The Quantum light management hub provides the ability to control DALI ballasts, Lutron GRAFIK Eye® power panels, GRAFIK Eye® QS, and Sivoia® QS shades from one centralised location.
Quantum® System Overview

To Dimming Panel Loads:
- Lobbies and Atriums
- Auditoriums
- Training Rooms
- Executive Offices
- Cafeterias

To Switched Loads:
- Exterior Lighting
- Non-Dim ballasts (hallways, restrooms, stairwells)

Open Office Areas

Interior Conference Rooms

Interior Office

Exterior Conference Rooms

Exterior Office

GP / LP Dimming Panels

XP Switching Panels

Control & Monitor

Green Glance

Note: This diagram graphically represents the building's lighting management system. It is not to be used for system design.

---

To BMS by Others

By Others

To Additional Floors

Building Ethernet Network

Interprocessor Communication Link

QS Link (RS-485)

Power Panel Link (RS-485)

DALI Ballast Loop

Sensor Connection

Corporate Internet by Others

Network

Internet

---

QS Sensor Connection

DALI Ballast Loop

Sensor Connection

Power Panel Link (RS-485)

OCC Sensor

IR Sensor

Daylight Sensor

RS-232 Interface

TO TOUCHSCREEN

By Others

---

To Additional Floors

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Q-MANAGER SERVER

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Note: This diagram graphically represents the corporate intranet network. It is not to be used for system design.
Hub Overview

- Mains voltage input, normal/emergency feed
- PELV barrier
- Receptacle (for Lutron service use only)
- Hub power switch
- PELV power supply board
- Power supply LEDs
- PELV configurable link wire trough
- Unused (no connect)
- Configurable links (power panel or Lutron QS link)

**Note:** Attach the included ferrite clamp onto the low-voltage Configurable links inside the Lighting Hub

- Processor LEDs
- 5-port unmanaged Ethernet device
- Quantum processors (2 maximum)

Quantum Light Management Hub

LUTRON®
Model Number Guide

Example

**QP2 - 2P0CSE - 230**

- **Prefix**
  - QP2 = Quantum® processor
- **Number of Processors**
  - 1P = 1 Quantum® processor
  - 2P = 2 Quantum® processors
- **Switch Type**
  - SE = Ethernet 5-port
- **Voltage**
  - 230 for 220 - 240 V～

**Available Model Numbers**
Contact Lutron for options not listed below.

- QP2-1P0CSE-230
- QP2-2P0CSE-230

**Note:**
This panel is rated for Class A, Commercial Use Only.

**QS Device Consumption Rules**
The table below lists the devices available on the QS link. See below for each device’s count toward the link maximums for switch legs, devices, and power draw. A Quantum® QS link can have up to 512 switch legs (outputs), 99 devices, and 32 power draw units.

<table>
<thead>
<tr>
<th>QS Device Description</th>
<th>Switch Leg Count</th>
<th>Device Count</th>
<th>Power Draw Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-zone GRAFIK Eye® QS</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>4-zone GRAFIK Eye QS</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>6-zone GRAFIK Eye QS</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>seeTouch® QS</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sivoia® QS Roller 64TM</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sivoia® QS Roller 100TM</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Sivoia® QS Roller 225TM</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>QS contact closure interface</td>
<td>up to 5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>QS network interface</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>QS smart power panel</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Digital Fluorescent Controls (Energi Savr Node QS™)</td>
<td>up to 128</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Additional Ratings**
- 50 / 60 Hz
- Output: Processor - 24 V== 1 A per link
Dimensions

All dimensions in mm.

Top View

Front View

Left Side View

Right Side View

Bottom View

Dimensions

800
800
673800
22,22
400
400
324
63,5
673800
7,95
Notes

• Water damages equipment. Mount in a location where the hub and processors will not get wet. Mount within 7° of true vertical.
• A minimum of 305 mm unobstructed space is required in front of and below the hub for ventilation.

• Enclosure: IP-20 protection
• Weight: 20.4 kg
• Surface mount only
• For indoor use only
• 0 - 40 °C
• Relative humidity less than 90% non-condensing
Notes
- Mains voltage must enter hub from top right of hub.
- Run a dedicated 220-240 V~ normal/emergency feed.
- Run wiring so mains line voltage is separate from PELV wiring.

Wire Sizes
- Power feed (live): 2.5 - 4.0 mm²
Notes

- Ethernet wiring is considered PELV; do not run in the same conduit as mains voltage wiring.
- Wiring distance for any single Ethernet data link segment is 100 m max; use switches or hubs for longer distances.
- Processors cannot be more than 6 Ethernet hops away from the server.
- Processors communicate over the Ethernet network using multicast UDP; a dedicated network must be used for the lighting control system.
- Wiring between Hubs on a floor must be installed before startup. Wiring between floors can be added later.
**Configurable Link Wiring: Power Panel Link**

**Notes**
- Power panel link must be daisy-chained (no T-taps).
- Maximum of 32 power panels per link.
- It is not necessary to have the *Quantum* hub at the end of the link.
- The sense wire (terminal 5) is used whenever there is a panel being supplied by an emergency/essential feed; see power panel instructions for details.
- Each PELV terminal can accept only two 1.0 mm^2 wires. Two 2.5 mm^2 conductors will not fit. Connect as shown using appropriate wire connectors.
- Attach the included ferrite clamp onto the Power Panel link inside the Lighting Hub.
- Total length of control link may be no more than 600 m. If link repeater interface and GRX-CBL-46L cable are used, length may be up to 1 200 m.
- GRX-CBL-46L PELV wiring cable is available from Lutron and contains two 2,5 mm^2 conductors for control power, one twisted, shielded pair of 1,0 mm^2 for data link, and one 1,0 mm^2 conductor for emergency (essential) sense line.
**Configurable Link Wiring: GRAFIK Eye® QS and Sivoia® QS Shades**

**GRAFIK Eye QS Link**
*(Drain wire in shield - Connect together to make one continuously linked shield. Keep away from ground and control electronics.)*

**Sivoia QS Shade Link**
*(do not use the “DRAIN” terminal)*

**Notes**

- System communication uses PELV wiring.
- Follow all local and national electrical codes when installing PELV wiring with mains wiring.
- Each terminal accepts up to two 1.0 mm² wires.
- Total length of control link must not exceed 600 m; If exceeding 600 m, contact Lutron for wiring configuration.
- Make all connections in the control unit’s wallbox.
- A *Quantum* QS link can have up to 512 switch legs (outputs), 99 devices, and 32 power draw units (see page 4).
- Attach the included ferrite clamp onto the low-voltage control wiring inside the Lighting Hub.
- Wiring can be T-tapped or daisy-chained.
- Wire sizes:
  - Two 2.5 mm² conductors for control power.
  - One twisted, shielded pair of 1.0 mm² for data link.
- Cable is available from Lutron: GRX-CBL-46L.

**Wire Gauge** | **QS Link Max. Length**
---|---
2,5 mm² | 600 m
1,5 mm² | 250 m
1,0 mm² | 150 m

**Diagram**

- Diagram showing the connection between the Quantum® Light Management Hub, GRAFIK Eye® QS Link, Sivoia® QS Shades, and wallstations.
- Diagram includes wiring connections, terminal labels, and notes on PELV wiring configurations.
- Diagram illustrates the use of data link, control power, and drain wires.
You have completed your Quantum system installation. For onsite factory startup, call Lutron Technical Support and select Startup to schedule a field service visit. Allow for 10 working days between day of call and scheduled visit.

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### LED Normal Operation Problem Indicator Probable Cause and Solution

<table>
<thead>
<tr>
<th>Power Supply</th>
<th>LNKPWR</th>
<th>On</th>
<th>Off</th>
<th>No power from transformer: Check that power feed and power switch are on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Off</td>
<td>Off</td>
<td>Link error; Run software diagnostics</td>
</tr>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Flashing</td>
<td>Off</td>
<td>Link error; Run software diagnostics</td>
</tr>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Flashing</td>
<td>Off</td>
<td>Link error; Run software diagnostics</td>
</tr>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Flashing</td>
<td>Off</td>
<td>Link error; Run software diagnostics</td>
</tr>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Flashing</td>
<td>Off</td>
<td>Link error; Run software diagnostics</td>
</tr>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Off</td>
<td>On</td>
<td>Software uploading</td>
</tr>
<tr>
<td>Processor</td>
<td>L1/L2</td>
<td>Flashing</td>
<td>Flashing</td>
<td>Boot mode (if Tx Rx also flashing)</td>
</tr>
<tr>
<td>Error</td>
<td>Off</td>
<td>On</td>
<td>Off</td>
<td>Link error; Run software diagnostics</td>
</tr>
<tr>
<td>Power</td>
<td>On</td>
<td>Off</td>
<td>Check power supply</td>
<td></td>
</tr>
</tbody>
</table>
Limited Warranty
The warranty for your Lutron system was included with your original system submittal package. It can also be viewed at: www.lutron.com/warranty

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