

#### Features

##### Basic System includes:

- Capacity for up to 1000 addressable devices, up to 127 VESDA SLI points, up to 2000 points of Annunciation and up to 20 internal and external card addresses
- Color-coded operator interface with membrane keypad includes 2 x 40 Super-twist LCD display, 3 programmable control keys and 6 programmable LEDs
- CPU assembly includes dedicated compact flash memory for on-site system information storage and convenient Ethernet service port access
- 8 A power supply with up to 2 A of Auxiliary power and battery charger capacity for up to 110 Ah batteries (UL) or up to 50 Ah batteries (ULC) (33 Ah max in single bay control cabinet, 50 Ah max with 4100-0650 battery shelf in two bay control cabinet)
- 4 on-board Class A or B, 3 A NACs and one programmable auxiliary relay output rated for 2 A @ 32 VDC
- Class A or B Two-loop Isolated IDNet Communications (IDNet+) supports up to 248 addressable and analog sensing devices on non-twisted, non-shielded wiring
- Remote annunciator module support via RUI (Remote Unit Interface) communications port, either Class B (Style 4) or Class X (Style 7) Pathway operation
- 48 LED panel mount annunciation provides 40 Red and 8 Yellow pluggable LEDs (select models), optional LED kits are available for custom LED configurations
- Available with InfoAlarm Command Center expanded content user interface (two bay cabinet required)

##### Optional Main System Supply mounted modules include:

- City Connect (with or without disconnect switches)
- Alarm Relay Module

##### Optional block space modules include:

- Fire Alarm Network Interface Card for 4120/4100 Peer-to-Peer network communications, supports either Class B or Class X (Style 7) Pathway operation
- Ethernet connectivity options include Building Network Interface Module (BNIC), SafeLINC Internet Interface, and BACpac Ethernet Portal
- Dual RS-232 Module (for printer, PC annunciator or third party interface)
- VESDA Air Aspiration High Level Interface
- Serial DACT
- 8 Zone IDC Modules Class A or B
- 4 Point Auxiliary Relay Module
- Physical Bridge Network Modules
- Additional IDNet+ and MX Loop addressable device modules



1-Bay Cabinet



1-Bay Cabinet with  
LED Annunciation



2-Bay Cabinet

4010ES Panel Type Reference

##### Compatible with Simplex® remotely located:

- 4098-9757 QuickConnect 2 and legacy 4098-9710 QuickConnect TrueAlarm smoke sensors
- 4003EC Small Voice Panels
- 4009 IDNet NAC Extenders (4009A)
- TrueAlert Addressable Controllers (4009T) and Remote TrueAlert Power Supplies (4009 TPS)
- 4081 Series, 110Ah Battery Chargers
- 4100-7400 Series Graphic Annunciators
- 4190 Series PC Annunciator
- 4190 Series Fiber Modems and Physical Bridges
- 4606-9102 Remote LCD Annunciator and 4100-9400 Series Remote InfoAlarm Command Centers, and 4602 Series Status Command Units (SCU) and Remote Command Units (RCU) Annunciators
- IP communicator compatibility

##### 4010ES Agency Listing:

- UL Std. 864, Fire Detection and Control (UOJZ), and Smoke Control Service (UUKL)
- UL Std. 2017, Process Management Equipment (QVAX)
- UL Std. 1076, Proprietary Alarm Units-Burglar (APOU)
- UL Std. 1730, Smoke Detector Monitor (UULH)
- ULC Std. S527-99

\* See pages 5 and 6 for additional listing information. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

## Introduction

**4010ES Series Fire Detection and Control Panels** provide leading edge installation, operator, and service features for customer applications in the mid-range addressable fire alarm systems market. An on-board Ethernet port provides fast external system communications to expedite installation and service activity. Dedicated compact flash memory archiving provides secure on-site system information storage of electronic job configuration files to meet NFPA 72 (*National Fire Alarm and Signaling Code*) requirements.

**Modular design.** A variety of functional modules are available to meet specific system requirements. Selections allow panels to be configured for either Stand-Alone or Networked fire control operation. InfoAlarm Command Center options provide convenient expanded display content (detailed on data sheet S4010-0009).

## Panel Hardware

**The Master Controller and Main System Supply** are mounted in the upper section of the 4100ES cabinet.

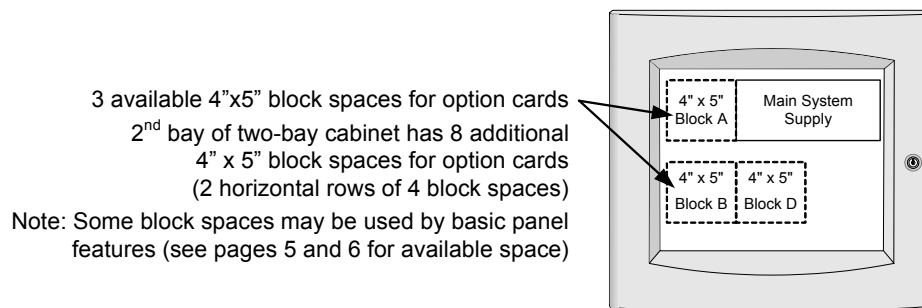
**4010ES Block Space Option Cards** mount to the left of the 4010ES Main System Supply. There are 3 available 4" x 5" blocks for mounting 4010ES hardware options.

**Other 4010ES Options:** The 4010ES City Connect module or the optional Alarm Relay module mount directly to the Main System Supply. These options are mutually exclusive.

Network Media modules mount directly to the 4010ES Network Interface Card.

**The Battery Compartment** located in the bottom of the 4010ES cabinet accepts two batteries without interfering with expansion module space.

The illustrations below identify mounting locations optional 4010ES modules.



Mounting Locations for Optional Modules, One-Bay Cabinet

## Mechanical Description

- Mounting box provides convenient stud markers for drywall thickness and nail-hole knockouts for quicker mounting
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- The hinged User Interface panel easily opens for internal access
- NACs are mounted directly on power supply assemblies providing minimized wiring loss, compact size, and readily accessible terminations
- Modules are power-limited (except as noted, such as relay modules)
- Doors include tempered glass inserts, boxes and doors are available in platinum or red
- Box and door/retainer assemblies are included with Basic Panel assemblies

## Software Feature Summary

- TrueAlarm individual analog sensing with front panel information and selection access
- "Dirty" TrueAlarm sensor maintenance alerts, service and status reports including "almost dirty"
- TrueAlarm magnet test indication appears as distinct "test abnormal" message on display when in test mode
- TrueAlarm sensor peak value performance report
- "**Install Mode**" allows grouping of multiple troubles for uninstalled modules and devices into a single trouble condition (typical with future phased expansion); with future equipment and devices grouped into a single trouble, operators can more clearly identify events from the commissioned and occupied areas
- Module level ground fault searching assists installation and service by locating and isolating modules with grounded wiring
- "**Recurring Trouble Filtering**" allows the panel to recognize, process, and log recurring intermittent troubles (such as external wiring ground faults), but only sends a single outbound system trouble to avoid nuisance communications
- WALKTEST silent or audible system test performs an automatic self-resetting test cycle

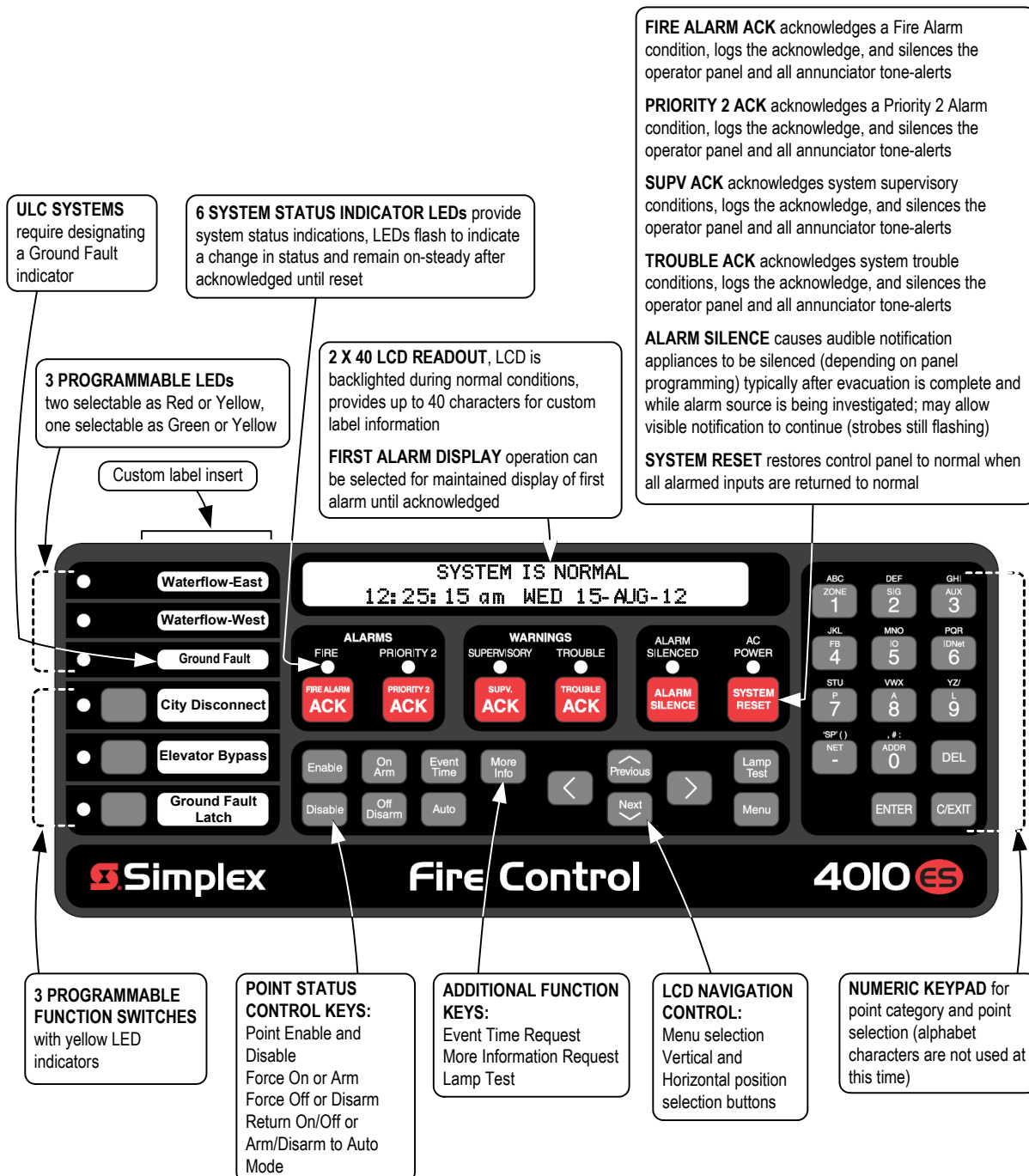
## Operator Interface Features

- Convenient an extensive operator information is provided using a logical, menu-driven display
- Multiple automatic and manual diagnostics for maintenance reduction
- Convenient PC programmer label editing
- Password access control
- Alarm and Trouble History Logs (up to 2000 total events) are available for viewing from the LCD, or capable of being printed to a connected printer, or downloaded to a service computer

**Convenient Status Information.** With the locking door closed, the glass window allows viewing of the display, status LEDs, and available operator switches. Features include a two-line by 40-character, wide viewing angle (super-twist) LCD with status LEDs and switches as shown in the illustration below.

LED indicators describe the general category of activity being displayed with the LCD providing more detail. For the authorized user, unlocking the door provides access to the control switches and allows further inquiry by scrolling the display for additional detail.

The following illustration identifies the primary functions of the operator interface.



## Compatible Peripheral Devices

The 4010ES is compatible with an extensive list of remote peripheral devices including printers, PC Annunciators and both conventional and addressable devices including TrueAlarm analog sensors.

## Addressable Device Control

**Overview.** The 4010ES provides standard addressable device communications for IDNet compatible devices. Using a two wire communications circuit, individual devices such as manual fire alarm stations, TrueAlarm sensors, conventional IDC zones, and sprinkler waterflow switches can be interfaced to the addressable controller to communicate their identity and status.

Addressability allows the location and condition of the connected device to be displayed on the operator interface LCD and on remote system annunciators. Additionally, control circuits (fans, dampers, etc.) may be individually controlled and monitored with addressable devices.

**Addressable Operation.** Each addressable device on the communication channel is continuously interrogated for status condition such as: normal, off-normal, alarm, supervisory, or trouble. Both Class B and Class A pathway operation are available. Sophisticated poll and response communication techniques ensure supervision integrity and allow for "T-tapping" of the circuit for Class B operation. Devices with LEDs pulse the LED to indicate receipt of a communications poll and can be turned on steady from the panel.

**IDNet+ Channel Capacity.** The Main System supply provides an IDNet+ signaling line circuit (SLC) that supports up to 248 addressable monitor and control devices intermixed on the same pair of wires.

**IDNet+ Communications wiring specifications.** IDNet+ circuits may be run on NEC 760 untwisted pair, twisted pair, or shielded twisted pair conductors.

### IDNet+ Wiring Specifications

Size	18 AWG (0.82 mm <sup>2</sup> )	
Type	NEC 760 Wire (untwisted, twisted, or shielded twisted pair)	
Farthest Distance from Control Panel per Device load	126-248	Up to 2500 feet (762 m)
	up to 125	Up to 4000 ft (1219 m)
Total Wire Length Allowed Class A or Class B, including "T-taps" for Class B wiring (total for both isolated circuits combined)	Up to 12,500 ft (3.8 km) Note: The sum of line-to-line capacitance plus the capacitance of either line-to-shield (if shield is present) = 0.6 $\mu$ F maximum (total for both isolated circuits combined)	

\* Other circuits may require shielded wiring. Review your system with your local Simplex product supplier.

## TrueAlarm System Operation

Addressable device communications include operation of TrueAlarm smoke and temperature sensors. Smoke sensors transmit an output value based on their smoke chamber condition and the CPU maintains a current value, peak value, and an average value for each sensor.

Status is determined by comparing the current sensor value to its average value. Tracking this average value as a continuously shifting reference point filters out environmental factors that cause shifts in sensitivity.

**Programmable sensitivity** of each sensor can be selected at the control panel for different levels of smoke obscuration (shown directly in percent) or for specific heat detection levels. To evaluate whether the sensitivity should be revised, the peak value is stored in memory and can be easily read and compared to the alarm threshold directly in percent.

**CO sensor bases** combine an electrolytic CO sensing module with a TrueAlarm analog sensor to provide a single multiple sensing assembly using one system address. The CO sensor can be enabled/disabled, used in LED/Switch modes and custom control, and can be made public for communication across a fire alarm Network. (refer to data sheet S4098-0041 for details)

**TrueAlarm heat sensors** can be selected for fixed temperature detection, with or without rate-of-rise detection. Utility temperature sensing is also available, typically to provide freeze warnings or alert to HVAC system problems. Readings can be selected as either Fahrenheit or Celsius.

**TrueSense Early Fire Detection.** Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 4010ES IDNet address. The panel evaluates smoke activity, heat activity, *and their combination*, to provide TrueSense early detection. For more details on this operation, refer to data sheet S4098-0024.

## Diagnostics and Default Device Type

**Sensor Status.** TrueAlarm operation allows the control panel to automatically indicate when a sensor is almost dirty, dirty, and excessively dirty. The NFPA 72 requirement for a test of the sensitivity range of the sensors is fulfilled by the ability of TrueAlarm operation to maintain the sensitivity level of each sensor. CO Sensors track their 5 year active life status providing indicators to assist with service planning. Indicators occur at: 1 year, 6 months, and when end of life is reached.

**Modular TrueAlarm sensors** use the same base and different sensor types (smoke or heat sensor) and can be easily interchanged to meet specific location requirements. This allows intentional sensor substitution during building construction when conditions are temporarily dusty. Instead of covering smoke sensors (causing them to be disabled), heat sensors may be installed without reprogramming the control panel. The control panel will indicate an incorrect sensor type, but the heat sensor will operate at a default sensitivity to provide heat detection for building protection at that location.

## Master Controller (CPU)

- The 4010ES Master Controller includes dedicated 2GB compact flash Mass Storage memory for on-site system information storage and convenient Ethernet service port access
- Convenient front panel accessed Ethernet port for quick and easy **download** of site-specific programming
- **AND**, firmware enhancements are made via software downloads to the on-board flash memory
- Every downloaded job is automatically stored to Compact flash without overwriting earlier versions providing a means for recovering previous configurations
- Downtime is reduced because the system stays running during download
- Modifications can be **uploaded** as well as downloaded for greater service flexibility
- Mass Storage allows job specific files to be store in the control panel such as test and inspection reports, record drawings, specifications, and more...
- Ethernet connectivity options include Building Network Interface Module (BNIC) and SafeLINC Internet Interface
- RUI (Remote Unit Interface) communications port supports either Class B or X Pathway operation for remote annunciation equipment and for 4009 Series TrueAlert Controllers and TrueAlert Power Supplies

## Basic Panel Description

4010ES panels include an Operator Interface, Master Controller with 2GB Compact Flash, 8 A power supply with up to 2 A of auxiliary power, 110 Ah (UL)/50 Ah (ULC) battery charger (33 Ah max in 1 bay cabinet, 50 Ah max with 4100-0650 battery shelf in two bay control cabinet), 4 Class A or Class B NACs rated @ 3 A each for Special Application and 2 A for Regulated 24 DC operation, 1 RUI Class B or X communications port for remote annunciation devices, cabinet and door. Supports up to 20 internal and external card addresses. Other standard options may be provided depending on model (see basic panel model selection below for additional details on specific models).

## Main System Supply

The Main System Supply provides the power source and the Input/Output connections for the basic 4010ES panel. The main features are listed in the Basic Panel description below.

## Basic Panel Model Selection - 1 Bay Panels

**Note:** Supervisory and Alarm current specifications are for determining battery standby requirements. Current specifications include an active RUI channel. Models with an IDNet channel include 20 IDNet device LEDs activated in alarm. Models with MX communications include module base current. Actual IDNet or MX channel device current is not included, refer to page 6 for details. For models with 48 LED Annunciation, alarm also includes 24 LEDs activated.

Model*	Panel Color	Language & Voltage	Listing	Features	Supv. Current	Alarm Current	Available Option Blocks
4010-9401	Red	English 120 VAC	UL, FM	Basic panel with 2x40 LCD Operator Interface and (1) Two-loop Isolated IDNet+ Channel Class A or B with support for up to 248 addressable analog devices	316 mA	430 mA	3 4"x5" blocks
4010-9402	Platinum						
4010-9501	Red	English 220 - 240 VAC	UL, FM				
4010-9502	Platinum						
4010-9403	Red	English 120 VAC	UL, ULC, FM	Same features as above with 48 LED annunciation	336 mA	495 mA	
4010-9404	Platinum						
4010-9503	Red	English 220 - 240 VAC	UL	Basic panel with 2x40 LCD Operator Interface and (1) MX Loop Channel Class A or B with support for up to 250 addressable MX Loop devices	346 mA	415 mA	1 4"x5" block
4010-9504	Platinum						

\* These products are available as assembled in the USA by adding the suffix "BA" to the model number (e.g. 4010-9401BA)

## Basic Panel Model Selection - 2 Bay Panels

**Note:** Supervisory and Alarm current specifications are for determining battery standby requirements. Current specifications include an active RUI channel. Models with IDNet channels include 20 IDNet device LEDs activated in alarm per channel. Models with MX communications include unloaded module current only. Actual IDNet or MX channel device current is not included, refer to page 6 for details.

Model*	Panel Color	Language & Voltage	Listings	Features	Available Option Blocks	Supv. Current	Alarm Current
4010-9421	Red	English 120 VAC	UL, FM	Basic panel with 2x40 Operator Interface, (1) Two-loop and (1) Four-loop Isolated IDNet+ Channels, Class A or B, with support for up to 494 addressable analog devices	9 4"x5" blocks	391 mA	545 mA
4010-9422	Platinum						
4010-9521	Red	English 220 - 240 VAC	UL, FM				
4010-9522	Platinum						
4010-9425	Red	English 120 VAC	UL, ULC, FM	Basic panel with InfoAlarm Operator Interface and (1) Two-loop Isolated IDNet+ Channel Class A or B with support for up to 248 addressable analog devices	11 4"x5" blocks	398 mA	496 mA
4010-9426	Platinum						
4010-9525	Red	English 220 - 240 VAC					
4010-9526	Platinum						
4010-9523	Red	English 220 - 240 VAC	UL	Basic panel with 2x40 Operator Interface and (2) MX Loop Channels Class A or B with support for up to 500 addressable MX Loop devices	7 4"x5" blocks	446 mA	515 mA
4010-9524	Platinum						
4010-9527	Red	English 220 - 240 VAC	UL	Basic panel with InfoAlarm Operator Interface and (1) MX Loop Channel Class A or B with support for up to 250 addressable MX Loop devices	9 4"x5" blocks	428 mA	481 mA
4010-9528	Platinum						
4010-9529	Red	English 220 - 240 VAC	UL	Basic panel with InfoAlarm Operator Interface and (2) MX Loop Channels Class A or B with support for up to 500 addressable MX Loop devices	7 4"x5" blocks	528 mA	581 mA
4010-9530	Platinum						

\* These products are available as assembled in the USA by adding the suffix "BA" to the model number (e.g. 4010-9421BA)

## Addressable Device Load Specifications for Battery Standby

Addressable Channel	Device Load	Supv. Current	Alarm Current
IDNet+ Channel Device Currents (device LEDs in alarm are included with panel and module currents) Supervisory = 0.8 mA per device Alarm = 1 mA per device	With 248 Devices Add	199 mA	248 mA
	With 125 Devices Add	100 mA	125 mA
	With 50 Devices Add	40 mA	50 mA
MX Loop Card	With 250 devices Add	1.135 A	1.135 A
25V Regulator for MX Loop	4 A output Alarm, 2.5 A Standby Add	4.68 A	3.0 A
	3.5 A output Alarm, 2.0 A Standby Add	4.2 A	2.4 A
	3.0 A output Alarm, 1.5 A Standby Add	3.6 A	1.8 A
	2.5 A output Alarm, 1.0 A Standby Add	2.87 A	1.2 A
	2.0 A output Alarm, 0.5 A Standby Add	2.4 A	630 mA

## Block Space Option Card Selection

Note: Refer to diagrams on pages 2 and 9 for Option Module availability. Supervisory and Alarm current specifications consider no load on addressable channels except as noted (see addressable device load specifications for device load battery standby)

### Single Block Option Modules

Model	Features	Option Block Usage	Supervisory Current	Alarm
4010-9912	Serial DACT	1 Block (must mount in block D under main system supply)	30 mA	40 mA
4010-9908	4 Point Aux Relay Module	1 Block	15 mA	60 mA
4010-9916	Voltage Regulator Module, 22.8 to 26.4 VDC (25 VDC nominal); isolated and resettable output; includes earth detection circuit and trouble relay for status monitoring	1 Block	3 A maximum with 2.5 A load	4.9 A maximum with 4 A load
4010-9918	Dual RS-232 Module	1 Block	60 mA	60 mA
4010-9915	BACpac Ethernet Portal Module; requires 4010-9918 RS-232 Module (no address required)	1 Block	123 mA	123 mA
4010-9901	VESDA HLI	1 Block	60 mA	60 mA

### Dual Vertical Block (Flat) Modules

Model	Features	Option Block Usage	Supervisory Current	Alarm
4010-9928	<b>For 1-Bay Panels Only:</b> Dual Vertical Block Card Mounting Kit, allows selecting two, dual Vertical Block (flat) modules from the list below; mounts at right angle to chassis (note block usage details)	2 Vertical Blocks (mounts in top bay, block space A & B only)	NA	NA
4010-9922	Modular Network Interface Card (requires two media cards from below)	2 Vertical Blocks	30 mA	30 mA
4010-9818	Network Media Card Wired	N/A (mounts to 4010-9922)	55 mA	55 mA
4010-9819	Network Media Card Fiber Optic		25 mA	25 mA
4010-9914	Building Network Interface Card	2 Vertical Blocks	236 mA	236 mA
4010-9923*	SafelINC Internet Interface	2 Vertical Blocks	115 mA	115 mA
4010-9924*	Modem Physical Bridge Class B (Style 4)	2 Vertical Blocks	193 mA	193 mA
4010-9925*	Modem Physical Bridge Class X (Style 7)	2 Vertical Blocks	246 mA	246 mA
4010-9926**	TCP/IP Physical Bridge Class B (Style 4)	3 Block "L" Shape, requires 2 Vertical Blocks, <b>plus</b> adjacent right side lower Block (D, F, or H)	196 mA	196 mA
4010-9927**	TCP/IP Physical Bridge Class X (Style 7)		236 mA	236 mA

### Additional Option Modules with Special Option Block Usage

Model	Features	Option Block Usage	Supervisory Current	Alarm
4010-9920	8 Zone Initiating Device Circuit - Class B	2 Vertical Blocks (mother/daughter card, must mount top bay, left most blocks A & B)	75 mA	195 mA
4010-9921	8 Zone Initiating Device Circuit - Class A			
4010-9917	MX Loop Card supports up to 250 devices	2 Vertical Blocks (not compatible with 4010-9928)	100 mA (no devices)	100 mA (no devices)
4010-9907	IDNet+ Communications Module, supports up to 246 devices; calculate device currents separately, includes 20 device LEDs in alarm	2 Horizontal Blocks	75 mA	115 mA

\* UL, ULC, and CSFM Listed. \*\* FM Approved only.

### Additional Panel Option Selection (block space is not used)

Model	Features	Supervisory Current	Alarm Current	Mounting Requirements
4010-9909	City Connect Module w/ disconnect switches	20 mA	36 mA	Select one maximum, mounts on Main System Supply, only one
4010-9910	City Connect Module	20 mA	36 mA	
4010-9911	Alarm Relay Module	15 mA	37 mA	
4100-5128	Battery Distribution Terminal Block, mounts to side of box, required when battery connection leaves the 4010ES box (also used in the 4100ES fire alarm control panel)			

## Miscellaneous Accessories

### LED Kits

Model	Description
4100-9843	8 Yellow LED Kit
4100-9844	8 Green LED Kit
4100-9845	8 Red LED Kit
4100-9855	8 Blue LED Kit
4100-0650	Battery Shelf, required for 50 Ah batteries (2 Bay cabinets only)

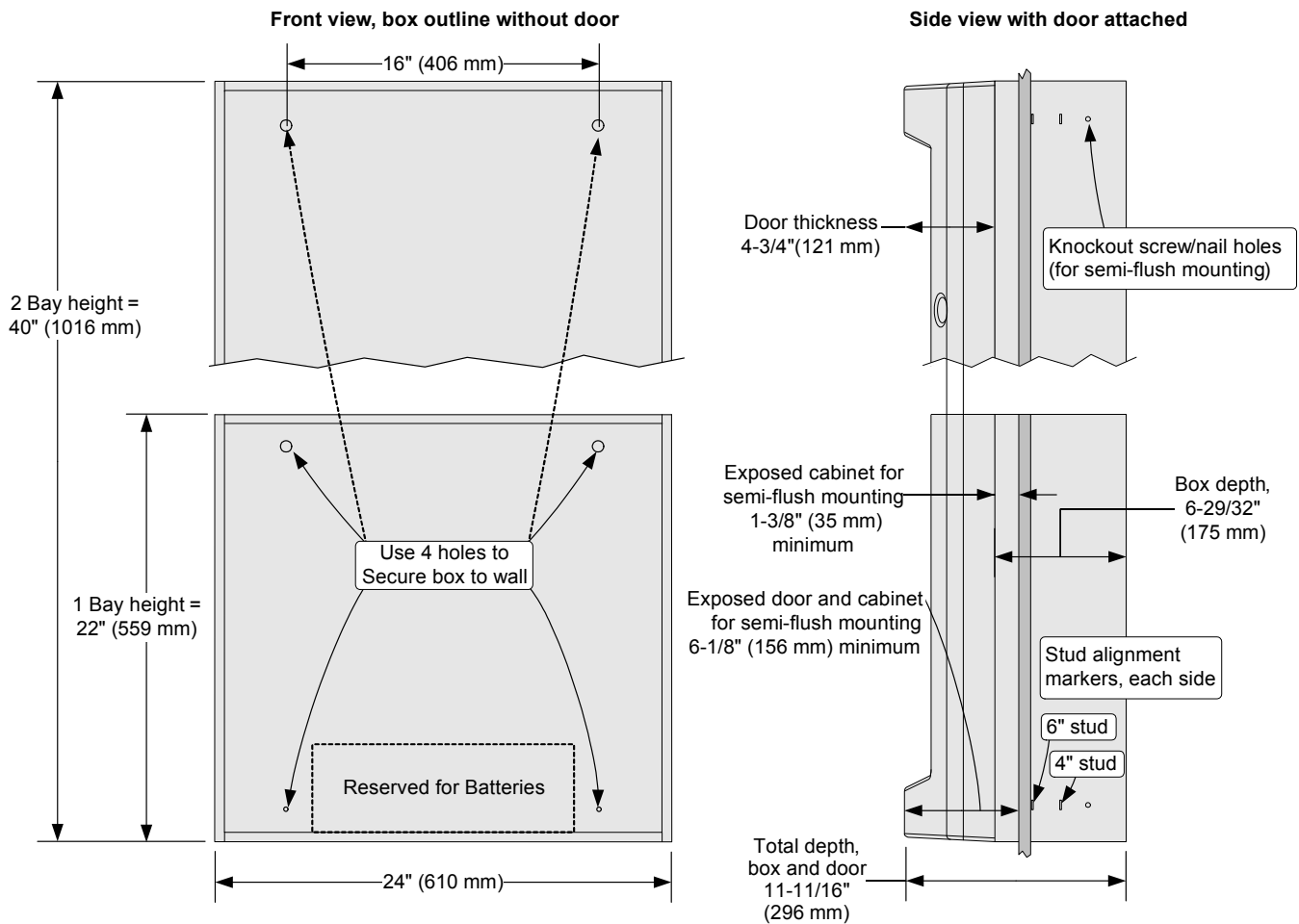
### End User Programming Tools

Model	Description
4100-8802	End User Programming Unit Software
4100-0292	Custom Label Editing (USB Dongle)
4100-0295	Port Vectoring Setup and Control (USB Dongle)
4100-0296	User Group / Passcode Editing (USB Dongle)
4100-0298	WalkTest Configuration Setup and Control (USB Dongle)

### 4010ES Factory Programming

Model	Description
4010-8810	4010ES Factory Programming
4010-0831	Custom Label and Panel Programming

## Cabinet Dimension Reference

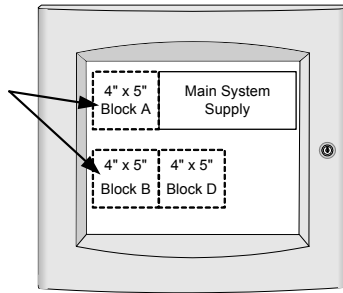




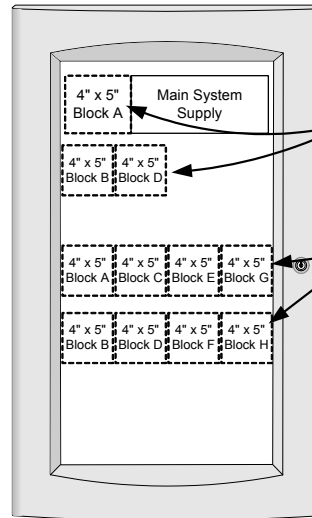
## Cabinet One and Two Bay Loading Reference

First bay of one-bay cabinet has 3 available 4"x5" block spaces for additional option cards

Note: Some spaces may be used by basic panel, see pages 5 and 6 for available space



First bay of two-bay cabinet has 3 available 4"x5" block spaces for additional option cards



Second bay of two-bay cabinet has 8 additional 4" x 5" block spaces for additional option cards (2 horizontal rows of 4 blocks)

Note: Some spaces may be used by basic panel, see pages 5 and 6 for available space

## Additional Compatible Equipment and Reference

Subject	Data Sheet	Subject	Data Sheet	Subject	Data Sheet
4010 ES Agent Release Applications	S4010-0005	IDNet+ Module w/Quad Isolator	S4010-0010	TrueAlert Addressable Controller (4009T)	S4009-0003
Agent Release Accessories	S2080-0010	4602 Series SCU/RCU	S4602-0001	4009 IDNet NAC Extender	S4009-0002
Building Network Interface	S4100-0061	Addressable Device Compatibility, IDNet Communication Sensors and Devices	S4090-0011	4009 TPS (Remote TrueAlert Power Supply) Reference	S4100-0037
SafeLINC Internet Interface	S4100-0062	4606-9102 Remote LCD Annunciator	S4606-0002	4003EC Voice Control Panel	S4003-0002
Interface to VESDA Air Aspiration Detection Systems	S4100-0026	Graphic I/O Modules	S4100-0005	Remote Battery Charger	S4081-0002
Serial DACT (SDACT)	S2080-0009	Remote InfoAlarm Command Center	S4010-0009	120 VAC Remote Printer	S4190-0011
Fire Alarm Network Overview	S4100-0055	Network Communications	S4100-0056	PC Annunciator	S4190-0013
MX Loop Interface Module	S4100-0059	Network Physical Bridge	S4100-0057	Multi-Signal Fiber Optics	S4100-0049
TCP/IP Physical Bridge	S4100-0029	110 Ah Batteries & Cabinets	S2081-0012	BACpac Ethernet Module	S4100-0051

## General Specifications

<b>AC Input Current</b>	120 VAC Models	4 A maximum, 120 VAC @ 60 Hz nominal	
	220-240 VAC Models	2 A maximum, 220/230/240 VAC @ 50 or 60 Hz	
<b>Power Supply Output Ratings (nominal 28 VDC on AC, 24 VDC on battery backup)</b>	Total Power Supply Output Rating	<b>Including module currents and auxiliary power outputs; 8 A total for "Special Application" appliances; 4 A total for "Regulated 24 DC" power (see below for details)</b>	Output switches to battery backup during mains AC failure or brownout conditions
	Auxiliary Power Tap	2 A maximum, rated 19.1 to 31.1 VDC	
<b>Special Application Appliances, maximum of 70 appliances per NAC</b>	Simplex 4901, 4903, 4904, and 4906 Series horns, strobes, and combination horn/strobes and speaker/strobes (contact your Simplex product representative for compatible appliances)		
<b>Regulated 24 DC Appliances</b>	Power for other UL listed appliances; use associated external synchronization modules where required		
<b>Battery Charger Rating (sealed lead acid batteries)</b>	Battery capacity range	UL listed for battery charging of 6.2 Ah up to 110 Ah; ULC listed for charging up to 50 Ah batteries; batteries above 33 Ah require separate cabinet	
	Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours per UL Standard 864; to 70% capacity in 12 hours per ULC Standard S527	
<b>Environmental</b>	Operating Temperature	32° to 120°F (0° to 49° C)	
	Operating Humidity	Up to 93% RH, non-condensing @ 90° F (32° C) maximum	
<b>Additional Technical Reference</b>	Installation Instructions	579-989	
	Operating Instructions	579-969	

## 4010ES Card Address Allocation

The 4010ES has a maximum Internal and External Card Address Limit of 20 Card Addresses. Use the Table below to calculate 4010ES card address allocation.

INSTRUCTIONS: Below is a list of 4010ES equipment and the quantity of card addresses they consume

- 1) For the applicable control panel, write in the Card Address Consumption value in the Card Address Allocation column.  
(Note: Only select 1 control panel)
- 2) For the option cards to be installed on the 4010ES, write in the Card Address Consumption value in the Card Address Allocation column.
- 3) Total the Card Address Allocation column (total must not exceed 20).

Model		Description	Card Address Consumption	Card Address Allocation
<b>Control Panels (Select One)</b>				
4010-9401 4010-9402	4010-9501 4010-9502	2x40 Display, Single IDNet Channel, Single Bay Box	2	
4010-9403	4010-9404	2x40 Display, Single IDNet Channel, 48 Pluggable LED Module	3	
4010-9421 4010-9422 4010-9521	4010-9522 4010-9523 4010-9524	English 2x40 Display, Two IDNet Channels or Two MX Channels	3	
4010-9425 4010-9426 4010-9525	4010-9526 4010-9527 4010-9528	InfoAlarm Display, Single IDNet Channel or Single MX Channel	3	
4010-9529	4010-9530	InfoAlarm Display, Two MX Channels	4	
<b>Panel Option Cards (Select As Required)</b>				
4010-9901		Flat VESDA HLI Card	1	
4010-9922		Flat Network Card	1	
4010-9908		4 Point Flat Aux Relay Module	1	
4010-9912		Serial DACT	1	
4010-9923		SafeLINC Internet Interface Card	1	
4010-9914		Building Network Interface Card	1	
4010-9917		MX Loop Card	1	
4010-9918		Dual RS-232 Module	1	
4010-9920		8 Zone Initiating Device Circuit - Class B	1	
4010-9921		8 Zone Initiating Device Circuit - Class A	1	
<b>Remote Power / Notification (Select As Required)</b>				
4009-9401		TrueAlert Addressable Controller (4009T) 120 VAC	1	
4009-9501		TrueAlert Addressable Controller (4009T) 240 VAC	1	
4009-9813		Transponder Interface Card for 4009 TPS	1	
4100-5120		120 VAC Domestic TrueAlert Power Supply for 4009 TPS	1	
4100-5122		220-240 VAC Domestic TrueAlert Power Supply for 4009 TPS	1	
<b>Remote Annunciation (Select As Required)</b>				
4100-9401	Remote InfoAlarm Command Center	Red Cabinet, English	2	
4100-9403		Platinum Cabinet, English	2	
4100-9421		Red Cabinet, French	2	
4100-9423		Platinum Cabinet, French	2	
4100-9441		Red Cabinet, with blank inserts for key labels	2	
4100-9443		Platinum Cabinet, with blank inserts for key labels	2	
4606-9102		4010ES RUI LCD Annunciator, English	1	
4606-9102BA		4010ES RUI LCD Annunciator, English	1	
4606-9102CF		4010ES RUI LCD Annunciator, French	1	
4602-9101		Status Command Unit (SCU) LED Annunciator	1	
4602-9102		Remote Command Unit (RCU) LED Annunciator w/control	1	
4602-9150		Graphic I/O RCU/SCU Assembly for custom annunciator panels	1	
4602-7101		Graphic I/O RCU/SCU Assembly for custom annunciator panels	1	
4602-7001		RCU for cabinet mount	1	
4602-6001		SCU for cabinet mount	1	
4100-7401		24 Point I/O Graphic Module (requires mounting cabinet)	1	
4100-7402		64/64 LED Switch Controller for custom annunciator panels	1	
4100-7403		32 Point LED Driver Module for custom annunciator panels	1	
4100-7404		32 Point Switch Input Module for custom annunciator panels	1	
<b>Total Card Addresses (Not to Exceed 20)</b>			<b>TOTAL</b>	

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S4010-0006-4 9/2012

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