# GRAFIK Eye® | 3000/4000 series

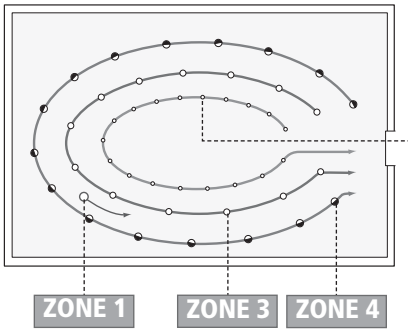
LUTRON®

## Step 1

### Determine number of zones and sources

A zone is a group of lights or shades that are always controlled together. **GRAFIK Eye** Controls 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 | 120 | N | INC | 75 | 1 | 75 |
| 2 | Table | 120 | N | MLV | 50 | 18 | 1080* |
| 3 | Perimeter | 120 | N | INC | 50 | 13 | 650 |
| 4 | Accent | 120 | N | FLD | 26 | 16 | 416 |

***Key:** N Normal; E Emergency; INC Incandescent; MLV Magnetic Low-Voltage; FLD Lutron **Hi-lume** Fluorescent Dimming*

** Includes transformer losses*

**Design Tips**

- ☐ Dimming Ballasts are required to dim fluorescent sources. For information on Lutron Fluorescent Dimming Ballasts, see pg. 236.
- ☐ 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 GRX-3500 (CPN 1622) Control Units.
- ☐ Blank Load schedules are available. See pg. 139.

## Step 2

### Select GRAFIK Eye® 3000 Series Control Units

Using the number of zones determined in Step 1, select the appropriate size of Control Unit. **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.

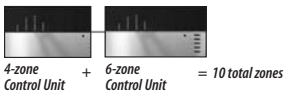
**See ordering pgs. 26-28.**

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

**Design Tips**

- ☐ If your space requires more than six 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** 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 on Control Unit ordering pgs. 26-28). **GRAFIK Eye** 3000 Series Controls Units can control incandescent, magnetic low-voltage, neon/cold-cathode, and Lutron **Tu-Wire**® fluorescent loads directly. When electronic low-voltage or Hi-Lume/Eco-10™ fluorescent loads need to be controlled, a load-specific Power Interface is required.

**See ordering pgs. 29-31.**

For this project, Zone 2 wattage exceeds maximum capacity for a single zone (800 W/VA maximum). Therefore, a Power Booster, P/N NGRX-PB is required. Zone 4 is controlling **Hi-lume**® Fluorescent Dimming Ballasts; therefore, a Fluorescent Dimming Ballast Interface, P/N GRX-FDBI-16A-120 is required.

**Design Tips**

- ☐ For incandescent, magnetic low-voltage, neon/cold cathode, and Lutron **Tu-Wire** Fluorescent Dimming Ballasts, use up to two NGRX-PB Power Boosters to increase individual zone wattage capability (see ordering pg. 30). For multiple load circuits per zone, use **Hi-Power 2•4•6**™ (see ordering pg. 31).
- ☐ Dimming electronic low voltage loads? Use ELVI-1000, Electronic Low Voltage Interface (see ordering pg. 30).
- ☐ Dimming Lutron **Hi-lume** or **Eco-10** (ECO-Series) Fluorescent Dimming Ballasts? Use GRX-FDBI, Fluorescent Dimming Ballast Interface (pg. 30 or **Hi-Power 2•4•6** pg. 31).
- ☐ A **Hi-Power 2•4•6** must be used for 277V zones (see ordering pg. 31).
- ☐ Dimming 0-10V Fluorescent Dimming Ballasts or switching non-dim loads? Use GRX-TVI, Zero to Ten Volt Interface (see ordering pg. 30).

## Step 4

### Calculate total wattage for all zones. Verify total wattage does not exceed total unit capacity.

If total load for all zones added together is larger than maximum capacity for the Control Unit (max. capacity per Control Unit found on Control Unit ordering pgs. 26-28), 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 1166 W/VA. Zone 1 (75 Watts) + Zone 2 (Power Booster Load = 25 Watts) + Zone 3 (650 Watts) + Zone 4 (416 Watts) = 1166 Watts. Maximum capacity for a GRX-3104 at 120V is 2000W/VA; therefore, no additional boosting is needed.

**Design Tip**

☐ 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** Control Unit for that zone becomes 25W/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 Wallstations/Control Interfaces to achieve strategies.

**For Design Elements available, see pgs. 6-9.**

For this project, use an Entrance Control, SG-2BN (see pg. 43) at the door and a Scene Control SG-4SN (see pg. 44), at the podium.

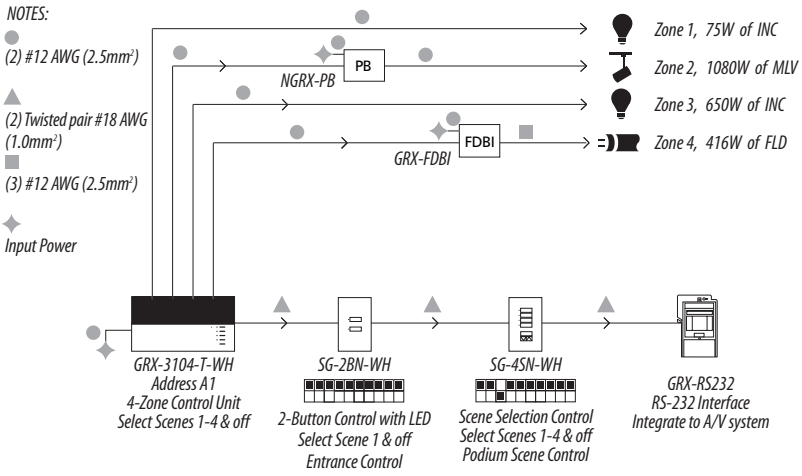
For control from a touchscreen, integrate with the Audio Visual system using a GRX-RS232 (see pg. 59).

**Design Tip**

☐ Up to three Wallstations/ Control Interfaces can be powered from a single **GRAFIK Eye** 3000 Series Control Unit. If additional Wallstations/Control Interfaces (up to 16 total) are needed, a 12VDC power supply must be added. For Lutron GRX-12VDC, see ordering pg. 64.

## Step 6

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

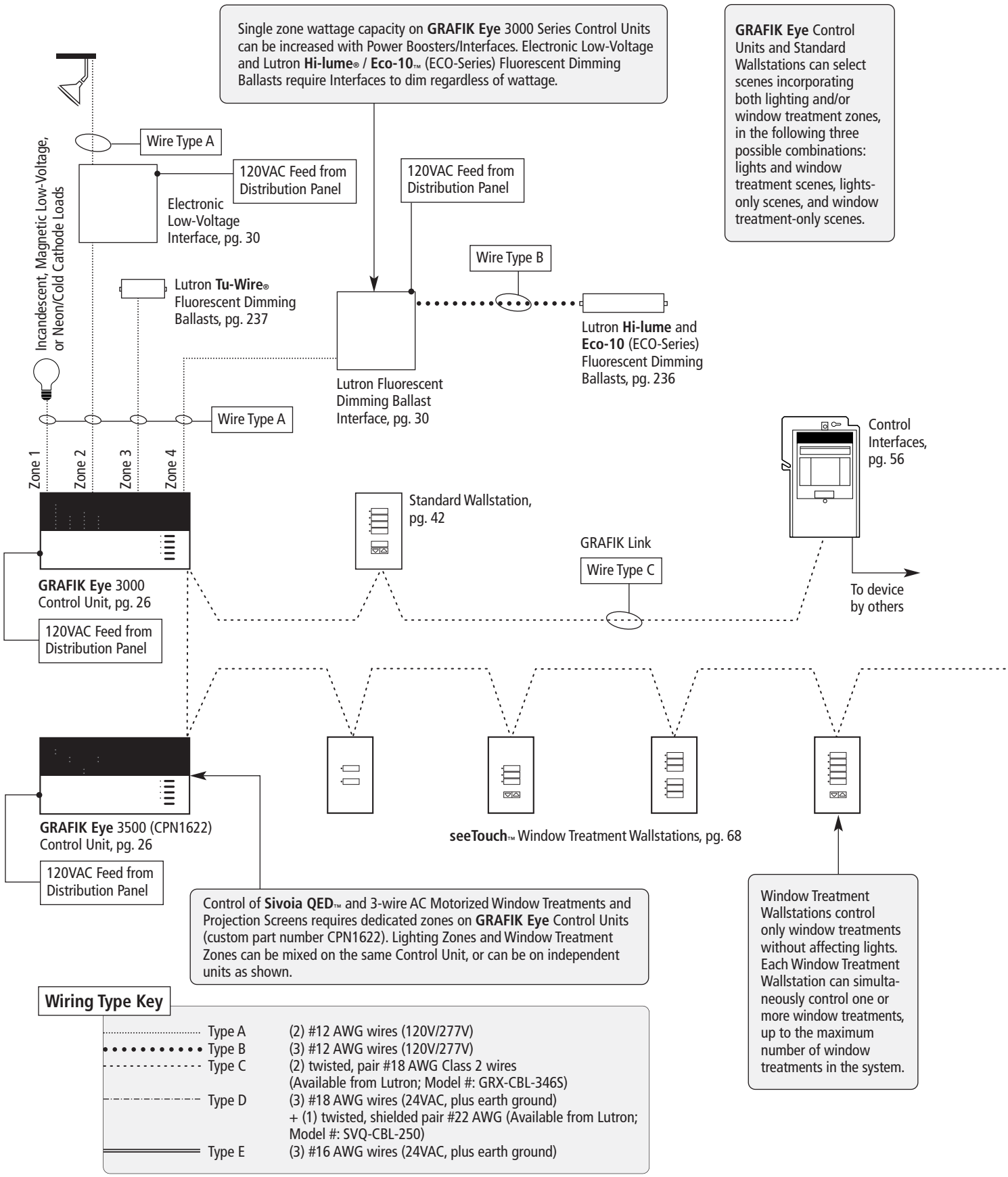



**Design Tip**

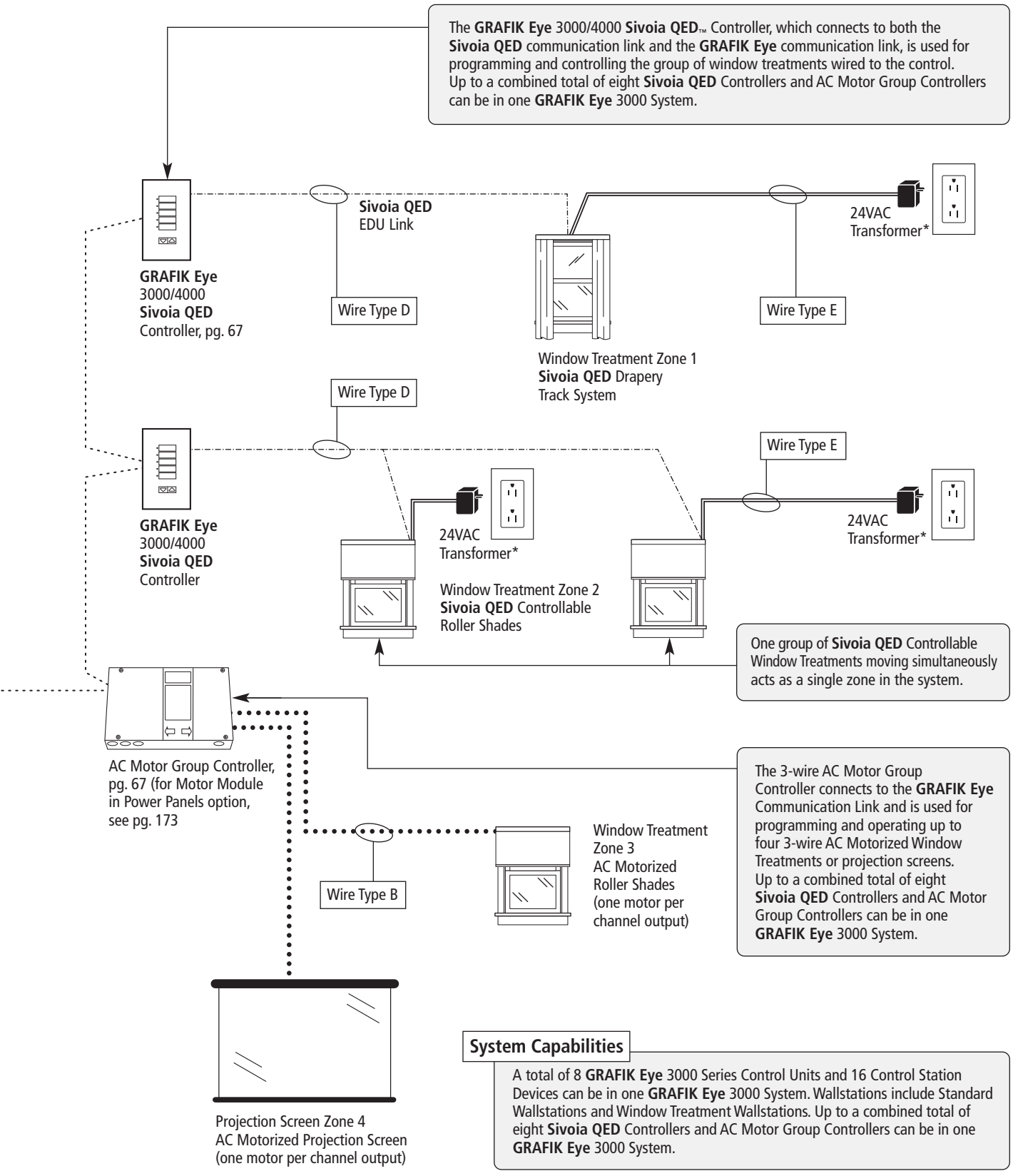
☐ Complete product specifications are available at www.lutron.com.


## Designer™ Software

Lutron's 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.


Single zone wattage capacity on **GRAFIK Eye** 3000 Series Control Units can be increased with Power Boosters/Interfaces. Electronic Low-Voltage and Lutron **Hi-lume**® / **Eco-10**™ (ECO-Series) Fluorescent Dimming Ballasts require Interfaces to dim regardless of wattage.
**GRAFIK Eye** Control Units and Standard Wallstations can select scenes incorporating both lighting and/or window treatment zones, in the following three possible combinations: lights and window treatment scenes, lights-only scenes, and window treatment-only scenes.
Wire Type A
120VAC Feed from Distribution Panel
Electronic Low-Voltage Interface, pg. 30
120VAC Feed from Distribution Panel
Wire Type B
Incandescent, Magnetic Low-Voltage, or Neon/Cold Cathode Loads
Lutron **Tu-Wire**® Fluorescent Dimming Ballasts, pg. 237
Lutron **Hi-lume** and **Eco-10** (ECO-Series) Fluorescent Dimming Ballasts, pg. 236
Lutron Fluorescent Dimming Ballast Interface, pg. 30
Wire Type A
Zone 1
Zone 2
Zone 3
Zone 4
Control Interfaces, pg. 56
Standard Wallstation, pg. 42
GRAFIK Link
Wire Type C
To device by others
**GRAFIK Eye** 3000 Control Unit, pg. 26
120VAC Feed from Distribution Panel
**GRAFIK Eye** 3500 (CPN1622) Control Unit, pg. 26
120VAC Feed from Distribution Panel
**seeTouch**™ Window Treatment Wallstations, pg. 68
Control of **Sivoia QED**™ and 3-wire AC Motorized Window Treatments and Projection Screens requires dedicated zones on **GRAFIK Eye** Control Units (custom part number CPN1622). Lighting Zones and Window Treatment Zones can be mixed on the same Control Unit, or can be on independent units as shown.
Window Treatment Wallstations control only window treatments without affecting lights. Each Window Treatment Wallstation can simultaneously control one or more window treatments, up to the maximum number of window treatments in the system.
**Wiring Type Key**
Type A (2) #12 AWG wires (120V/277V)
Type B (3) #12 AWG wires (120V/277V)
Type C (2) twisted, pair #18 AWG Class 2 wires (Available from Lutron; Model #: GRX-CBL-346S)
Type D (3) #18 AWG wires (24VAC, plus earth ground) + (1) twisted, shielded pair #22 AWG (Available from Lutron; Model #: SVQ-CBL-250)
Type E (3) #16 AWG wires (24VAC, plus earth ground)

The **GRAFIK Eye** 3000/4000 **Sivoia QED**™ Controller, 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** Controllers and AC Motor Group Controllers can be in one **GRAFIK Eye** 3000 System.




One group of **Sivoia QED** Controllable Window Treatments moving simultaneously acts as a single zone in the system.

The 3-wire AC Motor Group Controller connects to the **GRAFIK Eye** Communication Link and is used for programming and operating up to four 3-wire AC Motorized Window Treatments or projection screens. Up to a combined total of eight **Sivoia QED** Controllers and AC Motor Group Controllers can be in one **GRAFIK Eye** 3000 System.

## System Capabilities

A total of 8 **GRAFIK Eye** 3000 Series Control Units and 16 Control Station Devices can be in one **GRAFIK Eye** 3000 System. Wallstations include Standard Wallstations and Window Treatment Wallstations. Up to a combined total of eight **Sivoia QED** Controllers and AC Motor Group Controllers can be in one **GRAFIK Eye** 3000 System.

* Note: Use a **Sivoia QED** plug-in transformer (shown), a junction box mount transformer, or a **Sivoia QED** power panel. One **Sivoia QED** transformer can power only one EDU regardless of window treatment size. The power wiring from the transformer may be up to 200' (61m).

Cover (shown open)

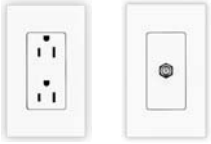

## Architectural Grade

- Provides continuously smooth, square law dimming of all lighting zones
- Controls incandescent, magnetic low-voltage, neon/cold-cathode, and Lutron **Tu-Wire**® Fluorescent Dimming Ballasts without additional parts
- 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 6000V, 3000A
- Up to eight **GRAFIK Eye** 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. 64
- Offers simple programming for presets; no "store" button required

### Compatible Lutron Products

Remote Controls pg. 55 | Wallstation Controls pg. 42 | Window Treatment Controllers pg. 67 | Power Boosters/ Interfaces pg. 29

### Matching Accessories



Receptacles pg.130 | Cable and Phone Jacks pg. 130

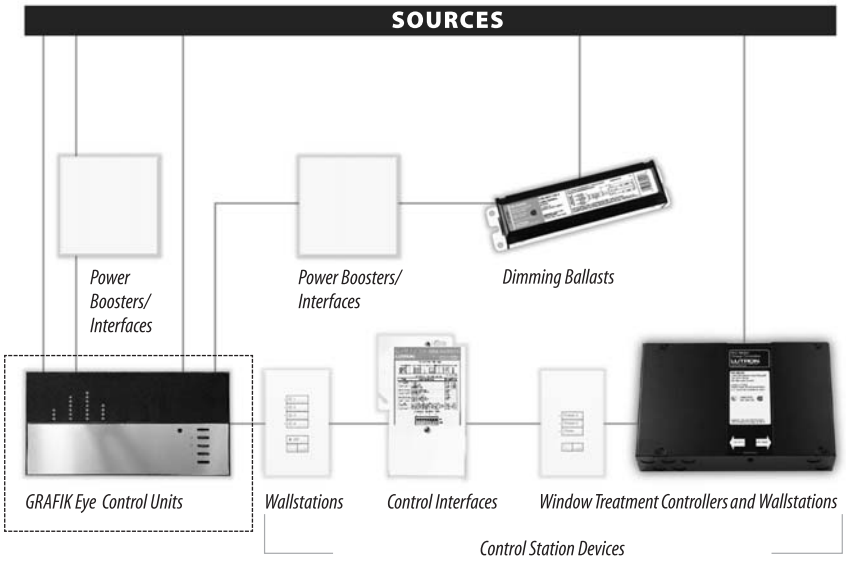
## GRAFIK Eye 3000 SYSTEM MAP

- Use the map at right to identify system component being reviewed in each section
- For overall wiring information, See pg. 24

### Sources

- Incandescent
- Magnetic Low-Voltage
- Electronic Low-Voltage*
- Fluorescent*
- Neon/Cold Cathode
- Lutron **Tu-Wire**
- 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 **Tu-Wire** Fluorescent Dimming Ballasts
- Load Types controlled through Power Interfaces: fluorescent and electronic low-voltage
  - For control of **Sivoia QED**™ Window Treatments, use SG-SVCN **Sivoia QED** Controller, see pg. 67
  - For control of AC Motorized Window Treatments, use GRX-4M-GC AC Motor Group Controller, see pg. 67 and/or Power Panels with Motor Modules, see pg. 173
- Mounting:
  - Fits standard US wallboxes, 3.50"(89mm) deep strongly recommended, 2.75"(69.9mm) 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

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

LUTRON Quality Systems registered to ISO 9001

### Dimensions

120V, 220-240V, 100V
*W: 5.56" (141mm)*
*H: 4.56" (116mm)*
*D: 2.25" (57mm)[1]*

*Wallbox Size: two-gang, 3.50" (89mm) deep*

230V
*W: 8.94" (227mm)*
*H: 4.56" (116mm)*
*D: 2.25" (57mm)[1]*

*Wallbox Size: four-gang, 3.50" (89mm) deep*

### Dimensions

120V, 220-240V, 100V
*W: 7.25" (184mm)*
*H: 4.56" (116mm)*
*D: 2.25" (57mm)[1]*

*Wallbox Size: three-gang, 3.50" (89mm) deep*

230V
*W: 8.94" (227mm)*
*H: 4.56" (116mm)*
*D: 2.25" (57mm)[1]*

*Wallbox Size: four-gang, 3.50" (89mm) deep*

| Source | Product | Max. Capacity | Model |
|---|---|---|---|
| | ***2-ZONE CONTROL UNITS[4]*** | | |
| | **Incandescent, Magnetic Low-Voltage, Neon/Cold Cathode, Lutron Tu-Wire® Fluorescent Dimming Ballasts** | | |
| | **120V** | 800W/VA per zone, 1200W/VA per control unit | |
| | 3100 | | **GRX-3102-_** |
| | 3500[2,3] | | **GRX-3502-_** |
| | **220-240V (non CE)** | 1200W/VA per zone, 1600W/VA per control unit | |
| | 3100 | | **GRX-3102-_-AU-_** |
| | 3500[2,3] | | **GRX-3502-_-AU-_** |
| | **230V (CE)** | 800W/VA per zone, 1600W/VA per control unit | |
| | 3100 | | **GRX-3102-_-CE-_** |
| | 3500[2,3] | | **GRX-3502-_-CE-_** |
| | **100V** | 600W/VA per zone, 1000W/VA per control unit | |
| | 3100 | | **GRX-3102-_-JA-_** |
| | 3500[2,3] | | **GRX-3502-_-JA-_** |
| | **Electronic Low-Voltage, Fluorescent**<br>Electronic low-voltage sources and Lutron **Hi-lume® / Eco-10™** (ECO-Series) fluorescent ballasts require interfaces, see pg. 29. Interface is not required for Lutron's **Tu-Wire** Fluorescent Dimming Ballast. | | |
| | **Controllable Window Treatments**<br>**Sivoia QED™** and 3-wire AC Motorized Window Treatments require Controllers, see pg. 67 and dedicated zones on GRX-350X-X-XXCPN1622[4] Control Units. | | |
| | ***3-ZONE CONTROL UNITS[4]*** | | |
| | **Incandescent, Magnetic Low-Voltage, Neon/Cold Cathode, Lutron Tu-Wire Fluorescent Dimming Ballasts** | | |
| | **120V** | 800W/VA per zone, 1500W/VA per control unit | |
| | 3100 | | **GRX-3103-_** |
| | 3500[2,3] | | **GRX-3503-_** |
| | **220-240V (non CE)** | 1200W/VA per zone, 2400W/VA per control unit | |
| | 3100 | | **GRX-3103-_-AU-_** |
| | 3500[2,3] | | **GRX-3503-_-AU-_** |
| | **230V (CE)** | 800W/VA per zone, 2300W/VA per control unit | |
| | 3100 | | **GRX-3103-_-CE-_** |
| | 3500[2,3] | | **GRX-3503-_-CE-_** |
| | **100V** | 600W/VA per zone, 1250W/VA per control unit | |
| | 3100 | | **GRX-3103-_-JA-_** |
| | 3500[2,3] | | **GRX-3503-_-JA-_** |
| | **Electronic Low-Voltage, Fluorescent**<br>Electronic low-voltage sources and Lutron **Hi-lume / Eco-10** (ECO-Series) fluorescent ballasts require interfaces, see pg. 29. Interface is not required for Lutron's **Tu-Wire** Fluorescent Dimming Ballast. | | |
| | **Controllable Window Treatments**<br>**Sivoia QED™** and 3-wire AC Motorized Window Treatments require Controllers, see pg. 67, and dedicated zones on GRX-350X-X-XXCPN1622[4] Control Units. | | |

**Footnotes, pg. 27**

1 Depth includes wallplate and backbox. Wallplate depth is 0.35" (9mm).
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 Add CPN1622 to the end of 3500 model number for zone load type selections to operate **Sivoia QED** and 3-wire AC Motorized Window Treatments.
4 Counts as one of eight total Control Units per system.

### Ordering Example

***GRX-3102-T-AU-WH***
*add cover option and color/finish suffix to model #*

### COVER OPTIONS

| | |
|---|---|
| *Opaque* | *A* |
| Cover and base will match | |
| *Translucent Black* | *T* |
| Black translucent cover with base color from below | |

### BASE COLORS

#### Matte Finishes

Standard, ships in 48 hrs.
- *Matte Cover Options: A or T*
- *See pg.10 for complete color offering and suffixes.*

#### Gloss (NEMA) Finishes

Ships in 4-6 weeks.
- *Gloss Cover Option: A only*
- *See pg.10 for complete color offering and suffixes.*

#### Metal Finishes

Ships in 4-6 weeks.
- *Metal Cover Option: T only*
- *See pg.10 for complete color offering and suffixes.*

#### Satin Finishes

Ships in 4-6 weeks.
- *Satin Cover Option: A or T*
- *See pg.10 for complete color offering and suffixes.*

#### Customization

Ships in 4-6 weeks.
- *See pg. 12 for multigang wallplates, color matching, engraving/silk screening, and custom controls.*
- *See pg. 143 for engraving schedules.*

#### Locking Covers

- *See pg. 64 for more information.*

### Dimensions

120V, 220-240V, 230V, 100V
*W: 8.94" (227mm)*
*H: 4.56" (116mm)*
*D: 2.25" (57mm)[1]*

*Wallbox Size: four-gang, 3.50" (89mm) deep*

### Dimensions

120V, 220-240V, 230V, 100V
*W: 8.94" (227mm)*
*H: 4.56" (116mm)*
*D: 2.25" (57mm)[1]*

*Wallbox Size: four-gang, 3.50" (89mm) deep*

| Source | Product | Max. Capacity | Model | Color | Suffix |
|---|---|---|---|---|---|
| | ***4-ZONE CONTROL UNITS[4]*** | | | | |
| | **Incandescent, Magnetic Low-Voltage, Neon/Cold Cathode, Lutron Tu-Wire® Fluorescent Dimming Ballasts** | | | | |
| | **120V** | 800W/VA per zone, 2000W/VA per control unit | | | |
| | 3100 | | **GRX-3104-_** | | |
| | 3500[2,3] | | **GRX-3504-_** | | |
| | **220-240V (non CE)** | 1200W/VA per zone, 3000W/VA per control unit | | | |
| | 3100 | | **GRX-3104-_-AU-_** | | |
| | 3500[2,3] | | **GRX-3504-_-AU-_** | | |
| | **230V (CE)** | 800W/VA per zone, 2300W/VA per control unit | | | |
| | 3100 | | **GRX-3104-_-CE-_** | | |
| | 3500[2,3] | | **GRX-3504-_-CE-_** | | |
| | **100V** | 600W/VA per zone, 1600W/VA per control unit | | | |
| | 3100 | | **GRX-3104-_-JA-_** | | |
| | 3500[2,3] | | **GRX-3504-_-JA-_** | | |
| | **Electronic Low-Voltage, Fluorescent**<br>Electronic low-voltage sources and Lutron **Hi-lume® / Eco-10™** (ECO-Series) fluorescent ballasts require interfaces, see pg. 29. Interface is not required for Lutron's **Tu-Wire** Fluorescent Dimming Ballast. | | | | |
| | **Controllable Window Treatments**<br>**Sivoia QED™** and 3-wire AC Motorized Window Treatments require Controllers, see pg. 67 and dedicated zones on GRX-350X-X-XXCPN1622[3] Control Units. | | | | |
| | ***6-ZONE CONTROL UNITS[4]*** | | | | |
| | **Incandescent, Magnetic Low-Voltage, Neon/Cold Cathode, Lutron Tu-Wire Fluorescent Dimming Ballasts** | | | | |
| | **120V** | 800W/VA per zone, 2000W/VA per control unit | | | |
| | 3100 | | **GRX-3106-_** | | |
| | 3500[2,3] | | **GRX-3506-_** | | |
| | **220-240V (non CE)** | 1200W/VA per zone, 3000W/VA per control unit | | | |
| | 3100 | | **GRX-3106-_-AU-_** | | |
| | 35002,3 | | **GRX-3506-_-AU-_** | | |
| | **230V (CE)** | 800W/VA per zone, 2300W/VA per control unit | | | |
| | 3100 | | **GRX-3106-_-CE-_** | | |
| | 35002[3] | | **GRX-3506-_-CE-_** | | |
| | **100V** | 600W/VA per zone, 1600W/VA per control unit | | | |
| | 3100 | | **GRX-3106-_-JA-_** | | |
| | 35002[3] | | **GRX-3506-_-JA-_** | | |
| | **Electronic Low-Voltage, Fluorescent**<br>Electronic low-voltage sources and Lutron **Hi-lume / Eco-10** (ECO-Series) fluorescent ballasts require interfaces, see pg. 29. Interface is not required for Lutron's **Tu-Wire** Fluorescent Dimming Ballast. | | | | |
| | **Controllable Window Treatments**<br>**Sivoia QED** and 3-wire AC Motorized Window Treatments require Controllers, see pg. 67 and dedicated zones on GRX-350X-X-XXCPN1622[3] Control Units. | | | | |

**Footnotes, pg. 28**

1 Depth includes wallplate and backbox. Wallplate depth is 0.35" (9mm).
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 Add CPN1622 to the end of 3500 model number for zone load type selections to operate **Sivoia QED** and 3-wire AC Motorized Window Treatments.
4 Counts as one of eight total Control Units per system.

### Ordering Example

***GRX-3104-T-AU-WH***
*add cover option and color/finish suffix to model #*

### COVER OPTIONS

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

### BASE COLORS

#### Matte Finishes

Standard, ships in 48 hrs.
- *Matte Cover Options: A or T*
- *See pg.10 for complete color offering and suffixes.*

#### Gloss (NEMA) Finishes

Ships in 4-6 weeks.
- *Gloss Cover Option: A only*
- *See pg.10 for complete color offering and suffixes.*

#### Metal Finishes

Ships in 4-6 weeks.
- *Metal Cover Option: T only*
- *See pg.10 for complete color offering and suffixes.*

#### Satin Finishes

Ships in 4-6 weeks.
- *Satin Cover Option: A or T*
- *See pg.10 for complete color offering and suffixes.*

#### Customization

Ships in 4-6 weeks.
- *See pg. 12 for multigang wallplates, color matching, engraving/silk screening, and custom controls.*
- *See pg. 143 for engraving schedules.*

#### Locking Covers

- *See pg. 64 for more information.*

**Hi-Power 2•4•6™**

Zero to Ten Volt Interface/Switching Relay

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

## Compatible Lutron Products

Power Booster

Electronic Low-Voltage Interface

Lutron Fluorescent Dimming Ballast Interface

Dimming Ballasts pg. 236

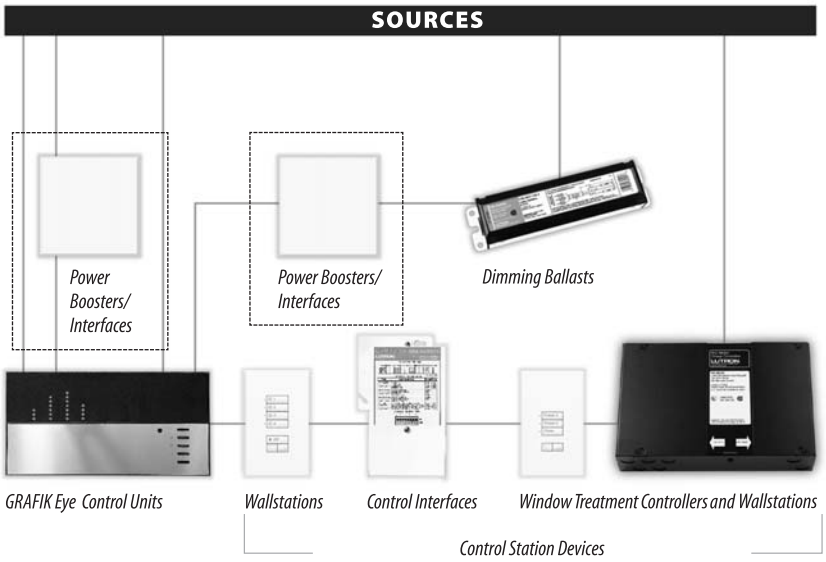
**GRAFIK Eye** 3000 Control Units pg. 26

## GRAFIK Eye 3000 SYSTEM MAP

- Use the map at right to identify system component being reviewed in each section
- For overall wiring information, See pg. 24

### Sources

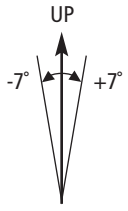
- Incandescent
- Magnetic Low-Voltage
- Electronic Low-Voltage
- Fluorescent
- Neon/Cold Cathode
- Lutron **Tu-Wire®**
- High-Intensity Discharge *(non-dim only)*




## SPECIFICATIONS

All Power Booster/Interfaces:

- All voltages indicated are phase-to-neutral and will operate on 50 or 60Hz 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 4.5" (114mm) 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 listed below apply to one or more products in the **GRAFIK Eye** product line. Consult factory for specific information.*

LUTRON Quality Systems registered to ISO 9001

| Source | Product | Max. Capacity | Model |
|---|---|---|---|

**Dimensions**

*W: 4.56" (116mm)*
*H: 4.56" (116mm)*
*D: 0.69" (18mm)*[3]
*Wallbox Size: two-gang; minimum 3" depth*

### *POWER BOOSTER*[2]

- Increases single **GRAFIK Eye** zone wattage capacity
- Dims incandescent, magnetic low-voltage, neon/cold cathode loads, and Lutron's **Tu-Wire**® Fluorescent Dimming Ballasts
- 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 **GRAFIK Eye** zone

| | | |
|---|---|---|
| **120V** | 2000W/VA[4] | **NGRX-PB-WH** |
| **100V** | 1600W/VA | **NGRX-PB-JA-WH** |
| **220-240V (non CE)** | 2400W/VA | **NGRX-PB-AU-WH** |
| **230V (CE)** | 1200W/VA (with Wallplate) 1840W/VA (without Wallplate) | **NGRX-PB-CE-WH** |

**Dimensions**

*W: 4.56" (116mm)*
*H: 4.56" (116mm)*
*D: 0.69" (18mm)*[3]
*Wallbox Size: two-gang; minimum 3" depth*

### *ELECTRONIC LOW-VOLTAGE INTERFACE*[2]

- Allows dimming of electronic transformer-supplied low-voltage lighting requiring reverse phase-control dimming
- Up to two interfaces can be wired to a single **GRAFIK Eye** zone

| | | |
|---|---|---|
| **120V** | 1000W | **ELVI-1000** |
| **100V** | 1000W | **NGRX-ELVI-JA-WH** |
| **220-240V (non CE)** | 1200W | **NGRX-ELVI-AU-WH** |
| **230V (CE)** | 1200W | **NGRX-ELVI-CE-WH** |

**Dimensions**

*W: 4.56" (116mm)*
*H: 4.56" (116mm)*
*D: 0.69" (18mm)*[3]
*Wallbox Size: two-gang; minimum 3" depth*

### *LUTRON FLUORESCENT DIMMING BALLAST INTERFACE*[2]

- 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 **GRAFIK Eye** zone

| | | |
|---|---|---|
| **120V** | 16A | **GRX-FDBI-16A-120** |
| **100V** | 16A | **NGRX-FDBI-JA-WH** |
| **220-240V (non CE)** | 10A | **NGRX-FDBI-AU-WH** |

**Dimensions**

*W: 6.10" (155mm)*
*H: 12.50" (318mm)*
*D: 3.30" (84mm)*
*Surface Mount*

### *ZERO TO TEN VOLT INTERFACE* **GRX-TVI**

- Allows dimming of Lutron **Eco-10** (ECO-Series) Electronic Dimming Ballasts
- 0-10V output rating: 10µA-300mA; sinks current only
- Up to five interfaces can be wired to a single **GRAFIK Eye** zone
- **120V, 277V, 220-240V, 100V, 230V (CE)** 16A (same model number for all voltages)

### *SWITCHING RELAY* **GRX-TVI**

- Switching relay (non-dim) ratings for all voltages
  16A: Incandescent, Low Voltage, Neon/Cold Cathode, Metal Halide, Fluorescent (capacitive), Non-capacitive
  1/4 hp: 120V–Motor
  1/2 hp: 240V–Motor
- **120V, 277V, 220-240V, 100V, 230V (CE)** 16A (same model number for all voltages)

**Ordering Example**

***NGRX-PB-WH***
Ships in 48 hrs.

**Footnotes, pg. 30**

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 0.35" (9mm).
4 Measured current will not exceed continuous load rating due to voltage drop in the dimmer.

| Source | Product | Max. Capacity | Model |
|---|---|---|---|

### HI-POWER 2•4•6™ DIMMING MODULE[2]

- Up to five modules can be daisy-chained for greater capacity up to 30,000 W/VA
- Rated for 120V or 277V[1]; not for 100V, 230V, 220-240V
- 277V for fluorescent and magnetic low-voltage loads only
- Do not use generator-supplied power
- Modules generate audible noise; mount where acceptable

| | | |
|---|---|---|
| **1 CIRCUIT** | 2000W/VA | **HP-2** |
| **2 CIRCUITS** | 4000W/VA | **HP-4** |
| **3 CIRCUITS** | 6000W/VA | **HP-6** |

**Ordering Example**

*HP-2*
Ships in 48 hrs.

**Dimensions–HP 2,4,6**

*W: 10.38" (264mm)*
*H: 14.50" (368mm)*
*D: 5.75" (146mm)*

*wt: 15 lbs (6.8kg)*

*Surface Mount*

### MAXIMUM CAPACITY[3] -120V

| Model | Total Load | | Inputs | | Outputs | | Maximum Heat Dissipation (BTUs/hr)[4] |
|---|---|---|---|---|---|---|---|
| | MAXIMUM[5] | MINIMUM | LOAD CIRCUITS 120VAC, 60Hz | CONTROL CIRCUIT 120VAC, 60Hz | DIMMED HOT | SWITCHED HOT | |
| HP-2 | 2000W/VA | 50W/VA | 1 | 1 | 1 | 1 | 200 BTUs/hr |
| HP-4 | 4000W/VA | 100W/VA | 2 | 1 | 2 | 2 | 400 BTUs/hr |
| HP-6 | 6000W/VA | 150W/VA | 3 | 1 | 3 | 3 | 600 BTUs/hr |

### MAXIMUM CAPACITY[3] - 277V

| Model | Total Load | | Inputs | | Outputs | | Maximum Heat Dissipation (BTUs/hr)[4] |
|---|---|---|---|---|---|---|---|
| | MAXIMUM | MINIMUM | LOAD CIRCUITS 277VAC, 60Hz | CONTROL CIRCUIT 120VAC, 60Hz | DIMMED HOT | SWITCHED HOT | |
| HP-2 | 4432W/VA | 50W/VA | 1 | 1 | 1 | 1 | 200 BTUs/hr |
| HP-4 | 8864W/VA | 100W/VA | 2 | 1 | 2 | 2 | 400 BTUs/hr |
| HP-6 | 13296W/VA | 150W/VA | 3 | 1 | 3 | 3 | 600 BTUs/hr |

### LOAD CAPACITY PER CIRCUIT

| LAMP TYPE | DIMMED | SWITCHED |
|---|---|---|
| **120V** | | |
| Incandescent | 16A, 1920W | 10A, 1200W |
| Magnetic Low-Voltage | 16A, 1920VA | 10A, 1200VA |
| Electronic Low-Voltage | 16A, 1920W | 10A, 1200W |
| Fluorescent–Lutron **Hi-lume**®/**Eco-10**™(ECO-Series)/**Tu-Wire**® | 16A, | 16A |
| Fluorescent (non-capacitive) | | 10A |
| Fluorescent (electronic) | | 10A |
| HID | | 10A |
| Neon/Cold Cathode | 16A, 1920VA | 10A, 1200VA |
| **277V** | | |
| Magnetic Low-Voltage | 16A, 4432VA | |
| Fluorescent–Lutron **Hi-lume**/**Eco-10** (ECO-Series)/**Tu-Wire** | 16A, | |

**Footnotes, pg. 31**

1 All voltages indicated are phase-to-neutral.
2 Load circuit feed is phase independent of control circuit from dimmer.
3 Up to five HP Modules can be wired to one **GRAFIK Eye** zone.
4 Maximum BTUs/hr are based on all circuits at full load; panels loaded less than full produce proportionately lower BTUs/hr.
5 Measured current will not exceed continuous load rating due to voltage drop in the dimmer.