

Section 2

GRAFIK Eye 3000/4000 series

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GRAFIK Eye 3000 series

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GRAFIK Eye 4000 series

How to lay out a system	2.6
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GRAFIK Eye 3000/4000 series

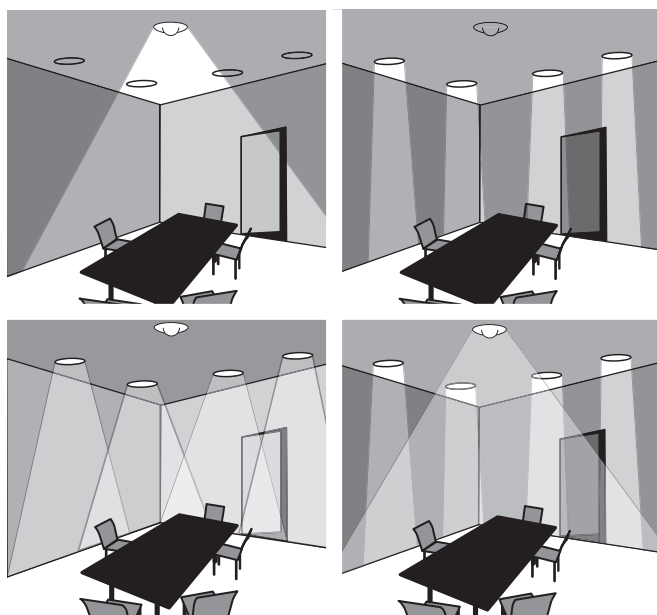
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Preset control units

Match an activity or mood to the visual environment.

The benefits

Recall preset scenes with the touch of a button.



Products

GRAFIK Eye 3000, GRAFIK Integrale™, GRAFIK Eye 4000

Recommended specifications

GRAFIK Eye 3000: Control shall provide 4 preset lighting scenes and 'off' for up to 6 control zones. Control shall be capable of storing an additional 12 preset lighting scenes which can be accessed via wallstations and/or control interfaces. Up to 48 zones may be tied together in one system.

GRAFIK Integrale: Control shall provide 4 preset lighting scenes and 'off' for up to 4 control zones. Control shall be capable of storing an additional 12 preset lighting scenes which can be accessed via wallstations and/or control interfaces. Up to 32 zones may be tied together in one system.

GRAFIK Eye 4000: Control shall provide 4 preset lighting scenes and 'off' for up to 24 control zones. Control shall be capable of storing an additional 12 preset lighting scenes which can be accessed via wallstations and/or control interfaces. Up to 64 zones may be tied together in one system.

Real Time Illumination Stability System (RTISS™)

Dimmers compensate for incoming line voltage variations such as changes in RMS (Root Mean Square) voltage, frequency shifts, harmonics, and line noise. See application note on pg. 4.8.6 for more information.

The benefits

Flicker-free dimming.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

Dimmers shall have no visible flicker under the following conditions:

- ±2% change in RMS voltage per cycle
- ±2% rate of change in frequency per second

No interfaces

Lutron® has eliminated the need to use interfaces when controlling different types of lighting loads.

The benefits

Fewer components means faster installation times and lower installation costs.



One control for these load types

	Incandescent
	Magnetic low voltage
	Electronic low voltage
	Fluorescent
	Neon/cold cathode

Products

GRAFIK Integrale

Recommended specifications

Preset dimming control shall be capable of operating the following sources/load types with a smooth continuous square law dimming curve without the requirement of an interface: electronic low voltage transformer, tungsten/halogen, magnetic low voltage, 0-10 V, DALI (broadcast only), and DSI signal-driven sources.

Air gap off

An air gap is provided in each control.

The benefits

Prevents leakage current of the dimmer from causing electrical shock when servicing lamps or starting a fire if a fixture or lamp source fails violently.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

Preset dimming control shall incorporate an air gap switch relay that shall be accessible without removing the faceplate.

Surge protection

Special circuitry protects the electronics from surges.

The benefits

Protect your dimming equipment from power surges during a storm (or from within the building).



Products

GRAFIK Eye 3000, GRAFIK Integrale™, GRAFIK Eye 4000

Recommended specifications

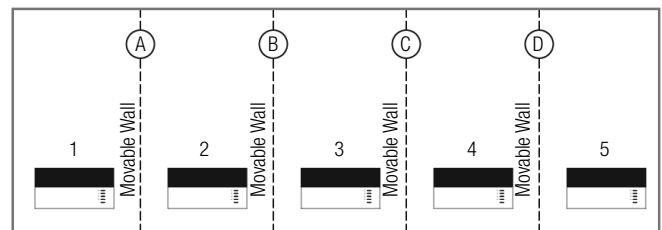
Controls shall meet IEEE standard c62.41, tested to withstand voltage surges of up to 6,000 volts and 3,000 amps.

Partitioning

The lighting control system adapts to complex environments.

The benefits

Automatically modify functionality based on the state of a partition.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

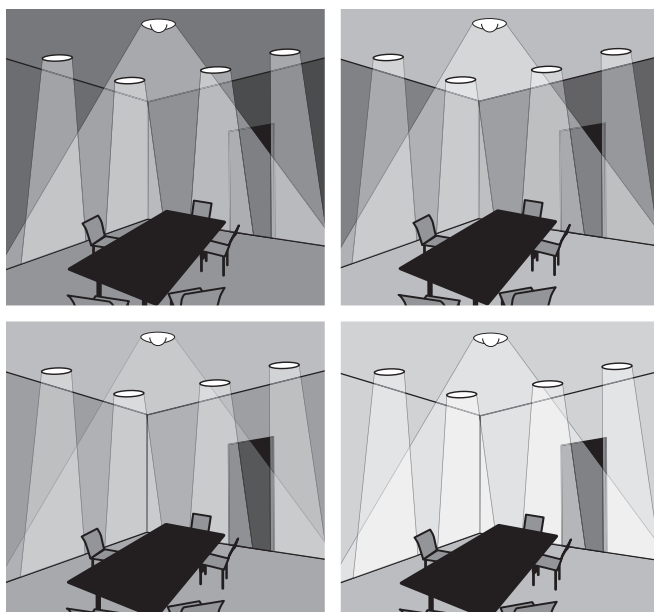
Lighting control system shall be capable of directing preset control units to operate independently or in concert to reflect partition status of moveable walls.

Sequencing

Automatically cycle preset lighting scenes.

The benefits

Create dynamic lighting effects.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

Lighting control system shall be capable of sequencing.

Power failure memory

Lights always return to the previous state when power is restored.

The benefits

Minimises the inconvenience of power service interruptions and keeps building lights as you left them once power is restored.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

Controls shall provide power failure memory. Should power be interrupted and subsequently returned, the lights must come back on to the same levels set prior to the power interruption without requiring any actions on the part of the user. Restoration to some other default level is not acceptable.

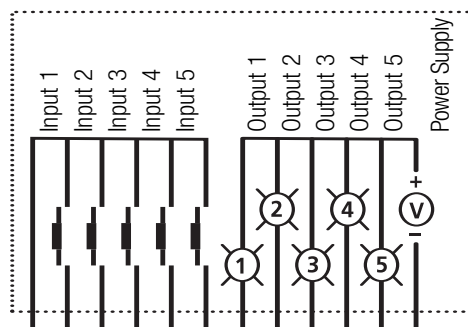
Integration

A wide variety of options are available to interface a Lutron® system with other equipment.

The benefits

Integrate with A/V equipment, theatrical equipment, other legacy lighting equipment, etc.

Customer supplied equipment



Products

GRAFIK Eye 3000, GRAFIK Integrale™, GRAFIK Eye 4000

Recommended specifications

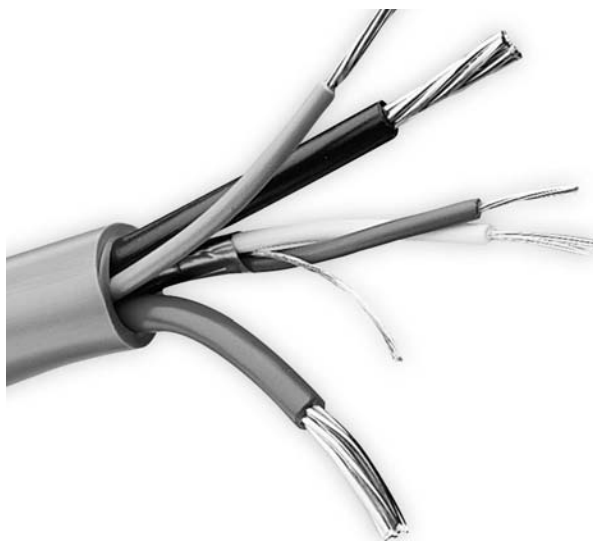
- Control shall provide two-way interface between controls and dry contact closure devices.
- Control shall provide the ability to communicate via RS-232 serial communication.
- Control shall be capable of delivering up to 48 continuous DMX512 channels (64 channels with GRAFIK Eye 4000).
- Control shall automatically select preset light levels in response to ambient daylight.
- Control shall provide the ability to communicate via TCP/IP over Ethernet.

Robust data link protocol

Lutron's data link is designed specifically for lighting needs.

The benefits

Faster response times, longer distances between processor and controls, and no data collisions.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

- Data link shall have a maximum length of 610 metres (2,000').
- Data link shall operate on an RS-485 bus.
- Data link shall operate at 32 kbaud.

Note

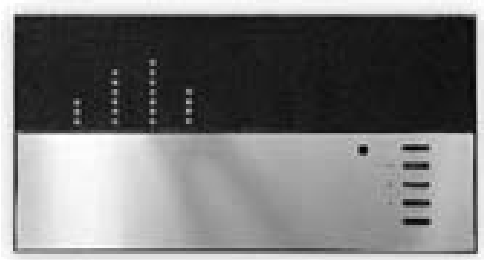
GRAFIK Eye 4000 is capable of extending to 2,400 metres (8,000') with repeaters.

Intuitive controls

Operate a sophisticated lighting control system with minimal training.

The benefits

Easy to program and operate.



Products

GRAFIK Eye 3000, GRAFIK Integrale, GRAFIK Eye 4000

Recommended specifications

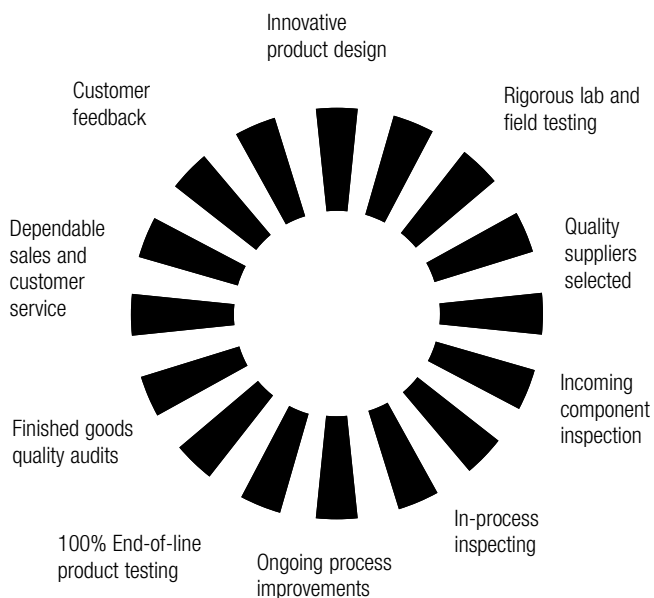
Programming of preset scenes shall be accomplished without the use of an ENTER or STORE button.

World-class quality process

For over 40 years, Lutron has designed, manufactured, and delivered quality lighting control products.

The benefits

Reliable product quality, dependable service, and continual innovation.



Products

All

Recommended specifications

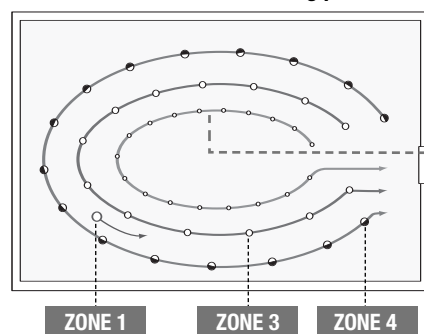
Manufacturer shall be at least ISO 9001:2000 registered.

Step 1

Determine number of zones and sources

A zone is a group of lights or shades that are always controlled together. GRAFIK Eye 3000 control units have the ability to dim most popular sources and to control several zones at one time from one button press. Important factors to consider when creating zones are flexibility of control and aesthetics.

Conference room reflected ceiling plan



ZONE 2

Zone	Description	Voltage	Feed Type (N,E)	Load Type	Fixture Load	No. of Fixtures	Watts/Volt-amps
1	Podium	230	N	INC	75	1	75
2	Table	230	N	ELV	50	13	650
3	Perimeter	230	N	MLV	50	8	400*
4	Accent	230	N	0-10	26	16	416

Key: N Normal; E Emergency; INC Incandescent; MLV Magnetic Low Voltage; ELV Electronic Low Voltage; 0-10, 0-10 Ballast

* Includes transformer losses

Design tips

- ☐ Dimming ballasts are required to dim fluorescent sources.
- ☐ Transformer loss: ballasts and transformers draw additional current beyond the lamp rating. For example, magnetic low voltage transformers typically draw an additional 20% of the lamp wattage.
- ☐ If integrating controllable window treatments with the lighting controls, dedicate a zone for each group of treatments.
- ☐ Blank load schedules are available. See pg. 3.17.2.

Step 2

Select GRAFIK Eye 3000 Series control units

Using the number of zones and load types determined in Step 1, select the appropriate type and size of control unit. GRAFIK Integrale™ control units are available with 4 zones and can control most lighting loads without interfaces. GRAFIK Eye 3000 series control units are available in 2-, 3-, 4-, and 6-zone configurations. Choose a 3500 model control unit if programming the system from a PC or saving light levels at 1% increments is required.

See section 2.4.

This project contains four zones, therefore a GRX-3104 is selected.

Design tips

- ☐ If your space requires more than 6 zones, link up to eight GRAFIK Eye 3000 Series control units together for control of up to 48 zones in one system.

For example, for 10 zones in one room:



- ☐ Use a separate GRAFIK Eye 3000 control unit for each distinct room/space in a project.

Step 3

Select power boosters/interfaces

Specific zones require power boosters if load wattage exceeds maximum capacity per zone (max. capacity per zone found in section 2.4). GRAFIK Eye 3000 Series controls units can control incandescent, magnetic low voltage, neon/cold cathode, and Lutron® electronic low voltage transformer loads directly. When electronic low voltage or fluorescent loads need to be controlled, a load-specific power interface is required.

See section 2.5.

Design tips

- ☐ For incandescent, magnetic low voltage, and neon/cold cathode use up to two NGRX-PB power boosters to increase individual zone wattage capability (see pg. 2.5.2).
- ☐ Dimming electronic low voltage loads? Use an NGRX-ELVI electronic low voltage interface (see pg. 2.5.2) for GRAFIK Eye 3000 and to increase the zone capacity of a GRAFIK Integrale.
- ☐ Dimming 0-10 V fluorescent dimming ballasts? Use GRX-TVI, zero to ten volt interface (see pg. 2.5.2) for GRAFIK EYE 3000 and to increase the zone capacity of a GRAFIK Integrale.
- ☐ Switching non-dim loads? Use GRX-TVI (see pg. 2.5.2).

Step 4

Calculate total wattage for all zones; and verify that total wattage does not exceed total unit capacity

If total load for all zones added together is larger than maximum capacity for the GRAFIK Eye 3000 control unit (max. capacity per control unit is found in section 2.4), add additional power boosters/interfaces to higher wattage zones and recalculate total load. Repeat Step 3 until total load is less than or equal to maximum capacity for the control unit selected.

Compare total load to maximum capacity for control unit. For this example, total load is 525 W/VA. Zone 1 (75 W) + Zone 2 (power booster load = 25 W) + Zone 3 (400 W) + Zone 4 (power booster load = 25 W) = 525 W. Maximum capacity for a GRX-3104 at 230 V is 2,300 W/VA; therefore, no additional boosting is needed.

Design tips

- When a power booster/interface is added to a zone, the power booster/interface handles all of the wattage for that zone. Therefore, the load on the GRAFIK Eye 3000 control unit for that zone becomes 25 W/VA.

Step 5

Select and implement design elements

Identify additional control elements for the project (e.g. DMX integration, event scheduling, wireless control) and add appropriate control station devices to achieve strategies.

For design elements available, see section 1.2.

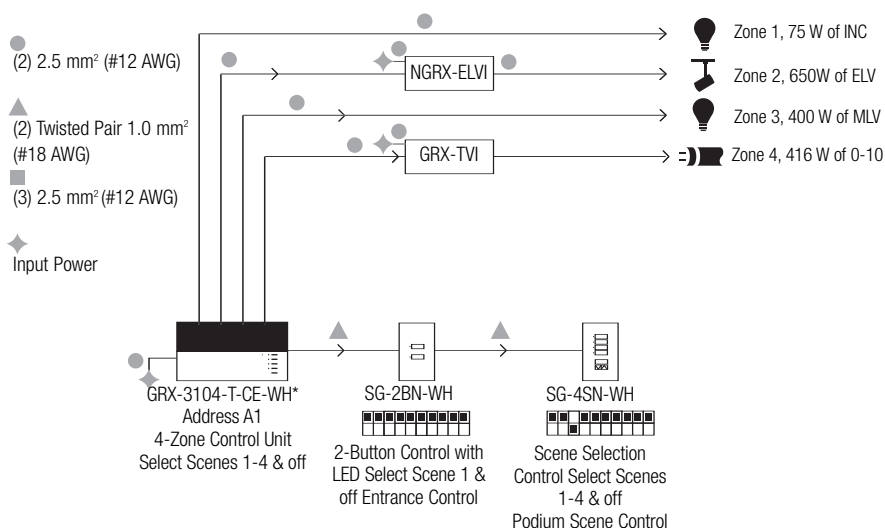
For this project, use an SG-2BN entrance control (see pg. 2.10.2) at the door and an SG-4SN scene control (see pg. 2.10.3), at the podium. For control from a touchscreen, integrate with the audio visual system using a GRX-CI-NWK-E (see pg. 2.12.3).

Design tips

- Up to three control station devices can be powered from a single GRAFIK Eye 3000 series or GRAFIK Integrale control unit. If additional control station devices (up to 16 total) a TU240-15DC-9-BL or TE240-15DC-9-BL (see pg. 2.13.1) 15 VDC power supply must be added.

Step 6

Support the design with one-line diagrams and written product specifications



*No interfaces/power boosters would have been required if a GRAFIK Integrale were used.

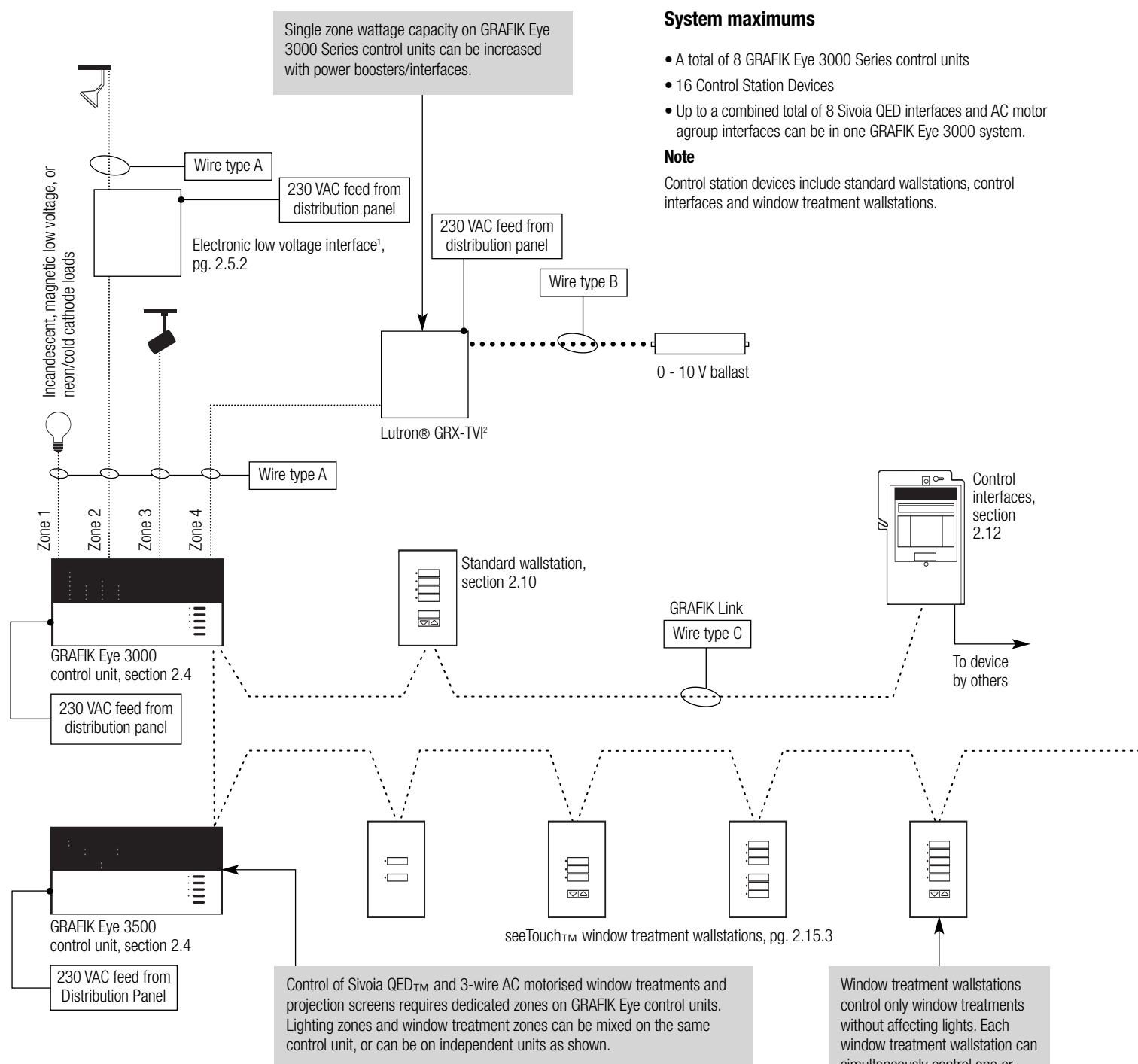
Design tips

- Complete product specifications are available at www.lutron.com.



GRAFIK Eye Designer software

Lutron's GRAFIK Eye Designer software allows faster system design by automatically assigning the types of power boosters/interfaces required from zone load type and wattage information. The software generates a complete bill of materials, including wallstations and control interfaces, with DIP switch settings, and a one-line diagram that can be saved and exported as a .dxf file. GRAFIK Eye Designer software is available at www.lutron.com/designer.



System maximums

- A total of 8 GRAFIK Eye 3000 Series control units
- 16 Control Station Devices
- Up to a combined total of 8 Sivoia QED interfaces and AC motor agroup interfaces can be in one GRAFIK Eye 3000 system.

Note

Control station devices include standard wallstations, control interfaces and window treatment wallstations.

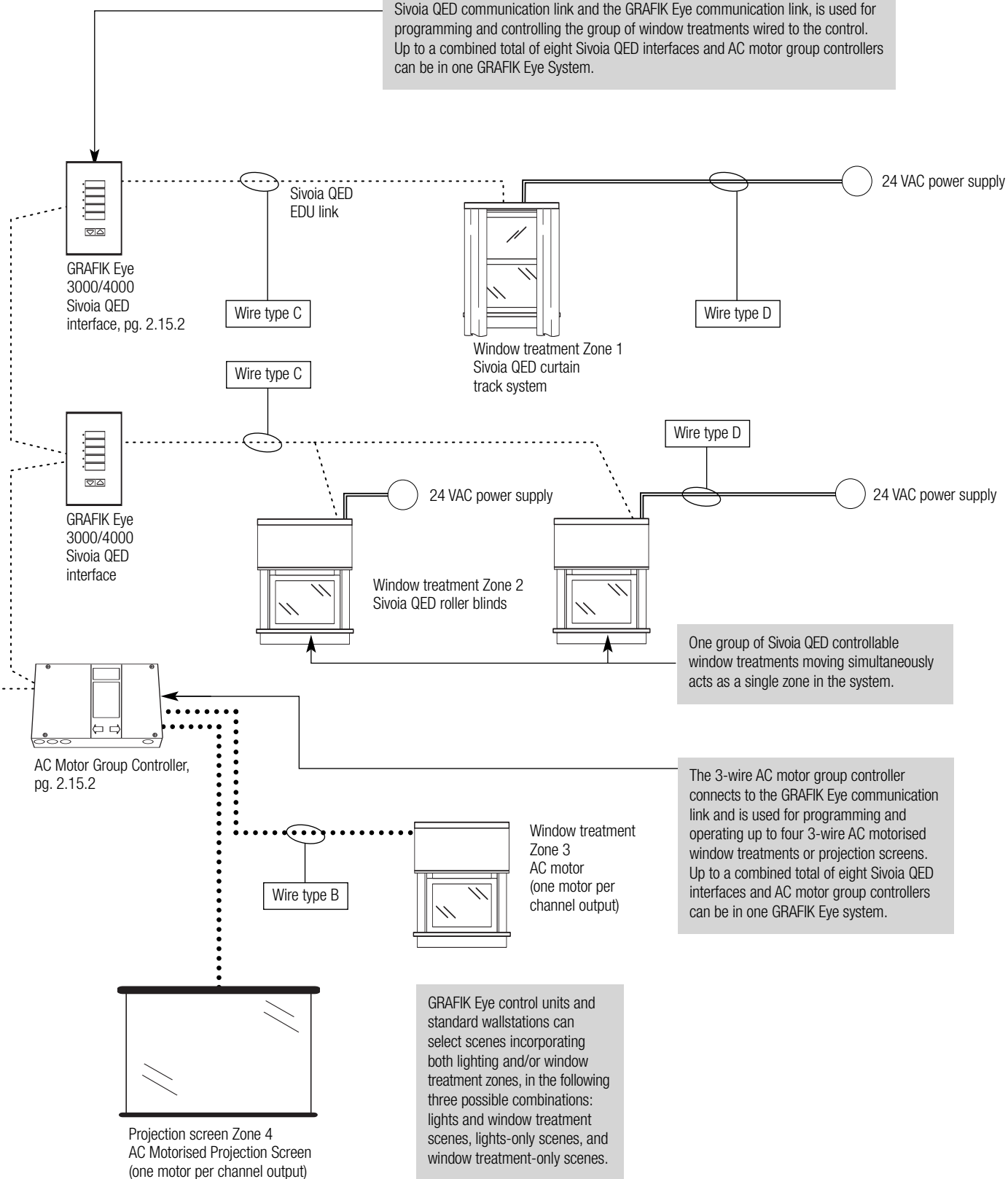
Wiring type key

.....	Type A	1.5 mm² (#12 AWG) wires (230/240 V)
.....	Type B	1.5 mm² (#12 AWG) wires (230/240 V)
-----	Type C	Four PELV (Class 2) conductors: (2) 1.0 mm² (#18 AWG) for power wires; plus (1) twisted, shielded 1.0 mm² (#22 AWG) pair for control wires (Available from Lutron®, GRX-CBL-346S-500, see pg. 2.13.1)
=====	Type D	(3) 1.5 mm² (#16 AWG) wires (24 VAC, plus earth ground)

Footnotes, pg. 2.3.1

- 1 If using a GRAFIK Integrale™ or Lutron ELV transformers, no interface required.
- 2 If using a GRAFIK Integrale, no interface required.

The GRAFIK Eye 3000/4000 Sivoia QED interface, which connects to both the Sivoia QED communication link and the GRAFIK Eye communication link, is used for programming and controlling the group of window treatments wired to the control. Up to a combined total of eight Sivoia QED interfaces and AC motor group controllers can be in one GRAFIK Eye System.



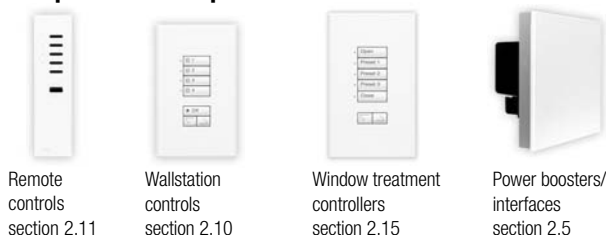
Cover (shown open)



Architectural-grade

- Provides continuously smooth, square law dimming of all lighting zones
- Controls incandescent, magnetic low voltage, neon/cold cathode, and Lutron® electronic low voltage transformers
- Contains Lutron's patented powerline stability circuitry (RTISS™—Real-Time Illumination Stability System) capable of maintaining constant light levels with no visible flicker under changing powerline conditions
- Provides positive air gap off for dimmers in each control unit
- Lightning surge protected to 6,000 V, 3,000 A
- Up to 8 GRAFIK Eye 3000 series control units can be linked for up to 48 zones
- Built-in infrared receiver/optional wireless remote control
- User-defined lockout options integral; locking covers available, pg. 2.13.1
- Offers simple programming for presets; no "store" button required

Compatible Lutron products



GRAFIK Eye 3000 system map

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see section 2.3.

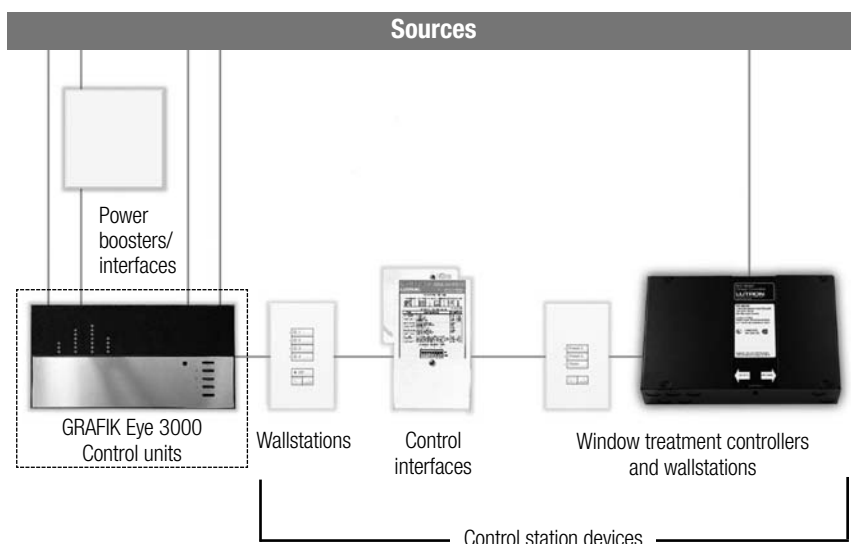
Sources

	Incandescent
	Magnetic low voltage
	Electronic low voltage*
	Neon/cold cathode
	Fluorescent*
	High-intensity discharge (non-dim only)
	Controllable window treatments*

* Interface required to dim/control. Consult product pages for specifics.

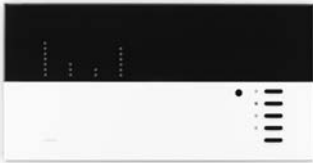
Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.

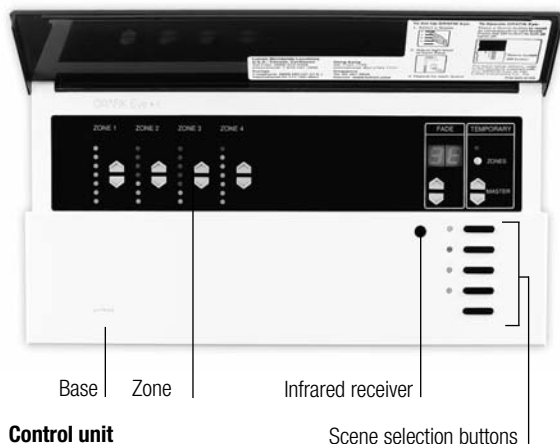


Specifications

- Control unit requires a single feed
- Single zone capacity can be increased with power boosters/interfaces
- Load types controlled directly by control unit:
 - Incandescent, magnetic low voltage, neon/cold cathode, Lutron electronic low voltage transformers
- Load types controlled through power interfaces:
 - For control of fluorescent and electronic low voltage, use power boosters/interfaces, see section 2.5
 - For control of Sivoia QED™ window treatments, use SG-SVCN Sivoia QED interface, see section 2.15
 - For control of AC motorised window treatments, use GRX-4M-GC-CE AC motor group controller, see section 2.15
- Mounting:
 - 89 mm (3.50") depth strongly recommended, 69.9 mm (2.75") minimum
- Up to total of 8 Sivoia QED interfaces plus AC motor group controllers can be in one system with 8 GRAFIK Eye 3000 control units and 16 control station devices

Source	Product	Model	Options
 Dimensions 230 V W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00")      	2-Zone Control Units^{3,5} 230 V (CE) • Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ • Directly switch HID • 800 W/VA per zone, 1,600 W/VA per control unit	GRX-3102-__-CE-__ GRX-3502-__-CE-__²	Ordering example GRX-3104-T-CE-WH Add cover option and colour/finish suffix to model # Cover options Opaque A Cover and base will match Translucent black T Black translucent cover with base colour from below Base colours Matt finishes Standard, ships in 48 hrs. • Matt cover options: A or T • See pg. 1.3.1 for complete colour offering and suffixes Gloss (NEMA) finishes Ships in 4-6 weeks. • Gloss cover option: A only • See pg. 1.3.1 for complete colour offering and suffixes Metal finishes Ships in 4-6 weeks. • Metal cover option: T only • See pg. 1.3.1 for complete colour offering and suffixes Satin finishes Ships in 4-6 weeks. • Satin cover option: A or T • See pg. 1.3.1 for complete colour offering and suffixes Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multi-gang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.13.1 for more information.
	3-Zone Control Units^{3,5} 230 V (CE) • Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ • Directly switch HID • 800 W/VA per zone, 2,300 W/VA per control unit	GRX-3103-__-CE-__ GRX-3503-__-CE-__²	
	4-Zone Control Units^{3,5} 230 V (CE) • Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ • Directly switch HID • 800 W/VA per zone, 2,300 W/VA per control unit	GRX-3104-__-CE-__ GRX-3504-__-CE-__²	
	6-Zone Control Units^{3,5} 230 V (CE) • Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ • Directly switch HID • 800 W/VA per zone, 2,300 W/VA per control unit	GRX-3106-__-CE-__ GRX-3506-__-CE-__²	
	Electronic low voltage, fluorescent Electronic low voltage and fluorescent sources require an interface, see pg. 2.5.2. Interface is not required if using Lutron's ELV transformer ⁴ . Controllable window treatments Sivoia QED and 3-wire AC motorised window treatments require controllers, see pg. 2.15.2 and dedicated zones on control units.		
Footnotes, pg. 2.4.2 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 3500 Series control units can be programmed manually or from a PC and offer the precision of setting light levels in 1% increments. 3 Counts as one of eight total control units per system. 4 For more information about Lutron's ELV transformers, see application note on page 2.16.2. 5. Minimum load is 40 W/VA			

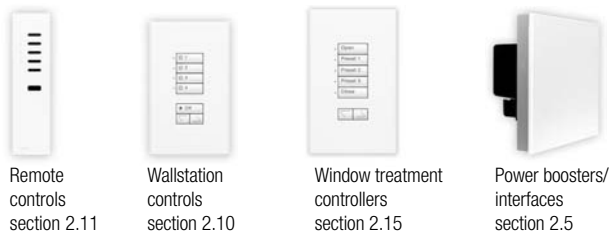
Cover (shown open)



Architectural-grade

- Provides continuously smooth, square law dimming of all lighting zones
- Controls incandescent; magnetic low voltage; electronic low voltage; neon/cold cathode; 0-10 V, DSI, and DALI (broadcast only) dimmable ballasts
- Contains Lutron's patented powerline stability circuitry (RTISS™—Real-Time Illumination Stability System) capable of maintaining constant light levels with no visible flicker under changing powerline conditions
- Provides positive air gap off for dimmers in each control unit
- Lightning surge protected to 6,000 V, 3,000 A
- Up to 8 GRAFIK Integrale control units can be linked for up to 32 zones
- Built-in infrared receiver/optional wireless remote control
- User-defined lockout options integral; locking covers available, pg. 2.13.1
- Offers simple programming for presets; no "store" button required

Compatible Lutron® products

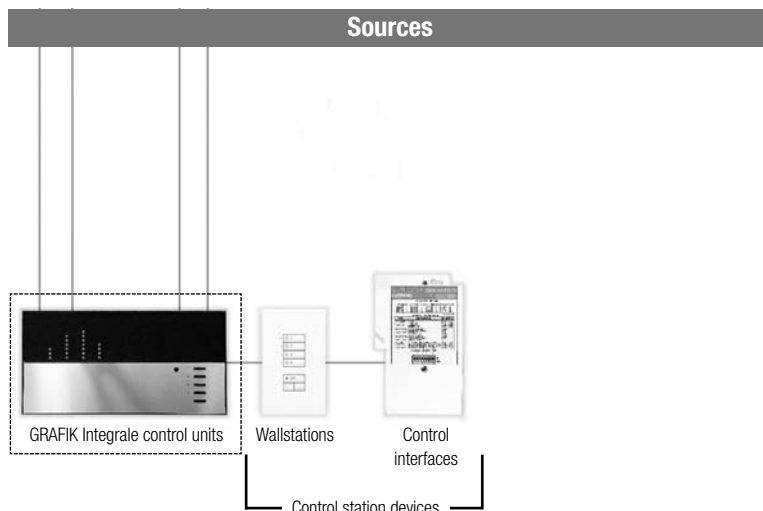


GRAFIK Integrale system map

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, section 2.3.

Sources

	Incandescent
	Magnetic low voltage
	Electronic low voltage
	Neon/cold cathode
	Fluorescent



Specifications

- Control unit requires a single feed
- Single zone capacity can be increased with power boosters/interfaces
- Load types controlled directly by control unit:
 - Incandescent; magnetic low voltage; electronic low voltage; neon/cold cathode; 0-10 V, DSI, and DALI (broadcast only) dimmable ballasts
- Mounting:
 - 89 mm (3.50") depth strongly recommended, 69.9 mm (2.75") minimum

Standards

Standards listed below apply to one or more products in the GRAFIK Integrale product line. Consult Lutron for specific information.



Source	Product	Model	Options
 Dimensions 230 V W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00") 	4-Zone Control Units^{3,4} 230 V (CE) • Directly control incandescent; magnetic low voltage; electronic low voltage; neon/cold cathode; 0-10 V, DSI, and DALI (broadcast only) dimmable ballasts. • Switching HID loads requires the use of an interface, see pg. 2.5.2 • 800 W/VA per zone, 2300 W/VA per control unit. • If operating at 120 V, 400 W/VA per zone, 1200 W/VA per control unit.	GXI-3104-_-CE-_-² GXI-3504-_-CE-_-²	Ordering example GXI-3104-T-CE-WH Add cover option and colour/finish suffix to model # Cover options Opaque A Cover and base will match Translucent Black T Black translucent cover with base colour from below Base colours Matt finishes Standard, ships in 48 hrs. • Matt cover options: A or T • See pg. 1.3.1 for complete colour offering and suffixes. Gloss (NEMA) finishes Ships in 4-6 weeks. • Gloss cover option: A only • See pg. 1.3.1 for complete colour offering and suffixes. Metal finishes Ships in 4-6 weeks. • Metal cover option: T only • See pg. 1.3.1 for complete colour offering and suffixes. Satin finishes Ships in 4-6 weeks. • Satin cover option: A or T • See pg. 1.3.1 for complete colour offering and suffixes. Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multi-gang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.13.1 for more information.
Footnotes, pg. 2.4.4 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 3500 series control units can be programmed manually or from a PC and offer the precision of setting light levels in 1% increments. 3 Counts as one of eight total control units per system. 4 Minimum load is 10 W/VA			

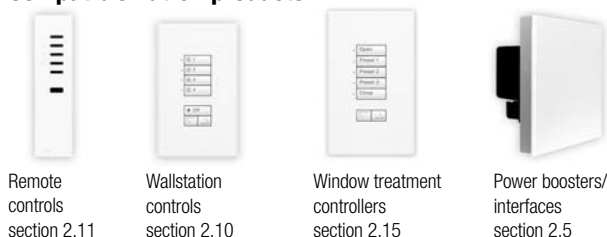
Cover (shown open)



Architectural-grade

- Provides continuously smooth, square law dimming of all lighting zones
- Controls incandescent, magnetic low voltage, neon/cold cathode, and Lutron® electronic low voltage transformers
- Contains Lutron's patented powerline stability circuitry (RTISS™—Real-Time Illumination Stability System) capable of maintaining constant light levels with no visible flicker under changing powerline conditions
- Provides positive air gap off for dimmers in each control unit
- Lightning surge protected to 6,000 V, 3,000 A
- Up to 8 GRAFIK Eye 3000 series control units can be linked for up to 48 zones
- Built-in infrared receiver/optional wireless remote control
- User-defined lockout options integral; locking covers available, pg. 2.13.1
- Offers simple programming for presets; no "store" button required

Compatible Lutron products



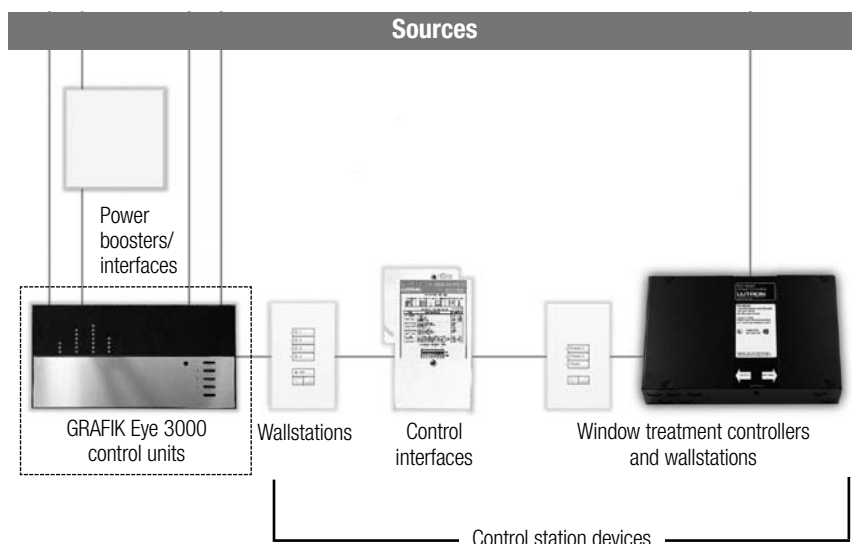
GRAFIK Eye 3000 system map

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see section 2.3.

Sources

	Incandescent
	Magnetic low voltage
	Electronic low voltage*
	Neon/cold cathode
	Fluorescent*
	High-intensity discharge (non-dim only)
	Controllable window treatments*

* Interface required to dim/control. Consult product pages for specifics.



Specifications

- Control unit requires a single feed
- Single zone capacity can be increased with power boosters/interfaces
- Load types controlled directly by control unit:
 - Incandescent, magnetic low voltage, neon/cold cathode, Lutron electronic low voltage transformers
- Load types controlled through power interfaces:
 - For control of fluorescent and electronic low voltage, use power boosters/interfaces, see section 2.5
 - For control of Sivoia QED™ window treatments, use SG-SVCN Sivoia QED interface, see section 2.15
 - For control of AC motorised window treatments, use GRX-4M-GC-CE AC Motor group controller, see section 2.15
- Mounting:
 - 89 mm (3.50") depth strongly recommended, 69.9 mm (2.75") minimum
- Up to total of 8 Sivoia QED Interfaces plus AC motor group controllers can be in one system with 8 GRAFIK Eye 3000 control units and 16 control station devices

Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.



Source	Product	Model	Options
 Dimensions 220-240 V W: 141 mm (5.56") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox P/N 2 X 241218 W: 100 mm (4.00") H: 100 mm (4.00") D: 63 mm (2.50")	2-Zone Control Units^{3,5} 220-240 V (non CE) - Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ - Directly switch HID 1,200 W/VA per zone, 1,600 W/VA per control unit	GRX-3102-__-AU-__² GRX-3502-__-AU-__²	Ordering example GRX-3102-T-AU-WH Add cover option and colour/finish suffix to model # Cover options Opaque A Cover and base will match Translucent Black T Black translucent cover with base colour from below Base colours Matt finishes Standard, ships in 48 hrs. - Matte cover options: A or T - See pg. 1.3.1 for complete colour offering and suffixes. Gloss (NEMA) finishes Ships in 4-6 weeks. - Gloss cover option: A only - See pg. 1.3.1 for complete colour offering and suffixes. Metal finishes Ships in 4-6 weeks. - Metal cover option: T only - See pg. 1.3.1 for complete colour offering and suffixes. Satin finishes Ships in 4-6 weeks. - Satin Cover Option: A or T - See pg. 1.3.1 for complete colour offering and suffixes. Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multi-gang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules. Locking covers - See pg. 2.13.1 for more information.
 Dimensions 220-240 V W: 184 mm (7.25") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox P/N 3 X 241218 W: 150 mm (6.00") H: 100 mm (4.00") D: 63 mm (2.50")	3-Zone Control Units^{3,5} 220-240 V (non CE) - Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ - Directly switch HID 1,200 W/VA per zone, 2,400 W/VA per control unit	GRX-3103-__-AU-__² GRX-3503-__-AU-__²	
 Dimensions 220-240 V W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00")	4-Zone Control Units^{3,5} 220-240 V (non CE) - Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ - Directly switch HID 1,200 W/VA per zone, 3,000 W/VA per control unit	GRX-3104-__-AU-__² GRX-3504-__-AU-__²	
 Dimensions 220-240 V W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00")	6-Zone Control Units^{3,5} 220-240 V (non CE) - Directly control incandescent, magnetic low voltage, neon/cold cathode, Lutron ELV transformer⁴ - Directly switch HID 1,200 W/VA per zone, 3,000 W/VA per control unit	GRX-3106-__-AU-__² GRX-3506-__-AU-__²	
	Electronic low voltage, fluorescent Electronic low voltage and fluorescent sources require an interface, see pg. 2.5.2. Interface is not required if using Lutron's ELV transformer⁴. Controllable window treatments Sivoia QED and 3-wire AC motorised window treatments require controllers, see pg. 2.15.2 and dedicated zones on control units. Footnotes, pg. 2.4.6 - Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 3500 Series control units can be programmed manually or from a PC and offer the precision of setting light levels in 1% increments. - Counts as one of eight total control units per system. - For more information about Lutron's ELV transformers, see application note on pg. 2.16.2. - Minimum load is 40 W/VA		



Power booster

Load interfaces

- Increases single-zone load capacity (as required)
- Models available to control fluorescent and electronic low voltage loads
- Switching relay provides 16 A switching capacity for non-dim loads

Compatible Lutron® products



GRAFIK Eye 3000
control units pg. 2.4.1 and 2.4.5



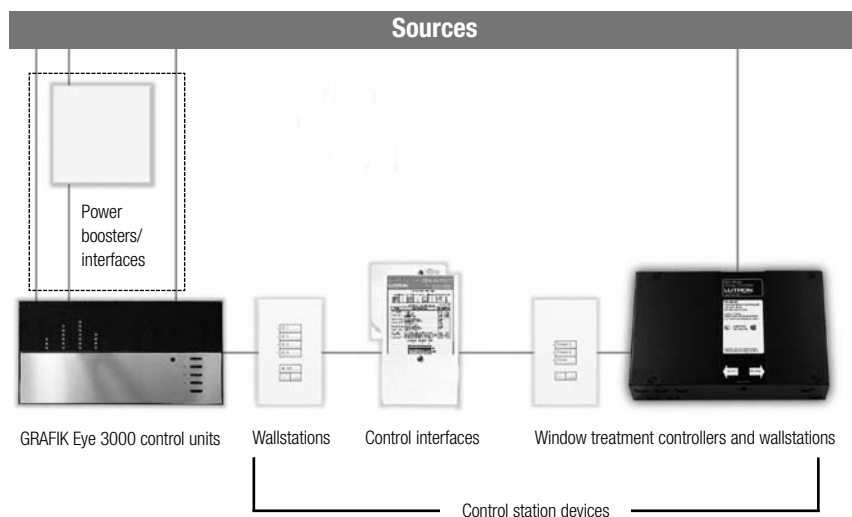
GRAFIK Integrale™
pg. 2.4.3

GRAFIK Eye 3000 system map

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see section 2.3.

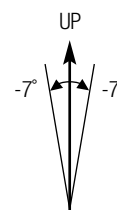
Sources

	Incandescent
	Magnetic low voltage
	Electronic low voltage
	Fluorescent
	Neon/cold cathode
	High-intensity discharge (non-dim only)



Specifications

- All voltages indicated are phase-to-neutral and will operate on 50 or 60 Hz power
- Require a circuit feed; load circuit feed is phase independent of control circuit from dimmer
- Are not plenum-rated; for indoor use only
- When mounting several units in vertical layout, allow 114 mm (4.5") between units for heat dissipation
- Must be mounted within 7° of true vertical
- Generate heat; mount only where ambient temperature will be 0-40°C (32°-104°F) with a non-condensing relative humidity <90%
- Common neutrals are not permitted; run separate neutrals for each load circuit
- Up to two power boosters/interfaces can be wired to a single zone for greater capacity



Mount booster/interface vertically

Standards

Standards listed below apply to one or more products in the GRAFIK Eye 3000 product line. Consult Lutron for specific information.



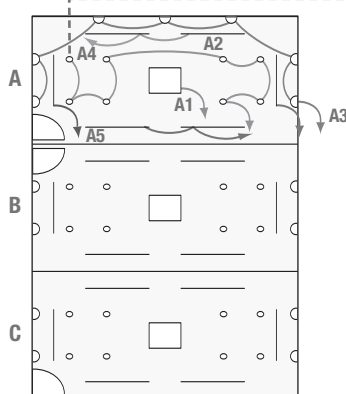
Source	Product	Model	Options
    Dimensions W: 116 mm (4.56") H: 116 mm (4.56") D: 18 mm (0.69") ³ Wallbox P/N 241496 W: 105 mm (4.13") H: 105 mm (4.13") D: 40 mm (1.57")	Power Booster 220-240 V (non-CE) NGRX-PB-AU-WH^{1,2} 2,400 W/VA 230 V (CE) NGRX-PB-CE-WH^{1,2} 1,200 W/VA (with Wallplate) 1,840 W/VA (without Wallplate) - Increases single GRAFIK Eye 3000 or GRAFIK Integrale zone wattage capacity - Dims incandescent, magnetic low voltage and neon/cold cathode loads - Can also be used to switch (non-dim) all of the sources mentioned above - Up to two power boosters can be wired to a single zone - Minimum load is 40 W/VA	Ordering example NGRX-PB-CE-WH Ships in 48 hours	
  Dimensions W: 116 mm (4.56") H: 116 mm (4.56") D: 18 mm (0.69") ³ Wallbox P/N 241496 W: 105 mm (4.13") H: 105 mm (4.13") D: 40 mm (1.57")	Electronic Low Voltage Interface 220-240 V (non-CE) NGRX-ELVI-AU-WH^{1,2} 230 V (CE) NGRX-ELVI-CE-WH^{1,2} 1,200 W - Allows dimming of electronic transformer-supplied low voltage lighting requiring reverse phase-control dimming - Increases single GRAFIK Integrale zone wattage capacity - Up to two interfaces can be wired to a single zone - Minimum load is 40 W/VA		
  Dimensions W: 116 mm (4.56") H: 116 mm (4.56") D: 18 mm (0.69") ³ Wallbox P/N 241496 W: 105 mm (4.13") H: 105 mm (4.13") D: 40 mm (1.57")	Lutron Fluorescent Dimming Ballast Interface 220-240 V (non-CE) NGRX-FDBI-AU-WH^{1,2} 10 A - Allows dimming of Lutron® Hi-Lume™ /Eco-10™ (ECO-Series) line voltage control electronic dimming ballasts only - Not to be used for switching - Up to two interfaces can be wired to a single zone		
  Dimensions W: 155 mm (6.10") H: 318 mm (12.50") D: 84 mm (3.30") Surface Mount	Zero to Ten Volt Interface 220-240 V, 230 V (CE) GRX-TVI^{1,2} 16 A (same model number for all voltages) 0-10 V output rating: 10 µA-300 mA; sinks current only - Up to five interfaces can be wired to a single zone		
       Dimensions W: 155 mm (6.10") H: 318 mm (12.50") D: 84 mm (3.30") Surface Mount	Switching Relay 220-240 V, 230 V (CE) GRX-TVI^{1,2} 16 A (same model number for all voltages) - Switching relay (non-dim) ratings for all voltages 16 A: incandescent, low voltage, neon/cold cathode, metal halide, fluorescent (capacitive), non-capacitive 1/2 hp: 240 V—motor		
Footnotes, pg. 2.5.2 1 All voltages indicated are phase-to-neutral. 2 Load circuit feed is phase independent of control circuit from dimmer. 3 Depth is from wallplate to wall. Wallplate depth is 9 mm (0.35").			

Step 1

Determine number of zones and sources

A zone is a group of lights or shades that are always controlled together. GRAFIK Eye 4000 controls have the ability to dim most popular light sources through power panels and to control several zones at one time from one button press. Important factors to consider when creating zones are flexibility of control and aesthetics.

Conference room reflected ceiling plan



Zone	Description	No. of Circuits	Voltage	Feed Type (N/E)	Load Type	Fixture Load	No. of Fixtures	Watts/Volt-amps
A-1	Chandelier	1	230 V	N	INC	1200	1	1200
A-2	North Track	1	230 V	N	ELV	20	4	88*
A-3	East Track	1	230 V	N	ELV	20	6	132*
A-4	West Track	1	230 V	N	ELV	20	6	132*
A-5	South Track	1	230 V	N	ELV	20	4	88*

Notes:

1. Chart is typical for each room: A, B, and C. Room A is shown.

Key: N Normal; E Emergency; INC Incandescent; MLV Magnetic Low Voltage; ELV Electronic Low Voltage; 0-10 0-10 V Dimming ballast

* Includes transformer losses

Design tips

- ☐ Multiple circuits can be controlled by one zone.
- ☐ Dimming ballasts are required to dim fluorescent sources.
- ☐ Transformer loss: ballasts and transformers draw additional current beyond the lamp rating. For example, magnetic low voltage transformers typically draw an additional 20% of the lamp wattage.
- ☐ If integrating controllable window treatments with the lighting controls, dedicate a zone for each group of treatments to be controlled on control units.
- ☐ Blank load schedules are available. See pg. 3.17.2.

Step 2

Select GRAFIK Eye 4000 Series control units

Using the number of zones determined in Step 1, select the appropriate size of control Unit. GRAFIK Eye 4000 series control units are available in 2-, 3-, 4-, 6-, 8-, 16-, and 24-zone configurations. Choose a 4500 model control unit if programming the system from a PC or saving light levels at 1% increments is required.

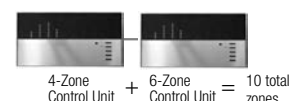
See section 2.8.

This project requires seven zones per room, therefore three GRX-4108 are selected.

Design tips

- ☐ If your space requires more than eight zones, link up to 8 GRAFIK Eye 4000 Series control units (addresses) together for control of up to 64 zones in one system.
- ☐ A 16-zone control unit counts as two control units and a 24-zone unit counts as three control units toward the eight control units maximum.
- ☐ Use a separate GRAFIK Eye control unit for each distinct room/space in a project that may be controlled separately.

For example, for 10 zones:



Step 3

Fill out dimming/switching panel schedule(s)

Separate circuits into power panel schedules by common voltages and feed type (N, N/E, E). Power panels can be located throughout a project close to the loads they are serving, then linked together through a low voltage communication link for seamless operation.

Design tips

- ☐ A separate panel or section is required for each voltage type and feed type (normal or emergency).
- ☐ Where emergency circuits are required, selected circuits should be placed in a separate panel schedule. Selected emergency circuits in Lutron® panels immediately go to a "full-on" condition when normal power fails. For more information, see pg. 4.8.5.
- ☐ Consider adding circuits into panel capacity for spare circuits if future growth is expected.
- ☐ In large projects, if more than 15% of project circuits are non-dim only, consider using an XP Softswitch™ panel (see section 4.7)

Step 4

Select power panels

Choose the power panel to support the number of circuits required by the project in the dimming/switching panel schedule(s) from Step 3.

Example shown in project for rooms A, B, and C. Process is similar for other voltages and feed types.

See section 4.

Normal – 230 V Dimming Panel Circuit Number	Zone	Load Type	Total Load Watts/Voltage
1	A-1	INC	1200
2	A-4	ELV	88
3	A-5	ELV	132
4	A-6	ELV	132
5	A-7	ELV	88
6	B-1	INC	1200
7	B-4	ELV	88
8	B-5	ELV	132
9	B-6	ELV	132
10	B-7	ELV	88
11	C-1	INC	1200
12	C-4	ELV	88
13	C-5	ELV	132
14	C-6	ELV	132
15	C-7	ELV	88
16	SPARE		

Note: This project requires one GP16-2304 IS-10CE dimming panel

Design tip

- Verify building system voltage/feed type (3Ø, 4 W) and branch circuit size (where applicable).

Step 5

Select and implement design elements

Identify additional control elements for the project (e.g. DMX integration, time scheduling, wireless control) and add appropriate control station devices to achieve strategies.

See design elements, see section 1.2.

For this project, two elements are chosen – an SG-4SIRN infrared control (see pg. 2.10.3), and an SG-4PSN partitioning control (see pg. 2.10.4).

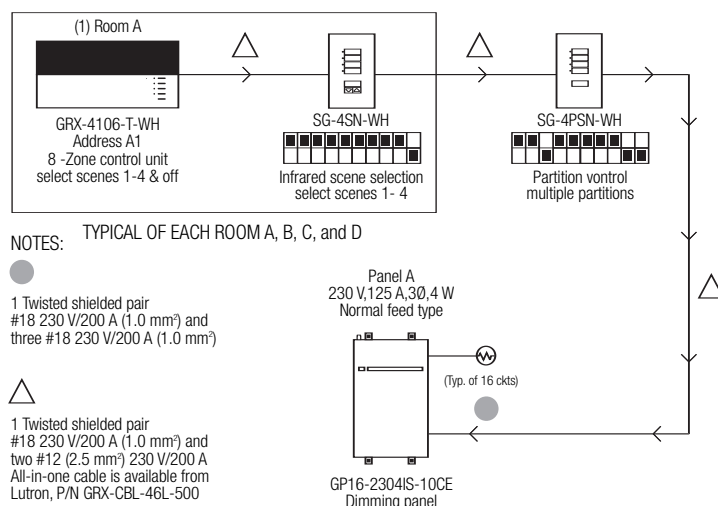
Design tips

- Up to 16 total control station devices can be added in one GRAFIK Eye 4000 series system.
- Coordinate partitioning function with audio visual system requirements.

Step 6

Support the design with one-line diagrams and written product specifications

Complete product specifications are available at www.lutron.com.



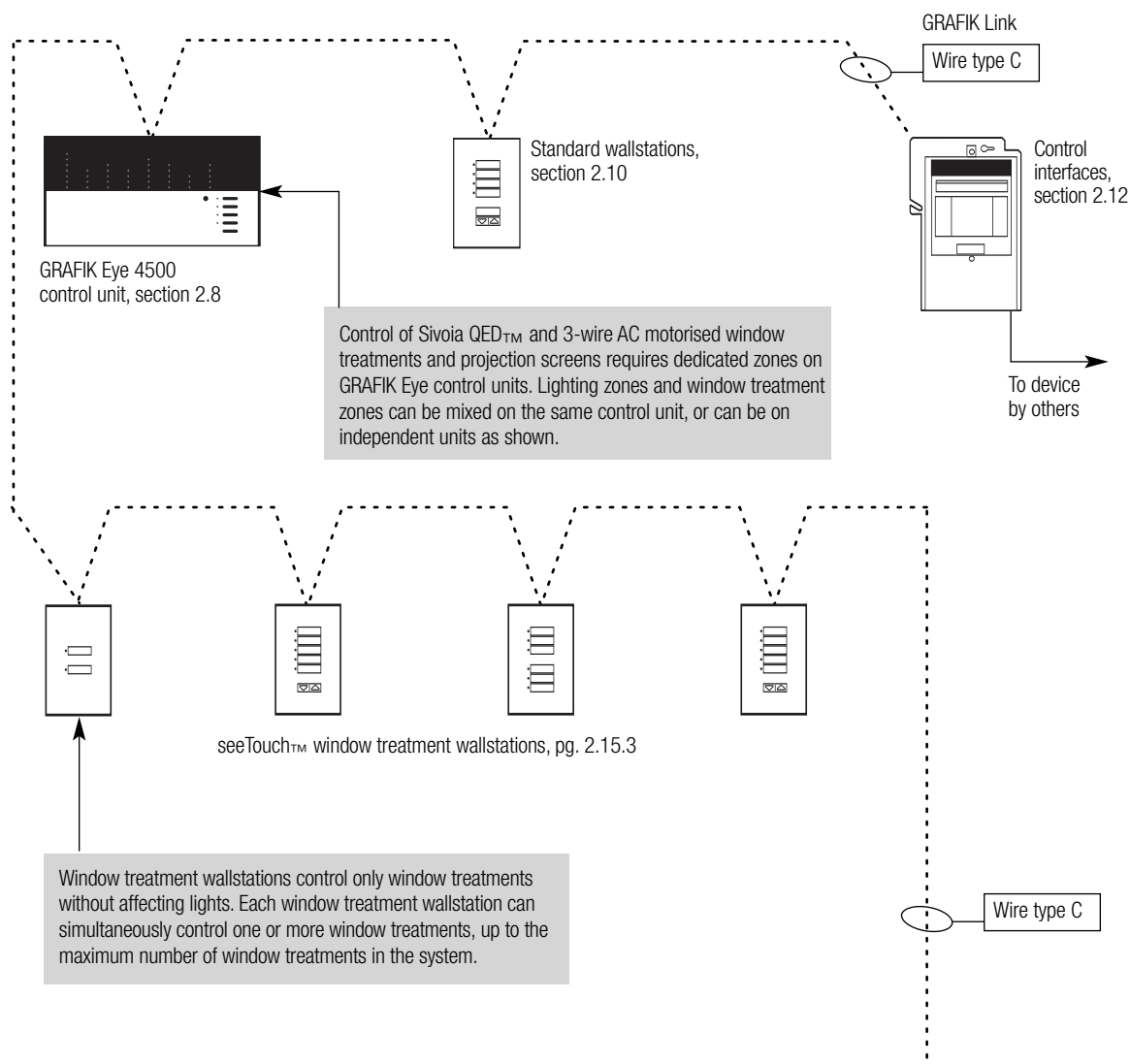
GRAFIK Eye Designer software

Lutron's GRAFIK Eye Designer software allows faster system design by automatically assigning the panel(s) required from zone load type and wattage information. The software generates a complete bill of materials, including wallstations and control interfaces, with DIP switch settings, and a one-line diagram that can be saved and exported as a .dxf file. GRAFIK Eye Designer information is available at www.lutron.com/designer.

System maximums

- A total of 8 GRAFIK Eye 4000 Series control units
- 16 control station devices
- 8 Sivoia QED™ interfaces and AC motor group controllers

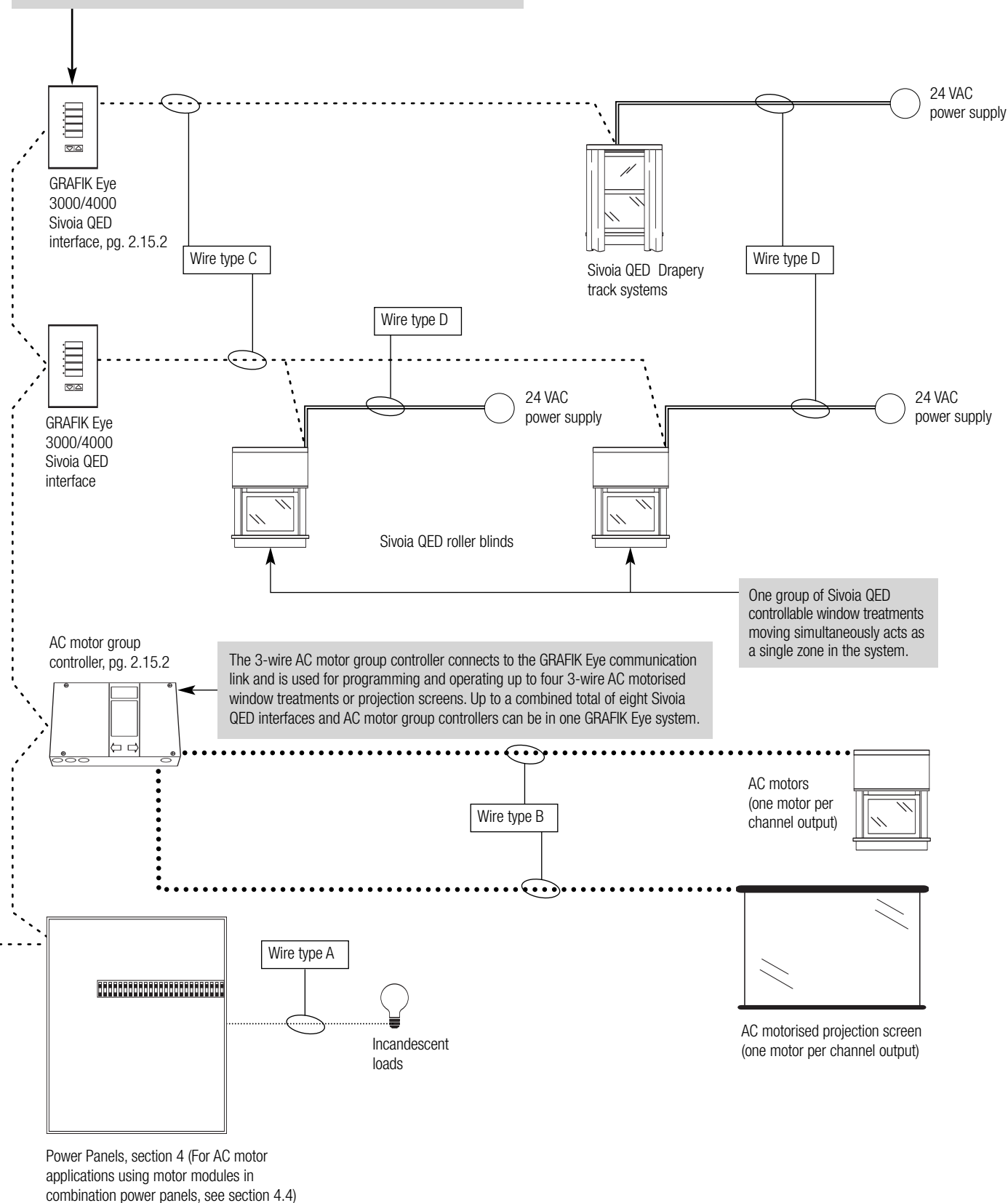
Note: control station devices include standard wallstations, control interfaces, and window treatment wallstations.



Wiring type key

.....	Type A	2.5 mm ² (#12 AWG) wires (230/240 V)
.....	Type B	2.5 mm ² (#12 AWG) wires (230/240 V)
.....	Type C	Five PELV (Class 2) conductors: (2) 2.5 mm ² (#12 AWG) for power wires; (1) twisted, shielded 1.0 mm ² (#22 AWG) pair for control wires; plus (1) 1.00 mm ² (#18 AWG) wire for the emergency sense line (Available from Lutron®; GRX-CBL-46L, see pg. 2.13.1)
=====	Type D	1.5 mm ² (#16 AWG) wires (24 VAC, plus earth ground)

The GRAFIK Eye 3000/4000 Sivoia QED interface, which connects to both the Sivoia QED communication link and the GRAFIK Eye communication link, is used for programming and controlling the group of window treatments wired to the control. Up to a combined total of eight Sivoia QED interfaces and AC motor group controllers can be in one GRAFIK Eye System.



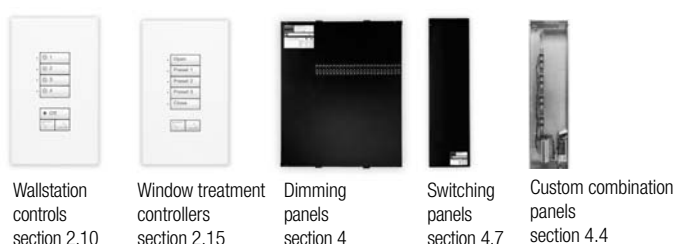
Cover (shown open)



Architectural-grade

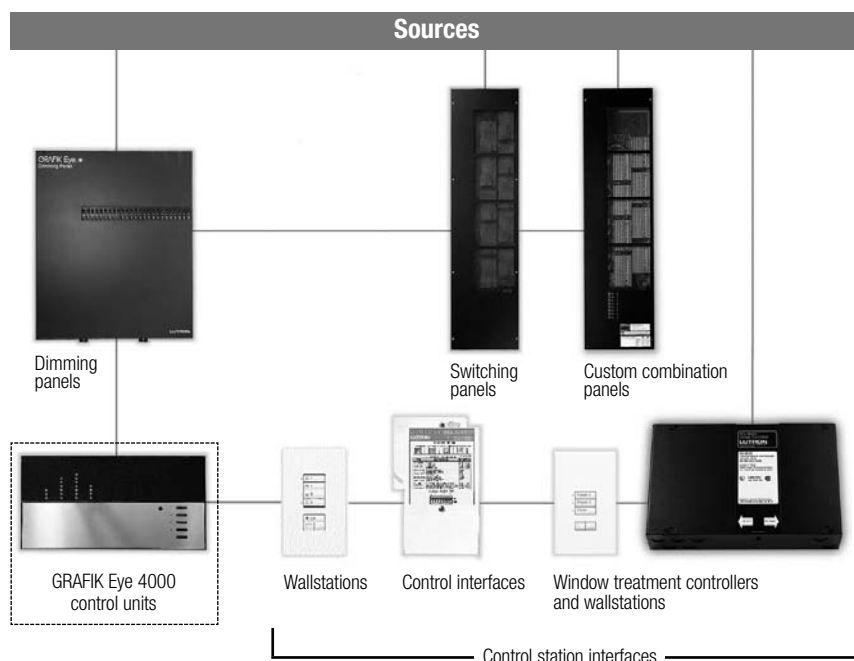
- Provides continuously smooth square law dimming of all popular sources through dimming panels, and non-dim control for sources through switching panels; see Power Panels, section 4
- Dimming panels contain Lutron's patented powerline stability circuitry (RTISS™—Real-Time Illumination Stability System), capable of maintaining constant light levels with no visible flicker under changing powerline conditions
- Switching panels contain Lutron's patented XP Softswitch™ circuitry capable of withstanding inrush current 50 times operating current for full 16 A circuits of any source - resistive, inductive, or capacitive
- Average rated life of Lutron® relays are 1,000,000 cycles (on/off) at full load
- Provides positive air gap off for every circuit through power panels
- Up to 8 GRAFIK Eye 3000 series control units can be linked for up to 64 zones
- Built-in Infrared receiver/optional wireless remote control
- User-defined lockout options integral; locking covers available, pg. 2.13.1
- Offers simple program for scene light levels and fade times; no "store" button required

Compatible Lutron products



GRAFIK Eye 4000 system map

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see section 2.7.



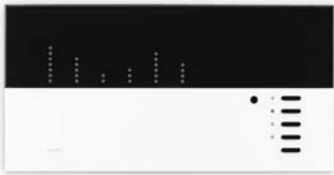
Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.



Specifications

- Load types:
 - Controlled through power panels, see section 4
 - For control of Sivoia QED™ window treatments, use SG-SVCN Sivoia QED interface, see pg. 2.15.2
 - For control of AC motorised window treatments, use GRX-4M-GC-CE motor group controller, see pg. 2.15.2 and/or power panels with motor modules, see section 4.4
 - Sivoia QED and 3-wire AC motorised window treatments require dedicated zones on control units
- Power through power panels, see section 4
- Mounting:
 - Fits standard US wallboxes, 89 mm (3.50") deep strongly recommended, 64 mm (2.75") minimum
- Up to total of 8 Sivoia QED controllers plus AC motor group controllers can be in one system with 8 GRAFIK Eye control units and 16 control station devices

	Product	Model	Options
 Dimensions W: 141 mm (5.56") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox: P/N 2 x 241218 W: 100 mm (4.00") H: 100 mm (4.00") D: 63 mm (2.50")	2-Zone Control Units³ - Sources controlled through dimming and XP Softswitch panels and window treatment controllers. - For panel information, see section 4. - For window treatment controllers, see section 2.15.	GRX-4102- - - GRX-4502- - -²	Ordering example GRX-4102-T-WH Add cover option and colour/finish suffix to model # Cover options Opaque A Cover and base will match Translucent Black T Black translucent cover with base colour from below Base colours Matt finishes Standard, ships in 48 hrs. - Matt cover options: A or T - See pg. 1.3.1 for complete colour offering and suffixes. Gloss (NEMA) finishes Ships in 4-6 weeks. - Gloss cover option: A only - See pg. 1.3.1 for complete colour offering and suffixes. Metal finishes Ships in 4-6 weeks. - Metal cover option: T only - See pg. 1.3.1 for complete colour offering and suffixes. Satin finishes Ships in 4-6 weeks. - Satin cover option: A or T - See pg. 1.3.1 for complete colour offering and suffixes. Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multi-gang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules. Locking covers - See pg. 2.13.1 for more information.
 Dimensions W: 186 mm (7.31") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox: P/N 3 x 241218 W: 150 mm (6.00") H: 100 mm (4.00") D: 63 mm (2.50")	3-Zone Control Units³ - Sources controlled through dimming and XP Softswitch panels and window treatment controllers. - For panel information, see section 4. - For window treatment controllers, see section 2.15.	GRX-4103- - - GRX-4503- - -²	
 Dimensions W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox: P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00")	4-Zone Control Units³ - Sources controlled through dimming and XP Softswitch panels and window treatment controllers. - For panel information, see section 4. - For window treatment controllers, see section 2.15.	GRX-4104- - - GRX-4504- - -²	
 Dimensions W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25")¹ Wallbox: P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00")	6-Zone Control Units³ - Sources controlled through dimming and XP Softswitch panels and window treatment controllers. - For panel information, see section 4. - For window treatment controllers, see section 2.15.	GRX-4106- - - GRX-4506- - -²	
Footnotes, pg. 2.8.2 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 4500 model control units can be programmed manually or from a PC and offer the precision of setting light levels in 1% increments. 3 Counts as one of eight total control units per system.			



Dimensions

W: 227 mm (8.94")
H: 116 mm (4.56")
D: 57 mm (2.25")¹

Wallbox
P/N 241400

W: 200 mm (8.00")
W: 95 mm (3.75")
W: 75 mm (3.00")



(Shown with cover open)

Dimensions

W: 227 mm (8.94")
H: 116 mm (4.56")
D: 57 mm (2.25")¹

Wallbox
P/N 241400

W: 200 mm (8.00")
W: 95 mm (3.75")
W: 75 mm (3.00")



(Shown with cover open)

Dimensions

W: 227 mm (8.94")
H: 116 mm (4.56")
D: 57 mm (2.25")¹

Wallbox
P/N 241400

W: 200 mm (8.00")
W: 95 mm (3.75")
W: 75 mm (3.00")

8-Zone Control Units

GRX-4108- -
GRX-4508- -²

- Sources controlled through dimming and XP Softswitch™ panels and window treatment controllers.
- For panel information, see section 4.
- For window treatment controllers, see section 2.15.
- Counts as one of eight total control units per system.

16-Zone Control Units

GRX-4116- -
GRX-4516- -²

- Sources controlled through dimming and XP Softswitch panels and window treatment controllers.
- For panel information, see section 4.
- For window treatment controllers, see section 2.15.
- Counts as two out of eight total control units per system.

24-Zone Control Units

GRX-4124- -
GRX-4524- -²

- Sources controlled through dimming and XP Softswitch panels and window treatment controllers.
- For panel information, see section 4.
- For window treatment controllers, see section 2.15.
- Counts as three out of eight total control units per system.

Footnotes, pg. 2.8.3

- 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35").
- 2 4500 model control units can be programmed manually or from a PC and offer the precision of setting light levels in 1% increments.

Ordering example

GRX-4108-T-WH

Add cover option and colour/finish suffix to model #

Cover options

Opaque A
Cover and base will match
Translucent Black T
Black translucent cover with base colour from below

Base colours

Matt finishes

Standard, ships in 48 hrs.

- Matt cover options: A or T
- See pg. 1.3.1 for complete colour offering and suffixes.

Gloss (NEMA) finishes

Ships in 4-6 weeks.

- Gloss cover option: A only
- See pg. 1.3.1 for complete colour offering and suffixes.

Metal finishes

Ships in 4-6 weeks.

- Metal cover option: T only
- See pg. 1.3.1 for complete colour offering and suffixes.

Satin finishes

Ships in 4-6 weeks.

- Satin cover option: A or T
- See pg. 1.3.1 for complete colour offering and suffixes.

Customisation

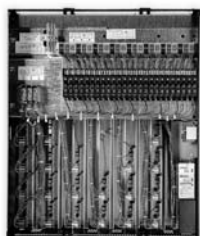
Ships in 4-6 weeks.

- See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls.
- See pg. 3.17.5 for engraving schedules.

Locking covers

- See pg. 2.13.1 for more information.

	Product	Model	Options																																				
	3-Zone Slider Control Units^{2,3}	GRXSLED-4103-	Ordering example GRXSLED-4103-WH add colour/finish suffix to model # Matt finishes Ships in 4-6 weeks. <table><tr><td>White</td><td>WH</td></tr><tr><td>Ivory</td><td>IV</td></tr><tr><td>Beige</td><td>BE</td></tr><tr><td>Grey</td><td>GR</td></tr><tr><td>Brown</td><td>BR</td></tr><tr><td>Black</td><td>BL</td></tr></table> Metal finishes Ships in 4-6 weeks. <table><tr><td>Bright Brass</td><td>BB</td></tr><tr><td>Bright Chrome</td><td>BC</td></tr><tr><td>Bright Nickel</td><td>BN</td></tr><tr><td>Satin Brass</td><td>SB</td></tr><tr><td>Satin Chrome</td><td>SC</td></tr><tr><td>Satin Nickel</td><td>SN</td></tr><tr><td>Antique Brass</td><td>QB</td></tr><tr><td>Antique Bronze</td><td>QZ</td></tr><tr><td>Anodised Aluminium</td><td></td></tr><tr><td>Clear</td><td>CLA</td></tr><tr><td>Black</td><td>BLA</td></tr><tr><td>Brass</td><td>BRA</td></tr></table> Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening and custom controls. - See pg. 3.17.5 for engraving schedules. Locking covers - See pg. 2.13.1 for more information.	White	WH	Ivory	IV	Beige	BE	Grey	GR	Brown	BR	Black	BL	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 Aluminium		Clear	CLA	Black	BLA	Brass	BRA
White	WH																																						
Ivory	IV																																						
Beige	BE																																						
Grey	GR																																						
Brown	BR																																						
Black	BL																																						
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 Aluminium																																							
Clear	CLA																																						
Black	BLA																																						
Brass	BRA																																						
	4-Zone Slider Control Unit^{2,3}	GRXSLED-4104-	- Serves as control unit for four zones of lighting - Two scenes per slider control unit, expandable to 12 scenes with additional controls - Master slider option available (uses one slider zone) - No remote fine-tuning for individual zones available - Built-in panic scenes																																				
	6-Zone Slider Control Unit^{2,3}	GRXSLED-4106-	- Serves as control unit for six zones of lighting - Two scenes per slider control unit, expandable to 12 scenes with additional controls - Master slider option available (uses one slider zone) - No remote fine-tuning for individual zones available - Built-in panic scenes																																				
	8-Zone Slider Control Unit^{2,3}	GRXSLED-4108-	- Serves as control unit for eight zones of lighting - Two scenes per slider control unit, expandable to 12 scenes with additional controls - Master slider option available (uses one slider zone) - No remote fine-tuning for individual zones available - Built-in panic scenes																																				
Footnotes, pg. 2.8.4 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 Manual programming only. (No PC programming available). 3 Counts as one of eight total control units per system.																																							



GP dimming panels



LP dimming panels



XP Softswitch panels with breakers



Custom combination panels

GP dimming panels

Lutron's highest performance architectural dimming panel for all applications.

LP dimming panels

Commercial dimming panel for handling numerous small loads.

XP Softswitch™ panels

Million-cycle switching panel employs Lutron's patented Softswitch technology.

Custom combination panels

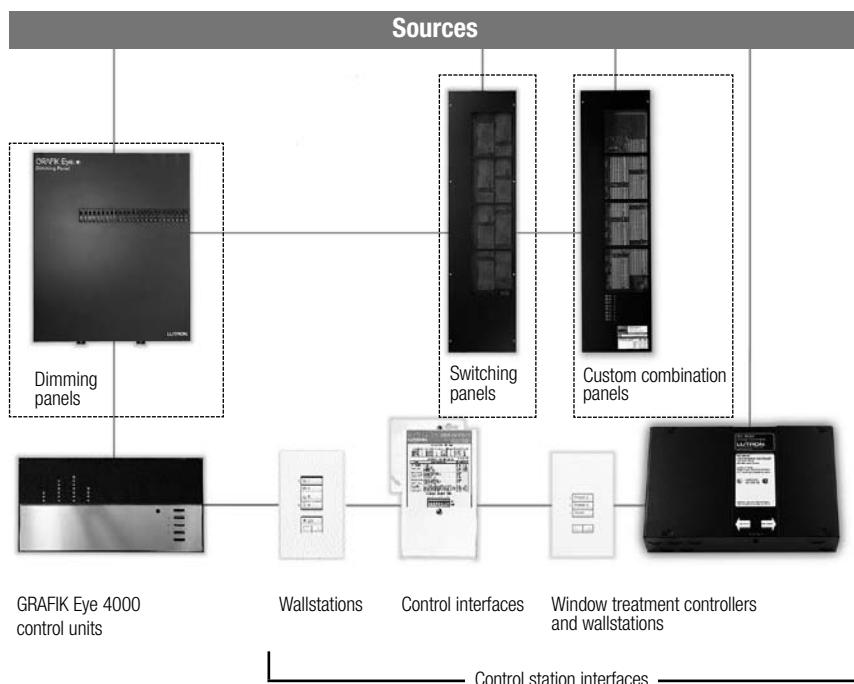
Custom dimming/switching panel tailored to your projects requirements.

GRAFIK Eye 4000 system map

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see section 2.7.

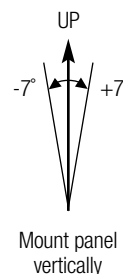
Sources

	Incandescent
	Magnetic low voltage
	Electronic low voltage
	Neon/cold cathode
	Fluorescent
	High-intensity discharge (non-dim only)
	Controllable window treatments



Specifications

- Prewired: Lutron® power panels are prewired at the factory. Wire feed and load wiring only. No other wiring or assembly required.
- Thermal magnetic breakers: Circuit breakers are UL-rated thermal magnetic.
- Lightning strike protection: Power panels meet ANSI/IEEE standard 62.41-1980 and can withstand voltage surges of up to 6,000 V and current surges of up to 3,000 A.
- No flicker: RTISS™ filter circuit technology compensates for incoming line voltage variations: No visible flicker with $\pm 2\%$ change in RMS voltage/cycle and $\pm 2\%$ Hz change in frequency/second.
- Air gap off switches: Ensures an open circuit when off function is selected.
- Arcless-relay: Eliminate arcing at mechanical contacts when loads are switched.
- Convection cooled: patented, ribbed aluminum heat sink base cools panel by convection. No fans.
- Enclosure: NEMA-Type 1 (Type 2 available upon request), IP-20 protection; #16 U.S. Gauge steel. Indoors only.
- Customisation: Panels can be customised to meet your needs, section 4.4.



Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.

LUTRON
Quality Systems
registered
to ISO 9001



Panel Type	GP	LP/Custom Combination Panels	XP Softswitch™
Choosing a panel 			
Function	Lutron's highest performance architectural dimming panel for all applications	Commercial dimming panel for handling numerous small loads	Million-cycle switching panel employs Lutron's patented Softswitch
Voltage ¹	220-240 V (AU) or 230 V (CE) 50 or 60 Hz	220-240 V (AU) or 230 V (CE) 50 or 60 Hz	220-240 V (AU) or 230 V (CE) 50 or 60 Hz
Panel feed type	Feed-through isolator switch	Feed-through isolator switch	Feed-through
Number of circuits	3-24	4-32 lighting zones (1-8 dimming modules)	4-48
Thermal magnetic circuit breaker	1 per circuit	1 per module (4 lighting zones per module)	N/A
Load rating	16 A continuous/circuit 10 A 230 V (CE)	Varies by module type	16 A continuous/circuit
Load type ²	inc, mlv, elv ³ , fl ⁴ , n, cc, nd	inc, mlv, elv ³ , fl ⁴ , n, cc, nd, motor ⁵	All load types
Lamp noise suppression	Architectural	Commercial	Not required
RFI suppression	Highest-grade choke	High-grade choke	Switching only; no choke required
Ambient temperature	0°-40°C (32°-104°F)	0°-40°C (32°-104°F)	0°-40°C (32°-104°F)
Mounting	Surface mount	Surface mount or recessed mount	Surface mount or recessed mount

Footnotes, pg. 2.9.2

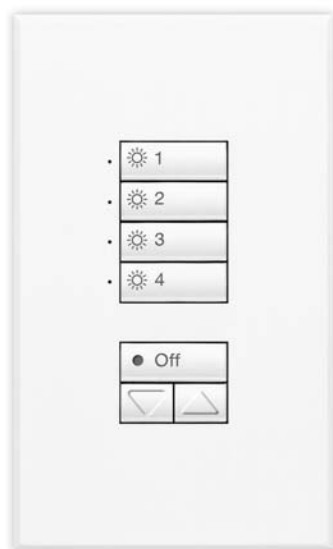
¹ All voltages are nominal.

² Load type key: inc=incandescent, mlv=magnetic low voltage, n=neon, cc=cold cathode, fl=fluorescent (magnetic and capacitive), elv=electronic low voltage, nd=non-dim, HID.

³ Contact Lutron technical support for a list of approved electronic low voltage transformers.

⁴ Ten volt module (option), see pg. 4.4.3.

⁵ 3-wire AC motor types; motor module (option), see pg. 4.4.3.



seeTouch Wallstation

Wallstation features

- Provide additional control points throughout a space
- Up to 16 wallstations and control Interfaces can be added for a total of 24 control points in one system
- seeTouch™ wallstations offer:
 - Easy to use large, rounded buttons
 - User-changeable button and faceplate assemblies which make for easy customisation
 - On-button engraving angled up to the eye for easy reading
 - Backlit buttons for improved clarity in low light conditions



seeTouch
pg. 2.10.1



European Style
pg. 2.10.5



Architectural
pg. 2.10.8



Slim button
pg. 2.10.11



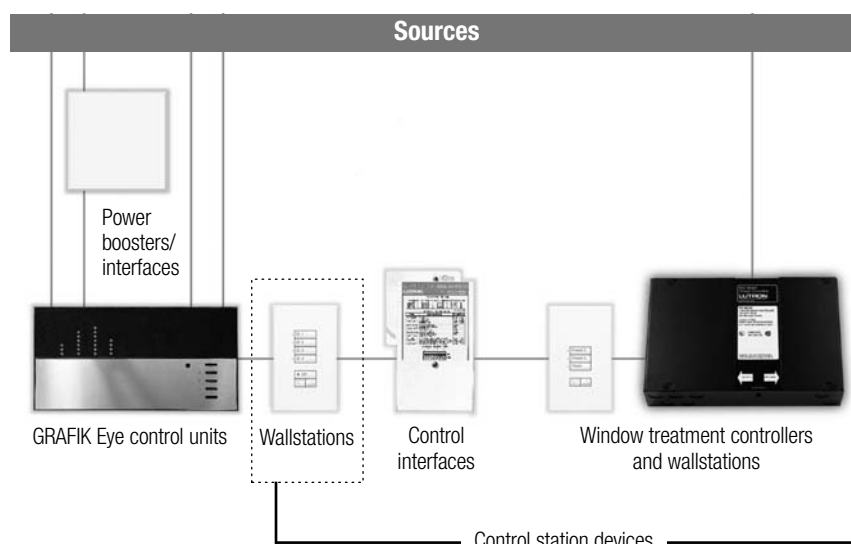
Large button
pg. 2.10.12



Architrave™
pg. 2.10.13

GRAFIK Eye 3000 system map (shown)

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see sections 2.3 and 2.7.



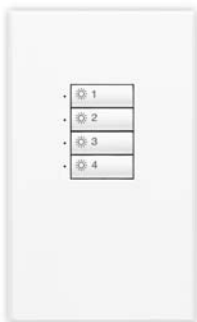
Specifications

- Wallstation and control interface maximums:
 - Per System: 16 (Class 2/PELV) (includes window treatment wallstations)
 - Three from each GRAFIK Eye 3000 Control Unit without external power supply; for Lutron® Power Supply, TU240-15DC-9-BL or TE240-15DC-9-BL see 2.13.1. (Does not apply to GRAFIK Eye 4000)
- Wiring specification & maximums per system:
 - GRAFIK Eye 3000: Four PELV (Class 2) conductors: (2) 1.0 mm² (#18 AWG) for power wires; plus (1) twisted, shielded 1.0 mm² (#22 AWG) pair for control wires (Available from Lutron, GRX-CBL-346S-500, see pg. 2.13.1)
 - GRAFIK Eye 4000: Five PELV (Class 2) conductors: (2) 2.5 mm² (#12 AWG) for power wires; (1) twisted, shielded 1.0 mm² (#22 AWG) pair for control wires; plus (1) 1.0 mm² (#18 AWG) wire for the emergency sense line (Available from Lutron, GRX-CBL-46L, see pg. 2.13.1)
 - Distance: 610 m (2,000'); for other cable distances, see GRAFIK Eye Application Notes available at www.lutron.com
 - Installation: daisy-chain (no home-run wiring)
 - Cable available from Lutron, see pg. 2.13.1
- Power: 12 VDC (From GRAFIK Eye 3000 Series control unit or TU240-15DC-9-BL or TE240-15DC-9-BL, see pg. 2.13.1); 24 VAC (From power panels for GRAFIK Eye 4000 Series)
- Configuration: Integral DIP switches determine function and can be configured in the field

Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.



seeTouch	Product	Model	Options
	2-Button Wallstation	SG-2BN ^{-2, 3, 4}	Ordering example SG-2BN-WH-EGN Add colour/finish and engraving suffix to model # For choices see: www.lutron.com/seeTouch Matt finishes Ships in 48 hrs. White WH Ivory IV Beige BE Grey GR Brown BRN Black BL Gloss (NEMA) finishes Ships in 48 hrs. (Insert models only) White GWH Light Almond GLA Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.13.1 for more information.
	4-Button Wallstation	SG-4BN ^{-2, 3, 4}	
	4-Scene Wallstation with Off	SG-4NRLN ^{-2, 3, 4}	
Footnotes, pg. 2.10.2 1 Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31"). 2 For insert version use I in place of last N in model number. See section 3.16 for more information. 3 PELV (Class 2) control wiring. 4 Counts as 1 of 16 maximum control station devices.			

seeTouch™

Product

Model

Options



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 27 mm (1.06")¹
Wallbox:
P/N 241218
W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

4-Scene Wallstation with Off and Raise/Lower

SG-4SN^{-2, 3, 4}

- Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off
- Fine-tuning of light levels with master raise/lower buttons
- General engraving option (EGN) shown
- For seeTouch model guide, see section 3.16

Ordering example

SG-4SN-WH-EGN

Add colour/finish and engraving suffix to model #
For choices see:
www.lutron.com/seetouch

Matt finishes

Ships in 48 hrs.

White	WH
Ivory	IV
Beige	BE
Grey	GR
Brown	BR
Black	BL

Gloss (NEMA) finishes

Ships in 48 hrs.

(Insert models only)

White	GWH
Light Almond	GLA

Metal finishes

Ships in 4-6 weeks.

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 Aluminium

Clear	CLA
Black	BLA
Brass	BRA

Customisation

Ships in 4-6 weeks.

- See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls.
- See pg. 3.17.5 for engraving schedules.

Locking covers

- See pg. 2.13.1 for more information.



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 27 mm (1.06")¹
Wallbox:
P/N 241218
W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

4-Scene Wallstation with Off, Raise/Lower, and Infrared Receiver

SG-4SIRN^{-2, 3, 4}

- Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off from keypad or four-scene wireless remote control (GRX-IT-WH, ordered separately)
- Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off from eight-scene Wireless Remote Control (GRX-8IT-WH, ordered separately)
- Fine-tuning of light levels from keypad or wireless remote control
- General engraving option (EGN) shown
- For seeTouch model guide, see section 3.16

Footnotes, pg. 2.10.3

- 1 Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31").
- 2 For insert version use I in place of last N in model number. See section 3.16 for more information.
- 3 PELV (Class 2) control wiring.
- 4 Counts as 1 of 16 maximum control station devices.

seeTouch

Product

Model

Options



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 27 mm (1.06")¹

Wallbox:
P/N 241218

W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 27 mm (1.06")¹

Wallbox:
P/N 241218

W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 27 mm (1.06")¹

Wallbox:
P/N 241218

W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

4-Scene Wallstation with Off, Raise/Lower, and Infrared Receiver Programming SG-PRON^{2, 3, 4, 5}

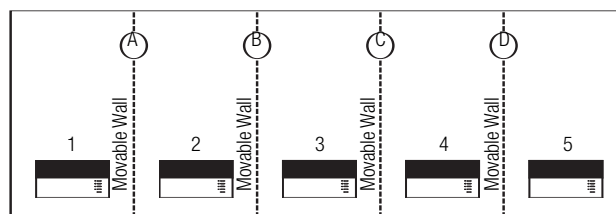
- Enhanced infrared commands for scene programming, preset selection and individual zone control of each control unit from a PDA²
- Fine-tuning of light levels from keypad or wireless remote control
- Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off from keypad or four-scene wireless remote control (GRX-IT-WH, ordered separately)
- Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off from eight-scene wireless remote control (GRX-8IT-WH, ordered separately)
- General engraving option (EGN) shown
- For seeTouch model guide, see section 3.16

4-Movable Wall Status Wallstation SG-4PSN^{3, 4, 5}

- Provides four buttons to determine which control unit(s) operate independently or in combination to reflect movable wall status for up to four moveable walls (five rooms)
- Last button resets all control units to independent operation
- General engraving option (EGN) shown
- For seeTouch model guide, see section 3.16

For example:

This button...	Toggles the status of...	To combine control units:
Button 1	Wall A	1 and 2
Button 2	Wall B	2 and 3
Button 3	Wall C	3 and 4
Button 4	Wall D	4 and 5



4-Button Master Control Wallstation

SG-4MN^{3, 4, 5}

- Each of four buttons toggles selected control unit(s) between Scene 1 and off
- Last button can be all on (Scene 1) or all off for selected control unit(s)
- General engraving option (EGN) shown
- For seeTouch model guide, see section 3.16

Footnotes, pg. 2.10.4

- Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31").
- Requires a GRX 3500 or a GRX 4500 control unit
- For insert version use I in place of last N in model number. See section 3.16 for more information.
- PELV (Class 2) control wiring.
- Counts as 1 of 16 maximum control station devices.

Ordering example

SG-PRON-WH

Add colour/finish and engraving suffix to model #
For choices see:
www.lutron.com/seetouch

Matt finishes

Ships in 48 hrs.

White	WH
Ivory	IV
Beige	BE
Grey	GR
Brown	BR
Black	BL

Gloss (NEMA) finishes

Ships in 48 hrs.

(Insert models only)

White	GWH
Light Almond	GLA

Metal finishes

Ships in 4-6 weeks.

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 Aluminium	
Clear	CLA
Black	BLA
Brass	BRA

Customisation

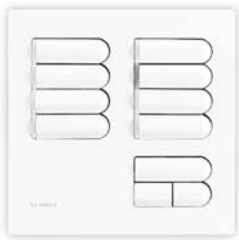
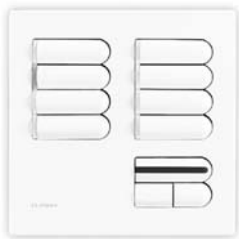
Ships in 4-6 weeks.

- See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls.
- See pg. 3.17.5 for engraving schedules.

Locking covers

- See pg. 2.13.1 for more information.

European Style	Product	Model	Options
	2-Button Wallstation - Optional functions (can be selected in the field): - Turns lighting on (Scene 1) and off - Recalls preset light levels for two scenes (9/10 or 13/14) - Single partition status determines which control unit(s) operate independently or in combination to reflect status for one moveable wall (two rooms) - Panic (Scene 16, lock out manual control) - Sequencing (Selects Scenes 5-16 sequentially) - Individual zone raise/lower - Mounts in European wallbox (Lutron® P/N 241683) - On-button and wallplate engraving available	EGRX-2B-SL^{-2,3}	Ordering example EGRX-8S-WH Add colour/finish suffix to model number. For choices see: www.lutron.com/seetouch Matt finishes Ships in 48 hrs. White WH Black BL Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules.
	4-Button Wallstation - Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) - Mounts in European wallbox (Lutron P/N 241683) - On-button and wallplate engraving available	EGRX-4B^{-2,3}	
	4-Scene Wallstation with Off and Raise/Lower - Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off - Fine-tuning of light levels with master raise/lower buttons - Mounts in European wallbox (Lutron P/N 241683) - On-button and wallplate engraving available	EGRX-4S^{-2,3}	
Footnotes, pg. 2.10.5 1 Depth includes wallplate and backbox. Wallplate depth is 12 mm (0.48"). Minimum wallbox depth is 25 mm. 2 PELV (Class 2) control wiring. 3 Counts as 1 of 16 maximum control station devices.			

European Style	Product	Model	Options
 Dimensions W: 86 mm (3.38") H: 86 mm (3.38") D: 22 mm (0.88")¹	8-Scene Wallstation with Off and Raise/Lower EGRX-8S^{-2,3} - Recalls preset light levels for eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off - Fine-tuning of light levels with master raise/lower buttons - Mounts in European wallbox (Lutron P/N 241683) - On-button and wallplate engraving available		Ordering example EGRX-8S-WH Add colour/finish suffix to model number. For choices see: www.lutron.com/seetouch Matt finishes Ships in 48 hrs. White WH Black BL Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules.
 Dimensions W: 86 mm (3.38") H: 86 mm (3.38") D: 22 mm (0.88")¹	4-Scene Wallstation with Off, Raise/Lower, and Infrared Receiver EGRX-4S-IR^{-2,3} - Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off from keypad or four-scene wireless remote control (GRX-IT-WH, ordered separately) - Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off from eight-scene wireless remote control (GRX-8IT-WH, ordered separately) - Fine-tuning of light levels from keypad or wireless remote control - Mounts in European wallbox (Lutron P/N 241683) - On-button and wallplate engraving available		
 Dimensions W: 86 mm (3.38") H: 86 mm (3.38") D: 22 mm (0.88")¹	8-Scene Wallstation with Off, Raise/Lower, and Infrared Receiver EGRX-8S-IR^{-2,3} - Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off from four-scene wireless remote control (GRX-IT-WH, ordered separately) - Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off from keypad or eight-scene wireless remote control (GRX-8IT-WH, ordered separately) - Fine-tuning of light levels from keypad or wireless remote control - Mounts in European wallbox (Lutron P/N 241683) - On-button and wallplate engraving available		

Footnotes, pg. 2.10.6

- Depth includes wallplate and backbox. Wallplate depth is 12 mm (0.48"). Minimum wallbox depth is 25 mm.
- PELV (Class 2) control wiring.
- Counts as 1 of 16 maximum control station devices.

European Style

Product

Model

Options



Dimensions

W: 86 mm (3.38")
H: 86 mm (3.38")
D: 22 mm (0.88")¹



Dimensions

W: 86 mm (3.38")
H: 86 mm (3.38")
D: 22 mm (0.88")¹



Dimensions

W: 86 mm (3.38")
H: 86 mm (3.38")
D: 22 mm (0.88")¹

4-Scene with Off, Raise/Lower, and Infrared Receiver Programming

EGRX-PRO^{-2, 3, 4}

- Enhanced infrared commands for scene programming, preset selection, and individual zone control of each control unit from a PDA²
- Fine-tuning of light levels from keypad or wireless remote control
- Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off from keypad or four-scene wireless remote control (GRX-IT-WH, ordered separately)
- Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off from eight-scene wireless remote control (GRX-8IT-WH, ordered separately)
- Mounts in European wallbox (Lutron® P/N 241683)
- On-button and wallplate engraving available

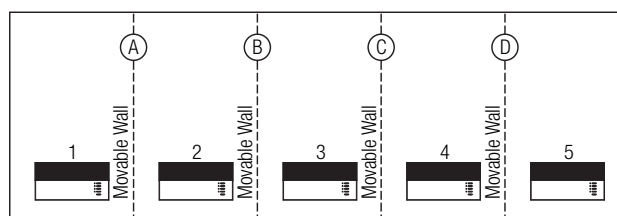
4-Movable Wall Status Wallstation

EGRX-4PS^{-3, 4}

- Provides four buttons to determine which control unit(s) operate independently or in combination to reflect movable wall status for up to four moveable walls (five rooms)
- Last button resets all control units to independent operation
- Mounts in European wallbox (Lutron P/N 241683)
- On-button and wallplate engraving available

For example:

This button...	Toggles the status of...	To combine Control Units:
Button 1	Wall A	1 and 2
Button 2	Wall B	2 and 3
Button 3	Wall C	3 and 4
Button 4	Wall D	4 and 5



4-Button Master Control Wallstation

EGRX-4M^{-3, 4}

- Each of four buttons toggles selected control unit(s) between Scene 1 and off
- Last button can be all on (Scene 1) or all off for selected control unit(s)
- Mounts in European wallbox (Lutron P/N 241683)
- On-button and wallplate engraving available

Footnotes, pg. 2.10.7

- Depth includes wallplate and backbox. Wallplate depth is 12 mm (0.48"). Minimum wallbox depth is 25 mm.
- Requires a GRX 3500 or GRX 4500 control unit.
- PELV (Class 2) control wiring.
- Counts as 1 of 16 maximum control station devices.

Ordering example

EGRX-PRO-WH

Add colour/finish suffix to model number

For choices see:

www.lutron.com/seetouch

Matt finishes

Ships in 48 hrs.

White WH
Black BL

Metal finishes

Ships in 4-6 weeks.

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 Aluminium

Clear CLA
Black BLA
Brass BRA

Customisation

Ships in 4-6 weeks.

- See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls.
- See pg. 3.17.5 for engraving schedules.

Architectural	Product	Model	Options																																		
	2-Button Wallstation with Status Light	NTGRX-2B-SL^{-2, 3}	Ordering example NTGRX-2B-SL-WH Add colour/finish and engraving suffix to model # Matt finishes Ships in 48 hrs.<table><tr><td>White</td><td>WH</td></tr><tr><td>Ivory</td><td>IV</td></tr><tr><td>Beige</td><td>BE</td></tr><tr><td>Grey</td><td>GR</td></tr><tr><td>Brown</td><td>BR</td></tr><tr><td>Black</td><td>BL</td></tr></table> Metal finishes Ships in 4-6 weeks.<table><tr><td>Bright Brass</td><td>BB</td></tr><tr><td>Bright Chrome</td><td>BC</td></tr><tr><td>Bright Nickel</td><td>BN</td></tr><tr><td>Satin Brass</td><td>SB</td></tr><tr><td>Satin Chrome</td><td>SC</td></tr><tr><td>Satin Nickel</td><td>SN</td></tr><tr><td>Antique Brass</td><td>QB</td></tr><tr><td>Antique Bronze</td><td>QZ</td></tr></table>Anodised Aluminium<table><tr><td>Clear</td><td>CLA</td></tr><tr><td>Black</td><td>BLA</td></tr><tr><td>Brass</td><td>BRA</td></tr></table> Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules. Locking covers - See pg. 2.13.1 for more information.	White	WH	Ivory	IV	Beige	BE	Grey	GR	Brown	BR	Black	BL	Bright Brass	BB	Bright Chrome	BC	Bright Nickel	BN	Satin Brass	SB	Satin Chrome	SC	Satin Nickel	SN	Antique Brass	QB	Antique Bronze	QZ	Clear	CLA	Black	BLA	Brass	BRA
White	WH																																				
Ivory	IV																																				
Beige	BE																																				
Grey	GR																																				
Brown	BR																																				
Black	BL																																				
Bright Brass	BB																																				
Bright Chrome	BC																																				
Bright Nickel	BN																																				
Satin Brass	SB																																				
Satin Chrome	SC																																				
Satin Nickel	SN																																				
Antique Brass	QB																																				
Antique Bronze	QZ																																				
Clear	CLA																																				
Black	BLA																																				
Brass	BRA																																				
	Keyswitch	NTGRX-KS^{-2, 3}																																			
Footnotes, pg. 2.10.8 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 PELV (Class 2) control wiring. 3 Counts as 1 of 16 maximum control station devices.																																					

Architectural	Product	Model	Options																																		
	4-Button Wallstation	NTGRX-4B ^{-2,3}	Ordering example NTGRX-4B-WH Add colour/finish and engraving suffix to model # Matt finishes Ships in 48 hrs. <table><tr><td>White</td><td>WH</td></tr><tr><td>Ivory</td><td>IV</td></tr><tr><td>Beige</td><td>BE</td></tr><tr><td>Grey</td><td>GR</td></tr><tr><td>Brown</td><td>BR</td></tr><tr><td>Black</td><td>BL</td></tr></table> Metal finishes Ships in 4-6 weeks. <table><tr><td>Bright Brass</td><td>BB</td></tr><tr><td>Bright Chrome</td><td>BC</td></tr><tr><td>Bright Nickel</td><td>BN</td></tr><tr><td>Satin Brass</td><td>SB</td></tr><tr><td>Satin Chrome</td><td>SC</td></tr><tr><td>Satin Nickel</td><td>SN</td></tr><tr><td>Antique Brass</td><td>QB</td></tr><tr><td>Antique Bronze</td><td>QZ</td></tr></table> Anodised Aluminium <table><tr><td>Clear</td><td>CLA</td></tr><tr><td>Black</td><td>BLA</td></tr><tr><td>Brass</td><td>BRA</td></tr></table> Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules. Locking covers - See pg.2.13.1 for more information.	White	WH	Ivory	IV	Beige	BE	Grey	GR	Brown	BR	Black	BL	Bright Brass	BB	Bright Chrome	BC	Bright Nickel	BN	Satin Brass	SB	Satin Chrome	SC	Satin Nickel	SN	Antique Brass	QB	Antique Bronze	QZ	Clear	CLA	Black	BLA	Brass	BRA
White	WH																																				
Ivory	IV																																				
Beige	BE																																				
Grey	GR																																				
Brown	BR																																				
Black	BL																																				
Bright Brass	BB																																				
Bright Chrome	BC																																				
Bright Nickel	BN																																				
Satin Brass	SB																																				
Satin Chrome	SC																																				
Satin Nickel	SN																																				
Antique Brass	QB																																				
Antique Bronze	QZ																																				
Clear	CLA																																				
Black	BLA																																				
Brass	BRA																																				
	4-Scene Wallstation with Off and Raise/Lower	NTGRX-4S ^{-2,3}	- Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off - Fine-tuning of light levels with master raise/lower button																																		
	4-Scene Wallstation with Off and Infrared Receiver	NTGRX-4S-IR ^{-2,3}	- Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off from keypad or four-scene wireless remote control (GRX-IT-WH, ordered separately) - Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off from eight-scene wireless remote control (GRX-8IT-WH, ordered separately) - Fine-tuning of light levels from wireless remote control																																		
Footnotes, pg. 2.10.9 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 PELV (Class 2) control wiring. 3 Counts as 1 of 16 maximum control station devices.																																					

Architectural

Product

Model

Options



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 29 mm (1.16")¹
Wallbox:
P/N 241218
W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

4-Scene Wallstation with Off, Infrared Receiver, and Switch Input NTGRX-SI4S-IR^{-2,3}

- Recalls preset light levels for four scenes (1-4 or 5-8 based on external contact closure) from keypad or wireless remote control (GRX-IT-WH ordered separately)
- Fine-tuning from wireless remote control only
- Ideal for two-room partitionable spaces
- Allows new scenes to accommodate function of two single rooms reoriented into one larger room

Ordering example

NTGRX-SI4S-IR-WH

Add colour/finish and engraving suffix to model #

Matt finishes

Ships in 48 hrs.

White	WH
Ivory	IV
Beige	BE
Grey	GR
Brown	BR
Black	BL

Metal finishes

Ships in 4-6 weeks.

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 Aluminium

Clear	CLA
Black	BLA
Brass	BRA

Customisation

Ships in 4-6 weeks.

- See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls.
- See pg. 3.17.5 for engraving schedules.

Locking covers

- See pg. 2.13.1 for more information.



Dimensions

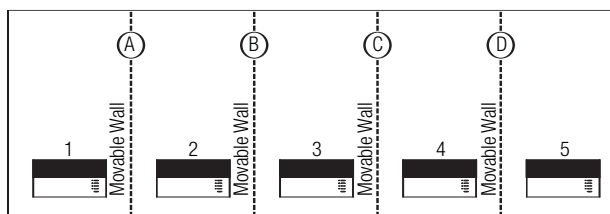
W: 70 mm (2.75")
H: 116 mm (4.56")
D: 29 mm (1.16")¹
Wallbox:
P/N 241218
W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

4-Movable Wall Status Wallstation NTGRX-4PS^{-2,3}

- Provides four buttons to determine which control unit(s) operate independently or in combination to reflect movable wall status for up to four moveable walls (five rooms)
- Last button resets all control units to independent operation

For example:

This button...	Toggles the status of...	To combine Control Units:
Button 1	Wall A	1 and 2
Button 2	Wall B	2 and 3
Button 3	Wall C	3 and 4
Button 4	Wall D	4 and 5



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 29 mm (1.16")¹
Wallbox:
P/N 241218
W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

4-Button Master Control Wallstation NTGRX-4M^{-2,3}

- Each of four buttons toggles selected control unit(s) between Scene 1 and off
- Last button can be all on (Scene 1) or all off for selected control unit(s)

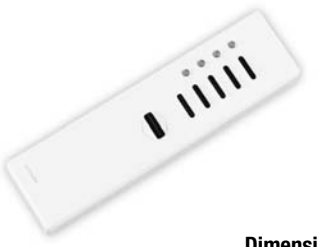
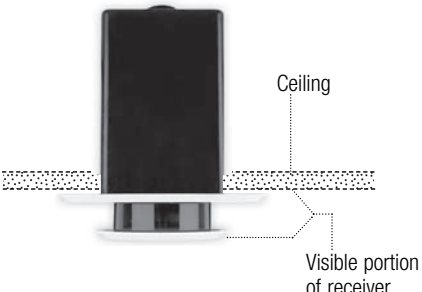
Footnotes, pg. 2.10.10

- Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35").
- PELV (Class 2) control wiring.
- Counts as 1 of 16 maximum control station devices.

Slim Button	Product	Model	Options
	4-Scene Wallstation with Off and Raise/Lower	NTGRX-KP5-^{2,3}	Ordering example NTGRX-KP5-WH Add colour/finish and engraving suffix to model # Matt finishes Ships in 48 hrs. White WH Ivory IV Beige BE Grey GR Brown BR Black BL Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.13.1 for more information.
	9-Scene Wallstation with Off and Raise/Lower	NTGRX-KP10-^{2,3}	
	14-Scene Wallstation with Off and Raise/Lower	NTGRX-KP15-^{2,3}	
Dimensions W: 114 mm (4.50") H: 114 mm (4.50") D: 29 mm (1.16") ¹ Wallbox: P/N 2 x 241218 W: 100 mm (4.00") H: 100 mm (4.00") D: 63 mm (2.50")			
Footnotes, pg. 2.10.11 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). 2 PELV (Class 2) control wiring. 3 Counts as 1 of 16 maximum control station devices.			

Large Button	Product	Model	Options																																		
 Dimensions W: 70 mm (2.75") H: 114 mm (4.50") D: 29 mm (1.16")¹ Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	5-Scene Wallstation with Off NTGRX-LB6^{-2,3} - Recalls preset light levels for five scenes (1-5 or 9-13) plus off - Amber status LEDs standard		Ordering example NTGRX-LB6-WH Add colour/finish and engraving suffix to model # Matt finishes Ships in 48 hrs. <table><tr><td>White</td><td>WH</td></tr><tr><td>Ivory</td><td>IV</td></tr><tr><td>Beige</td><td>BE</td></tr><tr><td>Grey</td><td>GR</td></tr><tr><td>Brown</td><td>BR</td></tr><tr><td>Black</td><td>BL</td></tr></table> Metal finishes Ships in 4-6 weeks. <table><tr><td>Bright Brass</td><td>BB</td></tr><tr><td>Bright Chrome</td><td>BC</td></tr><tr><td>Bright Nickel</td><td>BN</td></tr><tr><td>Satin Brass</td><td>SB</td></tr><tr><td>Satin Chrome</td><td>SC</td></tr><tr><td>Satin Nickel</td><td>SN</td></tr><tr><td>Antique Brass</td><td>QB</td></tr><tr><td>Antique Bronze</td><td>QZ</td></tr></table> Anodised Aluminium <table><tr><td>Clear</td><td>CLA</td></tr><tr><td>Black</td><td>BLA</td></tr><tr><td>Brass</td><td>BRA</td></tr></table> Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules. Locking covers - See pg. 2.13.1 for more information.	White	WH	Ivory	IV	Beige	BE	Grey	GR	Brown	BR	Black	BL	Bright Brass	BB	Bright Chrome	BC	Bright Nickel	BN	Satin Brass	SB	Satin Chrome	SC	Satin Nickel	SN	Antique Brass	QB	Antique Bronze	QZ	Clear	CLA	Black	BLA	Brass	BRA
White	WH																																				
Ivory	IV																																				
Beige	BE																																				
Grey	GR																																				
Brown	BR																																				
Black	BL																																				
Bright Brass	BB																																				
Bright Chrome	BC																																				
Bright Nickel	BN																																				
Satin Brass	SB																																				
Satin Chrome	SC																																				
Satin Nickel	SN																																				
Antique Brass	QB																																				
Antique Bronze	QZ																																				
Clear	CLA																																				
Black	BLA																																				
Brass	BRA																																				
 Dimensions W: 114 mm (4.50") H: 114 mm (4.50") D: 29 mm (1.16")¹ Wallbox: P/N 2 x 241218 W: 100 mm (4.00") H: 100 mm (4.00") D: 63 mm (2.50")	8-Scene Wallstation with Off NTGRX-LB9^{-2,3} - Recalls preset light levels for eight scenes (1-8 or 9-16) plus off - Amber status LEDs standard																																				
 Dimensions W: 70 mm (2.75") H: 114 mm (4.50") D: 29 mm (1.16")¹ Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	3-Scene Wallstation with Off and Raise/Lower NTGRX-LB6-RL^{-2,3} - Recalls preset light levels for three scenes (1-3 or 9-11) plus off with fine-tuning of light levels - Amber status LEDs standard																																				
 Dimensions W: 114 mm (4.50") H: 114 mm (4.50") D: 29 mm (1.16")¹ Wallbox: P/N 2 x 241218 W: 100 mm (4.00") H: 100 mm (4.00") D: 63 mm (2.50")	6-Scene Wallstation with Off and Raise/Lower NTGRX-LB9-RL^{-2,3} - Recalls preset light levels for six scenes (1-6 or 9-14) plus off with fine-tuning of light levels - Amber status LEDs standard																																				
	Footnotes, pg. 2.10.12 - Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35"). - PELV (Class 2) control wiring. - Counts as 1 of 16 maximum control station devices.																																				

Architrave™	Product	Model	Options
	Slim-Button Architrave Wallstation - Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off - Fine-tuning of light levels with master raise/lower button - Mounts in Lutron®-supplied wallbox (P/N 241399) - Standard finishes are bright brass (BB) and white (WH) - Contact Customer Service for other finishes	GRX-4S-DW^{-1,2}	Ordering example GRX-4S-DW-WH Add colour/finish and engraving suffix to model # Metal finishes Ships in 48 hrs. White WH Bright Brass BB Customisation Ships in 4-6 weeks. - See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. - See pg. 3.17.5 for engraving schedules.
	Large-Button Architrave Wallstation - Recalls preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off - Fine-tuning of light levels with master raise/lower button - Mounts in Lutron-supplied wallbox (P/N 241663) - Standard finishes are bright brass (BB) and white (WH) - Contact Customer Service for other finishes	GRX-4SLB-DW^{-1,2}	
Dimensions W: 44 mm (1.75") H: 114 mm (4.50") D: 41 mm (1.63") Wallbox: P/N 241399 W: 32 mm (1.25") H: 97 mm (3.80") D: 70 mm (2.75")	Dimensions W: 38 mm (1.50") H: 131 mm (5.16") D: 31 mm (1.99") Wallbox: P/N 241663 W: 32 mm (1.25") H: 112 mm (4.40") D: 70 mm (2.75")		
	Footnotes, pg. 2.10.13 1 PELV (Class 2) control wiring. 2 Counts as 1 of 16 maximum control station devices. 3 Depth includes wallplate and backbox. Wallplate depth is 3 mm (0.13").		

Infrared	Product	Model	Options
 Dimensions W: 38 mm (1.50") H: 145 mm (5.69") D: 22 mm (0.88")	4-Scene Wireless Infrared Remote Control - Recalls preset light levels for four scenes plus off (scenes dependent on receiver settings) - Fine-tuning of light levels with master raise/lower 15 m (50') line-of-sight range to receiver - Does not count as 1 of 16 maximum control station interfaces - Infrared frequency is 40 kHz - Available in white (WH) only - Engraving available. Add -E to end of model; see engraving schedule, pg. 3.17.5	GRX-IT-WH	Ordering example GRX-IT-WH Ships in 48 hrs. Engraving Ships in 4-6 weeks. • See pg. 3.17.5 for engraving schedules.
 Dimensions W: 38 mm (1.50") H: 145 mm (5.69") D: 22 mm (0.88")	8-Scene Wireless Infrared Remote Control - Recalls preset light levels for eight scenes plus off (scenes dependent on receiver settings) - Fine-tuning of light levels with master raise/lower 15 m (50') line-of-sight range to receiver - Does not count as 1 of 16 maximum wallstations/control Interfaces - Infrared frequency is 40 kHz - Available in white (WH) only - Engraving available. Add -E to end of model; see engraving schedule, pg. 3.17.5	GRX-8IT-WH	
 Dimensions Diameter: 89 mm (3.50") Depth: 76 mm (3.00")	Ceiling-Mounted Infrared Receiver - Receives signal from Infrared wireless remote control - Allows recall of preset light levels for four scenes (1-4, 5-8, 9-12, or 13-16) plus off with four-scene wireless remote control (GRX-IT-WH) - Recalls eight scenes (1-8, 5-12, 9-16, or 13-16/1-4) plus off with eight-scene wireless remote control (GRX-8IT-WH) - Fine-tuning of light levels with wireless remote control 360° reception range, 15 m (50') line-of-sight range from wireless remote control to receiver - Mounts in 56 mm (2.19") x 56 mm (2.19") collar provided by Lutron - Available in white (WH) only - PELV (Class 2) control wiring - Counts as 1 of 16 maximum control station devices.	GRX-CIR	



Ethernet interface

Control interface features

- Coordinate GRAFIK Eye 3000 Series control units with other systems:
 - Contact closures
 - Serial links
 - Infrared
 - Ethernet
- Automate lighting control with the astronomical time clock
- Provide energy savings by using a daylight control and photosensor or by connecting an occupancy sensor to the system
- Programming tools simplify system installation
- Coordinate lighting and controllable window treatments
- Simple on/off entrance controls use standard 2-way wiring



Contact closures
pg. 2.12.3



Infrared partition sensor
pg. 2.12.5



Theatrical controls
pg. 2.12.6



Daylighting sensor
pg. 2.12.7



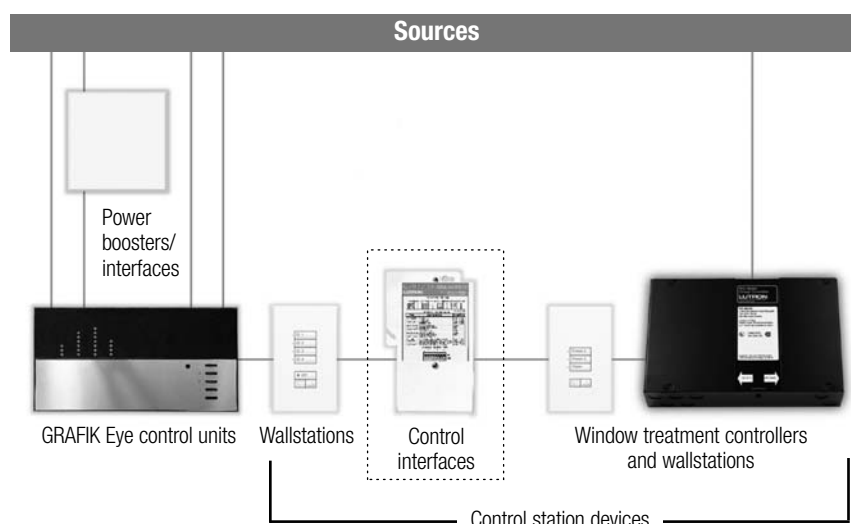
Accessories
section 2.13



Wireless interface
section 2.14

GRAFIK Eye 3000 system map (shown)

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see sections 2.3 and 2.7.



Specifications

- Wallstation and control interface maximums:
 - Per System: 16 (Class 2/PELV) (includes window treatment wallstations)
 - Three from each GRAFIK 3000 control unit without external power supply; for Lutron® power supply, TU240-15DC-9-BL or TE240-15DC-9-BL, see pg. 2.13.1 (Does not apply to GRAFIK 4000)
- Wiring specification & maximums:
 - GRAFIK Eye 3000: Four PELV (Class 2) conductors: (2) 1.0 mm² (#18 AWG) for power wires; plus (1) twisted, shielded 1.00 mm² (#22 AWG) pair for control wires (Available from Lutron, GRX-CBL-346S-500, see pg. 2.13.1)
 - GRAFIK Eye 4000: Five PELV (Class2) conductors: (2) 2.5 mm² (#12 AWG) for power wires; (1) twisted, shielded 1.0 mm² (#22 AWG) pair for control wires; plus (1) 1.0 mm² (#18 AWG) wire for the emergency sense line (Available from Lutron, GRX-CBL-46L-500, see pg. 2.13.1)
 - Distance: 610 m (2,000'); for other cable distances, see GRAFIK Eye Application Notes available at www.lutron.com
 - Installation: daisy-chain (no home-run wiring)
- Power: 12 VDC (From GRAFIK 3000 Series control unit or TU240-15DC-9-BL or TE240-15DC-9-BL, see pg. 2.13.1); 24 VAC (From Power Panels for GRAFIK 4000 Series)
- Configuration:
 - Integral DIP switches determine function and can be configured in the field

Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.



	Ethernet	Contact closures	Serial links	Infrared
				
	GRX-CI-NWK-E pg. 2.12.3	GRX-AV pg. 2.12.3 GRX-CCO-8 pg. 2.12.3	GRX-CI-RS232 pg. 2.12.4 GRX-PRG pg. 2.12.4	GRX-IRI pg. 2.12.4
Features/functions				
Preset scene control				
Select Scene	•	•	• •	•
Scene Status Feedback	•	•	• •	
Security/life safety				
Initiate "Panic-on" mode – Selects Scene 16 and locks control unit to prevent manual changes and returns to previous scene when closure is removed		•		
Occupant response				
Inputs turn selected control units on to Scene 1 or off based on occupancy		•		
Sequencing				
Initiate a sequence loop	•	•	• •	
Lockout				
Zone Lock – Prevent intensity changes on selected control unit(s)	•	•	• •	
Scene Lock – Disables scene buttons on selected control unit(s)	•	•	• •	
Partition status				
Return status of movable walls		•		
Scheduling				
Astronomical time clock – 4 schedules with 60 events per schedule			•	
External time clock – Scene selection through contact closure inputs		•		
Zone control				
Independent zone raise/lower	•		• •	•
Zone on/off status	•	•	• •	
Button Feedback	•		• •	
Window treatments				
Open/Close	•	•	• •	
Open/Close/Stop	•	•	• •	
Programming utilities				
Liaison™ – Windows®-based programming tool for GRAFIK Eye 3500 Series			•	



Dimensions

W: 95.3 mm (3.75")
H: 26.9 mm (1.06")
D: 133.6 mm (5.26")



Dimensions

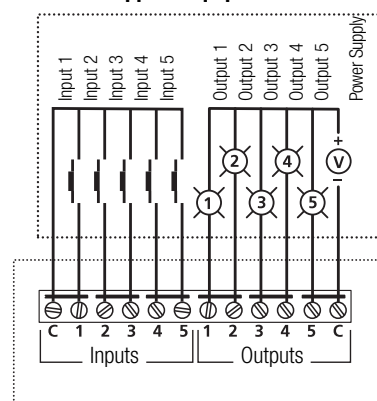
W: 127 mm (5.00")
H: 197 mm (7.75")
D: 64 mm (2.50")

Mounts on:

P/N 241496

W: 105 mm (4.13")
H: 105 mm (4.13")
D: 40 mm (1.57")

Customer supplied equipment



Dimensions

W: 146 mm (5.75")
H: 273 mm (10.75")
D: 50 mm (2.00")

Surface mount

Ethernet Interface

GRX-CI-NWK-E^{1,2}

- Integrates control unit(s) with user-supplied PC or A/V equipment (touchscreen) using TCP/IP over Ethernet
- Enables control of scene selection, scene lock, sequencing, zone lock, zone raise/lower
- Can provide status monitoring through button feedback and scene-status updates
- Rack mount option available using LUT-19AV-1U³
- A 12-24 VDC external power supply is required; TU240-15DC-9-BL or T240-15DC-9-BL, see page 2.13.1.

Contact Closure Interface

GRX-AV^{1,2}

- Provides two-way interface between control units and contact closure devices
- Product functions (selected in the field)
 - Recall four scenes (1-4, 5-8, 9-12, or 13-16) plus off
 - Enable/disable panic, scene lockout, or zone lockout modes
 - Turn lights on (Scene 1) or off based on occupancy (control up to five individual rooms), see occupancy sensors, pg. 2.16.1
 - Initiate scene (1-4 or 5-16) sequence loop
 - Inputs determine which control unit(s) operate independently or in combination to reflect partition status for up to five moveable walls (six rooms)
- Five inputs and five outputs
- Inputs and outputs can be momentary or maintained
- Output requires external relay and power supply (30 VDC maximum) by others for contact closure
- Input specification:
 - Input must be dry contact closure or open collector (NPN):
 - On-state saturation voltage less than 2.0 VDC
 - Off-state leakage current less than 10 μ A
 - Open circuit voltage 36 VDC maximum
 - Short circuit current 4.0 mA maximum
- Output specification:
 - 38 VDC maximum
 - 200 mA maximum
 - Open collector (NPN) output
 - On-state saturation voltage 1.0 VDC maximum
 - Off-state leakage current 0.1 μ A maximum

Contact Closure Output

GRX-CCO-8^{1,2}

- Provides eight dry contact closure outputs
- For integration to third-party controllable window treatments or A/V equipment
- May be set to normally open (NO) or normally closed (NC)
- May be set to momentary or maintained contacts
- Depending on configuration the outputs indicate:
 - Current scene (1-8, 9-16)
 - Zone on/off for eight zones
 - Open/close window treatments (four shades)
 - Open/close/stop window treatments (two shades)
- Output ratings: 0-30 VDC, 1.0 A and 30-42 VDC, 0.5 A

Footnotes, pg. 2.12.3

- 1 PELV (Class 2) control wiring.
- 2 Counts as 1 of 16 maximum control station devices.
- 3 Holds up to 4 control interface units.

Ordering example

GRX-AV

Ships in 48 hrs.

	Product	Model	Options
 Dimensions W: 95.3 mm (3.75") H: 26.9 mm (1.06") D: 133.6 mm (5.26")	RS-232 Interface	GRX-CI-RS232¹ - Integrates control units with user-supplied PC or A/V equipment (touchscreen) using RS-232 serial communication - Enables control of scene selection, scene lock, sequencing, zone lock, zone raise/lower - Can provide status monitoring through button feedback and scene-status updates - Must be located within 15 m (50') of RS-232 source - Rack mount option available using LUT-19AV-1U²	Ordering example GRX-CI-RS232 Ships in 48 hrs.
 Dimensions W: 127 mm (5.00") H: 197 mm (7.75") D: 64 mm (2.50") Mounts on: P/N 241496 W: 105 mm (4.13") H: 105 mm (4.13") D: 40 mm (1.57")	Astronomical Time Clock and Programmer Interface	GRX-PRG¹ - Includes all features of GRX-CI-RS232 - Built-in astronomical time clock features four schedules with 60 events per schedule - Programmed via PC (not included) using Lutron® Liaison™ software (included, see below) - Provides access to advanced user-programmable features when used with GRAFIK Eye 3500 or 4500 control units such as programming scenes and system communications - Must be located within 15 m (50') of RS-232 source - Only one GRX-PRG per system	
	Liaison Software (included with GRX-PRG) Windows®-based programming tool run on a customer-supplied PC or laptop - Time clock events - Create/edit real time and astronomical event schedule - Super sequence - Automated, synchronised dynamic scene sequence throughout the system - System set-up (3500 and 4500 only) - Program main units, accessories, and power panels - Integrate the system for information about all connected units - Archive system configuration, including time clock schedules - Copy system configuration to similar rooms		
 Dimensions W: 45 mm (1.75") H: 105 mm (4.10") D: 23 mm (0.90") Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	Infrared Interface	GRX-IRI¹ - Integrates control unit(s) with user-supplied infrared transmitter - Enables control of scene selection and zone raise/lower - Recalls preset light levels from wireless remote control (GRX-IT-WH or GRX -8IT-WH, ordered separately, see section 2.11)	
Footnotes, pg. 2.12.4 1 Counts as one of 16 maximum control station devices. 2 Holds up to 4 control interface units.			

Partitioning

Product

Model

Options



Dimensions

W: 161 mm (6.32")
H: 116 mm (4.56")
D: 27 mm (1.06")¹

Wallbox:
P/N 3 x 241218

W: 150 mm (6.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

Dimensions

W: 161 mm (6.32")
H: 116 mm (4.56")
D: 29 mm (1.13")²

Wallbox:
P/N 3 x 241218

W: 150 mm (6.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

Infrared Movable Wall Sensor

GRX-IRPS-WH

- Infrared sensor provides contact closure based on status of sensor
- Can be used with GRX-AV (GRAFIK Eye 3000/4000 Series), pg. 2.12.3 or OMX-AV (Centralised lighting control system), pg. 3.12.3 for partitioning; GRX-AV or OMX-AV ordered separately
- Includes transmitter and receiver; (2 units as shown)
- Requires either TU240-15DC-9-BL or TE240-15DC-9-BL for power, see pg. 2.13.1
- Transmitter and receiver are white
- Fits in 241218 backbox, mounted front side down, on either side of partition wall, near ceiling surface
- Consult factory for additional details when being used with switch input control NTGRX-SI4S-IR, pg. 2.10.10

Movable Wall Status Wallstations

seeTouch™

SG-4PS-CF-^{3,4}

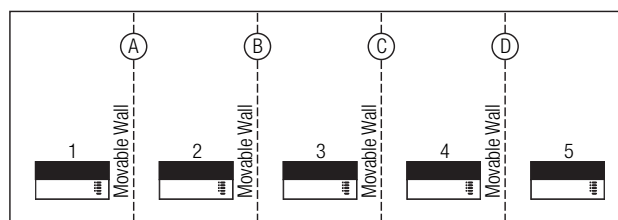
Architectural-Style

NTGRX-4PS-CF-⁴

- Provides four buttons to determine which GRAFIK Eye control unit(s) operate independently or in combination to reflect partition status for up to four movable walls
- Wallplate custom-engraved to match your floorplan
- Wallstations are available with control for 2-12 movable walls, (contact Lutron® customer service for more information)

For example:

This button...	Toggles the status of...	To combine control units:
Button 1	Wall A	1 and 2
Button 2	Wall B	2 and 3
Button 3	Wall C	3 and 4
Button 4	Wall D	4 and 5



Footnotes, pg. 2.12.5

- 1 Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31").
- 2 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35").
- 3 For insert version use I in place of last N in model number. See section 3.16 for more information.
- 4 Counts as 1 of 16 maximum control station devices.

Ordering example

SG-4PS-CF-WH

Add colour/finish suffix to model #

For choices see:

www.lutron.com/seeTouch

Infrared movable wall sensor

Ships in 1 week.

Movable wall status wallstations

Ships in 4-6 weeks.

- seeTouch colour offering, pg. 1.3.1.

- Architectural colour offering, pg. 2.91.

Customisation

Ships in 4-6 weeks.

- See pg. 1.4.1 for multitang wallplates, colour matching, engraving/silk screening, and custom controls.
- See pg. 3.17.5 for engraving schedules.

Locking covers

- See pg. 2.13.1 for more information.

Theatrical

Product

Model



Dimensions

W: 127 mm (5.00")
H: 197 mm (7.75")
D: 64 mm (2.50")

Mounts on:

P/N 241496

W: 105 mm (4.13")
H: 105 mm (4.13")
D: 40 mm (1.57")

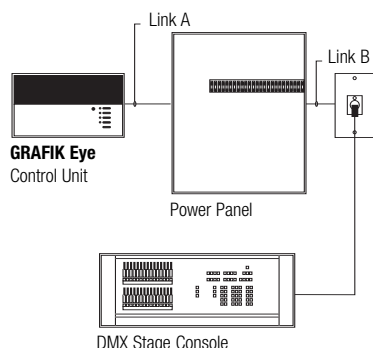


Dimensions 12 Channel

W: 391 mm (15.41")
H: 73 mm (2.87")
D: 257 mm (10.13")

Dimensions 24 Channel

W: 644 mm (25.38")
H: 73 mm (2.87")
D: 257 mm (10.13")



Dimensions

W: 70 mm (2.75")
H: 116 mm (4.56")
D: 51 mm (2.00")¹

Wallbox:

P/N 241218

W: 50 mm (2.00")
H: 100 mm (4.00")
D: 63 mm (2.50")

DMX512 Interface

LUT-DMX²

- Converts Control Unit intensities to DMX512 Output
- Use to control:
 - Fibre optic lighting
 - LED-based lamps
 - Strobe lights
 - Fog machines
 - Moving fixtures
 - Animated characters
- DMX-send (output DMX intensities) only
- Visit www.lutron.com/onespec/applications/theatrical/details/lutdmx.html for more information

Multi-Channel Theatrical Console

12 Channels

LTC-12

24 Channels

LTC-24

- Two-scene preset mode with 12 or 24 channels
- Dipless crossfade between manual scenes
- Preset scenes may be "piled on" in any combination
- Preview mode allows cues to be checked
- Preset memories: 48 or 96
- DMX Output: 5-Pin XLR
- Analog output: (2 each) 8-Pin CJ Male or (1 each) 27-Pin CJ Male
- Other models available, contact Lutron

Power Panel Option

- The 2Link™ power panel option provides two distinct control links inside each power panel.
- Each link — Link A and Link B — is capable of operating on any one of these systems — Lutron's GRAFIK Eye 4000, Lutron's centralised lighting control system, or USITT DMX512 protocol.
- Each system or protocol is unique, but the power panel is designed to automatically detect which one is present and operate accordingly.
- When ordering the appropriate panel, ask for the 2Link option.

Theatrical Receptacles²

- Receptacle provides standard pinout for DMX512 theatrical protocol
- PELV (Class 2) device; barriers must be provided when line-voltage and Class 2 controls are ganged together in the same wallbox
- DMX cable available from Lutron® P/N GRX-CBL-DMX

Stageboard Receptacle

NT-DMXJ-IN-WH

- Five-pin XLR-style male jack for connection to a theatrical stage board

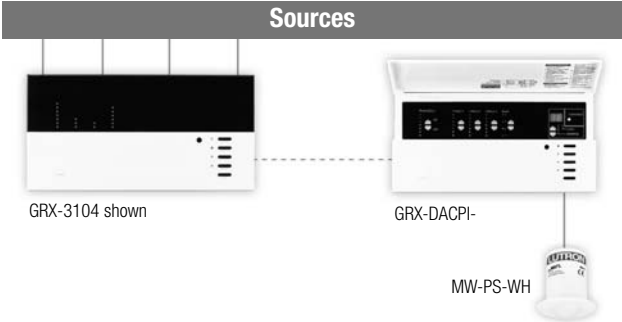
Fixture Equipment Receptacle

NT-DMXJ-OUT-WH

- Five-pin XLR-style female jack for connecting LUT-DMX to a theatrical fixture equipment

Footnotes, pg. 2.12.6

- 1 Depth includes wallplate and backbox. Wallplate depth is 9 mm (0.35").
- 2 PELV (Class 2) control wiring.

Daylighting	Product	Model	Options
 Dimensions W: 227 mm (8.94") H: 116 mm (4.56") D: 57 mm (2.25") Wallbox: P/N 241400 W: 200 mm (8.00") H: 95 mm (3.75") D: 75 mm (3.00")	Daylighting Control - Automatically selects preset scenes in response to ambient daylight - Enforce option assures photosensor overrides manual control for energy savings - Use up to three Lutron® photosensors (MW-PS-WH) in parallel or one 0-10 V photosensor by others NOTE: Photosensors ordered separately (see next page) - PELV (Class 2) control wiring - Counts as 1 of 16 maximum wallstations/control interfaces	GRX-DACPI-	Ordering example GRX-DACPI-T-WH Add cover option and colour/finish suffix to model # Cover options Opaque A Cover and base will match Translucent Black T Black translucent cover with base colour from below Base colours Matt finishes Standard, ships in 48 hrs. • Matt cover options: A or T • See pg. 1.3.1 for complete colour offering and suffixes. Gloss (NEMA) finishes Ships in 4-6 weeks. • Gloss cover option: A only • See pg. 1.3.1 for complete colour offering and suffixes. Metal finishes Ships in 4-6 weeks. • Metal cover option: T only • See pg. 1.3.1 for complete colour offering and suffixes. Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.13.1 for more information.
	Sources  GRX-3104 shown GRX-DACPI- MW-PS-WH		



Dimensions

Diameter: 66 mm (2.59")
Depth: 55 mm (2.16")

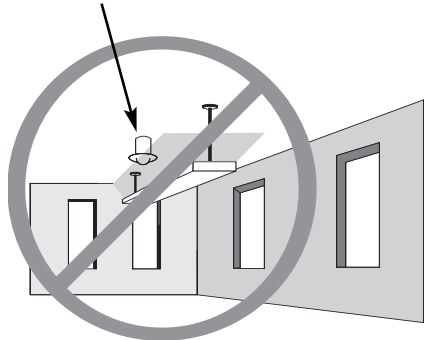
Ceiling mounted; 50 mm (2.16") diameter bracket (Lutron supplied)

Photosensors:

- The notch on the photosensor defines the viewing direction
- Place photosensor so its viewing area does not extend out of the window
- Do not position the photosensor in the well of a skylight or above indirect fixtures
- Ensure the view of the photosensor is not obstructed

Mounting considerations

Do not position photosensor above indirect fixtures



microPS™ Ceiling-Mounted Photosensor

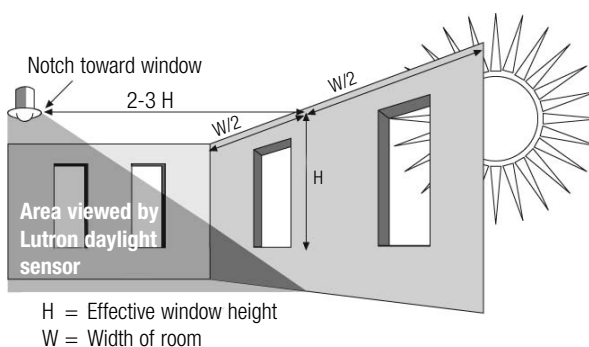
MW-PS-WH

- Responds to daylight and automatically lowers/adjusts light levels
- Linear response from 0 to 500 footcandles
- Easily calibrated at OMX-DACPI
- Available in white (WH) only
- Does not count as one of wallstations/control interfaces

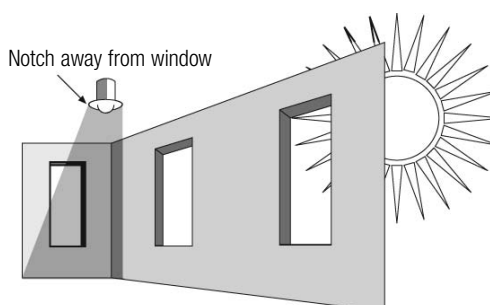
Ordering example

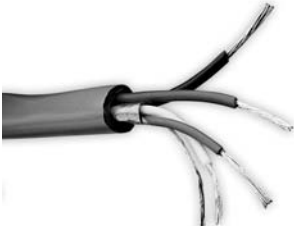
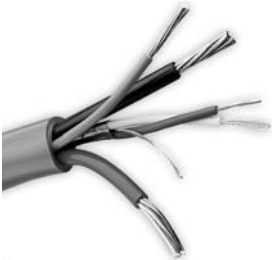
MW-PS-WH

Photosensor location for average size area



Photosensor location for narrow area



Accessories	Product	Model
    	Lockable Covers Single-gang Two-gang Three-gang Four-gang	GRX-1GLC GRX-2GLC GRX-3GLC GRX-4GLC
	- Prevents tampering with GRAFIK Eye control units or wallstations - Permits infrared operation - Translucent smoked grey - Cover slides left or right	
	Replacement Covers Two-gang (AU models only) Three-gang (AU models only) Four-gang (Both AU and CE models)	GRX-2GRC- GRX-3GRC- GRX-4GRC-
	- See section 1.3 or section 1.4 for cover options and base colours. - For 230 V applications, all GRAFIK Eye 3000 Series control units are four-gang	
	External Power Supplies UK plug style European plug style	TU240-15DC-9-BL TE240-15DC-9-BL
	GRAFIK Eye 3000 Low Voltage Cable^{1,2} 150 m (500') spool	GRX-CBL-346S-500 (non-plenum) GRX-PCBL-346S-500 (plenum)
	Four PELV (Class 2) conductors: (2) 1.0 mm² (#18 AWG) for power wires; plus (1) twisted, shielded 1.00 mm² (#22 AWG) pair for control wires	
	GRAFIK Eye 4000, Centralised Lighting Control System^{1,3} 75 m (250') spool 150 m (500') spool	GRX-CBL-46L-250 (non-plenum) GRX-PCBL-46L-250 (plenum) GRX-CBL-46L-500 (non-plenum) GRX-PCBL-46L-500 (plenum)
	Five PELV (Class 2) conductors: (2) 2.5 mm² (#12 AWG) for power wires; (1) twisted, shielded 1.00 mm² (#22 AWG) pair for control wires; plus (1) 1.00 mm² (#18 AWG) wire for the emergency sense line	
Footnotes, pg. 2.13.1 1 For information on cable size and distance, see "Application Note W14" on http://www.lutron.com/onespec/cutsheets/appnotes/grx/grxwire.pdf . 2 See the application note on pg. 2.16.3 for more information. 3 See the application note on pg. 2.16.4 for more information.		

	Product	Model	Options
 Dimensions W: 70 mm (2.75") H: 116 mm (4.56") D: 42 mm (1.67")¹ Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	RF/GRAFIK Eye Interface - Allows GRAFIK Eye preset lighting controls to be controlled by radio frequency - GRAFIK Eye preset lighting scenes can be selected from any RF Master Control in the system - Use one interface per room controlled by a GRAFIK Eye preset lighting control; do not link to multiple GRAFIK Eye Control Units in different rooms	RB-GRXI-	Ordering example RBMC-10TRL-UK-WH Ships in 48 hours. Contact customer service about colours/finishes and customisation. Plug styles United Kingdom UK Europe EU Matt finishes White WH Black BL
 Dimensions W: 91 mm (3.57") H: 82 mm (3.23") D: 25 mm (0.96")	RF Signal Repeater - Required for system communication - System communicates at 434 MHz - System components must be within a 10 metre radius of the repeater - For more information, contact Lutron®	RB-REP- _-WH	
 Dimensions W: 91 mm (3.57") H: 82 mm (3.23") D: 25 mm (0.96") RBMC-10TRL shown	Master Controls Tabletop Cordless	RBMC-5TRL- RBMC-10TRL- RBMC-15TRL- RBMC-10CRL-	
Footnotes, pg. 2.14.1 ¹ Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31").			



Sivoia QED interface

GRAFIK EYE 3000 system map (shown)

- Use the map at right to identify system component being reviewed in each section.
- For overall wiring information, see sections 2.3 and 2.7.

Source



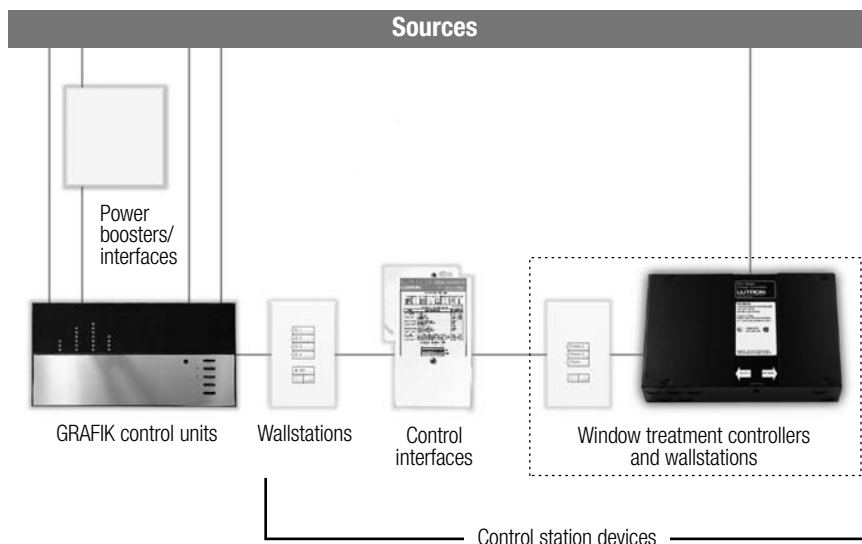
Controllable window treatments

Window treatment controllers and wallstations

- Used to incorporate Sivoia QED™ and AC motorised blinds, projection screens, and curtains into scenes, or control independently from GRAFIK Eye control units or seeTouch™ wallstations
- Up to total of 8 window treatment controllers (Sivoia QED interfaces plus AC motor group controllers) can be in one system with 8 GRAFIK Eye control units and 16 control station devices (includes window treatment wallstations)
- Requires a dedicated zone on the GRAFIK Eye control unit for each independent window treatment, screen, roller blind, or curtain zone



AC motor group controller



Specifications

GRAFIK Eye 3000/4000 Sivoia QED interface (SG-SVCN)

- Power: 24 VAC (Supplied by Sivoia QED electronic drive unit)
- Wiring Specifications: Connects to both GRAFIK and Sivoia QED communication links:
 - to GRAFIK Eye 3000 Series: Four PELV (Class 2) conductors: (2) 1.0 mm² (#18 AWG) for power wires; plus (1) twisted, shielded 1.0 mm² (#22 AWG) pair for control wires (Available from Lutron®, GRX-CBL-346S-500, see pg. 2.13.1)
 - to GRAFIK Eye 4000 Series: Five PELV (Class 2) conductors: (2) 2.5 mm² (#12 AWG) for power wires; (1) twisted, shielded 1.0 mm² (#22 AWG) pair for control wires; plus (1) 1.0 mm² (#18AWG) wire for the emergency sense line (Available from Lutron GRX-CBL-46L, see pg. 2.13.1)
 - to Sivoia QED EDU: (3) 1.0 mm² (#18 AWG) [24 VAC, plus earth ground] and (1) twisted, shielded pair 1.0 mm² (#22 AWG)
- Mounting: 241218; no derating required when multiganged AC motor group controller (GRX-4M-GC-CE)
- Power: 230 VAC, 50-60 Hz
- Channel capacity: 4 channels each at 5 A, 400W motor load per channel at 230 VAC; 10 A total input current
- Mounting: Must be accessible for programming and setup
 - Wall-mounted; allow 114 mm (4.5") between group controllers when mounting multiple units
 - Unit's relays will click in normal use; mount where this is acceptable

Standards

Standards listed below apply to one or more products in the Lutron product line. Consult Lutron for specific information.



Controllers and Interfaces	Source	Product	Model	Options
	 Dimensions W: 70 mm (2.75") H: 116 mm (4.56") D: 27 mm (1.06")¹ Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	Sivoia QED Interface - Requires a dedicated zone on GRAFIK Eye control unit for each Sivoia QED zone. - Provides programming and control of one group of Sivoia QED electronic drive units (EDUs); one SG-SVCN needed per group of Sivoia QED EDUs (up to 96) moving together. - Provides capability to incorporate Sivoia QED into lighting scenes. - Sivoia QED zones may be set to Open, Close, Preset 1, Preset 2, Preset 3, or Unaffected in each and every lighting scene, including the Off scene. - Can control Sivoia QED independent of lighting scenes. - Pressing the Open button once will cause the window treatments to move to their fully open position; pressing the Open button again while the window treatments are opening will stop their movement. - Pressing Preset 1, 2, or 3 once will cause the window treatments to move to that preset level; if that Preset button is pressed again while the window treatments are moving, the window treatments will stop. - Pressing the Close button once will cause the window treatments to move to their fully closed position; pressing the Close button again while the window treatments are closing will stop their movement. - Pressing the Raise/Lower buttons will cause the window treatments to Open/Close while the button is pressed. - The LEDs next to each button are used during programming and provide feedback of the current Sivoia QED preset. - Interfaces the GRAFIK Eye link to the Sivoia QED link, see wiring diagram, pgs. 2.3.1 and 2.7.1. - For seeTouch model guide, see section 3.16.	SG-SVCN^{-2, 3, 4}	Ordering example SG-SVCN-WH Add colour/finish and engraving suffix to model #. For choices see: www.lutron.com/seeTouch Matt finishes Ships in 48 hrs. White WH Ivory IV Beige BE Grey GR Brown BR Black BL Gloss (NEMA) finishes Ships in 48 hrs. (Insert models only) White GWH Light Almond GLA Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.12.1 for more information.
	 Dimensions W: 305 mm (12.00") H: 200 mm (7.90") D: 70 mm (2.75")¹ Surface mount	AC Motor Group Controller - Requires a dedicated zone on GRAFIK Eye control unit for each channel in group controller. 4 channels each at 5 A, 400W motor load per channel at 230 VAC; 10 A total input current. - Provides capability to incorporate AC motorised window treatments or projection screens into lighting scenes. - Window treatment zones may be set to Open, Close, or Unaffected for each and every lighting scene, including the Off scene. - Can control AC motorised window treatments independent of lighting scenes. - Provides dry contact closure inputs for control by low-voltage, dry contact closure devices in addition to communications link. - Provides Open, Close, and Stop terminals for contact closure input; stop function may also be accomplished by applying Open and Close simultaneously. - Provides LED indication of last position of AC window treatments (Open, Close, Stop). - Integrates seamlessly with GRAFIK Eye 3000/4000 controls units; wires directly into GRAFIK Eye communications link. - Separates low voltage and line voltage wiring for ease of installation.	GRX-4M-GC-CE³	
Footnotes, pg. 2.15.2 1 Depth includes wallplate and backbox. Wallplate depth is 12 mm (0.48"). 2 PELV (Class 2) control wiring. 3 Counts as 1 of 8 maximum window treatment devices. 4 For insert version use I in place of the last N in model number. See section 3.16 for more information.				

Window Treatment Wallstations	Product	Model	Options
	2-Button Window Treatment Wallstation	SG-2WN^{-2,3}	Ordering example SG-2WN-WH-EO1 Add colour/finish and engraving suffix to model #. For choices see: www.lutron.com/seeTouch Matt finishes Ships in 48 hrs. White WH Ivory IV Beige BE Grey GR Brown BR Black BL Gloss (NEMA) finishes Ships in 48 hrs. (Insert models only) White GWH Light Almond GLA Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.12.1 for more information.
	3-Button Window Treatment Wallstation	SG-3WN^{-2,3}	- Use with Sivoia QED Interface (SG-SVCN) or AC motor group controller (GRX-4M-GC-CE), see pg. 2.15.2. - Pressing the Open button once will cause the window treatments to move to their fully open position; pressing the Open button again while the window treatments are opening will stop their movement. - Pressing the Close button once will cause the window treatments to move to their fully closed position; pressing the Close button again will stop their movement. - Pressing Stop will stop the movement of the window treatments. - Standard text engraving option (EO1) shown. - For seeTouch model guide, see section 3.16.
	3-Button Window Treatment Wallstation with Raise/Lower	SG-3WRLN^{-2,3}	- Use with Sivoia QED interface (SG-SVCN) or AC motor group controller (GRX-4M-GC-CE), see pg. 2.15.2. - Pressing the Open button once will cause the window treatments to move to their fully open position; pressing the Open button again while the window treatments are opening will stop their movement. - Pressing the Close button once will cause the window treatments to move to their fully closed position; pressing the Close button again will stop their movement. - Pressing Stop will stop the movement of the window treatments. - Pressing and holding the Raise/Lower buttons will cause the window treatment to open/close to a new position. - Standard text engraving option (EO1) shown. - For seeTouch model guide, see section 3.16.
Footnotes, pg. 2.15.3 1 Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31"). 2 For insert version use I in place of last N in model number. See section 3.16 for more information. 3 Counts as 1 of 16 maximum control station devices.			

Window Treatment Wallstations	Product	Model	Options
 Dimensions W: 70 mm (2.75") H: 116 mm (4.56") D: 27 mm (1.06")¹ Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	3-Button Dual Window Treatment Wallstation - Use with Sivoia QED Interface (SG-SVCN) or AC motor group controller (GRX-4M-GC-CE), see pg. 2.15.2. - Used to control one or more window treatment zones simultaneously on GRAFIK Eye 3000/4000 Control Units. - Provides control for two separate groups of window treatments from one wallstation. - Pressing the Open button once will cause the window treatments to move to their fully open position; pressing the Open button again while the window treatments are opening will stop their movement. - Pressing the Close button once will cause the window treatments to move to their fully closed position; pressing the Close button again will stop their movement. - Pressing Stop will stop the movement of the window treatments. - Standard text engraving option (E01) shown. - For seeTouch model guide, see section 3.16.	SG-3WDN^{-2,3}	Ordering example SG-3WDN-WH-E01 Add colour/finish and engraving suffix to model #. For choices see: www.lutron.com/seeTouch Matt finishes Ships in 48 hrs. White WH Ivory IV Beige BE Grey GR Brown BR Black BL Gloss (NEMA) finishes Ships in 48 hrs. (Insert models only) White GWH Light Almond GLA Metal finishes Ships in 4-6 weeks. 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 Aluminium Clear CLA Black BLA Brass BRA Customisation Ships in 4-6 weeks. • See pg. 1.4.1 for multigang wallplates, colour matching, engraving/silk screening, and custom controls. • See pg. 3.17.5 for engraving schedules. Locking covers • See pg. 2.12.1 for more information.
 Dimensions W: 70 mm (2.75") H: 116 mm (4.56") D: 27 mm (1.06")¹ Wallbox: P/N 241218 W: 50 mm (2.00") H: 100 mm (4.00") D: 63 mm (2.50")	5-Button Preset Sivoia QED Wallstation with Raise/Lower - NOTE: Only for use with Sivoia QED electronic drive units (EDUs). - Used to simultaneously control one or more zones of Sivoia QED controllable window treatments from a GRAFIK Eye 3000/4000 control unit. - LEDs provide feedback of the current Sivoia QED preset. - Pressing the Open button once will cause the window treatments to move to their fully open position; pressing the Open button again while the window treatments are opening will stop their movement. - Pressing Preset 1, 2, or 3 once will cause the window treatments to move to that preset level; if that Preset button is pressed again while the window treatments are moving, the window treatments will stop. - Pressing the Close button once will cause the window treatments to move to their fully closed position; pressing the Close button again will stop their movement. - Pressing and holding the Raise/Lower buttons will cause the window treatment to open/close to a new position. - Standard text engraving option (E01) shown. - For seeTouch model guide, see section 3.16.	SG-5WRLN^{-2,3}	

Footnotes, pg. 2.15.4

- Depth includes wallplate and backbox. Wallplate depth is 8 mm (0.31").
- For insert version use I in place of last N in model number. See section 3.16 for more information.
- Counts as 1 of 16 maximum control station devices.

Interfacing other equipment with GRX-AV/OMX-AV

The ability to provide output closures from a system to interface with other equipment (A/V, security systems, building management, etc.) can be accomplished using a GRX-AV/OMX-AV contact closure interface. Outputs are open collector transistor outputs that sink current only. Refer to the diagram at right for set up.

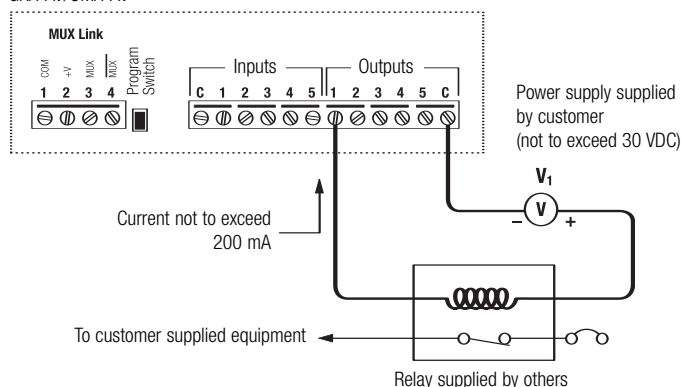
Occupancy sensors by others

The ability to turn lights on when a room or space is entered and off when that space is unoccupied can be accomplished with an occupant sensor with a low voltage contact and a GRX-AV/OMX-AV.

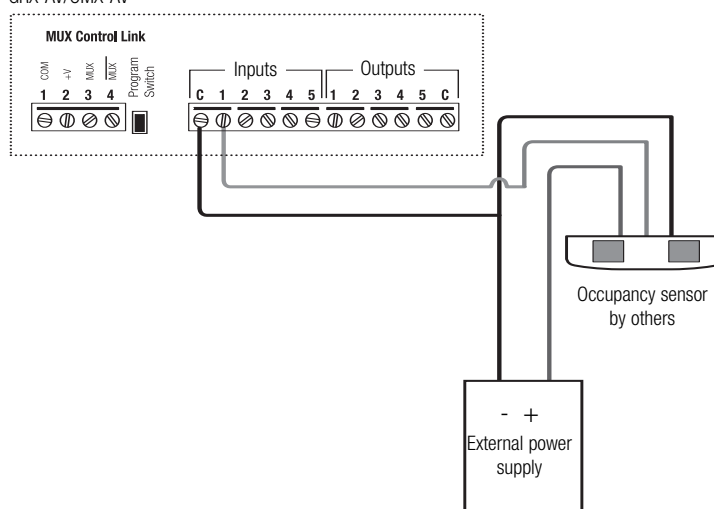
The occupant sensor should provide maintained dry-contact closures to the GRX-AV/OMX-AV. One GRX-AV/OMX-AV can accept up to five occupant sensor inputs to control up to five different rooms or spaces.

Using the unaffected feature for individual zone control

GRX-AV/OMX-AV



GRX-AV/OMX-AV



Individual zone control from a second location can be accomplished through the use of an scene selector control, NTGRX-4S, or wireless remote control, GRX-8IT-WH, and the Unaffected feature of a control unit. GRAFIK Eye control unit zones can be set to be "Unaffected" when a scene is selected. The Unaffected zone's light levels remain unchanged when the new specified scene is selected, and the Unaffected zone(s) does not respond to master Raise/Lower commands. Several zones can be set up as Unaffected in a scene.

Function notes

- Each Scene (5-8) should be set up to have one zone adjustable; all others should be set up as Unaffected.
- Set the Fade Time to approximately one minute to avoid any sudden jumps in light intensity.
- To adjust an individual zone, press the corresponding scene button (5-8) on the NTGRX-4S or GRX-8IT-WH, and then use the master Raise/Lower button to fine-tune that zone. All zones set as Unaffected will not respond to the master Raise/Lower function, i.e., the Unaffected zone(s) light level will remain unchanged.

Operation

By pressing any of the Scene 1-4 buttons, the user gets four standard presets. By pressing any of the Scene 5-8 buttons, the user gets individual control of a zone. Once the Scene 5-8 button is pressed, the zone of lights can be adjusted using the Raise/Lower button, and the other zones will be unaffected. This series of events can be done one after the other to individually adjust all four zones.

Using electronic low voltage transformers with leading edge dimmers



Dimensions

L: 123 mm (4.84")
W: 38 mm (1.50")
H: 30 mm (1.18")



Dimensions

L: 150 mm (5.91")
W: 42 mm (1.65")
H: 32 mm (1.26")



Dimensions

L: 150 mm (5.91")
W: 42 mm (1.65")
H: 32 mm (1.26")

Stating that an electronic low voltage transformer is compatible with leading edge dimmers is a very subjective statement. In virtually all cases the light source responds to the dimmer, and from a lighting viewpoint the two are compatible. However, other symptoms such as transformer noise, lamp noise, dimmer noise, and RF interference influence the end user's view of what is acceptable. Factors ranging from dimmer, transformer, and lamp design (or manufacture) to installation, placement, and application influence these symptoms. In many situations there is no end user compatibility issue; however, there have been instances where the various factors have combined unfavourably.

To obtain the best performance out of ANY electronic low voltage transformer, Lutron® recommends using a trailing edge dimmer (NTGRX-ELVI interface plus a GRAFIK Eye 3000 or a GRAFIK Integrale™).

In situations where using an electronic low voltage interface or GRAFIK Integrale is prohibitive Lutron has introduced an electronic low voltage transformer line to reduce end user compatibility issues.

60 Watt Electronic Low Voltage Transformer

Terminal blocks on primary and secondary

ELVXF-60-T10-CE

One pair of leads on the secondary

ELVXF-60-L11-CE

Two pairs of leads (on the primary and secondary)

ELVXF-60-L12-CE

- Input Power: 230-240 VAC $\pm$ 10% 50/60 Hz, at 60 W, 0.28 A
- Output Power: 11.7 VAC 35 kHz, 10-60 W, SELV-Equivalent
- Short-circuit, thermal, and overload protection with self-resetting capabilities built in

60 Watt Electronic Low Voltage Transformer

Terminal blocks on primary and secondary

ELVXF-60-T20-CE

- Loop-in/Loop-out terminals on the primary
- Three secondary terminals
- Input Power: 230-240 VAC $\pm$ 10% 50/60 Hz, at 60 W, 0.28 A
- Output Power: 11.7 VAC 35 kHz, 10-60 W, SELV-Equivalent
- Short-circuit, thermal, and overload protection with self-resetting capabilities built in

105 Watt Electronic Low Voltage Transformer

Terminal blocks on primary and secondary

ELVXF-105-T20-CE

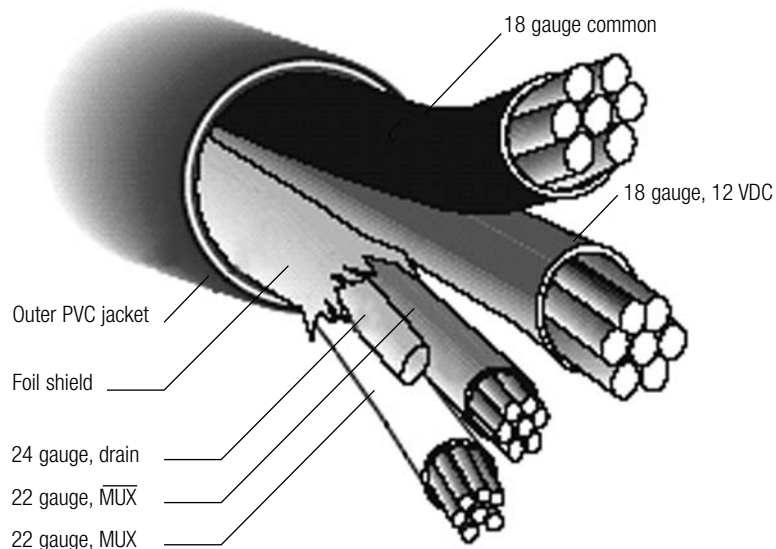
One pair of leads on the primary

ELVXF-105-L23-CE

- Loop-in/Loop-out terminals on the primary
- Three secondary terminals
- Input Power: 230-240 VAC $\pm$ 10% 50/60 Hz, at 105 W, 0.45 A
- Output Power: 11.7 VAC 35 kHz, 36-105 W, SELV-Equivalent
- Short-circuit, thermal, and overload protection with self-resetting capabilities built in

4-Conductor Cable

GRX-CBL-346S



Wire sizes

mm ²	AWG	Ohms/500 metres	Ohms/1,000 ft
0.823	18	10.7	6.5
0.326	22	27.0	16.4
0.205	24	43.0	26.2

Insulation

- 2,500 VAC dielectric strength between any one (1) layer of insulation
- 4,000 VAC dielectric strength between any two (2) layers of insulation

Capacitance

- Conductor to shield - 156 pF/m (48 pF/ft) maximum
- Conductor to conductor - 80 pF/m (25 pF/ft) maximum

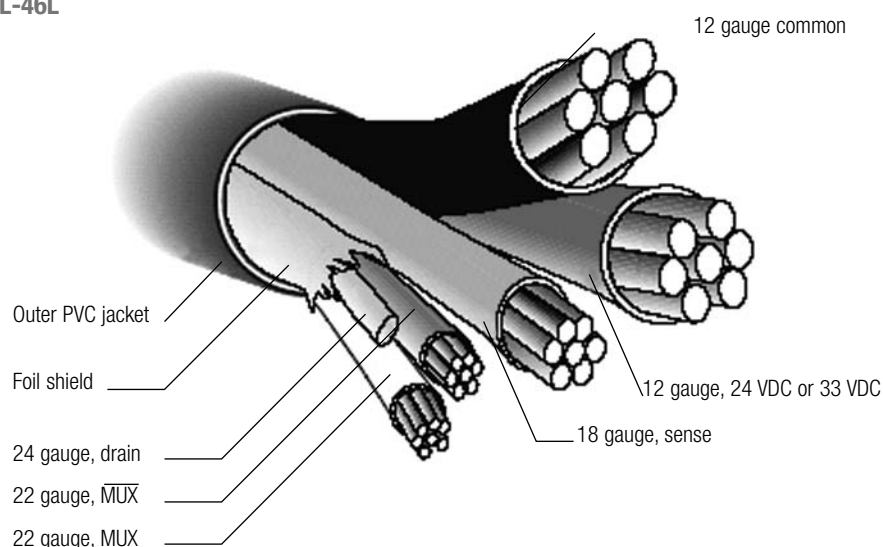
The two 0.326 mm² (22 AWG) wires are a twisted pair and must be completely covered by a foil shield with a 0.205 mm² (24 AWG) drain wire on the inner side of the shield. The number of twists should be greater than 12 per metre or 4 per foot.

Specification tradeoffs

1. The specifications shown on these pages will guarantee that the supply voltage and data lines will provide appropriate signal levels at distances up to 610 metres or 2,000 feet.
2. Using cable with smaller wire sizes will result in larger voltage drops on long wiring runs. As a result, the maximum wiring length rating will be less than 610 metres or 2,000 feet. For example, on the GRAFIK Eye 4000, GRAFIK 5000™, GRAFIK 6000™, and GRAFIK 7000™, the maximum voltage drop allowed on the supply lines is 12 VDC. The maximum supply current on a fully loaded supply is 1.8 A peak. When calculating total drop, the length of wire must include both the supply and return lines.
3. Using cable with higher capacitance will result in signal degradation over long distances. The capacitance per unit length may go up proportionately with the reduction in wire length. For example, if the total length of wire is reduced by half, the capacitance per unit length of the cable can be doubled.

5-Conductor Cable

GRX-CBL-46L



Wire sizes

mm ²	AWG	Ohms/500 metres	Ohms/1,000 ft
3.3	12	2.7	1.6
0.823	18	10.7	6.5
0.326	22	27.0	16.4
0.205	24	43.0	26.2

Insulation

- 2,500 VAC dielectric strength between any one (1) layer of insulation
- 4,000 VAC dielectric strength between any two (2) layers of insulation

Capacitance

- Conductor to shield - 156 pF/m (48 pF/ft) maximum
- Conductor to conductor - 80 pF/m (25 pF/ft) maximum

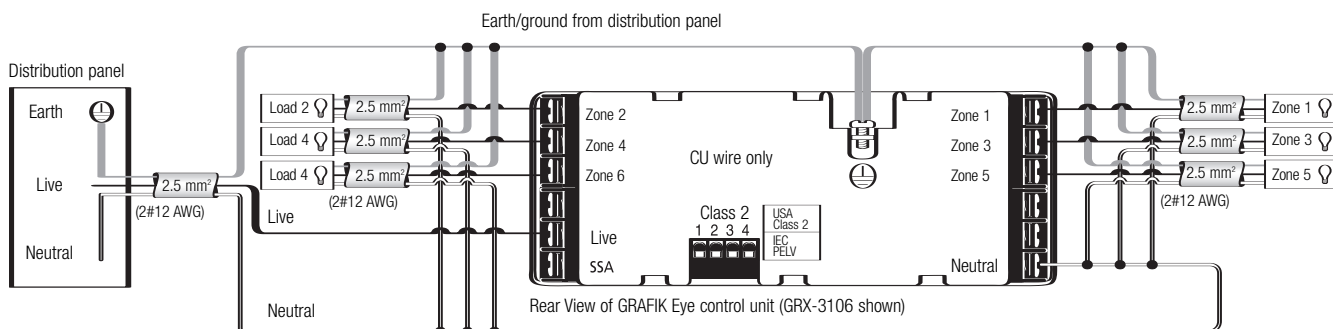
The two 0.326 mm² (22 AWG) wires are a twisted pair and must be completely covered by a foil shield with a 0.205 mm² (24 AWG) drain wire on the inner side of the shield. The number of twists should be greater than 12 per metre or 4 per foot.

Specification tradeoffs

1. The specifications shown on these pages will guarantee that the supply voltage and data lines will provide appropriate signal levels at distances up to 610 metres or 2,000 feet.
2. Using cable with smaller wire sizes will result in larger voltage drops on long wiring runs. As a result, the maximum wiring length rating will be less than 610 metres or 2,000 feet. For example, on the GRAFIK Eye 4000, GRAFIK 5000™, GRAFIK 6000™, and GRAFIK 7000™, the maximum voltage drop allowed on the supply lines is 12 VDC. The maximum supply current on a fully loaded supply is 1.8 A peak. When calculating total drop, the length of wire must include both the supply and return lines.
3. Using cable with higher capacitance will result in signal degradation over long distances. The capacitance per unit length may go up proportionately with the reduction in wire length. For example, if the total length of wire is reduced by half, the capacitance per unit length of the cable can be doubled.

Wiring diagram #1

GRAFIK Eye 3000 series
Control unit power and load wiring

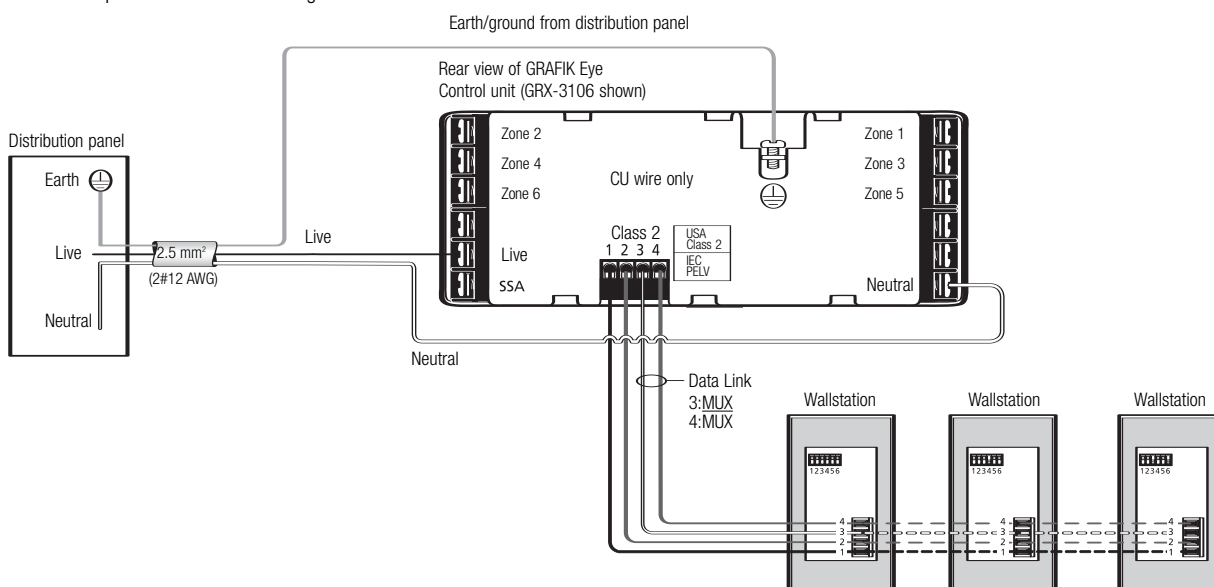


Notes:

1. Each line voltage terminal can accept up to (2) 2.5 mm² (#12 AWG) wires.
2. Each PELV (Class 2) terminal can accept up to (2) 1.0 mm² (#18 AWG) wires.
3. For load side emergency transfer wiring, see Application Notes, available at www.lutron.com.

Wiring diagram #2

GRAFIK Eye 3000 series
Control unit power to wallstation wiring

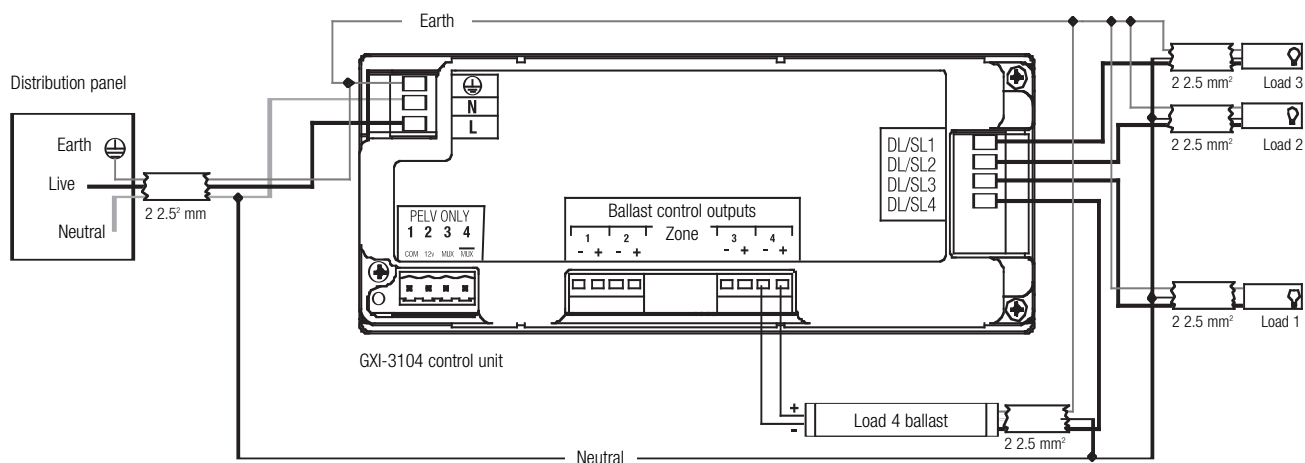


Notes:

1. Each control unit can power up to three PELV (Class 2) wallstations/control interfaces. If more than three need to be connected to one control unit, install an external power supply as shown in wiring diagram #5.
2. PELV (Class 2) cable (GRX-CBL-346S-500) is available from Lutron®.

Wiring diagram #3

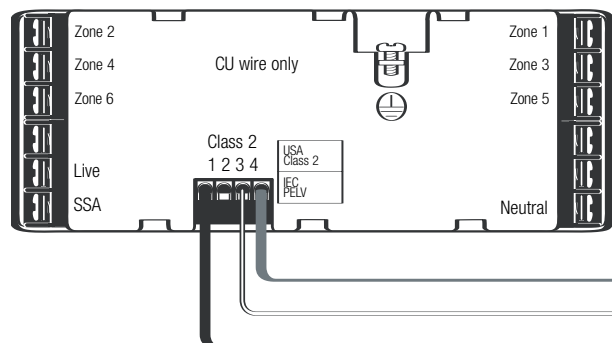
GRAFIK Integrale™
Control unit power and load wiring



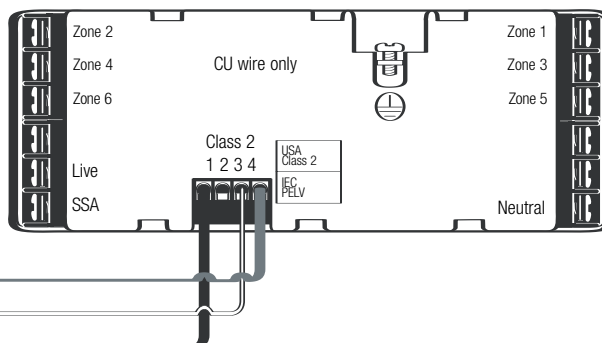
Wiring diagram #4

GRAFIK Eye 3000 series Control unit to control unit wiring

Rear view of GRAFIK Eye control unit (GRX-3106 shown)



Rear view of GRAFIK Eye control unit (GRX-3106 shown)



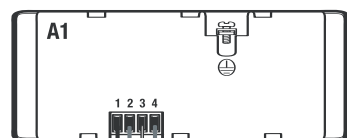
Notes:

1. Each control unit has its own power supply.
2. Do not connect terminal No. 2 when wiring between GRAFIK Eye 3000 series control units.
3. PELV (Class 2) cable (GRX-CBL-346S-500) is available from Lutron®.

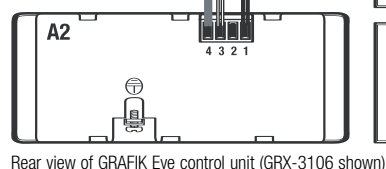
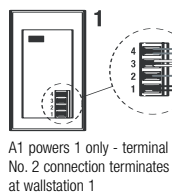
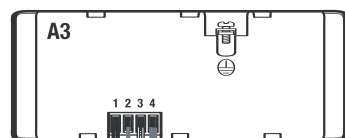
Wiring diagram #5

GRAFIK Eye 3000 Series System control wiring overview

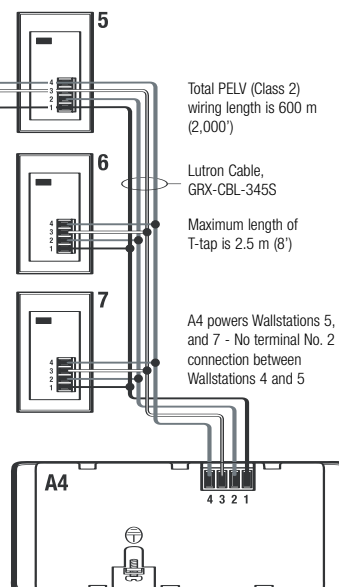
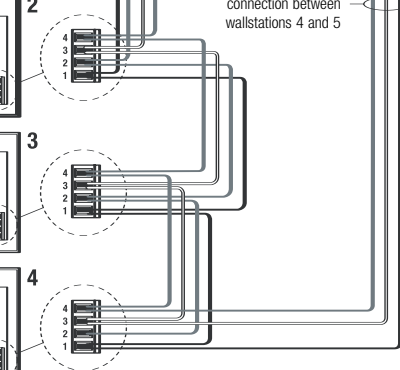
Rear view of GRAFIK Eye control unit (GRX-3106 shown)



Rear view of GRAFIK Eye control unit (GRX-3106 shown)



Rear view of GRAFIK Eye control unit (GRX-3106 shown)



Rear View of GRAFIK Eye Control Unit (GRX-3106 shown)

Total PELV (Class 2) wiring length is 600 m (2,000')

Lutron Cable, GRX-CBL-345S

Maximum length of T-tap is 2.5 m (8')

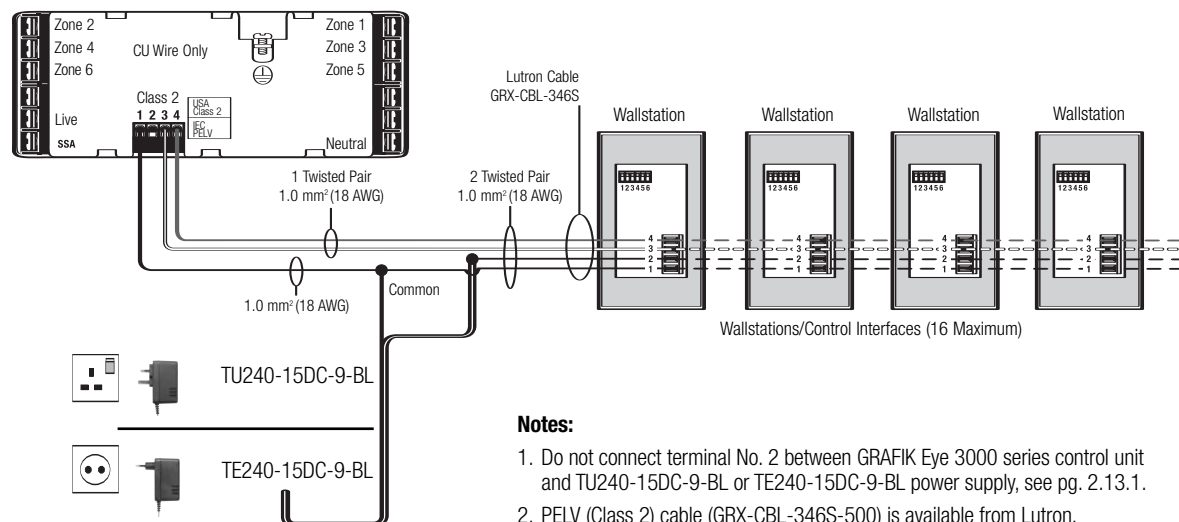
Notes:

1. Each control unit can power up to three PELV (Class 2) wallstations/control Interfaces. If more than three need to be connected to one control unit, install an external 12 VDC power supply, see pg. 2.13.1 as shown in wiring diagram #6.
2. Do not connect terminal No. 2 between GRAFIK Eye 3000 Series control unit and external TU240-15DC-9-BL or TE240-15DC-9-BL power supply, see pg. 2.13.1 as shown in wiring diagram #6.
3. Up to eight GRAFIK Eye 3000 Series control units and 16 wallstations/control Interfaces can be daisy-chained together in one system.
4. PELV (Class 2) cable (GRX-CBL-346S-500) is available from Lutron.

Wiring diagram #6

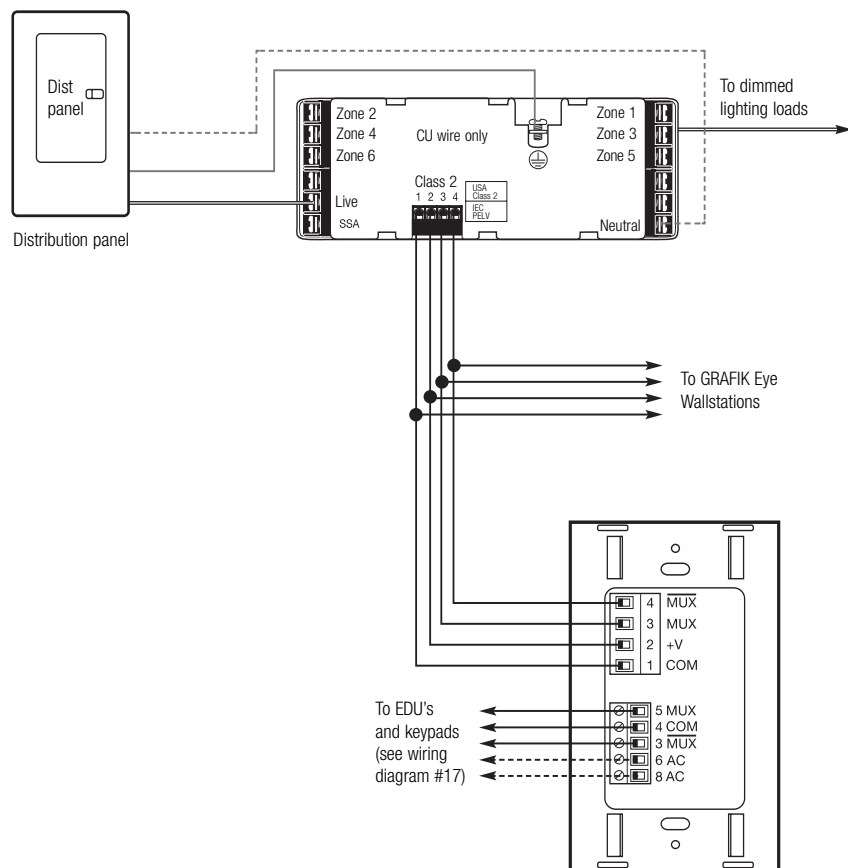
GRAFIK Eye 3000 Series External wallstation power supply wiring

Rear View of GRAFIK Eye Control Unit (GRX-3106 shown)



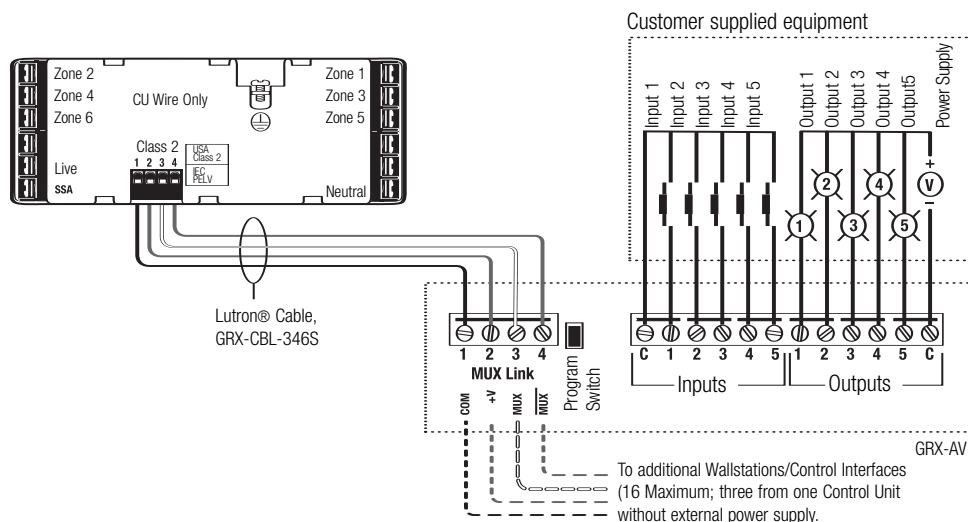
Wiring diagram #7

GRAFIK Eye 3000 Series Sivoia QED™ interface wiring



Wiring diagram #8

GRAFIK Eye 3000 series
Contact closure interface (GRX-AV) wiring

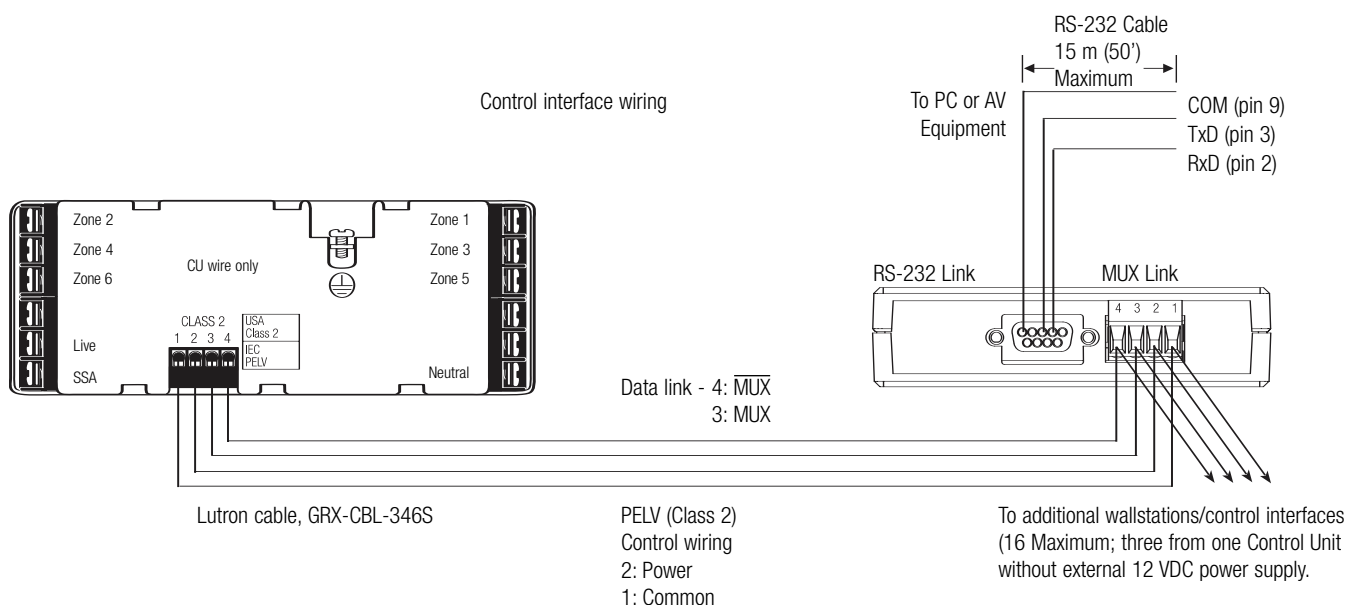


Notes:

For more information, see Application Notes pg. 2.16.1.

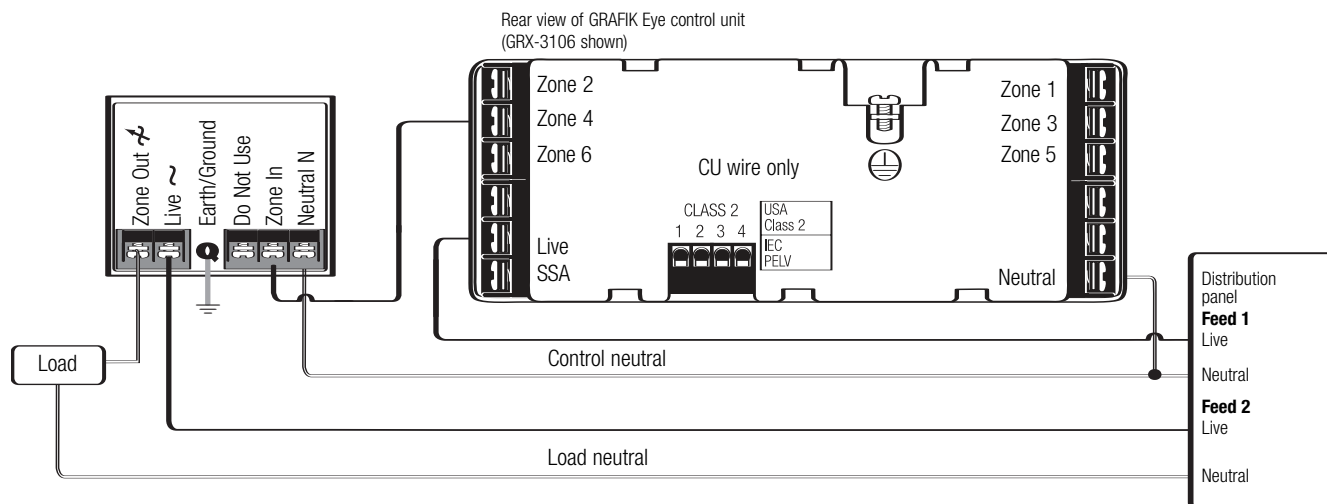
Wiring diagram #9

GRAFIK Eye 3000 Series
RS-232 Control interface (GRX-CI-RS232) wiring



Wiring diagram #10

GRAFIK Eye 3000 series
Power boosters/interfaces
Power booster/electronic low voltage interface wiring

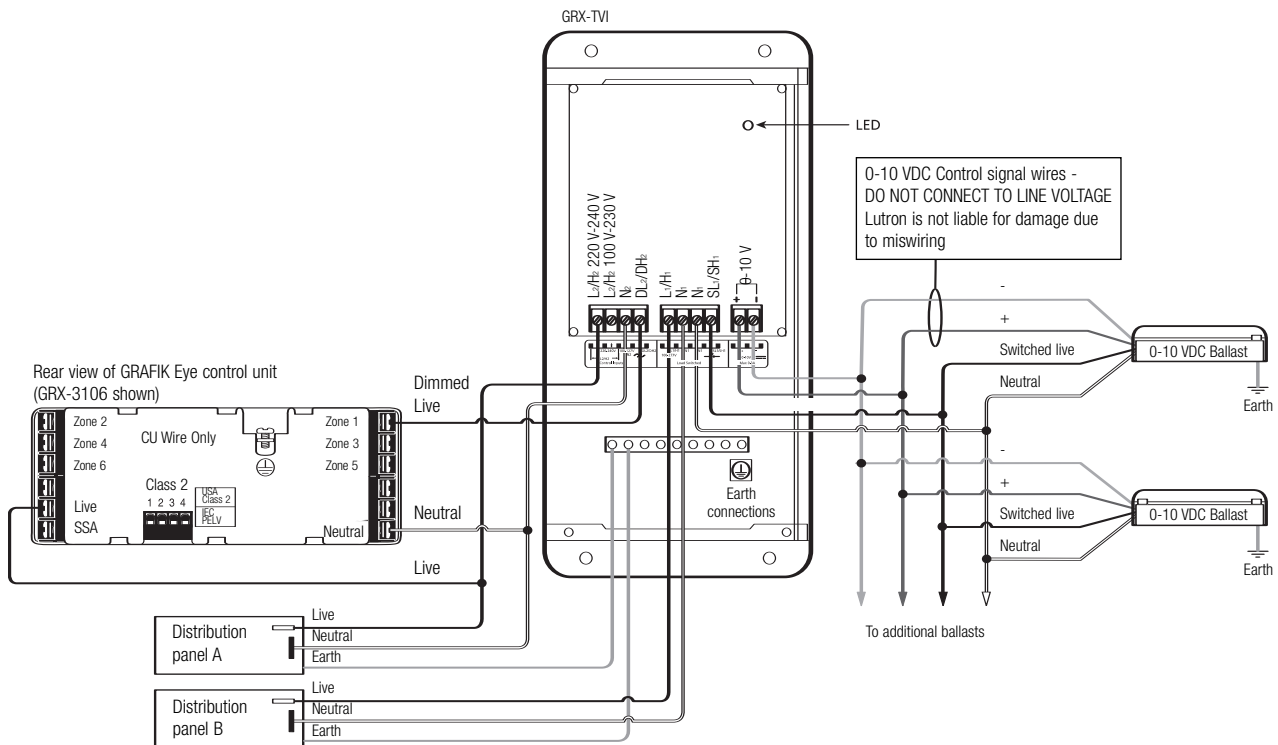


Notes:

1. Each terminal can accept up to (2) 2.5 mm² (#12 AWG) wires.
2. PB/ELVI Hot/Live can be on the same phase or different phase than the GRAFIK Eye 3000 series control unit Hot/Live.
3. Up to two PB/ELVI interfaces can be wired to a single zone.
4. Load neutral must be kept separate from control neutral.

Wiring diagram #11

GRAFIK Eye 3000 series
Power boosters/interfaces
0-10 V interface (GRX-TVI) wiring

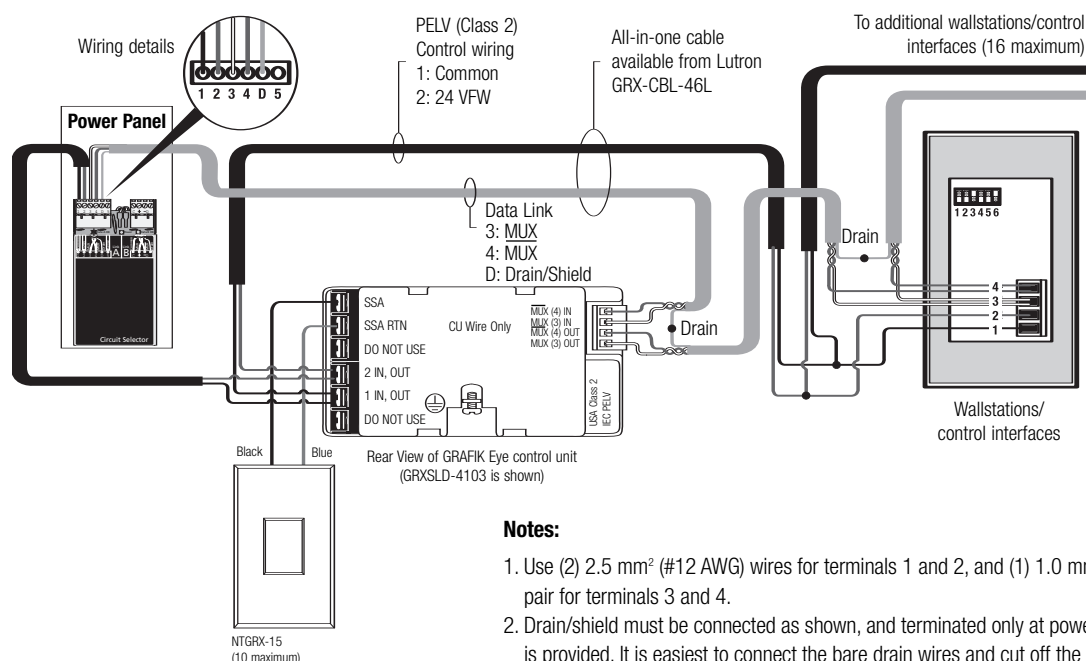


Notes:

Distribution panels can be different phases or voltages (230 VAC shown).

Wiring diagram #12

GRAFIK Eye 4000 series System overview control wiring

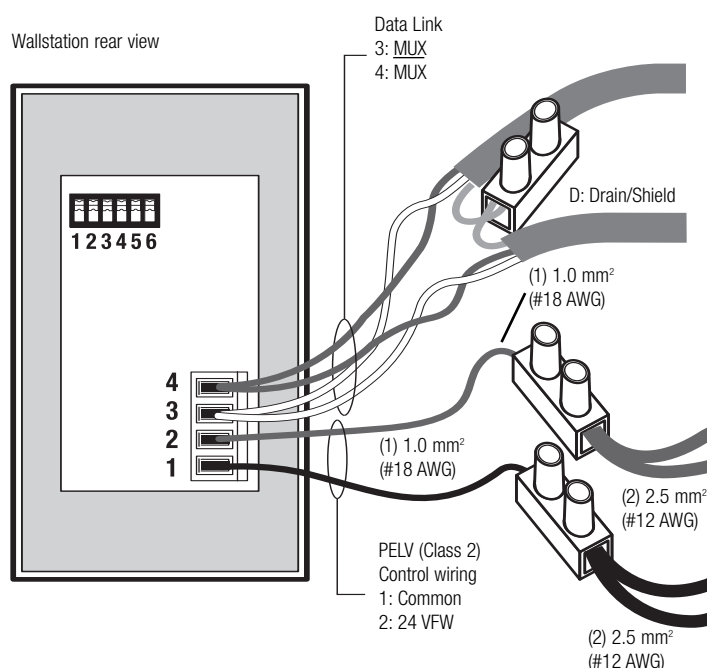


Notes:

1. Use (2) 2.5 mm² (#12 AWG) wires for terminals 1 and 2, and (1) 1.0 mm² (#18 AWG) twisted, shielded pair for terminals 3 and 4.
2. Drain/shield must be connected as shown, and terminated only at power panel if drain terminal is provided. It is easiest to connect the bare drain wires and cut off the outside shield throughout the control link.
3. Up to 8 GRAFIK Eye 4000 Series control units (addresses) and 16 wallstations/control interfaces can be daisy-chained together in one system.
A 16-zone control unit requires two addresses;
a 24-zone control unit requires three addresses.
4. PELV (Class 2) cable (GRX-CBL-46L) is available from Lutron, see pg. 2.13.1.

Wiring diagram #13

GRAFIK Eye 4000 Series 2.5 mm² (#12 AWG) to 1.0 mm² (#18 AWG) wiring for wallstations/control interfaces

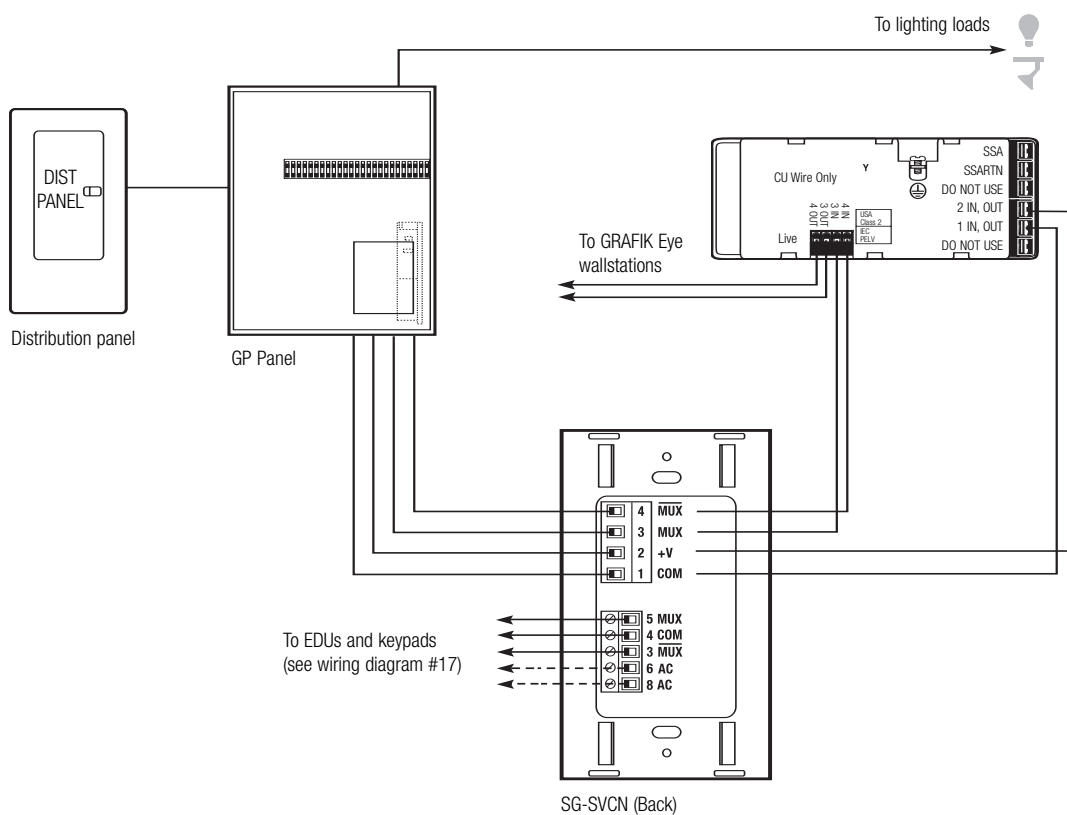


Notes:

1. Use (2) 2.5 mm² (#12 AWG) wires for terminals 1 and 2, and (1) 1.0 mm² (#18 AWG) twisted, shielded pair for terminals 3 and 4.
2. All control wiring is Class 2/PELV. Do not place any of these wires in with line-voltage (mains voltage) wiring.
3. (2) 2.5 mm² (#12 AWG) wires will not fit in the wallstations/control interfaces terminal blocks. Use the diagram shown here to make the connections in the wallbox. 2.5 mm² (#12 AWG) wiring is necessary to minimise voltage drop.
4. Drain/shield must be connected as shown. Do not connect to earth or wallstations/control interfaces. It is easiest to connect the bare drain wires and cut off the outside shield throughout the control link.
5. Make wire connections inside the wallbox and power panel or in a junction box (provided by others) within 2.4 m (8') of the terminals.
6. PELV (Class 2) cable (GRX-CBL-46L) is available from Lutron, see pg. 2.13.1.

Wiring diagram #14

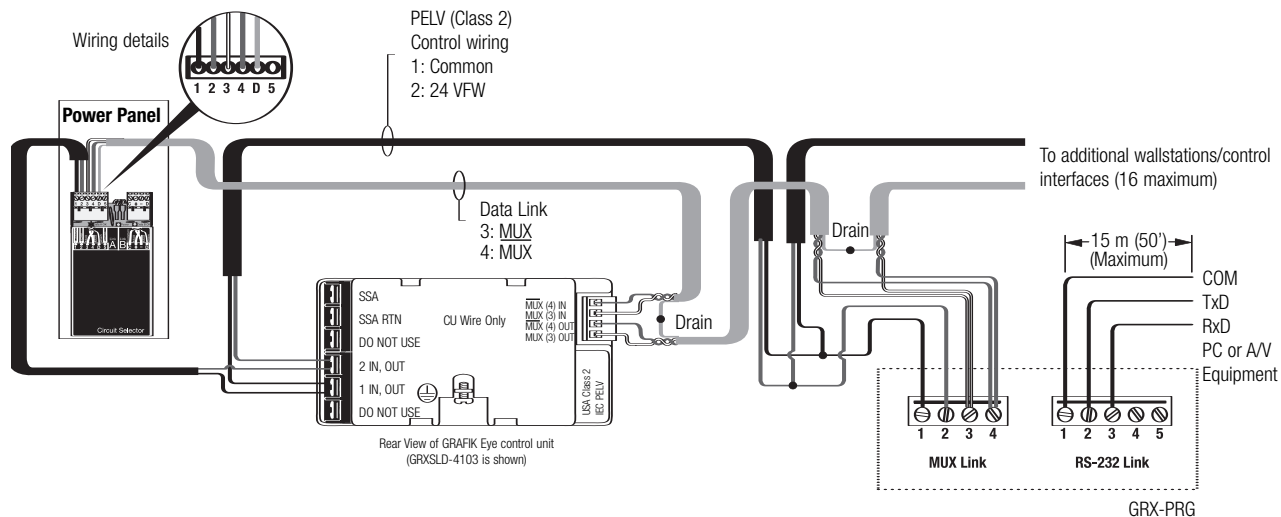
GRAFIK Eye 4000 series
Sivoia QED™ interface wiring



Wiring diagram #15

GRAFIK Eye 4000 series

Astronomical time clock and programmer interface (GRX-PRG) wiring

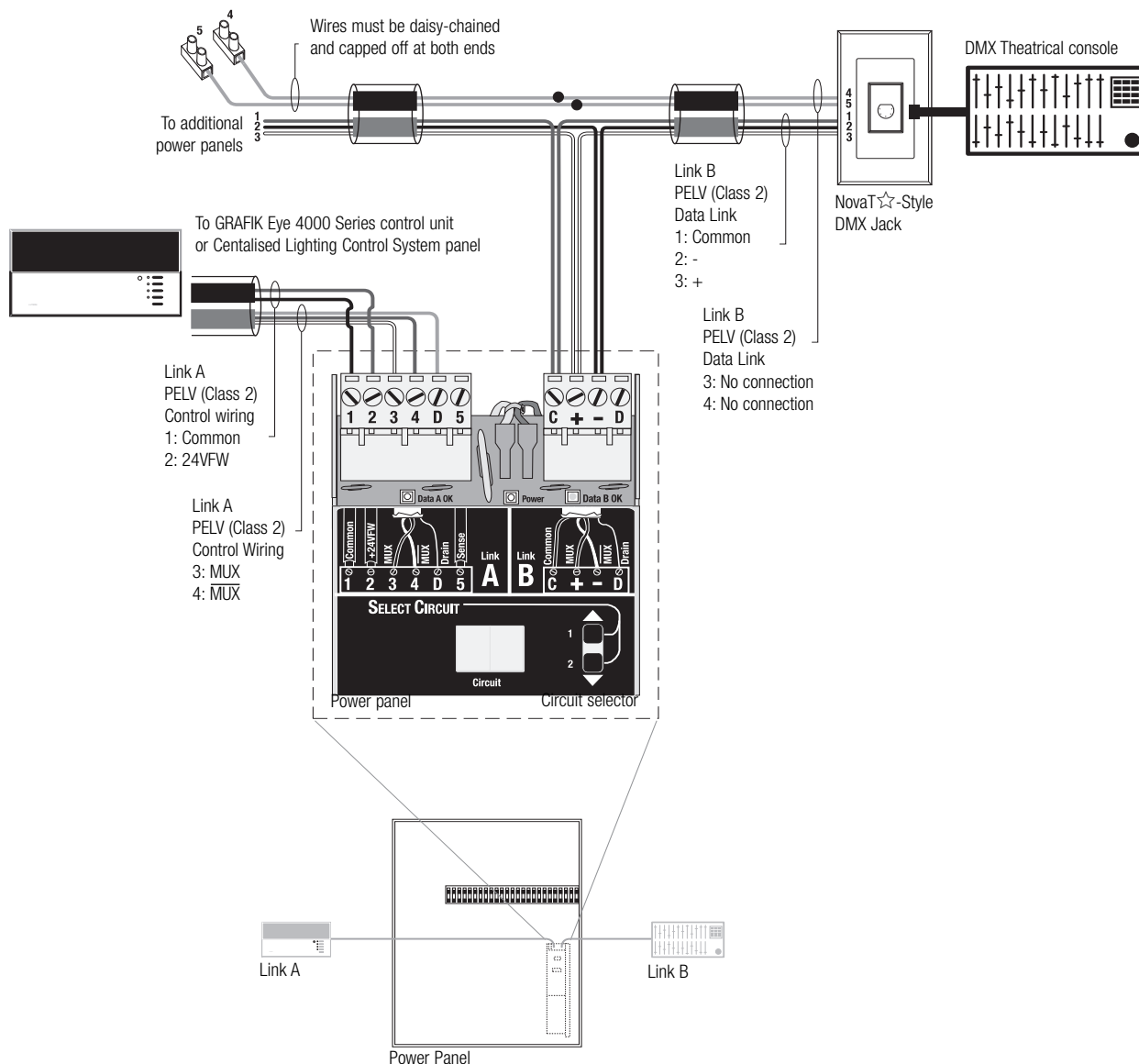


Notes:

1. Use (2) 2.5 mm² (#12 AWG) wires for terminals 1 and 2, and (1) 2.5 mm² (#18 AWG) twisted, shielded pair for terminals 3 and 4.
2. Drain/shield must be connected as shown, and terminated only at power panel if drain terminal is provided. It is easiest to connect the bare drain wires and cut off the outside shield throughout the control link.
3. Up to eight GRAFIK Eye 4000 series control units and 16 wallstations/control Interfaces can be daisy-chained together in one system.
4. PELV (Class 2) cable (GRX-CBL-46L) is available from Lutron®, see pg. 2.13.1.

Wiring diagram #16

GRAFIK Eye 4000 series
2Link™ DMX512 wiring

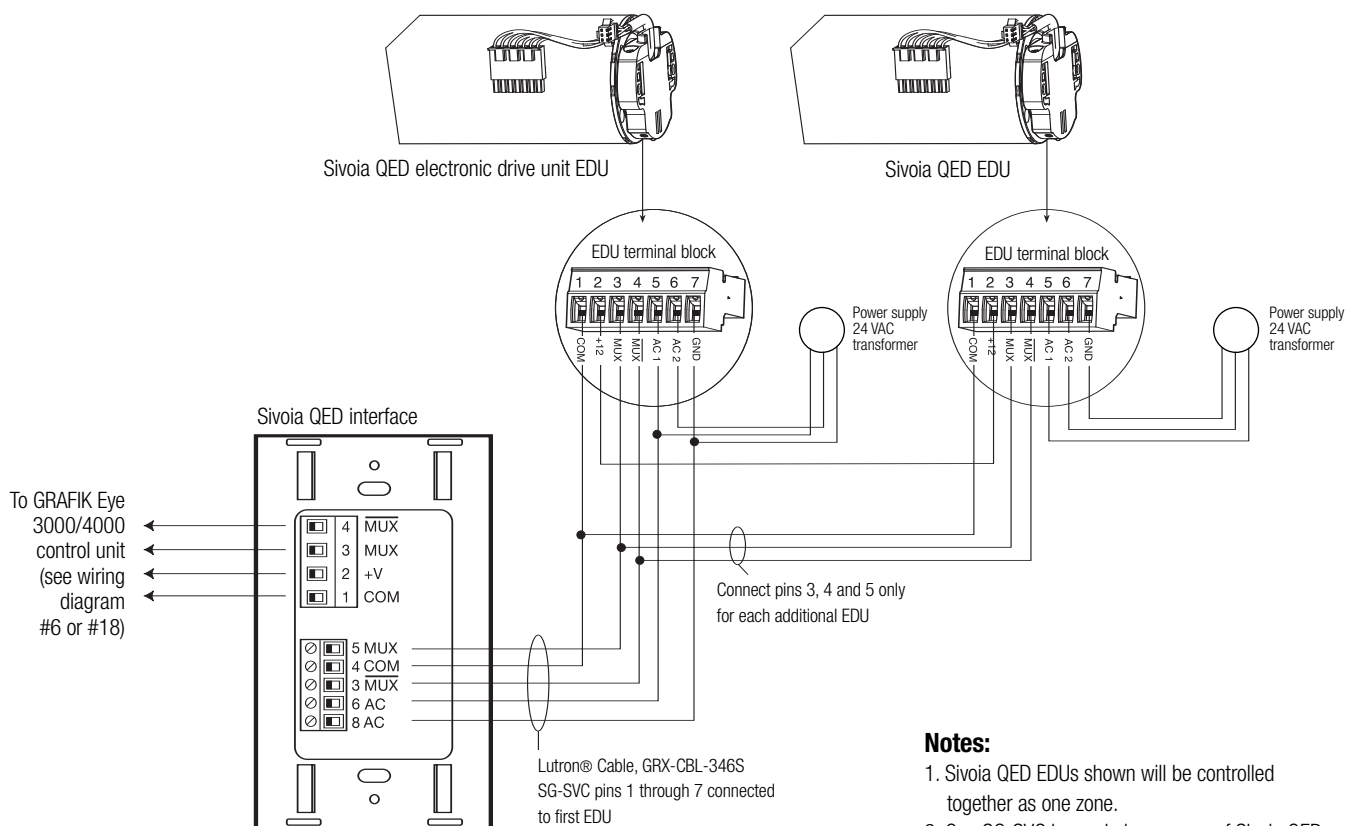


Notes

1. Use (2) 2.5 mm² (#12 AWG) wires for terminals 1 and 2, and (1) 1.0 mm² (#18 AWG) twisted, shielded pair for terminals 3 and 4.
2. An additional 1.0 mm² (#18 AWG) wire can be used as a "sense" line from terminal 5 of another panel. This sense line allows an Emergency (Essential) lighting panel to "sense" when Normal (Non-Essential) power is lost. For more information on Emergency, see application notes, pg. 4.8.3.
3. For panel to panel wiring, refer to power panel instruction sheet.
4. Centralised lighting control systems have separate power panel and control links. GRAFIK Eye 4000 series power panels connect to the same link as control units and wallstations/control interfaces.
5. PELV (Class 2) cable (GRX-CBL-46L) is available from Lutron®, see pg. 2.13.1.
6. DMX512 PELV (Class 2) cable (GRX-CBL-DMX) is available from Lutron in 75 m (250') and 150 m (500') lengths.

Wiring Diagram #17

GRAFIK Eye 3000/4000 series
Sivoia QED™ interface
(SG-SVCN) wiring

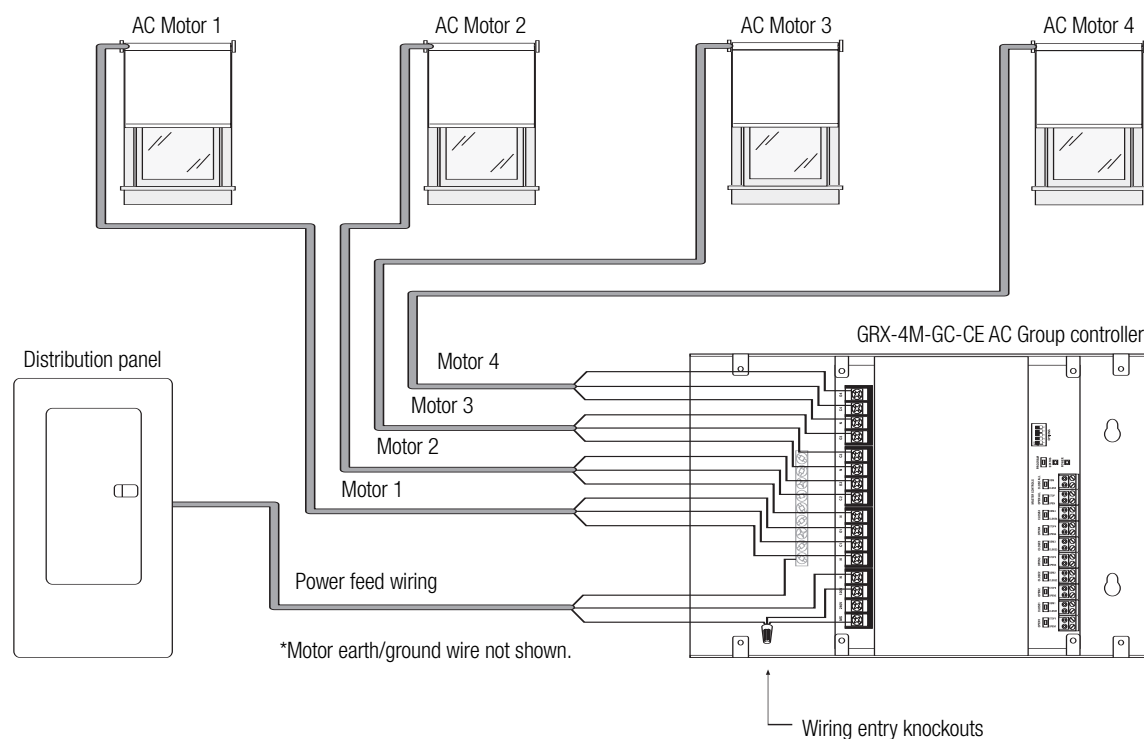
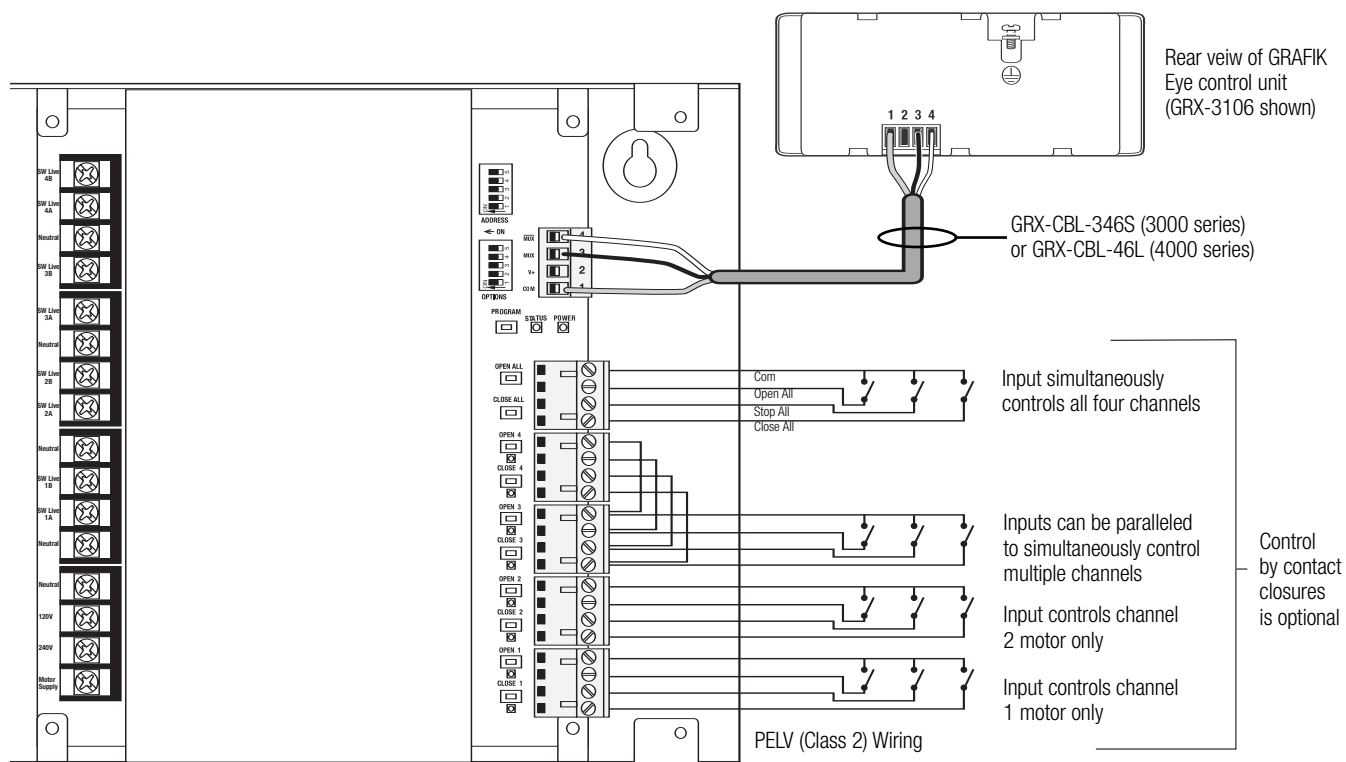


Notes:

1. Sivoia QED EDUs shown will be controlled together as one zone.
2. One SG-SVC is needed per group of Sivoia QED EDU's (up to 96) moving together.

Wiring diagram #18

GRAFIK Eye 3000/4000 series
Four-motor AC group controller (GRX-4M-GC-CE) wiring



Wiring diagram #19

To PC or AV equipment. For ethernet link, use CAT5 cable provided to connect to auxiliary equipment. The ethernet link LED will light continuously when link is present and will flash when there is activity. Additional ethernet network equipment and cables provided by others.

