CITY OF PORTLAND
BUILDING PERMIT

This is to certify that
SIMPLEXGRINNELL
20 THOMAS DR
WESTBROOK, ME 04092

For installation at
305 COMMERCIAL ST
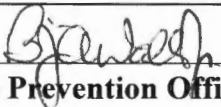**BAXTER PLACE**

Job ID: 2012-04-3693-FAFS

CBL: 040- F-009-001

has permission to **replace existing fire alarm panel**

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statues of Maine and of the Ordinances of the City of Portland regulating the construction, maintenance and use of the buildings and structures, and of the application on file in the department.

Notification of inspection and written permission procured before this building or part thereof is lathed or otherwise closed-in. 48 HOUR NOTICE IS REQUIRED.	A final inspection must be completed by owner before this building or part thereof is occupied. If a certificate of occupancy is required, it must be

Fire Prevention Officer

Code Enforcement Officer / Plan Reviewer

THIS CARD MUST BE POSTED ON THE STREET SIDE OF THE PROPERTY
PENALTY FOR REMOVING THIS CARD

BUILDING PERMIT INSPECTION PROCEDURES
Please call 874-8703 or 874-8693 (ONLY)
or email: buildinginspections@portlandmaine.gov

With the issuance of this permit, the owner, builder or their designee is required to provide adequate notice to the city of Portland Inspections Services for the following inspections. Appointments must be requested 48 to 72 hours in advance of the required inspection. The inspection date will need to be confirmed by this office.

- **Please read the conditions of approval that is attached to this permit!! Contact this office if you have any questions.**

- **Permits expire in 6 months. If the project is not started or ceases for 6 months.**

- **If the inspection requirements are not followed as stated below additional fees may be incurred due to the issuance of a "Stop Work Order" and subsequent release to continue.**

Final Fire

The project cannot move to the next phase prior to the required inspection and approval to continue, REGARDLESS OF THE NOTICE OF CIRCUMSTANCES.

IF THE PERMIT REQUIRES A CERTIFICATE OF OCCUPANCY, IT MUST BE PAID FOR AND ISSUED TO THE OWNER OR DESIGNEE BEFORE THE SPACE MAY BE OCCUPIED.

Job ID: 2012-04-3693-FAFS
replace existing fire alarm panel

For installation at:
305 COMMERCIAL ST
BAXTER PLACE

CBL: 040- F-009-001

Conditions of Approval:

Fire

This permit is to replace a convention fire alarm control panel with a new addressable control panel. It is approved based upon the plan of action approved by the Fire Prevention Bureau. Complete conversion shall be completed by September 30, 2014 and remaining phases require additional permits.

A master box, supervised disconnect switch and drill switch are required as part of this phase. And AES wireless box shall be installed by September 30, 2013 as part of Phase II. A separate fire alarm permit is required.

The installation shall comply with the following:

City of Portland Chapter 10, Fire Prevention and Protection;

NFPA 1, *Fire Code* (2009 edition), as amended by City Code;

NFPA 101, *Life Safety Code* (2009 edition), as amended by City Code;

City of Portland Fire Department Rules and Regulations;

NFPA 72, *National Fire Alarm and Signaling Code* (2010 edition), as amended by Fire Department Rules and Regulations;

NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment* (2009 edition), as amended by Fire Department Rules and Regulations; and

NFPA 70, *National Electrical Code* (2011 edition) as amended by the State of Maine.

The fire alarm system shall be certified by a master fire alarm company and have a new fire alarm inspection sticker.

In field installation shall be installed per code as conditions dictate.

All smoke detectors and smoke alarms shall be photoelectric.

Records cabinet, FACP, annunciator(s), and pull stations shall be keyed alike.

Central Station monitoring for addressable fire alarm systems shall be by point.

All fire alarm records required by NFPA 72 should be stored in an approved cabinet located at the FACP labeled "FIRE ALARM RECORDS".

A Knox Box is required.

System acceptance and commissioning must be coordinated with alarm and suppression system contractors and the Fire Department. Call 874-8703 to schedule.

Fire Alarm system shall be maintained. If system is to be off line over 4 hours a fire watch shall be in place. Dispatch notification required 874-8576.

City of Portland, Maine - Building or Use Permit Application

389 Congress Street, 04101 Tel: (207) 874-8703, FAX: (207) 8716

Job No: **2012-04-3693-FAFS**	Date Applied: **4/4/2012**	CBL: **040- F-009-001**	
Location of Construction: **305 COMMERCIAL ST**	Owner Name: **BAXTER PLACE LLC**	Owner Address: **305 COMMERCIAL ST** **PORTLAND, ME 04101**	Phone:
Business Name:	Contractor Name: **SIMPLEXGRINNELL**	Contractor Address: **20 THOMAS DR WESTBROOK MAINE 04092**	Phone: **(207) -842-6440**
Lessee/Buyer's Name:	Phone:	Permit Type: **FIRE ALARM**	Zone: **B-3**

Past Use: **Retail & personal services on the 1ˢᵗ floor with 69 residential DU above**	Proposed Use: **Same: retail and personal services on the 1ˢᵗ floor with 69 residential DU above – to install fire alarm**	Cost of Work: **$12,000.00**	CEO District:
		Fire Dept: 10/22/12 ☑ Approved *w/ conditions* ___ Denied ___ N/A Signature: *BJ Aubach* (58)	Inspection: Use Group: Type: Signature:

Proposed Project Description: **Fire alarm for Apartment Building no exterior**	Pedestrian Activities District (P.A.D.)

Permit Taken By: Gayle

Zoning Approval

1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.
2. Building Permits do not include plumbing, septic or electrial work.
3. Building permits are void if work is not started within six (6) months of the date of issuance. False informatin may invalidate a building permit and stop all work.

Special Zone or Reviews
___ Shoreland
___ Wetlands
___ Flood Zone
___ Subdivision
___ Site Plan
___ Maj ___ Min ___ MM
Date: OK— 4/4/12

CERTIFICATION

Zoning Appeal
___ Variance
___ Miscellaneous
___ Conditional Use
___ Interpretation
___ Approved
___ Denied
Date:

Historic Preservation
— Within —
___ Not in Dist or Landmark
___ Does not Require Review
___ Requires Review
___ Approved
___ Approved w/Conditions
___ Denied
Date: *Any exterior work requires a separate review & approval*

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the appication is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT   ADDRESS   DATE   PHONE

RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE   DATE   PHONE

Fire Alarm Permit

If you or the property owner owes real estate or property taxes or user charges on any property within the city, payment arrangements must be made before permits of any kind are accepted.

B-3E

2012 04-3693

Installation address: 305 Commercial ST.   CBL: 40-F-9 Historic

Exact location: (within structure) Basement electrical Rm

Type of occupancy(s) (NFPA & ICC): Apartment Building   Retail/Personal Servis

Building owner: Lathrop Property Management BAxter Place LLC

System Designer (point of contact): _Must be_ Ken Plourde   Nicet level III

Designer phone: 207-749-6726   E-mail: KPlourde@SimplexGrinell.com

Installing contractor: SimplexGrinell   Certificate of Fitness No: 1019

Contractor phone: John Hale 239-5100   E-mail: Johale@simplexGrinell.com

This is a new application: YES ⊗   NO ◯   New AES Master Box: YES ◯   NO ⊗
(Include Master Box approval form)

Amendment to an existing permit: YES ◯   NO ⊗   Permit no: _____

The following documents shall be provided with this application:

☐ Floor plans	☐ Scope of Work
☐ Wiring diagram	☐ 11 ½ x 17s
☐ Annunciator details	☐ pdf copy (may be e-mailed)
☐ Input/ Output Matrix	☐ Designer qualifications
☐ Equipment data sheets	☐ Battery/ voltage drop calcs
☐ Electrical Permit Pulled (check alarm/com)	

COST OF WORK: $12,000.00

PERMIT FEE: $140.00
($10 PER $1,000 + $30 FOR THE FIRST $1,000)

RECEIVED

APR 04 2012

Dept. of Building Inspections
City of Portland Maine

Master box approval only: YES ◯   NO ◯
(If yes check _New AES Master Box_ above)

The designer shall be the responsible party for this application. Download a new copy of this application at **www.portlandmaine.gov/fire for every submittal. Submit all plans in electronic PDF in addition to readable 11 ½ x 17s to the Building Inspections Department, 389 Congress Street, Room 315, Portland, Maine 04101.**

Prior to acceptance of any fire alarm system, a complete commissioning and acceptance test must be coordinated with all fire system contractors and the Fire Department, and proper documentation of such test(s) provided.

All installation(s) must comply with the _City of Portland Technical Standard for Signaling Systems for the Protection of Life and Property_, available at www.portlandmaine.gov/fire .

Applicant signature: Ken Plourde   Date: 4/4/12.

SimplexGrinnell
BE SAFE.

SimplexGrinnell Material List (THIS IS NOT A PRICE QUOTATION)

TO:
Baxter Place
305 Commercial St
PORTLAND, ME 04101-4641
Attn: Peter B. Gellerson
(207) 772-1131 EXT(_____) Fax: (207) 772-8662

Project: Baxter Place, Portland, ME
Customer Reference: 4100es Fire Alarm Panel Upgrade
SimplexGrinnell Reference: 963379801
Date: 03/29/2012
Page 1 of 2

QUANTITY	MODEL NUMBER	DESCRIPTION
	4100es FACP Upgrade	
	4100es Fire Alarm System (4100	
1	4100-9111	4100ES PRECONFIG DOMESTIC 120V
1	4100-0634	POWER DISTRIBUTION MODULE 120V
1	4100-0638	ADDITIONAL 24V HARNESS
16	4100-1279	2" BLANK DISPLAY MODULE
2	4100-2300	EXPANSION BAY (PHASE 10 ONLY)
1	4100-2303	LEGACY CARD STABILIZER BRKT
2	4100-3206	8 POINT 3 AMP AUX RELAY MODULE
2	4100-5005	ZONE MODULE, 8 IDC, CLASS B
2	4100-5101	XPS POWER, 3 NACS, 120VAC
1	4100-5115	XPS EXPANSION MODULE, 3 NACS
1	4100-6031	CITY MODULE W/DISCONNECT
1	4100-6052	EVENT/POINT REPORTING DACT
1	41002153	INDICATOR ONLY 3 BAY GLASS
1	41007905	FACTORY BUILT-MAIN CONFIGURED
	Fire Alarm Materials	
	4100es FACP Back Box	
1	2975-9446	3 BAY BB/GDOOR/DRESS PNL PLAT
2	2081-9271	BATTERY 33AH
	Remote LCD Annunciator	
1	4603-9101	LCD ANNUN 4100 SYSTEMS
1	2975-9206	6 GANG BOX, IVORY, 5744-6
	Smoke Sensor Over FACP	
1	4098-9714	PHOTO SENSOR
1	4098-9792	SENSOR BASE
	Ethernet Drop (Not Applicable)	
1	ETHEDROP	ETHERNET-NETWORK COMPATIBLE

Professional Services

Technical Labor

Fire Alarm Permit
Fire Alarm Permit

Comments

Scope of Work:

SimplexGrinnell
BE SAFE.

Project: Baxter Place, Portland, ME
Customer Reference: 4100es Fire Alarm Panel Upgrade
SimplexGrinnell Reference: 963379801
Date: 03/29/2012
Page 2 of 2

SimplexGrinnell Material List (THIS IS NOT A PRICE QUOTATION)

Comments (continued)

SimplexGrinnell is pleased to provide this proposal to provide and install a complete new 4100es fire alarm control panel (FACP) at Baxter Place, 305 Commercial Street, Portland, ME 04101. Proposal is based on recent developments as it relates to phantom alarm activations combined with the age of the existing Simplex 2001 FACP. With the new proposed 4100es FACP Baxter Place will have the ability to better identify the source of any future alarm activations.

Proposal includes all electrical labor and materials to provide the scope of work as proposed. Proposal includes the following:

1. Replace existing Simplex 2001 Conventional Fire Alarm Control Panel with new SimplexGrinnell Addressable 4100es Fire Alarm Control Panel.
2. Connect new SimplexGrinnell 4100es FACP to existing City Master Box and test through the City of Portland Fire Department.
3. Connect existing zones to new 4100es zone cards.
4. Connect existing notification appliance circuits (NAC) to new 4100es NAC cards.
5. Connect existing relays to new 4100es relay cards.
6. Provide and install new smoke sensor at 4100es FACP to meet NFPA 72 and local City of Portland requirements.
7. Replace existing Simplex Incandescent Remote Annunciator with new SimplexGrinnell Remote LCD Annunciator.
8. Provide 100% functional test of the Fire Alarm System at project completion.
9. Provide fire alarm and electrical permits as required.

This quotation is based on the acceptance of delivery of all equipment within one year from date of acceptance and/or phase start date.

This quotation does not include back boxes or adapter plates for surface mount devices unless so listed.

Wire /Cable: Upon written request, Simplex will provide written instruction regarding the appropriate wire/cable for installation of the equipment/system(s) identified in this quotation. Simplex shall not be responsible for problems or damages resulting from the use of any wire/cable other than that which has been identified in writing by Simplex for a specific application.

All panel & peripheral installation is the responsibility of SimplexGrinnell unless otherwise agreed upon in writing with Baxter Place. SimplexGrinnell is responsible for all panel terminations, system programming, test and overall system commission.

Proposal includes 2 hours customer training at time of system commission for the end user.

Testing and labor is based on being performed between 8AM and 5PM, Monday-Friday excluding holidays.

Pre-existing conditions not seen at time of survey are not included in proposal and as such will need to be treated separately.

Baxter Place 4100ES FACP							Backup From			
Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm	Battery Set #1	Battery Set #2	Battery Set #3	Battery Set #4
Panel Equipment							Qty	Qty	Qty	Qty
4100-9111	1	4100U CONFIG. DOMESTIC 120V	0.373000	0.373000	0.470	0.470	1			
4100-0634	1	POWER DISTRIBUTION MODULE 120V	0.000000	0.000000	0.000	0.000	1			
4100-0638	1	ADDITIONAL 24V HARNESS	0.000000	0.000000	0.000	0.000	1			
4100-1279	16	2" BLANK DISPLAY MODULE	0.000000	0.000000	0.000	0.000	16			
4100-2300	2	EXPANSION BAY (PHASE 10 ONLY)	0.000000	0.000000	0.000	0.000	2			
4100-3206	2	8 RELAYS - 3 AMP	0.015000	0.030000	0.190	0.380	2			
4100-5005	2	ZONE MODULE, 8 IDC, CLASS B	0.075000	0.150000	0.195	0.390	2			
4100-5101	2	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.050000	0.100000	0.050	0.100	2			
4100-5115	1	EXPANSION NAC MODULE - 3 NACS	0.025000	0.025000	0.025	0.025	1			
4100-6031	1	CITY MODULE W/DISCONNECT	0.020000	0.020000	0.036	0.036	1			
4100-6052	1	EVENT REPORTING DACT	0.030000	0.030000	0.040	0.040	1			
4100-2153	1	INDICATOR ONLY, 3 BAY GLASS DOOR	0.000000	0.000000	0.000	0.000	1			
4100-96xx	0	REMOTE ANNUNCIATORS & MINIPLEX TRANSPONDERS	0.003500	0.000000	0.003500	0.000	0			
			Total Panel Stby	0.728000	**Total Panel Alarm**	1.441				
Peripheral Devices										
4098-9714	1	TRUEALARM PHOTO SMOKE SENSOR	0.000000	0.000000	0.000	0.000	1			
4098-9792	1	TRUEALARM SENSOR BASE	0.000000	0.000000	0.000	0.000	1			
4603-9101	1	SERIAL LCD ANNUNCIATOR	0.030000	0.030000	0.170	0.170	1			
Mult-Candela Strobes (Select Candela Rating)					**ALERT STROBES OFF**					
Miscellaneous Outside Purchased Items Requiring System Power										
			Total Periph Stby	0.0300	**Total Periph Alarm**	0.170				
			Total Standby Amps	0.758	**Total Alarm Amps**	1.611				

* Additional Current Draw Included With Device Addresses Used (See additional current draws)

1. 2-wire detector alarm current is included in the alarm current of the initiating Device Circuit.

Battery Set #1 (Cabinet/Charger #1)		Qty	Standby Current		Alarm Current
Cabinet #1 Card Power			0.728	Backup Amplifier	1.441
Current Draw For 100 Watt Or 95 Watt Amplifiers		0	0.000	↳ 0	0.000
Current Draw For Flex 35 and 50 Watt Amplifiers		0	0.000		0.000
Power For External Peripheral Devices			0.03000		0.17000
			0.758	<— Sub Totals —>	1.611
Additional Current Draws					
RUI Connected Peripheral Devices		1	0.004		0.004
MAPNET/IDNet Device Addresses ordered / used	1	1.0	0.001		0.001
Spare addressable point capacity included for battery calc	0%	0	0.000		0.000
			0.762	<—Grand Totals —>	1.616
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	18.295	Standby Ah	
Alarm Time =	5	Mins.	0.135	Alarm Ah ←	
		Standby + Alarm =	18.430		
Minimum Battery Required per NFPA 72 2010		2081-9287 25AH	22.116	20% Safety Margin Included	
Battery Supplied		2081-9276 33AH			

Battery Set #2 (Cabinet/Charger #2)		QTY	Standby Current		Alarm Current
Cabinet #2 Card Power			0.000		0.000
MAPNET/IDNet Device Addresses used here		0.0	0.000		0.000
Spare addressable point capacity included for battery calc	0%	0	0.000	Backup Amplifier	0.000
Remaining 100 Watt Or 95 Watt Amplifiers		0	0.000	↳ 0	0.000
Remaining Flex 35 and 50 Watt Amplifiers		0	0.000		0.000
Power For External Peripheral Devices			0.00000		0.00000
			0.000	<—Grand Totals —>	0.000
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	0.000	Standby Ah	
Alarm Time =	5	Mins.	0.000	Alarm Ah ←	
		Standby + Alarm =	0.000		
Minimum Battery Required per NFPA 72 2010		2081-9272 6.2 AH	0.000	20% Safety Margin Included	
Battery Supplied		2081-9272 6.2 AH			

Battery Set #3 (Cabinet/Charger #3)		Qty	Standby Current		Alarm Current
Cabinet #3 Card Power			0.000		0.000
MAPNET/IDNet Device Addresses used here		0.0	0.000		0.000
Spare addressable point capacity included for battery calc	0%	0	0.000	Backup Amplifier	0.000
Remaining 100 Watt Or 95 Watt Amplifiers		0	0.000	↳ 0	0.000
Remaining Flex 35 and 50 Watt Amplifiers		0	0.000		0.000
Power For External Peripheral Devices			0.00000		0.00000
			0.000	<—Grand Totals —>	0.000
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	0.000	Standby Ah	
Alarm Time =	5	Mins.	0.000	Alarm Ah ←	
		Standby + Alarm =	0.000		
Minimum Battery Required per NFPA 72 2010		2081-9272 6.2 AH	0.000	20% Safety Margin Included	
Battery Supplied		2081-9272 6.2 AH			

Battery Set #4 (Cabinet/Charger #4)		Qty	Standby Current		Alarm Current
Cabinet #4 Card Power			0.000		0.000
MAPNET/IDNet Device Addresses used here		0.0	0.000		0.000
Spare addressable point capacity included for battery calc	0%	0	0.000	Backup Amplifier	0.000
Remaining 100 Watt Or 95 Watt Amplifiers		0	0.000	↳ 0	0.000
Remaining Flex 35 and 50 Watt Amplifiers		0	0.000		0.000
Power For External Peripheral Devices			0.00000		0.00000
			0.000	<—Grand Totals —>	0.000
Additional Battery Capacity Required	0%		0.000		0.000
Standby Time =	24	Hrs	0.000	Standby Ah	
Alarm Time =	5	Mins.	0.000	Alarm Ah ←	
		Standby + Alarm =	0.000		
Minimum Battery Required per NFPA 72 2010		2081-9272 6.2 AH	0.000	20% Safety Margin Included	
Battery Supplied		2081-9272 6.2 AH			

S. Simplex

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

4100 ES 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 compact flash memory for on-site 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
- Available with InfoAlarm™ Command Center expanded content user interface (see data sheet S4100-0045)
- 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:
- Building Network Interface Module (BNIC) for Ethernet connectivity options (see data sheet S4100-0061)
- TrueAlert® addressable notification appliance power supplies with three, 3 A SLC outputs
- Additional IDNet and MAPNET II® addressable device 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)
- Fire Alarm Network Interfaces, DACTs, city connections, and up to five (5) RS-232 ports for printers and terminals
- IP communicator compatibility
- Alarm relays, auxiliary relays, additional power supplies, IDC modules, NAC expansion modules
- Service modems, VESDA® Air Aspiration Systems interface, ASHRAE® BACnet® Interface, TCP/IP Bridges
- LED/switch modules and panel mount printers
- Emergency communications systems (ECS) equipment; 8 channel digital audio or 2 channel analog audio
- Battery brackets for seismic area protection (see page 2)

Compatible with Simplex® remotely located:
- 4009 IDNet NAC Extenders, up to ten per IDNet SLC
- TrueAlert Addressable Controllers

4100ES 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
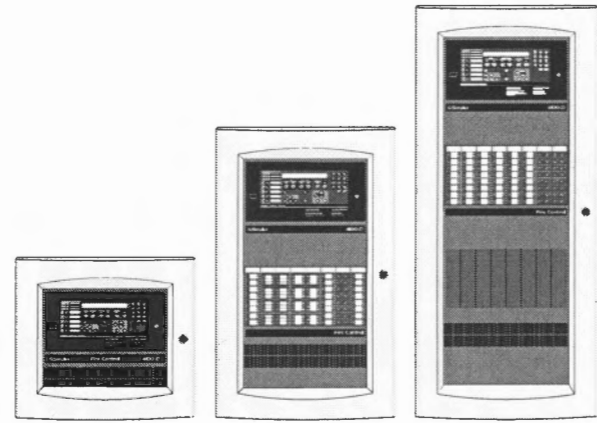
4100ES Cabinets are Available with
One, Two or Three Bays

Software Feature Summary

CPU provides dual configuration programs:
- Two programs allow for optimal system protection and commissioning efficiency 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 on-board flash memory

Introduction

4100ES 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 compact flash memory archiving provides secure on-site system information storage of electronic job configuration files to meet NFPA 72® (*National Fire Alarm Code®*) requirements.

Modular design. A wide 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 S4100-0045).
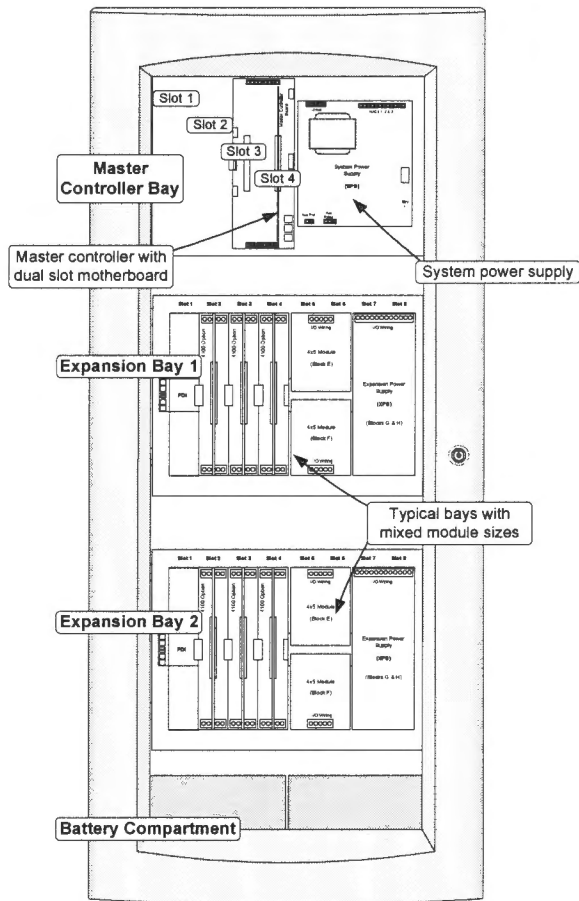
Module Bay Description

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.

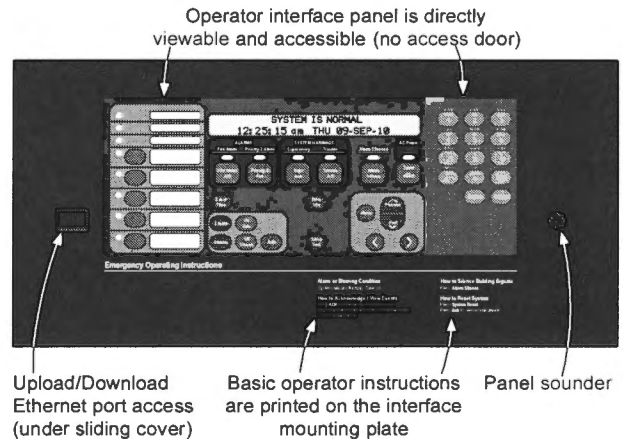4100ES Module Bay Reference

Mechanical Description

- 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
- Cabinet assembly design has been seismic tested and is certified to IBC and CBC standards as well as to ASCE 7-05 category D, requires 33 Ah or 50 Ah batteries with battery brackets as detailed on data sheet S2081-0019

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
- Doors are available with tempered glass inserts or solid; boxes and doors are available in platinum or red
- Boxes and door/retainer assemblies are ordered separately per system requirements; refer to data sheet S4100-0037 for 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
- *"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
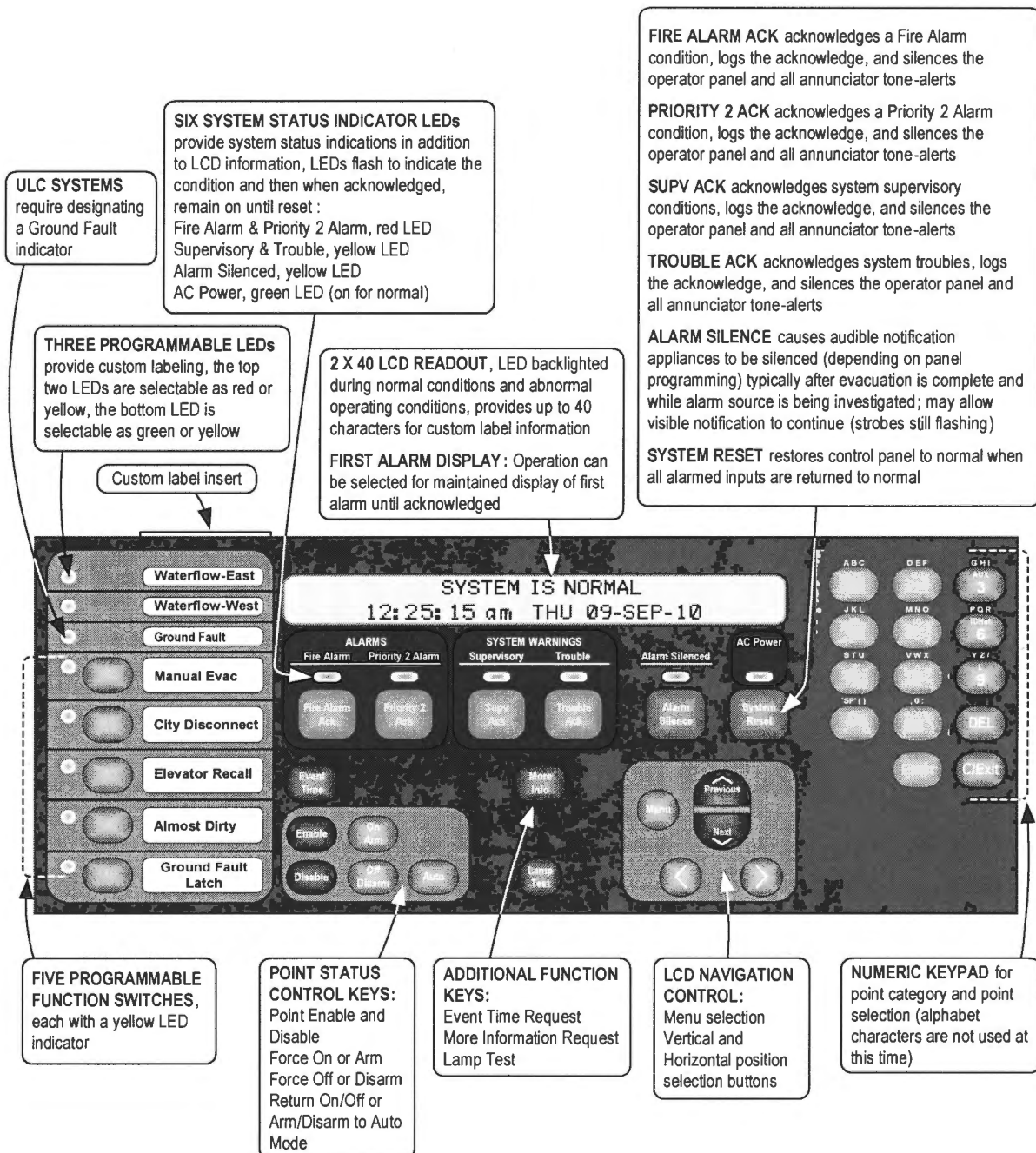- WALKTEST™ silent or audible system test performs an automatic self-resetting test cycle

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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

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)

ULC SYSTEMS require designating a Ground Fault indicator

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

Custom label insert

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

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

SYSTEM IS NORMAL
12:25:15 am   THU 09-SEP-10

Waterflow-East
Waterflow-West
Ground Fault
Manual Evac
City Disconnect
Elevator Recall
Almost Dirty
Ground Fault Latch

ALARMS — Fire Alarm — Priority 2 Alarm
SYSTEM WARNINGS — Supervisory — Trouble
Alarm Silenced — AC Power

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)

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Compatible Peripheral Devices

The 4100ES 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 4100ES provides standard addressable device communications for IDNet compatible devices a nd 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 mo nitor and control points intermixed on the same pair of wires. Additional IDNet circuit modules are available for 64, 127, or 250 addressable devices.

IDNet/MAPNET II Communications wiring specifications. Distances are for shielded or unshielded wire. Shielded wire may provide protection from unexpected sources of interference.

Wiring Specifications

Size		18 AWG (0.82 mm²)
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 your system with your local Simplex product supplier.

True*Alert* Addressable Notification

TrueAlert Power Supplies provides three, 3 A Signaling Line Circuits (SLCs) for controlling and powering addressable notification appliances. With addressable appliances, Class B wiring can be "T-tapped" for easier wiring and reduced wire run lengths. Appliances include horns, strobes, and combination units. For more detail, refer to data sheet S4009-0003.

True*Alarm* 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, a nd 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 selected as either Fahrenheit or Celsius.

TrueSense® Early Fire Detection. Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 4100ES 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 operatio n 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 h eat 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 for the 4100-6014 Network Interface Board with media modules, and secondarily for the 4100-6038 Dual RS-232 Board (4100-6038 is required for 2120 System connections)

System Power Supply: (see page 8 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 and Listing			Description	Supv.	Alarm
4100-9111	120 VAC Input		UL	4100ES 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		ULC			
4100-9211	220-240 VAC Input		UL			
4100-9131	120 VAC Input		UL	4100ES 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		ULC			
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 4100ES, 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)					
4100-2303	Legacy Module Stabilizer Bracket, used when expansion bays have legacy slot style modules					

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 4100ES user interface door assembly with Ethernet connection
4100-7152	512 pt 4100	Same as 4190-7150 plus includes a Universal Power Supply
4100-7158	1000 pt 4100 (4100+) or 4100ES	New Master Controller with Ethernet Connection Upgrade Kit; uses existing 4100ES user interface; for 4100+ without LCD
4100-2301	Expansion Bay Upgrade Kit for mounting 4100ES 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 cabinet with locking glass door and retainer

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

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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
4100-6047	Building Network Interface Card (BNIC), refer to data sheet S4100-0061 for details			2 Blocks	291 mA	291 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 with 2120 interface (slot module)	3 maximum of RS-232 type modules per panel		1 Slot	132 mA	132 mA
4100-6046	Dual Port RS-232 standard interface (4 x 5 module)			1 Block	60 mA	60 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)

Model	Voltage/Listing		Description	Size	Supv.	Alarm
4100-5101	120 VAC	UL	Expansion Power Supply (XPS); 9 A output, 3 built-in Class A/B NACs; NAC operation is same as SPS, see page 5 for details			
4100-5103	120 VAC, Canadian	ULC		2 Blocks	50 mA	50 mA
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			
4100-5112	120 VAC, Canadian	ULC		4 Blocks	175 mA	185 mA
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			
4100-5126	120 VAC, Canadian	ULC		4 Blocks	150 mA	185 mA
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)			
4100-5121	120 VAC, Canadian	ULC		4 Blocks	88 mA	100 mA
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

Continued on next page

Miscellaneous Accessories

Model	Description
4100-1279	Single blank 2" display cover; **4100-2302** provides a single plate for a full bay
4100-9856	4100ES Canadian French Appliqué Kit; Simplex, 4100ES, Controle Incendie
4100-9857	4100ES English Appliqué Kit, English; Simplex, 4100ES, Fire Control
4100-9858	4100ES InfoAlarm Remote Display English Appliqué Kit; Simplex, Operator Interface, 4100ES
4100-9859	4100ES InfoAlarm Remote Display Canadian French Appliqué Kit; Simplex, Interface de l'operateur, 4100ES
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)

Note: 4100ES Appliqués are included with 4100ES Upgrade and Retrofit Kits for mounting 4100ES in 4100, 2120, 2001, and Autocall back boxes so that upgrades can be easily identified as 4100ES. 4100ES Appliqué Kits are available for applications such as to update Remote InfoAlarm Displays connected to a panel that was upgraded to 4100ES or for an existing 4100U when the New Master Controller is upgraded to 4100ES and only a software upgrade is required.

Addressable Interface Modules (refer to location reference on pages 9 and 10)

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 without devices	75 mA	115 mA
Module size = 1 Block		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 pages 9 and 10)

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.
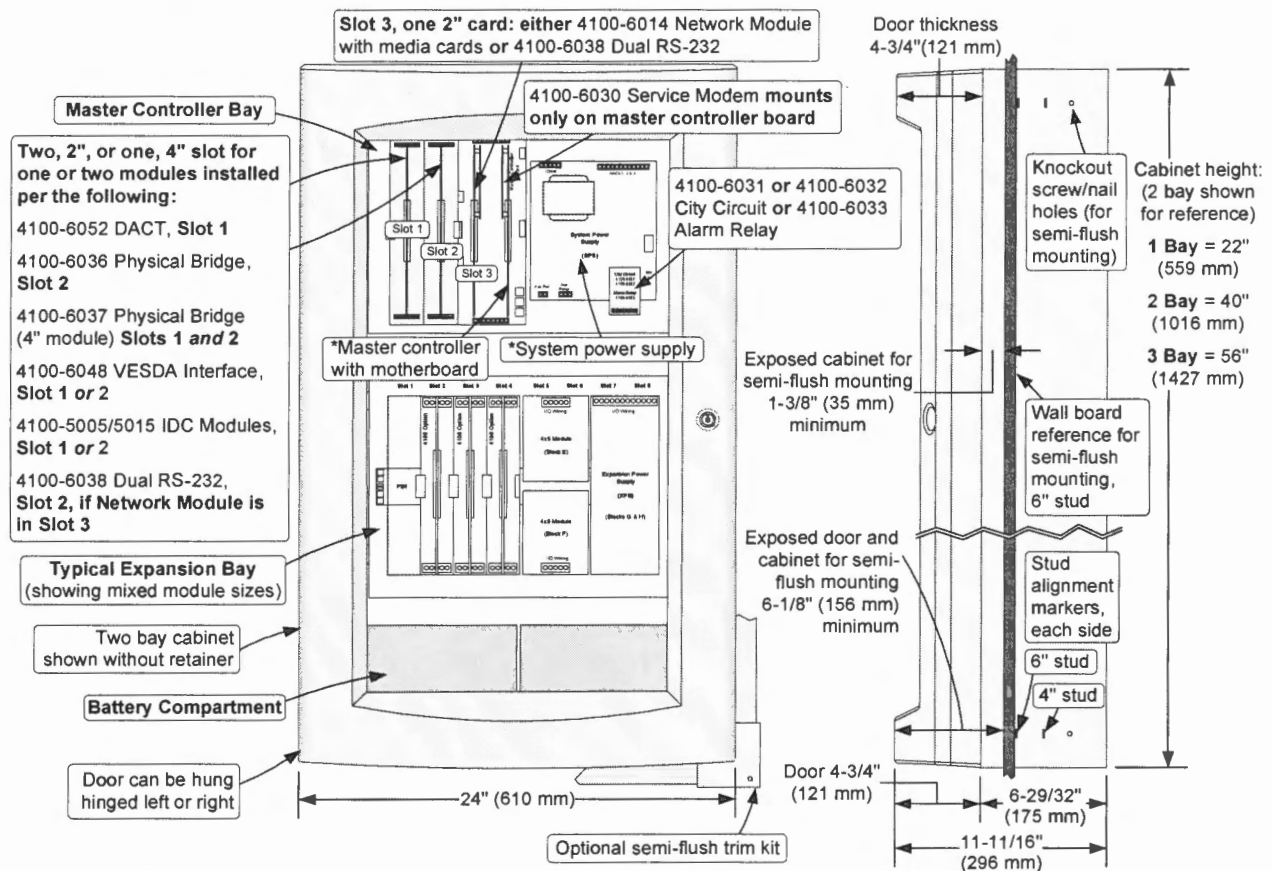
General Specifications

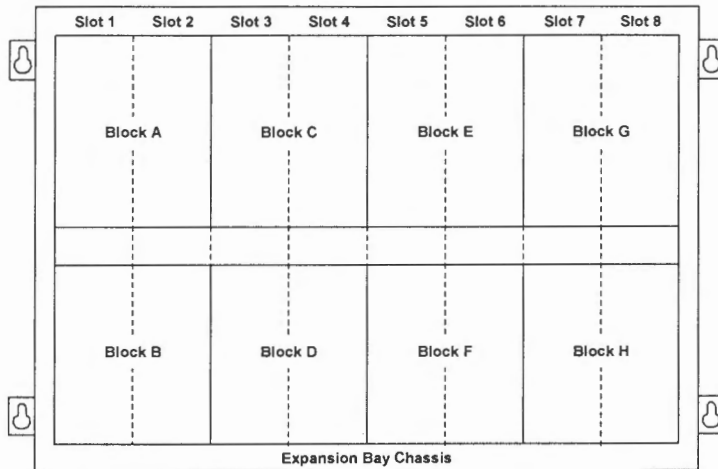| Input Power	System Power Supplies (SPS)	120 VAC Models	4 A maximum @ 102 to 132 VAC, 60 Hz	
	Expansion Power Supplies (XPS) Remote Power Supplies (RPS) TrueAlert Power Supplies (TPS)	220-240 VAC Models	2 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
Power Supply Output Ratings 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/s trobes 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 4100ES Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet	Subject	Data Sheet
Introducing the 4100ES	*S4100-0060*	MINIPLEX Transponders	S4100-0035	InfoAlarm Comm. Center	S4100-0045
Enclosures	S4100-0037	TFX Interface Module	S4100-0042	Graphic I/O Modules	S4100-0005
Building Network Interface	S4100-0061	IDNet+ Module w/Quad Iso.	S4100-0046	2120 BMUX Module	S4100-0048
LED/Switch Modules & Printer	S4100-0032	Remote Annunciators	S4100-0038	SafeLINC Internet Interface	S4100-0028
4100ES Audio/Phone Modules	S4100-0034	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

4100-6030 Service Modem mounts only on master controller board

Master Controller Bay

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**

Slot 1
Slot 2
Slot 3

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

*Master controller with motherboard

*System power supply

Typical Expansion Bay (showing mixed module sizes)

Two bay cabinet shown without retainer

Battery Compartment

Door can be hung hinged left or right

Door thickness 4-3/4"(121 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)

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 6-1/8" (156 mm) minimum

Stud alignment markers, each side

6" stud

4" stud

24" (610 mm)

Door 4-3/4" (121 mm)

6-29/32" (175 mm)

11-11/16" (296 mm)

Optional semi-flush trim kit

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

S.Simplex

4100 ES Fire Control Panels

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

Cabinet Reference; Boxes, Doors,
Retainers, Rack Mounting, and Accessories

Features

4100ES Box and door options:

- Boxes are available sized for one, two, or three equipment bays, each with a battery bay located at the bottom
- Colors include platinum or red
- Doors are glass with modular or solid internal retainers
- Models are available with box and door combined for single package shipping, or packaged separately
- Enclosures are NEMA 1 rated
- Refer to individual 4100ES data sheets for product application listings (see list on page 2)

Door and retainer selection is coordinated with cabinet function:

- Glass doors with modular retainers provide visibility of annunciation and interface modules for Control Panels, Network Display Units (NDU), and Remote Annunciators
- Glass doors with solid retainers are for MINIPLEX® Transponders and utility function cabinets where module visibility is not required
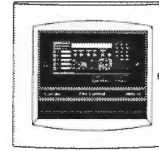
4100ES Enclosure details:

- Latching retainers easily lift off for internal access
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- Alignment markers are provided at the top and bottom of each box side for 6" (152 mm) or 4" (102 mm) wall studs
- Knockout screw/nail holes are supplied for semi-flush mounting
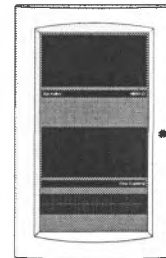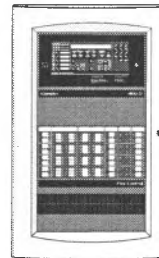
Upright cabinet rack packaging reference:

- For use with Bud Industries Inc. special cabinet rack model number 45964
- Refer to page 2 for cabinet rack listing

4009 TPS (TrueAlert® Addressable Power Supply) cabinet assemblies:
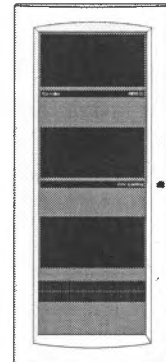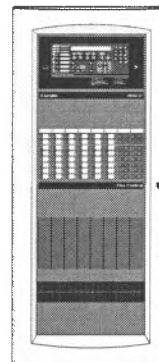
- Cabinet assemblies are available for remote mounting of the TrueAlert addressable power supply (TPS)
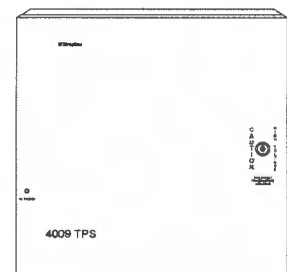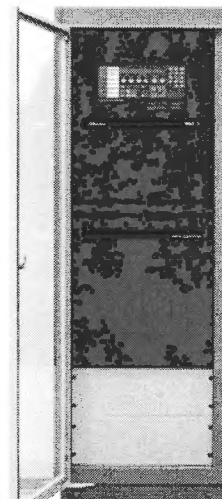- Refer to page 2 for listings information

4100ES One Bay Cabinets

4100ES Two Bay Cabinets

4100ES Three Bay Cabinets

Cabinet Rack Enclosure
(shown with door open)

4009 TPS Cabinet
Assembly (not to scale)

Enclosure Selection Chart (refer to pages 3 and 4 for dimensions)

Combined Box and Door Selection (select if box and door are to be shipped together)

Description	Platinum 1 Bay	Platinum 2 Bay	Platinum 3 Bay	Red 1 Bay	Red 2 Bay	Red 3 Bay
Box with Glass Door and Retainer	2975-9444	2975-9445	2975-9446	2975-9441	2975-9442	2975-9443

Model	Color	Description	Details		Listings
2975-9230	Beige	4009 TPS Cabinet Assembly for remote TrueAlert Power Supply (TPS) mounting	Includes box with door and mounting plate, input terminal block, and wiring harnesses; *Separately Order:* 4100 Series TPS (4100-5120 for US, 4100-5121 for Canada, 4100-5122, 240 VAC for international use), 4009-9813 Interface Card, and batteries (12.7 Ah maximum for cabinet mounting); refer to page 3, to data sheets S4100-0031 and S4009-0003, and instructions 579-875 for additional details		ETL Listed to: UL 864 and ULC S527 (not CSFM listed or FM approved)
2975-9229	Red				

Separate Box and Door Selection (select if boxes and doors are required to be shipped separately)

Description	Platinum 1 Bay	Platinum 2 Bay	Platinum 3 Bay	Red 1 Bay	Red 2 Bay	Red 3 Bay
Box	2975-9438	2975-9439	2975-9440	2975-9407	2975-9408	2975-9409
Glass Door and Retainer	4100-2104	4100-2105	4100-2106	4100-2124	4100-2125	4100-2126

Cabinet Rack Mounting (refer to page 4 for additional details)

Model	Description	#45964 Listings
#45964, from Bud Industries Inc.	Special upright cabinet rack for 4100ES; 19" (483 mm) E.I.A.; gray texture; includes front polycarbonate door and rear louvered door, both keyed with Simplex "B" keys	UL and ULC listed only as of document revision date; cabinets are listed with the Simplex 4100ES product line
4100-2140	Master Controller Rack Mount Kit, **one required per master controller**	Master Controller and Option Bays each require 9 Rack Units; 15.75" height (400 mm)
4100-2145	Option Bay Rack Mounting Kit, **one required per expansion bay**	
4100-2144	Power Distribution Module (PDM) Rack Mount Kit, order PDM separately per system voltage, **one required per cabinet rack**	

Power Distribution Modules (Not required for 4009 TPS Cabinets 2975-9229 and 2975-9230)

Model	Voltage	Description
4100-0634	120 VAC	Power Distribution Module (PDM); select per system voltage; **one required per 4100ES box or cabinet rack**
4100-0635	220/230/240 VAC	

Miscellaneous Accessories

Model	Description	
4100-9856	Canadian French Appliqué Kit, for 1, 2, or 3 bay sizes	
4100-9857	4100ES Appliqué Retrofit Kit, for 1, 2, or 3 bay sizes; use to identify 4100ES features when new door is not used; included with Master Controller Upgrade kits as detailed on data sheet S4100-0031	
4100-9835	Termination and Address Label Kit, for module marking	NOTE: One kit is supplied for each cabinet; order this if required for additional field module installation
4100-9837	Green LED Power-on Indicator Kit, **required for ULC listing of MINIPLEX transponder**	Mounts using knockout provided in solid door
2975-9813	Platinum semi-flush box trim	1-7/16" (37 mm) wide, four corners and trim pieces for top, bottom, and sides
2975-9812	Red semi-flush box trim	

Battery Reference

Model	Capacity	Model	Capacity	Battery Notes
2081-9272	6.2 Ah	2081-9287	25 Ah	1. Sealed lead-acid batteries, 12 VDC each; two required per battery location.
2081-9274	10 Ah	2081-9276	33 Ah	2. Battery selection is required if batteries are internal.
2081-9288	12.7 Ah	2081-9296	50 Ah	3. Select one size per battery set
2081-9275	18 Ah			4. Refer to data sheet S2081-0006 for battery details.

Battery Accessories

Model	Description
4100-0650	Battery Shelf, **required for 50 Ah batteries**
4100-5128	Battery Distribution Terminal Block, mounts to side of box, required for all close-nippled cabinets unless cabinet receives all power from power supplies and batteries located in the adjacent cabinet

Additional Data Sheet Reference

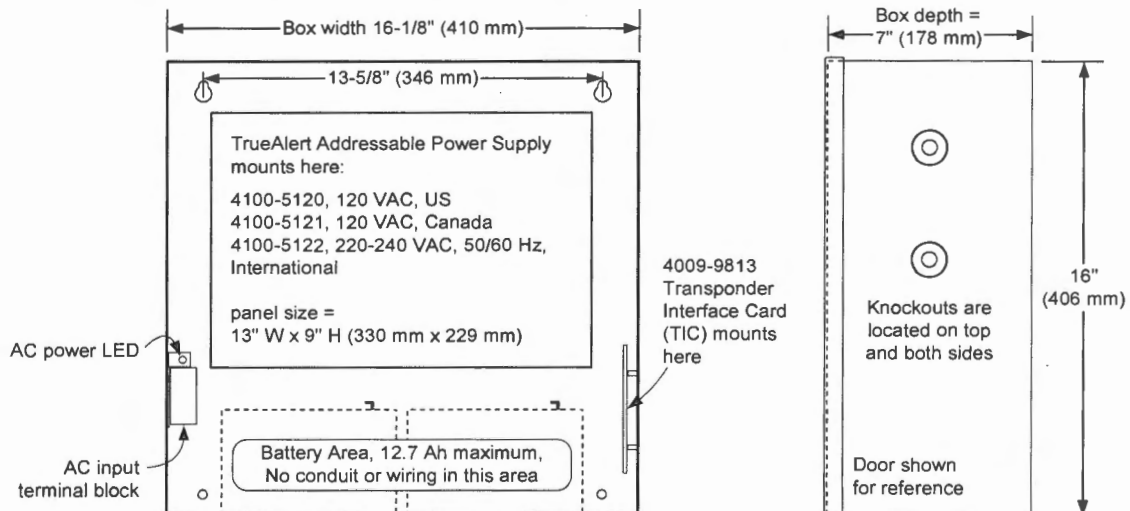| Subject	Data Sheet	Subject	Data Sheet
4100ES Basic Panel Modules and Accessories	S4100-0031	Network Display Unit (NDU)	S4100-0036
LED/Switch Modules	S4100-0032	Remote Annunciators	S4100-0038
4100ES Audio/Phone Modules	S4100-0034	InfoAlarm® Command Center	S4100-0045
MINIPLEX Transponders	S4100-0035	Remote Battery Charger	S4081-0002

S4100-0037-9

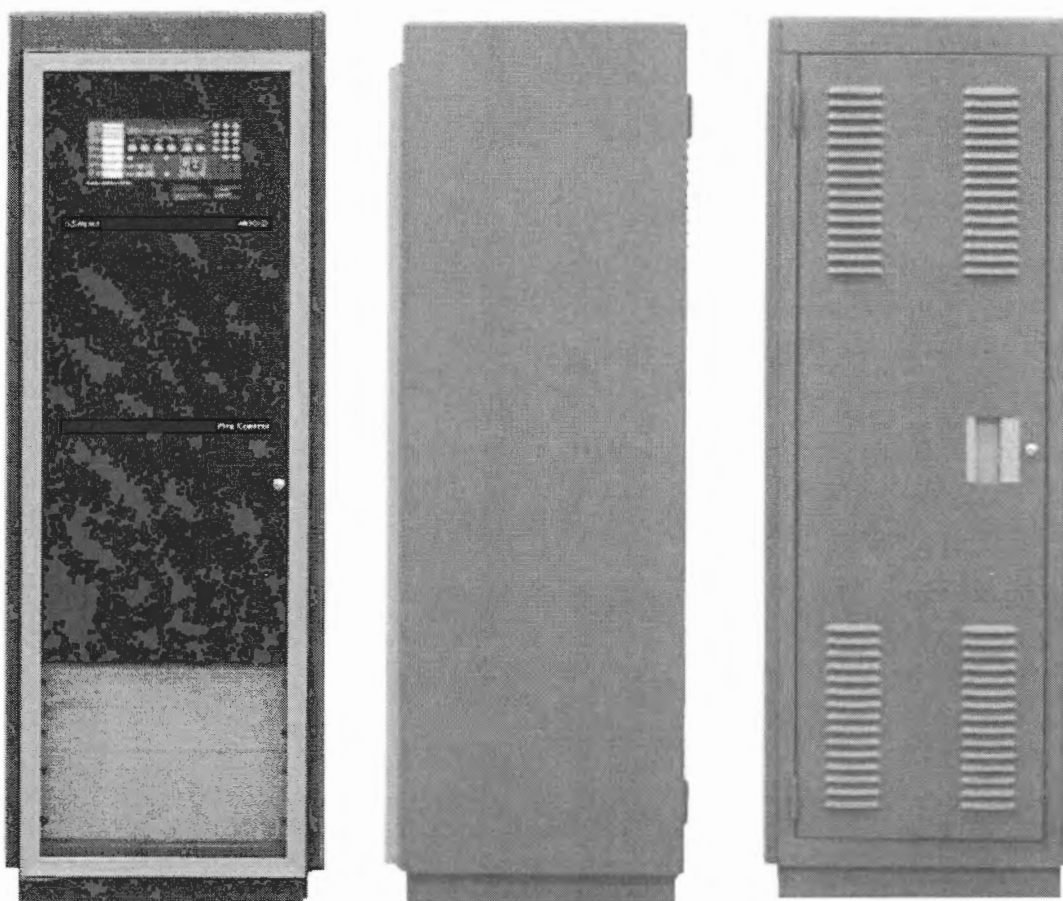## Wall Mounted Enclosure Installation Reference

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.

Front view, box outline without door

Side view with door attached

3 Bay height = 56" (1422 mm)

2 Bay height = 40" (1016 mm)

1 Bay height = 22" (559 mm)

Doors can be hinged left or right

Optional semi-flush trim kit reference

24" (610 mm)

Door thickness 4-3/4"(121 mm)

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

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 6-1/8" (156 mm) minimum

Stud alignment markers, each side

6" stud

4" stud

6-29/32" (175 mm)

11-11/16" (296 mm)
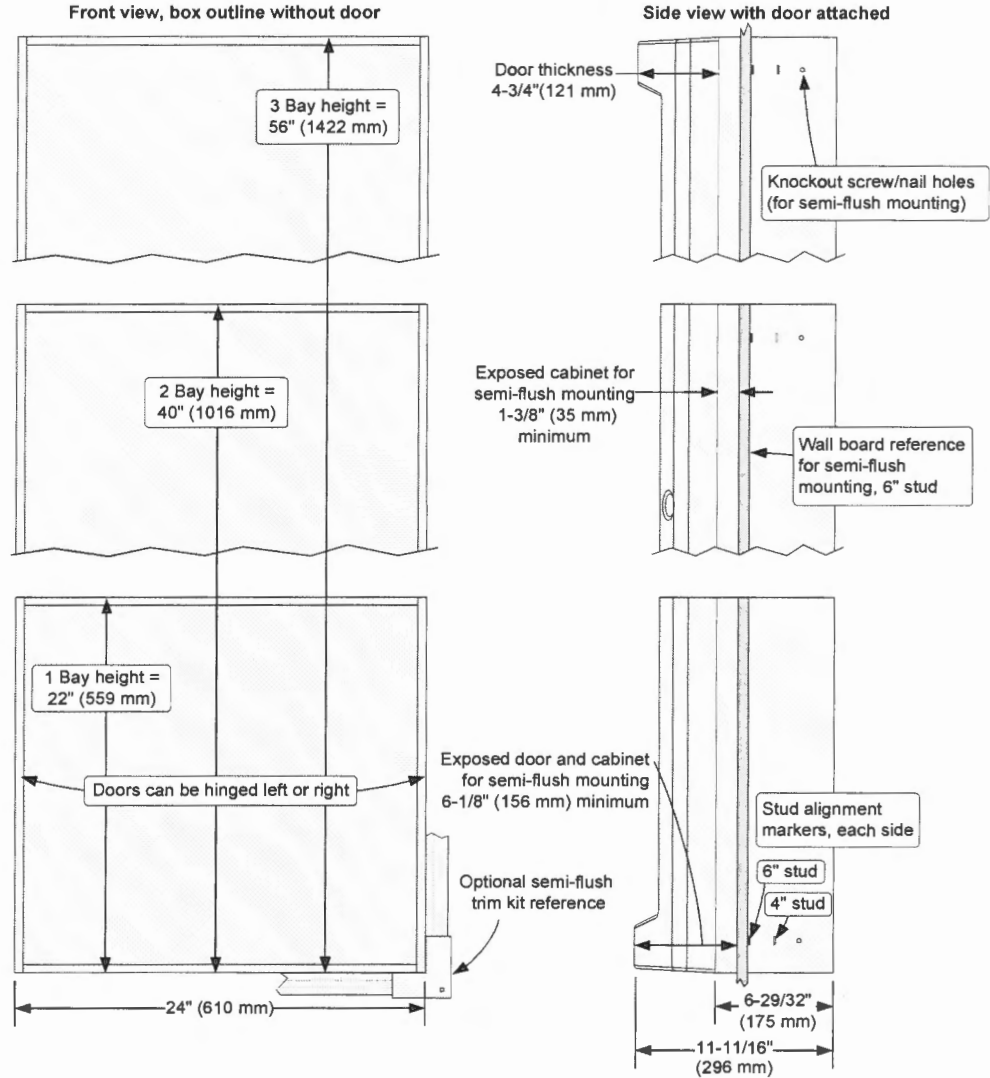
4009 TPS Cabinet Installation Reference

Box width 16-1/8" (410 mm)

13-5/8" (346 mm)

TrueAlert Addressable Power Supply mounts here:

4100-5120, 120 VAC, US
4100-5121, 120 VAC, Canada
4100-5122, 220-240 VAC, 50/60 Hz, International

panel size = 13" W x 9" H (330 mm x 229 mm)

AC power LED

AC input terminal block

Battery Area, 12.7 Ah maximum, No conduit or wiring in this area

4009-9813 Transponder Interface Card (TIC) mounts here

Box depth = 7" (178 mm)

Knockouts are located on top and both sides

Door shown for reference

16" (406 mm)

S4100-0037-9

Front View

Side View

Rear View

Cabinet Rack Specifications

Type		Upright cabinet rack for exclusive use with Simplex 4100ES Fire Alarm Products
Supplier		Order from Bud Industries Inc. (www.budind.com)
Model Number		45964
Outside Dimensions	Height	69-7/8" (1775 mm)
	Width	24-1/16" (611 mm)
	Depth	22" (559 mm)
Color		Gray texture
Panel Space Width		19" E.I.A. (483 mm)
Front Door		Surface mount with 1/8" thick (3.18 mm) smoke gray polycarbonate, locked with Simplex "B" key, hinged on left of cabinet
Rear Door		Ventilated top and bottom, locked with Simplex "B" key
Sides		Side panels are removable from the inside for rack-to-rack mounting
Bottom		Pan attached for battery mounting
Levelers		Includes 4 stem levelers on bottom

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www.tycosafetyproducts-usa-wm.com

S4100-0037-9

☎.Simplex

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

Panel Mounted LED/Switch and LED Modules, LED/Switch Controllers, and Panel Mounted Printer

Features

Panel mounted annunciation modules for use with 4100U/4100ES Fire Alarm Control Panels, Remote Annunciators, and Network Display Units (NDU):

- Modules mount on front of panel bay providing convenient access and high visibility
- Panel monitors switches for user input and controls LED indicators to annunciate function status
- Compact 64 LED/64 switch controller modules mount on back of LED/switch modules

LED/Switch Modules:

- Raised momentary switches provide tactile feedback
- Alternate action operation provides on/off functions
- High intensity LEDs provide clear status annunciation
- Slide-in labels provide custom on-site labeling (label kit is ordered separately)

8 LED, 8 Switch Modules:

- One status LED per switch
- Available as all red LEDs or all yellow LEDs

16 LED, 8 Switch Modules:

- Two status LEDs per switch
- Available with two LEDs per switch as: red/yellow, yellow/yellow, red/green, or green/yellow

16 LED, 16 Switch Modules:

- One status LED per switch in 2" (51 mm) module
- Available as all red LEDs, or 8 red and 8 yellow
- Two configurations are available, one with pluggable LEDs, refer to illustrations on page 2 and product selection details on page 4

24 LED, 24 Switch Modules:

- Double slot module with one red status LED per switch

### HOA (Hand-Off-Auto) Switch Modules:

- Eight controls in a double slot module, each control has three switches for status selection and one LED per switch position
- Switch selection is On/Hand, Off, and Auto

Available with three HOA Module LED Options:

- On/Hand (green LED), Off (red LED) and Auto (green LED)
- On/Hand (green LED), Off (red LED) and Auto (white LED) to comply with International Building Code (IBC) requirements
- On/Hand (green LED), Off (yellow LED) and Auto (green LED) for applications requiring no red LEDs
- Available with or without switch buttons labels (On, Off, Auto)

LED Modules with 8 or 16 pluggable LEDs:

- 8 LED Module has red LEDs, 16 LED module has 8 red with 8 yellow
- Red, yellow, green, or blue LEDs are available in packages of eight (8) to change color on-site per application requirement (ordered separately)
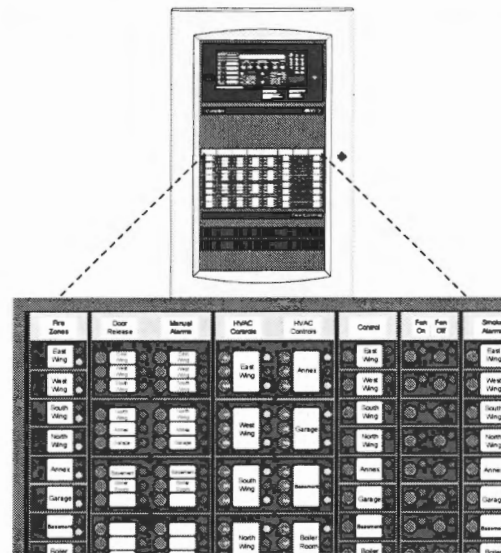
4100ES 2-Bay Fire Alarm Control Panel with Sample of Available LED/Switch Modules

Features *(Continued)*

24 Point I/O Module for external connections:

- Each point is selectable as either a switch input (momentary or maintained) or lamp/relay driver output
- Multiple switch monitoring modes are available

Panel mounted printer (see pages 6 and 7 for details):

- Records system events and provides 20 visible lines

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

Description

Annunciation Options. 4100U/4100ES fire alarm panels support a variety of switch input and LED status indicators to complement the information and controls available at the operator interface. These modules provide a convenient interface efficiently packaged onto the front panel space of the cabinet bay. Additionally, the panel mounted printer can conveniently record system status without requiring a separately located printer.

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* Refer to additional listing details on page 4. 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. 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
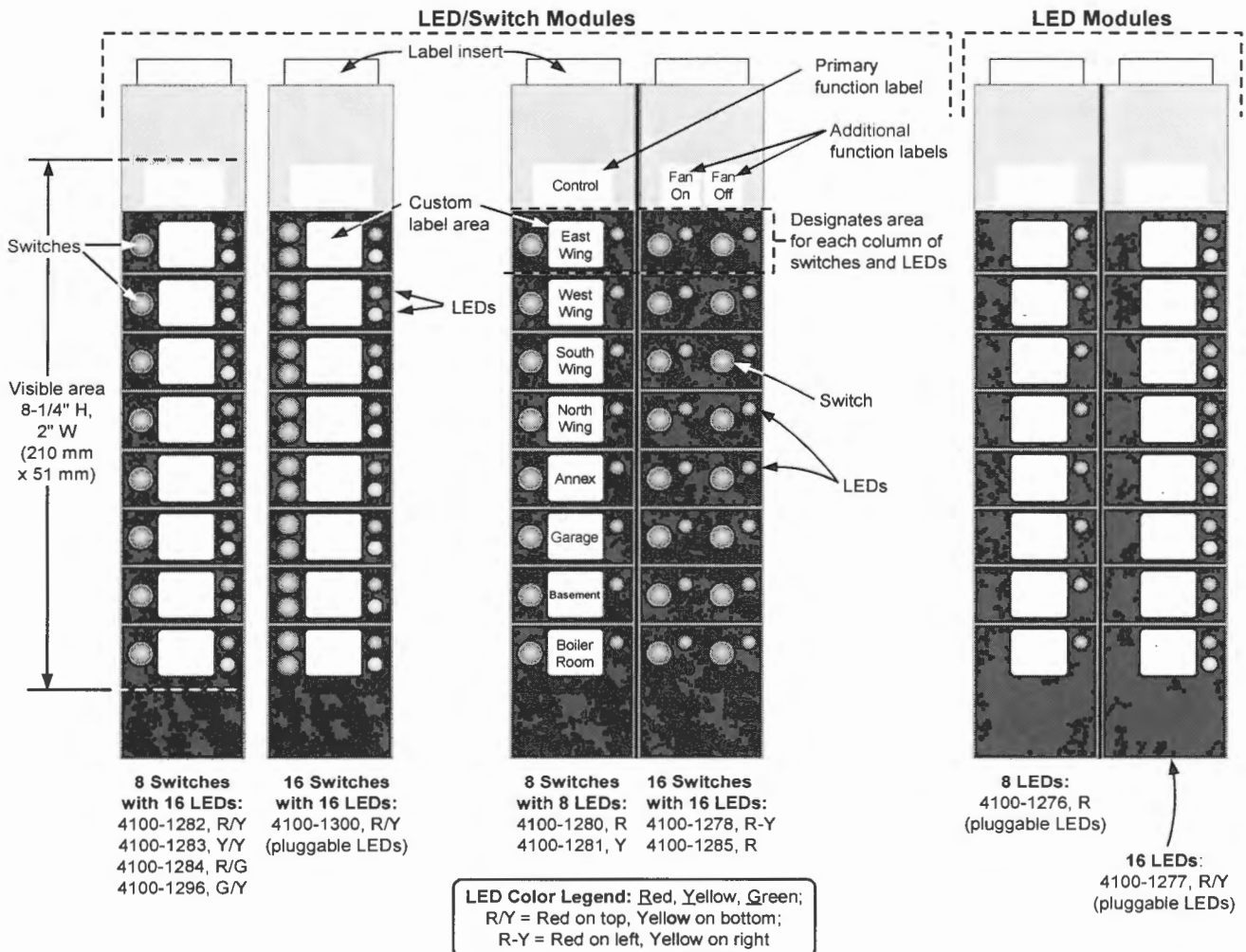
Description *(Continued)*

Easy Interface. Switches are alternate action ON/OFF (depending on programming selection) using a tactile feel, raised rubber button. High efficiency LEDs provide clear status annunciation readily visible through the glass door.
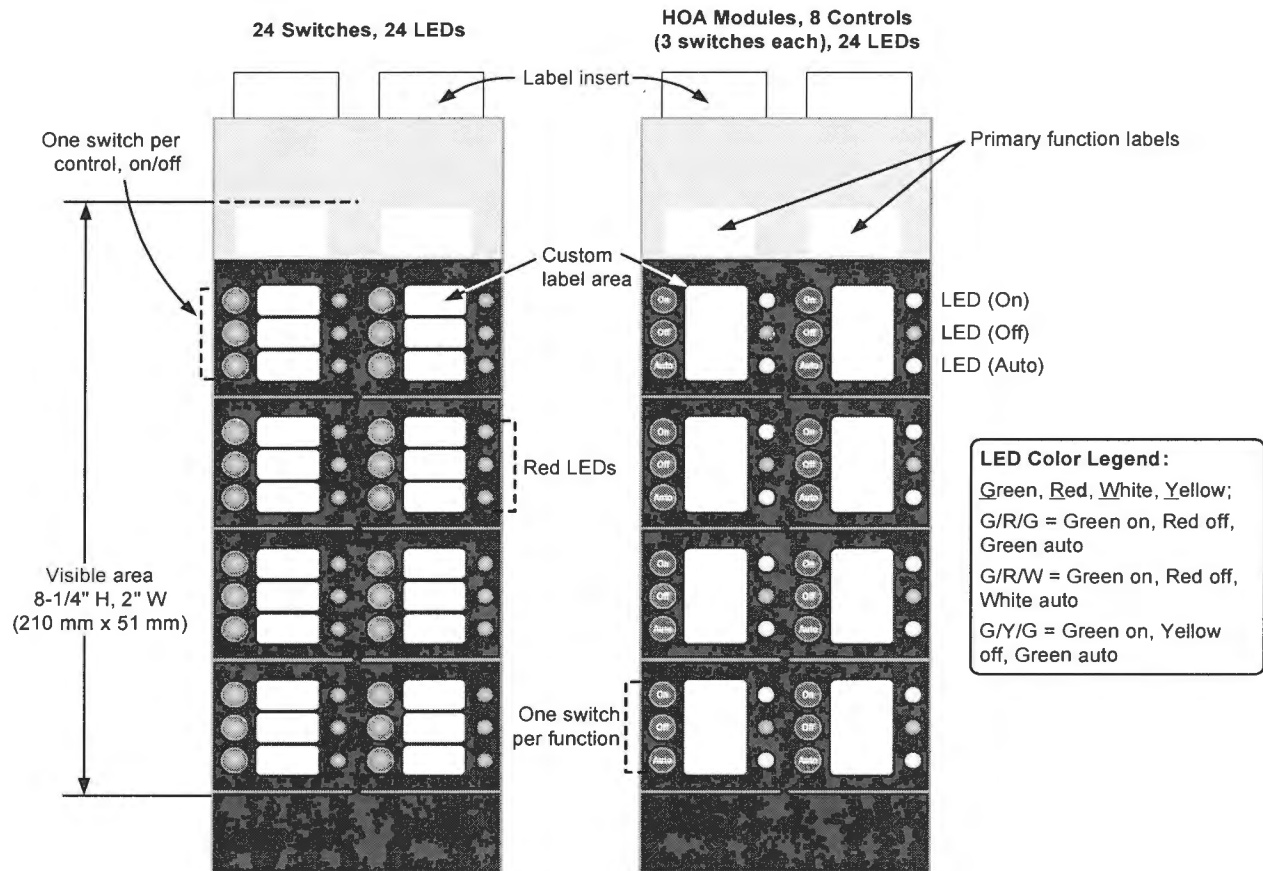
Selectable Functions. Switch functions, LED status indications, and printer output is selected when the control panel CPU is customized for site specific requirements. Slide-in labels are locally printed to indicate the exact function of the LEDs and switches.

The 24 Point I/O Module is selectable for input switch type and supervision type. Outputs are selectable for steady on or pulsing to drive remotely connected relays, incandescent lamps, or LEDs.

LED/Switch Module Detail Reference

LED/Switch Modules

LED Modules

Label insert

Primary function label

Additional function labels

Custom label area

Switches

LEDs

Visible area 8-1/4" H, 2" W (210 mm x 51 mm)

Control   Fan On   Fan Off

Designates area for each column of switches and LEDs

East Wing
West Wing
South Wing
North Wing
Annex
Garage
Basement
Boiler Room

Switch

LEDs

8 Switches with 16 LEDs:
4100-1282, R/Y
4100-1283, Y/Y
4100-1284, R/G
4100-1296, G/Y

16 Switches with 16 LEDs:
4100-1300, R/Y
(pluggable LEDs)

8 Switches with 8 LEDs:
4100-1280, R
4100-1281, Y

16 Switches with 16 LEDs:
4100-1278, R-Y
4100-1285, R

8 LEDs:
4100-1276, R
(pluggable LEDs)

16 LEDs:
4100-1277, R/Y
(pluggable LEDs)

LED Color Legend: Red, Yellow, Green;
R/Y = Red on top, Yellow on bottom;
R-Y = Red on left, Yellow on right

S4100-0032-10

24 Switches, 24 LEDs

HOA Modules, 8 Controls (3 switches each), 24 LEDs

Label insert

One switch per control, on/off

Primary function labels

Custom label area

LED (On)
LED (Off)
LED (Auto)

Red LEDs

LED Color Legend:

Green, Red, White, Yellow;

G/R/G = Green on, Red off, Green auto

G/R/W = Green on, Red off, White auto

G/Y/G = Green on, Yellow off, Green auto

Visible area
8-1/4" H, 2" W
(210 mm x 51 mm)

One switch per function

4100-1287

HOA Modules, G/R/G LEDs:
4100-1286, with labeled switches as shown
4100-1295, with unlabeled switches (not shown)

HOA Modules for IBC Applications, G/R/W LEDs:
4100-1275, with labeled switches as shown
4100-1299, with unlabeled switches (not shown)

HOA Modules, G/Y/G LEDs:
4100-1302, with labeled switches as shown
4100-1301, with unlabeled switches (not shown)

LED/Switch Modules, General Purpose (LED/switch controller and label kit is ordered separately)

Model	LEDs per Switch	LED Color(s)	Custom Label Area	LED Quantity	Switch Quantity
4100-1280	One	Red	Per module and per switch	8	8
4100-1281	One	Yellow			
4100-1282	Two	Red on top, Yellow on bottom	Per module and per switch	16	8
4100-1283	Two	Yellow on top and bottom			
4100-1284	Two	Red on top, Green on bottom			
4100-1296	Two	Green on top, Yellow on bottom			
4100-1285	One	Red	One per column of 8 LED/switch pairs (see illustration on page 2)	16	16
4100-1278	One	8 Red on left, 8 Yellow on right			
4100-1300*	One	With pluggable LEDs; shipped Red on top, Yellow on bottom	Per module and per LED/switch pair		
4100-1287	One	Red	Per module and per switch	24	24

* UL, ULC, and CSFM listed only.

LED Only Modules and LED Kits (LED/switch controller and label kit is ordered separately)

Model	Description	
4100-1276	Eight (8) LED Module with Red LEDs; custom label area per module and per LED	LEDs are pluggable; select LED kits as required to change LED color
4100-1277	Sixteen (16) LED Module; Red LED on top and Yellow LED on bottom at each position; custom label area per module and per LED pair	
4100-9843	Yellow	Kits of 8 LEDs; order as required for modules with pluggable LEDs to change LED color on-site per application requirement; compatible with LED Modules 4100-1276, 4100-1277, and 4100-1300 (Blue is typically used for Ancillary Device status indication per ULC S527)
4100-9844	Green	
4100-9845	Red	
4100-9855	Blue	

LED/Switch Modules, HOA (Hand-Off-Auto) with Green/Red/Green LEDs
(LED/switch controller and label kit is ordered separately)

Model	Operation	Switch Function (Location)	LED Description
4100-1286	Eight function HOA (On, Off, Auto) Control Module with labeled switches; custom label area per module and per LED/switch set	On (top)	Green LED
		Off (middle)	Red LED
		Auto (bottom)	Green LED
4100-1295	Eight function HOA (On, Off, Auto) Control Module, same as 4100-1286 except switches are unlabeled		

LED/Switch Modules, HOA (Hand-Off-Auto) with Green/Red/White LEDs for IBC Applications
(LED/switch controller and label kit is ordered separately)

Model	Operation	Switch Function (Location)	LED Description
4100-1275	Eight function HOA (On, Off, Auto) Control Module with labeled switches; LED colors meet International Building Code (IBC) requirements; custom label area per module and per LED/switch set	On (top)	Green LED
		Off (middle)	Red LED
		Auto (bottom)	White LED
4100-1299	Eight function HOA (On, Off, Auto) Control Module, same as 4100-1275 except switches are unlabeled		

LED/Switch Modules, HOA (Hand-Off-Auto) with Green/Yellow/Green LEDs
(LED/switch controller and label kit is ordered separately)

Model	Operation	Switch Function (Location)	LED Description
4100-1302**	Eight function HOA (On, Off, Auto) Control Module with labeled switches; for applications requiring no red LEDs; custom label area per module and per LED/switch set	On (top)	Green LED
		Off (middle)	Yellow LED
		Auto (bottom)	Green LED
4100-1301**	Eight function HOA (On, Off, Auto) Control Module, same as 4100-1302 except switches are unlabeled		

** UL, ULC, and CSFM listed only.

LED/Switch Module Product Selection *(Continued)*

LED/Switch Controller Modules and Accessories

Model	Description	
4100-1288	64 LED/64 Switch Controller Module **with** mounting plate; controls up to 64 LEDs and interfaces to up to 64 switches; mounts behind the LED/switch modules and has provisions for one 4100-1289 Controller Module	**NOTE:** LED/switch controllers and their connected modules must be in the same bay.
4100-1289	64 LED/64 Switch Controller Module **without** mounting plate; mounts on extra space of 4100-1288; controls an additional 64 LEDs and 64 switches	
4100-0636	Harness Kit, Power and Communications	One of each is required per 4100-1288 that is located in the same bay as two Flex-35/50 amplifiers and an SPS
4100-0641	Harness Kit, 26 Position Flex Cable, 14-1/2" (368 mm) long	
4100-1290	24 Point I/O Module for external connections, select each point as either input or output; 2" (51 mm) wide, 1 Slot	
4100-1294	LED/Switch Module Slide-in Labels, **required when LED/switch or LED only modules are present**; order one per cabinet	
4100-1279	Single blank 2" display cover; order as required (8 fill a bay front); two maximum in a row between LED/switch modules	

Panel Mounted Printer *(refer to pages 6 and 7 for printer details)*

Model	Description
4100-1293	Panel Mount Thermal Printhead Printer, supplied with one roll of paper
4190-9803	Replacement Paper for 4100-1293 Printer, one roll

LED/ Switch Modules and Controllers Specifications

(For additional LED/Switch Module information, refer to Installation Instructions 574-843)

64 LED/64 Switch Controller Modules (4100-1288 and 4100-1289)

Input Voltage	19 to 33 VDC, from control panel
Current, No LEDs On	20 mA @ 24 VDC
Current, All 64 LEDs On	210 mA @ 24 VDC (approx. 3 mA/LED)
Mounting Reference	Bracket of 4100-1288 attaches to the back of the LED/switch modules
Controllers per Bay	Maximum of two per bay; for control of LED/switch modules **within that bay only**
Bay Location Reference	Slots 1 & 2 or Slots 3 & 4; mounts onto the back of the LED/switch modules
Clearance Behind Controller Module	Space accepts low profile 4100U/4100ES modules only

24 Point I/O Module (4100-1290)

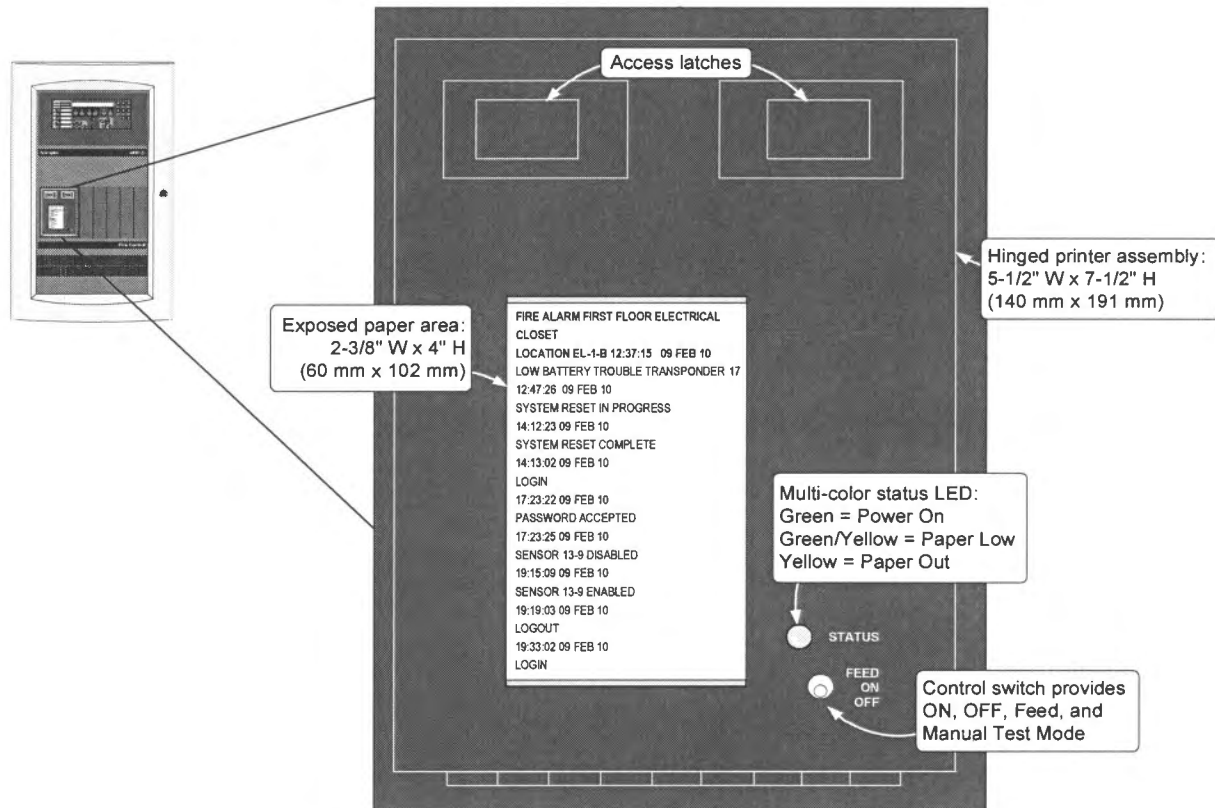|	
Module Current	Supervisory = 34 mA; Alarm = 75 mA (add output currents separately)
Switch Input Details	Momentary or maintained, 2 or 3 position; max. distance is 2500 ft (762 m) or 65 Ω
Output Current	150 mA @ 24 VDC per point; inrush current is limited for use with incandescent bulbs
Output Details	Diode suppress relay loads at the coil; max. distance is 600 ft (183 m) or 2 Ω

General Specifications

Operating Temperature Range	32° to 120°F (0° to 49° C)
Operating Humidity Range	Up to 93% RH, non-condensing @ 90° F (32° C) maximum

Additional Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet
4100ES Basic Panel Modules and Accessories	S4100-0031	Network Display Unit (NDU)	S4100-0036
4100ES Audio/Phone Modules	S4100-0034	Enclosure Reference	S4100-0037
MINIPLEX® Transponders	S4100-0035	Remote Annunciators	S4100-0038

Access latches

Hinged printer assembly:
5-1/2" W x 7-1/2" H
(140 mm x 191 mm)

Exposed paper area:
2-3/8" W x 4" H
(60 mm x 102 mm)

FIRE ALARM FIRST FLOOR ELECTRICAL
CLOSET
LOCATION EL-1-B 12:37:15 09 FEB 10
LOW BATTERY TROUBLE TRANSPONDER 17
12:47:26 09 FEB 10
SYSTEM RESET IN PROGRESS
14:12:23 09 FEB 10
SYSTEM RESET COMPLETE
14:13:02 09 FEB 10
LOGIN
17:23:22 09 FEB 10
PASSWORD ACCEPTED
17:23:25 09 FEB 10
SENSOR 13-9 DISABLED
19:15:09 09 FEB 10
SENSOR 13-9 ENABLED
19:19:03 09 FEB 10
LOGOUT
19:33:02 09 FEB 10
LOGIN

Multi-color status LED:
Green = Power On
Green/Yellow = Paper Low
Yellow = Paper Out

STATUS

FEED
ON
OFF

Control switch provides
ON, OFF, Feed, and
Manual Test Mode

S4100-0032-10

Printer Specifications

(For additional printer information, refer to Installation Instructions 579-249)

Electrical & Communications

Input Voltage		19 to 33 VDC, from control panel
Current	Standby	125 mA @ 24 VDC
	Printing	800 mA @ 24 VDC
Communications		RS-232, 9600 baud, from control panel RS-232 module

Print Characteristics

Print Format	Fixed thermal printhead producing black characters
Characters	11 x 28 dot matrix; alarm information printed in bold
Paper Format	40 columns; 6 lines per inch; 20 lines visible; paper is wound onto top take-up reel, paper can be manually unwound from take-up reel and rewound using Feed switch
Paper Speed	1.33 in/sec maximum
Print Speed	312 cps
Sound Output	55 dB maximum, with cabinet door open

Paper (one roll included)

Type and Size	Thermal; 2.35" wide, 160 ft long (60 mm x 49 m)
Replacement Paper	4190-9803, 1 roll

Mounting Specifications

Bay Location Reference	Requires 3 expansion bay slots, can be located as required
Clearance Behind Printer	Space accepts low profile 4100U/4100ES modules only

Environmental Specifications

Operating Temperature Range	32° to 120°F (0° to 49° C)
Operating Humidity Range	Up to 93% RH, non-condensing @ 90° F (32° C) maximum