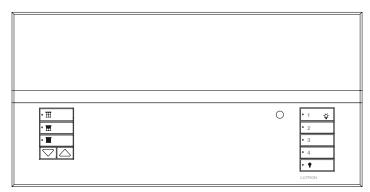
369315 Rev. A 1 03.07.11

GRAFIK Eye_® QS Wireless Control Unit (230 V ∼ CE)

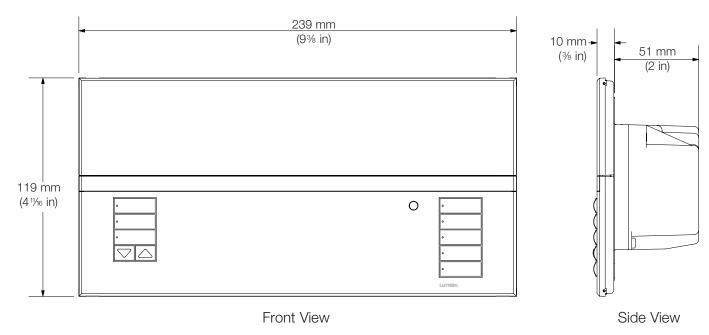


Description

GRAFIK Eye QS Wireless is the premier energy-saving light and window treatment control. GRAFIK Eye QS includes an astronomic timeclock, intuitive lighting presets, and direct window treatment control. Now with wireless technology, you can use the GRAFIK Eye QS Wireless to seamlessly integrate with a variety of Lutron wireless products and systems, including Radio Powr Savrtm occupancy, vacancy, and daylight sensors, Sivoia® QS Wireless window treatments, Pico® wireless control, and other GRAFIK Eye wireless products. Additionally, the GRAFIK Eye QS Wireless is compatible with all Lutron wired QS products and systems.

GRAFIK Eye QS Wireless is compatible with Quantum®.

Mechanical Dimensions



Fits into a 4-gang U.S. backbox, 89 mm (3.5 in) deep; Lutron P/N 241-400

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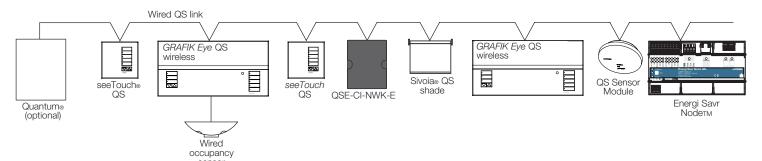
Job Name:	Model Numbers:
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369315 Rev. A 2 03.07.11

System Topologies

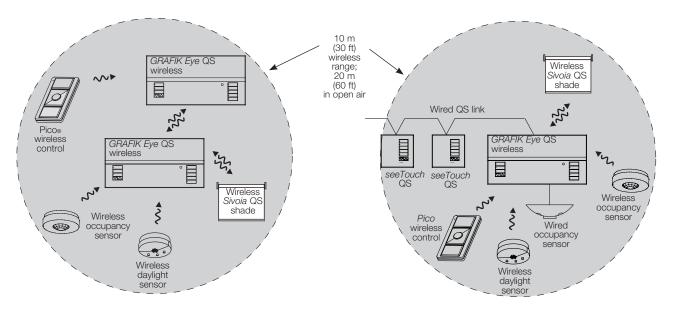
The GRAFIK Eye® QS Wireless can be specified in three different system topologies. Examples of each are shown below.

Example of Wired System



Example of GRAFIK Eye-centric Wireless System

Example of Mixed GRAFIK Eye-centric Wired/Wireless System

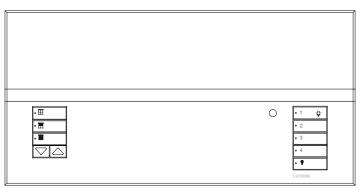


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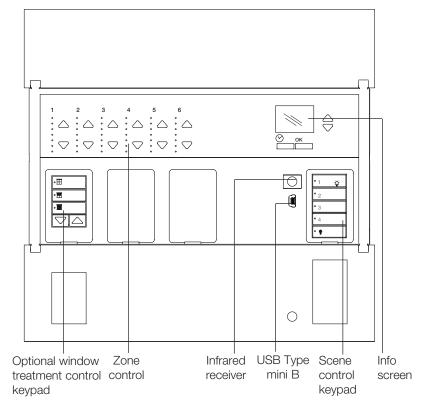
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369315 Rev. A 3 03.07.11



Note: Symbol-based Engraving (-SGN) shown.



Features

- Lutron's proprietary Clear Connect™ RF technology. Operates in 868 MHz band.
- Pushbutton recall of four preset lighting scenes, plus Off.
- Twelve (12) additional scenes accessible through other QS devices, such as seeTouch® QS wallstations.
- Optional integrated window treatment control buttons, which can also be added to the unit after installation.
- Master override buttons to raise and lower all lights.
- Allows setup of lighting scenes and window treatment presets using buttons on the control unit
- Built-in infrared (IR) receiver.
- External IR connection.
- Built-in astronomic timeclock.
- Info screen shows zone light level percentage, energy savings, zone labeling, and programming.
- Lockout option prevents accidental changes.
- One occupancy sensor input and 24 V=== power for occupancy sensor.
- QS communication link for seamless integration of lights, motorised window treatments, wallstations, and integration interfaces.
- Compatible with all Lutron QS system components.
- Wireless communication for seamless integration with a variety of Lutron wireless products and systems, including Radio PowrSavr™ occupancy and vacancy sensors, Sivoia® QS wireless window treatments, Pico® wireless control, and other GRAFIK Eye® QS wireless products.
- Backlit buttons with engraving make unit easy to locate and operate.
- Available in a variety of colours and finishes.

LUTRON SPECIFICATION SUBMITTAL

Job Name: Model Numbers:

Job Number:

369315 Rev. A 4 03.07.11

Specifications

Input Power

• 230 V∼ 50 Hz

Lighting Sources/Load Types

Controls the following lighting sources with a smooth, continuous square law dimming curve or on a full conduction non-dim basis:

- Incandescent
- Halogen
- Magnetic low-voltage transformer
- Neon and cold cathode
- Non-dim (incandescent, magnetic low-voltage, or neon/ cold cathode)

Controls the following lighting sources with a smooth, continuous square law dimming curve or on a full conduction non-dim basis through separate power interfaces:

- Electronic low-voltage transformer
- Non-dim
- 0 10 V

Key Design Features

- RF meets IEC 801-2.
- Lightning strike protection meets ANSI/IEEE standard 62.41-1980. Can withstand voltage surges of up to 6 000 V → and current surges of up to 3 000 A.
- Tested to withstand 16 kV electrostatic discharge without damage or memory loss.
- RTISS_{TM}-equipped: Compensates in real time for incoming line voltage variations (no visible flicker with +/-2% change in RMS voltage per cycle, and +/-2% Hz change in frequency per second).
- Power failure memory retains programming and light level settings for up to 10 years in the event of a power loss.
- The GRAFIK Eye® QS supplies 3 Power Draw Units (PDUs) on the QS link.
 - For complete information, see "Power Draw Units on the QS Link," Lutron PN 369405
- Faceplate is hinged at the top and bottom, and stays open at 180° for ease of access.

Environment

- 0 to 40 °C (32 to 104 °F)
- Relative humidity less than 90% non-condensing

Compliance

• CE

Scene and Shade Buttons

- Large, rounded buttons are easy to use.
- Backlit buttons with optional engraving make it easy to find and to operate the control unit in low light conditions (backlight can be disabled).
- Optional button engraving is angled up to the eye for easy reading.
- Predefined label stickers are included for field labeling.
- 4 preset lighting scenes, plus Off, are accessible from the front of the control unit.
- 12 additional scenes are stored in the control unit and are accessible from seeTouch® QS wallstations and QS interfaces.
- Light levels fade smoothly between scenes. Fade time can be set differently for each scene: 0 to 59 seconds, or 1 to 60 minutes. Maximum fade time from Off is 3 seconds.

Shade Control

- The GRAFIK Eye QS can include up to 3 shade button columns. Each column has backlit open, preset, close, and raise/lower buttons.
- Each shade button column can be programmed to operate one shade or a group of shades. (Shades may be assigned to more than one shade button column).
- Faceplates are available with 1, 2 and 3 shade button columns.

Wireless shade limitations:

- Access to the Sivoia® QS Wireless electronic drive unit (EDU) is required to associate shades with the GRAFIK Eye QS and set their raise/lower limits.
- Wired and wireless shades may not be programmed into the same shade button column; however, both may be used on the same GRAFIK Eye QS control unit.
- Scene commands that affect wireless shades across multiple shade button columns will have a 1-second delay from column to column. This does not occur in RadioRA® 2 systems.

Zone Control

- Each zone has a dedicated raise and lower button to adjust the zone.
- Each zone has a dedicated 7 LED bar graph for level status. Percentage of light level and energy saved is displayed on the info screen.
- All zone information has blue backlit LEDs. Backlight turns off when idle for 30 seconds.

LUTRON ®	SPECIFICATION	SURMITTAL

Job Name:	Model Numbers:
Job Number:	

369315 Rev. A 5 03.07.11

Specifications

Info Screen

- OLED (organic LED) screen is viewable from all angles.
- Screen turns off when idle for 30 seconds.
- Programmable zone labels.
- Programmable scene labels.
- Status of real-time zone percentage and energy savings.
- Programmable timeclock schedules.
- Programmable window treatment labels.

Astronomic Timeclock

- Integral to all units.
- 7 daily schedules available.
- One available holiday schedule is programmable by date up to one year in advance.
- 25 events per day maximum.
- Timeclock events are programmable to control scenes that affect any Energi Savr Node™ unit connected on the QS link without changing the local scene on the GRAFIK Eye® QS.
- Astronomic times are programmable by integral city database or by entering latitude and longitude. Times automatically adjust throughout the year based on location.
- Automatically adjusts for Daylight Saving Time (DST), adjusted for the new dates; DST is programmable.
- Local timeclock events can activate any of the following features:
 - Scenes 1 to 16 and Off
 - Any available window treatment presets
 - Start and End afterhours mode
 - Enable and Disable daylighting for all zones/groups
 - Enable and Disable occupancy for occupancy/vacancy sensors
 - Enable and Disable occupied events for all occupancy sensors

System Communications and Capacities

- Low-voltage type IEC PELV/NEC® Class 2 wiring connects control units, wallstations, motorised window treatments, and control interfaces.
- A QS system can have up to 100 devices and 100 zones.
- A QS system can have up to 30 wireless devices.

Infrared

- Infrared (IR) receiver allows infrared transmitters to select 8 scenes, raise/lower lighting zones, or raise/ lower window treatments.
- Transmitter buttons imitate buttons on faceplate.
- 15 m (50 ft) line of sight range.
- Terminal block infrared input for connection to a wired IR input from third-party equipment.
- IR can be disabled via programming.
- Works with Lutron GRX-IT and GRX-8IT infrared remote controls.

Accessory Controls and Devices

- Wired seeTouch® QS keypads can be added to the control link.
- Each GRAFIK Eye QS can power up to 3 wired seeTouch QS controls.

Wireless RF Compatibility

- Features Lutron's proprietary Clear Connect™ RF Technology
- Operates in the 868 MHz band
- Compatible with other Lutron wireless products/ systems, such as:
 - Pico® (P/N QSR8P and QSRKP)
 - Radio Powr Savr_{TM} occupancy/vacancy/daylight sensors (P/N LRF3-)
 - Sivoia® QS wireless products
 - Other GRAFIK Eve QS wireless units (P/N QSGRK-)

Accessory Controls: QS Sensor Module (QSM3)

- The QS Sensor Module provides a means to link wired or wireless occupancy and daylight sensors to a *GRAFIK Eye* QS via the wired QS link.
 - Occupancy sensors wired (or wirelessly linked) to a QS Sensor Module can be used by one or more GRAFIK Eye QS control units on the wired link.
 - Daylight sensors wired (or wirelessly linked) to a QS Sensor Module can be used by one or more GRAFIK Eye QS control units on the wired link.
 - Pico wireless controls can control either one or more zones or scenes on the GRAFIK Eye QS.
 - Infrared sensors can control either one or more zones or scenes on the GRAFIK Eye QS. Functionality varies; refer to the documentation for the QS Sensor Module for details.

JTRON _®	SPECIFICATION	SURMITTAL

Job Name:	Model Numbers:
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369315 Rev. A 6 03.07.11

Specifications

Accessory Controls: Contact Closure Input/Output Interface (QSE-IO)

- Recalls preset light levels for the following set of scenes on the GRAFIK Eye® QS:
 Scenes 1-4 and Off Scenes 9-12 and Off
 Scenes 5-8 and Off Scenes 13-16 and Off
- Sequence scenes 5-16, Enable/Disable Zone Lockout, Enable/Disable Scene Lockout, Enable/Disable Panic Mode, Enable/Disable Timeclock.
- Occupancy Sensors. An individual input counts as 1 occupancy sensor for the GRAFIK Eye QS. Each input can be assigned to either Scene Control or Zone Control (please refer to the Occupancy Sensor(s) section of this guide).
- Zone Toggle. Allows an input to toggle one or more zones to a preset level and off.
- Shade Output mode. A Shade Column on the GRAFIK
 Eye QS can be linked to control outputs 1-3 and/or
 outputs 4-5 on the QSE-IO.

Accessory Controls: DMX Output Interface (QSE-CI-DMX)

- Any zone on the *GRAFIK Eye* QS control unit can be mapped to any single DMX512 Channel.
- Any zone on the GRAFIK Eye QS control unit can be simultaneously mapped to any three DMX512 channels (providing RGB/CMY control).
- DMX loads cannot be used with daylighting.

Accessory Controls: Ethernet and RS232 Interface (QSE-CI-NWK-E)

 Allows for monitoring and control of the outputs and local scenes of the GRAFIK Eye QS.

Accessory Controls: QS Keyswitch Wallstations (QSWS2-KS)

- · Recalls preset light levels for any two scenes including Off
- Allows fine-tuning (raise/lower level) of a zone or group of zones
- Starts/Stops scene sequencing (Scenes 1-4 or Scenes 5-16)
- Enables/Disables Timeclock
- Enables/Disables occupancy sensors
- Enables/Disabled daylight sensors
- Allows toggle of Zone(s) to a preset level and off
- Enables/Disables panic mode
- Starts/Stops afterhours mode

Other Accessory Controls and Devices

Energi Savr Node™ QS (ESN)

Occupancy Sensor(s)

- The GRAFIK Eye QS works with occupancy sensors through either:
 - Scene Control: Up to four sensors activate userselectable occupancy and vacancy scenes.
 - Zone Control: up to four sensors per zone activate userselected occupancy and vacancy zone levels.
- Occupancy sensors may include:
 - Contact closure sensors wired to CCI input on back of GRAFIK Eye QS
 - Wireless Radio Powr Savr_{TM} occupancy or vacancy sensors (model numbers starting with LRF3)
- Wired or wireless sensors connected QS Sensor Module (QSM)
 If any sensor in a group detects occupancy, then the
- If any sensor in a group detects occupancy, then the GRAFIK Eye QS will go to the designated occupancy scene or zone level.
- If all sensors in a group detect vacancy, then the GRAFIK Eye QS will go to the designated vacancy scene or zone level.

Accessory Controls: Pico® Wireless Control (QSR8P models)

- The Pico Wireless Control is battery powered. It can control GRAFIK Eye QS wireless control units within a 10 m (30 ft) range (20 m/60 ft in open air). It provides the following features:
 - Control of one or more zones on the *GRAFIK Eye* QS Wireless: turns zone(s) on or off, raises/lowers zone(s), and goes to user-defined preset level
 - Scene control: the *Pico* can access scene 1, scene 16, and Off on the *GRAFIK Eye* QS, and can raise and lower lighting levels

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369315 Rev. A 7 03.07.11

Specifications

Daylight Sensor(s)

- The GRAFIK Eye® QS allows daylight sensors to control one or more lighting zones to adjust electric light levels based on measured daylight levels.
- Daylight sensors may include:
 - Wireless Radio Powr Savr™ (model numbers starting with LRF3)
 - Wired or wireless sensors connected to a QS sensor module (QSM)
- A daylight sensor can control one or more GRAFIK Eye QS zones:
 - Each zone can be calibrated to target light levels
 - A zone can be controlled by no more than one daylight sensor
- Daylight control can be enabled or disabled on a sceneby-scene basis
 - By default, daylight control is enabled in all scenes

Note: Daylight control through the *GRAFIK Eye* QS only affects lighting loads. Shade groups cannot be controlled by daylight sensors. Daylighting does not affect DMX or RGB/CMY DMX loads.

Contact Closure Input (CCI) with Power Supply Output

- Each GRAFIK Eye QS has one contact closure input (Terminal A).
 - The attached device must provide a dry contact closure or solid-state output.
 - Input is miswire-protected up to 36 V===.
- The contact closure is capable of accepting the following types of inputs:
 - Maintained (default): The *GRAFIK Eye* QS control unit will act on both a contact closure and a contact open/release event.
 - Momentary: The *GRAFIK Eye* QS control unit will act on only contact closure events.
- Each GRAFIK Eye QS can supply 50 mA maximum at 24 V===.
 - Useful for powering occupancy sensors.
 - An auxiliary power supply must be used if the device requires more than 50 mA.
- The CCI is capable of operating in the following modes
 - Occupancy: If an occupancy sensor is wired directly to the *GRAFIK Eye* QS.
 - Emergency: This setting allows the *GRAFIK Eye* QS to work with a LUT-ELI. When an emergency situation is detected, all lights will go to full on, and no operations will be allowed until the emergency signal is cleared.
 - Afterhours: Allows the CCI to start and end the afterhours mode.
 - Timeclock: Allows the CCI to enable and disable the timeclock.
 - Scene Lockout: Prevents the user from making any changes to the control unit. The current scene will stay on until the CCI enables normal operation.
 - Save Never: Prevents any changes from being saved while the CCI is being used.
 - Disable CCI: The CCI will have no effect on the system and will not appear on the list of available sensors.

Security Lockout Password

- A 4-digit password (using characters A to Z and 0 to 9) can be enabled/disabled to lock out access to the Programming Menu.
- By default there is no password enabled on the GRAFIK Eye QS.
- If case the 4-digit password is forgotten, contact Lutron Technical Support to regain access.

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Job Name:	Model Numbers:
Job Number:	

369315 Rev. A 8 03.07.11

Specifications

Capacities		
Zones	Unit	Zone Capacity
	Capacity	Capacity
	(watts)	(watts)
3	1 500	500
4	2 000	500
6	2 300	500
1		

Load Type Notes

- For applications with ELV loads or load wattages exceeding the specified capacities, please refer to specifications for Lutron power modules (NGRX-PB-CE; NGRX-ELVI-CE; ELVI-1000-CE).
- Not all loads must be connected; however, connected zones must have a minimum load of 40 W.
- Maximum total lighting load for a magnetic low-voltage zone is 500 VA / 400 W.
- No zone may be loaded with more than 500 W.

System Limits

• The QS wired communication link is limited to 100 devices (wired or wireless) or 100 zones.

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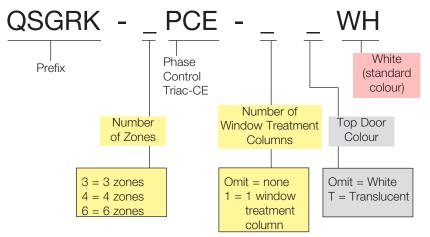
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369315 Rev. A 9 03.07.11

GRAFIK Eye® QS Wireless

Standard Model Numbers

See following pages for Ordering Custom (Non-Standard) Model Numbers See Standard Colour Combinations page for faceplate, stripe, and button colours



Example:

QSGRK-6PCE-1TWH

6-zone standard white unit with 1 window treatment column and translucent top door.

Unit will ship unengraved with engraving certificate that customer can redeem at no charge.

Available Standard Model Numbers

3 Zones	<u>4 Zones</u>	<u>6 Zones</u>
QSGRK-3PCE-WH	QSGRK-4PCE-WH	QSGRK-6PCE-WH
QSGRK-3PCE-TWH	QSGRK-4PCE-TWH	QSGRK-6PCE-TWH
QSGRK-3PCE-1WH	QSGRK-4PCE-1WH	QSGRK-6PCE-1WH
QSGRK-3PCE-1TWH	QSGRK-4PCE-1TWH	QSGRK-6PCE-1TWH

Important Note:

For any non-standard units, you must order **BOTH** a base unit and a Faceplate Kit. Please see the Custom Ordering Information on the following pages.

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369315 Rev. A 10 03.07.11

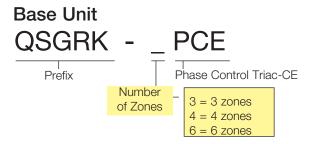
Page

GRAFIK Eye QS Wireless

Custom Colour Options and Model Numbers

You must order a Base Unit and a Faceplate Kit

See Standard Colour Combinations page for faceplate, stripe, and button colours



Example:

QSGRK-6PCE

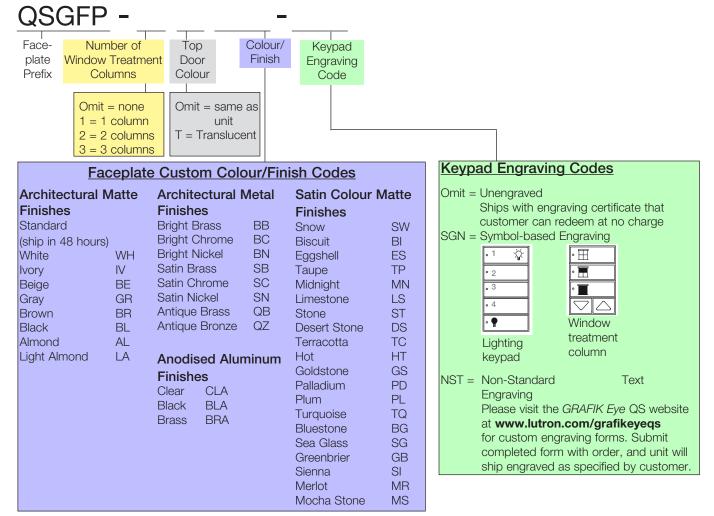
6-zone base unit and

QSGFP-2IV-SGN

Ivory faceplate kit with two window treatment columns and symbol-based engraving

Faceplate Kit

(includes coordinating stripe and buttons; see Standard Colour Combinations page)



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Job Number:

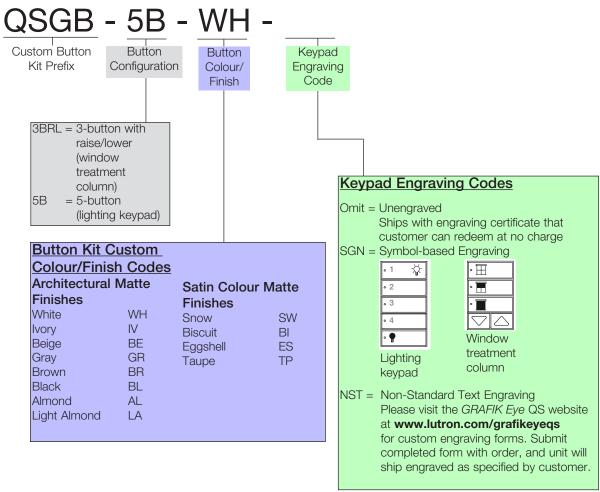
369315 Rev. A 11 03.07.11

GRAFIK Eye® QS Wireless

Custom Options and Model Numbers

See previous pages for Standard and Other Custom Model Numbers See Standard Colour Combinations page for faceplate, stripe, and button colours

Custom Button Kit



Custom Stripe Kit

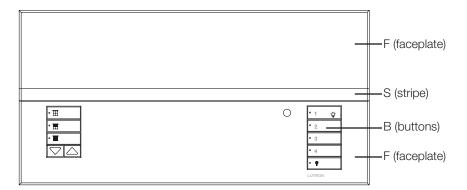


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369315 Rev. A 12 03.07.11

GRAFIK Eye® QS Wireless Standard Colour Combinations See previous pages for Standard and Custom Model Numbers



Faceplate is comprised of a top and bottom. The bottom will always be the colour indicated under "faceplate." The top may be the same colour or translucent. Use the chart for faceplates that have the same colour top and bottom. If a translucent lid is chosen, the stripe will automatically be the same colour as the bottom lid.

Example:

If you order QSGRK-4PCE-1WH, your GRAFIK Eye QS with 4 lighting zones and 1 window treatment column will come with a white faceplate (both top and bottom), gray stripe, and white buttons.

Suffix	Faceplate (F)	Stripe (S)	Button (B)	Suffix	Faceplate (F)	Stripe (S)	Button (B)
Architectural Matte			Satin M	atte		` '	
WH	White	Gray	White	MN	Midnight	Gray	Black
IV	lvory	Beige	Ivory	TP	Taupe	Gray	Taupe
BE	Beige	Ivory	Beige	SW	Snow	Gray	Snow
GR	Gray	Black	Gray	ES	Eggshell	Beige	Eggshell
BR	Brown	Black	Brown	Bl	Biscuit	Eggshell	Biscuit
BL	Black	Gray	Black	LS	Limestone	Gray	Gray
AL	Almond	Light Almond	Almond	ST	Stone	Gray	Gray
LA	Light Almond	Almond	Light Almond	DS	Desert Stone	Taupe	Taupe
Archited	ctural Metal			TC	Terracotta	Taupe	Taupe
BB	Bright Brass	Black	Black	BG	Bluestone	Gray	Gray
BC	Bright Chrome	Black	Black	HT	Hot	Taupe	Taupe
BN	Bright Nickel	Black	Black	MR	Merlot	Taupe	Taupe
SB	Satin Brass	Black	Black	SI	Sienna	Brown	Brown
SC	Satin Chrome	Black	Black	GB	Greenbrier	Gray	Gray
SN	Satin Nickel	Black	Black	SG	Sea Glass	Gray	Gray
QB	Antique Brass	Black	Black	MS	Mocha Stone	Taupe	Taupe
QZ	Antique Bronze	Black	Black	GS	Goldstone	Ivory	Ivory
Anodise	ed			PD	Palladium	Gray	Gray
CLA	Clear	Black	Black	PL	Plum	Taupe	Taupe
BLA	Black	Black	Black	TQ	Turquoise	Gray	Gray
BRA	Brass	Black	Black				
Internat	ional Wallbox		l l				
AR	Argentum	Black	Black				
MC	Mica	Gray	Black				
AW	Arctic White	Gray	White				

LUTRON SPECIFICATION SUBMITTAL

Job Name:	Model Numbers:
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369315 Rev. A 13 03.07.11

Wiring Diagrams

Terminations



LUTRON SPECIFICATION SUBMITTAL

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Job Number:		
OOD Number.		

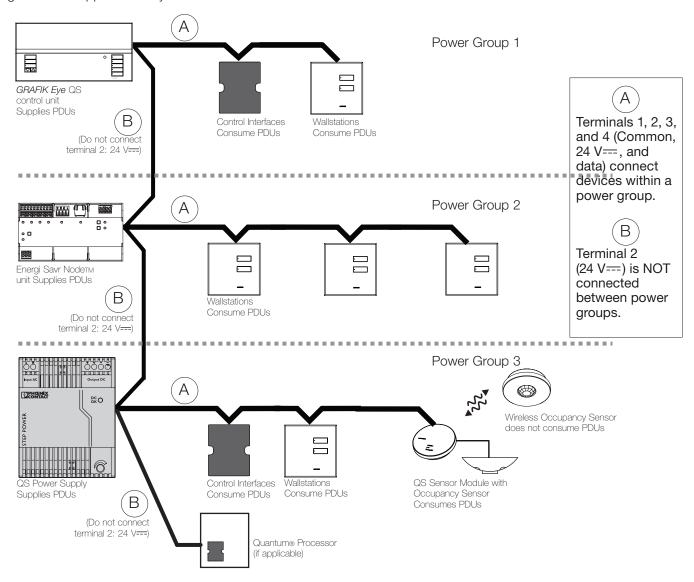
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Power Group Wiring Example

On the QS link, there are devices that supply power and devices that consume power. Each device has a specific number of Power Draw Units (PDUs) it either supplies or consumes. A Power Group consists of one device that supplies power and one or more devices that consume power; each Power Group may have only one power-supplying device. Refer to the QS Link Power Draw Units specification submittal (Lutron PN 369405) for more information concerning PDUs.

Within Power Groups on the QS link, connect all 4 terminals (1, 2, 3, and 4), shown by the letter A in the diagram. Between devices on the QS link that supply power, connect only terminals 1, 3, and 4 (NOT terminal 2), shown by the letter B on the diagram. Refer to the specific device documentation for wiring details.

Wiring can be T-tapped or daisy-chained.

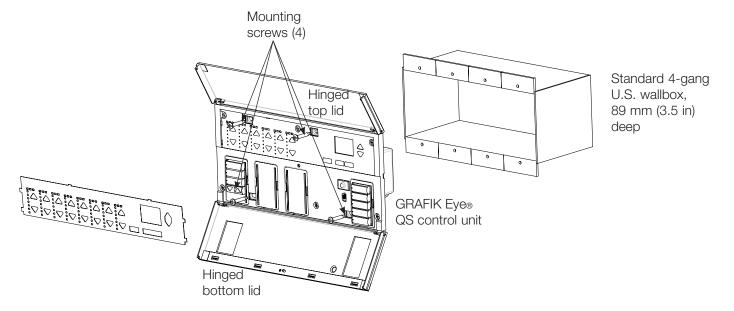


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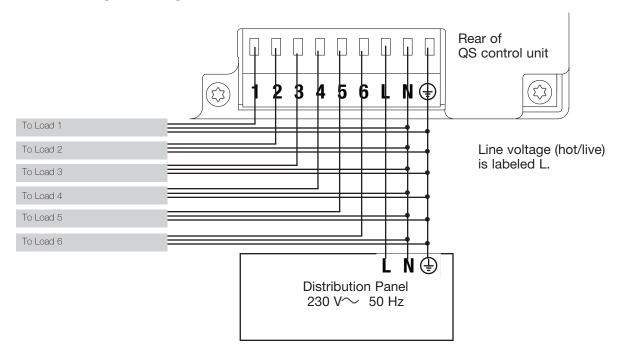
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369315 Rev. A 15 03.07.11

Mounting



Line Voltage Wiring



- Pull power wiring from distribution panel and to light fixtures.
- Each line voltage terminal can accept one 2.5 mm² (12 AWG) wire.
- Consult Lutron for non-dim relay wiring and/or load side emergency transfer wiring.

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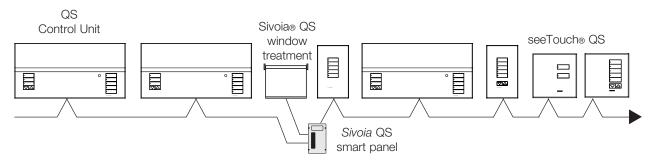
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369315 Rev. A 16 03.07.11

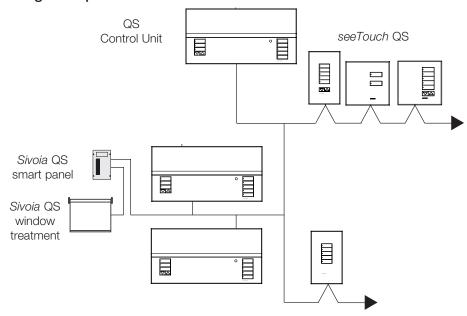
IEC PELV/NEC® Class 2 QS System Low-Voltage Wiring

- System communication uses low-voltage wiring.
- Wiring can be daisy-chained or T-tapped.
- Wiring must be run separately from line/mains voltage.
- IEC PELV/NEC® Class 2 wiring link requires:
 Two 1.0 mm² (18 AWG) conductors for control power.
 One twisted, shielded pair of 0.5 mm² (22 AWG) for data link.
 Available from Lutron, P/N GRX-CBL-346S; check compatibility in your area.
- Total length of control link must not exceed 610 m (2 000 ft).

Daisy-Chain Wiring Example



T-Tap Wiring Example



LUTRON SPECIFICATION SUBMITTAL

Job Name:	Model Numbers:	
Job Number:		
OOD Number.		