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QS Sensor Module

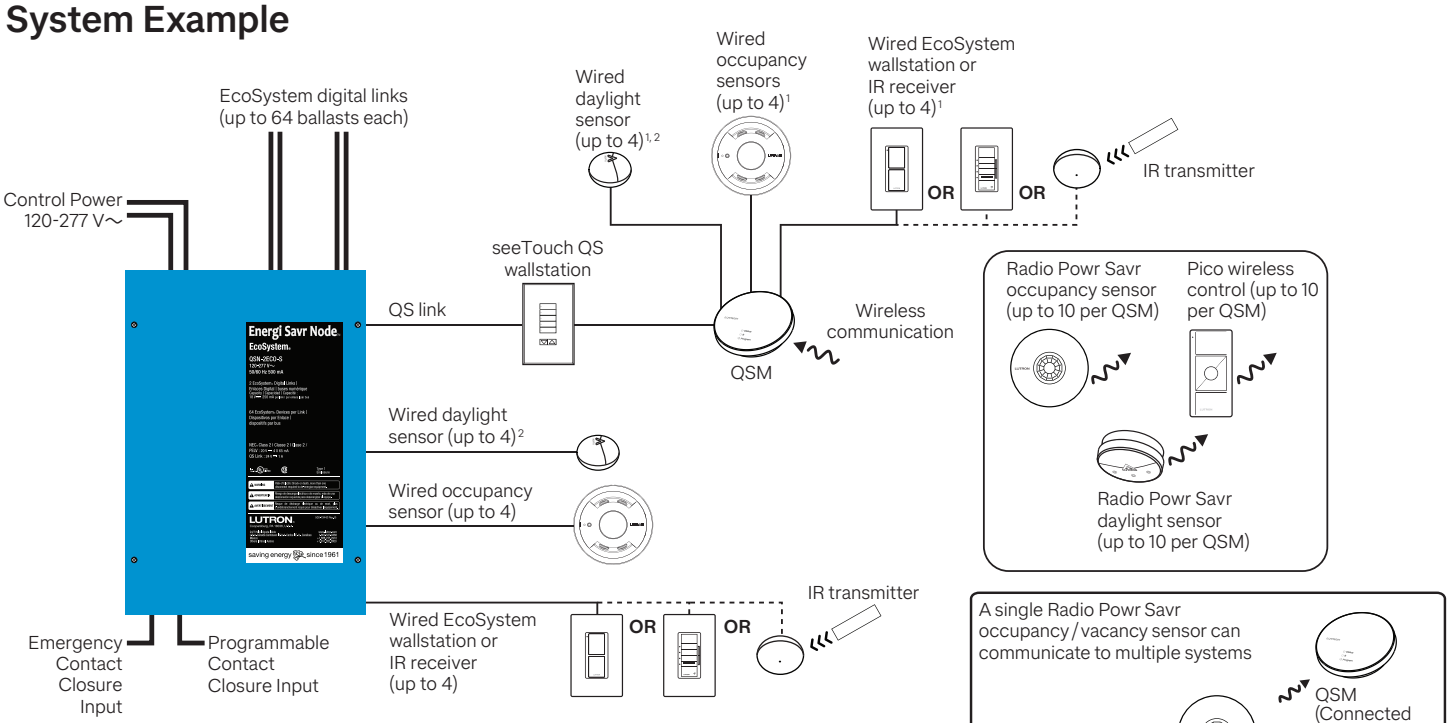
The QS Sensor Module (QSM) is a ceiling-mounted device that integrates Lutron wireless and wired sensors and controls through the QS communication link to Energi Savr Node (ESN) units, GRAFIK Eye QS control units, Quantum systems, myRoom control modules, and Sivoia QS shades/draperies.



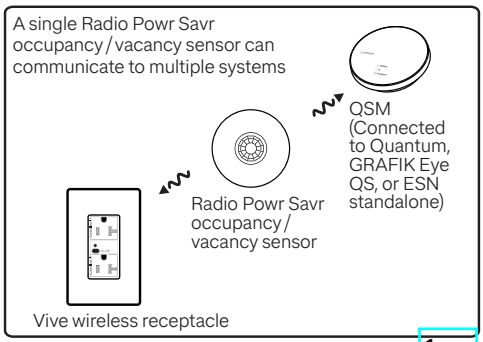
Features

- Uses Clear Connect RF technology for communication with Radio Powr Savr sensors and Pico wireless controls.
- QSM connects to four Lutron wired sensors or controls—sensors, EcoSystem infrared (IR) receivers, or EcoSystem wallstations. Does not apply to wireless only models.
- Contact Lutron for compatibility details with the Quantum system.
- Compatible with the entire ESN product family:
  - — Allows Lutron wired sensors, EcoSystem wallstations, EcoSystem IR receivers, Pico wireless controls, and Radio Powr Savr sensors to control ESN units.
- Compatible with myRoom power modules.
  - — Allows Lutron wired and wireless occupancy/vacancy sensors to control power modules.
  - — Allows Pico wireless controls to control power modules.
- Compatible with GRAFIK Eye QS control units.
  - — GRAFIK Eye QS control unit models starting with QSGR.
  - — Allows Lutron wired or Radio Powr Savr wireless sensors linked to a QSM to control the GRAFIK Eye QS control unit.
  - — Contact Lutron for compatibility with Pico wireless controls, EcoSystem wallstations, and EcoSystem infrared (IR) receivers.
- Compatible with Sivoia QS shades/draperies.
  - — Allows Pico wireless controls to control Sivoia QS shades/draperies (QSM models with wireless inputs only).

System Example



[1] Up to 4 wired inputs total (of any type).
[2] Up to 16 wired daylight sensors total per EcoSystem link.



Multi-system Application Example

LUTRON SPECIFICATION SUBMITTAL

Job Name:	Model Numbers:	
Job Number:		

Models

QSM_-_W-_
- Frequency / Channel Code[1]
- Number of Wired Inputs
- Mounting Method

Frequency / Channel Code[1]
2—431.5 - 436.6 MHz U.S.A., Canada, and Mexico
3—868.1 - 869.8 MHz European Union and United Arab Emirates
4—868.1 - 868.5 MHz Singapore and China
5—865.5 - 866.5 MHz India
7—433.0 - 434.7 MHz Hong Kong
X—No RF

[1] Contact Lutron for frequency / channel code compatibility with your particular geographic region if it is not indicated above.

Number of Wired Inputs
4—4
X—None

Mounting Method
C—Ceiling Mount
J—Junction Box Ceiling Mount

Availability / Compatibility

Refer to the chart below to determine QSM model availability and compatibility with different sensor models.

	Radio Powr Savr Sensors		
QSM Models	**Occupancy / Vacancy[3]**	**Daylight[2]**	**Pico Wireless Controls**
QSM2-4W-C, QSM2-XW-C, QSM2-4W-J, QSM2-XW-J	LRF2-OCRB-P, LRF2-OHLB-P, LRF2-OKLB-P, LRF2-OWLB-P, LRF2-VHLB-P, LRF2-VKLB-P, LRF2-VWLB-P, LRF2-OCR2B-WH, LRF2-VCR2B-WH, RMJS-OT-DV	LRF2-DCRB, RMJS-DT-DV[4], RMJS-DT-DV-PKG[4]	MRF2-3BRL, MRF2-3B, MRF2-2BRL, MRF2-2B, QSR4P-3R, PJ-2B-Gxx-xxx, PJ-2BRL-Gxx-xxx, PJ-3B-Gxx-xxx, PJ-3BRL-Gx-xxx, PJ2-2B-Gxx-xxx, PJ2-2BRL-Gxx-xxx, PJ2-3B-Gxx-xxx, PJ2-3BRL-Gx-xxx, PJ2-4B-Gxx-xxxx
QSM3-4W-C, QSM3-XW-C	LRF3-OCRB-P	LRF3-DCRB	QSRKP-2, QSRKP-2R, QSRKP-3R
QSM4-4W-C, QSM4-XW-C	LRF4-OCRB-P	LRF4-DCRB	QSRMP-2, QSRMP-2R, QSRMP-3R
QSM5-XW-C	LRF5-OCRB-P	LRF5-DCRB	QSRNP-2, QSRNP-2R, QSRNP-3, QSRNP-3R
QSM7-4W-C, QSM7-XW-C	LRF7-OCR2B-P	LRF7-DCRB	QSRQP-2, QSRQP-2R, QSRQP-3, QSRQP-3R
QSMX-4W-C, UQSMX-4W-C	N/A	N/A	N/A

[2] Daylight sensors cannot be used as part of myRoom solutions.
[3] Low light occupancy mode is incompatible with QSM models.
[4] Not available in Quantum.

Job Name:	Model Numbers:	
Job Number:		

Specifications

QS Sensor Module (QSM)

Power

- 24 – 36 V⎓
- Maximum current draw:
  - 400 mA (models with wired input)
  - 100 mA (models without wired input)
- Power Draw Units (PDU): Refer to the QS Link Power Draw Units specification submittal (P/N 369405) for information concerning PDUs on the QS link. Use only Lutron approved power sources.
- 10-year power failure memory: restores settings and programming after power interruption.

Regulatory

- Lutron quality systems registered to ISO 9001.
- RoHS compliant.
- Wireless receiver (Rx) device. Product has no wireless transmit functionality.

QSM2 –

- cUL US Listed (U.S.A. and Canada)
- FCC Compliant. Complies with the limits for a Class B digital device, persuant to Part 15 of the FCC Rules (U.S.A.).
- IC Certified (Canada)
- SCT Certified (Mexico)

QSM3 –

- CE Marked (European Union)

QSM5 –

- WPC Type Approved (India)

QSM7 –

- FCC Compliant. Complies with the limits for a Class B digital device, persuant to Part 15 of the FCC Rules (U.S.A.).

Environment

- Ambient Temperature Operating Range: 32 °F to 104 °F (0 °C to 40 °C).
- Relative humidity: less than 90% non-condensing.
- For indoor use only.

Terminals

- Input wiring: 22 AWG to 12 AWG (0.5 mm^2 to 4.0 mm^2)
- QS link wiring: 22 AWG to 12 AWG (0.5 mm^2 to 4.0 mm^2)

Mounting

- QSM units should be mounted in the middle of non-metal ceiling tiles or drywall, visible from inside the space.
- Installation near metal other than a junction box may reduce RF range.

Wireless Communication (models with wireless inputs only)

- RF Range: 60 ft (18 m) line of sight or 30 ft (9 m) through typical construction materials.
- To ensure optimal wireless range, install the QSM in the ceiling in a visible position from inside the space.
- Radio Powr Savr occupancy/vacancy sensor (up to 10).
- Radio Powr Savr daylight sensor (up to 10).
- Pico wireless control (up to 10).

Mains Wiring and IEC PELV / NEC® Class 2 Separation

- Follow appropriate local and national codes to avoid violating required separation guidelines.
- Wiring attached to QSM should not be wired Class 1.
- Wiring attached to QSM should not be run in same conduit as Class 1 or lighting conductors.
- Not following separation guidelines may affect performance.

Wired Inputs

- All inputs should be wired in accordance with IEC PELV/NEC® Class 2.
- There are 4 universal wired inputs. Each input can accept one of the following:
  - EcoSystem wallstation (CC- series)
  - Occupancy sensor (LOS- series)
  - Daylight sensor (EC-DIR- series)
  - EcoSystem IR receiver (EC-IR or EC-DIR- series)
  - Wired Pico control (PX- series)
- Use of both the infrared receiver and daylight sensor on the EC-DIR- series sensors is considered two wired inputs on a QSM.
- Maximum wiring distance = 150 ft (46 m).
- Only wired (LOS- series) and wireless occupancy/vacancy sensors may be used in myRoom; no EcoSystem wallstations, daylight sensors, EcoSystem IR receivers or wired Pico controls.

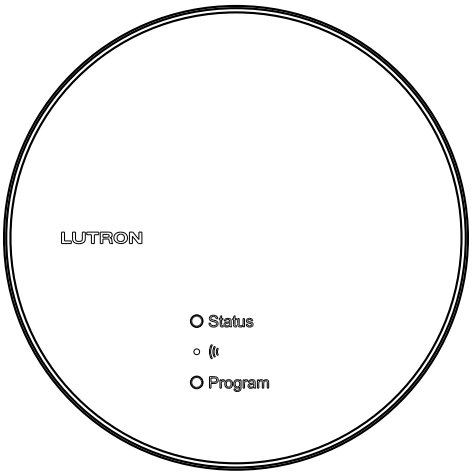
QS Link Limits

- QS Link wiring is IEC PELV/NEC® Class 2.
- The QS link can have up to 100 devices.
- Each QSM counts as 1 device towards the 100 device limit.
- Each QSM draws 3 Power Draw Units (PDUs) on the QS link.
- Wired sensors add to the PDU draw of a QSM. Refer to the QS Link Power Draw Units specification submittal (P/N 369405) for information concerning PDUs.
- QS link maximum wire run length is 2000 ft (610 m).
- See the commercial system rules spec (P/N 369821) for system specific limitations.

Job Name:	Model Numbers:	
Job Number:		

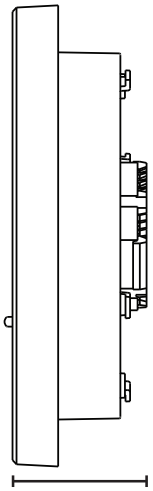
Mechanical Dimensions (All Models)

Front View



4.04 in
(103 mm)

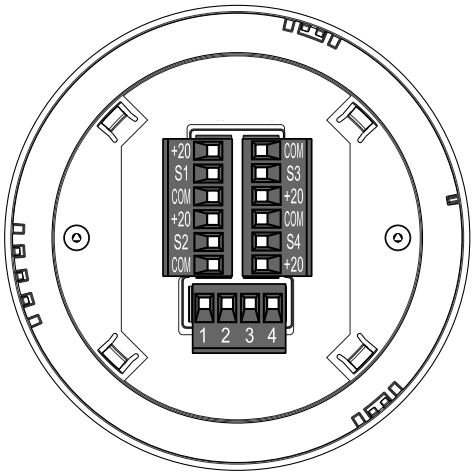
Side View



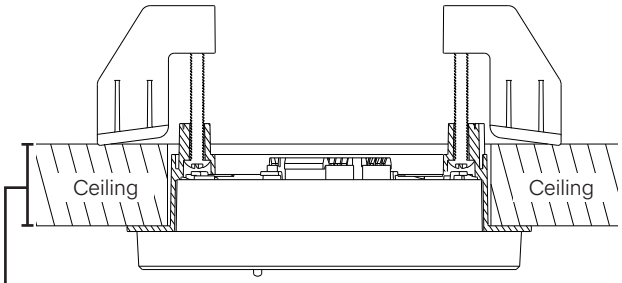
1.17 in
(30 mm)

Back View

(QSM2-4W-C shown)

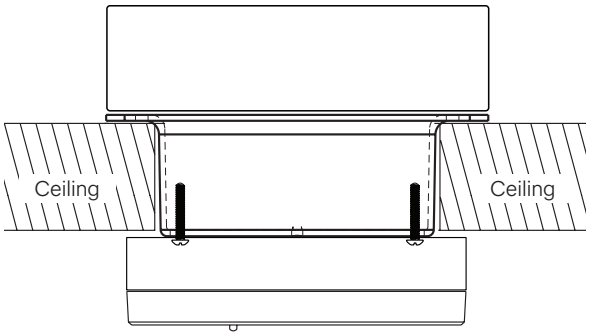


Mounted (-C Models)

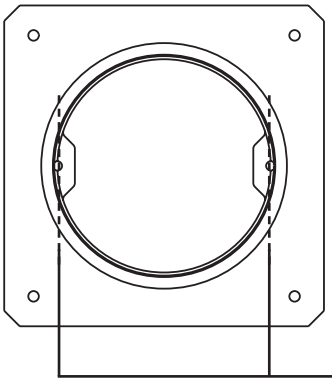


Ceiling thickness range for -C models
Minimum 0.30 in (8 mm)
to
Maximum 1.20 in (30 mm)

Mounted (-J Models)



Use appropriate mud ring for ceiling tile thickness. Do not allow the tile to carry the weight of the junction box.

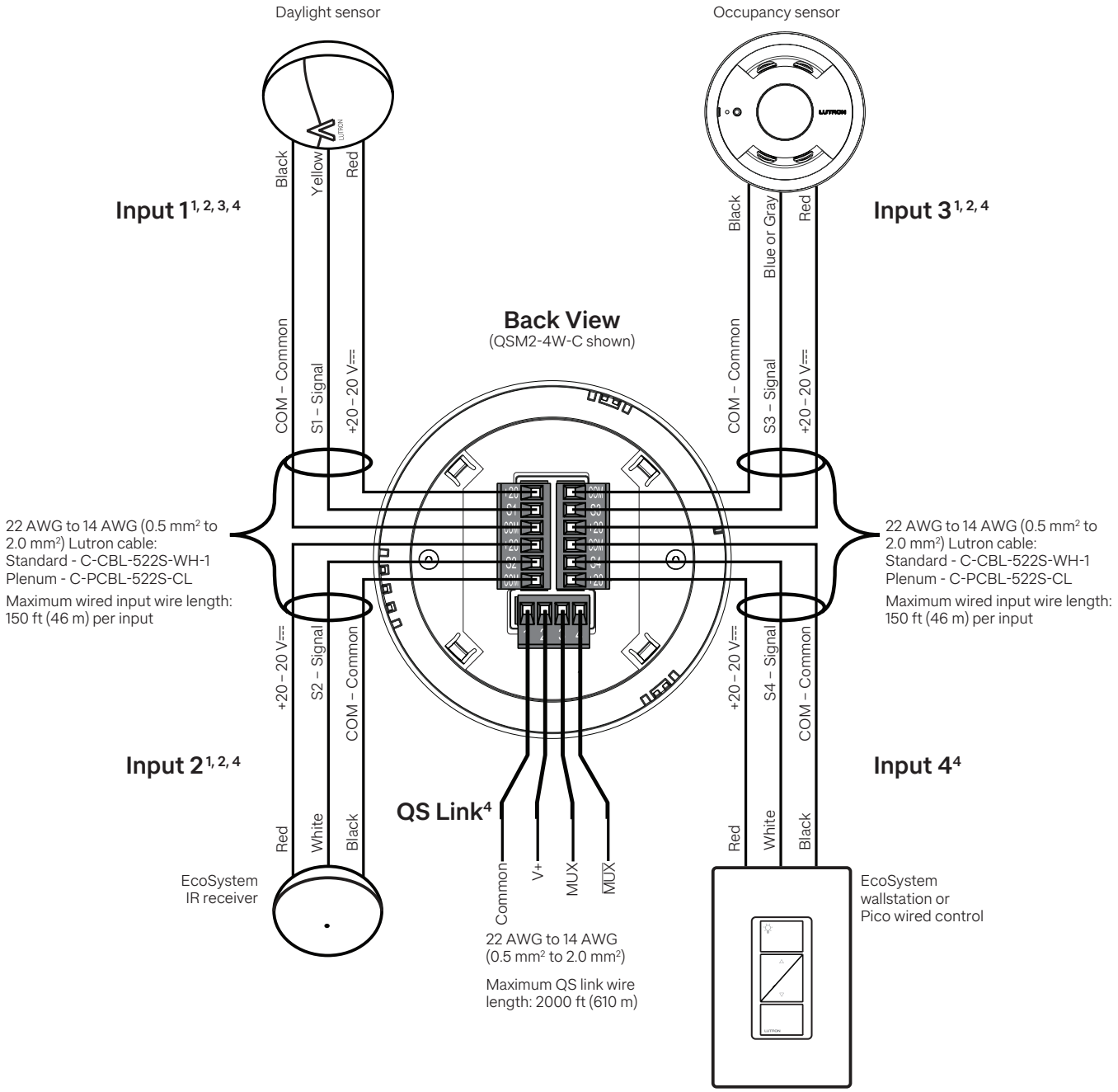


Use mud ring with hole spacing shown below. Mud ring not included with any QSM models.

2.75 in (70 mm)

Job Name:	Model Numbers:	
Job Number:		

Wiring: QS Link and Wired Inputs[1]

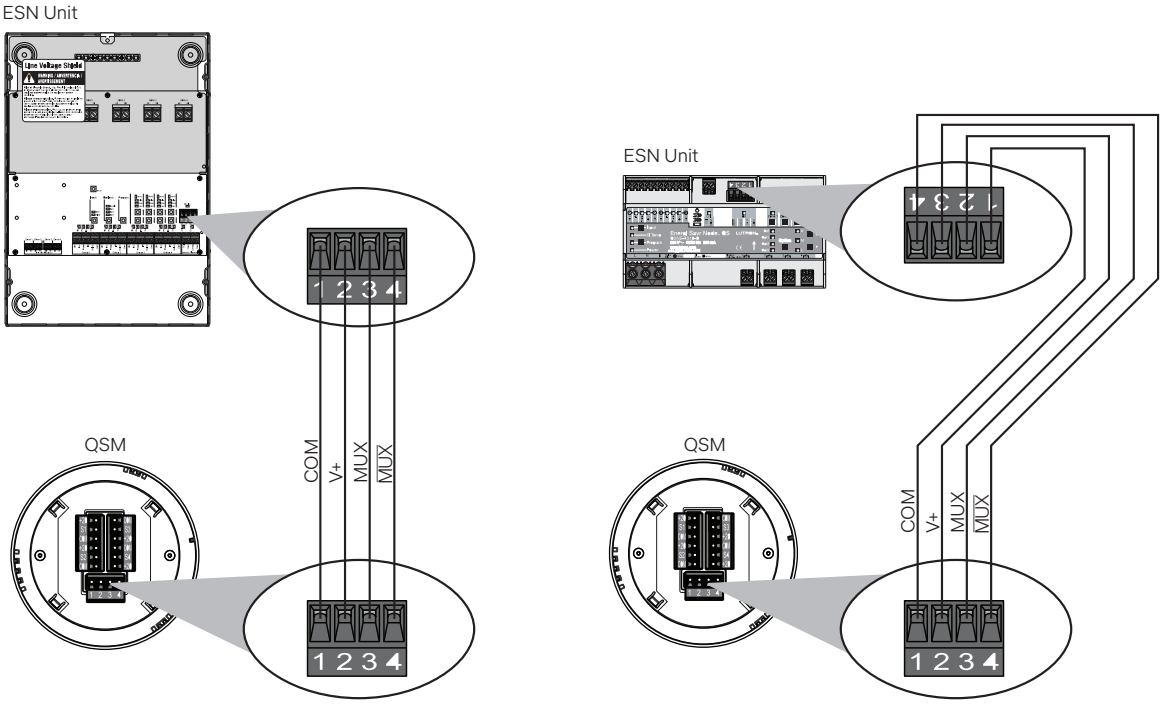


[1] Only on QSM models with wired inputs.
[2] For reference only. Each input is universal and can accept any of the inputs shown above.
[3] Only daylight sensor signal connected to QSM shown above. Use of IR signal counts as an additional input on the QSM.
[4] Follow appropriate local and national electrical codes to maintain the required separation.

Job Name:	Model Numbers:	
Job Number:		

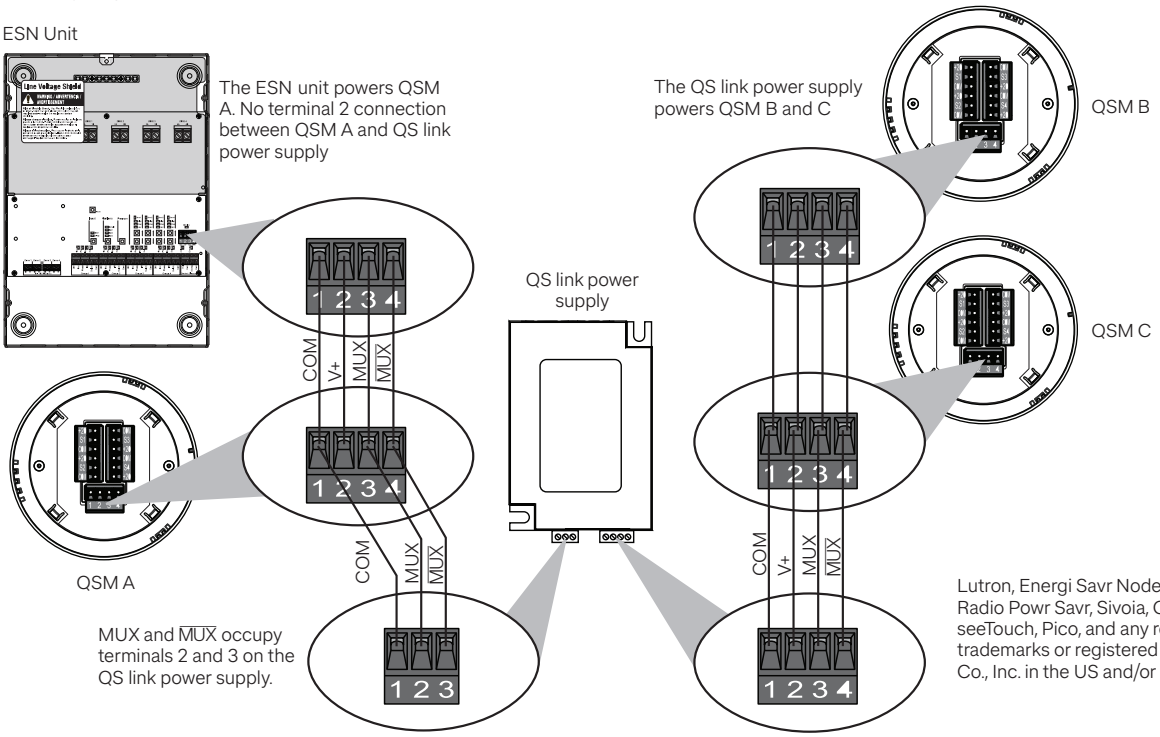
Wiring: Device Power

Single QSM Powered by an ESN Unit



Multiple QSMs Powered by an ESN Unit and a QS Link Power Supply

A QS link power supply may be necessary if PDUs required by QSMs exceed available PDUs from the device supplying power.



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Job Name:	Model Numbers:	
Job Number:		