# GRAFIK Eye QS Control Unit with DALI® (CE)

Description

GRAFIK Eye QS with DALI® is the premier energy-saving lighting and shade control. GRAFIK Eye QS features an astronomic timeclock, intuitive lighting presets, and direct shade control, which are seamlessly integrated with DALI®-compliant fluorescent ballasts and LED drivers, and Lutron QS components and systems. Now with an integral DALI®-compliant bus supply, you can use the GRAFIK Eye QS with DALI® to control digital loads and shades without interfaces, and integrate with a variety of Lutron products and systems, including Sivoia QS shades and all Lutron wired QS products and systems, including Quantum.
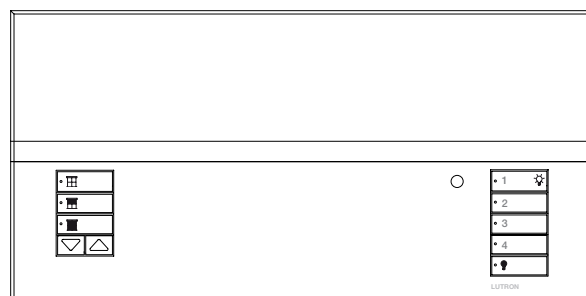
Features

- Pushbutton recall of four preset lighting scenes, plus Off.
- Sixteen (16) total available scenes, plus Off scene.
- Optional integrated shade 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 shade 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, programming, and Digital Addressable Load setup.
- Lockout option prevents accidental changes.
- Occupancy sensor input and 24 V=== power for one occupancy sensor.
- QS communication link for seamless integration of lights, motorised window treatments, wallstations, and integration interfaces.
- Compatible with all Lutron QS system components.
- Control up to 6, 8, or 16 zones of DALI®-compliant loads from internal bus supply.
- Up to 64 DALI®-compliant output devices can be addressed and grouped into zones.
- Integral DALI® setup and programming through the info screen.
- Backlit buttons with engraving make unit easy to locate and operate.
- Available in a variety of colours and finishes.

DALI® Compatibility

In order to ensure compatibility with Lutron DALI® controllers, the connected DALI® LED drivers and fluorescent ballasts must be DALI-2® certified and marked. In addition to compatibility, it is important to select high quality and high-performance LED drivers and fluorescent ballasts. DALI-2® certified devices are readily available from many manufacturers and are tested for compatibility with the standard. For a complete list of available DALI-2® certified devices, see the DiiA® website at https://www.digitalilluminationinterface.org/products. DALI® devices that are not listed on the DiiA® website and are not marked DALI-2® cannot be considered DALI-2® certified.

The DALI® version-1 standard does not ensure compatibility. To apply the original DALI® version-1 mark on LED drivers and fluorescent ballasts, no verification of the test results was required, and manufacturers could self-declare compliance and apply the DALI® mark. If you would like to use an LED driver or fluorescent ballast that is not DALI-2® certified but carries a DALI® version-1 logo, Lutron recommends that these devices be tested to ensure compatibility. Lutron is able to perform this testing on request. Samples of the drivers and light engines must be submitted to Lutron and the expected turnaround time is 6 to 8 weeks after the drivers are received. Fees for testing may apply. Lutron recommends that this testing be performed before the fixtures and lighting controls are purchased and installed. Contact your Lutron sales representative for more information.

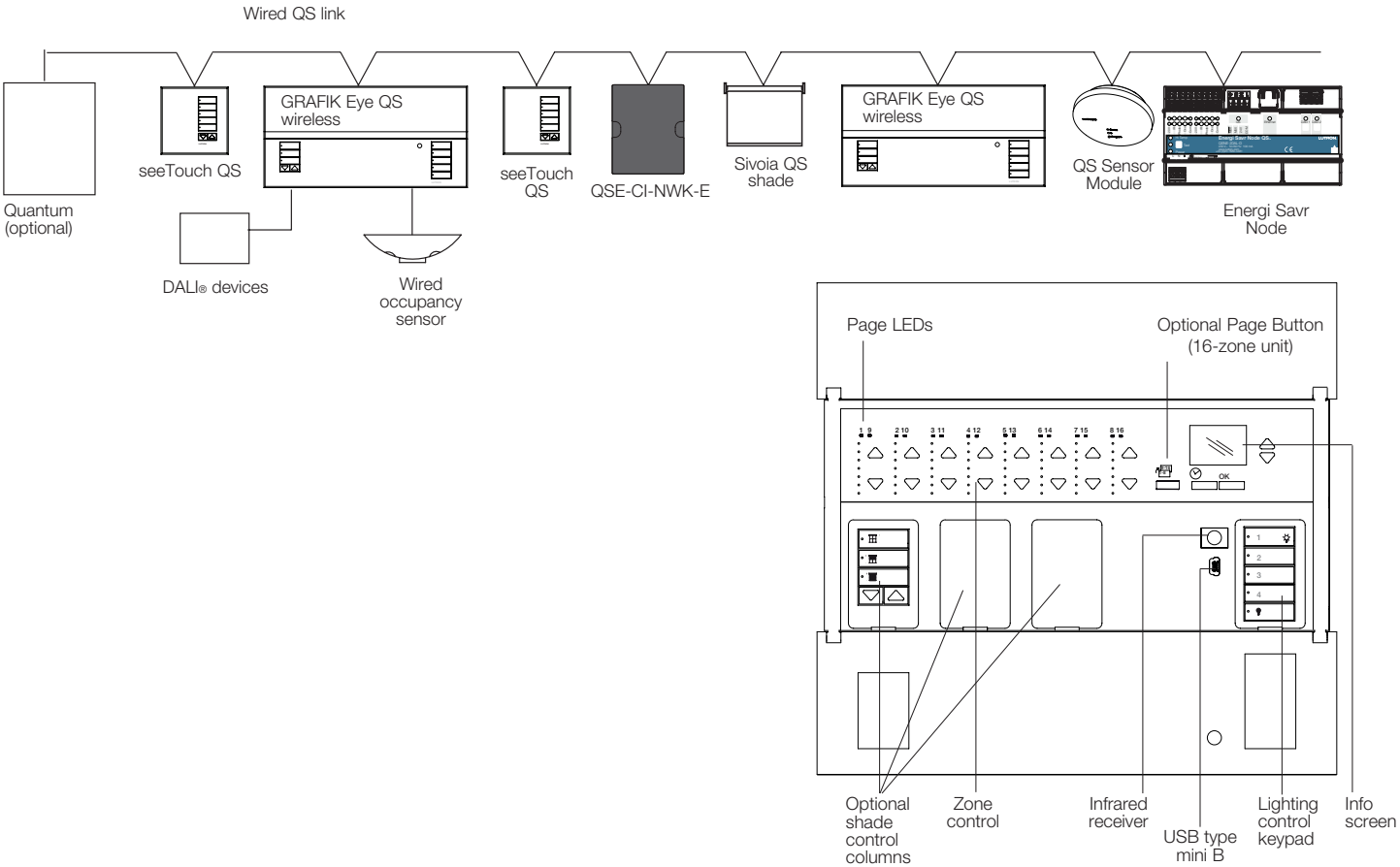| Job Name:	Model Numbers:
Job Number:	

Mechanical Dimensions

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Front View

Side View
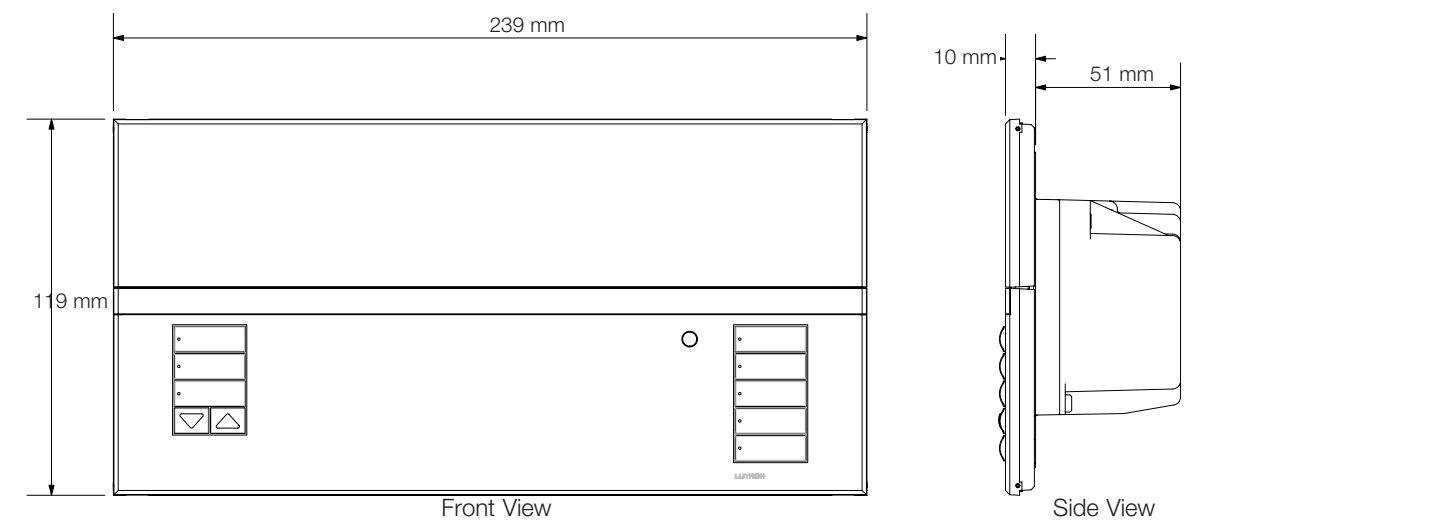
Fits into a 4-gang U.S. backbox, 90.4 mm deep (Lutron P/N 245254) or 76.2 mm deep (Lutron P/N 241400)

System Topology
Example of Wired System

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

Job Name:	Model Numbers:
Job Number:	

Specifications

Input Power

- 220–240 V∼ 50/60 Hz

Environment

- 0 to 40 °C.
- Relative humidity less than 90% non-condensing.

Compliance

- CE

Lighting Sources/Load Types

- Up to 64 DALI®-compliant output devices (devices must comply with IEC/EN 60929) can be addressed and grouped into zones.
- Before system is addressed, Zone 4 will transmit broadcast commands to all DALI®-compliant loads wired to the GRAFIK Eye QS.
- Zones on Energi Savr Node products wired to the same QS link
    – Zones on Energi Savr Node with Softswitch
    – Zones on Energi Savr Node for 0–10 V
    – Zones on Energi Savr Node with EcoSystem
    Please refer to "Remote Zone Mapping" for important information.
- DMX channel(s) through DMX output interface (QSE-CI-DMX). Please refer to "Accessory Controls: DMX Output Interface"

    Note: A zone may be programmed to control only one load type at a time.

Key Design Features

- Tested to withstand 16 kV electrostatic discharge without damage or memory loss.
- Tested to withstand voltage surges of up to 6 000 V∼ and current surges of up to 3 000 A. Lightning strike protection meets ANSI/IEEE 62.41-1980 standard.
- 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 P/N 369405
- Faceplate is hinged at the top and bottom, and stays open at 180° for ease of access.

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 the integral timeclock, seeTouch QS wallstations, and QS interfaces.
- Light levels fade smoothly between scenes. Fade time can be set differently for each scene: 0 to 90 seconds. Maximum fade time from Scene 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.

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.
- High-end and low-end trim settings are adjustable per zone (high end from 99 to 55%; low end from 45 to 1%). **Note:** Trim for remote zones must be adjusted locally on the Energi Savr Node unit.
- Each zone is programmable to only one load type at a time.

Job Name:	Model Numbers:
Job Number:	

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 shade labels.
- Selectable display languages:
  - English
  - Spanish
  - French
  - Italian
  - German
  - Portuguese

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. Sunrise/Sunset times automatically adjust throughout the year based on location.
- Automatically adjusts for Daylight Saving Time (DST); 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

- IEC PELV wiring connects control units, wallstations, motorised shades, and control interfaces.
- A QS system can have up to 100 devices and 100 zones.
- Class 1/Class 2 wiring connects DALI®-compliant output devices to control unit.

Infrared

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

Accessory Controls: seeTouch QS Wallstations (QSWE)

- Wired seeTouch QS keypads provide the following features:
  - Access to one or more of the 16 scenes on the GRAFIK Eye QS Wireless
  - Zone toggle, partitioning, sequencing, fine tune, panic mode, and timeclock enable/disable
  - Contact closure inputs
  - Certain functions are only available on specific wallstation configurations. Refer to the seeTouch QS specification submittal.

Accessory Controls: QS Sensor Module (QSM)

- The QS Sensor Module provides a means to link wired or wireless occupancy sensors or daylight sensors, Pico controls, and wired infrared sensors to a GRAFIK Eye QS control unit 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.
  - 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.
  - Pico wireless controls can control either one or more zones or scenes on the GRAFIK Eye QS.
  - Pico wired controls can be used, when connected to a QS Sensor Module, to control one or more zones or scenes on the GRAFIK Eye QS control unit.

Job Name:	Model Numbers:
Job Number:	

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 5–8 and Off
  – Scenes 9–12 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 between programmable preset level(s) 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.

Other Accessory Controls and Devices

- Energi Savr Node (ESN)

Occupancy Sensor(s)

- The GRAFIK Eye QS works with occupancy sensors through either:
  – Scene control: Up to 16 sensors activate user-selected occupancy and vacancy scenes.*
  – Zone control: Up to four sensors per zone activate user-selected occupancy and vacancy zone levels.
- Occupancy sensors may include:
  – Contact closure sensor wired to CCI input on back of GRAFIK Eye QS
  – Wired sensors connected to Energi Savr Node
  – Wired or wireless sensors connected QS sensor module (QSM)
- 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.
- Low battery: the diagnostics screen will display a low battery symbol when applicable.
- If the GRAFIK Eye QS control unit does not receive a signal from an occupancy sensor on the link (usually due to a dead battery), the lights associated with that sensor will go to the occupied level.

* Applicable only to units that ship with firmware version 9.002 and higher. Previous versions support up to 4 sensors.

Job Name:	Model Numbers:
Job Number:	

Specifications

Daylight Sensor(s)

- The GRAFIK Eye QS with DALI® works with compatible daylight sensors to adjust electric light levels based on measured daylight levels. Sensors can be configured to control either GRAFIK Eye QS zones or groups of DALI® loads independent of zoning.
- Daylight sensors may include:
  – Wired or wireless sensors connected to a QS sensor module (QSM)
- In zone mode, 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
- In group mode, a daylight sensor can control one or more DALI® loads, regardless of how they are zoned on the GRAFIK Eye QS.
  – A group can be controlled by a single daylight sensor
  – Each group can be calibrated to independent target light levels
  – Up to 16 groups are available
- Daylight control can be enabled or disabled on a scene-by-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. Daylighting of remote zones linked to Energi Savr Node zones must be configured at the Energi Savr Node unit or through the Energi Savr Node app for *iPod*.

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, choose this setting so that the occupancy sensor will work correctly.
  – 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.
  – Never save: 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.

Job Name:	Model Numbers:
Job Number:	

Specifications

Unit Dissipation

- All models of GRAFIK Eye QS for Digital Addressable Loads dissipate no more than 35 BTUs / hour.

System Limits

- The QS wired communication link is limited to 100 devices or 100 zones.

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 Customer Assistance to regain access.

Remote Zone Mapping

- Map a GRAFIK Eye QS zone directly to an Energi Savr Node output so that programmed scenes in the GRAFIK Eye QS control unit will directly control the output levels of the Energi Savr Node.
- Adjust high-end and low-end trim for remote zones through the Energi Savr Node or Energi Savr app software.
- Change load types of remote zones through the Energi Savr Node or Energi Savr app software.
- Configure daylighting for remote zones through the Energi Savr Node or Energi Savr app software.
- Required:
  – GRAFIK Eye QS control unit with firmware version 7.000 or higher
  – Energi Savr Node unit with firmware version 6.000 or higher
  – Energi Savr app version 6.0.0 or higher (required only if the Energi Savr Node unit has been configured using the app)

Partitioning

- When partition is open, creating one large space, automatically combines lighting preset functions for multiple GRAFIK Eye QS control units.
- When partition is closed, creating two or more smaller spaces, lighting preset functions become independent.
- Requires one wallstation (either a QSWS2, QSWS2-2B or a QSE-IO), a GRX-IRPS infrared transmitter/receiver pair, and a GRX-12VDC power supply for operation.
- If occupancy sensors are required in a partitioned space, note that each room's occupancy sensor(s) will operate independent of the partition status.

Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS for Digital Addressable Loads
Standard and 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

Base Unit

QSGR - _ D

Prefix

Number of Zones

Digital Addressable Loads

| 6 = 6 zones |
| 8 = 8 zones |
| 16 = 16 zones |

Example:

QSGR-6D
6-zone base unit
and
QSGFP-1WH-G
Ivory faceplate kit with two shade columns and symbol-based engraving

Standard Engraved Faceplate Kit (WH only)
(includes coordinating stripe and buttons)

QSGFP - __ WH - __

Faceplate Prefix

Number of Shade Columns

Top Door Color

Keypad Engraving Code

| Omit = none |
| 1 = 1 column |
| 2 = 2 columns |
| 3 = 3 columns |

| Omit = same as unit |
| T = Translucent |

Keypad Engraving Codes

-G = Generic
-S = Shades
-H = Hotel Room
-A = Auditorium/Classroom
-L = Lobby/Retail
-R = Restaurant
-M = Meeting Room
-B = Ballroom
-Z = Zone Toggle

Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS for Digital Addressable Loads *(continued)*
Standard and Custom Colour Options and Model Numbers *(continued)*
Standard Engraved Faceplate Kit (WH only) *(continued)*

Generic (-G)

1 ☼
2
3
4
Off ♀

Meeting Room (-M)

All On ☼
Meeting
A/V
Cleaning
All Off ♀

Shades (-S)

Open ⊞
Preset 1
Preset 2
Preset 3
Close ■

Ballroom (-B)

All On ☼
Event 1
Event 2
Event 3
All Off ♀

Hotel Room (-H)

High ☼
Medium
Low
Nightlight
Off ♀

Zone Toggle (-Z)

Zone 1
Zone 2
Zone 3
Zone 4
Zone 5

Auditorium / Classroom (-A)

All On ☼
Present
Lecture
Exam
All Off ♀

Lobby / Retail(-L)

All On ☼
Morning
Afternoon
Evening
All Off ♀

Restaurant (-R)

All On ☼
Breakfast
Lunch
Dinner
All Off ♀

* Standard engraving text does not automatically assign or re-assign system programming to the QS keypad buttons. Project-specific customer input and programming by a Lutron service team member is still required to achieve a desired sequence of operation / system functionality per control.

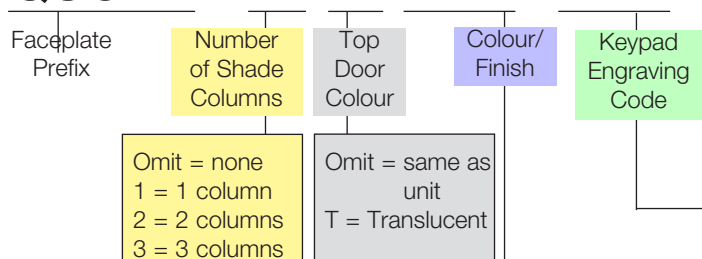| Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS for Digital Addressable Loads *(continued)*
Standard and Custom Colour Options and Model Numbers *(continued)*

Custom (non-standard) Faceplate Kit
(includes coordinating stripe and buttons; see Standard Colour Combinations page)

QSGFP - _____ _____ - _____

Faceplate Prefix	Number of Shade Columns	Top Door Colour	Colour/ Finish	Keypad Engraving Code

Number of Shade Columns	Top Door Colour
Omit = none	Omit = same as unit
1 = 1 column	T = Translucent
2 = 2 columns	
3 = 3 columns	

Faceplate Custom Colour / Finish Codes

Architectural Matte Finishes

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

Anodised Aluminum Finishes

Clear	CLA
Black	BLA
Brass	BRA

Satin Colour Matte Finishes

Snow	SW
Midnight	MN
Taupe	TP
Biscuit	BI
Eggshell	ES
Palladium	PD
Hot	HT
Merlot	MR
Plum	PL
Sienna	SI
Terracotta	TC
Bluestone	BG
Greenbrier	GB
Goldstone	GS
Mocha Stone	MS
Stone	ST
Desert Stone	DS
Limestone	LS

For the latest color offerings please see our website:
http://www.lutron.com/satincolors

Keypad Engraving Codes

Omit = Unengraved
     Ships with engraving certificate that customer can redeem at no charge

SGN = International (symbol-based) Engraving

Lighting keypad   Shade column

NST = Non-Standard Text Engraving
     Please visit the GRAFIK Eye QS website at **www.lutron.com/grafikeyeqs** for custom engraving forms. Submit completed form with order, and unit will ship engraved as specified by customer.

Job Name:	Model Numbers:
Job Number:	

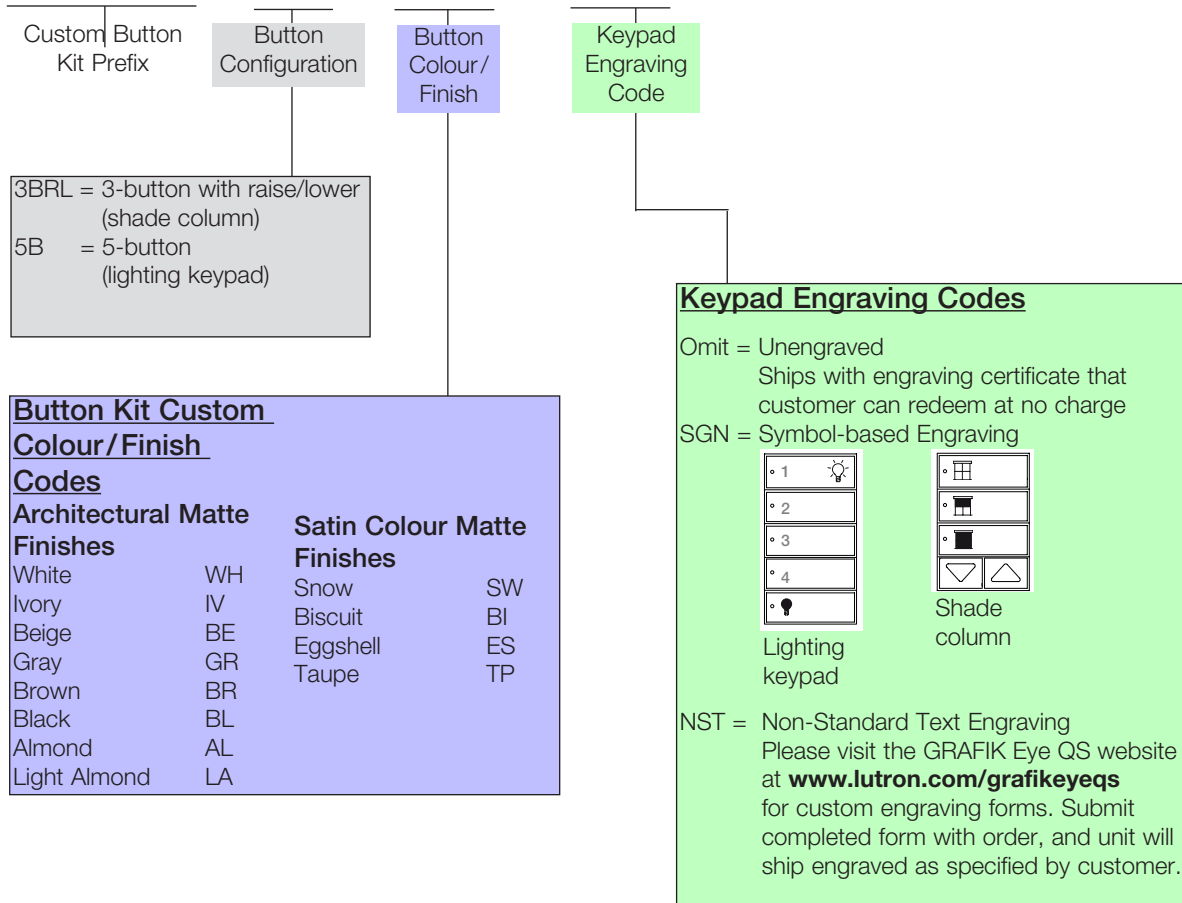## GRAFIK Eye QS for Digital Addressable Loads *(continued)*
Custom Options and Model Numbers
See previous pages for Standard and Other Custom Model Numbers
See Standard Colour Combinations page for faceplate, stripe, and button colours

Custom Button Kit

QSGB - 5B - WH -

Custom Button Kit Prefix | Button Configuration | Button Colour/Finish | Keypad Engraving Code

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

Button Kit Custom Colour/Finish Codes

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

Satin Colour Matte Finishes
Snow   SW
Biscuit   BI
Eggshell   ES
Taupe   TP

Keypad Engraving Codes

Omit = Unengraved
       Ships with engraving certificate that customer can redeem at no charge
SGN = Symbol-based Engraving

Lighting keypad

Shade column

NST = Non-Standard Text Engraving
      Please visit the GRAFIK Eye QS website at **www.lutron.com/grafikeyeqs** for custom engraving forms. Submit completed form with order, and unit will ship engraved as specified by customer.

Custom Stripe Kit

QSGS - ___

Stripe Kit Prefix | Stripe Colour/Finish

Stripe Custom Colour/Finish Codes
Same as Faceplate colours on previous page
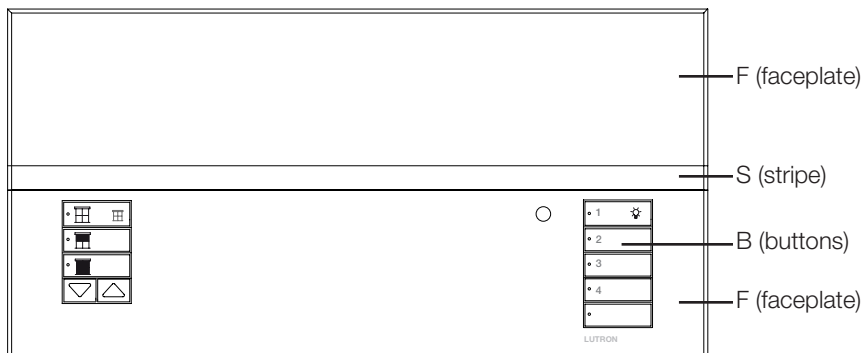
Job Name: Model Numbers:

Job Number:

GRAFIK Eye QS for Digital Addressable Loads *(continued)*
Standard Colour Combinations
See previous pages for Standard and Custom Model Numbers

— F (faceplate)
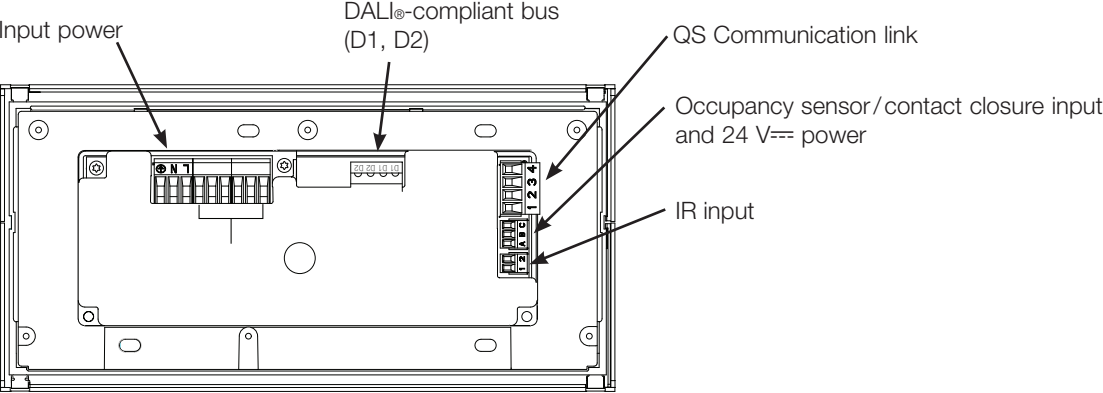
— S (stripe)

— B (buttons)

— F (faceplate)

Faceplate is comprised of a top and bottom. The bottom will always be the 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.

Suffix	Faceplate (F)	Stripe (S)	Button (B)	Suffix	Faceplate (F)	Stripe (S)	Button (B)
Architectural Matte				**Satin Matte**			
WH	White	Gray	White	SW	Snow	Gray	Snow
IV	Ivory	Beige	Ivory	MN	Midnight	Gray	Black
BE	Beige	Ivory	Beige	TP	Taupe	Gray	Taupe
GR	Gray	Black	Gray	BI	Biscuit	Eggshell	Biscuit
BR	Brown	Black	Brown	ES	Eggshell	Beige	Eggshell
BL	Black	Gray	Black	PD	Palladium	Gray	Gray
AL	Almond	Light Almond	Almond	HT	Hot	Taupe	Taupe
LA	Light Almond	Almond	Light Almond	MR	Merlot	Taupe	Taupe
Architectural Metal				PL	Plum	Taupe	Taupe
BB	Bright Brass	Black	Black	SI	Sienna	Brown	Brown
BC	Bright Chrome	Black	Black	TC	Terracotta	Taupe	Taupe
BN	Bright Nickel	Black	Black	BG	Bluestone	Gray	Gray
SB	Satin Brass	Black	Black	GB	Greenbriar	Gray	Gray
SC	Satin Chrome	Black	Black	GS	Goldstone	Ivory	Ivory
SN	Satin Nickel	Black	Black	MS	Mocha Stone	Taupe	Taupe
QB	Antique Brass	Black	Black	ST	Stone	Gray	Gray
QZ	Anitque Bronze	Black	Black	DS	Desert Stone	Ivory	Ivory
Anodized				LS	Limestone	Gray	Gray
CLA	Clear	Black	Black				
BLA	Black	Black	Black				
BRA	Brass	Black	Black				

For the latest color offerings please see our website: http://www.lutron.com/satincolors

Job Name:	Model Numbers:
Job Number:	

Overview
Terminations

Input power

DALI®-compliant bus (D1, D2)

QS Communication link

Occupancy sensor/contact closure input and 24 V⎓ power

IR input

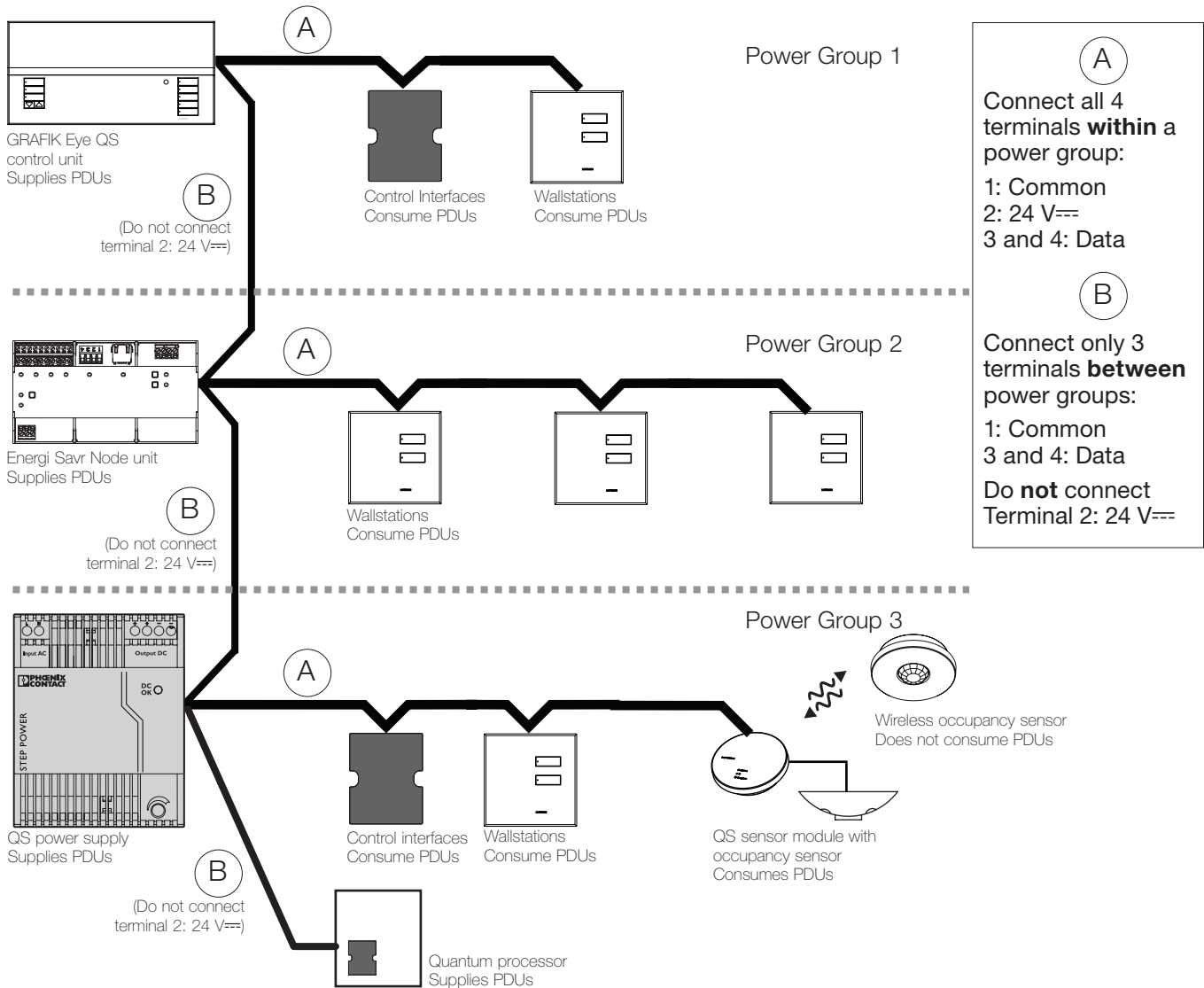| Wire Gauge	Maximum DALI®-compliant Bus Wire Length
1.5 mm² (16 AWG)	300 m
0.75 mm² (20 AWG)	150 m
0.50 mm² (22 AWG)	100 m

Job Name:	Model Numbers:
Job Number:	

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 P/N 369405) for more information concerning PDUs.
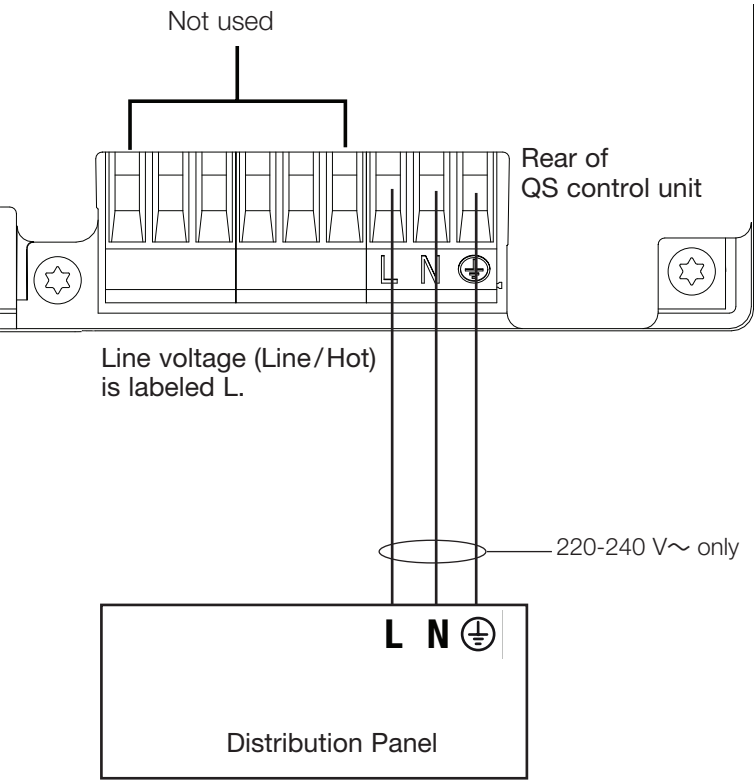
Within power groups on the QS link, connect all 4 terminals (1, 2, 3, and 4), shown by the letter A in the diagram. Between devices on the QS link that supply power, connect only terminals 1, 3, and 4 (NOT terminal 2), shown by the letter B on the diagram. Refer to the specific device documentation for wiring details.

Wiring can be T-tapped or daisy-chained.

Power Group 1

GRAFIK Eye QS
control unit
Supplies PDUs

B
(Do not connect
terminal 2: 24 V⎓)

Control Interfaces
Consume PDUs

Wallstations
Consume PDUs

Power Group 2

Energi Savr Node unit
Supplies PDUs

B
(Do not connect
terminal 2: 24 V⎓)

Wallstations
Consume PDUs

Power Group 3

QS power supply
Supplies PDUs

B
(Do not connect
terminal 2: 24 V⎓)

Control interfaces
Consume PDUs

Wallstations
Consume PDUs

QS sensor module with
occupancy sensor
Consumes PDUs

Wireless occupancy sensor
Does not consume PDUs

Quantum processor
Supplies PDUs

A
Connect all 4 terminals **within** a power group:

1: Common
2: 24 V⎓
3 and 4: Data

B
Connect only 3 terminals **between** power groups:

1: Common
3 and 4: Data

Do **not** connect Terminal 2: 24 V⎓

Job Name:	Model Numbers:
Job Number:	

Line Voltage Wiring

Not used

Rear of
QS control unit

L　N　⏚

Line voltage (Line/Hot)
is labeled L.

220-240 V∼ only

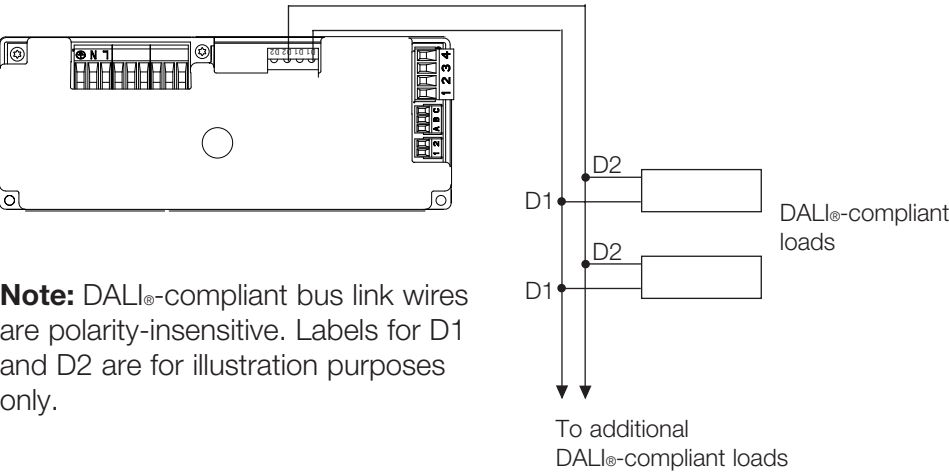**L　N　⏚**

Distribution Panel

- Pull power wiring from distribution panel and to light fixtures.
- Each line voltage terminal can accept one 4.0 mm² (12 AWG) wire.
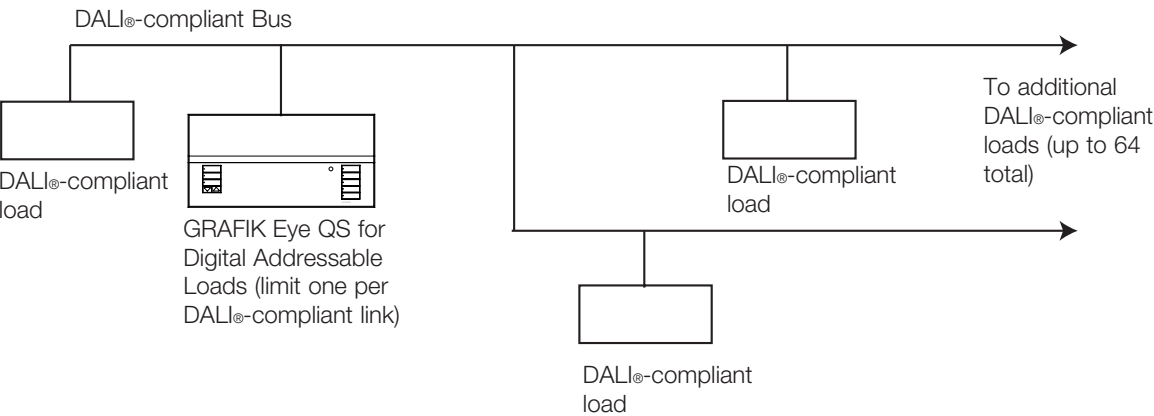- Consult Lutron for non-dim relay wiring and/or load side emergency transfer wiring.

Job Name:	Model Numbers:
Job Number:	

DALI®-Compliant Bus Wiring

DALI®-Compliant Bus Link Terminal Detail

Note: DALI®-compliant bus link wires are polarity-insensitive. Labels for D1 and D2 are for illustration purposes only.

D2

D1

D2

D1

DALI®-compliant loads

To additional DALI®-compliant loads

DALI®-Compliant Bus Wiring Example

DALI®-compliant Bus

DALI®-compliant load

GRAFIK Eye QS for Digital Addressable Loads (limit one per DALI®-compliant link)

DALI®-compliant load

DALI®-compliant load

To additional DALI®-compliant loads (up to 64 total)

DALI®-compliant load

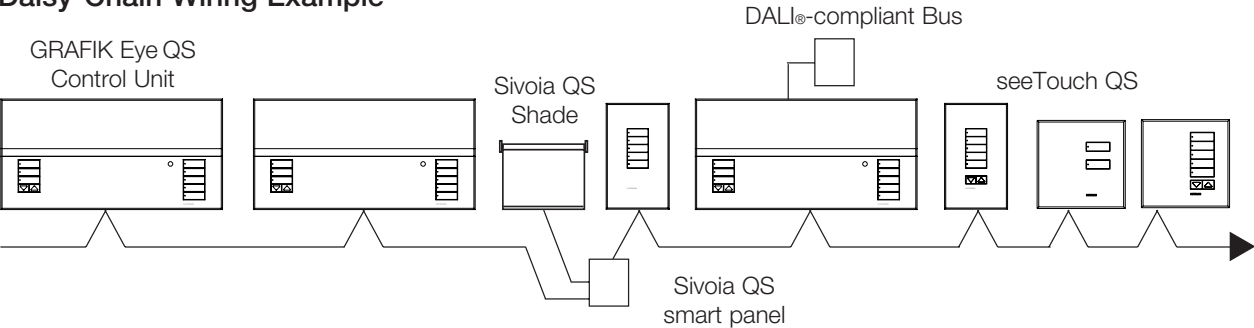| Job Name:	Model Numbers:
Job Number:	

IEC PELV/NEC® Class 2 QS Link Wiring

- Wiring can be daisy-chained or T-tapped.
- Wiring must be run separately from line/mains voltage.
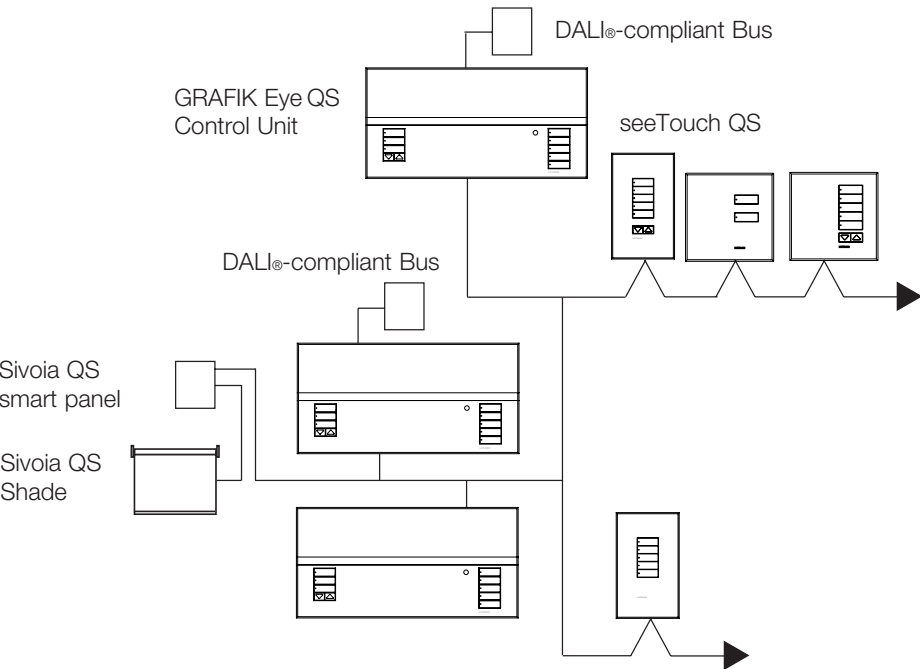- Total length of control link must not exceed 610 m.

Wire Sizes (check compatibility in your area)

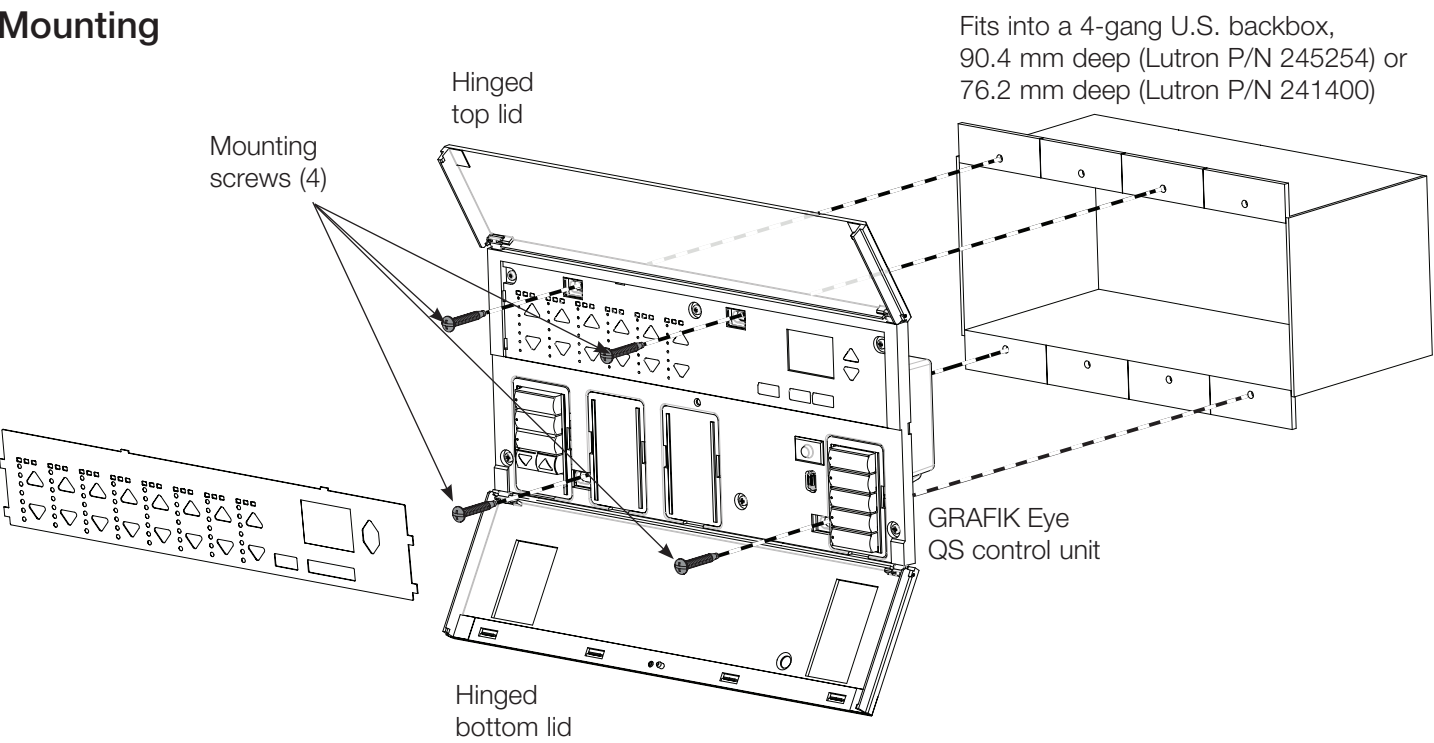| QS Link Wiring Length	Wire Gauge	Lutron Cable Part Number
Less than 153 m	Power (terminals 1 and 2) 1 pair 1.0 mm² (18 AWG)	GRX-CBL-346S GRX-PCBL-346S
	Data (terminals 3 and 4) 1 twisted, shielded pair 0.5 mm² (22 AWG)	
153 to 610 m	Power (terminals 1 and 2) 1 pair 4.0 mm² (18 AWG)	GRX-CBL-46L GRX-PCBL-46L
	Data (terminals 3 and 4) 1 twisted, shielded pair 0.5 mm² (22 AWG)	

Daisy-Chain Wiring Example

GRAFIK Eye QS Control Unit

Sivoia QS Shade

DALI®-compliant Bus

seeTouch QS

Sivoia QS smart panel

T-Tap Wiring Example

DALI®-compliant Bus

GRAFIK Eye QS Control Unit

seeTouch QS

DALI®-compliant Bus

Sivoia QS smart panel

Sivoia QS Shade

Job Name:	Model Numbers:
Job Number:	

Mounting

Fits into a 4-gang U.S. backbox,
90.4 mm deep (Lutron P/N 245254) or
76.2 mm deep (Lutron P/N 241400)

Hinged
top lid

Mounting
screws (4)

GRAFIK Eye
QS control unit

Hinged
bottom lid

☀️LUTRON   SPECIFICATION SUBMITTAL   Page

Job Name:	Model Numbers:
Job Number:	