



**MH-4000**

**The MH4000 Multiple Hazard Releasing Panel is** capable of supporting up to five hazards in a single enclosure (up to a total of 39 hazards per system).

- ◆ Distributed processing eliminates reliance on a single processor;
- ◆ Ideally suited for multiple types of suppression systems: clean agent, carbon dioxide, and sprinkler pre-action/deluge;
- ◆ Three programmable Class A or B initiating circuits;
- ◆ Three programmable Class A or B notification/releasing circuits rated for 2 Amps @ 24 VDC;
- ◆ Cross zoning, sequential detection, manual release and alarm only detection types;
- ◆ Programmable pre-discharge and discharge timers per hazard;
- ◆ 600 event history log;
- ◆ 80 character LCD interactive display w/day, date and time.

# MH-4000

## Multiple Hazard Releasing Panel

### Description

The SAFETECH™ INTERNATIONAL, INC. MH-4000 Multiple Hazard Releasing System provides a reliable system for use with suppression, sprinkler, pre-action/deluge, and fire alarm systems. This is a distributed, microprocessor-based system that uses a network communication protocol for wide ranging applications.

The control system is comprised of three main components: Detection and Control Module (DCM), an Interactive Display Module (IDM), and an optional Relay Module (RM4). The DCMs are nodes on the communication network. The network allows the system to perform as a distributed system. Instead of relying on centralized processing at a single microprocessor. Each module makes decisions locally without reliance on another module.

In the smallest configuration (i.e. 1 DCM and 1 IDM), the system meets the requirements of a single suppression system. The DCM provides an integral 2 amp power supply, three initiating device circuits (IDC), three notification appliance circuits (NAC), an auxiliary power output, and two SPDT relays. The module ships with a default configuration for easy installation of clean agent suppression systems.

The IDM provides an 80 character LCD and allows the user to modify the existing configuration to meet the requirements of the specific application. The display module also maintains a history log and the system configuration. An optional relay module can be added to each DCM to provide four additional DPDT, programmable relays to meet the needs of the particular application.

## Multiple Hazard Systems

In addition to meeting requirements of a single hazard, several DCMs can be connected together to cover multiple hazards and/or areas. Multiple enclosures have been designed to provide installation flexibility.

The DCMs use a shared power scheme to help provide power backup and redundancy. Multiple DCMs can be assigned to a single hazard or a single DCM can be divided to cover more than one area. Each module can be uniquely configured to provide flexible fire protection.

DCM initiating circuits can be configured to serve the following functions: automatic detection (sequential and cross-zone), manual alarm, manual agent release, aborts, supervisory monitoring, and auxiliary (non-fire). Likewise, output circuits can be configured to operate in the following conditions: alarm, pre-discharge, discharge, abort, auxiliary, supervisory, and trouble.

All programming is done from the IDM without requiring any custom software or a computer. The enclosures have been developed to support a full range of applications. The smallest system enclosure can accommodate one DCM. The second system enclosure can accommodate up to two DCMs (with optional relay modules). The larger enclosure will accommodate up to five DCMs. Each enclosure accommodates one IDM and can also house either a seven amp-hour battery set or a 17 amp-hour battery set.

The network must have at least one DCM and one ICM; but can have multiple DCMs and ICMs up to a total of forty network modules.

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## How To Order

MH-4000-DCM Detection & Control Module 120VAC  
MH-4000-DCM Detection & Control Module 240VAC  
MH-4000-IDM Interactive Display Module  
MH-4000-R4 Relay Module, 4 relays  
MH-4000-C1 Red Cabinet for 1 DCM, 1 IDM  
MH-4000-C2 Red Cabinet for 2 DCM, 1 IDM  
MH-4000-C5 Red Cabinet for 5 DCM, 1 IDM  
MH-4000-C3 Red Cabinet for 1 DCM only  
MH-4000-C4 Red Cabinet for 1 IDM only

## Specifications

### IDM

- ◆ 0.05 Amps consumed per IDM

### DCM

- ◆ 120 VAC or 240 VAC 47-63 Hz
  - ◆ Maximum power (per DCM) 120 VA ([1.0A@120V](#), [0.5A@240V](#))
  - ◆ Current supplied (per DCM) 2.10 Amps
  - ◆ SPDT dry contact relays [3A@30VDC](#), [3A@250VAC](#)
  - ◆ Output circuits (AUD & SOL) 2 A@24 VDC
  - ◆ Output circuit (REL) up to 10 ARMs per circuit
  - ◆ Auxiliary output rating 0.5 [Amps@24VDC](#)
  - ◆ Bus power nominal 24VDC
  - ◆ Battery interface max. supply current 8.0 Amps
  - ◆ Battery interface max. charge current 2.1 Amps
- Each DCM supplies 2.1 Amps. Total current required for modules, module relay power, output devices, and auxiliary outputs shall not exceed the current supplied.

### Relay Module

- ◆ Dry contact DPDT rated [3A@30VDC](#), [3A@250VAC](#)

### System Network

- ◆ Max. nodes per network is 40 (IDMs & DCMs)
- ◆ Max. DCMs per network is 39

### Environmental Conditions

- ◆ Temperature range 32° to 120° F, 0C to 49C
- ◆ Relative humidity 85%

## SAFETECH™

INTERNATIONAL, INC.

9550 Dice Lane

Lenexa, KS 66215-1157 USA

Sales/Technical 800-776-7744

913-894-4855

Fax 913-894-4899

<http://www.safetechintl.com>

E-mail: [sales@safetechintl.com](mailto:sales@safetechintl.com)

## Architects/Engineers Specifications

The control panel for the Fire Alarm Extinguishing Releasing System shall be the MH-4000 Control System manufactured by SAFETECH™ INTERNATIONAL, INC. of Lenexa, Kansas, USA. The control system and components shall be U.L. listed and F.M. approved for use as a local fire alarm system with releasing device service and suitable for pre-action sprinkler activation.

The system shall consist of a combination of the following modules: Detection and Control Module (DCM), model number MH-4000-DCM; Interactive Display Module (IDM), model number MH-4000-IDM; and Relay Module (RM4), model number MH-4000-R4.

The system shall be capable of providing detection and control for up to 39 hazards. The system shall be microprocessor based utilizing a distributed processing concept. A single microprocessor failure shall not impact operation of additional modules on the system. The system shall be capable of supporting Cross Zone and Sequential detection schemes per zone.

The DCM module shall supply an integral 2.0 amp power supply circuitry. Systems requiring multiple DCMs shall use a bus power concept to allow power sharing between modules for redundancy.

Three initiating circuits shall be provided per DCM. Each circuit shall be capable of Class A or Class B operation. Each circuit shall be capable of operating up to 50 approved detectors with a maximum of 35 ohms line resistance. In addition to operating automatic smoke detectors, each circuit shall be capable of monitoring contact devices configured for manual release, manual alarm, system abort, trouble input, supervisory input, or auxiliary (non-fire) input. Each circuit shall have a user defined custom message.

Each DCM shall contain three indicating/release circuits for annunciation and activation of an extinguishing system. Each circuit shall be capable of Class A or Class B operation. Each output circuit shall be jumper selectable to operate as an indicating circuit,

solenoid activation circuit, or an agent release circuit. Each circuit shall be rated for 2.0 amps @ 24 VDC. Each circuit shall be protected from false activation by an intelligent transistor. Each circuit shall support a user defined custom message.

Each DCM shall provide an auxiliary power output rated for 0.5 amps @ 24 VDC. Each DCM shall provide a SPDT relay for common alarm and common trouble. Additional programmable relays can be added to each DCM by adding a RM4 Relay module.

Each system shall require at least one Interactive Display Module. The IDM shall provide an 80-character LCD display for system annunciation and configuration.

The IDM shall have dedicated LEDs for Normal AC, Alarm, Supervisory, Trouble, and Silence.

A 600-event history buffer shall be maintained on the IDM. Each system event including configuration changes, enabling and disabling system components shall be logged into history with a time and date stamp.

