Life Alarm™
Fire Alarm Controls

UL Listed
FM, CSFM, and
NYC, MEA Approved*

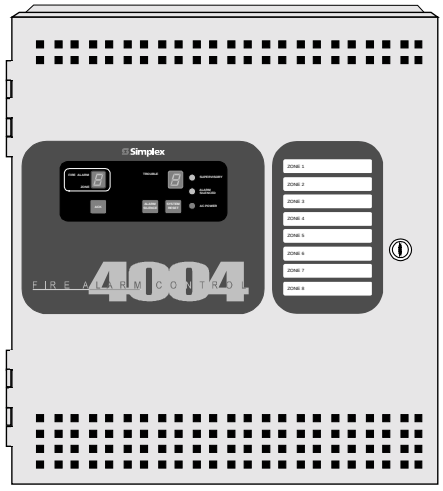
Fire Alarm Controls
4004 Series Fire Alarm Control Panels
Two through Eight Zones

STANDARD FEATURES

- **Two initiating device circuits (IDCs):**
  - Style B (Class B), expandable to eight
  - Five programmable operation modes
  - Service Disconnect and Alarm Verification are selectable per zone
  - Fifteen second “Abort Enable”
- **Two Style Y (Class B) notification appliance circuits (NACs):**
  - Up to four (4) amps, two amps each NAC
  - General alarm operation
  - Each selectable for on-until-silence or on-until-reset operation
  - Five coding options
  - Programmable alarm cutout
  - Common disconnect switch for circuit disable
- **Compatible with Simplex:**
  - 4003 Voice Control Panels, 4009 NAC Power Extenders, and 4601 Series Remote LED and LED/Switch Annunciators
- **Panel features and operation:**
  - Two, seven segment LED status and diagnostic displays
  - Selectable alarm silence/reset inhibit
  - Power limited design
  - Dedicated supervisory status and alarm silenced status LEDs
  - Selectable active status reminder
  - Simplex WALKTEST™ performance testing**
  - Auxiliary outputs for alarm, supervisory, and trouble
- **Single chassis assembly with large wiring terminals for easy wiring**
- **Easy semi-flush or surface installation:**
  - Semi-flush mount between 16” stud centers
  - Built-in trim plate for semi-flush mounting
  - Drywall alignment tabs and nail knockouts
  - Beige or red cabinet
- **Optional features:**
  - Internal DACT
  - Remote Station/City Connection
  - Style D/Style Z (Class A), two circuit zone conversion module
  - Multi-purpose annunciator interface

** WALKTEST performance testing is protected under US Patent No. 4,725,818.

NOTE: Please refer to Simplex data sheets S4010-0003 or S4100-0019 for Release Control application information.



4004-9101 Fire Alarm Control Panel
(shown with zone labels applied)

INTRODUCTION

Simplex 4004 Series fire alarm control panels provide easy installation, flexible initiating circuit monitoring and extensive programmable control capability for areas requiring two to eight IDC zones. Installation ease has been considered throughout, from cabinet design to quick and easy setup. By employing surface mount components, seven segment LEDs, and efficient microprocessor programming, an extensive feature list is provided in a cost-effective and compact package.

Panel status is efficiently indicated by discrete LEDs and an alphanumeric zone indicator/diagnostic display. Panel control switches are clearly marked for easy operation. Programming of the selectable features is quickly performed using the LED display and the panel control switches.

APPLICATIONS

The 4004 Series fire alarm control panel provides protection for a wide variety of smaller facilities in the following fields: Educational, Health Care, Business, Storage, Hospitality, Residential, and General Assembly. Due to its modular construction, the 4004 can be ordered with only the features needed. If the system expands, then additional modules (up to eight zones) can be easily installed on-site.

* 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 7165-0026:213 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. This product was not ULC listed as of document revision date. Additional listings may be applicable, contact Simplex for the latest status.

CONTROL PANEL FEATURES

Alarm Indication
Upon receiving an alarm, the Fire Alarm Zone LED displays the number of the alarmed IDC. If multiple IDCs are in alarm, each number will alternately be chronologically displayed. During this time, the internal tone-alert signal will be sounding and the NACs will be operating as programmed.

Alarm Silence
To silence the alarm, the “ALARM SILENCE” switch is momentarily pushed and the “ALARM SILENCED” LED will light. Repeated use of the “ACK” switch will scroll through the alarmed zone numbers in chronological order.

Supervisory or Trouble Conditions
Supervisory conditions are for monitoring devices such as waterflow tamper switches – conditions more serious than a trouble, but not considered an alarm.

Troubles include open, shorted, or earthed wiring, AC power loss problems, or other indications (refer to trouble list below). The trouble type is displayed alphanumerically on the LED digits using upper and lower case letters and the period.

LED Trouble Identification List
IDC Zone Number

IDC Auxiliary Output

Annunciator Card Trouble

Supervised Auxiliary Alarm Output Trouble

Battery Low Trouble

City Circuit Trouble

Configuration Trouble

Depleted Battery Trouble

NAC 1 Trouble

NAC 2 Trouble

WALKTEST Enabled (System is in WALKTEST “Trouble”)

Program Trouble

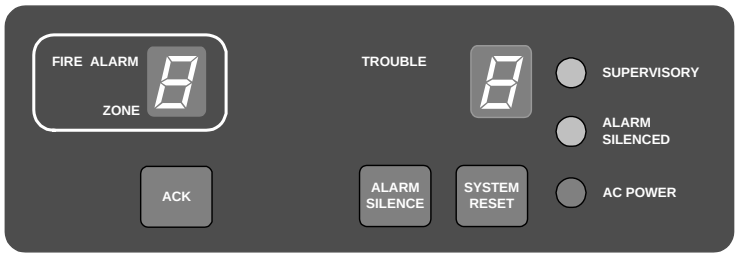
Power Supply Trouble

Ground Fault Trouble

Supervisory Condition Indication
Supervisory conditions are annunciated by flashing the yellow Supervisory LED and activating the tone-alert and the common supervisory output. Supervisory zones are numerically displayed on the red Fire Alarm Zone indicator LED display with a decimal point identifier. Using the ACK switch will scroll the zone numbers chronologically.

Alarm Acknowledge
Momentarily pressing the “ACK” switch will acknowledge the alarm condition and will silence the local tone-alert signal.

Supervisory Acknowledge
During Supervisory conditions, the yellow SUPERVISORY LED will stop flashing and remain “on” until the condition is cleared and the panel is reset.



4004 Display/Control Panel

Trouble Acknowledge
During Trouble conditions, the yellow TROUBLE LED display identifies the specific trouble(s), chronologically scrolling through multiples troubles.

Multiple Battery Status Monitoring
Batteries are monitored for both presence and proper charging. Additionally, in the event that battery operation extends beyond the available battery capacity, a depleted battery trouble signal will warn when the battery charge is approaching depletion.

WALKTEST Performance Testing
Simplex WALKTEST performance testing allows a single fire alarm system tester to manually initiate remote troubles and alarms and obtain a verification output from the NACs with an automatic Reset. Alarms are initiated to produce a zone identifying pulse count. With the zone number confirmed, troubles can then be initiated and confirmed with a common pulse output.

Inside Front Door Information
A reference label inside the front door provides extensive information concerning the following.

Emergency operating instructions

Fire alarm indicators

Trouble indicators

Site-specific zone descriptions (custom labels)

Programming instructions

Panel layout and module location

Terminal identification for on-site wiring

4004 OPERATION/PROGRAMMING OPTIONS

IDC Operation
Standard IDCs are low current, support up to 30 Simplex detectors per IDC, 2 mA maximum. (For detectors with relay bases, use high current expansion modules, see chart on page 3). For further information, refer to field wiring diagram 841-992 and Installation Instructions 574-074.

IDCs are individually programmable as:
Standard Fire Alarm

Alarm Verification

Fire/Supervisory

Trouble Only

or for Current Limit Devices Only (Style C)

4004 PROGRAMMING OPTIONS *(Continued)***:**

GENERAL OPERATION

Selectable Active Status Reminder is available to provide a reminder every 8 hours that an acknowledged condition still exists.

Common Outputs for Alarm, Supervisory, and Trouble, 24 VDC, 150 mA open collector relay or LED driver. Common Alarm is supervised the same as the Auxiliary Alarm output.

NAC OPERATION/FEATURES

General Alarm Operation, standard is NAC 1 On-Until-Silenced (to manually silence audible notification appliances) and NAC 2 On-Until-Reset (maintains visible notification until the system is restored to normal.) Each can be jumper selected as either type.

Notification Coding is programmable as: Steady Signaling, Temporal pattern, March Time @ 20 BPM, March Time @ 120 BPM, or Simple Coding. (Simple coding is a repetitive code equal to the zone number that initiated the alarm.)

Signal Silence Inhibit is programmable as: 0, 1, 2, 3, 4, or 5 Minutes. (Time after alarm occurs that Signal Silence Switch will be intentionally unable to silence alarm).

Alarm Silence Cutout is programmable as 0, 10, 20, or 30 minutes. (Time after alarm when automatic silence occurs).

NAC OPERATION/FEATURES *(Continued)*

Supervised Auxiliary Alarm Output per IDC, 24 VDC, 150 mA open collector driver, current limited, UL listed for Pilot duty. Provides auxiliary control and circuit supervision of a compatible annunciator or remote relay for emergency control in accordance with NFPA 72 and NFPA 101.

OPTIONAL ON-SITE INSTALLED MODULES

Standard Low Current Operation, 2 IDC and 4 IDC modules, for up to 30 detectors per IDC, 2 mA maximum detector power (for detectors without relay bases).

High Current Operation, 2 IDC and 4 IDC modules, for up to 30 detectors per IDC, 3 mA maximum detector power (for detectors with relay bases).

Internal Dual Line DACT module, automatic 24 hour test, programmable power fail report delay.

Dual Circuit City Connection module, selectable as local energy or reverse polarity. Reverse polarity is selectable for Alarm/Trouble, Alarm, Supervisory, or Trouble only reporting. (Available with or without disconnect switches.)

Class A (Style D/Style Z), 2 Circuit Adaptor module for either IDCs or NACs.

Supervised Annunciator Interface module, 3 inputs (remote Reset, ACK, and Silence), and 4 outputs (Trouble, Supervisory, Alarm Silenced, Remote Sounder), 24 VDC, current limited, 150 mA open collector each.

4004 MODEL SELECTION CHART

Model	Description			Comments
Standard Control Panels				
4004-9101	4004 Fire Alarm Control Panel, Class B Operation, 2 IDCs, 2 NACs, with 4 A Power Supply		120 VAC, 60 Hz	Beige Cabinet
4004-9102				Red Cabinet
4004-9201			220/240 VAC, 50/60 Hz	Beige Cabinet
4004-9202				Red Cabinet
Expansion Modules				
4004-9802	2 Point IDC, Class B	Standard Operation, for detectors without relays		Select one maximum
4004-9822		High Current Operation, for detectors with relay bases		
4004-9804	4 Point IDC, Class B	Standard Operation, for detectors without relays		Select one maximum
4004-9824		High Current Operation, for detectors with relay bases		
Optional Modules				
4004-9806	Class A (Style D/Style Z) Two Circuit Adaptor			5 maximum
4004-9808	Annunciator Interface, 3 Inputs, 4 Outputs			Select one maximum
4004-9809*	City Connect Module, 2 Circuits, with disconnect switches			Select one maximum
4004-9829*	City Connect Module, 2 Circuits, without disconnect switches			
4004-9810*	Internal DACT, connects to RJ31X Telco jacks, requires one DACT cable/line			
Batteries**				
2081-9272	6.2 Ah battery, typical for 24 hour standby, 2 required			Select one as required
2081-9274	10 Ah battery, typical for 60 hour standby, 2 required			
Accessories (select as required)				
4001-9810	Four alarm relays mounted on a 6 gang plate, coils: 20 mA each at 24 VDC, contacts: 0.5 A at 120 VAC, 2 A at 30 VDC, resistive (refer to data sheet S4001-0003)			
4601 Series	Remote LED and LED/Switch Annunciators (refer to data sheet S4601-0002)			
2088 Series	Remote auxiliary relays (refer to data sheet S2088-0010)			
2080-9046	DACT cable with RJ45 plug, 7' long (2134 mm)			
2080-9047	DACT cable with RJ45 plug, 14' long (4267 mm)			

* Select either a City Connection Module or a DACT module. The DACT module is programmed using a terminal or a laptop computer in terminal emulation mode. Connection and programming details are provided with the installation instructions (publication 574-049).

** Refer to Simplex document 841-992 for battery selection.

SPECIFICATIONS

Input Power	
102–132 VAC, 60 Hz	2 A maximum
204–264 VAC, 50/60 Hz	1 A maximum
Outputs	
Auxiliary Alarm Outputs	150 mA @ 24 VDC, open collector, current limited
Common ALM, SUPV, TBL	
Resettable Smoke Detector Power	500 mA @ 24 VDC, open collector, current limited
Auxiliary Power	2 A maximum @ 24 VDC
Environmental	
Operating Temperature	32° to 120º F (0° to 49° C)
Operating Humidity Range	10% to 93% RH, non-condensing @ 90° F (32° C)

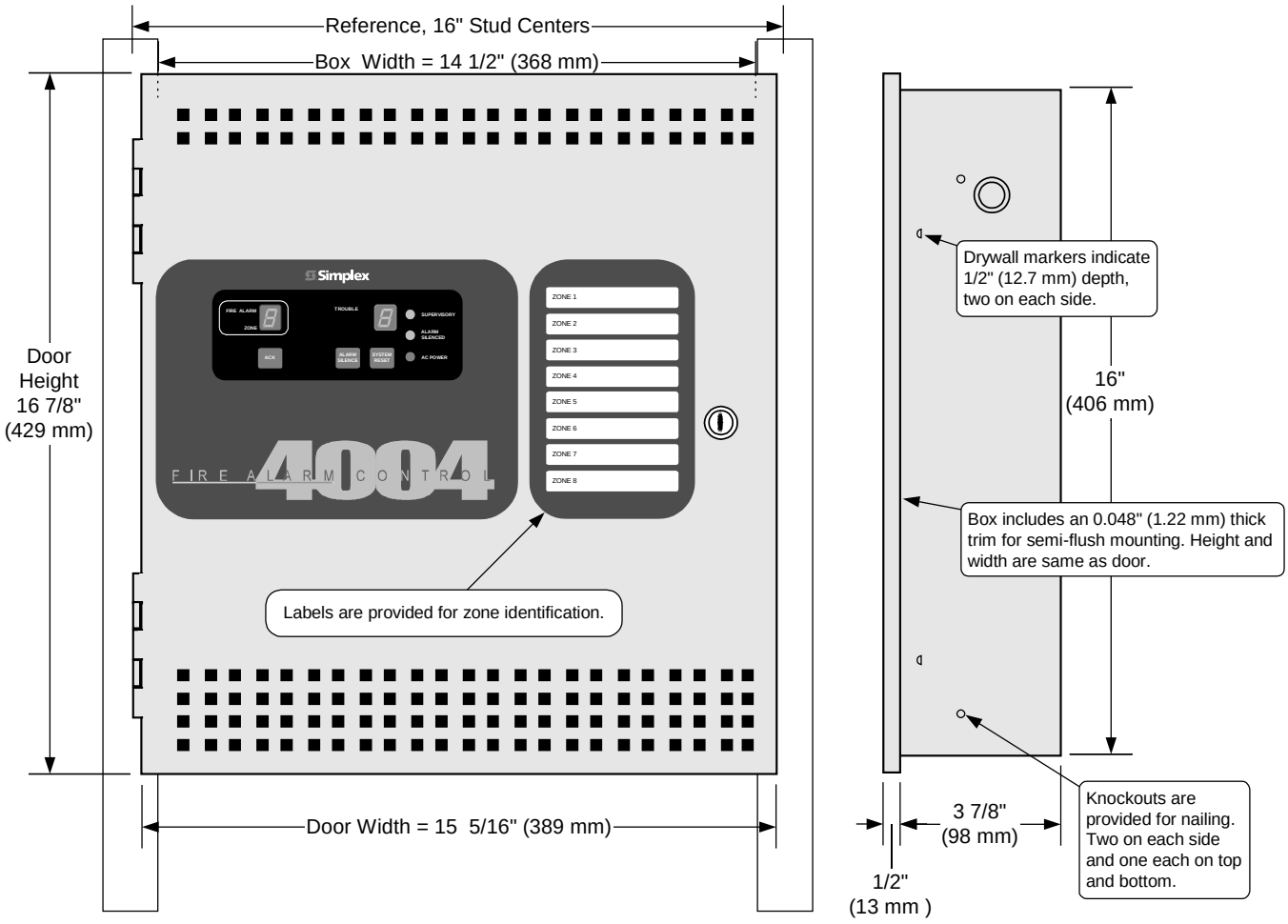
MODULE CURRENTS*

Module		Supv. Current	Alarm Current
Base Panel, 120 or 240 VAC		52 mA	82 mA**
4004-9802, 2 IDC, Low Current		7 mA	38 mA**
4004-9804, 4 IDC, Low Current		14 mA	45 mA**
4004-9822, 2 IDC, High Current		14 mA	86 mA**
4004-9824, 4 IDC, High Current		27 mA	94 mA**
4004-9806, Class A Adapter		0 mA	0 mA
4004-9808, Annunciator Interface Module		4 mA	4 mA + Annun. loads
4004-9809	2 Circuit City Connect Modules	20 mA	36 mA
4004-9829			
4004-9810 DACT		30 mA	45 mA

* **Note:** Add IDC 2-wire detector current and NAC loads for total. Refer to Field Wiring Diagram 841-992 for battery selection.

** **Conditions**: Both NACs on; one IDC in alarm per module, remaining IDCs in supervisory mode. Add NAC loading and 2-wire detector load current per application.

MOUNTING DIMENSIONS



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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Simplex

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