GRX-IO Control Interface

Description

- Integrates a GRAFIK Eye® lighting control system with equipment that has a contact-closure I/O, including:
  - Motion and occupant sensors.
  - Timeclocks and push buttons.
  - Motorized projection screens, skylights, window shades, and movable walls.
  - AV equipment.
  - Security systems.
- May be programmed to control any combination of one to eight GRAFIK Eye® 3000 or 4000 Series control units.

Inputs/Outputs

- Provides five inputs and five outputs.
- Provides both normally open (NO) and normally closed (NC) contacts.
- Using the inputs, contact closures in other equipment can operate control units to:
  - Select scenes.
  - Adjust scenes to reflect status of movable walls.
  - Turn lights on or off based on room occupancy.
- Using the outputs, scene changes in control units can:
  - Trigger outputs to control other equipment.
  - Provide status feedback to other equipment.

Job Name:	Model Numbers:	
Job Number:		

Specifications

Power

- IEC PELV/NEC® Class 2
- Operating voltage: 12 V⎓ 200 mA
  24 V⎓ 100 mA
- Provides 2-way interface between preset lighting controls and dry contact closure devices.
- Provides 5 inputs and 5 outputs. Outputs can control other manufacturers' equipment.

Operating Modes

- Scene selection
- Special functions
- Partitioning
- Occupant sensor

Status LEDs

Five Status LEDs light when associated output is active (on).

System Communications and Capacity

IEC PELV/NEC® Class 2 wiring connects GRX-IO Interface to control units and other components. Counts toward system maximum of 16 wallstations/control interfaces (3 powered from one GRAFIK Eye® control unit without external 12 V⎓ power supply; GRX-IO counts as two devices toward the maximum of three connected to one GRAFIK Eye® 3000 control unit).

Environment

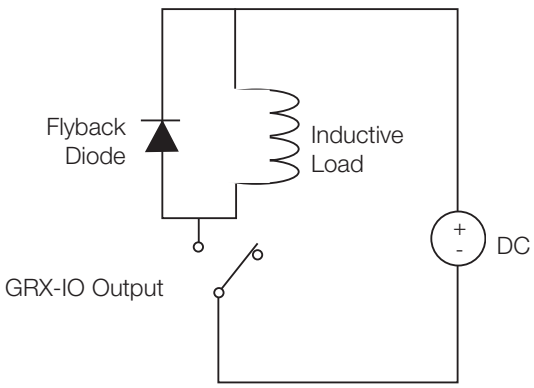
32-104 °F (0-40 °C). Relative humidity less than 90% non-condensing.

Five Input Terminals

- Accept maintained inputs and momentary inputs with 40 msec minimum pulse times.
- Off-state leakage current must be less than 100 µA.
- Open circuit voltage: 24 V⎓ maximum.
- Inputs must be dry contact closure, solid state, open collector, or active-low (NPN)/active high (PNP) output.
  - Open collector NPN or active-low on-state voltage must be less than 2 V⎓ and sink 3.0 mA.
  - Open collector PNP or active-high on-state voltage must be greater than 12 V⎓ and source 3.0 mA.

Five Output Terminals

- Provide maintained or momentary (1-second) outputs.
- The GRX-IO is not rated to control unclamped, inductive loads. Inductive loads include, but are not limited to, relays, solenoids, and motors. To control these types of equipment, a flyback diode must be used (DC voltages only). See diagram below.



Supply Voltage	Resistive Load
0-24 V⎓	1.0 A
0-24 V~	0.5 A

Job Name:	Model Numbers:	
Job Number:		

Operating Modes and DIP Switch Settings

- Operating mode can be selected by setting DIP switches 5 through 8. Inputs and outputs may be maintained or momentary as indicated.
- May be programmed to control any combination of one to eight GRAFIK Eye® 3000 or 4000 Series control units.
- For scene selection and special function modes, one control unit or a group of control units may be assigned to be operated by the GRX-IO.
- With partitioning and occupant sensor modes, a different control unit or group of control units may be assigned for each I/O closure.

Mode	DIP Switches 5 6 7 8	Contact closures invoke: Input 1	Input 2	Input 3	Input 4	Input 5	Inputs:	Outputs:
Scene Selection	■ ■ ■ ■	Scene 1	Scene 2	Scene 3	Scene 4	Off	Maintained or momentary	Maintained
	↓ ■ ■ ■	Scene 5	Scene 6	Scene 7	Scene 8	Off		
	■ ↓ ■ ■	Scene 9	Scene 10	Scene 11	Scene 12	Off		
	↓ ↓ ■ ■	Scene 13	Scene 14	Scene 15	Scene 16	Off		
	■ ■ ■ ↓	Scene 1	Scene 2	Scene 3	Scene 4	Off	Maintained or momentary	Momentary[1]
	↓ ■ ■ ↓	Scene 5	Scene 6	Scene 7	Scene 8	Off		
	■ ↓ ■ ↓	Scene 9	Scene 10	Scene 11	Scene 12	Off		
	↓ ↓ ■ ↓	Scene 13	Scene 14	Scene 15	Scene 16	Off		
Special Functions	↓ ■ ↓ ↓	Sequence scenes 1-4	Zone lockout allows temporary adjustments. No changes to preset scenes.	Scene lockout disables scene buttons.	"Panic" mode turns lights full on (to scene 16), locks Control Units.	Not used	Maintained only	Maintained
	■ ↓ ↓ ↓	Sequence scenes 5-16						
	■ ■ ↓ ■	Sequence scenes 1-4					Momentary only	Maintained
	↓ ↓ ↓ ■	Sequence scenes 5-16						
Partitioning[2]	■ ■ ↓ ■	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Momentary only	Maintained
	↓ ■ ↓ ■	Wall 1	Wall 2	Wall 3	Wall 4	Wall 5	Maintained only	Maintained
Occupant Sensor	■ ↓ ■ ■	Sensor input toggles Control Units between scene 1 and off.					Maintained only[3]	Maintained
	↓ ↓ ↓ ■	Sensor input turns lights off. Occupant must turn lights on.					Maintained only[3]	Maintained

[1] Scenes trigger the position of motorized window shades or projection screens.

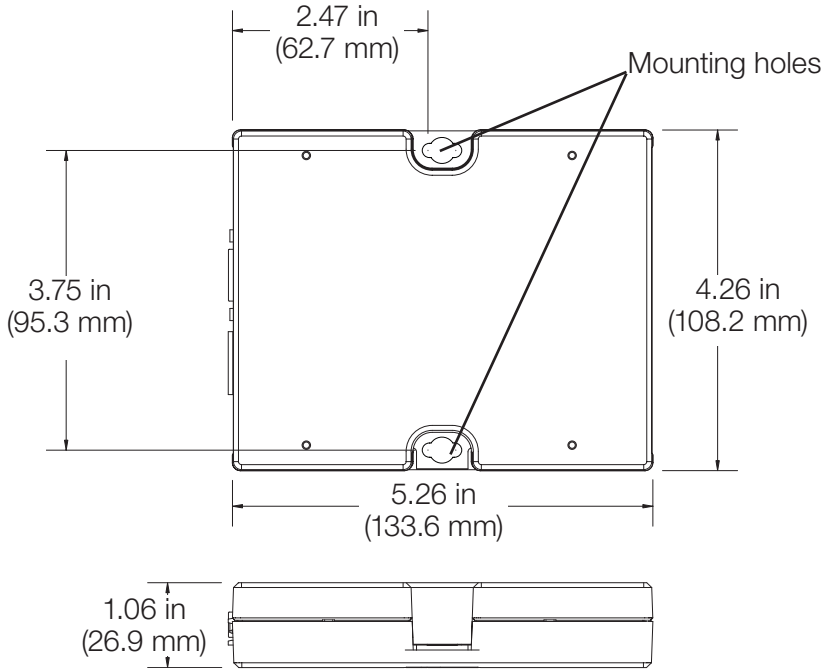
[2] Movable walls toggle control units between "in combination" and "independent" modes of operation. Each input is set up to operate the control units associated with a movable wall (or walls).
- When a motorized wall opens, the wall's switch contact closes. The control units now work "in combination." Scene changes at one control unit occur on all the associated control units.
- When a wall closes, the switch contact opens. The control units return to independent operation.

[3] If an occupant sensor input provides momentary closure, use scene selection mode.

Job Name: Model Numbers:

Job Number:

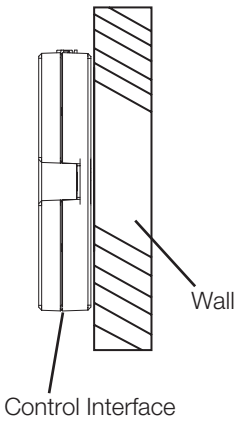
Dimensions



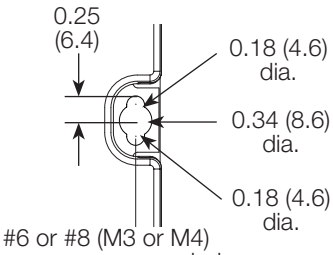
Mounting

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 mm^2) 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 Diagram



Mounting Hole Detail
Dimensions: in (mm)



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

Wire Strip Length

⅜ in
(10 mm)

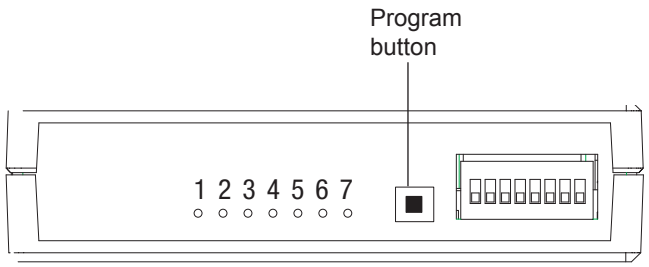
LUT-5x10-ENC

LUT-19AV-1U

Job Name:	Model Numbers:	
Job Number:		

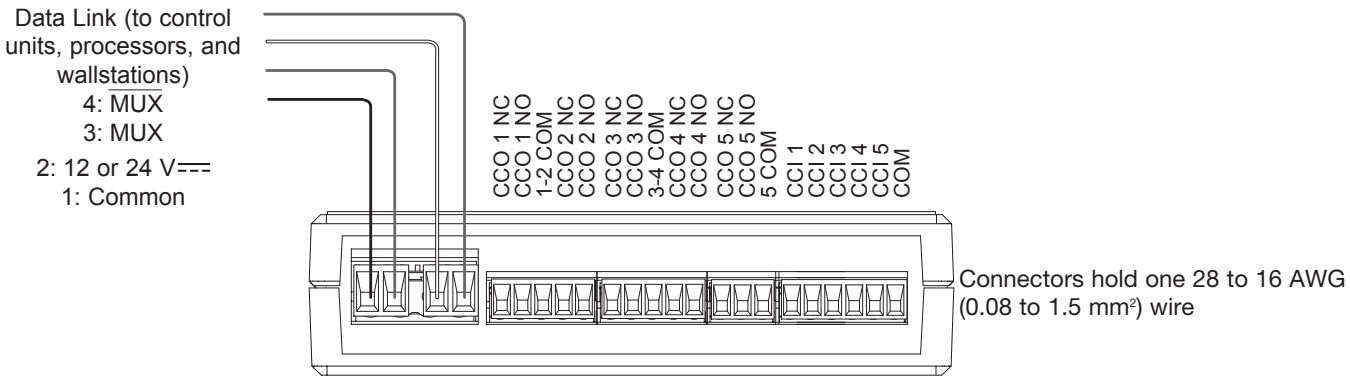
IEC PELV/NEC® Class 2 Wiring

- Daisy-chain the GRX-IO Interface to the IEC PELV/NEC® Class 2 wallstation link that connects to the processor panel.
- Make daisy-chain connections to the IEC PELV/NEC® Class 2 MUX Link terminals on front of GRX-IO 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 mm²) wires.
- Consult GRAFIK Eye® control unit specification submittal for more details.



LED 1: CCO 1
LED 2: CCO 2
LED 3: CCO 3
LED 4: CCO 4
LED 5: CCO 5
LED 6: Unused
LED 7: Link status

Note: LED is ON when CCO NO (normally open contact) is closed.

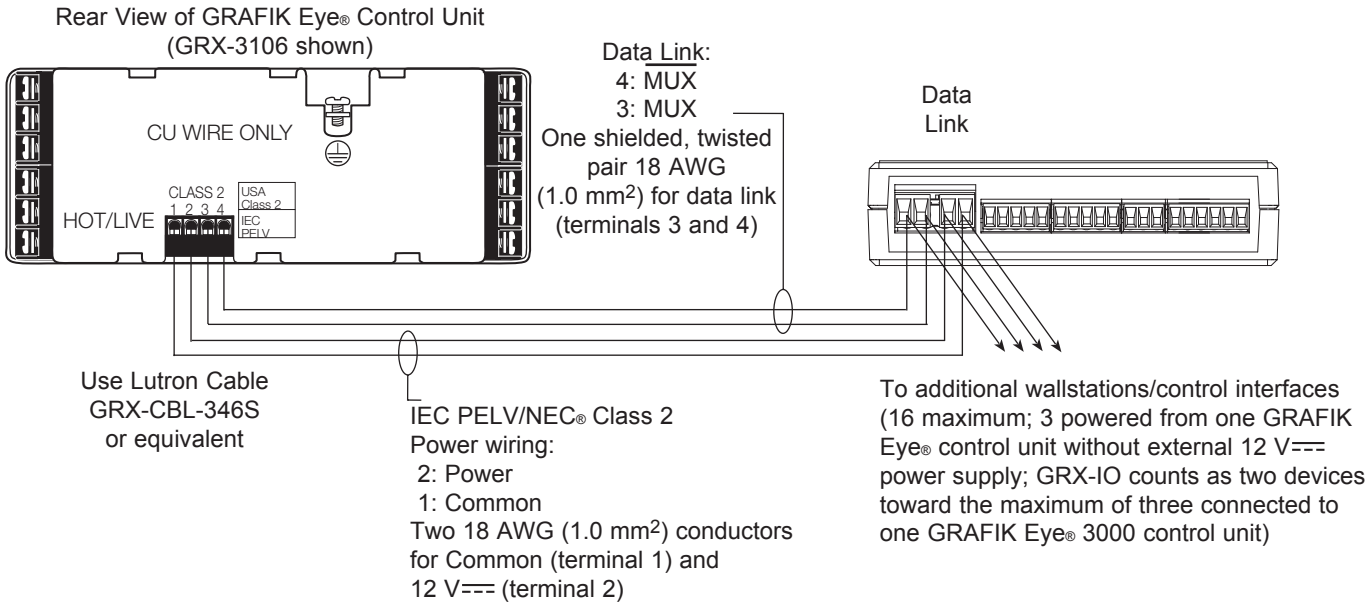


Job Name:	Model Numbers:	
Job Number:		

IEC PELV/NEC® Class 2 Terminal Connections

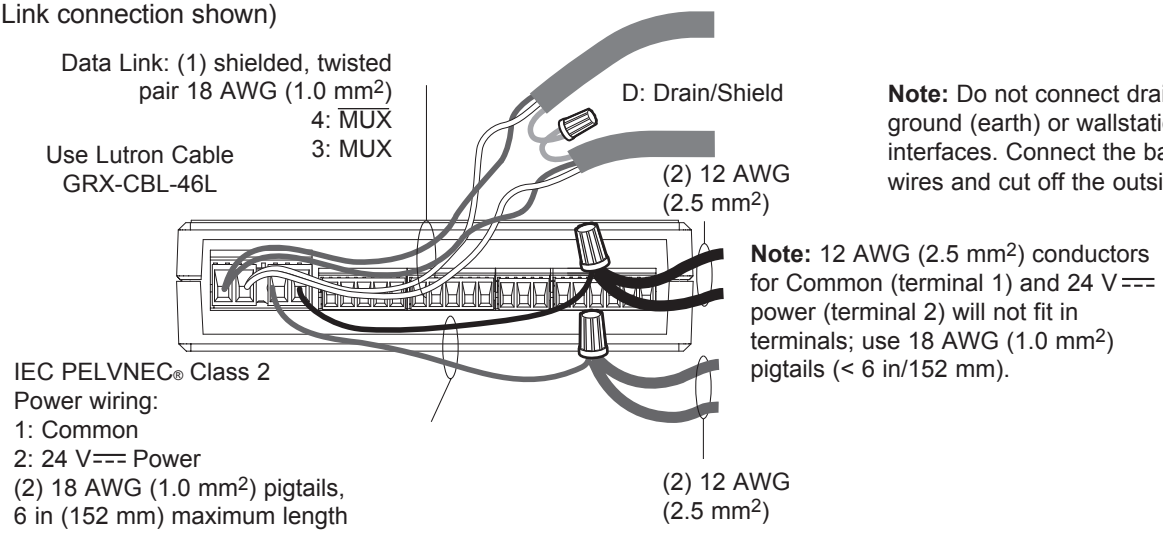
- Install in accordance with all applicable regulations.
- Do **not** connect line voltage/mains power to device.
- This control can use IEC PELV/NEC® Class 2 wiring methods. Check with your local electrical inspector for compliance with national and local codes and wiring practices.
- Make daisy-chain 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 mm²) wires.

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



Control Interface Wiring: GRX-4000 Control Unit

(Data Link connection shown)



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

Job Name:	Model Numbers:	
Job Number:		