GRX-CI-PRG Programming Control Interface

Description

- Integrates a GRAFIK Eye® lighting control system with a PC or other digital equipment that supports RS232 and TCP/IP communication.
- Provides a basic serial string 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, GRX-4100, and GXI-3100 control units may utilize the astronomic timeclock function of the GRX-CI-PRG.
- GRX-3500, GRX-4500, and GXI-3500 control units may utilize all functions of the GRX-CI-PRG.

Job Name:	Model Numbers:
Job Number:	

Specifications

Standards

- California Energy Commission (CEC) Listed

Power

- IEC PELV/NEC® Class 2
- Operating Voltage: 12 V⎓ 125 mA
  24 V⎓ 65 mA

Environment

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

Basic 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 or a Wallstation.
- Provides commands to set and monitor the timeclock's time, date, and day of week, and report sunrise and sunset.
- If a loss of power occurs, the programmed schedules and the time of day will be retained for a minimum of 10 years.

Programmer Interface

Permits complete set up of the following on GRX-3500, GRX-4500, or GXI-3500 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 a Windows®-compatible PC to query GRX-3500, GRX-4500, and GXI-3500 control units for their setup, including type of control unit and number of zones.

LIAISON™ Software

- Control over TCP/IP requires LIAISON™ version 4.0 or later.
- Allows use of a PC to create timeclock schedules for all GRX-3000, GRX-4000, and GXI-3000 series control units.
- Allows use of a PC to create setups for GRX-3500, GRX-4500, and GXI-3500 control units.
- Provides downloading of schedules and setups to GRX-CI-PRG interface and control units.
- Works on any PC operating with Windows® 95 Windows® NT 4.0, XP, or later (excluding Windows® Vista and Windows® 7).
- Supplied by Lutron. Updates are available online at www.lutron.com

System Communications and Capacity

- IEC PELV/NEC® Class 2 wiring connects GRX-CI-PRG interface to control units and other components.
- One GRX-CI-PRG Interface per GRAFIK Eye® 3000 or 4000 or GXI-3000 system. Automatically occupies wallstation address 16.
- 50 ft (15 m) maximum from GRX-CI-PRG Interface to PC or other RS232 source.
- 328 ft (100 m) maximum from GRX-CI-PRG Interface to PC or other Ethernet source.
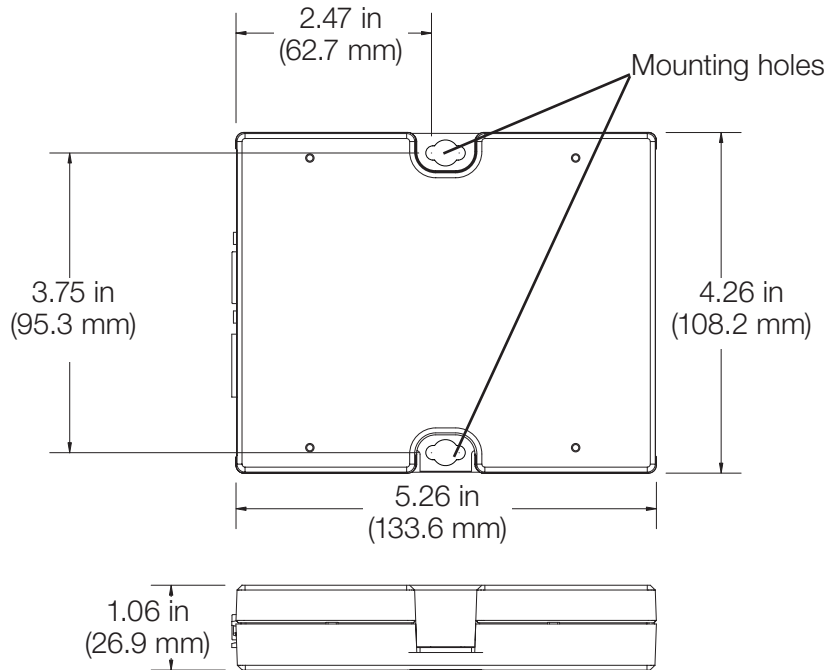
Job Name:	Model Numbers:
Job Number:	

Functions
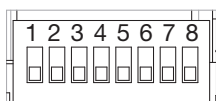
DIP Switch	Function	■↑ When set to ON	↓■ When set to OFF
1	Zone Lock Retain	If power goes out, locked zones stay locked when power returns.	Power cycling unlocks locked zones.
2	Scene Lock Retain	If power goes out, locked scenes stay locked when power returns.	Power cycling unlocks locked scenes.
3	Sequence 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	Do not set to On.	Factory preset; do not change.
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.

Job Name:	Model Numbers:
Job Number:	

Dimensions

2.47 in
(62.7 mm)

Mounting holes

3.75 in
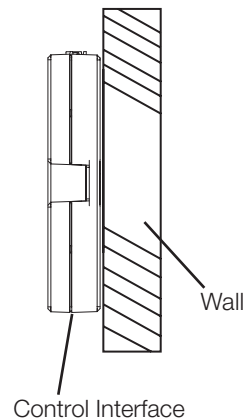(95.3 mm)

4.26 in
(108.2 mm)

5.26 in
(133.6 mm)

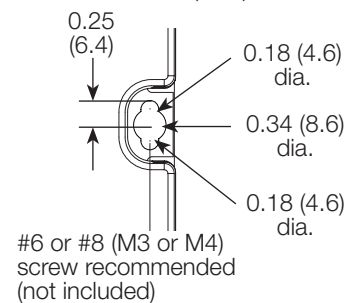1.06 in
(26.9 mm)

Mounting

1. Mount the control interface directly on a wall, as shown in the Mounting Diagram, using screws (not included). When mounting, provide sufficient space for connecting cables.
   The unit can also be placed in the LUT-19AV-1U AV rack using the screws provided with the unit. The LUT-19AV-1U will hold up to four units.
   If conduit is desired for wiring, the LUT-5x10-ENC can be used to mount one unit.
2. Strip ⅜ in (10 mm) of insulation from wires. Each data link terminal will accept up to two 18 AWG (1.0 mm²) wires.
3. Connect wiring as shown in the Wiring Diagram (next page). LED 1 lights continuously (Power) and LED 7 blinks rapidly (Data Link RX) when the IEC PELV/NEC® Class 2 Data Link is installed correctly.
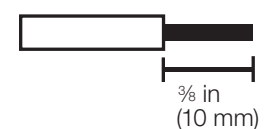
Mounting Diagrams

Wall

Control Interface

LUT-5x10-ENC

Mounting Hole Detail
Dimensions: in (mm)

0.25 (6.4)

0.18 (4.6) dia.

0.34 (8.6) dia.

0.18 (4.6) dia.

#6 or #8 (M3 or M4) screw recommended (not included)

Wire Strip Length

⅜ in (10 mm)

LUT-19AV-1U

Job Name:	Model Numbers:
Job Number:	

RS232 Link Wiring

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

CAT5 Cable:
maximum 328 ft (100 m)

RS232 Cable:
maximum 50 ft (15 m)

To PC or AV equipment: Use a standard DB9 male to DB9 female cable, or follow the chart below.

COM

TxD
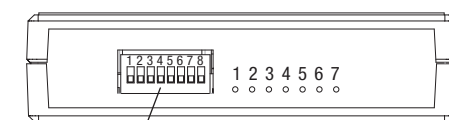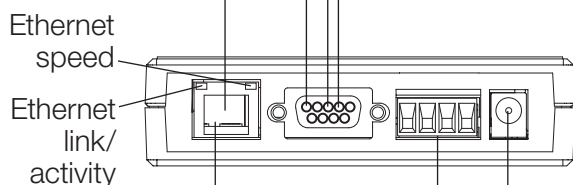
RxD

RS232 Pin Connect Wiring

RS232 Interface	Typical PC or A/V equipment	Pin on 9-pin cable
Common	Com	5
Transmit	TxD	3
Receive	RxD	2

Ethernet speed

Ethernet link/ activity

RJ45 jack: Ethernet link (to PC or A/V equipment)

Data Link (to control units, processors, and wallstations)

DIP switches

12 or 24 V=== to outlet (with optional transformer). Do not wire terminal 2 on Data Link when using optional transformer. To power separately from the Data Link, order the following Lutron transformer model numbers:

    120 V∼: T120-15DC-9-BL

    240 V∼: TE240-15DC-9-BL
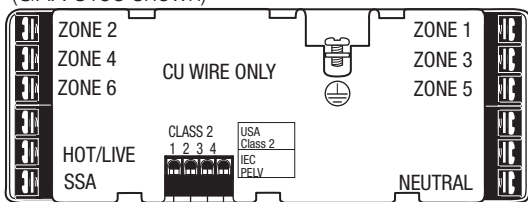
    240 V∼ (UK): TU240-15DC-9-BL

LED 1: Power
LED 2: Ethernet link
LED 3: Unused
LED 4: RS232 link TX
LED 5: RS232 link RX
LED 6: Data link TX
LED 7: Data link RX

Job Name:	Model Numbers:
Job Number:	

IEC PELV/NEC® Class 2 Terminal Connections

- Install in accordance with all applicable regulations.
- Do not connect line voltage/mains power to device.
- This control can use IEC PELV/NEC® Class 2 wiring methods. Check with your local electrical inspector for compliance with national and local codes and wiring practices.
- Make daisy-chain connections to the IEC PELV/NEC® Class 2 data link terminals on the end of the control interface.
- Do not use T-taps. Run all wires in and out of the terminal block.
- Each terminal accepts up to two 18 AWG (1.0 mm^2) wires.

Control Interface Wiring:
GRX-3000 or GXI-3000 Control Unit

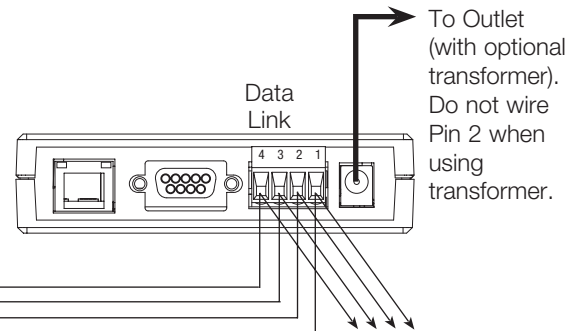Rear View of GRAFIK Eye® Control Unit
(GRX-3106 shown)

ZONE 2
ZONE 4
ZONE 6
CU WIRE ONLY
HOT/LIVE
SSA
CLASS 2
1 2 3 4
USA Class 2
IEC PELV
ZONE 1
ZONE 3
ZONE 5
NEUTRAL

Data Link:
4: $\overline{\text{MUX}}$
3: MUX

One shielded, twisted pair 18 AWG (1.0 mm^2) for data link (terminals 3 and 4)

Data Link

4 3 2 1

To Outlet (with optional transformer). Do not wire Pin 2 when using transformer.

Use Lutron Cable GRX-CBL-346S or equivalent

IEC PELV/NEC® Class 2 Power wiring:

2: 12 V=== Power
1: Common

Two 18 AWG (1.0 m^{m2}) conductors for Common (terminal 1) and 12 V=== (terminal 2)

To additional wallstations/control interfaces (16 maximum; 3 powered from one GRAFIK Eye® control unit without external 12 V=== power supply; GRX-CI-PRG counts as two devices toward the maximum of three connected to one GRAFIK Eye® 3000 control unit when not using optional transformer)
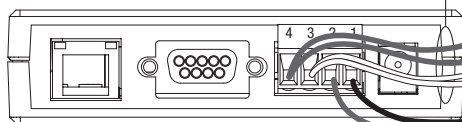
Control Interface Wiring:
GRX-4000 Control Unit

Data Link: (1) shielded, twisted pair 18 AWG (1.0 mm^2)
4: $\overline{\text{MUX}}$
3: MUX

Use Lutron Cable GRX-CBL-46L

4 3 2 1

D: Drain/Shield

(2) 12 AWG (2.5 mm^2)

Note: Do not connect drain/shield to ground (earth) or wallstation/control interfaces. Connect the bare drain wires and cut off the outside shield.

Note: 12 AWG (2.5 mm^2) conductors for Common (terminal 1) and 24 V=== power (terminal 2) will not fit in terminals; use 18 AWG (1.0 mm^2) pigtails (< 6 in/15 mm).

IEC PELV/NEC® Class 2 Power wiring:

1: Common
2: 24 V=== Power

(2) 18 AWG (1.0 mm^2) pigtails, 6 in (15 mm) maximum length
Do not wire Pin 2 when using optional transformer.

(2) 12 AWG (2.5 mm^2)

Job Name:	Model Numbers:
Job Number:	