

## Features

### Interface modules for LED and switch control of custom graphic annunciator panels including:

- **4100-7401**, 24 Point I/O Graphic Modules with points selectable as either switch inputs or LED outputs
- **4100-7402**, 64 Switch and 64 LED Driver Module with 32 on-board LED drivers
- **4100-7403**, 32 Point LED Driver Modules
- **4100-7404**, 32 Point LED Switch Input Modules

### Module compatibility:

- For use with Simplex 4007ES, 4010ES, 4100ES, and 4100U series fire alarm control units
- Also compatible with Simplex legacy panel model series 4100, 4120, and 4020 (see 4020 compatibility note in [Graphics Control Module Descriptions](#) )

### Multiple mounting options are available:

- Semi-flush or surface mount cabinets in beige or red, with or without a glass door
- Interface modules can be mounted in the same cabinet as the graphic panel or mounted nearby
- Plate-mounted for mounting in cabinet by others
- Interface modules are UL listed for use in agency listed custom graphic annunciator panels

### Operation and status supervision:

- Supervised remote unit interface communications (RUI) require a single, twisted, wire pair (some applications may require shields) to the fire alarm control unit (power is supplied via a second wire pair)
- Multiple annunciator module types can be connected to same communications wiring
- Convenient wiring connections are via pluggable terminal blocks

### UL listed to Standard 864 for:

- Fire Detection and Control (UOJZ)
- Smoke Control Service (UUKL)

## Introduction

### Annunciator Control.

These remote annunciator graphic control modules complement Simplex 4007ES, 4010ES, 4100ES, and 4100U (and other installed legacy panels) by providing LED/lamp/relay drivers and switch inputs to allow custom graphic displays to be designed for specific facility requirements, such as for smoke control (UUKL) systems. Wiring is minimized by signaling line circuit (SLC) communications that also provides supervision.

In the event of communications loss, a trouble will be displayed at the fire alarm control panel and can also be identified at the remote annunciator if desired.

### Packaging Flexibility.

For packaging flexibility, these modules are plate-mounted, allowing compatibility with vended graphics assemblies. These modules also provide convenient terminal block wiring connections and use compact ribbon cable connectors for multiple module interconnection.

## System Accessories, LED Annunciators

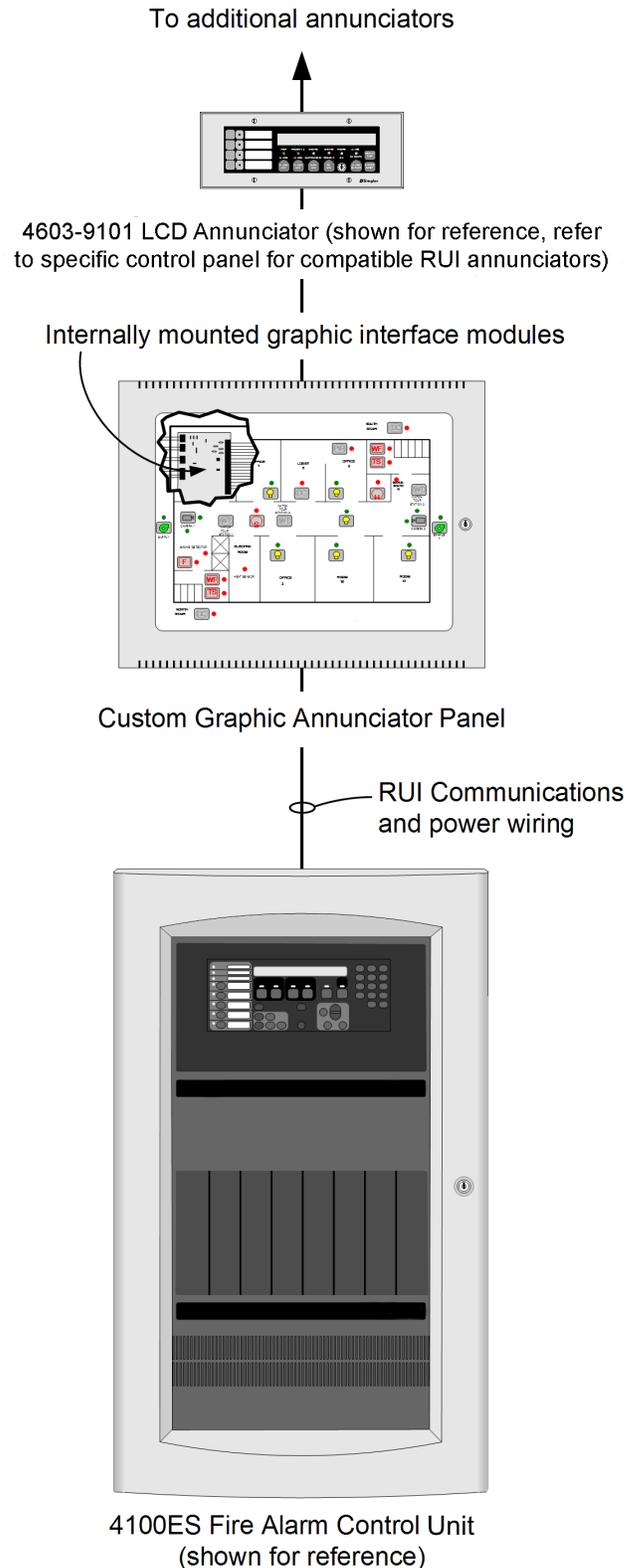


Figure 1: 4100ES Fire Alarm Control Unit Connected to a Remote Graphic Annunciator and a Remote LCD Annunciator

\*This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:0251 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status.

### Graphics Control Module Descriptions

#### 4100-7401, 24 Point I/O Graphic Module:

- 24 Points, selectable as either a switch input or a lamp/relay driver output
- Switch monitoring includes: unsupervised, supervision for opens, supervision for opens or shorts, and supervised monitoring of HOA (hand/off/auto) switches
- Switches can be momentary or maintained, 2 position or 3 position, maximum distance is 2500 ft (762 m), or 65 Ω from the module
- Each LED/lamp/relay driver is rated at 150 mA @ 24 VDC per point, inrush is current limited for compatibility with incandescent bulbs (relays need to be diode suppressed at the relay coil) maximum distance is 600 ft (183 m), or 2 Ω from the module
- LED/lamp/relay driver outputs are supervised for open circuits and can be set as on continuous, or pulsed at a slow or fast rate
- Additional inputs are included for communicating a remote power supply trouble and for lamp testing, the module can also be configured to provide local indication of communications loss

**Note:** 4100-7401 is not compatible with installed Simplex 4020 Series fire alarm control panels

#### 4100-7402, 64/64 LED/Switch Controller Module:

- Support for up to 64 switches *and* 64 LEDs (switches are unsupervised)
- Includes 32 LED driver outputs on-board for direct LED connection
- Full capacity is achieved by using a 4100-7403, 32 Point LED Driver Module, and two 4100-7404, 32 Point Switch Modules
- Multiplexed LED drivers provide 40 mA peak, 5 mA average, 60 Hz rate, 12.5% duty cycle for direct LED drive and can be steady on, or slow or fast pulse
- LEDs are supervised for open circuits, LED and switch module connections are supervised
- LEDs or switches can be up to 25 ft (7.6 m) or 3 Ω from module

#### 4100-7403, 32 Point LED Driver Module:

- Provides an additional 32 LED drivers for use with the 4100-7402 Controller
- LED output is the same as for the 4100-7402

#### 4100-7404, 32 Point Switch Module:

- Monitors momentary or maintained 2- or 3- position switches
- Switch position sampling is multiplexed at a 60 Hz rate, 40 mA maximum, 1 mA average

### Module Mounting Reference

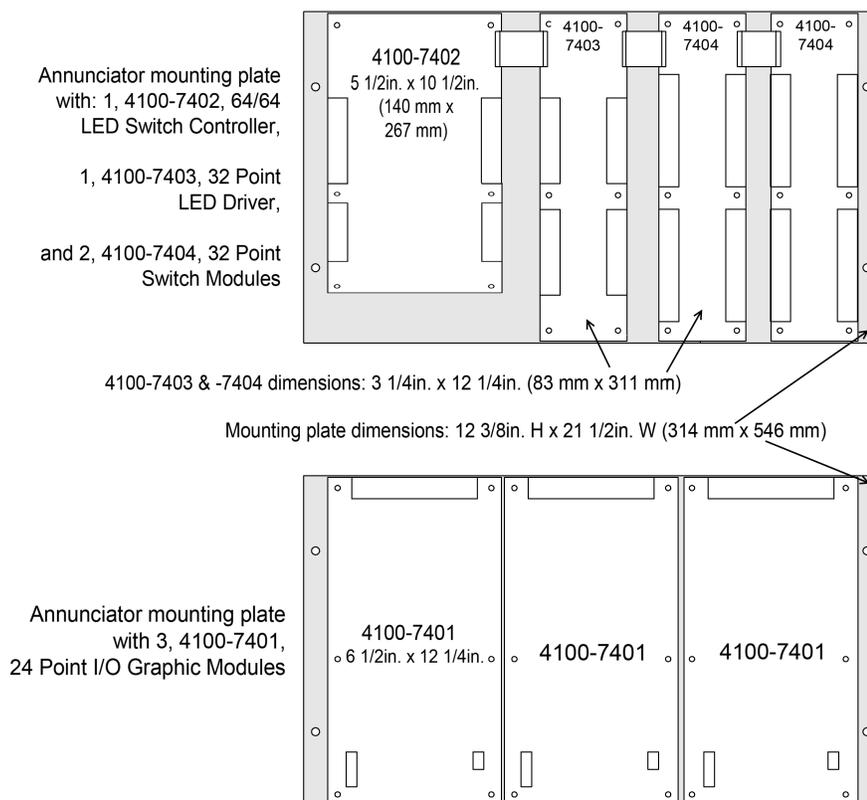


Figure 2: Module mounting reference

## Product Selection

**Table 1: System Type (select one)**

Model	Description
4100-8401	Cabinet mounted graphic modules
4100-8402	Graphic modules only, plate mounted
4100-8904	Aftermarket addition, modules only

**Table 2: Graphic Modules\***

Model	Description	Mounting Information
4100-7401	24 Point I/O Graphic Module	Mounting is on dedicated mounting plates, up to 3 per plate
4100-7402	64/64 LED Switch Controller	<b>Mounting Rules:</b> One 4100-7402, 64/64 LED Switch Controller mounted per plate; the same plate can mount one 4100-7403, 32 Point LED Driver Module, and two 4100-7404, 32 Point Switch Input Modules Each mounting plate requires 2 units of space; 1 plate per 2-unit cabinet, 2 plates per 4-unit cabinet, 3 plates per 6-unit cabinet
4100-7403	32 Point LED Driver Module	
4100-7404	32 Point Switch Input Module	

\* Select as required, refer to [Module Mounting Reference](#) for panel mounting dimensions.

These 4100 series graphic modules are available internally mounted and UL listed in custom graphic annunciator panels and custom graphic smoke control annunciators from Space Age Electronics Inc., website: [www.1sae.com](http://www.1sae.com)

**Table 3: Package Size, Finish and Trim Options (select as required if 4100-8401)**

Model	Description
4100-2401	2-Unit
4100-2402	4-Unit
4100-2403	6-Unit
4100-2404	2-Unit
4100-2405	4-Unit
4100-2406	6-Unit
4100-2201	Red finish option
2975-9801	Semi-flush trim option, beige, 1-7/16" wide (37 mm)
2975-9802	Semi-flush trim option, red, 1-7/16" wide (37 mm)

**Table 4: Aftermarket Solid Door (for cabinet-only models)**

Model	Description
4100-8911	Aftermarket addition designation, use if solid door is required, order with cabinet-only models
4100-2031	2-unit
4100-2032	4-unit
4100-2033	6-unit

## Simplex Cabinet Dimension Reference

**Table 5: Cabinet Dimensions\***

Size	Height	Cabinet Width	Cabinet Depth	Door Width
2-Unit	20-3/4" (527 mm)	25-3/4" (654 mm)	4-1/4" (108 mm)	26-9/16" (675 mm)
4-Unit	36-1/4" (921 mm)			
6-Unit	52-1/8" (1324 mm)			

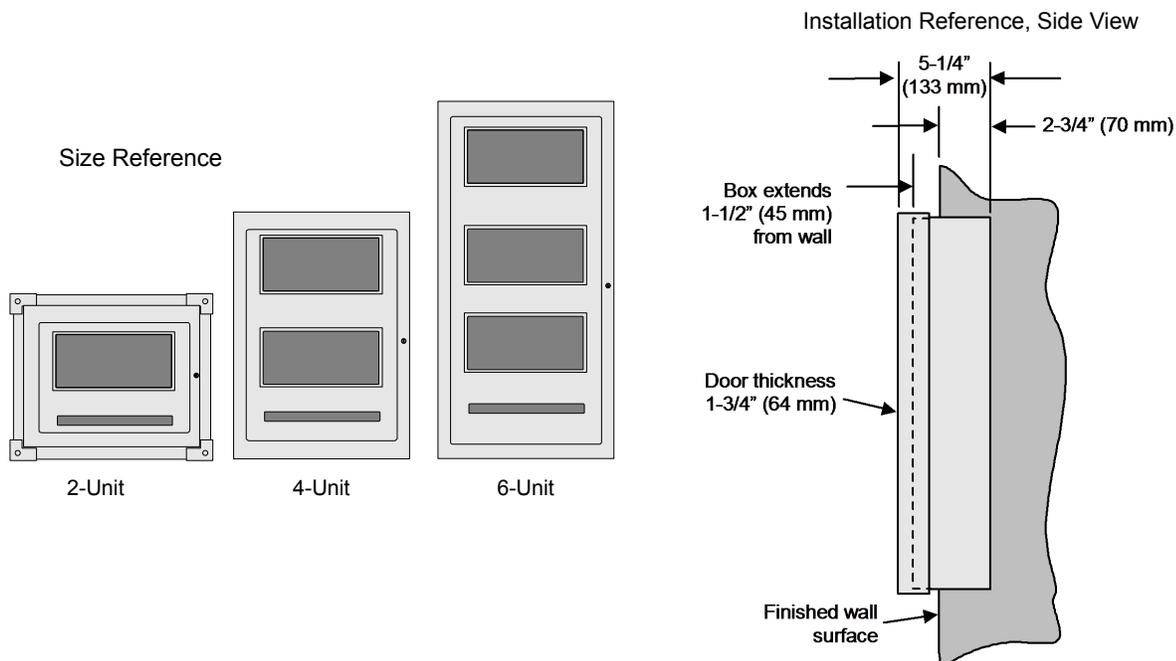
\* See [Simplex Annunciator Cabinet Reference](#) for additional information

## Specifications

**Table 6: Annunciator specifications**

Specification		Rating	
Voltage		18.9 to 32 VDC; 24 VDC nominal from fire alarm control unit	
Current	4100-7401, 24 Point I/O Module	Standby and Alarm = 78 mA + all connected LED/lamp/relay currents and all switch currents	
		Switch current	Unsupervised mode = 12 mA when closed, per switch
			Supervised for open circuit mode = 5 mA open, 12 mA closed, per switch
			Supervised for open or short mode = 4 mA open, 8 mA closed, per switch
4100-7402, 64/64 LED Switch Controller	Standby = 67 mA + all switch loads		
	Alarm = 285 mA with 64 total LEDs on + all switch loads		
	Switch current = 1 mA average, "up" position, 0.5 mA average, "down" position		
Communications		RUI external annunciator communications line SLC	
Capacity Per RUI Output	4100ES & 4100U	Up to 31 total remote RUI devices	Refer to individual control panel and annunciator data sheets for additional RUI compatibility information
	4010ES	Up to 20 internal and external card addresses	
	4007ES	Up to 10 remote RUI devices	
Wiring Requirements	Data	Single, twisted, wire pair (some applications may require shields) 18 AWG (0.82 mm <sup>2</sup> )	Wiring connections are pluggable terminal blocks
	Power	18 to 12 AWG (0.82 mm <sup>2</sup> to 3.31 mm <sup>2</sup> ) wires for 24 VDC system power	
	Input/Outputs	18 to 14 AWG (0.82 mm <sup>2</sup> to 2.08 mm <sup>2</sup> )	
	Earth	A dedicated earth ground connection to the electrical box is required for proper ESD and EMI protection; wire in accordance with NFPA 72 and National Electrical Code (NEC)	
Operating Temperature		32° F to 120° F (0° C to 49° C)	
Operating Humidity		Up to 93% RH, non-condensing @ 90° F (32° C) maximum	
Additional Information		Refer to Field Wiring Diagram 841-802	

## Simplex Annunciator Cabinet Reference



**Figure 3: Cabinet reference**

**Note:** These drawings depict cabinets with glass doors and retainer panels. The 2-Unit cabinet is shown with semi-flush trim. See [Simplex Cabinet Dimension Reference](#) for cabinet dimensions.