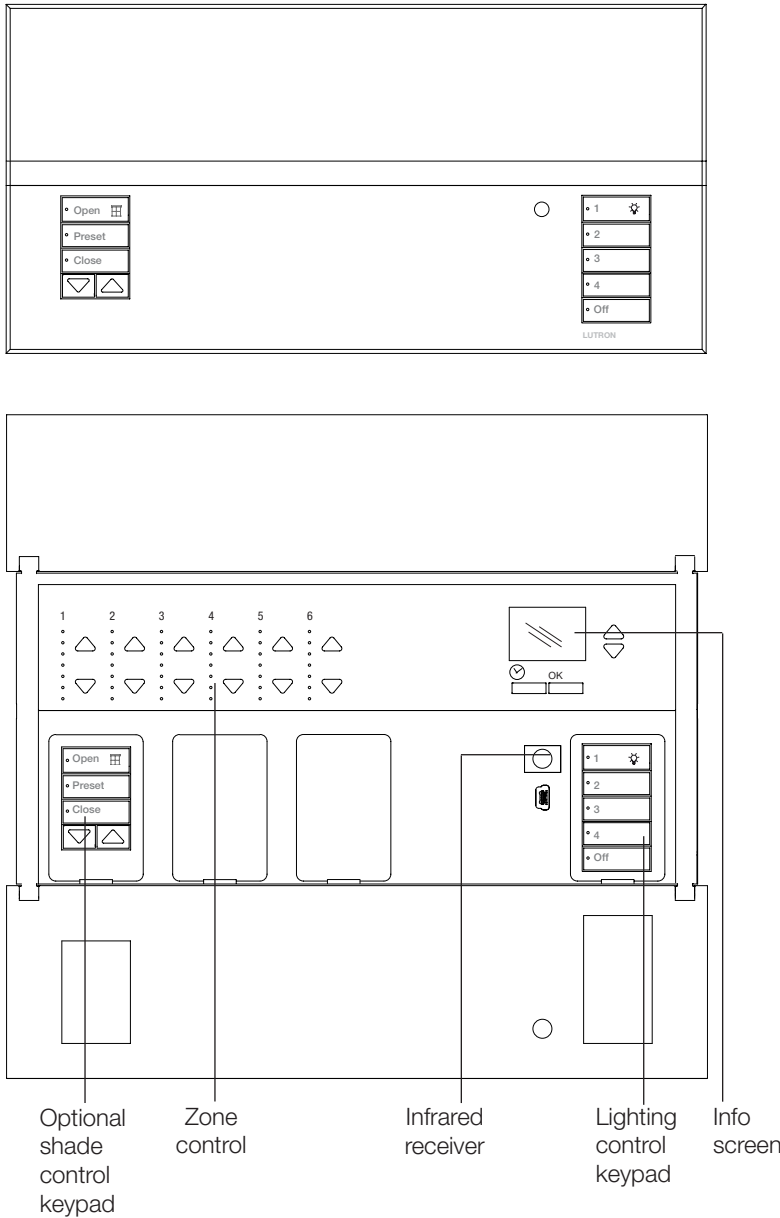# GRAFIK Eye® QS Control Unit (220-240 V~)

Description

- Provides pushbutton recall of four preset lighting scenes, plus Off.
- Offers optional integrated shade control buttons, which can be added to the unit after installation.
- Includes master override buttons to temporarily raise and lower all lights.
- Allows setup of lighting scenes and shade presets using buttons on the control unit.
- Controls many light source types directly and others using power interfaces.
- Provides individual control of light sources.
- Includes built-in infrared receiver.
- Includes external IR connection.
- Includes built-in astronomic timeclock.
- Provides info screen for zone light level percentage, energy savings, zone labeling, accessing additional scenes, programming, and timeclock scheduling.
- Info screen is language-selectable.
- Provides lockout options to prevent accidental changes.
- Includes one occupant sensor input and 24 V=== power for occupant sensors or other building management systems.
- Includes communication link for seamless integration of lights, motorized window treatments, and control stations.
- Backlit buttons with optional engraving make unit easy to find and to operate.
- Available in a variety of colors and finishes to match any decor.
- Compatible with all Lutron QS system components.

Optional shade control keypad   Zone control   Infrared receiver   Lighting control keypad   Info screen

Note: General Engraving (-EGN) shown.

Job Name:	Model Numbers:
Job Number:	

Specifications

Input Power

- 220-240 V∿ 50/60 Hz.
- 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.

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.
- Magnetic low-voltage transformer.
- Neon and cold cathode.
- Non-dim.

Controls the following lighting sources with a smooth, continuous square law dimming curve through separate power interfaces:

- Electronic low-voltage transformer.

Key Design Features

- Meets IEC 801-2. Tested to withstand 15 kV electrostatic discharge without damage or memory loss.
- 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).
- 10-year power failure memory automatically restores lighting to the scene selected prior to power interruption, and stores timeclock and scene programming.
- Faceplate is hinged top and bottom and stays open at 180° for ease of access.

Environment

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

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.
- Optional button engraving is angled up to the eye for easy reading.
- Predefined label stickers are included for field labeling.

Preset Light and Shade Control

- 4 preset lighting scenes, plus Off, are accessible from the front of the control unit.
- 12 additional scenes are stored in the control unit. These are accessible via the info screen or via other control stations.
- Light levels fade smoothly between scenes. Fade time can be set differently for each scene: 0 to 59 seconds, or 1 to 60 minutes. Fade time from Off is capped at 5 seconds.
- Open, preset, and close shade buttons. Raise and lower is also available for each shade column. Each shade column can be programmed to operate one shade or multiple shades (a group of shades).

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. Light % and energy saved % is displayed on the info screen.
- All zone information has blue backlit LEDs. Backlight is programmable to Off.
- 4 preset scenes can be programmed as zone toggles. Zones to toggle are fully programmable to integral and external zones.

Info Screen

- Screen is viewable from all angles.
- Programmable zone labels.
- Programmable scene labels.
- Status of real-time zone percentage and energy savings.
- Programmable timeclock schedules.

Job Name:	Model Numbers:
Job Number:	

Specifications

Astronomic Timeclock

- Integral to all units.
- 7 daily schedules available.
- Holiday schedules are programmable by date up to one year in advance.
- 25 events per day available.
- 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, adjusted for the new 2007 dates.

System Communications and Capacities

- Low-voltage type PELV (Class 2) wiring connects control units, wallstations, motorized shades, and control interfaces.
- A QS system can have up to 100 devices and 100 zones (see table at right).

Infrared

- Infrared receiver allows infrared transmitters to select 8 scenes, raise/lower lighting zones, or raise/lower shades.
- Transmitter buttons imitate buttons on faceplate.
- 15 m (50 ft.) line of sight range.
- Terminal block infrared input for direct contact with external IR connection.
- IR can be disabled via programming.

Accessory Controls

- *SeeTouch* QS controls can be added to the control link.
- Each *GRAFIK Eye* QS can power up to 3 *SeeTouch* QS controls.
- Works with Lutron GRX-IT and GRX-8IT infrared remote controllers.

Occupant Sensor Connection

- Control unit supplies power for and receives a control signal back from one occupant sensor.
- One contact closure input can be programmed to select a scene on the contact closing, opening, or both. No power pack required.
- Power Supply Output (Terminal B):
  - 24 V$\overline{}$, 50 mA maximum.
  - An auxiliary power supply must be used if the device requires more than 50 mA.
- Occupant Sensor Signal Input (Terminal A):
  - The occupant sensor must provide a dry contact closure or solid-state output.
- Control unit is miswire-protected up to 36 V$\overline{}$.

System Limits

QS Device	Zone Count	Device Count
3-zone QS	3	1
4-zone QS	4	1
6-zone QS	6	1
seeTouch QS	0	1
Sivoia QS	1	1

Job Name:	Model Numbers:
Job Number:	

Mechanical Dimensions

239 mm
(9-3/8 in.)

119 mm
(4-11/16 in.)

10 mm
(3/8 in.)

46 mm
(1-13/16 in.)

Front View

Side View
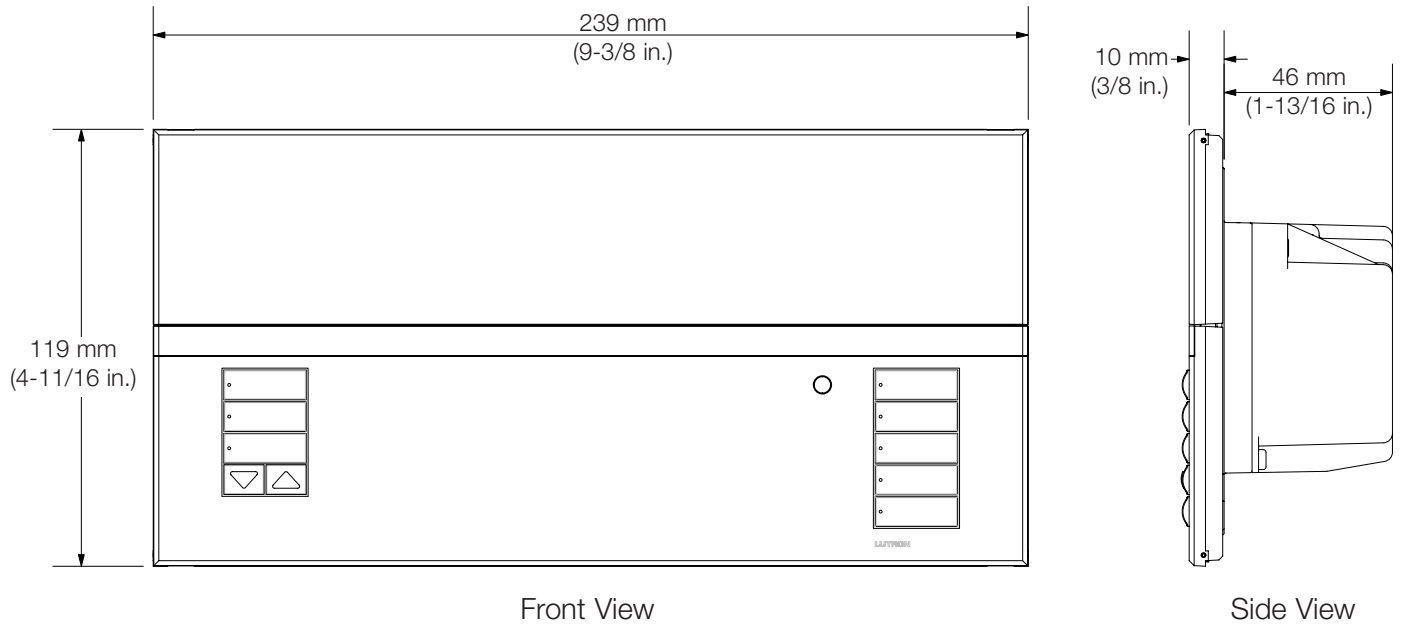
Fits into a Lutron provided backbox 76 mm (3 in. deep) P/N 241-400.

Job Name:	Model Numbers:
Job Number:	

Standard *GRAFIK Eye* QS Model Numbers
See following pages for Custom Options and Model Numbers
See Standard Color Combinations page for faceplate, stripe, and button colors

QSG - 3P240 - WH
QSG - 3P240 - TWH
QSG - 4P240 - WH
QSG - 4P240 - TWH
QSG - 6P240 - WH
QSG - 6P240 - TWH
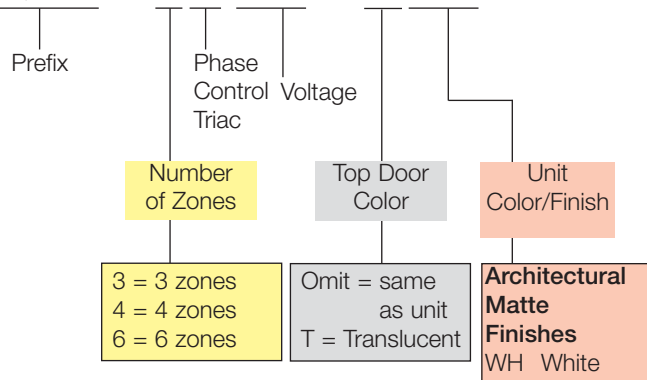
Prefix

Phase Control Triac

Voltage

Number of Zones	Top Door Color	Unit Color/Finish
3 = 3 zones 4 = 4 zones 6 = 6 zones	Omit = same as unit T = Translucent	**Architectural Matte Finishes** WH White

Mechanical Dimensions

All models fit into a Lutron provided backbox (P/N 241-400) 200 mm wide x 94 mm tall x 76 mm deep (7,9 in. wide x 3,7 in. tall x 3 in. deep).

Capacities

Zones	Unit Capacity (watts)	Zone Capacity (watts)
3	3000	1200
4	3000	1200
6	3000	1200

Job Name:	Model Numbers:
Job Number:	

Custom *GRAFIK Eye* QS Model Numbers
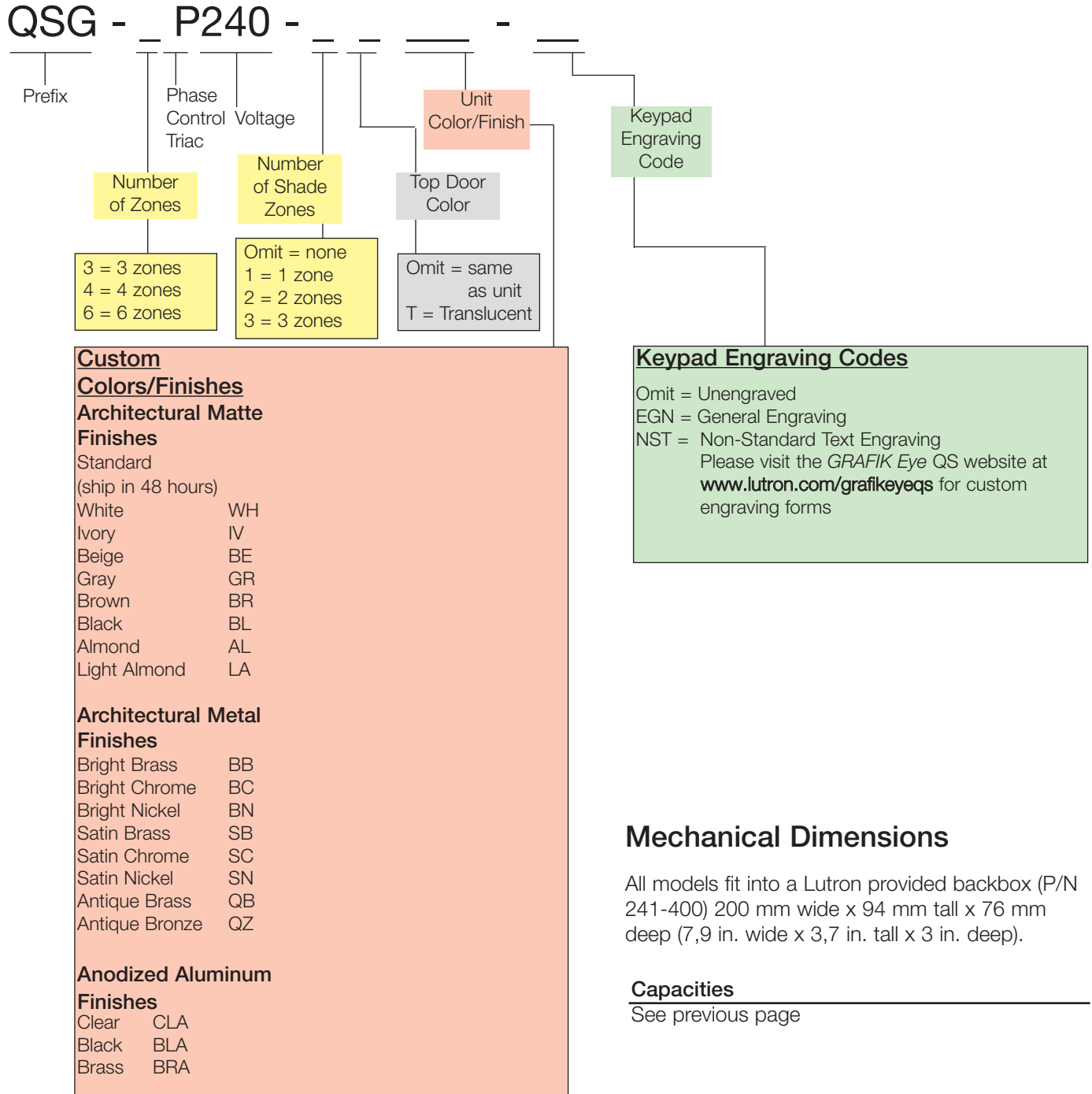
See previous page for Standard Model Numbers
See following page for Custom Options and Model Numbers
See Standard Color Combinations page for faceplate, stripe, and button colors

QSG - _ P240 - _ _ ___ - _

Prefix

Phase
Control
Triac

Voltage

Unit
Color/Finish

Keypad
Engraving
Code

Number
of Zones

Number
of Shade
Zones

Top Door
Color

Number of Zones	Number of Shade Zones	Top Door Color
3 = 3 zones	Omit = none	Omit = same
4 = 4 zones	1 = 1 zone	as unit
6 = 6 zones	2 = 2 zones	T = Translucent
	3 = 3 zones	

Custom Colors/Finishes

Architectural Matte Finishes

Standard
(ship in 48 hours)

White	WH
Ivory	IV
Beige	BE
Gray	GR
Brown	BR
Black	BL
Almond	AL
Light Almond	LA

Architectural Metal Finishes

Bright Brass	BB
Bright Chrome	BC
Bright Nickel	BN
Satin Brass	SB
Satin Chrome	SC
Satin Nickel	SN
Antique Brass	QB
Antique Bronze	QZ

Anodized Aluminum Finishes

Clear	CLA
Black	BLA
Brass	BRA

Keypad Engraving Codes

Omit = Unengraved
EGN = General Engraving
NST = Non-Standard Text Engraving
Please visit the *GRAFIK Eye* QS website at **www.lutron.com/grafikeyeqs** for custom engraving forms

Mechanical Dimensions

All models fit into a Lutron provided backbox (P/N 241-400) 200 mm wide x 94 mm tall x 76 mm deep (7,9 in. wide x 3,7 in. tall x 3 in. deep).

Capacities

See previous page

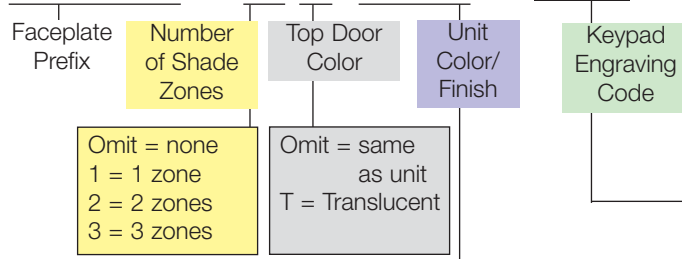| Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS Custom Options and Model Numbers
See previous pages for Standard and Custom Model Numbers
See Standard Color Combinations page for faceplate, stripe, and button colors

Faceplate Kit
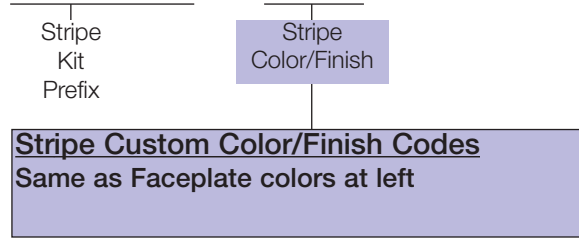(includes coordinating stripe and buttons)

QSGF - 3 T WH - __

Faceplate Prefix	Number of Shade Zones	Top Door Color	Unit Color/ Finish	Keypad Engraving Code

Number of Shade Zones:
Omit = none
1 = 1 zone
2 = 2 zones
3 = 3 zones

Top Door Color:
Omit = same as unit
T = Translucent

Faceplate Custom Color/Finish Codes

Architectural Matte Finishes
Standard
(ship in 48 hours)

White	WH
Ivory	IV
Beige	BE
Gray	GR
Brown	BR
Black	BL
Almond	AL
Light Almond	LA

Architectural Metal Finishes

Bright Brass	BB
Bright Chrome	BC
Bright Nickel	BN
Satin Brass	SB
Satin Chrome	SC
Satin Nickel	SN
Antique Brass	QB
Antique Bronze	QZ

Anodized Aluminum Finishes

Clear	CLA
Black	BLA
Brass	BRA

Stripe Kit

QSGS - WH

Stripe Kit Prefix	Stripe Color/Finish

Stripe Custom Color/Finish Codes
Same as Faceplate colors at left

Keypad Engraving Codes

Omit = Unengraved
EGN = General Engraving
NST = Non-Standard Text Engraving
     Please visit the *GRAFIK Eye* QS website at
     www.lutron.com/grafikeyeqs for custom
     engraving forms

Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS Custom Options and Model Numbers
See previous pages for Standard and Other Custom Model Numbers
See Standard Color Combinations page for faceplate, stripe, and button colors

Button Kit

QSGB - 5B - WH -

Custom Button Kit Prefix   Button Configuration   Button Color/ Finish   Keypad Engraving Code

3BRL = 3-button with raise/lower (shade keypad)
5B = 5-button (lighting keypad)

Button Kit Custom Color/Finish Codes
Architectural Matte Finishes

|	
White	WH
Ivory	IV
Beige	BE
Gray	GR
Brown	BR
Black	BL
Almond	AL
Light Almond	LA

Keypad Engraving Codes

Omit = Unengraved
EGN = General Engraving
NST = Non-Standard Text Engraving
Please visit the *GRAFIK Eye* QS website at **www.lutron.com/grafikeyeqs** for custom engraving forms

Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS Standard Color Combinations
See previous pages for Standard and Custom Model Numbers

F (faceplate)

S (stripe)

B (buttons)
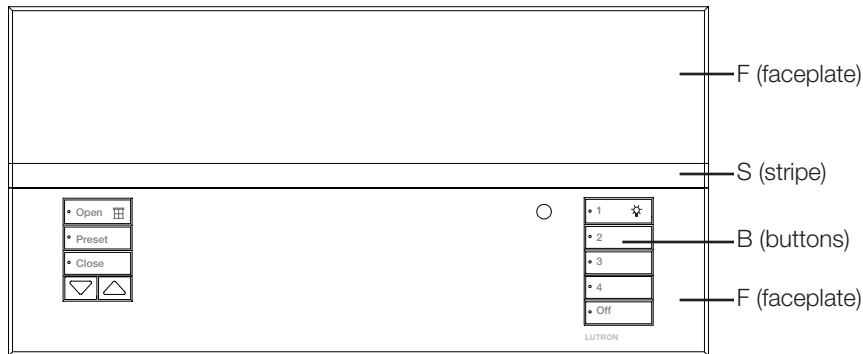
F (faceplate)

Faceplate is comprised of a top and bottom. The bottom will always be the color indicated under "faceplate." The top may be the same color or translucent. Use the chart for faceplates that have the same color top and bottom. If a translucent lid is chosen, the stripe will automatically be the same color as the bottom lid.
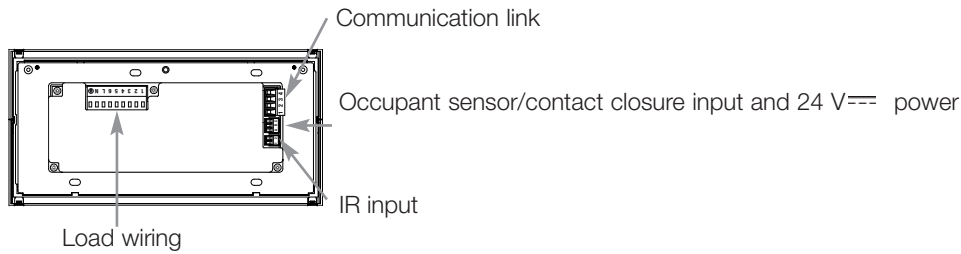
Example:
If you order QSG-4PCE-1WH, your GRAFIK Eye QS with 4 lighting zones and 1 shade zone will come with a white faceplate (both top and bottom), gray stripe, and white buttons.

Suffix	Faceplate (F)	Stripe (S)	Button (B)
Architectural Matte			
WH	White	Gray	White
IV	Ivory	Beige	Ivory
BE	Beige	Ivory	Beige
GR	Gray	Black	Gray
BR	Brown	Black	Brown
BL	Black	Gray	Black
AL	Almond	Light Almond	Almond
LA	Light Almond	Almond	Light Almond
Architectural Metal			
BB	Bright Brass	Black	Black
BC	Bright Chrome	Black	Black
BN	Bright Nickel	Black	Black
SB	Satin Brass	Black	Black
SC	Satin Chrome	Black	Black
SN	Satin Nickel	Black	Black
QB	Antique Brass	Black	Black
QZ	Antique Bronze	Black	Black
Anodized			
CLA	Clear	Black	Black
BLA	Black	Black	Black
BRA	Brass	Black	Black

☀LUTRON® SPECIFICATION SUBMITTAL   Page

Job Name:	Model Numbers:
Job Number:	

Wiring Diagrams

Terminations

Communication link

Occupant sensor/contact closure input and 24 V⎓ power

IR input

Load wiring
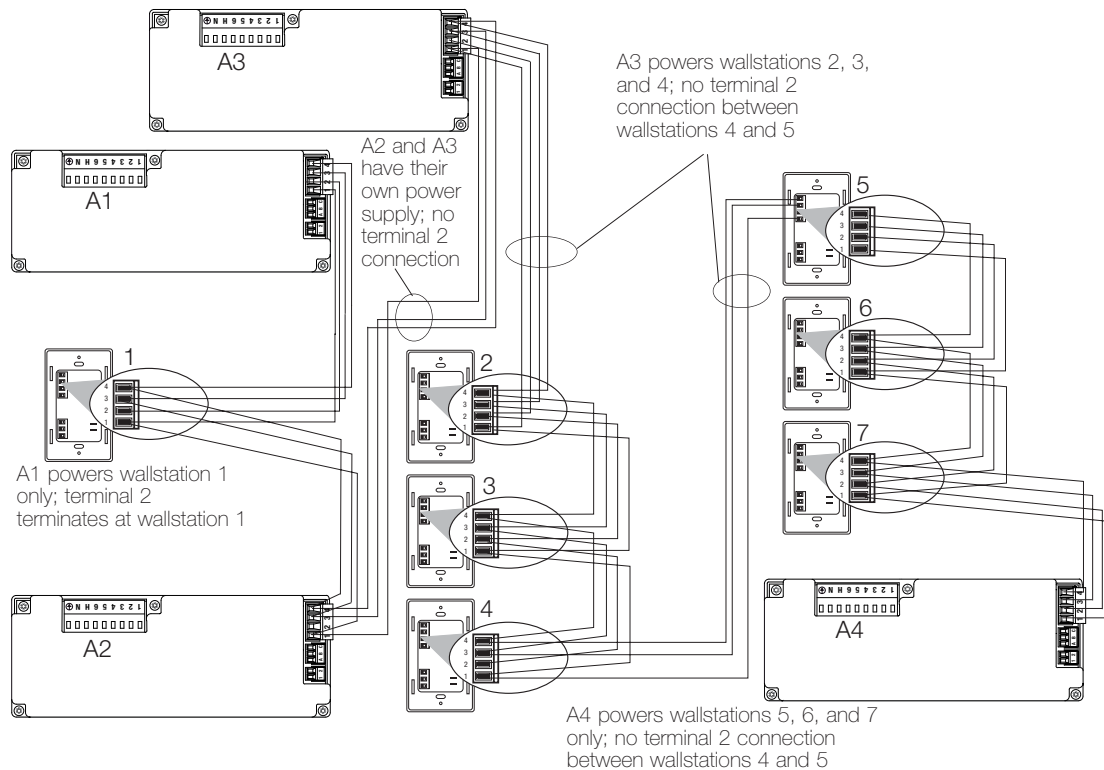
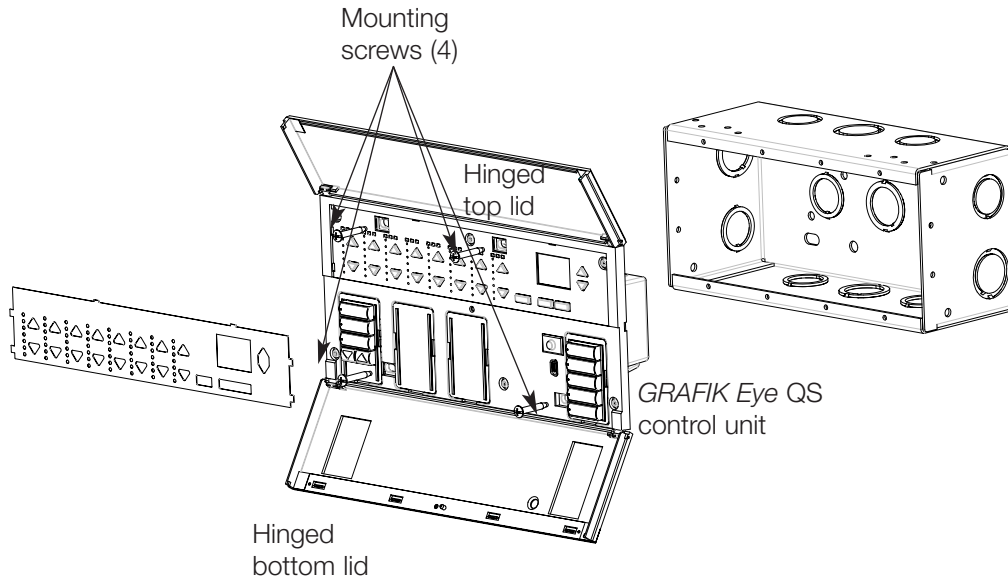## PELV (Class 2) QS System Low-Voltage Terminal Connections

- Each PELV (Class 2) terminal accepts up to two 1,0 mm² (#18 AWG) wires.
- Connect the terminal 1, 3, and 4 connections to all control units, wallstations, and control interfaces.
- Each control unit has its own power supply. Terminate the terminal 2 connection (24 V⎓ power) so that each control unit supplies power to a maximum of three wallstations. Each wallstation should receive power from only one control unit.
- Total length of control link must not exceed 610 m (2 000 ft.).
- Do not allow PELV (Class 2) wires to contact line/mains wires.
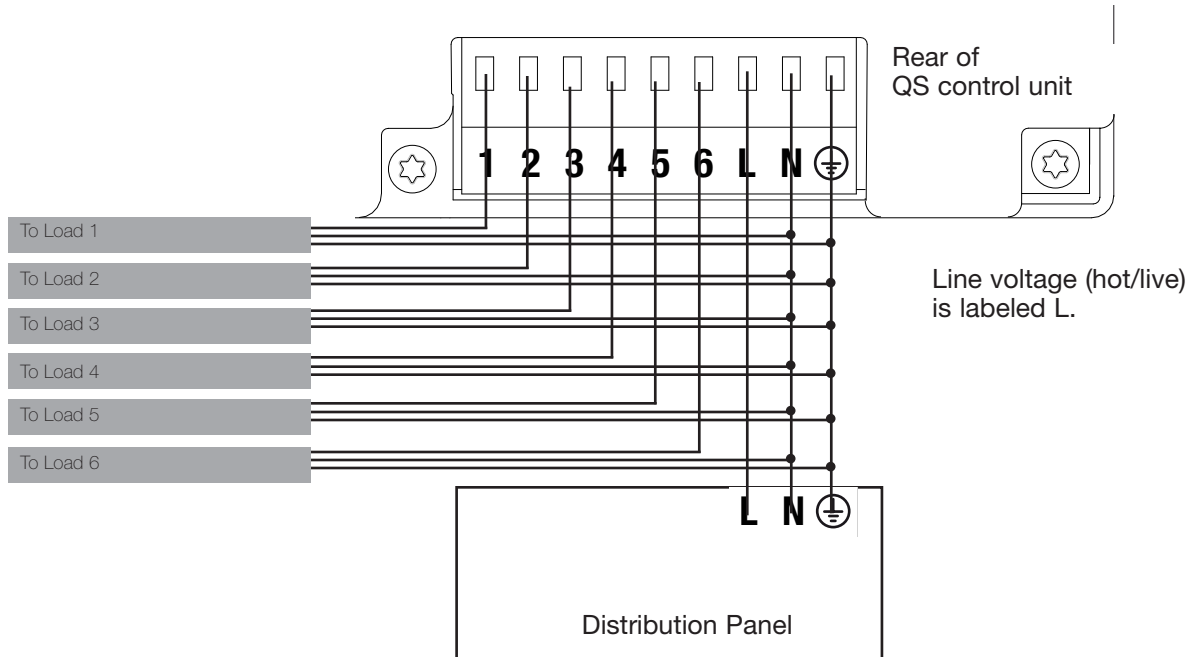
Control units shown in rear view

A3

A1

A2

A4

A3 powers wallstations 2, 3, and 4; no terminal 2 connection between wallstations 4 and 5

A2 and A3 have their own power supply; no terminal 2 connection

A1 powers wallstation 1 only; terminal 2 terminates at wallstation 1

A4 powers wallstations 5, 6, and 7 only; no terminal 2 connection between wallstations 4 and 5

1 2 3 4 5 6 7

Job Name:	Model Numbers:
Job Number:	

Mounting

Mounting screws (4)

Hinged top lid

Lutron provided backbox (P/N 241-400) 76 mm (3 in.) deep

GRAFIK Eye QS control unit

Hinged bottom lid

Line Voltage Wiring for 220-240 V∿ Models:

Rear of QS control unit

| 1 | 2 | 3 | 4 | 5 | 6 | L | N | ⏚ |

To Load 1
To Load 2
To Load 3
To Load 4
To Load 5
To Load 6

Line voltage (hot/live) is labeled L.

L   N   ⏚

Distribution Panel

- Pull power wiring from distribution panel and to light fixtures.
- Each line voltage terminal can accept one 2,5 mm² (#12 AWG) wire.
- For phase-to-phase wiring, connect one phase to Hot/Live and the other phase to Neutral. When wired phase-to-phase, **there is no air gap** when the Control Unit is off. The MCB(s) **must** be turned off when servicing the Control Unit or associated loads.
- Consult Lutron for non-dim relay wiring and/or load side emergency transfer wiring.

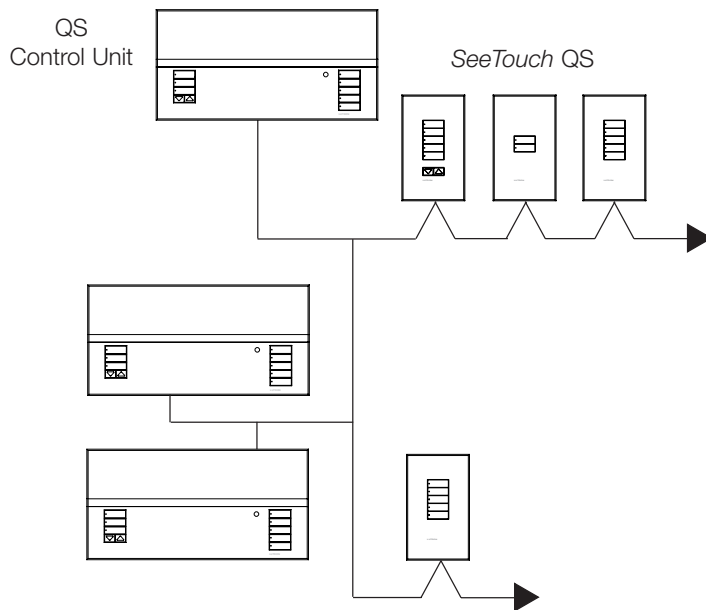| Job Name:	Model Numbers:
Job Number:	

PELV (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.
- PELV (Class 2) wiring link requires:
  Two 1,0 mm² (#18 AWG) conductors for control power.
  One twisted, shielded pair of 1,0 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
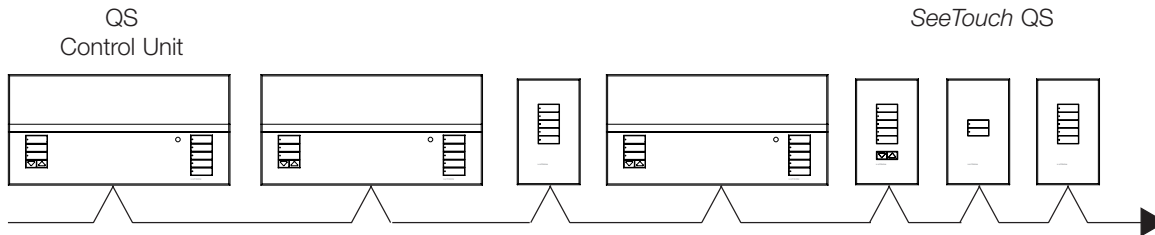
T-Tap Wiring Example

Job Name:	Model Numbers:
Job Number:	