# GRX-PRG Programming Control Interface



## Description

- Integrates a GRAFIK Eye Lighting Control System with a PC or other digital equipment that supports RS232 communication.
- Provides a basic RS232 command set that allows a PC to monitor and control lighting.
- Built-in Astronomic Timeclock provides ability to schedule lighting events. Example: lobby lights turn on to scene 1 at 7:30 a.m. or 10 minutes after sunrise.
- Enables use of a PC to set up GRX-3500 and GRX-4500 Control Units.
- Comes with easy-to-use, "point-and-click" Windows®-compatible LIAISON™ software for scheduling the Astronomic Timeclock and using the Programmer Interface.
- Functionality is selected using DIP switches.
- Operates with or without a PC connected.
- May be programmed to control any combination of one to eight GRAFIK Eye 3000 or 4000 Series Control Units.
- GRX-3100 and GRX-4100 Control Units may utilize the Astronomic Timeclock function of the GRX-PRG.
- GRX-3500 and GRX-4500 Control Units may utilize all functions of the GRX-PRG.

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**⚜LUTRON®**   SPECIFICATION SUBMITTAL        Page

| Job Name: | Model Numbers: |
|-----------|----------------|
| Job Number: | |

## Specifications

### Power

Low-voltage Class 2 (PELV)
Operating Voltage: 12/24 V Direct Current.

### Basic RS232 Command Set

- Monitoring: Scene selection and scene status updates.
- Control: Scene selection, scene lockout, sequencing, zone lockout, zone raise/lower.

### Astronomic Timeclock

- Allows lighting changes to occur automatically based on time of day and/or day of week/month, as well as relative to sunrise and sunset.
- Supports four schedules with 60 lighting events per schedule and one Super Sequence.
- Allows user to start, pause, and stop schedules from a PC, a Wallstation, or by a DIP switch on the Interface.
- Provides commands to set and monitor the Timeclock's time, date, and day of week, and report sunrise and sunset.

### Programmer Interface

Permits complete set up of the following on GRX-3500 or GRX-4500 Control Units via an IBM™-compatible PC:

- Scenes, including light levels in 1% increments and fade times.
- Load type settings.
- Tamper-proof protection of scenes.
- Assignment of communication between Control Units and Wallstations.
- Dimmer Panel zone and load assignment

Allows an IBM-compatible PC to query GRX-3500 and GRX-4500 Control Units for their setup, including type of Control Unit and number of zones.

### LIAISON™ Software

- Allows use of a PC to create timeclock schedules for all GRX-3000 and GRX-4000 Control Units.
- Allows use of a PC to create setups for GRX-3500 and GRX-4500 Control Units.
- Provides downloading of schedules and setups to GRX-PRG Interface and Control Units.
- Works on any PC operating with Windows® 3.1 or higher.
- Supplied by Lutron. Updates are available online at www.lutron.com

### System Communications and Capacity

- Low-voltage type Class 2 (PELV) wiring connects GRX-PRG Interface to Control Units and other components.
- One GRX-PRG Interface per GRAFIK Eye 3000 or 4000 system. Automatically occupies wallstation address 16.
- 50 feet (15m) maximum from GRX-PRG Interface to PC or other RS232 source.

### Environment

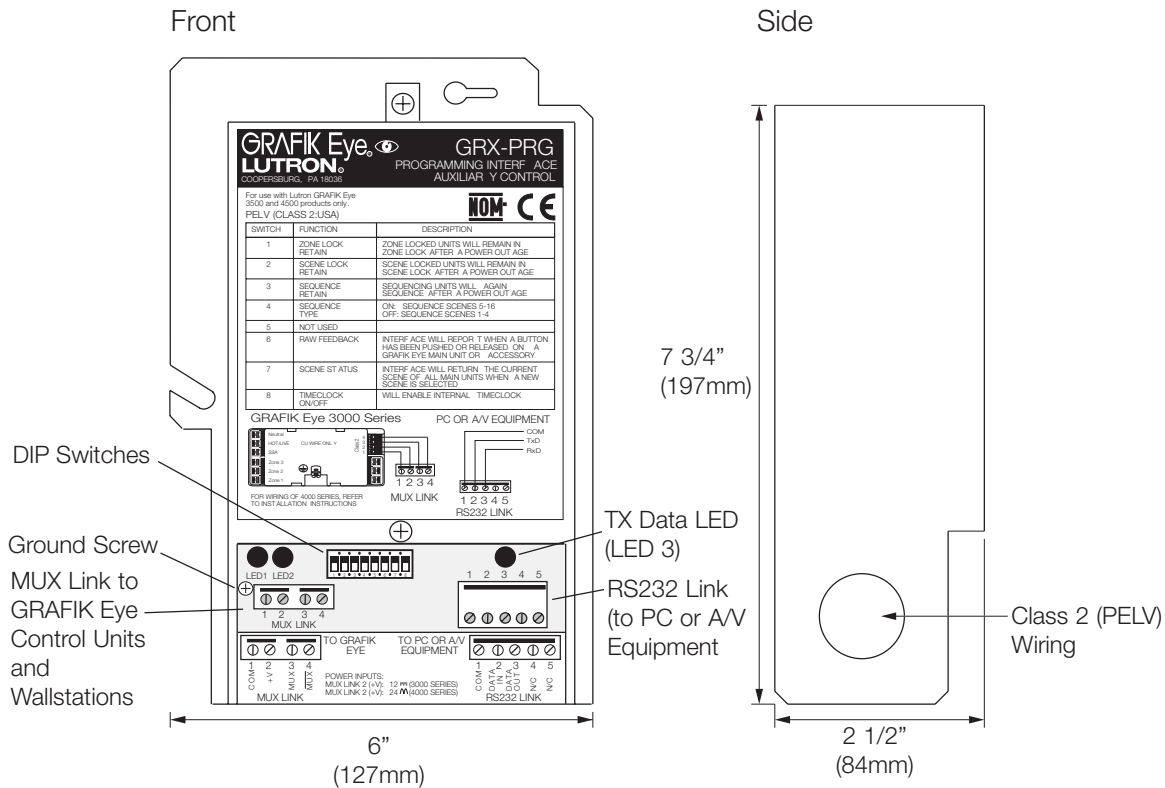32-104°F (0-40°C). Relative humidity less than 90% non-condensing.

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## Functions

| DIP Switch | Function | When set to ON | When set to OFF |
|---|---|---|---|
| 1 | Zone Lock Retain | If power goes out, locked zones stay locked when power returns. | Power cycling unlocks locked zones. |
| 2 | Scene Lock Retain | If power goes out, locked scenes stay locked when power returns. | Power cycling unlocks locked scenes. |
| 3 | Sequence Retain | If power goes out, sequencing resumes when power returns. | Power cycling stops sequencing. |
| 4 | Sequencing Scene Range | Sequencing loops through scenes 5 to 16. | Sequencing loops through scenes 1 to 4. |
| 5 | Not Used | | |
| 6 | Button Feedback | Interface reports Control Unit and Wallstation button presses. | No reporting on button presses. |
| 7 | Scene Status | Interface reports scene changes. | No reporting on scene changes. |
| 8 | Astronomic Timeclock Schedules | Enables internal Timeclock. | Disables internal Timeclock. |

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## Dimensions

Front

Side



DIP Switches

Ground Screw

MUX Link to
GRAFIK Eye
Control Units
and
Wallstations

TX Data LED
(LED 3)

RS232 Link
(to PC or A/V
Equipment

Class 2 (PELV)
Wiring

7 3/4"
(197mm)

6"
(127mm)

2 1/2"
(84mm)

## Mounting

- Mount on a 4" (10.2mm) square junction box.
- May also mount directly to the wall.
- Ensure that the metal casing is properly grounded.
  Connect a ground wire to the ground screw.



4"x4"
Junction
Box

GRX-PRG

GRX-PRG

Wall

Wall

Insert Wires
Through
Punch-Outs
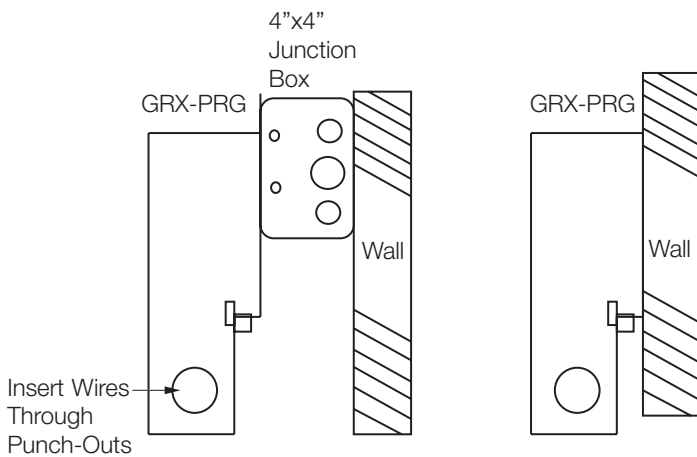
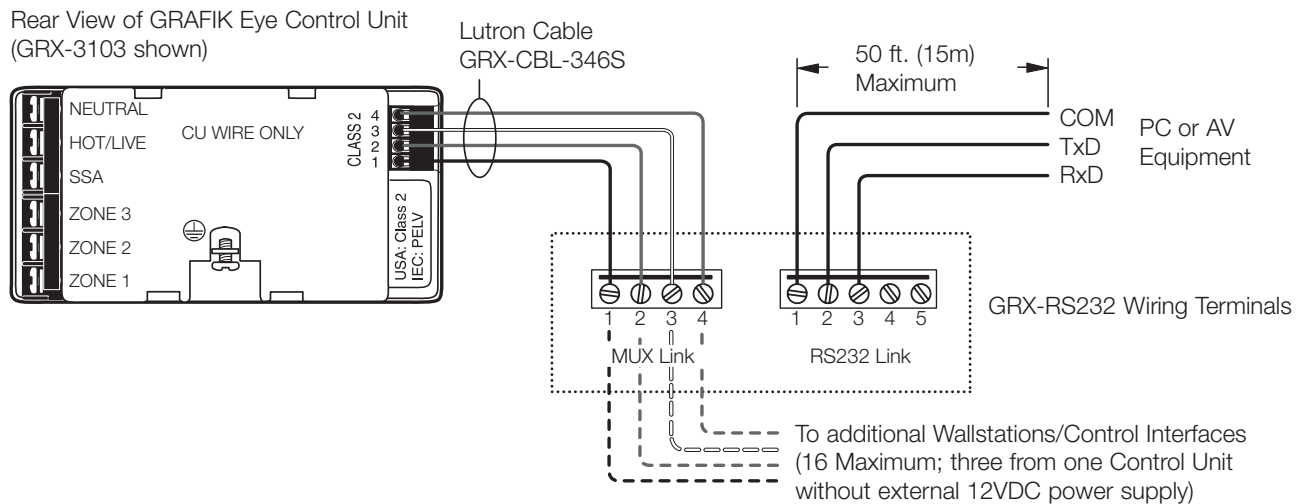| Job Name: | Model Numbers: |
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## RS232 Link Wiring

- Use cable provided.
- Standard 9-pin serial connector plugs into RS232 equipment, other end connects to RS232 Link terminals.
- Must be 50 feet (15m) or less.

### RS232 Signals

| GRX-PRG RS232 Link Terminal | Signal | Typical PC or A/V Equipment | Pin on 9-pin Cable |
|---|---|---|---|
| 1 | Common | Com | 5 |
| 2 | Data In | TxD | 3 |
| 3 | Data Out | RxD | 2 |
| 4 | No Connect | | |
| 5 | No Connect | | |

## Low-Voltage Class 2 (PELV) Wiring

- Make daisy-chain connections to the low-voltage Class 2 (PELV) MUX Link terminals on the front of GRX-PRG Interface.
- Do not use T-taps. Run all wires in and out of terminal block.
- Each terminal accepts up to two #18 AWG (1.0mm$^2$) wires.
- LED 1 lights when the Class 2 (PELV) MUX link is installed correctly.



Rear View of GRAFIK Eye Control Unit (GRX-3103 shown)

Lutron Cable GRX-CBL-346S

50 ft. (15m) Maximum

NEUTRAL
HOT/LIVE
SSA
ZONE 3
ZONE 2
ZONE 1
CU WIRE ONLY
CLASS 2
USA: Class 2 IEC: PELV

COM
TxD
RxD
PC or AV Equipment

MUX Link 1 2 3 4
RS232 Link 1 2 3 4 5
GRX-RS232 Wiring Terminals

To additional Wallstations/Control Interfaces (16 Maximum; three from one Control Unit without external 12VDC power supply)

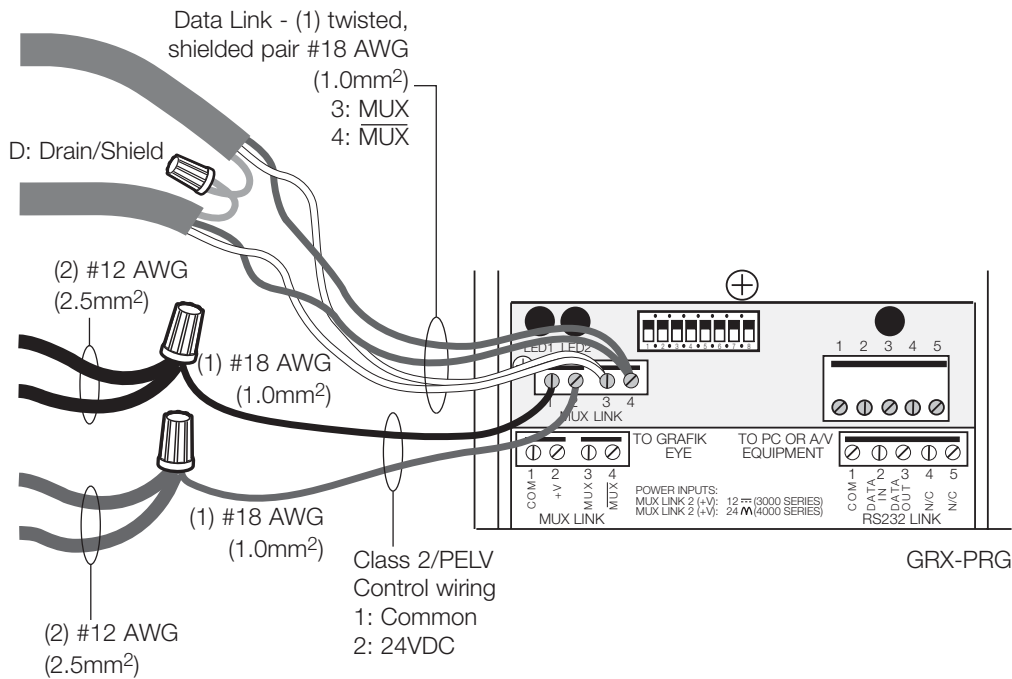| Job Name: | Model Numbers: |
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# Class 2 (PELV) Terminal Connections

### When used with GRX-3000 Control Units

- Two #18 AWG (1.0mm$^2$) conductors for common (terminal 1) and 12VDC (terminal 2). Ensure that the terminal 2 connection is wired correctly. Refer to GRX-3000 Specification Submittal for more details.
- One shielded, twisted pair #18 AWG (1.0mm$^2$) for data link (terminals 3 and 4).

### When used with GRX-4000 Control Units

- Two #12 AWG (2.5mm$^2$) conductors for common (terminal 1) and 24VDC (terminal 2). These will not fit in terminals. Connect as shown.
- One shielded, twisted pair #18 AWG (1.0mm$^2$) for data link (terminals 3 and 4).
- Connect Drain/Shield as shown. Do not connect to Ground (Earth) or Wallstation/Control Interfaces. Connect the bare drain wires and cut off the outside shield.

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| Job Number: | |