# FMM-1, FMM-101, FZM-1 & FDM-1

## Monitor Modules with FlashScan®

NOTIF by Honey

Intelligent/Ad

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## General

Four different monitor modules are available for Notifier's intelligent control panels to suit a variety of applications. Monitor modules are used to supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (FZM-1).

**FMM-1** is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Class A (Style D) or Class B (Style B) circuit of dry-contact input devices.

**FMM-101** is a miniature monitor module (a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.5" (1.270 cm) D) used to supervise a Class B (Style B) circuit of dry-contact input devices. Its compact design allows the FMM-101 to often be mounted in a single-gang box behind the device it monitors.

**FZM-1** is a standard-sized module used to monitor and supervise compatible two-wire, 24 volt, smoke detectors on a Class A (Style D) or Class B (Style B) circuit.

**FDM-1** is a standard-sized dual monitor module used to monitor and supervise two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

## FMM-1 Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan systems, 01 – 99 on CLIP systems.
- LED flashes green during normal operation (this is a programmable option) and latches on steady red to indicate alarm.

The FMM-1 Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The FMM-1 can be used to replace MMX-1 modules in existing systems.

### *FMM-1 APPLICATIONS*

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit

FMM-1 and FZM-1

detail of FDM-1 - note "ones" addresses are 0, 2, 4, 6, 8 only

may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

### *FMM-1 OPERATION*

Each FMM-1 uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

### *FMM-1 SPECIFICATIONS*

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.1 mA (LED on).

**Maximum operating current:** 375 µA (LED flashing).

**Maximum IDC wiring resistance:** 1,500 ohms.

**EOL resistance:** 47K ohms.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

## FMM-101 Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.

- Powered directly by two-wire FACP. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan systems, 01 – 99 on CLIP systems.

The FMM-101 Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The FMM-101 is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. The FMM-101 can be used to replace MMX-101 modules in existing systems.

### *FMM-101 APPLICATIONS*

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K ohm End-of-Line Resistor (provided) terminates the circuit.

### *FMM-101 OPERATION*

Each FMM-101 uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

### *FMM-101 SPECIFICATIONS*

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum operating current:** 375 µA.

**Maximum IDC wiring resistance:** 1,500 ohms.

**EOL resistance:** 47K ohms.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

**Wire length:** 6" (15.24 cm) minimum.

## FZM-1 Interface Module

- Supports compatible two-wire smok
- Supervises IDC wiring and conne source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates
- Direct-dial entry of address: 01 – 1 tems, 01 – 99 on CLIP systems.
- LED flashes during normal operatic ble option.
- LED latches steady to indicate alarm on command from control panel.

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The FZM-1 Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The FZM-1 can be used to replace MMX-2 modules in existing systems.

### *FZM-1 APPLICATIONS*

Use the FZM-1 to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 ohms). Install ELR across terminals 8 and 9 for Style D application.

### *FZM-1 OPERATION*

Each FZM-1 uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

### *FZM-1 SPECIFICATIONS*

**Nominal operating voltage:** 15 to 32 VDC.

**Maximum current draw:** 5.1 mA (LED on).

**Maximum IDC wiring resistance:** 25 ohms.

**Maximum operating current:** 270 µA (LED flashing).

**EOL resistance:** 3.9K ohms.

**External supply voltage (between Terminals T3 and T4):** DC voltage: 24 volts power limited. Ripple voltage: 0.1 Vrms maximum. Current: 90 mA per module maximum.

**Temperature range:** 32°F to 120°F (0°C to 49°C).

**Humidity range:** 10% to 93% noncondensing.

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

## FDM-1 Dual Monitor Module

The FDM-1 Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices; or either normally open or normally closed security devices. The module has a single panel-controlled LED.

*NOTE: The FDM-1 provides two Class B (Style B) IDC circuits ONLY. Class A (Style D) IDC circuits are NOT supported in any application.*

### *FDM-1 SPECIFICATIONS*

**Normal operating voltage range:** 15 to 32 VDC.

**Maximum current draw:** 6.4 mA (LED on).

**Maximum operating current:** 750 µA (LED flashing).

**Maximum IDC wiring resistance:** 1,500 ohms.

**EOL resistance:** 47K ohms.

**Temperature range:** 32° to 120°F (0° to 49°C).

**Humidity range:** 10% to 93% (non-condensing).

**Dimensions:** 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 2.125" (5.398 cm) deep.

### *FDM-1 AUTOMATIC ADDRESSING*

The FDM-1 automatically assigns itself to two addressable points, starting with the original address. For example, if the FDM-1 is set to address “26”, then it will automatically assign itself to addresses “26” and “27”.

*NOTE: “Ones” addresses on the FDM-1 are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.*

**CAUTION:**
Avoid duplicating addresses on the system.

## Installation

FMM-1, FZM-1, and FDM-1 modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The FMM-101 module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

## Agency Listings and App

In some cases, certain modules may
approval agencies, or listing may be i
tory for latest listing status.

- **UL:** S635
- **ULC:** S3705
- **FM Approved**
- **CSFM:** 7300-0028:202
- **MEA:**
  – 143-01-E *(FDM-1)*
  – 317-01-E *(FMM-1/-101)*
  – 345-02-E *(FMM-1/-101)*
  – 457-99-E *(FZM-1, FMM-1/-101)*
  – 447-99-E (FMM-1/-101, FZM-1)
  – 232-06-E (FZM-1, FMM-1/-101)
  – 128-07-E (FZM-1, FMM-1/101)
- **U.S. Coast Guard:**
  – 161.002/23/3 *(AFP-200: FMM-1/-101, FZM-1)*
  – 161.002/42/1 *(NFS-640: FMM-1/-101)*
- **Lloyd’s Register:**
  – 03/60011/E1 *(FMM-1/-101, FZM-1)*
  – 94/60004/E2 *(AFP-200: except FDM-1)*
  – 02/60007 *(NFS-640: FDM-1)*
  – 07/60007 *(NFS2-3030: all)*

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## Product Line Information

*NOTE: “A” suffix indicates ULC Listed model.*

**FMM-1(A):** Monitor module.

**FMM-101(A):** Monitor module, miniature.

**FZM-1(A):** Monitor module, two-wire detectors

**FDM-1(A):** Monitor module, dual, two independent Class B circuits.

**SMB500:** Optional surface-mount backbox.

## Architects’/Engineers’ Specifications

Specifications of these and all Notifier products are available from Notifier.

**Face plate for FMM-1, FZM-1, and FDM-1**

**Mounting Diagrams for Standard-sized Modules**

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## Wiring Diagrams

The following wiring diagrams are included:

1. **FDM-1:** Typical dual two-wire Style B initiating device circuit configuration.
2. **FMM-101**: Typical two-wire Style B initiating device circuit configuration.
3. **FMM-1:** Typical two-wire initiating circuit configuration, NFPA Style B.
4. **FMM-1:** Typical four-wire fault-tolerant initiating circuit configuration, NFPA Style D.
5. **FMM-1:** Typical two-wire initiating circuit configuration for security systems (with alarm versus shor
6. **FZM-1:** Interface two-wire conventional detectors, NFPA Style B.
7. **FZM-1:** Interface two-wire conventional detectors, NFPA Style D.
8. Applications with Conventional Detectors: Resetting Conventional Detectors

### Figure 1 FDM-1: Typical dual two-wire Style B initiating device circuit configuration.

### Figure 2 FMM-101: Typical two-wire Style B initiating device circuit configuration.

***NOTE: Wiring Diagrams this Page: FMM-1***

- Connect modules to listed compatible NOTIFIER control panels only.
- All wiring shown is supervised and power limited.
- Install contact closure devices per manufacturers' installation instructions.
- Any number of UL-listed contact used.
- DO NOT MIX fire alarm initiating, rity devices on the same circuit.

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**Figure 3 FMM-1: Typical two-wire initiating circuit configuration, NFPA Style B.**

**Figure 4 FMM-1: Typical four-wire fault-tolerant initiating circuit configuration, NFPA Style D.**

**Figure 5 FMM-1: Typical two-wire initiating circuit configuration for security systems (with alarm versus short capability).**

***NOTE: Wiring Diagrams this Page: FZM-1 and FRM-1***

- Connect modules to listed compatible control panels only.
- Terminal wiring must be power limited.
- DO NOT MIX fire alarm initiating, supervisory, and security devices on the same circuit.
- DO NOT LOOP wire under terminals. Break wire run to provide supervision of connections.
- Detectors must be UL listed comp
- Install detectors per manufacturers'
- Power to the interface modul switched to reset the detectors. module can be used to switch power supply; see Figure 8 below

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**Figure 6 FZM-1: Interface two-wire conventional detectors, NFPA Style B.**

**Figure 7 FZM-1: Interface two-wire conventional detectors, NFPA Style D.**

**Figure 8 Applications with Conventional Detectors: Resetting detectors**

***NOTE:*** *To reset conventional detectors, externally switch off power to the interface module they are connected to. This example shows FRM-1 (see DN-6724).*

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