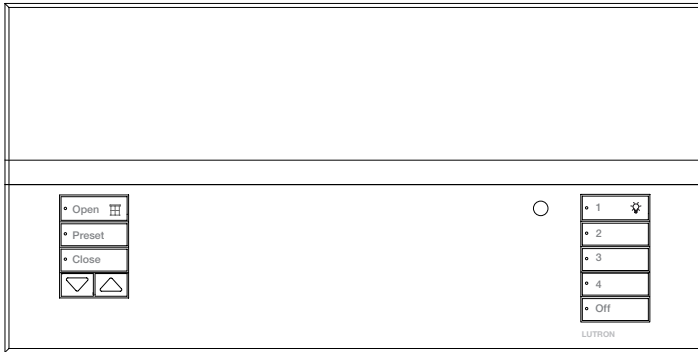


GRAFIK Eye® QS Wireless Control Unit

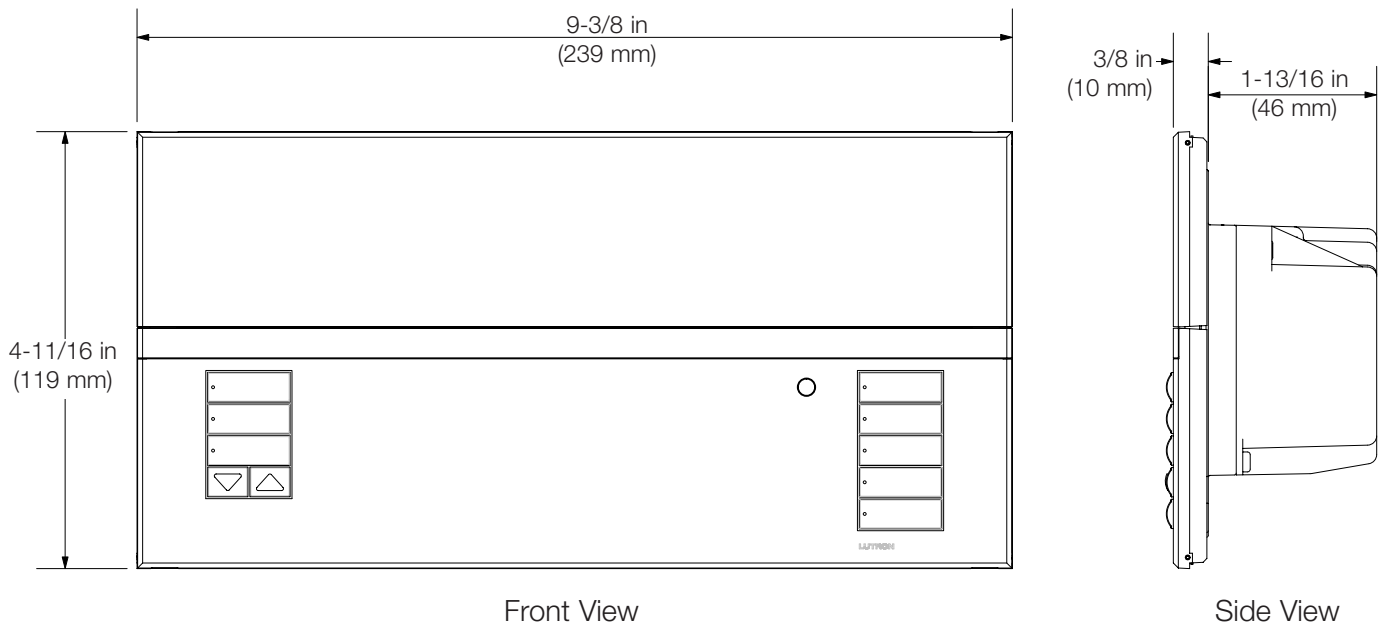


Description

GRAFIK Eye QS Wireless is the premier energy-saving light and shade control. GRAFIK Eye QS includes an astronomic timeclock, intuitive lighting presets, and direct shade 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 RadioRA® 2, Radio Powr Savr™ occupancy, vacancy, and daylight sensors, Sivoia® QS Wireless shades, Pico™ wireless control, and other GRAFIK Eye QS Wireless control units. 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, 3.5 in (89 mm) deep; Lutron P/N 241-400

Job Name:

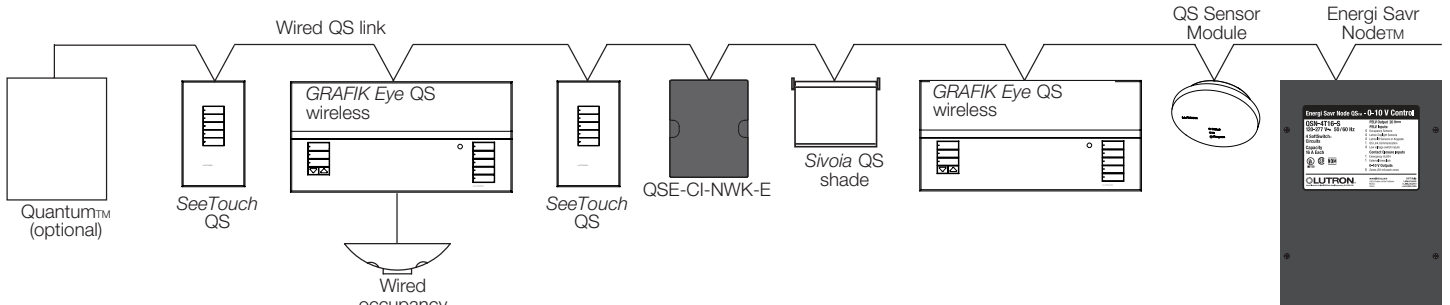
Model Numbers:

Job Number:

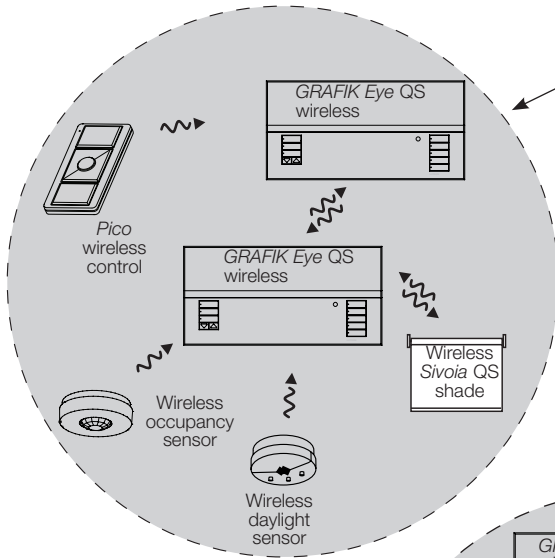
System Topologies

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

Example of Wired System

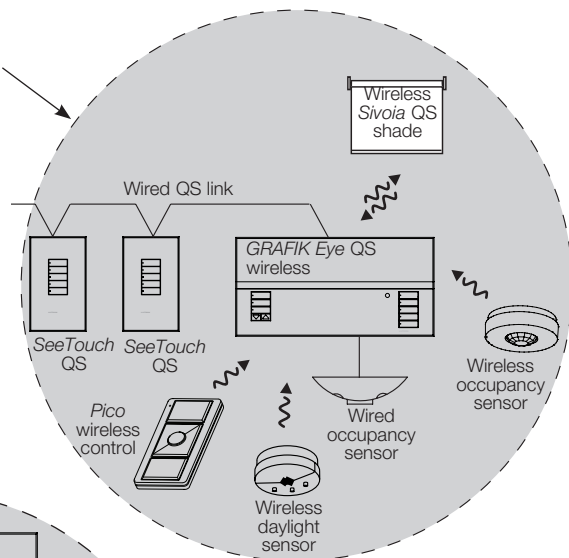


Example of *GRAFIK Eye*-centric Wireless System



Example of Mixed Wired/*GRAFIK Eye*-centric Wireless System

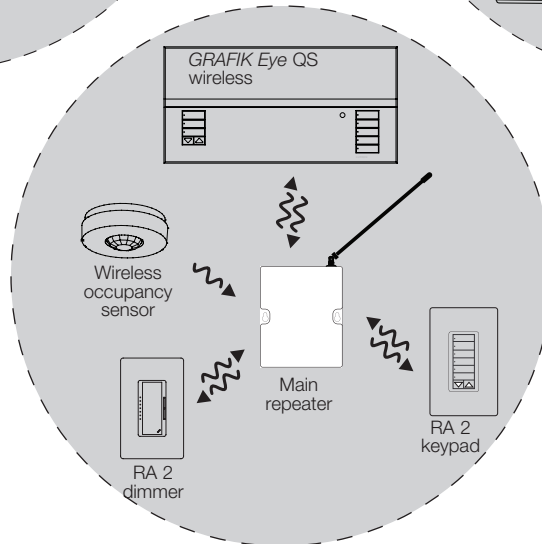
30-foot
(10 m)
wireless range;
60 feet in
open air



Example of Wireless System with Main Repeater (RadioRA® 2)

Refer to *RadioRA 2* documentation (www.lutron.com/rediora2) for specification information.

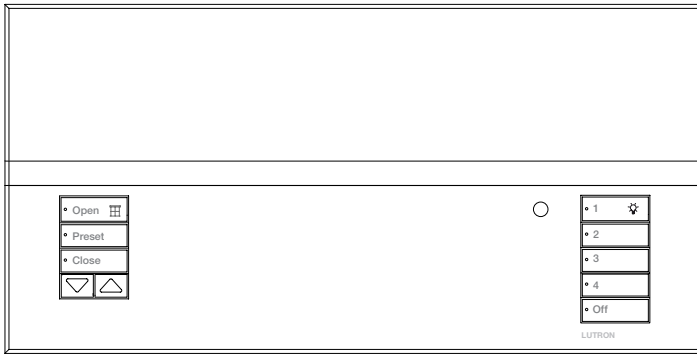
Note: Wired QS link is disabled when the *GRAFIK Eye QS* is added to a *RadioRA 2* system.



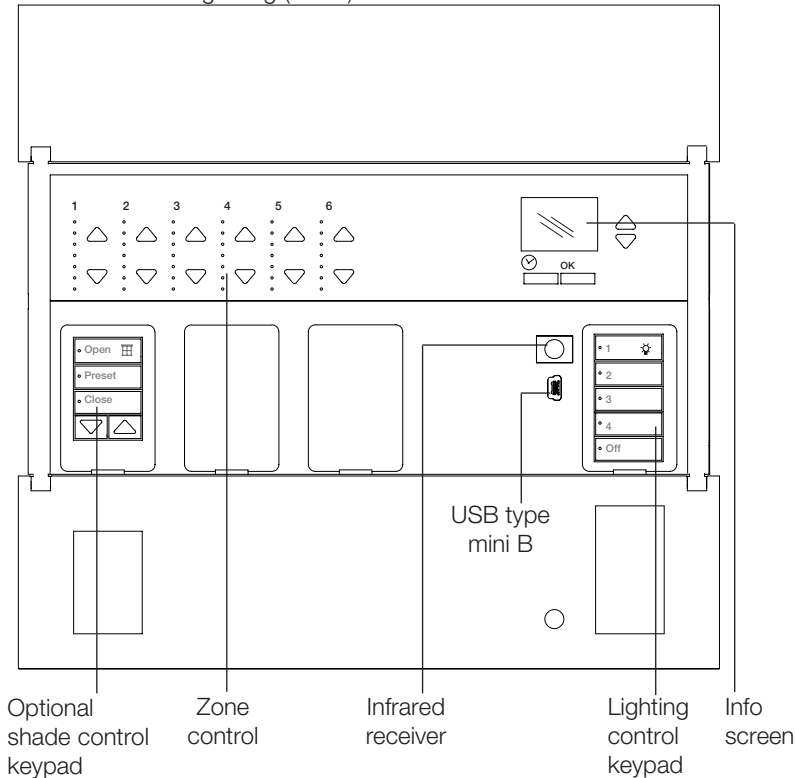
Job Name:

Model Numbers:

Job Number:



Note: General Engraving (-EGN) shown.



Features

- Lutron's proprietary Clear Connect™ RF technology. Operates in the 434 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 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, 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, motorized window treatments, occupancy sensors, 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 RA® 2, Radio Powr Savr™ occupancy, vacancy, and daylight sensors, Sivoia® QS wireless shades, Pico™ wireless control, and other GRAFIK Eye QS wireless control units.
- Backlit buttons with engraving make unit easy to locate and operate.
- Available in a variety of colors and finishes.

Job Name:

Model Numbers:

Job Number:

Specifications

Input Power

- 120 - 127 V \sim 50/60 Hz
- 220 - 240 V \sim 50/60 Hz

Listings (120 - 127 V \sim)

- UL.
- CSA.
- NOM.
- CEC (Title 24).
- FCC Part 15 Class B.
- IC RSS-210.
- SCT.

Environment

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

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.
- Lutron Tu-Wire® electronic fluorescent dimming ballast.
- Advance Mark X® electronic dimming ballast.
- Neon and cold cathode.
- Non-dim (incandescent, magnetic low-voltage, *Tu-Wire*, or neon/cold cathode).

Note: For higher wattage applications, or for 277 V \sim applications, use Lutron power module PHPM-PA, PHPM-WBX, PHPM-PA-DV, or PHPM-WBX-DV.

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

- Electronic low-voltage transformer.
- Lutron Hi-Lume® and Eco-10™ electronic fluorescent dimming ballast.
- Non-dim.
- 0 - 10 V.

Key Design Features

- RF meets FCC Part 15 Class B.
- Lightning strike protection meets ANSI/IEEE standard 62.41-1980. Can withstand voltage surges of up to 6000 V \sim and current surges of up to 3000 A.
- Tested to withstand 16 kV electrostatic discharge without damage or memory loss.
- RTISS™-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 automatically restores lighting to the scene selected prior to power interruption, and stores timeclock and scene programming.
- 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.

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 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.
- Up to 3 columns of shade control.
- Open, preset, close, and raise/lower shade buttons. Each shade column can be programmed to operate one shade or a group of shades.

Job Name:

Model Numbers:

Job Number:

Specifications

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.

Info Screen

- OLED 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.

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.
- 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.
- Afterhours feature allows occupants to temporarily override timeclock events.

System Communications and Capacities

- Low-voltage type PELV (Class 2: USA) wiring connects control units, wallstations, motorized shades, and control interfaces.
- A QS system can have up to 100 devices and 100 zones (see System Limits table).
- 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 shades.
- Transmitter buttons imitate buttons on faceplate.
- 50 ft (15 m) 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: SeeTouch® QS Wallstations (QSW2)

- Each GRAFIK Eye QS can power up to 3 wired *SeeTouch* QS controls.
- 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: Pico® Wireless Control (QSR4P or MRF2 models)

- The *Pico* Wireless Control is battery powered. It can control GRAFIK Eye QS wireless control units within a 30-foot range (60 feet 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
- Use the QSR4P in systems with a *RadioRA 2* main repeater. The MRF2 models will NOT work with *RadioRA 2*.

Other Compatible QS Devices

- *Energi Savr Node*
- QS Sensor Module
- QSE-IO
- QSE-CI-DMX
- QSE-CI-NWK-E

Wireless RF Compatibility

- Lutron's proprietary Clear Connect™ RF Technology
- Operates in the 434 MHz band
- Compatible with other Lutron wireless products/systems, such as:
 - *Pico* (P/N QSR4P or MRF2)
 - *Radio Powr Savr* occupancy/vacancy/daylight sensors (P/N LRF2-)
 - *Radio RA 2* wireless products
 - *Sivoia* QS wireless products
 - Other GRAFIK Eye QS wireless units (P/N QSGRJ-)

Job Name:

Model Numbers:

Job Number:

Specifications

Occupancy Sensor(s)

- The *GRAFIK Eye QS* works with occupancy sensors through either:
 - Scene Control: Up to four sensors activate user-selectable 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 sensors wired to CCI input on back of *GRAFIK Eye QS*
 - Wireless Radio Powr Savr™ occupancy or vacancy sensors (model numbers starting with LRF2)
 - 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.

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 LRF2)
 - 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 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.

Daylight control through *GRAFIK Eye QS* does not work with DMX load types.

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_{AC}.
- Each *GRAFIK Eye QS* can supply 50 mA maximum at 24 V_{AC}.
 - 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:

Capacities

	220 - 240 V~ 50 / 60 Hz	120 - 127 V~ 50 / 60 Hz
Unit Capacity (watts)	3000	2000
MLV	3000 VA / 2400 W	2000 VA / 1600 W
Zone Capacity (watts)	40 – 1200	25 – 800
MLV	40 – 1200 VA / 40 – 960 W	25 – 800 VA / 25 – 600 W

Load Type Notes (Zones 1, 2 and 3)

- All electronic low-voltage (ELV) lighting used with an interface must be rated for reverse phase control dimming. Before installing an ELV light source, verify with the manufacturer that their transformer can be dimmed. When dimming, an ELV interface (such as the PHPM-PA-DV-WH) must be used with the control unit.
- Not all zones must be connected; however, connected zones must have a minimum load as specified above.
- Maximum total lighting load for a magnetic low-voltage (MLV) varies by input voltage:
 - 120 - 127 V~: 800 VA / 600 W
 - 220 - 240 V~: 1200 VA / 960 W
- No zone may be loaded with more than the capacity specified above.

System Limits

- The QS wired communication link is limited to 100 devices or 100 zones. Please note the zone count and power draw unit information in the following table.

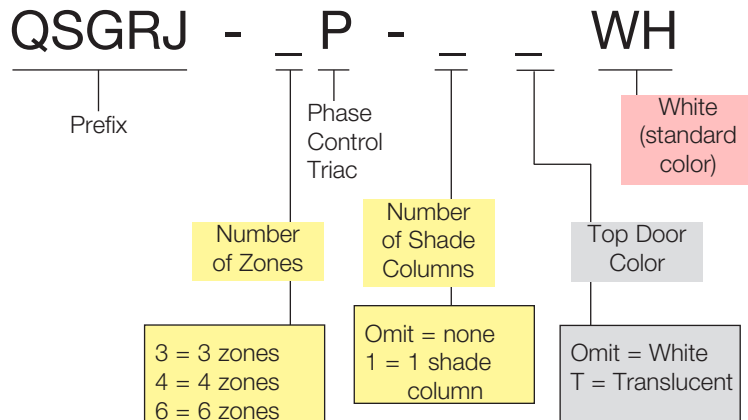
	QS Device	Zone Count	Power Draw Units (supplied)	Power Draw Units (consumed)
	3-zone <i>GRAFIK Eye</i> QS	3	3	0
	4-zone <i>GRAFIK Eye</i> QS	4	3	0
	6-zone <i>GRAFIK Eye</i> QS	6	3	0
	8-zone <i>GRAFIK Eye</i> QS	8	3	0
	16-zone <i>GRAFIK Eye</i> QS	16	3	0
	<i>seeTouch</i> QS	0	0	1
	International <i>seeTouch</i> QS	0	0	1
	<i>Sivoia</i> QS	1	0	(Refer to Spec. Submittal)
	Contact closure interface	2	0	3
	Network interface	0	0	2
	DMX interface	0	0	2
	QS smart power panel	0	(Refer to Spec. Submittal)	0
	QS link power supply	0	8	0

Job Name:	Model Numbers:
Job Number:	

GRAFIK Eye QS Wireless Standard Model Numbers

See following pages for Ordering Custom (Non-Standard) Model Numbers

See Standard Color Combinations page for faceplate, stripe, and button colors



Example:

QSGRJ-6P-1TWH

6-zone standard white unit with 1 shade 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

QSGRJ-3P-WH
QSGRJ-3P-TWH
QSGRJ-3P-1WH
QSGRJ-3P-1TWH

4 Zones

QSGRJ-4P-WH
QSGRJ-4P-TWH
QSGRJ-4P-1WH
QSGRJ-4P-1TWH

6 Zones

QSGRJ-6P-WH
QSGRJ-6P-TWH
QSGRJ-6P-1WH
QSGRJ-6P-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.

Job Name:

Model Numbers:

Job Number:

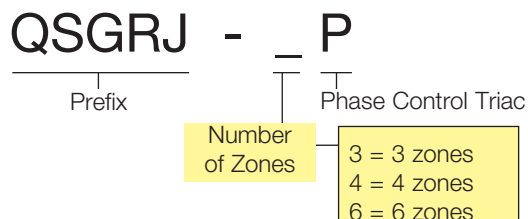
GRAFIK Eye® QS Wireless

Custom Color Options and Model Numbers

You must order a Base Unit and a Faceplate Kit

See Standard Color Combinations page for faceplate, stripe, and button colors

Base Unit



Example:

QSGRJ-6P

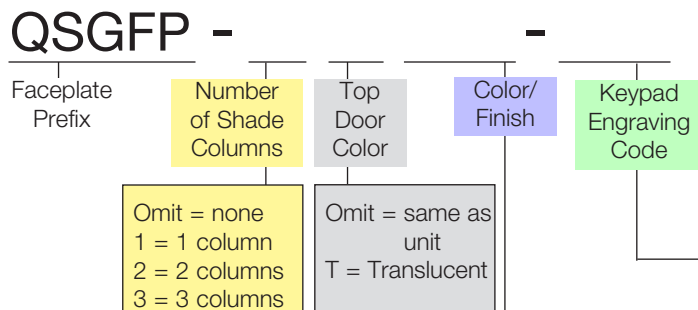
6-zone base unit
and

QSGFP-2IV-EGN

Ivory faceplate kit with two
shade columns and general
engraving

Faceplate Kit

(includes coordinating stripe and buttons)



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

Clear	CLA
Black	BLA
Brass	BRA

Satin Color Matte Finishes

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

Keypad Engraving Codes

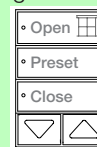
Omit = Unengraved

Ships with engraving certificate that
customer can redeem at no charge

EGN = General 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 Wireless

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

Custom Button Kit

QSGB - 5B - WH -

Custom Button
Kit Prefix

Button
Configuration

Button
Color/
Finish

Keypad
Engraving
Code

3BRL = 3-button with
raise/lower
(shade column)
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

Satin Color Matte Finishes

Snow	SW
Biscuit	BI
Eggshell	ES
Taupe	TP

Keypad Engraving Codes

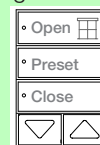
Omit = Unengraved

Ships with engraving certificate that
customer can redeem at no charge

EGN = General 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 - WH

Stripe
Kit
Prefix

Stripe Color/
Finish

Stripe Custom Color/Finish Codes

Same as Faceplate colors on previous page

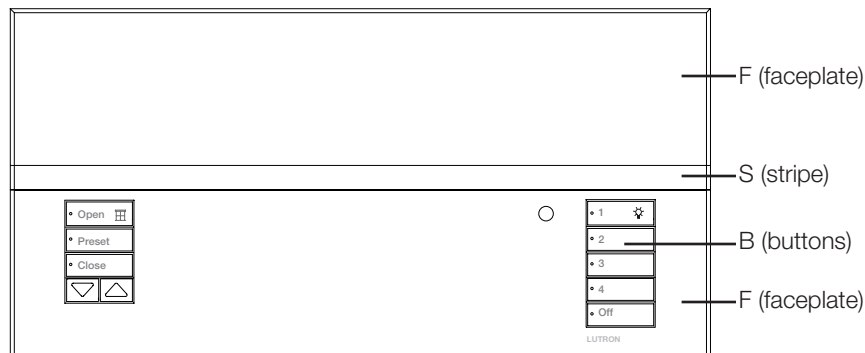
Job Name:

Model Numbers:

Job Number:

GRAFIK Eye QS Wireless Standard Color Combinations

See previous pages for Standard and Custom Model Numbers



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 QSGRJ-4P-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)	Suffix	Faceplate (F)	Stripe (S)	Button (B)
Architectural Matte				Satin Matte			
WH	White	Gray	White	MN	Midnight	Gray	Black
IV	Ivory	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	BI	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
Architectural 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
Anodized				PD	Palladium	Gray	Gray
CLA	Clear	Black	Black	PL	Plum	Taupe	Taupe
BLA	Black	Black	Black	TQ	Turquoise	Gray	Gray
BRA	Brass	Black	Black				

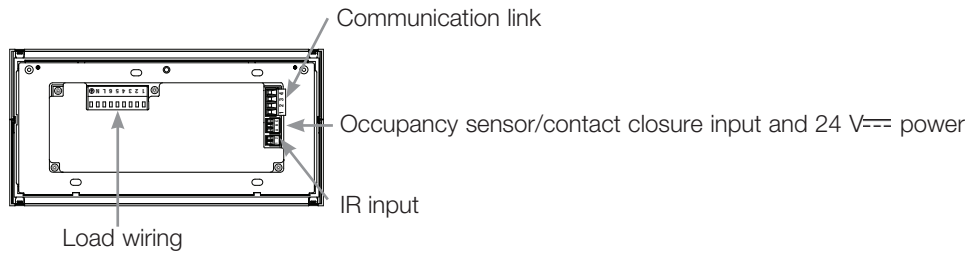
Job Name:

Model Numbers:

Job Number:

Wiring Diagrams

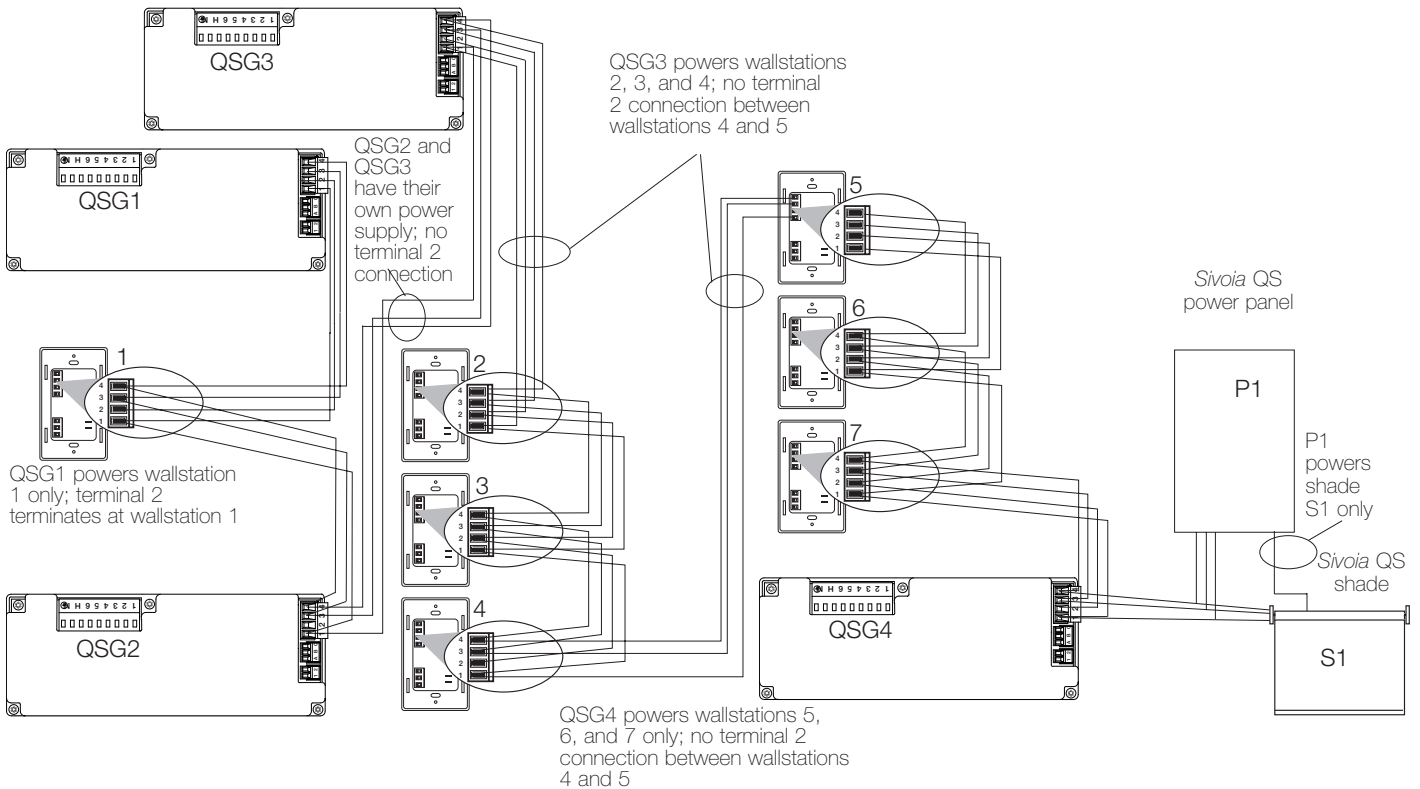
Terminations



PELV (Class 2: USA) QS System Low-Voltage Terminal Connections

- Each PELV (Class 2: USA) terminal accepts up to two 18 AWG (1.0 mm²) 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_{ac} 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 2,000 ft (610 m).
- Do not allow PELV (Class 2: USA) wires to contact line/mains wires.

Control units shown in rear view

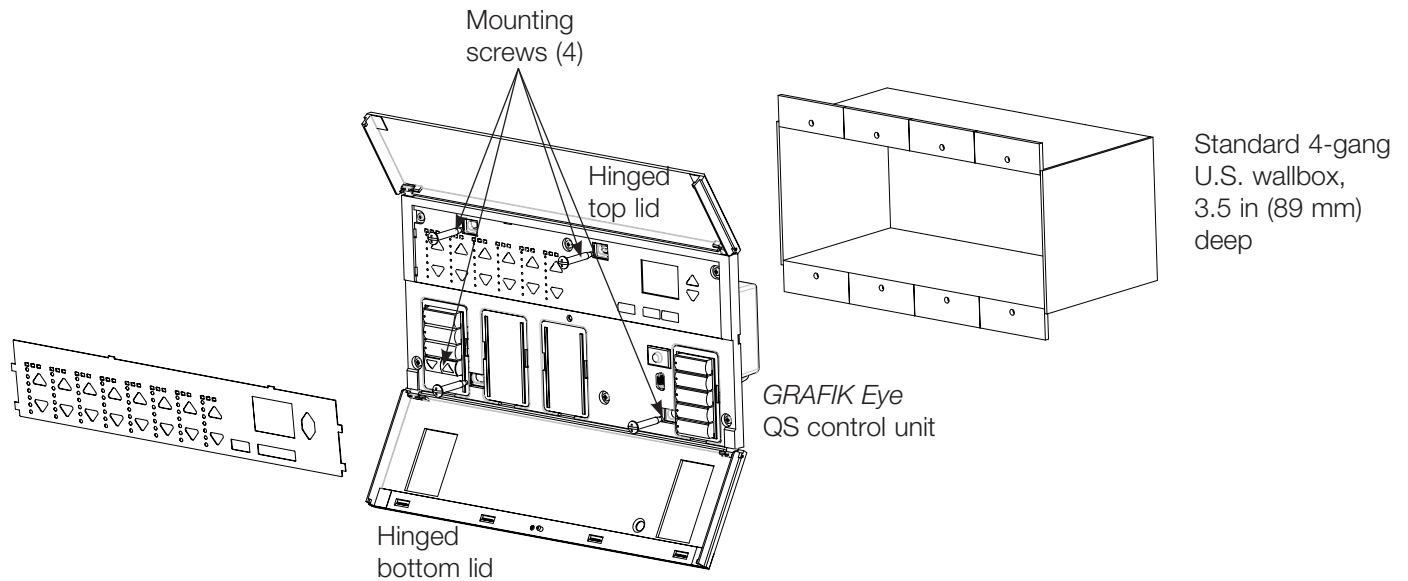


Job Name:

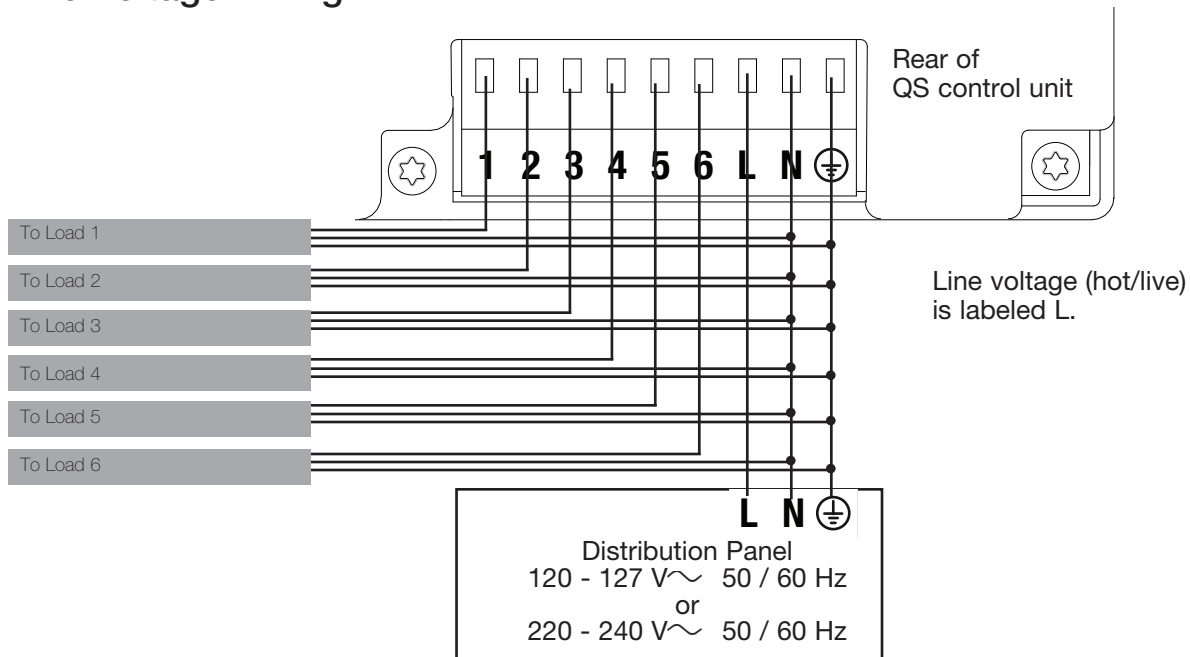
Model Numbers:

Job Number:

Mounting



Line Voltage Wiring



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

Job Name:

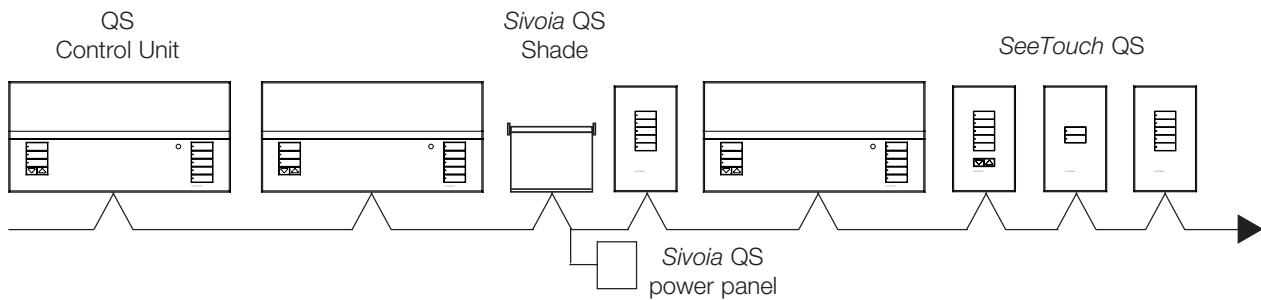
Model Numbers:

Job Number:

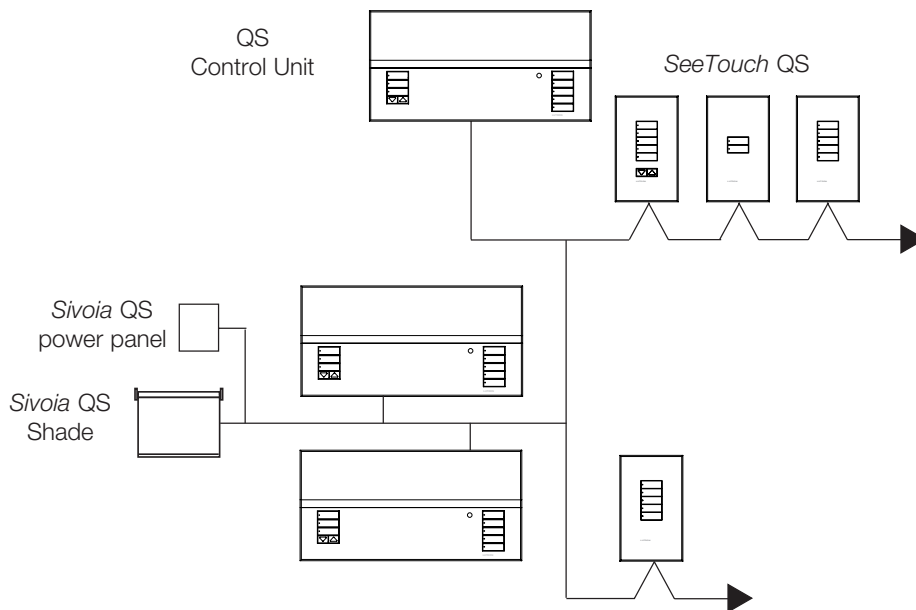
PELV (Class 2: USA) QS System Low-Voltage Wiring

- 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: USA) wiring link requires:
Two 18 AWG (1.0 mm²) conductors for control power.
One twisted, shielded pair of 22 AWG (0.5 mm²) for data link.
Available from Lutron, P/N GRX-CBL-346S; check compatibility in your area.
- Total length of control link must not exceed 2,000 ft (610 m).

Daisy-Chain Wiring Example



T-Tap Wiring Example



Job Name:	Model Numbers:
Job Number:	