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Simplex

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

4100ES Fire Co

Addressable Fire Detecti
Basic Panel Modules ar

Date: 07/15/13

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.

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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 provided using a logical, menu-dri
- Multiple automatic and manual dia 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

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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**, conv polarity operation; rated 3 A for Sp appliances and 2 A for Regulated 2 electronic control and overcurrent p as Class B or Class A, and for sync 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					
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 inter face, 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 *(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 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 size = 1 Block		Module without devices	75 mA	115 mA
		Loading per IDNet device	0.8 mA	1 mA
Model	Description		Supv.	Alarm
4100-3102	MAPNET II Module, 127 point capacity, add devices separately; Module size = 2 Slots; Loading per MAPNET II device = 1.7 mA	Module without devices	255 mA	275 mA
		Fully loaded module, total	471 mA	491 mA
4100-3103	Isolator Module for MAPNET II or IDNet; converts a single connected SLC into four isolated outputs selectable as Class A or Class B; up to two Isolator Modules can be connected to one SLC; Module size = 1 Slot; NOTE: Compatible with MAPNET II Remote Isolators only; for quad isolation with IDNet Remote Isolators, use 4100-3107 IDNet+ Module (see data sheet S4100-0046 for details)		50 mA	50 mA

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

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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.

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4100ES Fire Co

Cabinet Reference; Retainers, Rack Mounting, ar

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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.

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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

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4100 Fire Co

Panel Mounted LED/Switch anc
LED/Switch Controllers, and Panel M

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 7165-0028:251 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

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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)

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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

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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

Simplex

Multi-Application Per
and Acc

Remote Sta
Digital Alarm Communicating
Serial Communications Modu

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FEATURES

- **UL 864 listed per NFPA 72 for Central Station Service**
  - Listed to UL 1459
  - Registered to FCC Part 68
- **Dual telephone line interface**
- **Mounts internally to Simplex models:**
  - 4010, 4020, 4100, and 4120 Network Fire Alarm Control Panels
  - 4120 Network Processing Unit (NPU)
- **Provides specific, per point information*:**
  - Communicates point status changes, phone line status, and other off-normal information
  - Reports up to ten events per phone call
- **Provides programmable:**
  - Automatic 24 hour test
  - Power fail report delay
- **SDACT status indicators:**
  - Panel LCD indicates off-normal status
  - Module LEDs provide service diagnostics
- **Operates with Simplex expanded interface software version 8**

SPECIFICATIONS

Model Identification.. 4020/4100/4120-0155, 4010-9816
Voltage.....18-32 VDC, from Panel
Standby Current..... 30 mA
Alarm Current (Communicating) ..... 40 mA
SDACT Point Capacity 4000*
Operating Temperature .....32° F to 120° F (0° C to 49° C)
Operating Humidity .....10-90% RH @ 85° F (30° C)

Telephone Requirements
FCC Registration # 5QWUSA-30334-AL-E
Jack ..... RJ31X (2 Required)
Connection Type .....Loop Start, Pulse or Tone Dialing

Compatible Simplex DACT Cables with Plug
(2 required, select length as needed)
2080-9046.....7 ft long (2134 mm)
2080-9047.....14 ft long (4267 mm)

* Note: Information received is determined by capability of the digital alarm communicating receiver (DACR) and communication format used.

SDACT Application Diagram

DESCRIPTION

The Simplex serial digital alarm communicating transmitter (SDACT) monitors the status of the host fire alarm control panel and its connections to the Central Station monitoring location. When status changes require information to be reported, the SDACT can provide a per point message that can assist the Central Station in more accurately implementing the required response. Typical information reports would include alarms, troubles, and supervisory conditions with specific point identification.

The SDACT module directly communicates with the fire alarm control panel CPU and is custom programmed for the specific requirements of the Central Station and the connected fire alarm control panel.

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AVAILABLE REPORTING FORMATS

Contact ID (CID). CID is the preferred format for SDACT operation. It provides a four digit account code followed by a three digit event code, a two (hex) digit group number, and a three (hex) digit contact number, all of which are used to encode specific point identification.

3/1 Pulse. A three digit account code followed by a one digit reporting code. Transmissions are sent as a double round at a rate of 20 PPS (pulses per second). Reporting codes are programmable.

4/2 Pulse. Similar to 3/1 except for a four digit account code and a two digit reporting code. Transmission is sent as a double Report codes are programmable.

BFSK. Three digits of account co reporting code in a single transmi tones. The format has built-in erro double round is not required. Rep fixed.

SIA. Security Industry Association (SIA) Digital Communication Standard. The SDACT provides level 1 compatibility which includes tonal acknowledge, basic reports only, and fixed reporting codes.

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SDACT UL Listed Compatibility

	Receiver/Service (🗐 = Available)						
Communication Format	**Simplex Central Station Services**	**FBI CP220FB (notes 2 & 3)**	**Osborne/ Hoffman QuickAlert Model II**	**ADEMCO 685 (notes 1 & 3)**	**SUR-GARD MLR2-DG**	**Radionics 6500**	**Silent Knight 9000**
Contact ID (Preferred)	✓	✓	✓	✓	✓		
3/1 Standard 1800/2300 Hz 10 and 20 PPS	✓	✓	✓	✓	✓	✓	✓ With 9032 Line Card
3/1 Standard 1900/1400 Hz 10 and 20 PPS	✓	✓	✓	✓	✓	✓	✓ With 9032 Line Card
4/2 Standard 1800/2300 Hz 10 and 20 PPS	✓	✓	✓	✓	✓	✓	✓ With 9032 Line Card
4/2 Standard 1900/1400 Hz 10 and 20 PPS	✓	✓	✓	✓	✓	✓	✓ With 9032 Line Card
Radionics BFSK 1800/2300 Hz	✓	✓	✓	✓	✓	✓	✓ With 9032 Line Card
Radionics BFSK 1900/1400 Hz	✓	✓	✓	✓	✓	✓	✓ With 9032 Line Card
SIA			✓		✓		✓ With 9004 Line Card

NOTES:

1. With 658-8 Line Card.
2. With Rec-11 Line Card.
3. These receivers are also Factory Mutual (FM) approved.

Simplex

Gardner, Massachusetts 01441-0001 U. S. A.
Offices and Representatives Throughout the World
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All specifications and other information shown were current as of printing and are subject to change without notice.

Simplex

Fire Alarm Control Pane

*Listings**

System Batteries, Sealed Lead-Acid; Reference for Battery Cabinets, and Battery Cabin

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Features

Rechargeable, sealed lead-acid batteries:

- Lead-calcium grid structure with immobilized electrolyte in absorbent separator
- Low maintenance with no need to add water
- Low self-discharge characteristics
- One-piece, high impact polystyrene cell cover with high reliability dual seal construction
- UL 924 recognized pressure relief valves

Available in a variety of capacities:

- Batteries for internal mounting range from 6.2 Ah up to 50 Ah, depending on control panel cabinet size
- Larger batteries, up to 110 Ah, mount in external battery cabinets that are available with internal chargers
- Includes battery chargers with communications compatibility for use with 4010 Series fire alarm control panels and with 4100U Series fire alarm control panels

Description

Simplex® rechargeable sealed-lead acid batteries provide reliable and repeatable discharge and recharge characteristics for use in fire alarm and other systems applications. They are designed with immobilized electrolyte in an absorbent separator, allowing them to provide rated capacity on the first cycle.

Because of their sealed construction, packaging is allowed within the system electronics enclosure (see illustration on page 2). When this is applicable, the quantity of system cabinets and the battery wiring distances are both minimized. Where required, external battery cabinets can be close-nippled to the control panel to house larger batteries with battery chargers available in some battery cabinet sizes.

Battery Details

Charging. These batteries are intended to be used with compatible Simplex battery chargers.

Series Connections. These batteries are required to be connected in series to produce 24 V system voltage. Battery sets must be of identical voltage, model number, appearance, and approximately the same date of manufacture for proper operation.

Testing. Battery capacity testing is recommended to be performed by using a sealed lead-acid battery tester designed to withdraw a minimum of battery charge. The preferred tester applies a variety of amplitude and duration controlled test pulses that compares terminal voltage against those predicted for the specific battery size. (Testing is available through your local Simplex product supplier.)

Compatible Sealed Lead-Acid Batteries can be Installed Inside Fire Alarm Control Panel Cabin ets

Remote Battery Cabinets are Available for Larger Battery Requirements

Battery Details *(Continued)*

Shipping. Sealed lead-acid batteries are shipped via ground or sea transportation only. They are not shipped via air.

Disposal. Battery chemicals and materials can be recycled. Refer to information shipped with the battery or on its case. Return to the battery manufacturer or to a similarly qualified battery processing facility for proper disposal.

* Refer to details on page 4 and to the referenced individual product data sheets for agency listing status of battery cabinets and chargers. The batteries detailed in this document meet the requirements of UL, ULC, and Factory Mutual for use with respective equipment battery chargers as listed on page 3. Contact your local Simplex product supplier for proper battery selection per system requirements. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

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Battery Construction Reference

Actual appearance will vary with battery size.

Battery Size Specifications

Battery Model	Capacity @ 20 Hour Discharge Rate	Width*	Depth*	Height with Terminals	Approximate Weight*
2081-9272	**6.2 Ah**	6-1/8" (156 mm)	2-5/8" (67 mm)	4" (102 mm)	5.75 lbs (2.6 kg)
2081-9274	**10 Ah**	6" (153 mm)	4-1/16" (103 mm)	4" (102 mm)	9.2 lbs (4.2 kg)
2081-9288	**12.7 Ah**	6" (153 mm)	4" (102 mm)	4" (102 mm)	9 lbs (4.1 kg)
2081-9275	**18 Ah**	7-1/4" (184 mm)	3-3/8" (86 mm)	6-5/8" (168 mm)	14.3 lbs (6.5 kg)
2081-9287	**25 Ah**	6-5/8" (168 mm)	5" (127 mm)	7" (178 mm)	19.4 lbs (8.8 kg)
2081-9271 (rectangular case, typically for service)	**33 Ah**	12-1/2" (318 mm)	3-3/8" (86 mm)	7-1/16" (179 mm)	26.6 lbs (12.1 kg)
2081-9276 ("square" case, use for new)	**33 Ah**	7-3/4" (197 mm)	5-1/4" (133 mm)	6-3/4" (171 mm)	26.5 lbs (12 kg)
2081-9296	**50 Ah**	9-1/2" (241 mm)	5-1/2" (140 mm)	8-7/8" (225 mm)	41.8 lbs (19 kg)
2081-9279	**110 Ah**	11-3/16" (284 mm)	10-1/2" (267 mm)	9" (230 mm)	82 Lbs (37 kg)

* Dimensions and weight are per battery and are for reference only. Exact size may vary. Refer to the tables on page 3 mounting compatibility. These batteries are 12 V each and series connected for 24 V system use.

NOTE: When wired in series for 24 V output, these batteries are to be of identical voltage, appearance, model number, and approximately the same date of manufacture.

General Battery Specifications

Nominal Voltage Rating	12 Volts per battery
Discharge Rating	20 Hour Rate
Typical Charge/Discharge Cycles	100 to 150
Preferred Charge Temperature Range	60° F to 90° F (15.6°C to 32.2° C)

Battery Compatibility for Fire Alarm Control Panel Mounting

NOTE: Refer to individual fire alarm control panel product data sheets for additional battery application inform

Battery Model	Capacity	Simplex Control Panel Model Series (see legend and notes bel									
		4003	4004	4004R	4005	4006 & 4008	4009 (all models)	4010	4100U	410((2, 4	
2081-9272	6.2 Ah	✓	✓	✓	✓	✓	✓	✓	1, 2, or 3 bay		
2081-9274	10 Ah	✓	✓	✓	✓	✓	✓	✓	1, 2, or 3 bay	✓	✓
2081-9288	12.7 Ah	✓	NA	✓	✓	✓	✓	✓	1, 2, or 3 bay	✓	✓
2081-9275	18 Ah	✓	NA	Note 3	✓	Ext	Ext	Note 2	1, 2, or 3 bay	✓	✓
2081-9287	25 Ah	NA	NA	Note 3	Ext	Ext	NA	✓	1, 2, or 3 bay	✓	Ext
2081-9271 (rectangular)	33 Ah	NA	NA	Note 3	Ext	NA	NA	Note 3	1, 2, or 3 bay	Ext	Note 4
2081-9276 ("square")	33 Ah	NA	NA	Note 3	Ext	NA	NA	Note 3	1, 2, or 3 bay	✓	Ext
2081-9296	50 Ah	NA	NA	Note 3	NA	NA	NA	Note 3	2 or 3 bay	Ext	Ext
2081-9279	110 Ah	Requires external battery cabinet									

✓ = Can be placed in the respective equipment cabinet

Ext = External battery cabinet is required, refer to selection chart on page 4

NA = Not applicable/not compatible

NOTES:

1. These batteries meet the requirements of UL, ULC, and Factory Mutual for use with respective eq uipment battery chargers listed above. Contact your local Simplex product supplier for proper battery selection per system requirements.
2. 4010 Cabinets will accommodate 2081-9275, 18 Ah batteries, but will not allow bottom entry conduit.
3. Use 4081 series companion cabinet and charger, refer to page 4.
4. 4020 Cabinets will accommodate 2081-9271, 33 Ah batteries, but will not allow bottom entry conduit.
5. Some control panel models are listed for battery replacement reference only.

External Battery Cabinet Compatibility Reference

Battery Cabinets without Chargers (connects to charger in panel)

Cabinet	Panel Compatibility	2081-9275 18 Ah*	2081-9287 25 Ah	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 50 Ah	2081-9279 110 Ah
2081-9270	multiple	✓	✓	✓	✓	✓	NA
2081-9280	4100U/4100+	NA	NA	NA	NA	NA	✓
2081-9281 2081-9282	multiple	✓	✓	✓	✓	✓	NA
4009-9801	multiple	✓	✓**	NA	NA	NA	NA
4009-9802	multiple	✓	NA	✓	NA	NA	NA

Battery Cabinets with Chargers

Cabinet	Panel Compatibility	2081-9275 18 Ah*	2081-9287 25 Ah	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 50 Ah	2081-9279 110 Ah
4081-9301 4081-9302	4004R and 4010	✓	✓	✓	✓	✓	NA
4081-9306 4081-9308	4100U	NA	NA	NA	NA	✓	✓

* Batteries smaller than those listed are normally mounted in the product cabinet

** 25 Ah capacity was effective as of 7/2005.

✓ = Can be placed in the respective equipment cabinet

NA = Not applicable/not compatible

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External Battery Cabinet Specification Reference

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Battery Cabinets Without Chargers; Shallow Design with Front Door

Model	Color	Listings	Description		Dimensions
2081-9281	Beige	UL and FM	2-Unit, 4100 style cabinet **without** charger; with locking solid door and battery shelf, primarily for use with 50 Ah batteries		25-3/4" W (654 mm
2081-9282	Red				
4009-9801*	Beige	UL and FM	For up to 25 Ah batteries*	External battery cabinet **without** charger, with locking solid door and battery harness; for close-nippled mounting to fire alarm control panel cabinet	16-1/4" W (413 mm x 343 mm x 146 mm)
4009-9802	Beige	UL	For up to 33 Ah batteries		25-3/4" W x 20-3/4" H x 4-1/8" D (654 mm x 527 mm x 105 mm)

* Depth increased for 25 Ah batteries effective 7/2005.

Battery Cabinet Without Charger; Deep Design with Hinged Lid

Model	Color	Listings	Description	Dimensions
2081-9270	Red	Not listed	Battery cabinet **without** charger; cabinet has vented front, and hinged lid with support rod and lock on top	26-1/2" W x 12" H x 12" D (673 mm x 305 mm x 305 mm)

Chargers for use with 4010 Fire Alarm Control Panels and 4004R Suppression Release Systems
(refer to data sheet S4081-0001)

Model	Color	Input Voltage	Description	Dimensions
4081-9301	Beige	120 VAC	Battery cabinet **with** charger for the 4010 and 4004R fire alarm control panel; **for up to 50 Ah batteries**; with front door *Listings include: UL, ULC, FM, CSFM, and MEA (NYC), see data sheet for details*	22-1/2" W x16-3/4" H x 8-3/8" D (572 mm x 425 mm x 213 mm)
4081-9302	Red			

Battery Cabinet Without Charger for 110 Ah Batteries; for use with compatible panel mounted chargers
(refer to data sheet S2081-0012)

Model & Listings	Color	Cabinet Description	Compatible Chargers	Charger Description	Dimensions
2081-9280 *Listings include: UL and CSFM*	Red	Battery cabinet for 2081-9279, 110 Ah batteries; includes 80 A battery fuse, terminals and battery connection cables; see data sheet for details	4100-9xxx Series	4100U System Power Supplies (SPS)	26-1/2" W x 12" H x 12" D (673 mm x 305 mm x 305 mm)
			4100-5111 4100-5112 4100-5113	4100U Additional SPS	
			4100-5125 4100-5126 4100-5127	4100U Remote Power Supply (RPS)	
			4100-5120 4100-5121 4100-5122	4100U TrueAlert Addressable Power Supply (TPS)	
			4100-0104 4100-0114 4100-0124	4100 Legacy power supplies	

4100U Compatible Battery Cabinet With Charger for 110 Ah Batteries (for ULC listed systems and for other applications unable to use panel mounted power supply charger; *refer to data sheet S4081-0002*)

Model	Color	Input Voltage	Description	Dimensions
4081-9306	Red	120 VAC	Battery cabinet with charger for up to 110 Ah batteries; **NOTE:** Required for ULC listed charging of 110 Ah batteries; *Listings include: UL, ULC, FM, CSFM, and MEA (NYC), see data sheet for details*	27-7/8" W x 13-1/2" H x 14-5/8" D (708 mm x 343 mm x 371 mm)
4081-9308	Red	220/230/240 VAC, multi-tapped		
4100-9837	Green LED Power-on Indicator Kit, **required for ULC listing,** mounts above access panel using knockout provided			

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