Fire•Lite Alarms

www.firelite.com

Sensiscan 2000
Fire Alarm Control Panel

Section: Conventional

F M   M E A   California State Fire Marshal

288-91-E   7165-0075:149

GENERAL

The **Fire•Lite Sensiscan 2000** fire alarm control panel is a multi-zone unit designed for maximum flexibility and ease of installation. The microprocessor control and modular construction enable users to configure the system to meet their precise requirements. Field programmability simplifies initial installation and allows quick updates to meet future needs.

The center of the system is the Central Processor Unit (CPU-2000) module, which monitors and controls up to 7 other modules. Modules are user-selected and may be installed in various combinations to provide up to 56 input/output circuits.

Internal communications are accomplished over a high-speed serial data bus. Each module on the bus is automatically addressed, supervised and controlled by the CPU-2000.

FEATURES

Initiating Device Circuits (IDC's)
- Large conventional system capacity: up to 56 Style B or Style D (Class B or A).
- IDCs may be expanded in increments of 4 or 8 utilizing IZ-4F or IZ-8F modules.
- Initiating zones may be programmed to function as remote ACKNOWLEDGE, SILENCE, or RESET inputs.
- Alarm and trouble reminder option.
- ALARM (red) and TROUBLE (yellow) LEDs indicate status of each initiating device circuit.

Notification Appliance Circuits (NAC's)
- Dual Style Y or Style Z (Class B or A).
- NACs may be expanded in increments of 4 or 8 utilizing IC-4F modules or a combination of IC-4F and ICE-4F modules.
- ON (green) and TROUBLE (yellow) LEDs indicate status of notification and control circuits.
- March Time or Temporal Code, selectable per output circuit.
- Silence inhibit timer option with selectable times.
- AUTO SILENCE option (alarm cutout) with selectable times.
- Non-Alarm Point selection for lower priority monitor and control of non-fire signals.
- Resound of subsequent alarms, troubles, or supervisory signals, each with a distinct local audible indication.
- Auxiliary power supplies available to provide additional power for notification appliances.
- EIA-485 serial port for high-speed data communication with remote annunciators. May be used for remote AC-

Sensiscan 2000

KNOWLEDGE, SIGNAL SILENCE, and SYSTEM RESET.
- NACs may be selected for California Code option (complies with Code Sections 32002 and 32003).

Programming and Software
- Field programmable with separate access for initial system programming and system program changes.
- Multiple passwords and a special programming key ensure the integrity of the field program information.
- Each initiating zone may be programmed for Normal, Waterflow, or Supervisory operations.
- One-man Walk-Test feature with zone change audible indication and zone trouble indication.
- Programmable Alarm Verification with discrimination between smoke detectors and contact devices.
- Nonvolatile memory retains program information even with total loss of power. Automatic memory checks verify integrity.
- Map any output circuit to any input circuit in nonvolatile program memory.
- Enable/Disable of circuits from the front panel switches.

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING

Made in the U.S.A.

Other System Features
- Extensive transient protection.
- Releasing Service capability with selectable time delays, abort circuit, and manual release.
- Multiple-hazard releasing capability. Four (4) cross-zone circuits per module.
- Two-stage Alert/Evacuation option meets Canadian and U.S. requirements.
- Pre-signal capability with selectable time delays and Positive Alarm Sequence (PAS), per NFPA 72 Standards.
- Field programmable supervisory complies with NFPA standards requiring distinction between supervisory condition and open-circuit trouble conditions.
- All initiating and notification circuits are power limited to meet the latest UL requirements.

Mechanicals
- Labels may be easily inserted to provide identification of all circuits.
- Door may be field mounted with hinge on right or left-hand side.

STANDARDS & APPROVALS

The Sensiscan 2000 complies with the following standards:

- **NFPA 72 — 1993 National Fire Alarm Code**
  Local, Auxiliary, Remote Station and Proprietary Fire Alarm Systems and Central Station Signaling Systems.
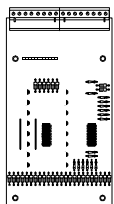
PRODUCT LINE INFORMATION

BE-2000: Base Equipment for Sensiscan 2000. Includes CPU-2000, CHS-4F Chassis, PKB programming key, labels, VP-1F dress panel, basic cables, manual, and miscellaneous hardware.

The CPU-2000 includes two Notification Appliance Circuits; system alarm and trouble relays; remote station and master box transmitters. The CPU communicates with up to 7 modules (any mix of IZ, IC, CR, and TC; *NOTE: one IZ is required*).

IZ-8F: Initiating Zone module, provides eight (8) Style B (Class B) initiating device circuits (zones). Plug-in terminal blocks are included for ease of installation and service.
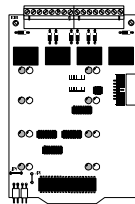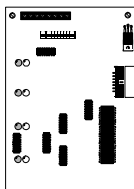
IZ-8FCS4: Same as IZ-8F with four (4) yellow supervisory Initiating Device Circuits (zones), (points 5-8). *Required for Canadian Supervisory Service.*

IZ-8FCS8: Same as IZ-8F with eight (8) yellow supervisory Initiating Device Circuits (zones), (points 1-8). *Required for Canadian Supervisory Service.*
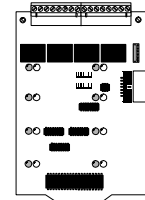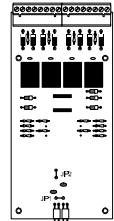
lZE-AF: Initiating Zone Expander, converts IZ-8F to eight (8) Style D (Class A) initiating device circuits (maximum of one per IZ-8F). Plug-in terminal blocks are included for ease of installation and service.

IZ-4F: Initiating Zone module. Provides four (4) Style B (Class B) initiating device circuits. *NOTE: Will not accept an IZE-AF.*
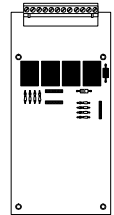
IC-4F: Indicating (Notification Appliance) Circuit Module. Provides four (4) Style Y or Style Z (Class B or A) notification appliance circuits. Maximum signaling current is 3.0 amps per NAC or 6.0 amps per module, subject to power supply limitations (includes auxiliary bell power harness, and ELRs). Plug-in terminal blocks.

ICE-4F: Indicating (Notification Appliance) Circuit Expander, expands IC-4F to provide a total of eight (8) Style Y or Style Z NACs. Circuit ratings are same as IC-4F (maximum of one per IC-4F). Plug-in terminal blocks.
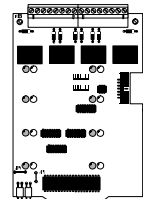
CR-4F: Control Relay module, four (4) Form-C relay contacts, rated at 5.0 A, 120 VAC or 28 VDC (resistive) per circuit. Plug-in terminal blocks are included for ease of installation and service.

CRE-4F: Control Relay Expander, expands CR-4F to provide a total of eight (8) Form-C relay contacts (maximum of one per CR-4F). May also be connected to add four (4) relays to IC-4F, TC-2F, or TC-4F. Plug-in terminal block.
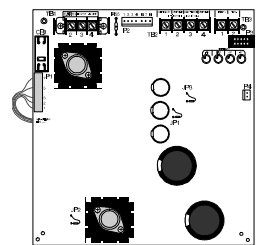
TC-2F: Time Control module used for single-hazard release and pre-signal alert/evacuate applications. Release mode includes: cross-zone; abort circuit; two solenoid circuits; warning bell circuit with triple-code option; and countdown time display. Presignal option includes programmable timer. Plug-in terminal blocks.
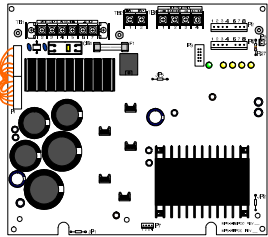
TC-4F: Time Control module used for multiple-hazard releasing service or two-stage alert/evacuation. Release mode provides four independent release circuits each with programmable cross-zone, delay timer and soak timer. Plug-in terminal blocks.
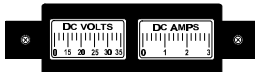
MPS-24BF: Supplies the regulated power needed to run the Sensiscan 2000 modules. It also supplies up to 2.0 amps of RMS regulated notification appliance power. Up to 200 mA of resettable power is available for four-wire smoke detectors and annunciators. The MPS-24BF is power limited and contains an integral battery charger capable of charging 7 to 17 amp-hour lead-acid batteries. The MPS-24BF is recommended only for CAB-A3F (single-row) systems.

MPS-24AF: Supplies the regulated power needed to run a full-size Sensiscan 2000. It supplies up to 3 amps of regulated notification appliance power, permitting the use of a variety of standard UL listed 24 VDC notification appliances. High efficiency, switched regulation technology is used. Up to one amp of resettable power is available for four-wire smoke detectors. Fully power limited to the latest UL requirements. Includes integral charger for 9.5 to 60 AH lead-acid batteries. The MPS-24AF is recommended for CAB-B3F (two-row) systems only.

MPM-2: Main Power Meter kit for MPS-24AF only. Includes battery voltage and charging current meters, mounting hardware, and cable.
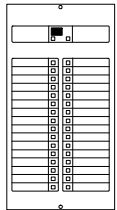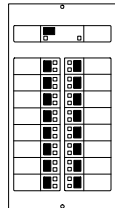
AFM ANNUNCIATORS

The AFM Series Annunciators communicate along a two-wire, twisted-pair EIA-485 circuit, which can be run up to 6,000 feet from the control panel. Designed to provide remote annunciation of Sensiscan 2000 I/O circuits, each AFM annunciator includes: an internal alarm/trouble piezo, SILENCE switch, LAMP TEST switch, POWER-ON LED, and SYSTEM TROUBLE LED. Each AFM includes slide-in zone labels for custom messages that may be printed or typed. Unique features of each AFM Series annunciator are listed below.

Limited Expansion AFM Annunciators
(one per panel)

AFM-16ATF: Provides up to 16 zones of alarm and trouble indication. Alternately, it may be selected to annunciate up to 8 zones of alarm and trouble and may be used to remotely control system operation such as SILENCE, RESET, and ACKNOWLEDGE of the control panel. Maximum of one per system. Pictured at right.

AFM-32AF: Provides up to 32 zones of alarm indication. May not be used for control (reset, silence) of the Sensiscan 2000. Maximum of one per system. Pictured at left.

"X" Series AFM Expansion Annunciators
(32 per panel)

AFM-16AF: Provides up to 16 zones of alarm indication. May not be used to control (reset, silence) the Sensiscan 2000. Up to 32 AFM-16AFs may be used per system (subject to limitations of regulated 24 VDC power supply).

AFM-16ATX: Provides up to 16 zones of alarm and trouble indication. Alternately, it may be selected to annunciate up to 8 zones of alarm and trouble and may be used to remotely control system operation such as SILENCE, RESET, and ACKNOWLEDGE of the control panel. Expandable to 64 points with one, two, or three AEM-16ATF modules. Up to 32 AFM-16ATXs may be installed per Sensiscan 2000 (subject to limitations of regulated 24 VDC power supply).

AFM-16ATXCS4: Same as AFM-16ATX with four (4) yellow supervisory indications (points 13-16). *Required for Canadian Supervisory Service.*

AFM-16ATXCS8: Same as AFM-16ATX with eight (8) yellow supervisory indications (points 9-16). *Required for Canadian Supervisory Service.*

AFM-16ATXCS16: Same as AFM-16ATX with sixteen (16) yellow supervisory indications (points 1-16). *Required for Canadian Supervisory Service.*

AEM-16ATF: Annunciator Expander Module. Expands the AFM-16ATX by 16 points of alarm and trouble. Up to three AEM-16ATFs may be controlled by one AFM-16ATX.

AFM-32AX: Provides 32 red alarm indications. Expandable to 64 with one AEM-32AF. No control functions.
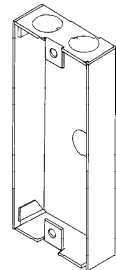
AFM-32AXCS8: Same as AFM-32AX with eight (8) yellow supervisory indications (points 25-32). *Required for Canadian Supervisory Service.*

AFM-32AXCS16: Same as AFM-32AX with sixteen (16) yellow supervisory indications (points 17-32). *Required for Canadian Supervisory Service.*

AEM-32AF: Annunciator Expander Module. Expands the AFM-32AX to 64 points.
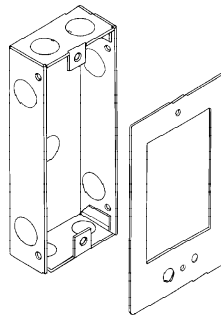
AFM ANNUNCIATOR ACCESSORIES

ABS-1F: Annunciator Surface Box provides for the remote mounting of one (1) annunciator module in a surface-mount enclosure. Knockouts are provided for use with 1/2" (1.27 cm) conduit. Height = 8-1/2" (21.59 cm), Width = 4-1/2" (11.43 cm), Depth = 1-3/8" (3.49 cm).

ABS-2F: Surface Annunciator Box. Mounts two (2) annunciator modules. Height = 8-1/2" (21.59 cm), Width = 8-15/16" (22.70 cm), Depth = 1-3/8" (3.49 cm).
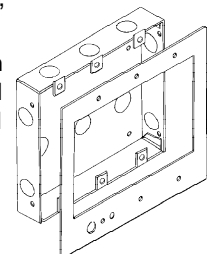
ABF-1F: Annunciator Flush Box. Provides a position for one (1) annunciator module. Knockouts are provided for use with 1/2" (1.27 cm) conduit. The ABF-1F includes a trim plate (Height = 11" [27.94 cm], Width = 6-1/4" [15.875 cm]), mounting hardware, and an adhesive-backed annunciator label for the dress plate. Height = 9-15/16" (25.24 cm), Width = 4-5/8" (11.75 cm), Depth = 2-1/2" (6.35 cm).

ABF-2F: Flush Annunciator Box. Mounts two (2) annunciator modules. Height = 9-15/16" (25.24 cm), Width = 9-3/16" (11.75 cm), Depth = 2-1/2" (6.35 cm).

ABF-4F: Flush Annunciator Box *(pictured at right)*. Mounts four (4) annunciator modules. Height = 9-15/16" (25.24 cm), Width = 17-3/8" (44.13 cm), D = 2-1/2" (6.35 cm).
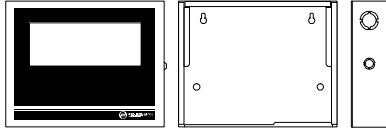
AKS-1F: The Annunciator Key Switch provides access security for the control switches on the AFM-16ATF and AFM-16ATX. Includes a key, hardware, and labels. *NOTE: The AKS-1F can only be employed with a flush-style backbox.*
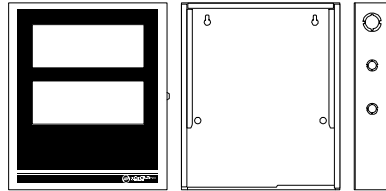
ABM-1: Annunciator Blank Module. Covers unused module positions when using AFM-16ATX

or AFM-32AX. Labeled on one side to exactly match the appearance of an AFM-16ATX, and on the reverse side to match an AFM-32AX.
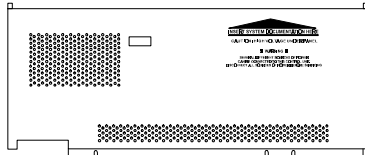
CAB-A3F: A-size enclosure (space for BE-2000 plus three modules). Includes a **DR-A3F** door and **SBB-A3F** backbox. Backbox dimensions: 20" (50.8 cm) H x 24" (60.96 cm) W x 5-3/32" (12.94 cm) D.

CAB-B3F: B-size enclosure (space for BE-2000 plus seven modules). Includes a **DR-B3F** door and **SBB-B3F** backbox. Backbox dimensions: 28-1/2" (72.39 cm) H x 24" (60.96 cm) W x 5-3/32" (12.94 cm) D.
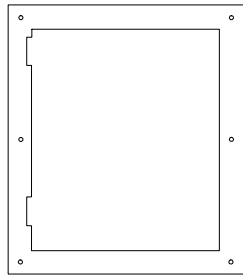
BP-3F: Battery dress panel cover. Used with CAB-3F Series enclosures *only*. Order if full dead-front is required.
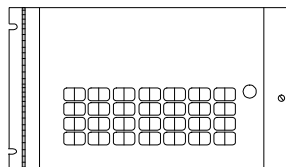
TR-A3R: Red Trim Ring for CAB-A3F. 22-1/2" (57.15 cm) high x 26-1/2" (67.31 cm) wide.
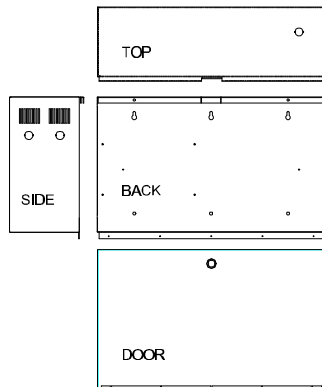
TR-B3R: Red Trim Ring for CAB-B3F. 31" (78.74 cm) high x 26-1/2" (67.31 cm) wide.
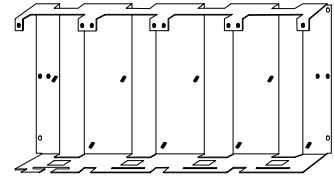
MP-1F: Module Dress Panel.

BB-55F: UL listed Battery Box. Required to externally mount two (2) PS-12600, 60 AH batteries.

CHS-4F: Expansion Chassis, includes CHS-4 Chassis, MP-1F Module Dress Panel, and the expander ribbon cable for second cabinet row. *Required* for CAB-B3F systems.

CONSTRUCTION

Each module consists of one or two printed circuit cards that mount to the CHS-4 chassis with captive screws.

Windows in the hinged dress panel allow for viewing of the status LEDs. Slide-in pockets allow the insertion of descriptive labels for the circuits (label windows are 0.88" [2.235 cm] high by 0.98" [2.489 cm] wide).

The MPS Main Power Supply mounts in the lower left corner of the enclosure. Space is provided next to the power supply for up to 25 Amp-Hours of gelled electrolyte batteries.

The Central Processor Unit (CPU-2000) module monitors and controls up to seven initiating, notification and control modules, mounted in chassis assemblies. AVPS-24F power supplies may be substituted in module positions, or mounted below a single (non-expanded) module.

A key-locked hinged door enclosure is offered in two sizes. The door is provided with a window that allows for viewing of the modules with the door closed. The door assembly is separable from the backbox to allow easy installation.

ELECTRICAL SPECIFICATIONS

- Primary input power, 120 volts, 50/60 HZ, 2.4 amperes maximum.
- 240 volts, 50/60 Hz primary input power options are available *(order MPS-24AFE, MPS-24BFE, AVPS-24FE)*.
- Ground fault detection.
- Low primary AC input power supervision with brown out indication.
- Supervised standby batteries *(order separately)*:

  PS-695: Battery, 6 V, 9.5 AH, Gel Cell *(order 4)*. Use *only* with MPS-24AF.

  PS-1270: Battery, 12 V, 7.0 AH, Gel Cell *(order 2)*. Use *only* with MPS-24BF.

  PS-12120: Battery, 12 V, 12 AH, Gel Cell *(order 2)*. Use with either MPS-24AF or MPS-24BF.

  PS-12170: Battery, 12 V, 17 AH, Gel Cell *(order 2)*. Use with either MPS-24AF or MPS-24BF.

  PS-12250: Battery, 12 V, 25 AH, Gel Cell *(order 2)*. Use *only* with MPS-24AF.

  PS-12600: Battery, 12 V, 60 AH, Gel Cell *(order 2)*. Use *only* with MPS-24AF. *Requires* BB-55F battery box for housing.

INSTRUCTION MANUAL

An installation, operation, and programming manual is provided with each Sensiscan 2000.