

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK



CITY OF PORTLAND BUILDING PERMIT

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

For installation at
250 COMMERCIAL ST

Job ID: 2012-05-3993-CH OF USE

CBL: 031- L-034-001

has permission to install new fire alarm system (see plan of action)

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

Bjorn Jaedig
Fire Prevention Officer

(58)

Code Enforcement Officer / Plan Reviewer

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

SCANNED

City of Portland, Maine - Building or Use Permit Application

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

| | | | |
|---|--|--|--|
| Job No: 2012-05-3993-CH OF USE 2012-49031-FIRE ALARM | Date Applied: 10/5/2012 | CBL: 031- L-034-001 | |
| Location of Construction: 250 COMMERCIAL ST (1 st floor) | Owner Name: CM WATERFRONT PROPERTIES, LLC | Owner Address: P.O. BOX 7467 PORTLAND, ME 04112 | Phone: |
| Business Name: | Contractor Name: Simplex Grinnell – Ken Plourde | Contractor Address: 20 Thomas Drive, Westbrook, ME 04092 | Phone: 207-749-6726 |
| Lessee/Buyer's Name: | Phone: | Permit Type: BLDG - Building | Zone: WCZ |
| Past Use: Restaurant – Brew pub | Proposed Use: Same – restaurant – Brew Pub – install fire alarm (1 st floor) | Cost of Work: 250000.00 | CEO District: |
| | | Fire Dept: 10/16/12 <input checked="" type="checkbox"/> Approved w/ conditions <input type="checkbox"/> Denied <input type="checkbox"/> N/A Signature: <i>B. Plourde</i> (58) | Inspection: Use Group: Type: Signature: |
| Proposed Project Description: install fire alarm (1 st floor) | | Pedestrian Activities District (P.A.D.) | |

| | | | |
|---|---|---|---|
| Permit Taken By: Lannie | Zoning Approval | | |
| <p>1. This permit application does not preclude the Applicant(s) from meeting applicable State and Federal Rules.</p> <p>2. Building Permits do not include plumbing, septic or electrical work.</p> <p>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.</p> | Special Zone or Reviews <input type="checkbox"/> Shoreland <input type="checkbox"/> Wetlands <input type="checkbox"/> Flood Zone <input type="checkbox"/> Subdivision <input type="checkbox"/> Site Plan <input type="checkbox"/> Maj <input type="checkbox"/> Min <input type="checkbox"/> MM Date: <i>approved 10/16/12 ABU</i> | Zoning Appeal <input type="checkbox"/> Variance <input type="checkbox"/> Miscellaneous <input type="checkbox"/> Conditional Use <input type="checkbox"/> Interpretation <input type="checkbox"/> Approved <input type="checkbox"/> Denied Date: | Historic Preservation <input checked="" type="checkbox"/> Not in Dist or Landmark <input type="checkbox"/> Does not Require Review <input type="checkbox"/> Requires Review <input type="checkbox"/> Approved <input type="checkbox"/> Approved w/Conditions <input type="checkbox"/> Denied Date: <i>ABU</i> |
| | CERTIFICATION | | |

SCANNED

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 |

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.



PORTLAND MAINE

Strengthening a Remarkable City, Building a Community for Life • www.portlandmaine.gov

Director of Planning and Urban Development
Jeff Levine

Job ID: 2012-05-3993-CH OF USE
install new fire alarm system
(see plan of action)

For installation at:
250 COMMERCIAL ST

CBL: 031- L-034-001

Conditions of Approval:

Fire

The fire alarm system shall be installed within the time frame as approved in the owner's plan of action.

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; 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".

Installation of a Fire Alarm system requires a Knox Box to be installed per city ordinance.

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.

A master box connection is not authorized for this building.

C M Waterfront Properties, LLC
36 Union Wharf- PO Box 7467 - Portland, Maine 04112

August 3, 2012

Lt. Benjamin Wallace
Fire Prevention Officer
City of Portland Fire Department
380 Congress Street
Portland, ME 0401

Re: 250 Commercial Street, Portland, ME
Fire Alarm System Upgrade and Action Plan

Dear Lt. Wallace:

Please accept this letter as formal action plan regarding the upgrade and replacement of the fire alarm system at 250 Commercial Street, Portland, ME based on the need to upgrade system in anticipation of new Restaurant/Distillery/Brewery in first floor tenant space.

Given the nature and associated cost of replacing the Mircom Series 1000 conventional fire alarm system in its entirety we wish to break it down into three phases over a three year period. The phases and estimated completion dates of each phase are as follows:

Phase I (Estimated Completion Date - Summer 2012)

1. Replace the Mircom Series 1000 Conventional Fire Alarm Control Panel with new SimplexGrinnell 4010ES Addressable Fire Alarm Control Panel.
2. Tie all existing initiating and notification devices, i.e. zones and NAC's to new 4010ES FACP.
3. Furnish and install new addressable initiating devices and all notification devices as required to meet the City of Portland Fire Department Rules and Regulations in new Restaurant/Distillery/Brewery space.
4. 100% Test

Phase II (Estimated Completion Date - Summer 2013)

1. Replace all remaining conventional initiating devices associated with the Mircom Series 1000 conventional fire alarm system with new addressable devices.
2. Furnish additional initiating devices as required to meet the City of Portland Fire Department Rules and Regulations.
3. 100% Test

Phase III (Estimated Completion Date - Summer 2014)

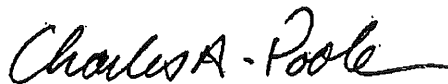
1. Replace all existing notification devices with new horn strobes and strobe only devices.
2. Furnish additional notification devices as required to meet the City of Portland Fire Department Rules and Regulations and American Disabilities Act (ADA).
3. 100% Test.

To summarize: It is our intent to replace the entire fire alarm system over a three year period whereby at the end of three years the fire alarm system will be updated to the most recent code requirements. All necessary shop drawings as required for permitting purposes to be provided at each phase.

It is our hope that this action plan as described above meets with the City of Portland Fire Department's approval. Please know we are presently under contract for Phase I with SimplexGrinnell. Furthermore, please know we are anxious to implement Phase I as the Distillery/Brewery is being constructed. Please provide formal approval of said action plan and upon receipt SimplexGrinnell will implement the first phase as described above.

If you have any questions as it relates to this matter please don't hesitate to contact me or Sam Martin of SimplexGrinnell directly. Thank you and I look forward to your reply.

Sincerely,

A handwritten signature in black ink that reads "Charles A. Poole". The signature is written in a cursive, flowing style.

Charles A. Poole
Partner
CM Waterfront Properties, LLC
cpoole@customfloat.com
(207) 772-8160
(207) 939-1431- mobile



Fire Alarm Permit

Child - 2012-04 9031
2012-4-5887

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.

Installation address: 250 Commercial St. CBL: 31-L-34

Exact location: (within structure) 1st floor in rear corridor where existing panel is located

Type of occupancy(s) (NFPA & ICC): Restaurant/Pub

Building owner: CM Waterfront Properties LLC

System Designer (point of contact): Ken Plourde
Must be

Designer phone: (207) 749-6726 E-mail: kplourde@simplexgrinnell.com

Installing contractor: Simplex/ Folsom Electric Certificate of Fitness No: 1019

Contractor phone: John Hale (207) 239-5100 E-mail: johale@simplexgrinnell.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
- Wiring diagram
- Annunciator details
- Input/ Output Matrix
- Equipment data sheets
- Electrical Permit Pulled (check alarm/com)
- Scope of Work
- 11 1/2 x 17s
- pdf copy (may be e-mailed)
- Designer qualifications
- Battery/ voltage drop calcs

COST OF WORK: \$ 8500.00

PERMIT FEE: \$ 110.00
(\$10 PER \$1,000 + \$30 FOR THE FIRST \$1,000)

RECEIVED
OCT 05 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 1/2 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: John Hale Date: 10-4-12

SimplexGrinnell Material List (THIS IS NOT A PRICE QUOTATION)

TO:
CM Waterfront Properties LLC
250 COMMERCIAL ST
PORTLAND, ME 04101
Attn: Charlie Poole
(207) 772-8160 EXT(____) Fax:

Project: 250 Commercial Street
Customer Reference: Fire Alarm Upgrade Phase I
SimplexGrinnell Reference: 147421626
Date: 09/24/2012
Page 1 of 2

| QUANTITY | MODEL NUMBER | DESCRIPTION |
|----------|--|------------------------------|
| | Fire Alarm - Charlie Poole | |
| | Fire Alarm - Charlie Poole | |
| | Fire Alarm Control Panel | |
| 1 | 4010-9401 | 4010ES FACP 120V RED |
| 1 | 4010-9920 | 8 ZONE IDC MODULE CLASS B |
| 1 | 4010-9912 | SERIAL DACT |
| 1 | ETHEDROP | ETHERNET-NETWORK COMPATIBLE |
| 2 | 2081-9274 | BATTERY 10AH |
| 1 | DPSVC | DP SVCS (PERMITS/FEES/BONDS) |
| | Sprinkler Monitoring | |
| 3 | 4090-9001 | SUPERVISED IAM |
| 3 | 4090-9810 | BRACKET, IAM |
| 3 | 4090-9806 | COVER-ADDRESS MODULE FLUSH |
| | Professional Services - Fire Alarm - Charlie Poole | |
| 4 | DSGN LAB | DESIGN LABOR |
| 2 | PM LAB | PROJECT/CONSTRUCTION MGMT |
| | Technical Services - Fire Alarm - Charlie Poole | |
| 8 | TECH LAB | TECHNICAL SERVICE |
| 16 | COMM LAB | Commissioning Labor |

Comments

Scope of Work:

SimplexGrinnell is pleased to provide this proposal to replace the existing Mircom Series 1000 Conventional Fire Alarm System with a new Addressable 4010ES Fire Alarm System at 250 Commercial Street, Portland, ME in an effort to meet the City of Portland requirements.

Proposal is per Action Plan as presented and approved by the City of Portland Fire Dept on 08/22/12. Proposal includes Phase I of the Action Plan only. Phases II & III to be formally proposed in spring of 2013 and spring of 2014. Work to be implemented in summer of 2013 and summer of 2014 respectively.

Proposal is based on counts and material proposed. Any variation to the proposed bill of materials is subject to cost increase or decrease depending on changes.

This quotation is provided in conjunction with separate proposal direct to In-finiti Fermentation & Distillery for the proposed fire alarm work in their tenant space within 250 Commercial Street,

SimplexGrinnell Material List (THIS IS NOT A PRICE QUOTATION)

Comments (continued)

Portland, ME.

Proposal includes furnishing and installing the new 4010ES fire alarm control panel & furnishing the sprinkler monitoring peripheral equipment as proposed. The sprinkler monitoring devices to be installed by Folsom Electric under separate In-finiti Fermentation agreement.

Please note that any additional equipment that may be required per the City of Portland Fire Dept. will need to be treated separately.

SimplexGrinnell is responsible for panel terminations, system programming, test and overall system commission. All fire permit requirements are also included in this proposal.

Proposal includes 1 hour customer training at time of system commission for the end user.

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

Any pre-existing conditions not known at time of proposal or seen at time of site survey that might inhibit the installation of system proposed would need to be treated separately.



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

4100 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:

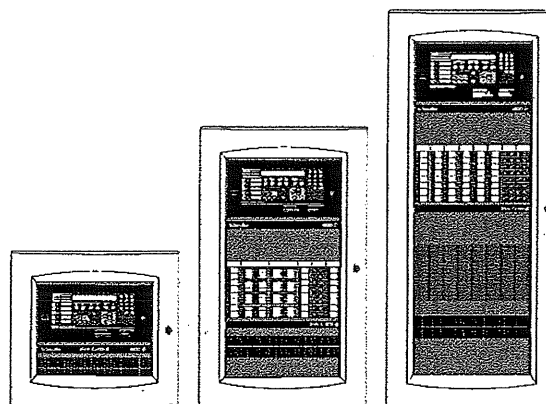
- Building Network Interface Module (BNIC) for Ethernet connectivity options (see data sheet S4100-0061)
- TrueAlert® addressable notification appliance power supplies with three, 3 A SLC outputs
- Additional IDNet and MAPNET II® addressable device modules and IDNet/MAPNET II quad isolator modules
- 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).

* 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 7165-0028:251 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.

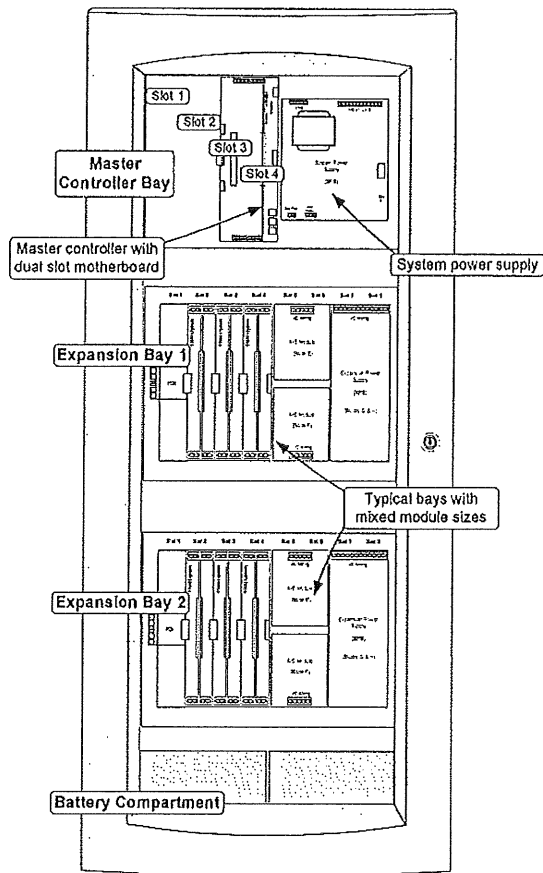
Module Bay Description

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.



4100ES Module Bay Reference

Mechanical Description

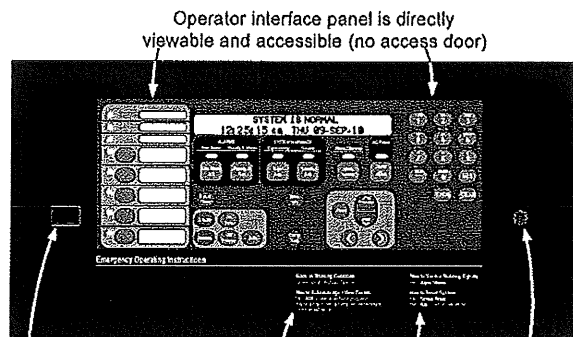
- Boxes can be close-nipped; each box provides convenient stud markers for drywall thickness and nail-hole knockouts for quicker mounting
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- Cabinet assembly design has been seismic tested and is certified 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

Basic operator instructions are printed on the interface (under sliding cover)

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

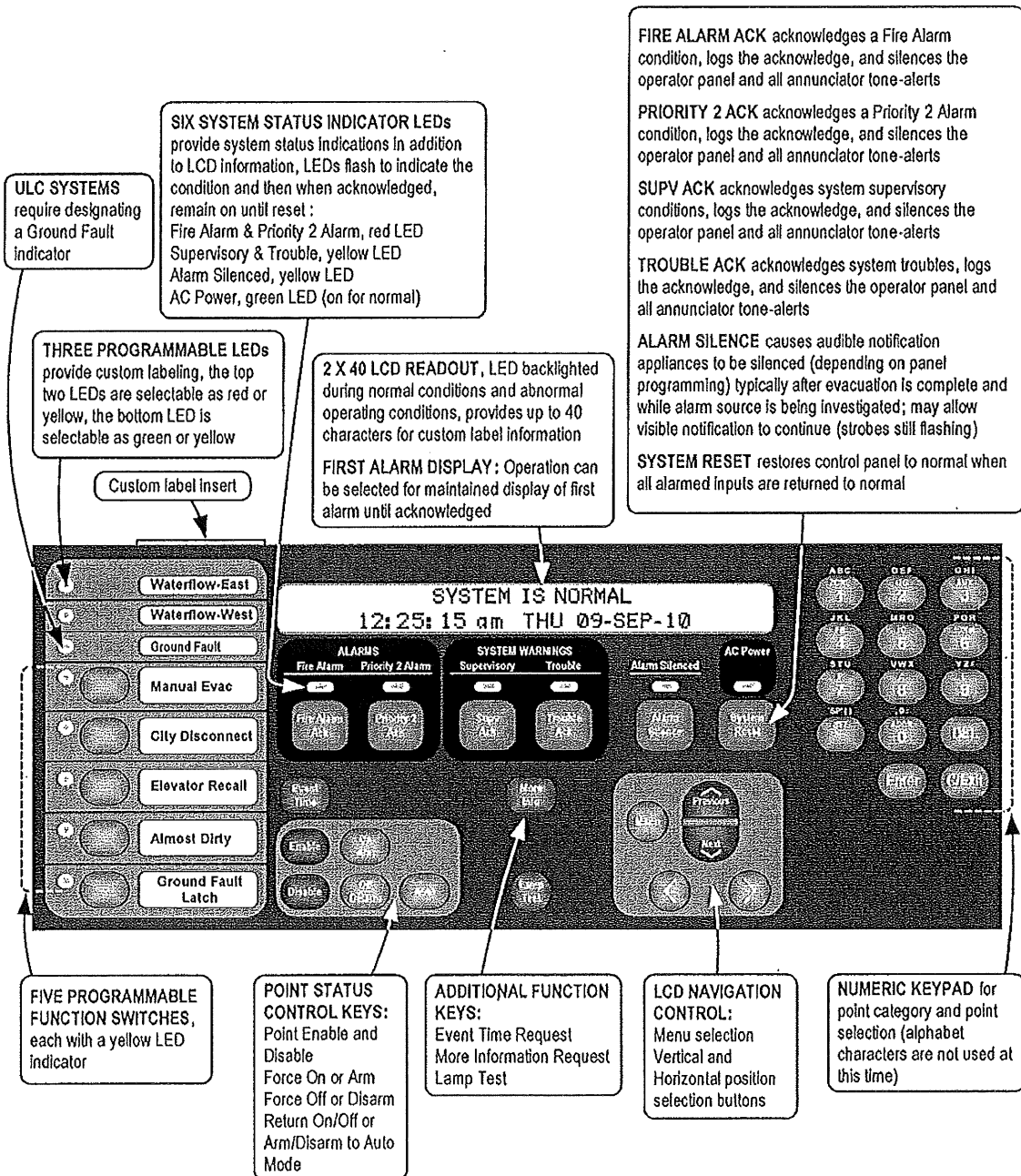
Operator Interface

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



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 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.

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 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 μ F |

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

TrueAlert 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.

TrueAlarm System Operation

Addressable device communications include operation of TrueAlarm smoke and temperature sensors. Smoke sensors transmit an output value based on their smoke chamber condition and the CPU maintains a current value, peak value, and an average value for each sensor. Status is determined by comparing the current sensor value to its average value. Tracking this average value as a continuously shifting reference point filters out environmental factors that cause shifts in sensitivity.

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

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

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

TrueSense[®] Early Fire Detection. Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 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 operation to maintain the sensitivity level of each sensor. CO Sensors track their 5 year active life status providing indicators to assist with service planning. Indicators occur at: 1 year, 6 months, and when end of life is reached.

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

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 | | UL | 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 | | | | | |
| 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 | | | | | |
| 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 4100-7150 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.

Module Selection Information

Communication Modules

| Model | Description | Size | Supv. | Alarm | | |
|-----------|---|--|--------------------------------|--------|-------|-------|
| 4100-6014 | For Master Controller; mounts in Slot 3 | 1 Slot | 46 mA | 46 mA | | |
| 4100-6061 | For Redundant Master Controller | 1 Slot | 46 mA | 46 mA | | |
| 4100-6056 | Wired Media Module | 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) | 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 | 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 | 2 Blocks | 50 mA | 50 mA |
| 4100-5103 | 120 VAC, Canadian | | | | |
| 4100-5102 | 220-240 VAC | | | | |
| 4100-5115 | NAC Expansion Module, 3 NACs, Class A/B, mounts on XPS only | | N.A. | 25 mA | 25 mA |
| 4100-5111 | 120 VAC | 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 | | | | |
| 4100-5113 | 220-240 VAC | | | | |
| 4100-5125 | 120 VAC | 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 | | | | |
| 4100-5127 | 220-240 VAC | | | | |
| 4100-5120 | 120 VAC | 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 | | | | |
| 4100-5122 | 220-240 VAC | | | | |
| 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-nipped 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 | Model | Description | Supv. | Alarm |
|-----------|---------|-------|--------|-----------|---|---------------------------------|--------|
| 4100-5005 | Class B | 75 mA | 195 mA | 4100-5116 | Converts 1 NAC in to 3 NACs out; 1 Block size | 18 mA | 80 mA |
| 4100-5015 | Class A | 75 mA | 195 mA | 4100-1266 | Expands 3 NACs to 6 | select one; mounts on 4100-5116 | 60 mA |
| | | | | 4100-1267 | Converts 3 NACs to Class A | | 0.6 mA |

* IDC Modules are 1 Slot size

Continued on next page

Module Selection Information (Continued)

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 Autocal 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 size = 1 Block | | Module without devices | 75 mA |
| | | Loading per IDNet device | 0.8 mA |
| 4100-3102 | MAPNET II Module, 127 point capacity, add device s separately; Module size = 2 Slots; Loading per MAPNET II device = 1.7 mA | Module without devices | 255 mA |
| | | Fully loaded module, total | 471 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:

- To determine total supervisory current, add currents of modules in panel to base system value and all external loads powered by panel power supplies.
- 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.

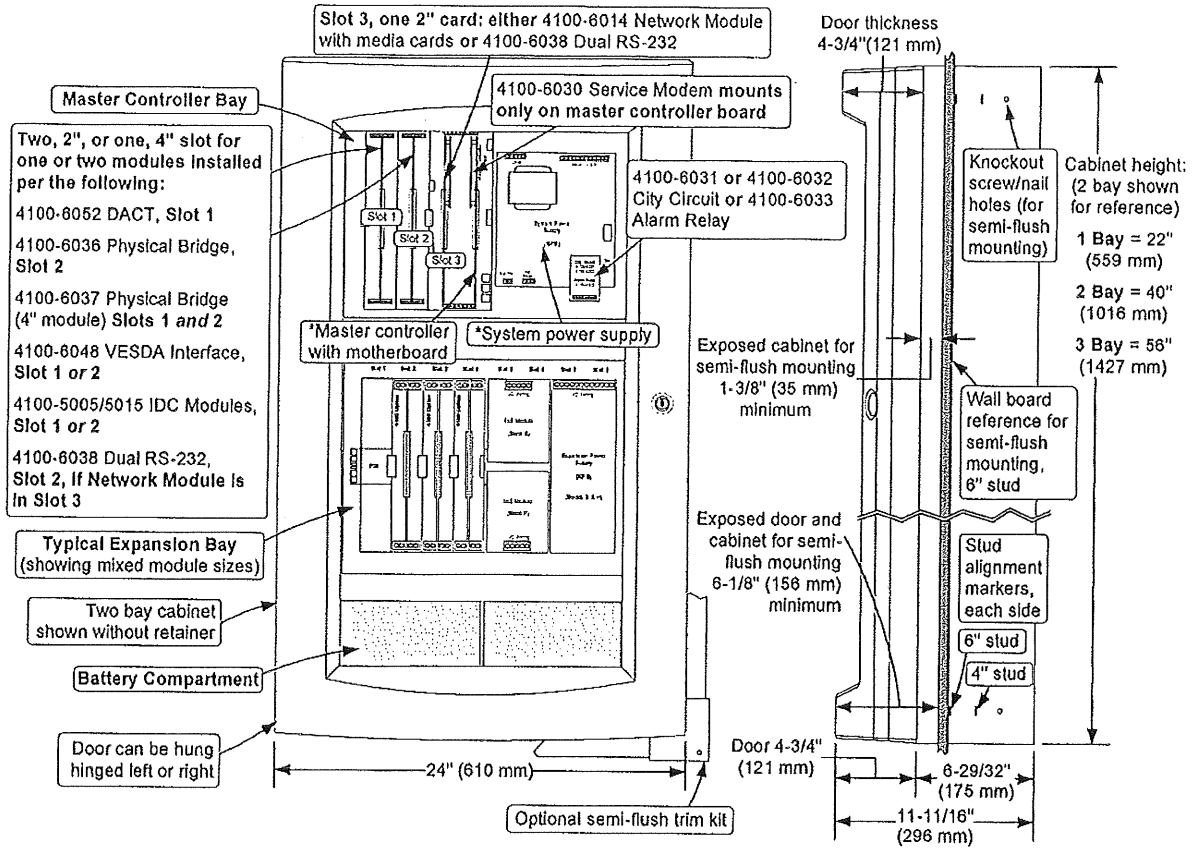
General Specifications

| | | | | |
|---|---|--|--|--|
| 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 | | |
| | NACs Programmed for Auxiliary Power | 2 A maximum per NAC; 5 A maximum total | Rated 19.1 to 31.1 VDC | |
| 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

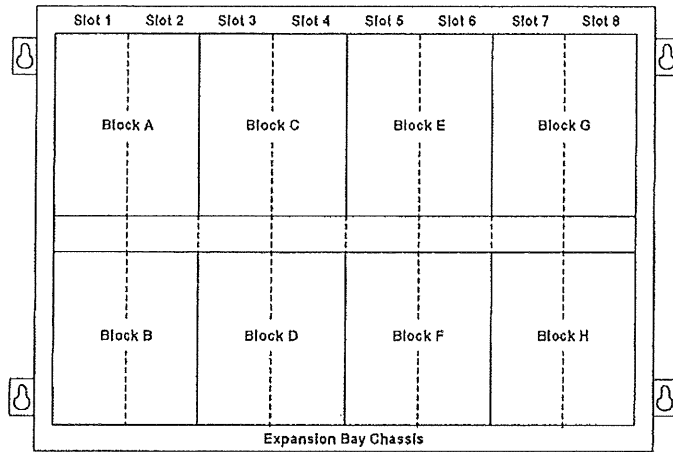
| Subject | Data Sheet | Subject | Data Sheet | Subject | Data Sheet |
|--------------------------------|------------|----------------------------|------------|-----------------------------|------------|
| <i>Introducing the 4100ES</i> | S4100-0060 | MINIPLEX Transponders | S4100-0035 | InfoAlarm Comm. 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)



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



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 | 1 block |
| 4, 10 A Relays | NON Power-limited |
| 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 |

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

4100 Fire Control Panels

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:

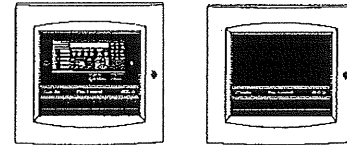
- Latching retainers easily lift off for internal access
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- Alignment markers are provided at the top and bottom of each box side for 6" (152 mm) or 4" (102 mm) wall studs
- Knockout screw/nail holes are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

Upright cabinet rack packaging reference:

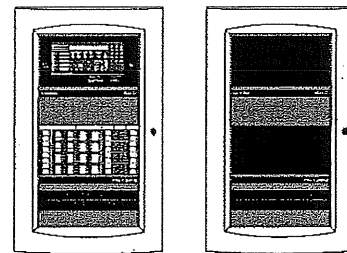
- For use with Bud Industries Inc. special cabinet rack model number 45964
- Refer to page 2 for cabinet rack listing

4009 TPS (TrueAlert® Addressable Power Supply) cabinet assemblies:

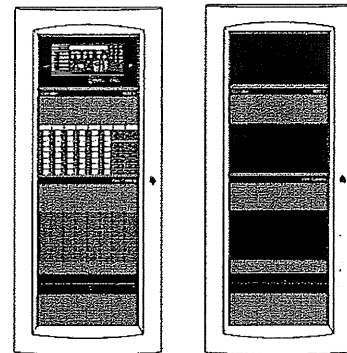
- Cabinet assemblies are available for remote mounting of the TrueAlert addressable power supply (TPS)
- Refer to page 2 for listings information



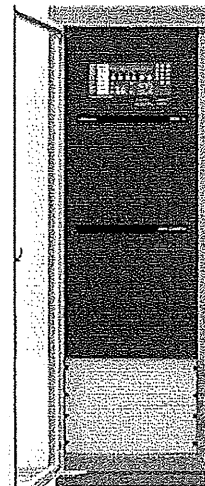
4100ES One Bay Cabinets



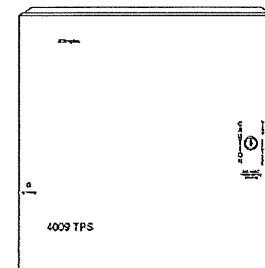
4100ES Two Bay Cabinets



4100ES Three Bay Cabinets



Cabinet Rack Enclosure
 (shown with door open)



4009 TPS Cabinet
 Assembly (not to scale)

* For 4100ES one, two, and three bay cabinets with associated equipment: Products are listed 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.

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; <i>Separately Order</i> : 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. 2. Battery selection is required if batteries are internal. 3. Select one size per battery set 4. Refer to data sheet S2081-0006 for battery details. |
| 2081-9274 | 10 Ah | 2081-9276 | 33 Ah | |
| 2081-9288 | 12.7 Ah | 2081-9296 | 50 Ah | |
| 2081-9275 | 18 Ah | | | |

Battery Accessories

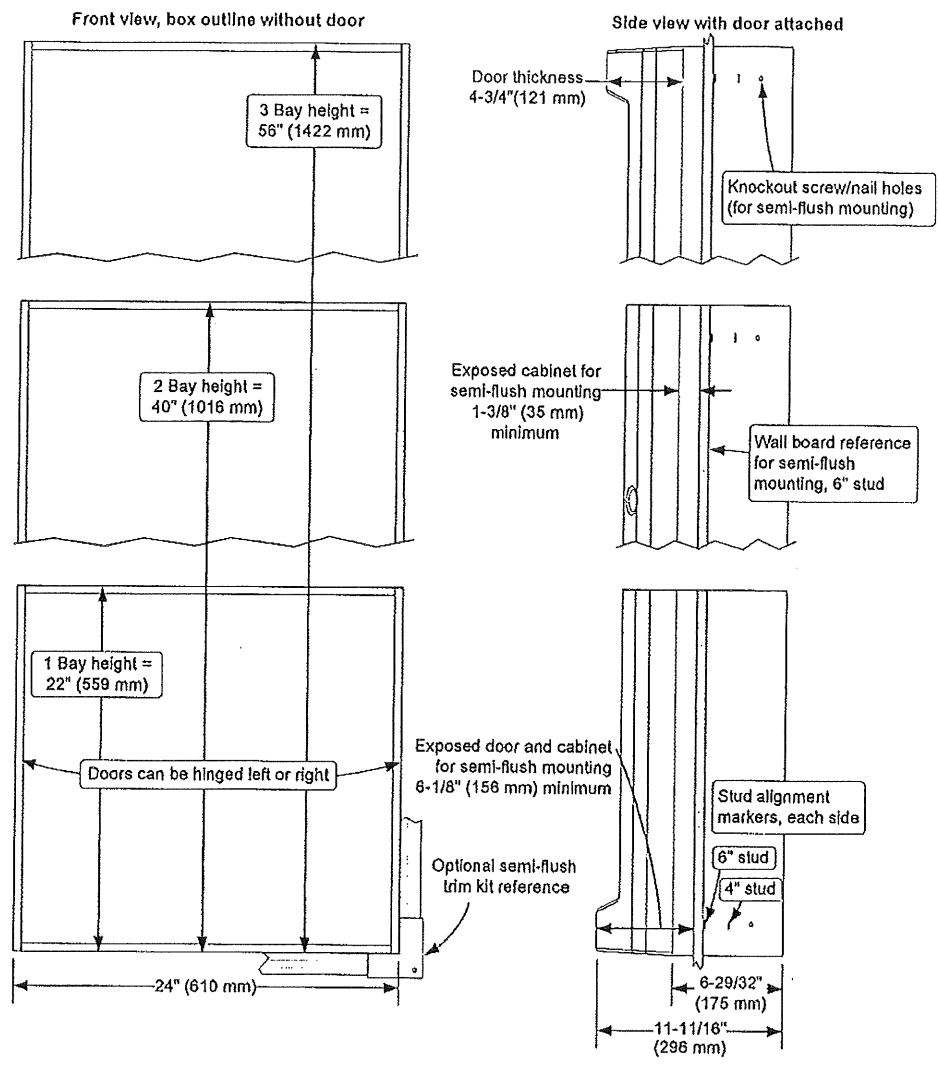
| Model | Description |
|-----------|--|
| 4100-0650 | Battery Shelf, required for 50 Ah batteries |
| 4100-5128 | Battery Distribution Terminal Block, mounts to side of box, required for all close-nipped cabinets unless cabinet receives all power from power supplies and batteries located in the adjacent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

Additional Data Sheet Reference

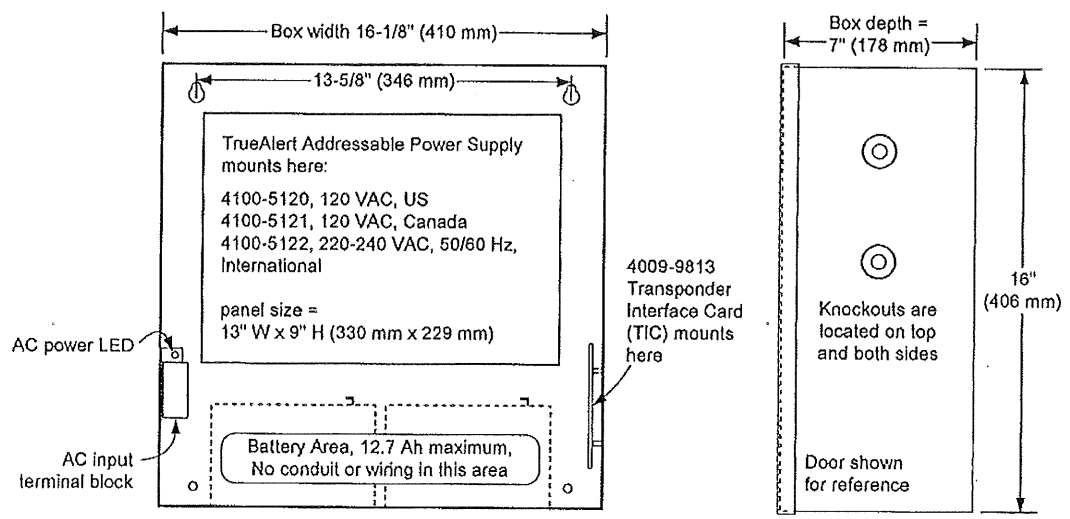
| Subject | Data Sheet | Subject | Data Sheet |
|--|------------|---------------------------------------|------------|
| 4100ES Basic Panel Modules and Accessories | S4100-0031 | Network Display Unit (NDU) | S4100-0036 |
| LED/Switch Modules | S4100-0032 | Remote Annunciators | S4100-0038 |
| 4100ES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

Wall Mounted Enclosure Installation Reference

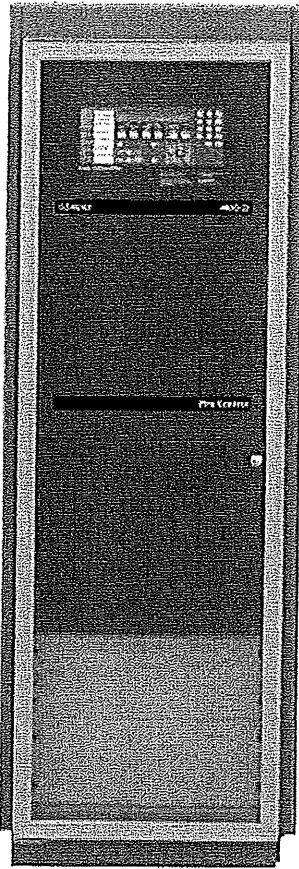
NOTE:
A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.



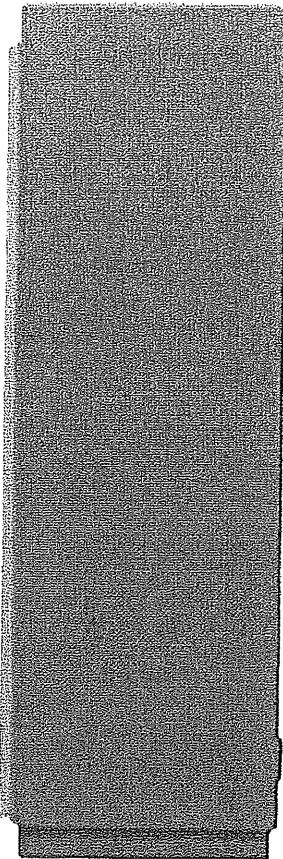
4009 TPS Cabinet Installation Reference



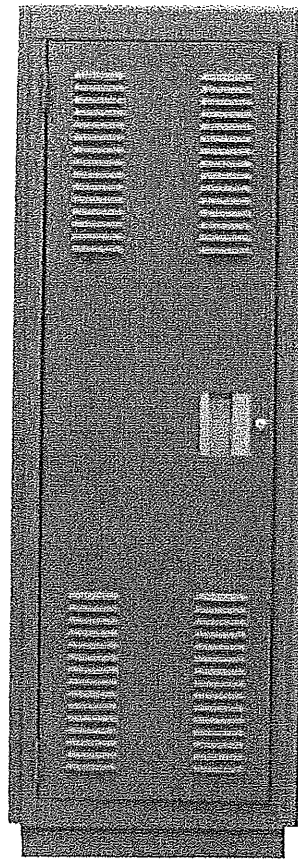
Console Package Reference



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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S4100-0037-9

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

4100 ES Fire Control Panels

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:

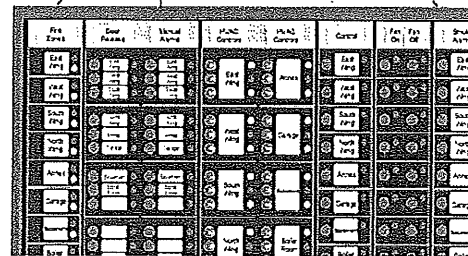
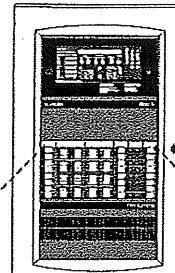
- Eight controls in a double slot module, each control has three switches for status selection and one LED per switch position
- Switch selection is On/Hand, Off, and Auto

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.

* 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

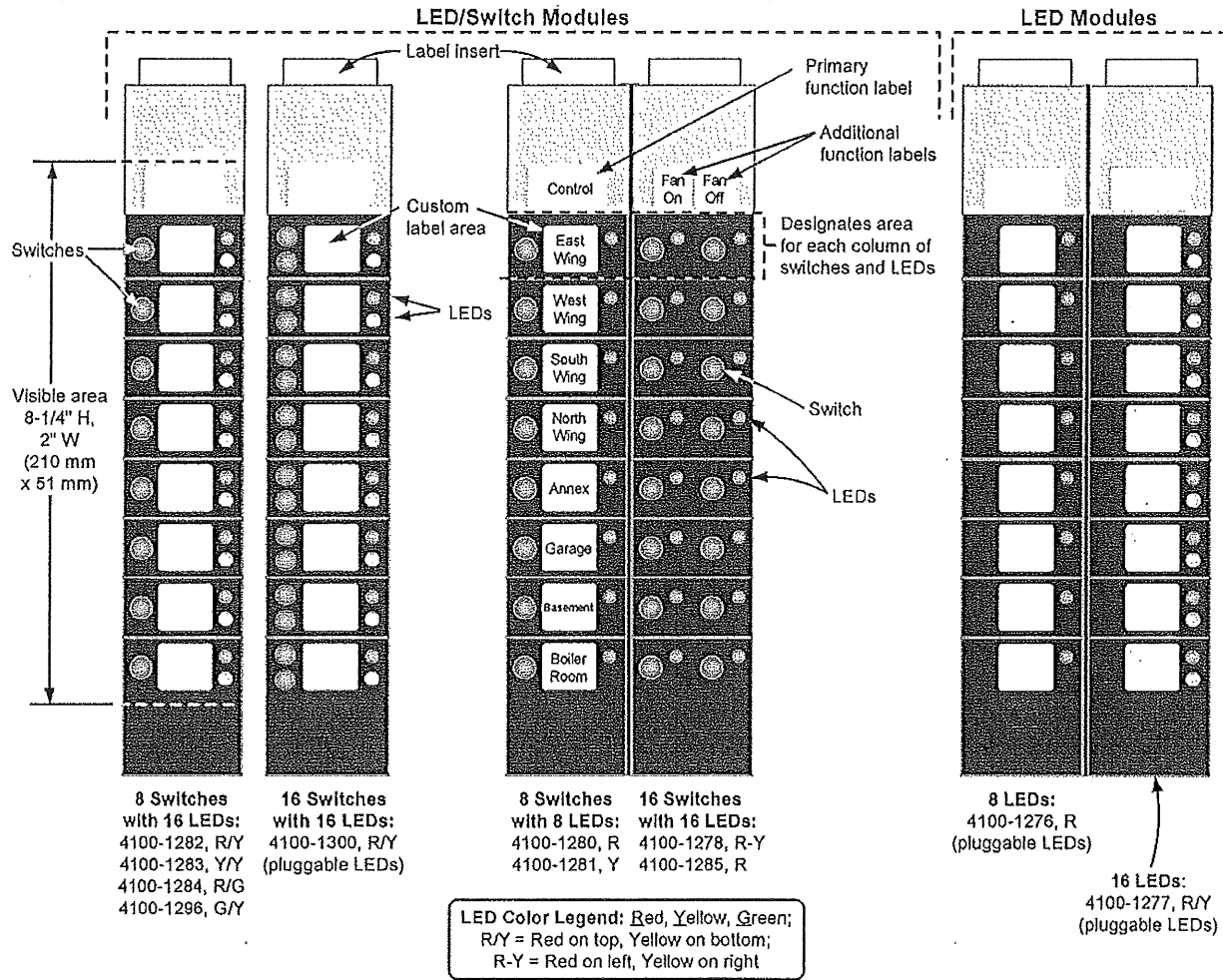
Description (Continued)

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.

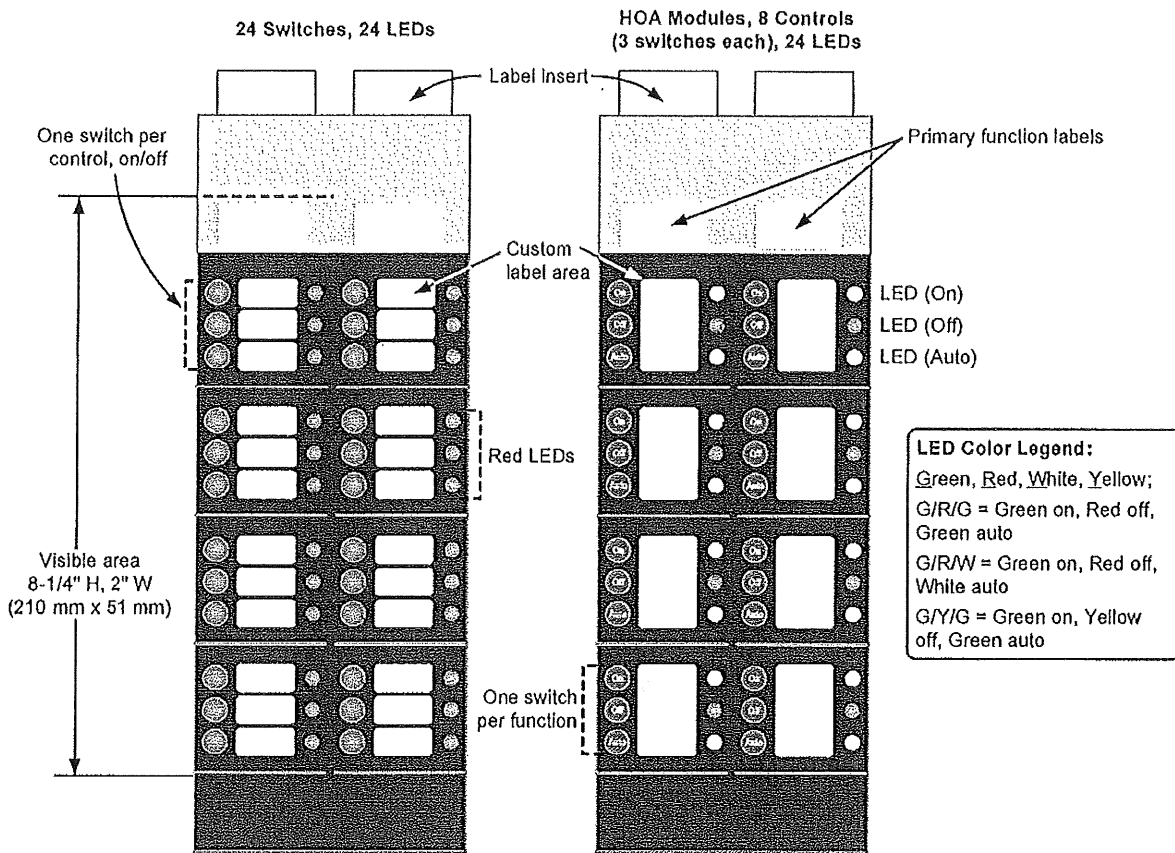
Selectable Functions. Switch functions, LED status indications, and printer output is selected when the control panel CPU is customized for site specific requirements. Slide-in labels are locally printed to indicate the exact function of the LEDs and switches.

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



HOA and 24/24 LED/Switch Module Detail Reference



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 Module Product Selection (panel mounted switches are momentary pushbutton)

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 | |
| 4100-9844 | Green | 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) |
| 4100-9845 | 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.

Continued on next page

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 |

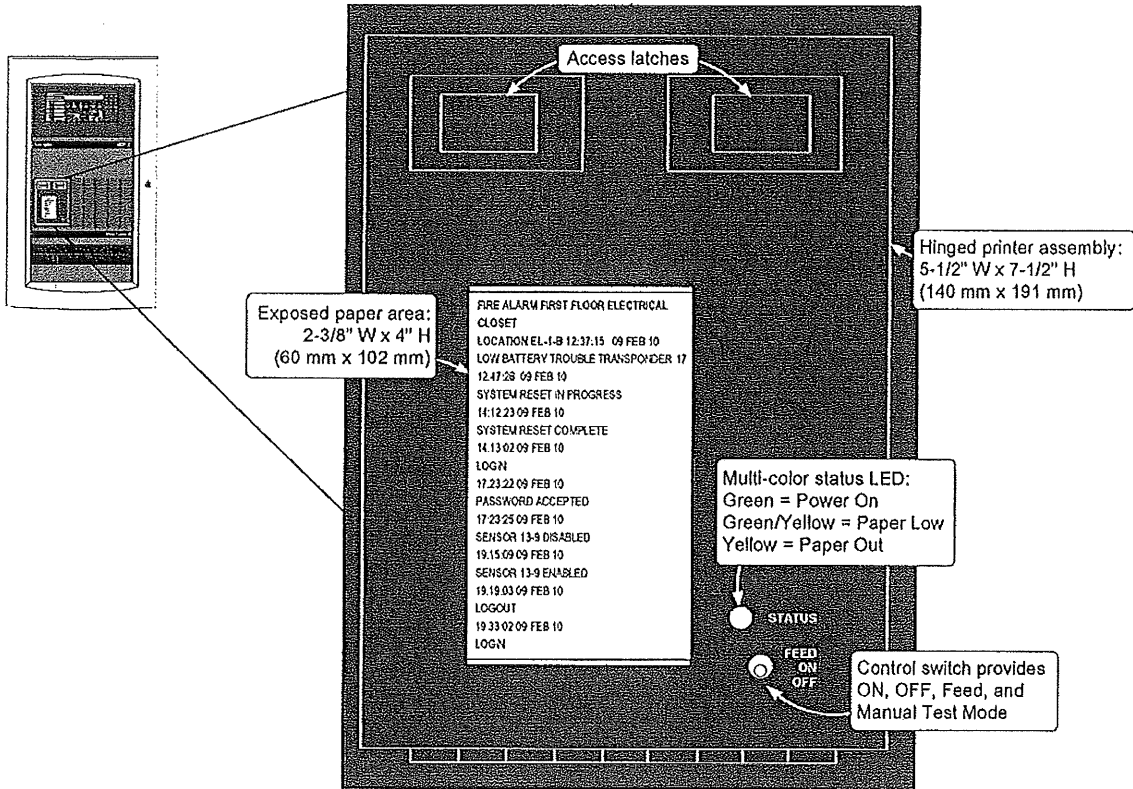
General Specifications

| | |
|-----------------------------|--|
| 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 |
| MINIPLX [®] Transponders | S4100-0035 | Remote Annunciators | S4100-0038 |

Model 4100-1293 Panel Mount Printer Details



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 |

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