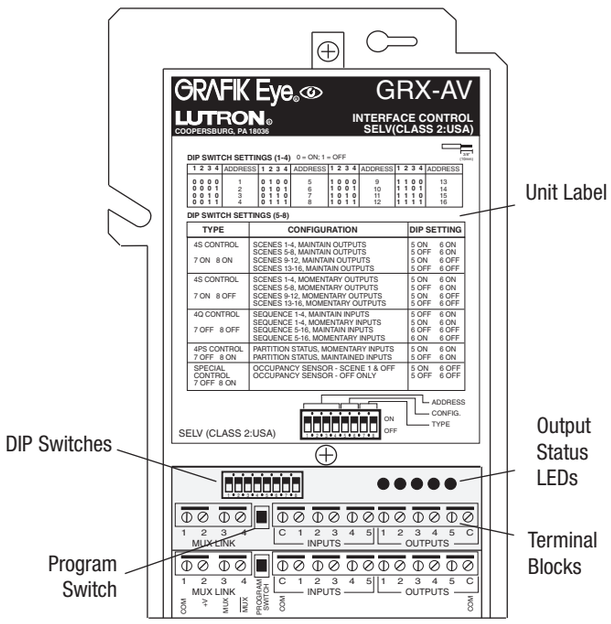
GRAFIK Eye®

Installation and Operation Instructions
Please Read Before Installing

GRX-AV
Control Interface
Class 2/PELV

English



Description

The GRX-AV Control Interface allows customer-supplied auxiliary equipment such as timeclocks, security systems, and occupant sensors to both access and be controlled by the *GRAFIK Eye* Control Unit.

Features

The GRX-AV Control Interface can be configured as one of the following four types:

1. **4S Scene Selection Control**
   Provides for remote control of *GRAFIK Eye* 3000 or 4000 Series Control Units. It can be used to select any four scenes and turn the system and all corresponding lighting Off.
   Maintain Outputs: Allows the selection of up to 5 contact closures to other manufacturers A/V equipment.
   Momentary Outputs: Allows the selection of projector screens requiring momentary output closures.

2. **4Q Special Function Control**
   Sequencing - Cycles the preset light levels from Scene 1 through Scene 4 (or 5 through 16) and back to Scene 1 (or 5) looping indefinitely and using the programmed fade times for each scene.
   Zone Lockout - Prevents modifications to set light levels on the *GRAFIK Eye* Control Unit. Only temporary changes can be made.
   Scene Lockout - Prevents changing of the selected scene or preset levels on all *GRAFIK Eye* Control Unit(s) and Wallstations.
   Panic - Activates Scene 16 on assigned *GRAFIK Eye* Control Unit(s) and places them in Scene Lockout. Toggle of this closure will return controls to their status before Panic was activated.

3. **4PS Partition Control:** Allows independent (Partition Closed) or parallel (Partition Open) operation of multiple *GRAFIK Eye* Control Units.

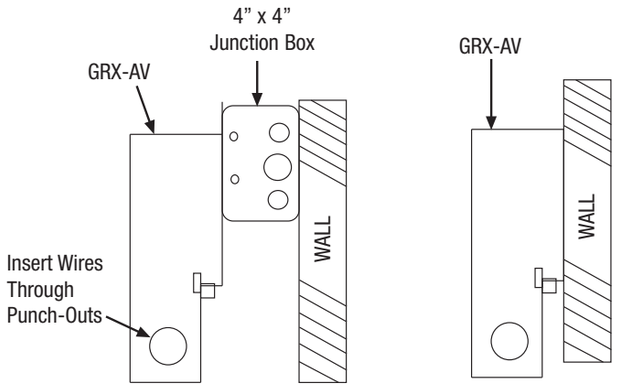
4. **OS Special Control:**
   OS1 - Occupancy Sensor Scene 1/Off - Maintained contact so occupancy sensor can turn ON assigned *GRAFIK Eye* Control Unit(s) while still allowing scene changes once room is entered. Note: Use 4S function if occupancy sensor provides a momentary closure.
   OS2 - Occupancy Sensor Off Only - Occupant must turn lights ON manually, while still allowing energy saving benefits.

Important Notes

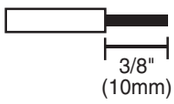
1. Install in accordance with all local and national electrical codes.
2. **CAUTION!** Do not connect line voltage/mains cable to Class 2/PELV terminals
3. *GRAFIK Eye* wallstations are connected to the GRAFIK Eye Control Unit using Class 2/PELV wiring methods per the National Electrical Code.
4. All A/V components are provided by others.
5. Lutron recommends that separate commons be used for "MUX LINK", "INPUTS", and "OUTPUTS".
6. Five input terminals accept maintained inputs and momentary inputs with 40ms minimum pulse times. Switch inputs must have:
   a. On-state saturation voltage less than 2.0VDC.
   b. Off-state leakage current less than 10µA.
7. Five output terminals provide maintained outputs with a solid-state output closure and momentary outputs with a one second solid-state output closure. Can drive only Class 2/PELV output devices that exceed 2.0VDC at 200mA. To drive Class 2/PELV output devices, you must add a Class 2/PELV power supply (Lutron offers a 12VDC transformer for 120V applications. Please ask for P/N GRX-12VDC):
   a. For solid-state output devices, use a power supply that does not exceed 30VDC (Class 2/PELV) output.
   b. For contact-closure output devices, use a relay and a power supply that does not exceed 30VDC (Class 2/PELV) output.

Installation

1. **Mount the GRX-AV Interface Control.** Mount the GRX-AV using a 4"x4" junction box or directly on a wall as shown in the Mounting Diagram. If the unit is not mounted to a junction box, ensure proper grounding of the metal casing by connecting a ground wire to the ground screw. Remove front enclosure cover to expose terminal blocks, DIP switches, and status LEDs.

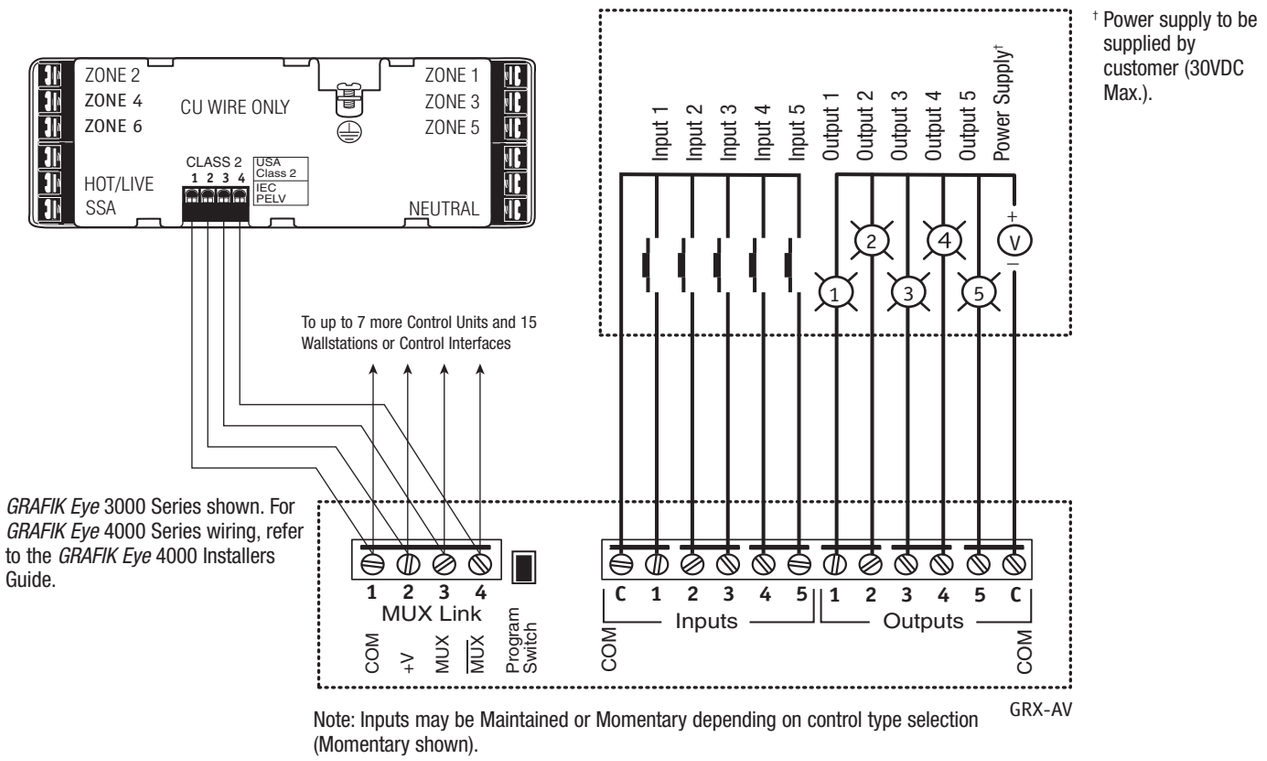


2. **Strip 3/8" (10mm) of insulation from # 18 AWG (1.0mm²) wires.** Each terminal will accept two such wires.



3. **Connect wiring as shown in the Wiring Diagram below.**

Wiring Diagram



† Power supply to be supplied by customer (30VDC Max.).

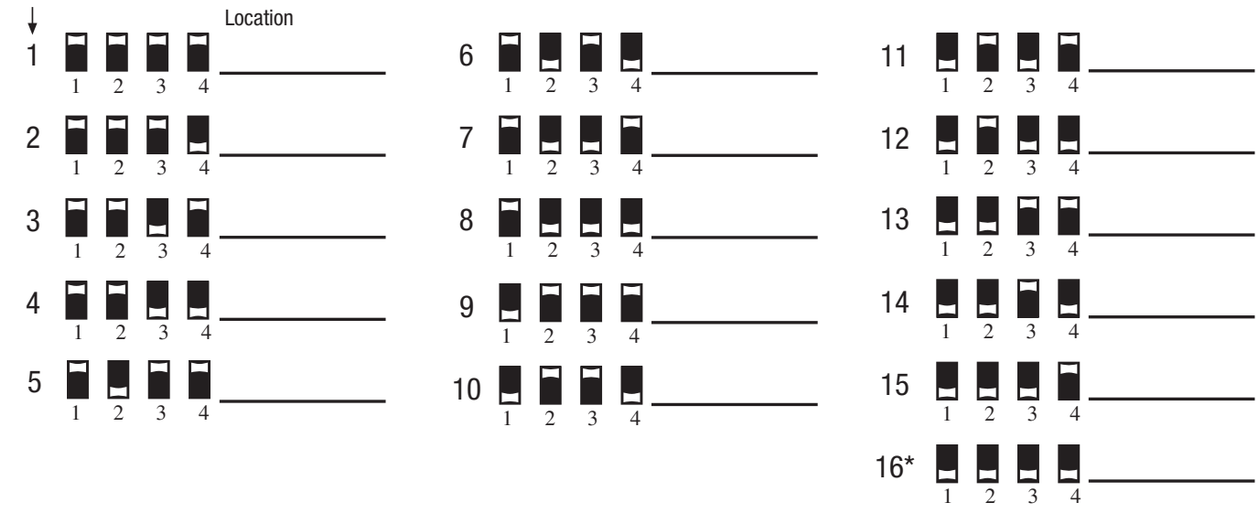
GRAFIK Eye 3000 Series shown. For *GRAFIK Eye* 4000 Series wiring, refer to the *GRAFIK Eye* 4000 Installers Guide.

Note: Inputs may be Maintained or Momentary depending on control type selection (Momentary shown).

4. **Address the GRX-AV.** Up to 16 Controls can be configured in a system. Each Control in a system **must** be assigned a unique address. Set Address Switches 1-4 of the GRX-AV to one of the following for the specified address.

Address Chart

Address



* Reserved for GRX-PRG.

5. **Configure the GRX-AV**. Set Function Switches 5-8 on the front of the GRX-AV Interface Control according to the function desired and type of contact closure provided. Refer to the table below.

Mode	Dip Switches 5 6 7 8	5 Inputs. Contact closures invoke . . . 1	2	3	4	5	Inputs are:	Outputs are:
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
		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 scene16), locks Control Units.	Not Used	Momentary only	Maintained
		Sequence Scenes 5-16						
		Sequence Scenes 1-4					Maintained only	Maintained
		Sequence Scenes 5-16						
Partitioning[a]		Wall1	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		Occ. Sensor 1[b]	Occ. Sensor 2[b]	Occ. Sensor 3[b]	Occ. Sensor 4[b]	Occ. Sensor 5[b]	Maintained only[d]	Maintained
		Occ. Sensor 1[c]	Occ. Sensor 2[c]	Occ. Sensor 3[c]	Occ. Sensor 4[c]	Occ. Sensor 5[c]	Maintained only[d]	Maintained

[a] Movable walls toggle Control Units between "in combination" and "independent" modes of operation. Each input is setup to operate the Control Units associated with a movable wall (or walls).

- When a motorized wall opens, the wall's switch contact closes. This makes the Control Units work "in combination." Scene changes at one Control Unit occur on all the Control Units.
- When a wall closes, the switch contact opens. The Control Units return to independent operation.

[b] Sensor input toggles Control Units on to scene 1 and off.

[c] Sensor input Control Units off. Occupant must turn lights on.

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

Programming

Note: All *GRAFIK Eye* Wallstations must be assigned a unique address.

1. **Put the GRX-AV Control in "Talk".** Press and hold the program switch for 3-5 seconds until:
   • The first Output Status LED blinks or,
   • The first four Output Status LEDs begin to cycle.

2. **Identify the Control Unit(s) to “listen” to this GRX-AV.** Press and hold the Control Unit’s Scene 1 button for about 3 seconds until LEDs flash in unison, showing that these Control Unit(s) are “listening”. Repeat for each *GRAFIK Eye* Control Unit.

   4S or 4Q functions - Go to Step 3.

   4PS or OS functions - Each input must be programmed separately.
   A. Press the program switch to cycle through each input. These represent a partition switch, occupancy sensor, etc. The corresponding Output Status LED will blink.
   B. Program *GRAFIK Eye* Control Units to communicate with the GRX-AV by using the above procedure.
   C. When the fifth input is programmed, the GRX-AV will cycle back to the first input.

3. **Take the GRX-AV out of "Talk".** Press and hold the program switch for 3-5 seconds until the first Output Status LEDs STOP cycling or blinking.

4. **Replace front enclosure cover using the screws provided.**

* To make a *GRAFIK Eye* Control Unit stop "Listening" to a GRX-AV, put the GRX-AV in "Talk" mode. Press and hold the OFF button on the *GRAFIK Eye* Control Unit until the LEDs stop blinking. Take the GRX-AV out of "Talk" mode.

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