HARRINGTON SIGNAL INC.
FIRE ALARM

M500
Addressable Modules

Harrington Signal Inc.
2519 4th Avenue, Moline, Illinois 61265
P.O. Box 590, Moline, Illinois 61266-0590
Phone: (800) 577-5758 Local: (309) 762-0731 Fax: (309) 762-8215
Internet: www.harringtonfire.com

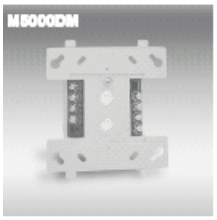
Description

The M500 series intelligent modules are designed to meet a wide range of applications. Monitor and control modules can be used to supervise and activate sounds, strobes, door closers, pull stations, waterflow switches, conventional smoke detectors, and more. Each module is rigorously designed and tested for electromagnetic compatibility and environmental reliability, in many cases exceeding industry standards. Modules are addressed with easy-to-use rotary code switches. Full size modules mount in standard 4" x 4" x 2-1/8" junction box. Wiring terminals are easily accessible for troubleshooting purposes.

Product Overview

M500MB Monitor Module, M501M Mini Monitor Module, and M500DM Dual Input Monitor Module

The M500 Series monitor modules provide an interface to contact devices, such as security contacts, Waterflow switches, or pull stations. They are capable of Styles A and B supervised wiring to the load device (M500MB is capable of Style D). Conventional 4-wire smoke detectors can be monitored through their alarm and trouble contacts, wired as an initiating loop to the module. In addition to transmitting the supervised state of the monitored device (normal, open, or short), the full analog supervision measurement is sent back to the panel. This allows impedance changes in the supervised loop to the monitored device to be detected. The M500DM is capable of monitoring two separate Class B circuits simultaneously, making it ideal for waterflow tamper switch and flow switch monitoring. The small size of the M501M allows it to fit inside devices or junction boxes behind devices.



Features

- UL and FM Approved
- Mounts in a standard 4" Junction Box
- Full Analog Supervision
- Interface with 4-Wire Conventional Detector Loops
- Low Standby Current
- Rugged Industrial Construction
- Latching Output Drive Circuit Controlled by the Panel Command
- SEMS Screws for Easy Wiring
- Direct Dial DECADE Address Entry
- Stable Communication Techniques with Noise Immunity

Ordering Information

Model Number	Part Number	Description
M500DM	349-1020	Addressable dual input module
M500MB	349-0509	Addressable monitor module
M501MB	349-0497	Addressable mini monitor module
M502M	349-0667	Addressable sub zone module
M500R	349-1022	Addressable relay module
M500S	349-1021	Addressable sounder control module

M500X Isolator Module

The M500X Isolator Module is an automatic switch that opens when the line voltage drops below four volts. Isolator modules should be spaced between groups of sensors or modules in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the devices between them. The remaining units on the loop continue to fully operate. No more than 25 devices are recommended for each group.

M502M Zone Interface Module

The M502M Zone Interface Module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. All two-wire detectors being monitored must be UL compatible with the module. The M502M is addressed through the communication line of an intelligent system. It transmits the status of one zone of two-wire detectors to the fire alarm control panel. Status conditions are reported as normal, open, or alarm. The interface module supervises the zone of detectors and the connection of the external power supply.

M500S Control Module

The M500S Control Module provides supervised monitoring of wiring to load devices that require an external power supply to operate, such as horns, strobes, or bells. It is capable of Styles Y and Z supervision. Upon command from the control panel, the M500S will disconnect the supervision and connect the external power supply across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned on. The external power supply is always relay isolated from the communication loop, so that a trouble condition on the power supply will never interfere with the rest of the system. Full analog measurement of the supervised wiring is transmitted back to the panel and can be used to detect impedance changes or other special test functions.

M500R Relay Module

The M500R Relay Module contains two isolated sets of Form C contacts, which operate as a DPDT switch. The module allows the control panel to switch these contacts on command. No supervision is provided for the notification appliance circuit.

General Specifications:

Operating Voltage:	15-32VDC
Relative Humidity:	10% to 93%: noncondensing
Shipping Weight:	M501M: 1.2oz (37g)
	Others: 6.3oz (196g)
Communication Line Loop Impedance:	40Ω max.
Dimensions:	M501M: 2.7"W x 1.7"H x 0.5"D
	Others: 4.25'W x 4.65'H x 1.1"D

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General Specifications

Operating Voltage
15-32 VDC

Communication Line Loop Impedance
40 Ω max.

Temperature Range
32° to 120°F (0° to 49°C)

Relative Humidity
10% to 93%: noncondensing

Dimensions
M501M: 2.7"W x 1.7"H x 0.5"D
Others: 4.25"W x 4.65"H x 1.1"D

Shipping Weight
M501M: 1.2 oz (37g)
Others: 6.3 oz (196g)

Specifications: M502M

Standby Current
300 µA max @ 24 VDC (one communication every 5 sec. with LED enabled)

External Power Supply
18-28 VDC (100 mV ripple max.)

End-of-Line Resistance
3.9 kΩ (included)

External Supply Standby Current
11.5 mA @ 24 VDC (nominal)

External Supply Alarm Current
80 mA @ 24 VDC (nominal)

Specifications: M500X

Standby Current
450 µA max

Isolation Impedance
2.25 kΩ - 2.9 kΩ

Fault Detection Delay
250 ms min.

Fault Detection Threshold
4 Volts

Line Restoration Threshold
7 Volts

Specifications: M500MB, M500S, M501M

Standby Current
400 µA max @ 24 VDC (one communication every 5 sec. with 47k EOL)

550 µA max @ 24 VDC (one communication every 5 sec. with EOL<1k)

5.5 mA (with LED latched on)

End-of-Line Resistance
47 kΩ (included)

Specifications: M500R

Standby Current
300 µA @ 24 VDC (one communication every 5 sec. with LED enabled)

LED Current
5.5 mA (with LED latched on)

Relay Contact Ratings
3.0 A @ 30 VDC resistive
0.9 A @ 110 VDC resistive
0.9 A @ 125 VAC resistive
0.5 A @ 125 VAC inductive (PF=.35)
0.7 A @ 75 VAC inductive (PF=.35)

Specifications: M500DM

Standby Current
750 µA max. @ 24 VDC (one communication every 5 sec. with 47k EOL)

Alarm Current
970 µA max. (one communication every 5 sec.)
6 mA (with LED latched on)

End-of-Line Resistance
47 kΩ (two included)

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