⑤®Simplex

UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

4100U Fire Control Panels

Addressable Fire Detection and Control
Basic Panel Modules and Accessories

Features

Master Controller (top) bay:
- Master controller with color-coded operator interface including raised switches for high confidence feedback
- Dual configuration program CPU, convenient service port access, and capacity for up to 2000 addressable points**
- CPU assembly includes dedicated archive memory for on-board system information storage
- System power supply (SPS) and charger (9 A total) with on-board: NACs, IDNet™ addressable device interface, programmable auxiliary output and alarm relay
- Module level ground fault search locates and isolates faults to assist installation and service
- Available with InfoAlarm™ Command Center expanded content user interface (see data sheet S4100-0045)
- Available with redundant CPU (requires two bays)
- Upgrade kits are available for existing control panels

Standard addressable interfaces include:
- IDNet addressable device interface with 250 points that support TrueAlarm® analog sensing and operate with *either shielded or unshielded* twisted pair wiring
- Remote annunciator module support via RUI (remote unit interface) communications port

Optional modules include:
- MAPNET II® or additional IDNet output modules and IDNet/MAPNET II quad isolator modules
- IDNet+ output module with built-in quad isolator and enhanced operation for better retrofit to existing wiring (see data sheet S4100-0046)
- TrueAlert® addressable notification appliance power supplies with three, 3 A SLC outputs on-board
- DACT, City Connect, Network Interfaces, and RS-232 output ports for printers or maintenance terminals
- Alarm relays, auxiliary relays, additional power supplies, IDC modules, and NAC expansion modules
- Service modems, VESDA® Air Aspiration Systems interface, and coded manual station interface
- LED/switch modules and panel mount printers
- Audio amplifiers, firefighter master phones, and control modules (see page 7 for additional data sheet reference)

Compatible with Simplex® remotely located:
- 4009 IDNet NAC Extenders
- TrueAlert Addressable Controllers

4100U and upgrade kits are UL Listed to:
- 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

** Simplex fire alarm technology is protected by the following U.S. Patent Numbers: TrueAlarm analog detection: 5,155,468; 5,173,683 and 5,543,777. IDNet/MAPNET II addressable communications; 4,796,025, 5,966,002; and 6,034,601. TrueAlert addressable notification; 6,313,744; 6,426,697; and 6,693,532 B2. SmartSync control; 6,281,789.
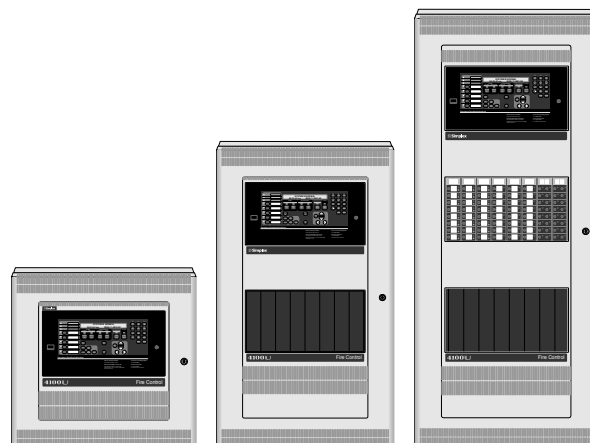
4100U Cabinets are Available with
One, Two or Three Bays

Software Feature Summary

CPU provides two on-board configuration programs:
- Two programs allow for reduced service programming time with one active program and one reserve
- Downtime is reduced because the system stays running during download

PC based programmer features:
- Convenient front panel accessed Ethernet port for quick and easy ***download*** of site-specific programming
- Modifications can be ***uploaded*** as well as downloaded for greater service flexibility
- ***AND***, firmware enhancements are made via software downloads to the EPROM – service personnel are not required to exchange board level components

Introduction

4100U Series Fire Detection and Control Panels
provide extensive installation, operator, and service features with point and module capacities suitable for a wide range of system applications. An on-board Ethernet port provides fast external system communications to expedite installation and service activity. Dedicated archive memory allows on-board system information storage.

Modular design. System specific application requirements are determined by selecting from a wide variety of functional modules. Selections allow panels to be configured for either Stand-Alone or Networked fire control operation.

(Additional features not covered in this document are found in documents referenced on page 7.)

* See pages 5 and 6 for product that is UL or ULC listed and additional listing information. 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 7165-0026:251 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. 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 Safety Products Westminster.
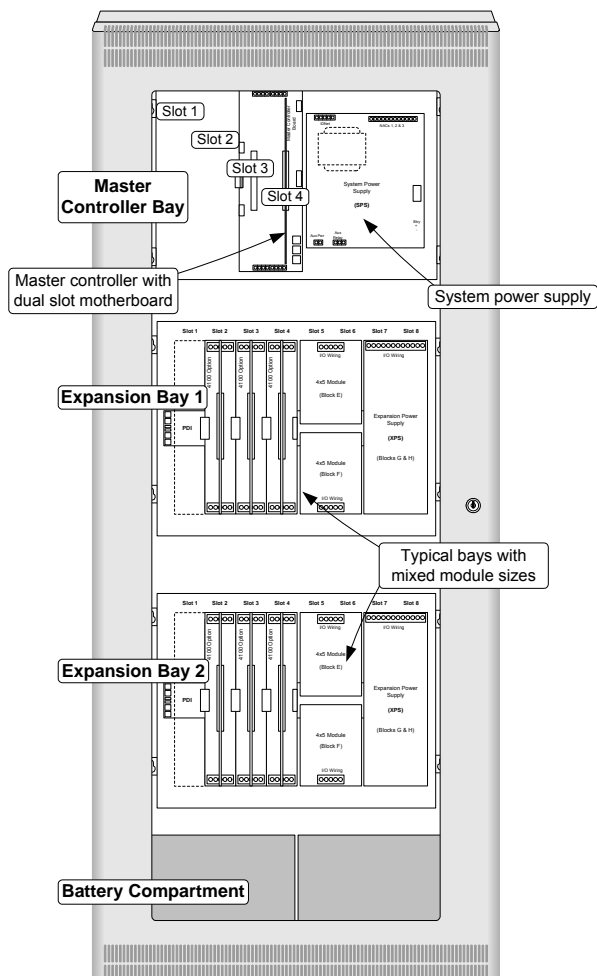
Module Bay Description

The Master Controller Bay (top) includes a standard multi-featured system power supply, the master controller board, and operator interface equipment.

The Expansion Bays include a Power Distribution Interface (PDI) for new 4" x 5" flat design option modules and also accommodate 4100-style modules.

The Battery Compartment (bottom) accepts two batteries, up to 50 Ah, to be mounted within the cabinet without interfering with module space.

The following illustration identifies bay locations using a three bay cabinet for reference.

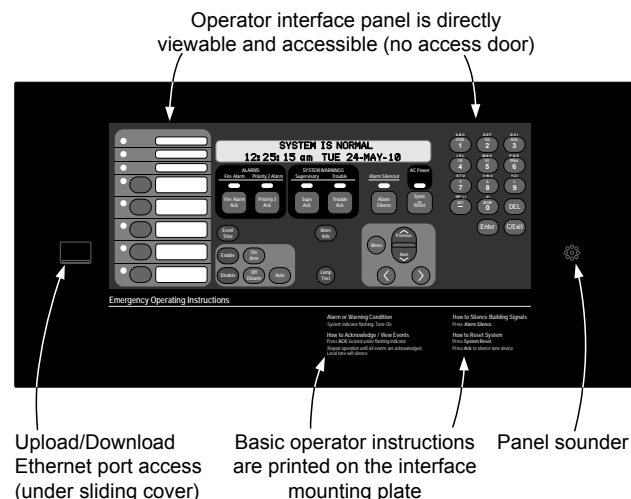4100U Module Bay Reference

Mechanical Description

- Optional modules are easily and quickly installed and programmed
- New design modules are mechanically secured in place and then electrically plugged into the PDI module reducing the need for wiring harnesses
- Boxes can be close-nippled; each 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

Mechanical Description *(Continued)*

- The latching dress panel (retainer) assembly easily lifts off for internal access
- NACs are mounted directly on power supply assemblies providing minimized wiring loss, compact size, and readily accessible terminations
- Packaging supports traditional 4100-style motherboard with daughter cards
- Modules are power-limited (except as noted, such as relay modules)
- The NEMA 1 box is ordered separately and available for early installation
- Boxes, doors, and dress panels are available in beige or red (ordered separately)
- Doors are available with tempered glass inserts or solid, in beige or red
- Refer to data sheet S4100-0037 for enclosure details

Operator Interface Detail Reference

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

Operator interface panel is directly viewable and accessible (no access door)

Upload/Download Ethernet port access (under sliding cover)

Basic operator instructions are printed on the interface mounting plate

Panel sounder

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
- Selectable service override allows authorized operators to clear alarm conditions during System Reset even if status has gone to trouble before reset occurred
- Module level ground fault searching assists installation and service by locating and isolating modules with grounded wiring
- WALKTEST™ silent or audible system test performs an automatic self-resetting test cycle (WALKTEST operation is protected under U.S. patent No. 4,725,818)
- **NOTE:** If new features require software revisions, updates will be performed on-site by the authorized Simplex product representative.
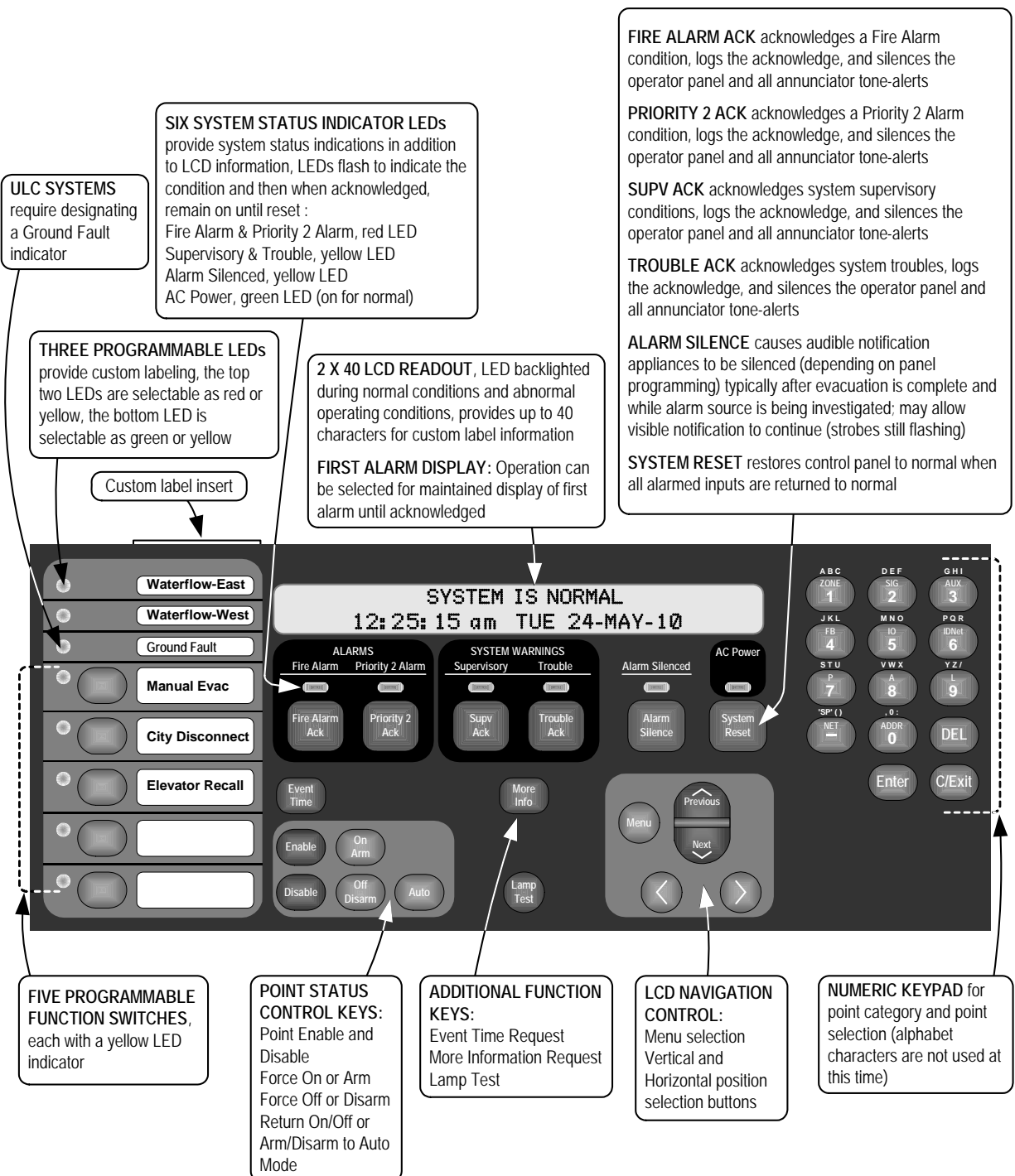
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Operator Interface

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.

Operator Interface Features

- Convenient and extensive operator information is provided using a logical, menu-driven display

- Multiple automatic and manual diagnostics for maintenance reduction

- Alarm and Trouble History Logs (up to 1300 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 PC programmer label editing

- Password access control

ULC SYSTEMS require designating a Ground Fault indicator

SIX SYSTEM STATUS INDICATOR LEDs provide system status indications in addition to LCD information, LEDs flash to indicate the condition and then when acknowledged, remain on until reset :
Fire Alarm & Priority 2 Alarm, red LED
Supervisory & Trouble, yellow LED
Alarm Silenced, yellow LED
AC Power, green LED (on for normal)

FIRE ALARM ACK acknowledges a Fire Alarm condition, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

PRIORITY 2 ACK acknowledges a Priority 2 Alarm condition, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

SUPV ACK acknowledges system supervisory conditions, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

TROUBLE ACK acknowledges system troubles, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

ALARM SILENCE causes audible notification appliances to be silenced (depending on panel programming) typically after evacuation is complete and while alarm source is being investigated; may allow visible notification to continue (strobes still flashing)

SYSTEM RESET restores control panel to normal when all alarmed inputs are returned to normal

THREE PROGRAMMABLE LEDs provide custom labeling, the top two LEDs are selectable as red or yellow, the bottom LED is selectable as green or yellow

2 X 40 LCD READOUT, LED backlighted during normal conditions and abnormal operating conditions, provides up to 40 characters for custom label information

FIRST ALARM DISPLAY: Operation can be selected for maintained display of first alarm until acknowledged

Custom label insert

FIVE PROGRAMMABLE FUNCTION SWITCHES, each with a yellow LED indicator

POINT STATUS CONTROL KEYS:
Point Enable and Disable
Force On or Arm
Force Off or Disarm
Return On/Off or Arm/Disarm to Auto Mode

ADDITIONAL FUNCTION KEYS:
Event Time Request
More Information Request
Lamp Test

LCD NAVIGATION CONTROL:
Menu selection
Vertical and Horizontal position selection buttons

NUMERIC KEYPAD for point category and point selection (alphabet characters are not used at this time)

Compatible Peripheral Devices

The 4100U is compatible with an extensive list of remote peripheral devices including printers, CRT/keyboards (up to five total), and both conventional and addressable devices including TrueAlarm analog sensors.

Addressable Device Control

Overview. The 4100U provides standard addressable device communications for IDNet compatible devices and accepts optional modules for communications with MAPNET II 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 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 CPU bay system power supply (SPS) provides an IDNet signaling line circuit (SLC) that supports up to 250 addressable monitor and control points intermixed on the same pair of wires. Additional IDNet circuit modules are available for 64, 127, or 250 addressable devices.

MAPNET II Channel Capacity. A total of 127 addressable monitor and control points may be intermixed on the same pair of wires supporting a single MAPNET II signaling line circuit (SLC).

Wiring Requirements for IDNet or MAPNET II Communications. Refer to the specifications chart below. Distances are for shielded or unshielded wire. Shielded wire may provide protection from unexpected sources of interference.

Wiring Specifications

Size		18 AWG (0.82 mm^2)
Type	Preferred	Shielded twisted pair (STP)
	Acceptable*	Unshielded twisted pair (UTP)
Farthest Distance from Control Panel per Device load	126-250	Up to 2500 feet (762 m)
	up to 125	Up to 4000 ft (1219 m)
Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 10,000 ft (3 km); 0.58 µF

* Some applications may require shielded wiring. Review system with your local Simplex product supplier.

TrueAlert Addressable Notification

The 4100U can be equipped with a TrueAlert Power Supply that provides three 3 A Signaling Line Circuits (SLCs) for both controlling and powering addressable notification appliances. With addressable appliances, Class B wiring can be "T-tapped" for both easier wiring and reduced wire run lengths. Extensive details concerning TrueAlert addressable notification are found on data sheet S4009-0003. Appliances are documented separately and include horns, strobes, and combination units.

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 field selected at the control panel for different levels of smoke obscuration (shown directly in percent) or for specific heat detection levels. In order 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.

TrueAlarm heat sensors can be selected for a 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. The temperature readings can be programmed to be read in either Fahrenheit or Celsius.

TrueSense® Early Fire Detection. Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 4100U IDNet address. The panel evaluates smoke activity, heat activity, *and their combination*, to provide TrueSense early detection. For more details on this patented 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® *(National Fire Alarm Code®)* 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.

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.

CPU Bay Module Details

Master Controller and Motherboard:

- Mounts in Slot 4 of a two slot motherboard (Slots 3 and 4 of the Master Controller Bay) and provides one Style 4 or Style 7, RUI communications channel, available at Slot 4
- RUI communications controls up to 31 devices per master controller (on one or multiple RUI channels); devices include: MINIPLEX® transponders, 4603-9101 LCD Annunciators, 4602-9101 Status Command Units (SCU), 4602-9102 Remote Command Units (RCU), 4602 Series LED Annunciator Panels, 4100 Series 24 I/O and LED/Switch modules, and remote mount 4009 TPS units
- Up to four RUI channels are supported; use up to three 4100-1291 RUI expansion modules as required
- Optional Service Modem 4100-6030 mounts onto the master controller board with its own on-board connections
- Slot 3 of the motherboard is primarily used for the 4100-6014 Network Interface Board with media modules, and secondarily can accommodate the 4100-6038 Dual RS-232 Board

System Power Supply: (see page 7 for more detail)

- Rating is 9 A total with "Special Application" appliances; 4 A total for "Regulated 24 DC" appliance power
- Outputs are power-limited, except for the battery charger
- Provides system power, battery charging, auxiliary power, auxiliary relay, earth detection, on-board IDNet communications channel for 250 points, three on-board NACs, and provisions for either an optional City Connect Module or an optional Alarm Relay Module
- **IDNet SLC Output** provides Class B or Class A communications for up to 250 addressable devices (as described on page 4)

System Power Supply *(Continued)*:

- **Three, 3 A On-Board NACs**, conventional reverse polarity operation; rated 3 A for Special Application appliances and 2 A for Regulated 24 DC power, with electronic control and overcurrent protection; selectable as Class B or Class A, and for synchronized strobe or SmartSync™ horn/strobe operation over two wires
- **NACs can be selected** as auxiliary power outputs derated to 2 A for continuous duty; the total auxiliary power output per SPS is limited to 5 A
- **Battery Charger** is dual rate, temperature compensated, and charges up to 50 Ah sealed lead-acid batteries mounted in the battery compartment (33 Ah for single bay cabinets); also is UL listed for charging up to 110 Ah batteries mounted in an external cabinet (see data sheet S2081-0012 for details)
- **Battery and Charger Monitoring** includes battery charger status and low or depleted battery conditions; status information provided to the master controller includes analog values for: battery voltage, charger voltage and current, actual system voltage and current, and individual NAC currents
- **2 A Auxiliary Power Output** is selectable for detector reset, door holder, or coded output operation
- **Auxiliary Relay** is selectable as N.O. or N.C., rated 2 A @ 32 VDC, and is programmable as a trouble relay, either normally energized or normally de-energized, or as an auxiliary control
- **Optional City Connect Module** (4100-6031, with disconnect switches, or 4100-6032, without disconnect switches) can be selected for conventional dual circuit city connections
- **Optional Alarm Relay Module** (4100-6033) provides three Form C relays that are used for Alarm, Trouble, and Supervisory, rated 2 A resistive @ 32 VDC

Master Controller Selection Information

Master Controller and Expansion Bay Selection* (Canadian models have low battery cutout)

Model	Model Type/Listing			Description	Supv.	Alarm
4100-9111	120 VAC Input		UL	4100U Master Controller Assembly **with LCD and operator interface**, 9 A system power supply/battery charger (SPS), 250 point IDNet interface, 3 NACs, auxiliary relay, and external RUI communications interface	373 mA	470 mA
4100-9112	English	120 VAC, Canadian	ULC			
4100-9113	French					
4100-9211	220-240 VAC Input		UL			
4100-9131	120 VAC Input		UL	4100U Master Controller Assembly, **no display, no operator interface**, 9 A system power supply/battery charger (SPS), 250 point IDNet interface, 3 NACs, auxiliary relay, and external RUI communications interface	363 mA	425 mA
4100-9132	English	120 VAC, Canadian	ULC			
4100-9133	French					
4100-9230	220-240 VAC Input		UL			
4100-9121 (not ULC listed)	Redundant Master Controller, two bay assembly; top bay contains LCD and operator interface, CPU card assembly, and 4100U, 9 A system power supply/battery charger (SPS); second bay contains CPU card in Slot 2, and LCD and operator interface; 120 VAC, 60 Hz input; **NOTE: RUI connections require use of 4100-1291 RUI expansion modules**			718 mA	937 mA
4100-2300	Expansion Bay Assembly; **order for each required expansion bay** (not required for 4100-9121)					

Master Controller Upgrades for Existing 4100 Series Fire Alarm Control Panels*

Model	Panel Type	Includes
4100-7150	1000 pt 4100 (4100+)	New Master Controller and 4100U user interface door assembly with Ethernet connection
4100-7152	512 pt 4100	Same as 4190-7150 plus includes a legacy (gold wing) power supply
4100-7158	1000 pt 4100 (4100+) or 4100U	New Master Controller with Ethernet Connection Upgrade Kit; for 4100+ systems without user interface; or for earlier 4100U systems using the existing 4100U user interface
4100-2301	Expansion Bay Upgrade Kit for mounting 4100U style (4" x 5" modules) in existing 4100 style panels	

Master Controller Upgrades for Existing 4020 Series Fire Alarm Control Panel

Model	Description
4100-9833	4020 Master Controller Upgrade with LCD & operator interface assembly; mounts as an adjunct panel; single bay size with locking glass door and retainer; cabinet dimensions are 24" W x 22" H x 8-3/8" D (610 mm x 559 mm x 213 mm)

* For InfoAlarm Command Center expanded content display products, refer to data sheet S4100-0045.

Module Selection Information

Communication Modules

Model	Description		Size	Supv.	Alarm
4100-6014	For Master Controller; mounts in Slot 3	Modular Network Interface; each requires two media modules (below)	1 Slot	46 mA	46 mA
4100-6061	For Redundant Master Controller		1 Slot	46 mA	46 mA
4100-6056	Wired Media Module	Select two media cards as required; mounts on 4100-6014 or 4100-6061	N.A.	55 mA	55 mA
4100-6057	Fiber Optic Media Module		N.A.	25 mA	25 mA
4100-6055	Network Access Dial-in Service Modem, mounts to 4100-6014 or 4100-6061 Network Interface Card, requires telephone line connection		N.A.	60 mA	60 mA
4100-1291	Remote Unit Interface Module (RUI); up to three maximum per control panel		1 Slot	85 mA	85 mA
4100-6030	Service Port Modem, local panel access only, mounts to Master Controller Module, requires telephone line connection, accesses same information as front panel port		N.A.	70 mA	70 mA
4100-6031	**Select one per SPS** (fits on SPS)	City Circuit, with disconnect switches	For use with SPS only, not RPS	N.A.	20 mA	36 mA
4100-6032		City Circuit, w/o disconnect switches		N.A.	20 mA	36 mA
4100-6033		Alarm Relay, 3 Form C relays, 2 A @ 32 VDC; for SPS or RPS		N.A.	15 mA	37 mA
4100-6036	Physical Bridge, Class B, includes 1 modem module and 2 wired modules		1 Slot	210 mA	210 mA
4100-6037	Physical Bridge, Class A, includes 2 modem and 2 wired modules		2 Slots	300 mA	300 mA
4100-6038	Dual Port RS-232 Interface, mounts in Slot 3 or Slot 2; 3 max. RS-232 type per panel		1 Slot	132 mA	132 mA
4100-6045	Decoder Module		3 Slots	85 mA	163 mA
4100-6048	VESDA Aspiration System Interface		1 Slot	132 mA	132 mA
4100-6052	DACT, Point or Event Reporting; 1 shipped unless 4100-7908 is selected; 2 max. per system; includes 2, 2080-9047 cables, 14 ft (4.3 m) long, RJ45 plug and spade lugs		1 Slot	30 mA	40 mA

Expansion, System, Remote, and TrueAlert Power Supplies and Accessories
(Canadian models have low battery cutout; XPS and RPS NACs operate like SPS, see page 5 for details)

Model	Description/Listing			Size	Supv.	Alarm
4100-5101	120 VAC	UL	**Expansion Power Supply (XPS)**; 9 A output, 3 built-in Class A/B NACs	2 Blocks	50 mA	50 mA
4100-5103	120 VAC, Canadian	ULC				
4100-5102	220-240 VAC	UL				
4100-5115	NAC Expansion Module, 3 NACs, Class A/B, **mounts on XPS only**			N.A.	25 mA	25 mA
4100-5111	120 VAC	UL	**Additional System Power Supply (SPS)**; 9 A power supply/charger with 250 point IDNet channel, 3 Class A/B NACs, add IDNet device currents separately	4 Blocks	175 mA	185 mA
4100-5112	120 VAC, Canadian	ULC				
4100-5113	220-240 VAC	UL				
4100-5125	120 VAC	UL	**Remote Power Supply (RPS)**; 9 A power supply/charger similar to SPS except no IDNet channel or City Circuits; will accept one 4100-6033	4 Blocks	150 mA	185 mA
4100-5126	120 VAC, Canadian	ULC				
4100-5127	220-240 VAC	UL				
4100-5120	120 VAC	UL	**TrueAlert Power Supply (TPS)**; 3 Class B SLCs rated 3 A each for up to 63 TrueAlert addressable (special application) appliances per channel, 189 per TPS; built-in battery charger; 2 A aux. power output; add device current separately (see S4009-0003 for details)	4 Blocks	88 mA	100 mA
4100-5121	120 VAC, Canadian	ULC				
4100-5122	220-240 VAC	UL				
4100-5124	TrueAlert SLC Class A Adapter for all 3 SLCs, **mounts on TPS only**			N.A.	10 mA	10 mA
4100-5152	12 VDC Power Option, 2 A maximum			1 Block	1.5 A maximum	
4100-0156	8 VDC Converter, required for multiple Physical Bridge Modules, 3 A maximum			1 Block	included w/loads	
4009-9813	4009 TPS Transponder Interface Card (TIC), mounts in a remote cabinet with TPS; order card, TPS, and batteries separately, and select a 2975-9229 (red) or 2975-9230 (beige) cabinet (field installed); refer to data sheet S4100-0037 for cabinet detail; Supervisory and Alarm current = 87 mA					
4100-0636	Box Interconnection Harness Kit (non-audio); **order one for each close-nippled cabinet**					
4100-0638	4100 Slot Module Additional 24 VDC Harness; **need when 4100 Slot module requirements exceed 2 A from SPS**					

8 Zone Initiating Device Circuits*

Model	Type	Supv.	Alarm
4100-5005	Class B	75 mA	195 mA
4100-5015	Class A	75 mA	195 mA
* IDC Modules are 1 Slot size			

Expansion Signal Module and Options (1.5 A Class B except as noted)

Model	Description		Supv.	Alarm
4100-5116	Converts 1 NAC in to 3 NACs out; 1 Block size		18 mA	80 mA
4100-1266	Expands 3 NACs to 6	select one; mounts on 4100-5116	0.6 mA	60 mA
4100-1267	Converts 3 NACs to Class A		0.6 mA	30 mA

Miscellaneous Accessories

Model	Description
4100-1279	Single blank 2" display cover, order as required (8 are required to fill a bay front)
4100-2210	Appliqué, Canadian French, 4100U Fire Control
4100-9835	Termination and Address Label Kit (for module marking); provides additional labels for field installed modules
4100-6029	Smoke Management Application Guide; **required for UUKL listing**
4100-6034	Tamper Switch, one per cabinet assembly if required; monitors solid door for panels with solid door; monitors the internal retainer panel for panels with glass door (not the glass door); has a built-in addressable IDNet IAM
2081-9031	Series resistor for WSO, IDCs (N.O. water flow and tamper on same circuit, wires after water flow and before tamper) 470 Ω, 1 W, encapsulated, two 18 AWG leads (0.82 mm^2), 2-1/2" L x 1-3/8" W x 1" H (64 mm x 35 mm x 25 mm)

Continued on next page

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Module Selection Information *(Continued)*

Addressable Interface Modules (refer to location reference on page 8)

Model	Description		Supv.	Alarm
4100-3101	IDNet Module, 250 point capacity	With 250 IDNet devices, add	200 mA	250 mA
4100-3104	IDNet Module, 127 point capacity	With 127 IDNet devices, add	102 mA	127 mA
4100-3105	IDNet Module, 64 point capacity	With 64 IDNet devices, add	51 mA	64 mA
IDNet Modules, Specifications for each capacity; Module size = 1 Block		Module without devices	75 mA	115 mA
		Loading per IDNet device	0.8 mA	1 mA

Model	Description		Supv.	Alarm
4100-3102	MAPNET II Module, 127 point capacity, add devices separately; Module size = 2 Slots; Loading per MAPNET II device = 1.7 mA	Module without devices	255 mA	275 mA
		Fully loaded module, total	471 mA	491 mA
4100-3103	Isolator Module **for MAPNET II or IDNet**; converts a single connected SLC into four isolated outputs selectable as Class A or Class B; up to two Isolator Modules can be connected to one SLC; Module size = 1 Slot; **NOTE:** Compatible with MAPNET II Remote Isolators only; for quad isolation with IDNet Remote Isolators, use 4100-3107 IDNet+ Module (see data sheet S4100-0046 for details)		50 mA	50 mA

Relay Modules; Nonpower-limited (for mounting in expansion bay only, refer to location reference on page 8)

Model	Description	Resistive Ratings		Inductive Ratings		Size	Supv.	Alarm
4100-3202	4 DPDT w/feedback	10 A	250 VAC	10 A	250 VAC	2 Slots	15 mA	175 mA
4100-3204	4 DPDT w/feedback	2 A	30 VDC/VAC	1/2 A	30 VDC/120 VAC	1 Block	15 mA	60 mA
4100-3206	8 SPDT	3 A	30 VDC/120 VAC	1-1/2 A	30 VDC/120 VAC	1 Block	15 mA	190 mA

Current Calculation Notes:
1. To determine total supervisory current, add currents of modules in panel to base system value **and** all external loads powered by panel power supplies.
2. To determine total alarm current, add currents of modules in panel to base system alarm current **and** add all panel NAC loads **and** all external loads powered from panel power supplies.
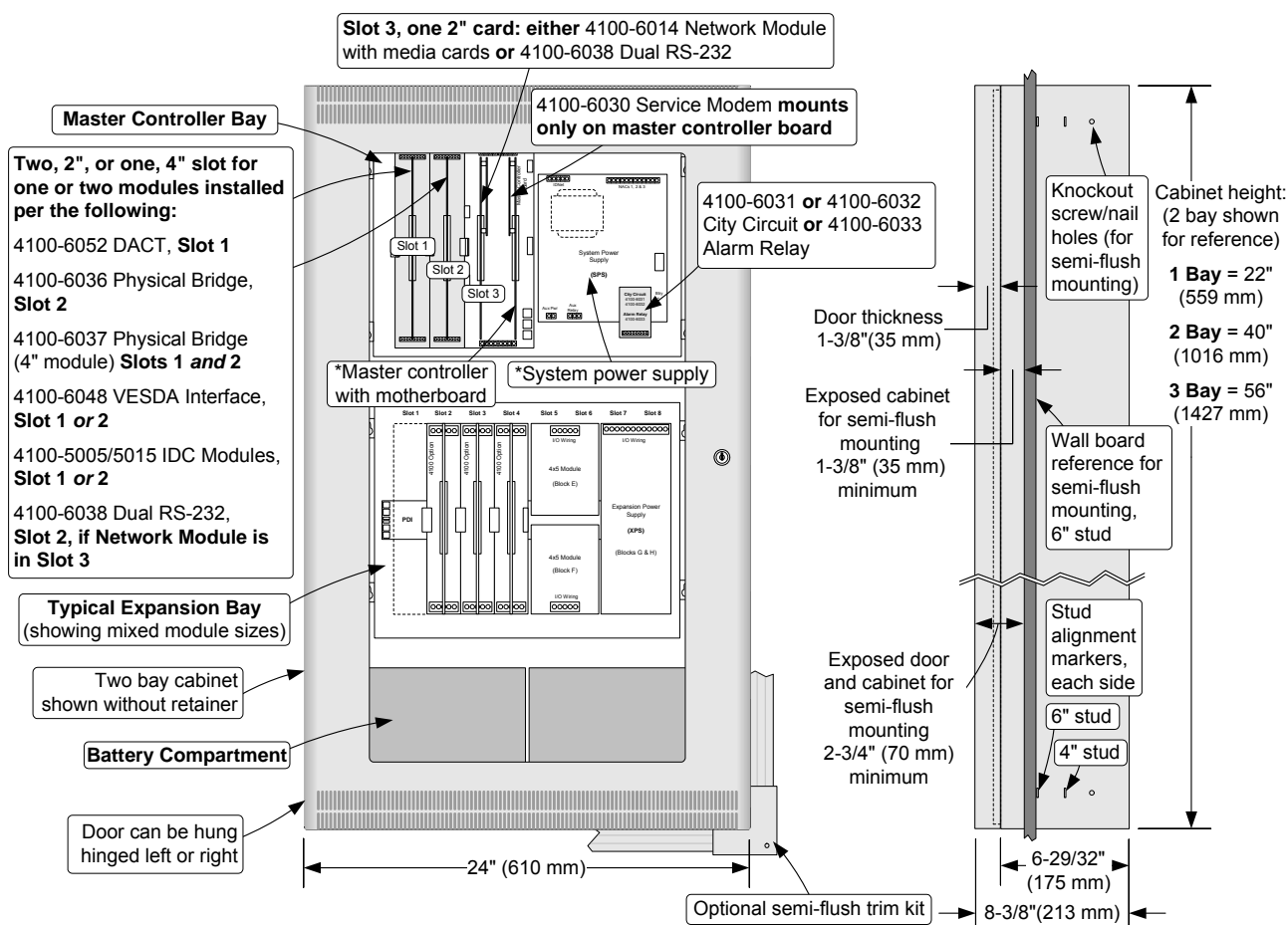
General Specifications

Input Power	System Power Supplies (SPS) Expansion Power Supplies (XPS) Remote Power Supplies (RPS) TrueAlert Power Supplies (TPS)	120 VAC Models	4 A maximum @ 102 to 132 VAC, 60 Hz	
		220-240 VAC Models	2 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
Power Supply Output Ratings for SPS, XPS, and RPS (nominal 28 VDC on AC; 24 VDC on battery backup)	Total Power Supply Output Rating	**Including module currents and auxiliary power outputs;** 9 A total for "Special Application" appliances; 4 A total for "Regulated 24 DC" power (see below for details)		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	
	NACs Programmed for Auxiliary Power	2 A maximum per NAC; 5 A maximum total		
Special Application Appliances	Simplex 4901, 4903, 4904, and 4906 Series horns, strobes, and combination horn/strobes and speaker/strobes (contact your Simplex product representative for compatible appliances)			
Regulated 24 DC Appliances	Power for other UL listed appliances; use associated external synchronization modules where required			
Battery Charger Ratings for SPS, RPS and TPS (sealed lead-acid batteries)	Battery capacity range	UL listed for battery charging of 6.2 Ah up to 110 Ah (110 Ah batteries require a remote battery cabinet); ULC listed for charging up to 50 Ah batteries		
	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		
Environmental	Operating Temperature	32° to 120°F (0° to 49° C)		
	Operating Humidity	Up to 93% RH, non-condensing @ 90° F (32° C) maximum		

Additional 4100U Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet	Subject	Data Sheet
Enclosures	S4100-0037	MINIPLEX Transponders	S4100-0035	InfoAlarm Comm. Center	S4100-0045
LED/Switch Modules & Panel Mount Printer	S4100-0032	IDNet+ Module w/Quad Isolator	S4100-0046	Graphic I/O Modules	S4100-0005
				2120 BMUX Module	S4100-0048
4100U Audio/Phone Modules	S4100-0034	Remote Annunciators	S4100-0038	SafeLINC Internet Interface	S4100-0028
TFX Interface Module	S4100-0042	Network Display Unit (NDU)	S4100-0036	Master Clock Interface	S4100-0033
TrueAlert Addressable Products	S4009-0003	Remote Battery Charger	S4081-0002	Addr. Device Compatibility	S4090-0011
Fire Alarm Network Overview	S4100-0055	Network Communications	S4100-0056	Agent Release Applications	S4100-0040

Mounting and CPU Bay Module Reference (* indicates supplied modules)

Slot 3, one 2" card: either 4100-6014 Network Module with media cards or 4100-6038 Dual RS-232

Master Controller Bay

4100-6030 Service Modem mounts only on master controller board

Two, 2", or one, 4" slot for one or two modules installed per the following:

4100-6052 DACT, Slot 1

4100-6036 Physical Bridge, Slot 2

4100-6037 Physical Bridge (4" module) Slots 1 and 2

4100-6048 VESDA Interface, Slot 1 or 2

4100-5005/5015 IDC Modules, Slot 1 or 2

4100-6038 Dual RS-232, Slot 2, if Network Module is in Slot 3

4100-6031 or 4100-6032 City Circuit or 4100-6033 Alarm Relay

Slot 1
Slot 2
Slot 3

System Power Supply (SPS)

City Circuit 4100-6031 4100-6032 Alarm Relay 4100-6033

*Master controller with motherboard

*System power supply

Slot 1 Slot 2 Slot 3 Slot 4 Slot 5 Slot 6 Slot 7 Slot 8

PDI

4100 Option

I/O Wiring

4x5 Module (Block E)

I/O Wiring

Expansion Power Supply (XPS)

(Blocks G & H)

4x5 Module (Block F)

I/O Wiring

Typical Expansion Bay (showing mixed module sizes)

Two bay cabinet shown without retainer

Battery Compartment

Door can be hung hinged left or right

24" (610 mm)

Knockout screw/nail holes (for semi-flush mounting)

Cabinet height: (2 bay shown for reference)

1 Bay = 22" (559 mm)

2 Bay = 40" (1016 mm)

3 Bay = 56" (1427 mm)

Door thickness 1-3/8"(35 mm)

Exposed cabinet for semi-flush mounting 1-3/8" (35 mm) minimum

Wall board reference for semi-flush mounting, 6" stud

Exposed door and cabinet for semi-flush mounting 2-3/4" (70 mm) minimum

Stud alignment markers, each side

6" stud
4" stud

6-29/32" (175 mm)

Optional semi-flush trim kit

8-3/8"(213 mm)

NOTE: A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.

Expansion Bay Module Loading Reference

Slot 1 Slot 2 Slot 3 Slot 4 Slot 5 Slot 6 Slot 7 Slot 8

Block A   Block C   Block E   Block G

Block B   Block D   Block F   Block H

Expansion Bay Chassis
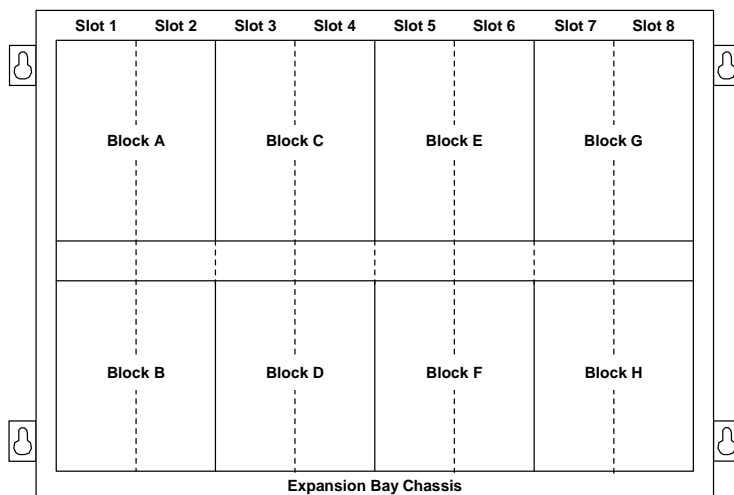
Size Definitions: Block = 4" W x 5" H (102 mm x 127 mm) card area

Slot = 2" W x 8" H (51 mm x 203 mm) motherboard with daughter card

Description		Mounting
IDNet Modules		1 Block
4, 2 A Relays	**NON Power-limited**	1 block
4, 10 A Relays		4", 2 slots
8, 3 A Relays		1 block
VESDA Interface		2", 1 Slot
Class B IDC		2", 1 Slot
Class A IDC		2", 1 Slot
MAPNET II Module		4", 2 Slots
MAPNET II/IDNet Isolator		2", 1 Slot
Class B Physical Bridge		2", 1 Slot
Class A Physical Bridge		4", 2 Slots
Decoder Module		6", 3 Slots
System, Remote, or TrueAlert Power Supply		Blocks E, F, G & H ONLY
Expansion Power Supply		Blocks G & H ONLY
NAC Expansion Module		On XPS ONLY