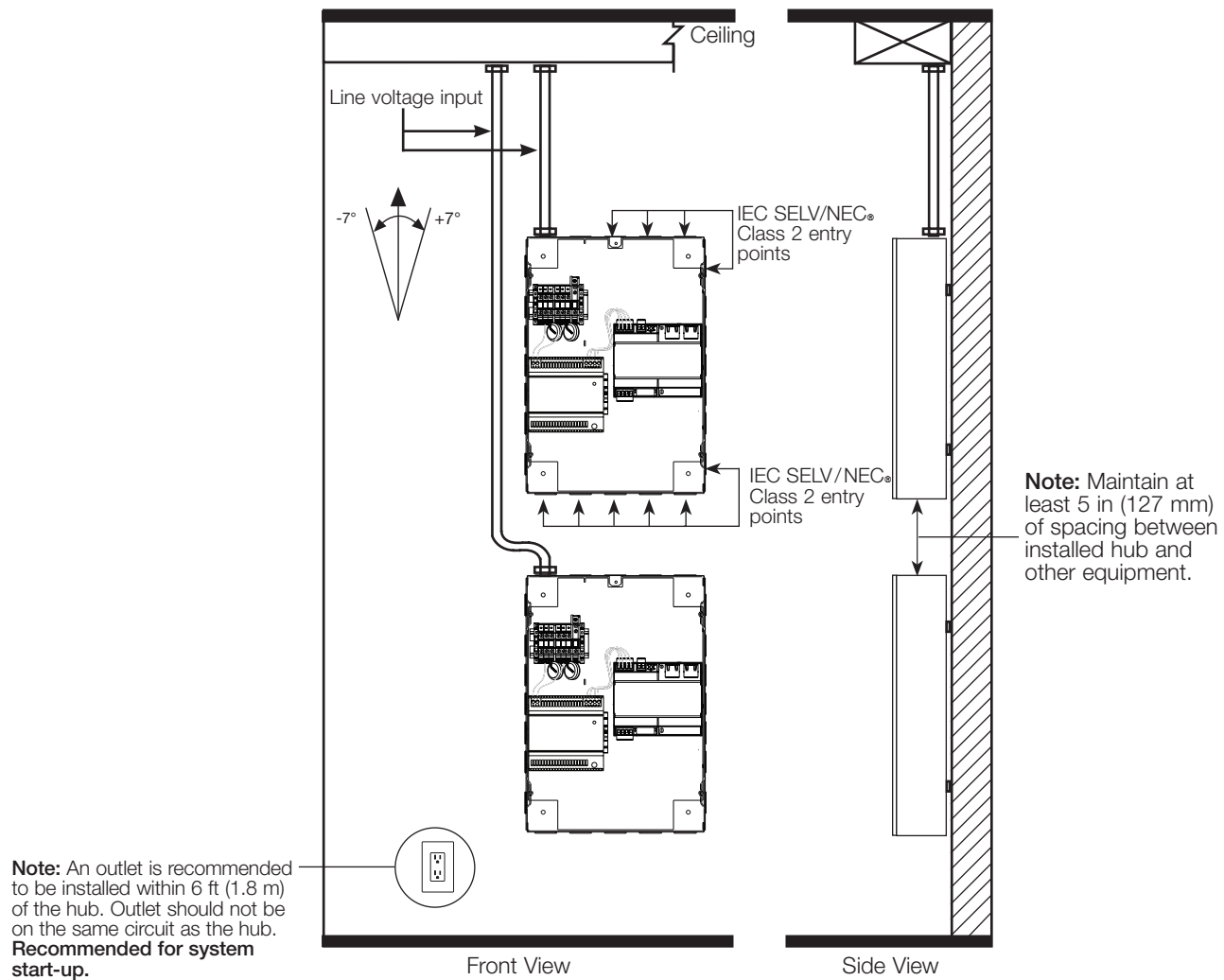| Job Name:	Model Numbers:
Job Number:	

Mounting and Conduit Entry

- Surface-mount indoors.
- The hub generates heat; mount only where temperature will be 32 ℉ to 104 ℉ (0 ℃ to 40 ℃).
- Water damages equipment. Mount in a location where the hub and processors will not get wet.
- Mount in an accessible and serviceable location.
- Mount within 7° of true vertical.
- An outlet is recommended to be installed within 6 ft (1.8 m) of the hub for servicing. Outlet should not be on the same circuit as the hub.
- Reinforce wall structure for weight and local codes. Hub weight without packing is 12 lbs (5.4 kg).
- Mount hub so line (mains) voltage is at least 6 ft (1.8 m) from sound or sensitive electronic equipment.
- A Light Management Hub (QP6) may be mounted above, below, or beside another Light Management Hub (QP5 or QP6). Maintain at least 5 in (127 mm) of spacing between installed hub and other equipment, and follow the NEC® guidelines.

Ceiling

Line voltage input

-7° +7°

IEC SELV/NEC®
Class 2 entry
points

IEC SELV/NEC®
Class 2 entry
points

Note: Maintain at least 5 in (127 mm) of spacing between installed hub and other equipment.

Note: An outlet is recommended to be installed within 6 ft (1.8 m) of the hub. Outlet should not be on the same circuit as the hub. **Recommended for system start-up.**

Front View   Side View

| Job Name:	Model Numbers:
Job Number:	

Line Voltage Wiring
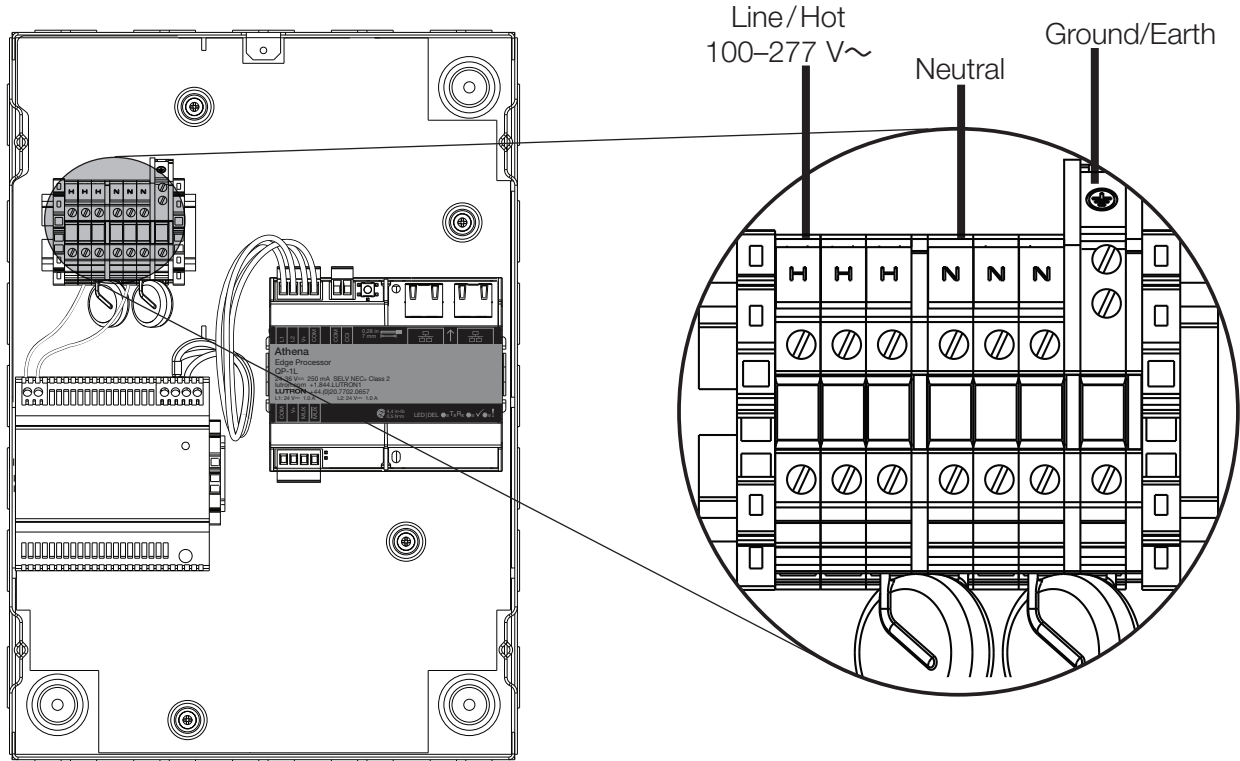
Notes
- Line voltage must enter hub from top left of enclosure
- Lutron requires a 100–277 V∼ normal feed. See Lutron Application Note 106 (P/N 048106) at www.lutron.com for information on emergency lighting applications. Athena hubs and network switches providing power to Clear Connect Type X gateways or Athena wireless processors MUST be powered with normal power if Ketra loads are used for emergency lighting
- Lutron recommends no more than four Light Management Hubs are powered by a dedicated single derated 20 A circuit
- Run wiring so line (mains) Class 1 voltage is separate from IEC SELV/NEC® Class 2 wiring

Job Name:	Model Numbers:
Job Number:	

Athena Hub Ethernet Link Wiring
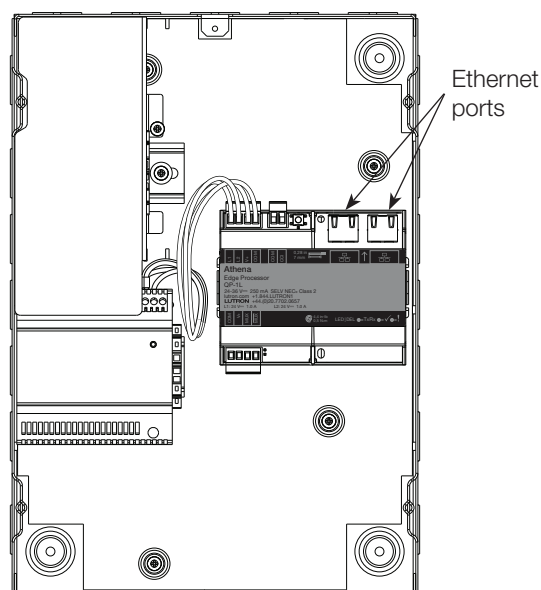
Ethernet ports

Notes
- Use one Ethernet port on the processor to connect the hub to an Ethernet switch. Do not daisy-chain processors using the second Ethernet port.
- Use Cat5e minimum cable for all connections between hubs and Athena PoE devices.
- The wiring between hubs and PoE devices is considered IEC SELV/NEC® Class 2; do not run in the same conduit as line (mains) voltage wiring.
- All system Ethernet wiring must comply with IEEE 802.3 standards.
- Wiring distance for any single system Ethernet link wire segment is 328 ft (100 m) max. Use Lutron's Q-POE-PNL or unmanaged PoE switches for each additional 328 ft (100 m).
- For more information about connecting an Athena system to a corporate or building-wide network, please refer to the Athena IT Guide (P/N 040453) at www.lutron.com/AthenaITguide
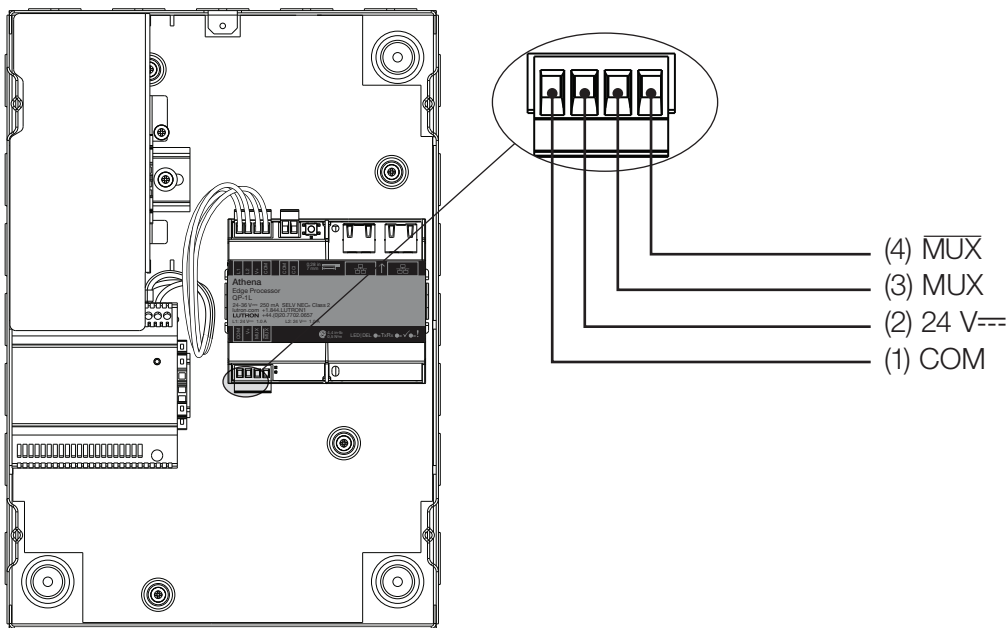
Typical System Ethernet Wiring Riser Diagram
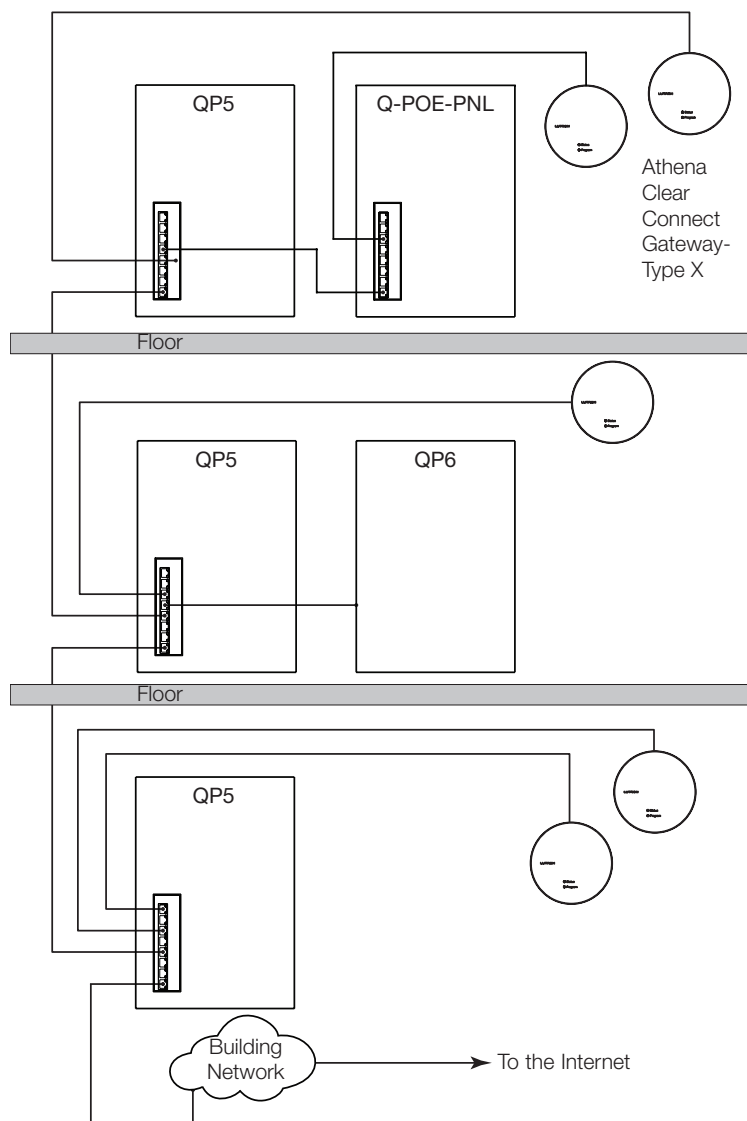
Note: Refer to the IT Guide at www.lutron.com/AthenaITguide for more information for managed switch configuration requirements.

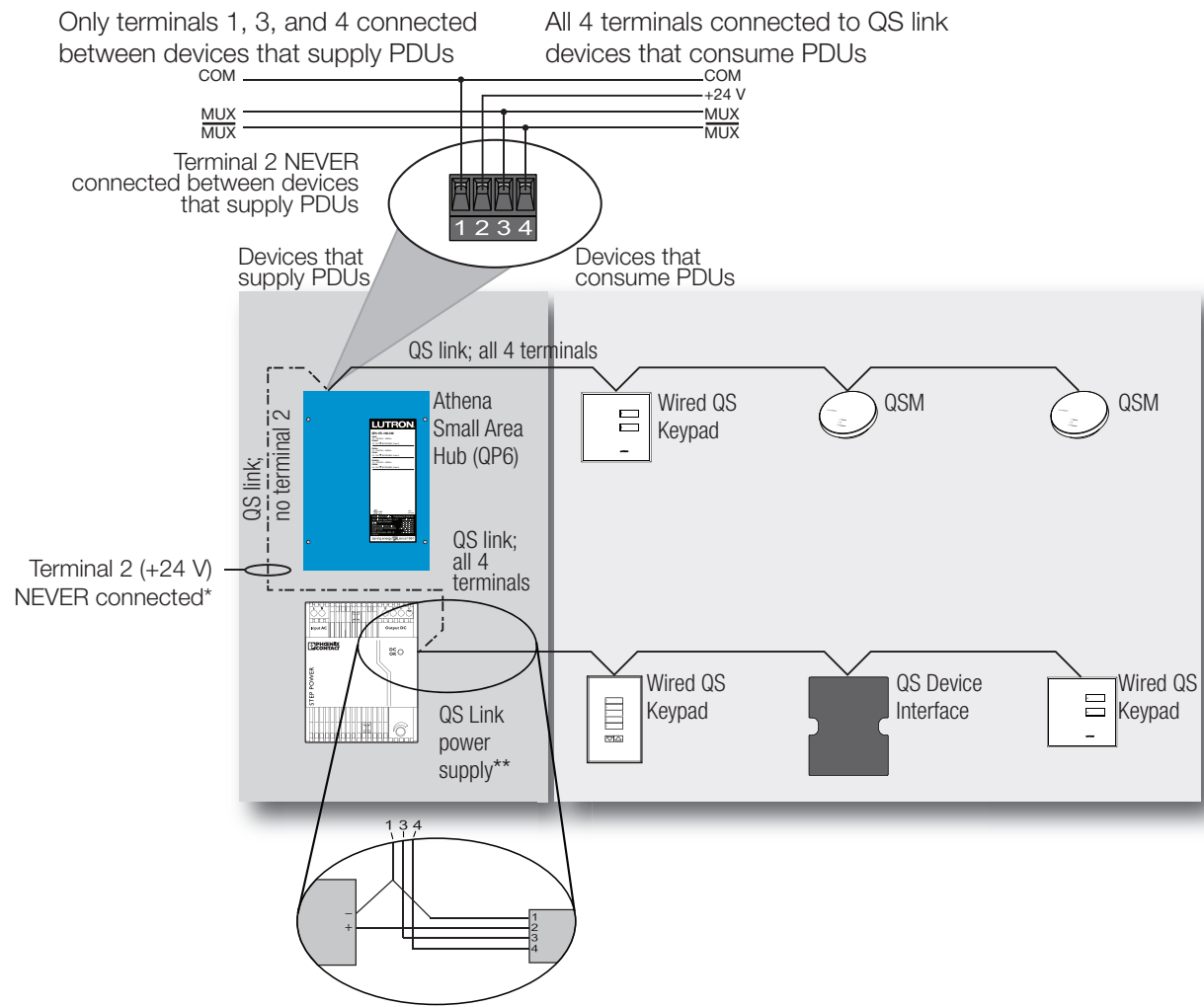| Job Name:	Model Numbers:
Job Number:	

QS Link Wiring

(4) $\overline{\text{MUX}}$
(3) MUX
(2) 24 V$=$
(1) COM

Maximum Link Length	Wire Gauge	Available from Lutron in one cable	Alternate Wiring
500 ft (152 m)	Power (terminals 1 and 2) 1 pair 18 AWG (1.0 mm²) Data (terminals 3 and 4) 1 pair 22 AWG (0.5 mm²) twisted and shielded	GRX-CBL-346S GRX-PCBL-346S	Power Connections: use two 18 AWG (1.0 mm²) stranded conductors Data connections: use Belden Cable #9461 (two 22 AWG (0.5 mm²) twisted shielded pair)
2000 ft (609 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 shielded	GRX-CBL-46L GRX-PCBL-46L	Power Connections: use two 12 AWG (4.0 mm²) stranded conductors Data connections: use Belden Cable #9461 (two 22 AWG (0.5 mm²) twisted shielded pair)

Notes

- System communication uses IEC SELV/NEC® Class 2 low-voltage wiring.
- Follow all local and national electrical codes when installing IEC SELV/NEC® Class 2 wiring with line voltage/mains wiring.
- Terminals will accept:
  – One 22 AWG to 12 AWG (0.5 mm² to 2.5 mm²) wire
  – Up to two 18 AWG (1.0 mm²) wires
- The total wire length of a link must not exceed 2000 ft (609 m).

- Make all connections inside the control unit's wallbox.
- An Athena QS link on a QP6-1L small area hub can have up to 256 switch legs (controllable outputs) and 25 Lutron QS devices.
- QS link wiring can be T-tapped or daisy-chained.
- The shield wire will not land on the processor, it should be isolated from ground and all other connections.
- The Athena small area hub provides 33 power draw units (PDUs) on the QS Link. For more information, see "Power Draw Units on the QS Link" (Lutron P/N 369405) at www.lutron.com

Job Name:	Model Numbers:
Job Number:	

QS Link Wiring

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

All 4 terminals connected to QS link devices that consume PDUs

Terminal 2 NEVER connected between devices that supply PDUs

Devices that supply PDUs

Devices that consume PDUs

QS link; all 4 terminals

Athena Small Area Hub (QP6)

QS link; no terminal 2

Terminal 2 (+24 V) NEVER connected*

QS link; all 4 terminals

Wired QS Keypad

QSM

QSM

QS Link power supply**

Wired QS Keypad

QS Device Interface

Wired QS Keypad

QS Link Wiring Rules

*   * Terminal 2 (+24 V) should NEVER be connected between devices that supply PDUs.
*   ** For QS Link power supply wiring connection details, refer to the installation instructions for the specific power supply model being used.

Job Name:	Model Numbers:
Job Number:	

Software

User Access

- myLutron username and password required for user access

OpenADR Compliant

- OpenADR 2.0b compliant when used with LUT-Q-OPNADR-CPN8064

Lutron App

- System processors require an internet connection
- The Athena system can have up to 10 simultaneously connected mobile app clients
- Compatible with iOS® and Android®
- Requires iOS® 13 or newer for Apple® devices and Android 12 or newer for Android® devices

Software Capabilities

DALI® Emergency Testing

- System capability that enables the Athena processor to schedule, manage, and report test results of DALI®-2 certified emergency loads connected to the QSN-2DALUNV-D/S modules.
- Processor must be connected to the internet to obtain the test results report

Lighting Control

- Monitor current status of areas, scenes, and zones
- Activate lighting scenes
- Adjust lighting zone levels
- Modify lighting zone levels in area scenes
- Control the intensity and color of Ketra fixtures
- Adjust saturated color and vibrancy of Ketra fixtures

QS Shade Control

- Monitor current status of shade groups and drives
- Activate shade presets
- Adjust shade levels

Scheduling

- Events can be scheduled to occur at fixed times or relative to sunrise/sunset and can be programmed to occur once or to be reoccurring

Load Shed/Demand Response

- Participate in load shed/demand response programs offered by local utility companies
- Apply a load shed reduction to the system, thereby reducing the building's lighting power usage

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 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 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.

Compatible Models - North America

Load controls
– QSN-4T5-120-D
– QSN-2DALUNV-D
– QSN-4S8-120-D
– QSN-4A5-S
– QSN-4A5-120-D
– QSN-2ECO-120-D
– QSN-4S16-S
– QSN-4T16-S
– QSN-2ECO-S
– QSE-CI-DMX
– QSN2-4T20-S
– QSN2-4T16-S-347
– QSN2-4S20-S
– QSN2-2ECO-S
– QSN-2DALUNV-S

Wall controls
– PJ2-*
– PX-*
– QSWA-*
– QSWAS-*
– QSWE-*
– QSWS2-*
– QSWS2-KS-*
– QWP-*
– Q-TOUCH5-WH

Shades
– Contract Roller Shades
– Sivoia QS Shades

Sensors
– GRX-IRPS
– EC-DIR*
– GRX-CES*
– LOS-*
– LRF2-OCR2B*
– LRF2-DCRB*
– LUT-WS*
– QSM2-*

Accessories
– LUT-19AV-1U
– LUT-5x10-ENC
– LFG*
– LTR-*
– LPFP-*
– L-PED*
– PICO-*

Power Interfaces
– TVI-LMF-2A
– C5-*
– PHPM-*
– GRX-TVI

Integration Interfaces
– LUT-Q-OPNADR-CPN8064
– QSE-CI-NWK-E
– QSE-IO
– QSE-CI-WCI

Emergency
– LUT-ELI-3PH (for QSN-* load control panels)
– LUT-SHUNT-A-TD (for Ketra loads)
– LUT-SHUNT-FM (for Athena wireless loads)

Power Supplies
– QSPS-*

Cable
– QS-CBL-*
– GRX-CBL-*
– GRX-PCBL-*

In-Fixture Controls
– A-WN-D01-RF-*
– A-WN-D01-OCC-*
– DFC-OEM-DBI

* Designates additional model number characters that may vary depending on the specific model chosen.

Job Name:	Model Numbers:
Job Number:	

Compatible Models - 220-240 V∼ Regions

Load controls
– QSNE-4A5-230-D
– QSNE-4T10-230-D
– QSN-2DALUNV-D
– QSE-CI-4M-D
– QSNE-4S5-230-D
– QSE-CI-DMX

Wall controls
– Pxy-*
– PX-*
– QSWA-*
– QSWAS-*
– QSWE-*
– QSWS2-*
– QSWS2-KS-*
– QWP-*
– Q-TOUCH5-WH

Shades
– Contract Roller Shades
– Sivoia QS Shades

Sensors
– GRX-IRPS
– EC-DIR*
– GRX-CES*
– LOS-*
– LRFx-OCR2B*
– LRFx-DCRB*
– LUT-WS*
– QSMx-*

Accessories
– LUT-19AV-1U
– LUT-5x10-ENC
– LFG*
– LTR-*
– LPFP-*
– L-PED*
– PICO-*

Power Interfaces
– C5-*

Integration Interfaces
– QSE-CI-NWK-E
– QSE-IO
– QSE-CI-WCI

Emergency
– LUT-ELI-3PH (for QSN-* load control panels)

Power Supplies
– QSPS-*

Cable
– QS-CBL-*
– GRX-CBL-*
– GRX-PCBL-*

* Designates additional model number characters that may vary depending on the specific model chosen.

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Job Name:	Model Numbers:
Job Number:	