



# MS-4(E) 4-Zone Fire Alarm Control Panel

Section: Conventional

## GENERAL

The Fire•Lite MS-4 and MS-4E Fire Alarm Control Panels bring the latest in microprocessor technology to conventional fire controls. The MS-4 is compatible with the i<sup>3</sup>™ smoke detectors from System Sensor, and provide such advanced features as drift compensation, maintenance alert, and freeze warning. Automatic synchronization of audio/visual devices is provided, using three selections for manufacturer protocol. The NAC protocol includes the ability to silence audible devices while strobes continue to flash, using only a single pair of wires.

The MS-4 also is compatible with conventional input devices such as two- and four-wire smoke detectors, pull stations, waterflow devices, tamper switches and other normally-open contact devices. For 240 VAC operation, order MS-4E. See the *Fire•Lite Device Compatibility Document 15384* for a complete list of compatible devices.

**NOTE:** Unless indicated otherwise, the term "MS-4" refers to both MS-4 and MS-4E models.

## FEATURES

- Four Style B (Class B) IDCs (Initiating Device Circuits).
- Two Style Y (Class B) NACs (Notification Appliance Circuits).
- Optional module that converts all four IDCs and two NACs to Class A.
- 24 VDC.
- **i<sup>3</sup>™ Technology features:**
  - Drift compensation automatically adjusts detector sensitivity and increases resistance to false alarms caused by dust accumulation.
  - Maintenance Alert LEDs (per zone) warn of excessive dirt accumulation, preventing false alarms (meets NFPA 72 requirements).
  - Detector sensitivity is automatically measured by the detector, which automatically adjusts its sensitivity back to the factory settings when it becomes more sensitive due to contaminants settling in the chamber.
  - Wireless hand-held sensitivity meter eliminates the need for voltmeters, magnets and a physical connection to the detector. The reader displays sensitivity in terms of percent per foot obscuration and provides text status indication.
  - Supervisory LED (per zone) provides warning if a detector senses temperature approaching freezing.
  - Special test protocol and LED indication allows quick test of all detectors without need for a ladder.
- **NAC synchronization features:**
  - Provides synchronization of standard ANSI audible signals as required by NFPA 72.
  - Provides synchronization of ADA compliant strobes per NFPA 72.



MEA  
297-01-E



California  
State Fire  
Marshal  
7165-0075:200



MS-4

- Selectable for System Sensor, Wheelock and Gentex protocols.
- Selective Silence feature allows manual silence of horns while strobes continue to flash on the same NAC.
- Silent or Audible Walk Test operation mode commanded from the front keypad, with automatic return to normal after one hour of inactivity.
- Programmable for combination tamper supervisory monitor and waterflow alarm on one zone.
- Alarm verification selectable per zone.
- Each zone may be programmed for supervisory or fire, with separate red and yellow LEDs.
- Disable switches provided per zone.
- **NACs programmable for:**
  - Silence Inhibit
  - Auto Silence
  - Strobe Synchronization
  - Selective Silence (horn-strobe mute)
  - Temporal or Steady signal
  - Silenceable or Nonsilenceable
- Form-C Alarm, Trouble and Supervisory relays.
- 3.0 A total usable current.
- 6.0 A total usable current available with optional second transformer.
- Optional dress panel (P/N DP-MS2/4).

i<sup>3</sup>™ is a trademark of System Sensor, a Honeywell company.

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**ISO 9001**  
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ENGINEERING & MANUFACTURING  
QUALITY SYSTEMS



- **Control buttons:**
  - ACK (Acknowledge)
  - Alarm Silence
  - Reset
  - Walk Test
  - Zone Enable/Disable (one per zone)
- **LED indicators:**
  - Fire Alarm (one per zone)
  - Supervisory (one per zone)
  - Trouble (one per zone)
  - Maintenance (one per zone)
  - AC Power
  - NAC Disable
  - Zone Disable
  - NAC Fault
  - System Trouble
  - Power Trouble
  - Walk Test
  - Alarm Silence
  - Earth Fault (on circuit board)
  - Battery Fault (on circuit board)
  - Charger Fault (on circuit board)
- Piezo sounder for alarm, trouble, supervisory and maintenance.
- Optional plug-in 4XTMF transmitter module.
- Optional plug-in 4XZMF zone relay module.
- Optional 4XLMF transmitter module for RZA-4XF remote LED annunciator.

## OPERATION

Activation of a compatible smoke detector or any normally-open fire alarm initiating device activates audible and visual signaling devices, illuminates an indicating LED, sounds the piezo sounder at the FACP, activates the FACP alarm relay and operates an optional module used to notify a remote station or initiate an auxiliary control function.

## SPECIFICATIONS

### AC Power — TB8

- **MS-4:** 120 VAC, 50/60 Hz, 2.3 A.
- **MS-4E:** 240 VAC, 50 Hz, 1.15 A.
- Wire size: minimum 14 AWG (2.0 mm<sup>2</sup>) with 600 V insulation.

### Battery (sealed lead-acid only) — J8

- Maximum charging circuit: normal flat charge 27.6 VDC @ 0.8 A.
- Maximum battery charger capacity: 18 AH battery (two 7 AH batteries can be housed in the FACP cabinet. Larger batteries require a separate battery box such as the Fire•Lite BB-17F).

### Initiating Device Circuits — TB3

- Alarm zones 1 – 4.
- Power-limited circuitry.
- Operation: all zones Style B (Class B).
- Normal operating voltage: nominal 22 VDC.
- Alarm current: 15 mA minimum.
- Short-circuit current: 40 mA maximum.
- Maximum loop resistance: 100 ohms.
- End-of-line resistor: 4.7K ohm, 1/2 watt (P/N 71252).
- Standby current: 4 mA.
- Refer to *Fire•Lite Device Compatibility Document 15384* for listed compatible devices.

### Notification Appliance Circuits — TB2

- Two NACs on MS-4.

- Power-limited circuitry.
- Normal operating voltage: nominal 24 VDC.
- Maximum signaling current: 2.5 A total with standard transformer. 5.0 A total (2.5 A maximum per NAC) with optional transformer.
- End-of-line resistor: 4.7K ohm, 1/2 watt (P/N 71252).
- Compatible devices: refer to *Fire•Lite Device Compatibility Document 15384* for listed compatible devices.

### Form-C Relays

- Trouble relay TB5 (fail-safe).
- Alarm relay TB6.
- Supervisory relay TB7.
- Relay contact ratings: 2.0 A @ 30 VAC (resistive).

### Auxiliary Outputs:

#### – Resettable Power — TB1

- Operating voltage: nominal 24 VDC.
- Maximum available current: 500 mA, appropriate for powering four-wire smoke detectors (*see notes below*).
- Power-limited circuitry.

#### – Nonresettable Power — TB1

- Operating voltage: nominal 24 VDC.
- Maximum available current: 500 mA (*see notes below*).
- Power-limited circuitry.

**NOTES:** 1) *See the Fire•Lite Device Compatibility Document 15384 for listed compatible devices.* 2) *Total current for nonresettable power, resettable power and two NACs must not exceed 6.0 A for the MS-4 (requires optional second transformer).*

### Cabinet Dimensions

**Door:** 15.342" (38.97 cm) high x 14.677" (37.28 cm) wide x 0.375" (0.95 cm) deep. **Backbox:** 15.0" (38.10 cm) high x 14.5" (36.83 cm) wide x 3.0" (7.62 cm) deep.

## BACKBOX MOUNTING

The cabinet can be surface mounted. The door is removable during installation by opening and lifting it off the hinges. The cabinet mounts using two key slots at the top of the backbox and two additional 0.250" diameter holes at the bottom.

## PRODUCT LINE INFORMATION

- |                   |   |
|-------------------|---|
| <b>MS-4</b>       | Four-zone conventional FACP; 120 VAC, 50/60 Hz, 2.3 A.  |
| <b>MS-4E</b>      | Same as above, but 240 VAC, 50 Hz, 1.15 A operation.  |
| <b>CAC-4</b>      | Class A converter module. Used to convert Style B (Class B) IDC to Style D (Class A) and Style Y (Class B) NAC to Style Z (Class A). The module connects to J1 on the MS-4 circuit board. |
| <b>4XTMF</b>      | Transmitter module.   |
| <b>4XLMF</b>      | LED interface module.   |
| <b>XRM-24</b>     | Transformer assembly increases power from 3.0 A to 6.0 A.   |
| <b>RZA-4XF</b>    | Remote annunciator — mounts in a single-gang box.   |
| <b>4XZMF</b>      | Zone relay module.  |
| <b>BB-17F</b>     | Battery box, required to house two batteries greater than 7 AH to a maximum of 18 AH.   |
| <b>411/ 411UD</b> | Three-input (channel) 411 and four-input (channel) 411UD dual-line Digital Alarm Communicator/Transmitters, which can be used as slave communicators with the MS-4(E) FACP.               |
| <b>DP-MS2/4</b>   | Dress panel.  |
| <b>MS-4RB</b>     | Replacement board.  |