

Power Draw Units (PDUs) on the QS Link

Lutron has created an easy-to-use method for standardizing power requirements when designing QS systems known as the Power Draw Unit or PDU. The PDU is a pre-calculated value assigned to every QS device, exhibiting the power prerequisites of each power group, and allows for quick layouts of complicated systems to be determined without the need for lengthy calculations.

PDU

Power Draw Unit: a value assigned to each QS device specifying power that is either supplied or consumed. A device with a positive (+) PDU value supplies power on the QS Link while a device with a negative (-) PDU value consumes power. Devices with a zero PDU value neither supply nor consume power on the link.

Power Group

A collection of wired devices, where one device supplies power and the other devices consume power. The power supplied must sufficiently power all connected devices that consume power to ensure proper function.

- When the PDU values are added together, the count must be zero (0) or greater
- One power-supplying device per power group

Connections

- Within power groups, connect all four terminals of the QS Link
- Between power groups, connect only terminals 1, 3 and 4 (NEVER terminal 2)

QS Link Features

- Wiring can be T-tapped or daisy-chained
- QS Link has a limit of 100 total devices
- For QS device and system limits: see system or product specifications at www.lutron.com

Wire Sizes (check compatibility in your area)

QS Link Wiring Length	Wire Gauge	Lutron Cable Part Number
Less than 500 ft (153 m)	Power (terminals 1 and 2) 1 pair 18 AWG (1.0 mm ²)	GRX-CBL-346S (non-plenum) GRX-PCBL-346S (plenum)
	Data (terminals 3 and 4) 1 twisted, shielded pair 22 AWG (0.5 mm ²)	QS-CBL-LSZH (LSZH)
Up to 2000 ft (610 m)	Power (terminals 1 and 2) 1 pair 12 AWG (4.0 mm ²)	GRX-CBL-46L (non-plenum) GRX-PCBL-46L (plenum)
	Data (terminals 3 and 4) 1 twisted, shielded pair 22 AWG (0.5 mm ²)	

Notes:

- For more information regarding Lutron cable specifications, please see Lutron P/N 369596, 369597, and 3691078 at www.lutron.com
- For wire runs over 2000 ft (610 m), please contact Lutron Customer Assistance.

Job Name:	Model Numbers:
Job Number:	

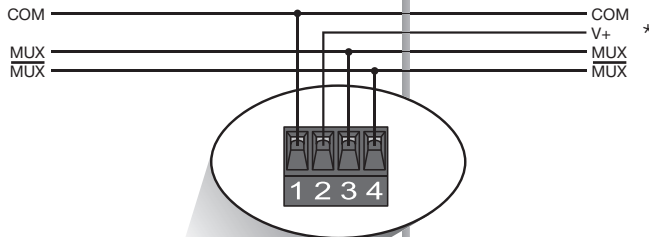
PDU Calculation Example

Between Power Groups

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

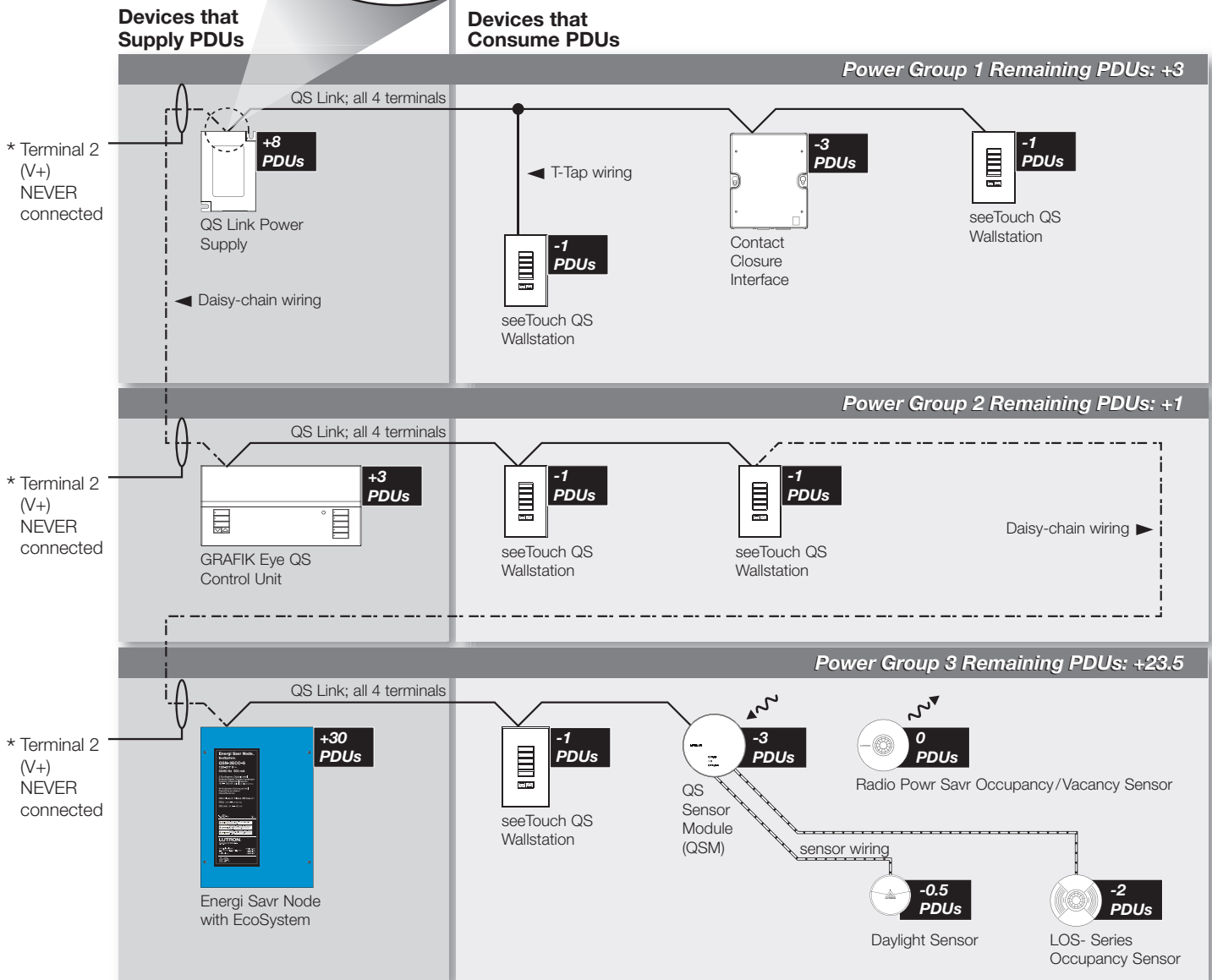
Within Power Groups

All four terminals connected to QS link devices that consume PDUs





















* QS Link Wiring Rules

Terminal 2 (V+) NEVER connected between devices that supply PDUs.



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QS Devices that Supply PDUs


















QS Device ¹	PDU Value
 QS Smart Panel ² QS Smart Enclosure ²	+8 per Output
 myRoom QS Link Power Supply	+30
 QS Link Power Supply	+75
 QS Plug-in Power Supply	+8
 QS J-box Power Supply	+8
 Energi Savr Node with EcoSystem Energi Savr Node with DALI [®] T-Series Energi Savr Node	+30
 Energi Savr Node for 0–10 V ⁼⁼ Energi Savr Node with Softswitch	+14
 Energi Savr Node LED+ Phase Adaptive	0 (neither supplies nor consumes PDUs)
 Energi Savr Node for DALI [®] International Energi Savr Node with EcoSystem International	+3
 Energi Savr Node for 0–10 V ⁼⁼ International Energi Savr Node for Switching International	+14
 Energi Savr Node Phase Adaptive International	+4
 GRAFIK Eye QS (all models except GRAFIK Eye QS DALI [®] with KNX [®])	+3
 GRAFIK Eye QS DALI [®] with KNX [®]	+2
 GRAFIK Eye QS Timeclock (QSGR-TC-3S-WH)	+3
 QP2 Quantum Lighting Hub	Link A : 0 Links B, C, D : +33 each
 QP3 Quantum Lighting Hub	Links A, B : +33 each
 QS Motor Group Controller International	0 (neither supplies nor consumes PDUs)
 myRoom Switching Module myRoom Phase Adaptive Module	+4

¹ Please contact your local Customer Service or Quotes department to find out more about the availability of these products in your region.

² For -NPM (No Power Modules), installation of WIN-PS-5CC-R is required. Refer to P/N 045550 on www.lutron.com for installation instructions.

Job Name:	Model Numbers:
Job Number:	

QS Devices that Consume PDUs











QS Device ¹	PDU Value
 QS Wallstation (seeTouch, Architrave and Signature Series)	-1
 GRAFIK T QS Slider	-1
 QS Keyswitch	-1
 International seeTouch QS Wallstation	-1
 QS Contact Closure Interface	-3
 Wallbox Input Closure Interface	-1
 QS Network Interface	-2
 QS DMX Interface	-2
 QS Sensor Module (QSM), not including attached wired sensors (see Sensors and Control Devices that Consume PDUs on the following page for more information)	-3
 Energi Savr Node Programming Interface	-2
 QS Infrared (IR) Eye	-1
 Sivoia QS Shade/Drapery (wired and wireless)	Refer to Lutron Spec Submittal (P/N 085335)
 Pico Privacy Control	-1
 Pico Corridor Control	-1
 Palladiom Thermostat	-3
 Palladiom Wallstations	-1 (per column)
 1 Link Control Unit/Processor (myRoom or HomeWorks QS)	-8

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Sensors and Control Devices that Consume PDUs

A QSM consumes 3 PDUs. The sensors and devices listed below may consume additional PDUs when connected to a QSM. Please refer to the table below for PDUs consumed by each device when connected to a QSM.

Sensors and Control Devices ¹	PDU Values When Attached To:	
	QSM	Control Unit (GRAFIK Eye QS, Energi Savr Node, etc)
 EcoSystem Wallstation	-1	0
 Pico Wired Control	-0.5	0
 LOS- Series Occupancy Sensor	-2	0
 High Bay Occupancy Sensor	-2	0
 Lutron Daylight Sensor	-0.5	0
 Lutron Infrared (IR) Receiver	-0.5	0
 Radio Powr Savr Occupancy/Vacancy Sensor	0	0
 Radio Powr Savr Wireless Daylight Sensor	0	0
 Pico Wireless Control	0	0
 Radio Window Sensor (window and mullion mount)	0	0

Note: All wireless battery operated devices consume 0 PDUs.

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 Lutron, Lutron, seeTouch, GRAFIK Eye, EcoSystem, Softswitch, Quantum, Sivoia, Pico, Palladiom, Energi Savr Node, Radio Powr Savr, GRAFIK T, myRoom, Architrave, Signature Series, LED+ and HomeWorks are trademarks or registered trademarks of Lutron Electronics Co., Inc. in the US and/or other countries.

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