

# MS-2(E)

## 2-Zone Fire Alarm Control Panels



### Conventional Fire Alarm Control Panels

#### General

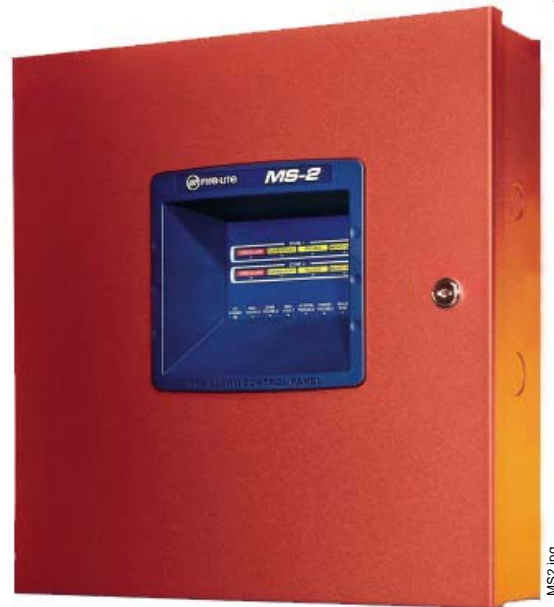
The Fire•Lite MS-2 and MS-2E Fire Alarm Control Panels (FACPs) bring the latest in microprocessor technology to conventional fire controls. The MS-2 is compatible with the *j<sup>3</sup>TM* smoke detectors from System Sensor with drift compensation, maintenance alert, and freeze warning. Automatic synchronization of audio/visual devices with three selections for manufacturer protocol. The Notification Appliance Circuit (NAC) protocol can silence audible devices while strobes continue to flash, using a single pair of wires.

The MS-2 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. Refer to the *Fire•Lite Device Compatibility Document* PN 15384 for a complete list of compatible devices.

**Note:** Unless indicated otherwise, the term “MS-2” refers to both MS-2 and MS-2E models.

#### Features

- Two Style B (Class B) Initiating Device Circuits (IDCs).
- One Style Y (Class B) NAC.
- 24 VDC.
- ***j<sup>3</sup>TM* 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 handheld 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:**
  - Synchronization of standard ANSI audible signals as required by NFPA 72.
  - Synchronization of ADA compliant strobes per NFPA 72.
  - Selectable for System Sensor, Wheelock, and Gentex protocols.
  - Selective Silence for manual silence of horns while strobes continue to flash on the same NAC.
  - Alarm verification selectable for each zone.
  - Disable switches provided per zone.
- **NAC programmable for:**
  - Silence Inhibit
  - Auto Silence
  - Strobe Synchronization
  - Selective Silence (horn-strobe mute)
- Temporal or Steady signal
- Silenceable or Nonsilenceable
- Silent or audible Walk Test operation mode commanded from the front keypad, with automatic return-to-normal after one hour of inactivity.
- Each zone may be programmed for supervisory or fire; each zone has separate red and yellow LEDs.
- Disable switches provided for each zone.
- Form-C Alarm and Trouble relays.
- 3.0 amps total usable current.
- Piezo sounder for alarm, trouble, supervisory and maintenance.
- **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)
- Optional dress panel.

## 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-2: 120 VAC, 50/60 Hz, 2.3 A.
- MS-2E: 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 VCD @ 0.8 A.
- **Maximum battery charger capacity:** 18.0 AH battery (two 7.0 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 CIRCUIT — TB3

- Alarm zones 1 & 2.
- Power-limited circuitry.
- Operation: all zones Style B (Class B).
- Normal operating voltage: nominal 20 VDC.
- Alarm current: 15 mA minimum.
- Short-circuit current: 40 mA maximum.
- Maximum loop resistance: 100 ohms.
- End-of-line resistor: 4.7K ohm, ½ watt (P/N 71252).
- Standby current: 4 mA.
- Compatible devices: refer to the *Fire•Lite Device Compatibility Document* PN 15384 for a complete list of compatible devices.

### NOTIFICATION APPLIANCE CIRCUIT — TB2

- One NAC.
- Power-limited circuitry.
- Normal operating voltage: nominal 24 VDC.
- Maximum signalling current: 2.5 A total with standard transformer.
- End-of-line resistor: 4.7K ohm, ½ watt (P/N 71252).
- Compatible devices: refer to the *Fire•Lite Device Compatibility Document* PN 15384 for a complete list of compatible devices.

### FORM-C RELAYS

- Trouble Relay TB5 (fail-safe).

- Alarm Relay TB6.
- Relay contact ratings: 2.0 A @ 30 VDC (resistive).

### AUXILIARY OUTPUT: RESETTABLE POWER — TB1

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

**Notes:** 1) Refer to the *Fire•Lite Device Compatibility Document* PN 15384 for a complete list of compatible devices.

2) Total current for resettable power and one NAC must not exceed 3.0 A for MS-2.

### CABINET DIMENSIONS

**Door:** 15.342" (38.97 cm) high x 14.667" (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 0.25" diameter holes at the bottom.

## Listings and Approvals

- **UL Listed:** S624.
- **MEA:** 297-01-E.
- **CSFM:** 7165-0075:200.

## Ordering Information

**MS-2:** Two-zone conventional FACP. 120 VAC, 50/60 Hz, 2.3 A.

**MS-2E:** Same as above with 240 VAC, 50 Hz, 1.15 A operation.

**BB-17F:** Battery box, required to house two batteries greater than 7 AH to a maximum of 18 AH.

**DP-MS2/4:** Optional dress panel.

**MS-2RB:** MS-2(E) replacement board.

**TR-1-R:** Optional trim ring for semi-flush mounting.

**4XTMF:** Transmitter Module provides a supervised output for a local energy municipal box transmitter in addition to alarm and trouble reverse polarity.

A 4-zone version of this panel is also available. See DF-52266.

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