

MRI-M500 SERIES
Intelligent Modules



Features

- Designed to meet a wide range of applications
- SEMS screws for easy wiring
- Panel controlled status LED (except MRI-M501M)
- Analog communications
- Rotary address switches (except MRI-M500X)
- Low standby current
- Mounts in 4" square junction box

Description

Secutron's intelligent module products are designed to meet a wide range of applications. Monitor and control modules can be used to supervise and activate sounders, 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.

MRI-M500M Monitor Module, MRI-M501M Mini Monitor Module and MRI-M500DM Dual Input Monitor Module

Secutron's 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 (MRI-M500M 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 MRI-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 MRI-M501M allows it to fit inside devices or junction boxes behind devices.

MRI-M500X Isolator Module

The MRI-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.

MRI-M502M Zone Interface Module

The MRI-M502M Zone Interface Module allows Secutron's intelligent panels to interface and monitor two-wire conventional smoke detectors. All two-wire detectors being monitored must be UL or ULC compatible with the module. The MRI-M502M is addressed through the communication line of an intelligent Secutron 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.

MRI-M500R Relay Module

The MRI-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 relay contacts.



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427-91-E
(MRI-M500, MRI-M500X,
MRI-M501M)
87-01-E
(MRI-M500R, MRI-M500S)
227-03-E
(MRI-M500DM)



MRI-M500S Control Module

The MRI-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 MRI-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.

Specifications

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	
MRI-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)

MRI-M500M, MRI-M500S, MRI-M501M Specifications

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)

MRI-M500R Specifications

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)

MRI-M502M Specifications

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)

MRI-M500DM Specifications

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)

MRI-M500X Specifications

Standby Current
450 µA max
Isolation Current
5 mA max
Fault Detection Delay
250 ms min.
Fault Detection Threshold
4 Volts
Line Restoration Threshold
7 Volts

Ordering Information

Model	Description
MRI-M500M	Monitor Module
MRI-M500R	Relay Module
MRI-M500S	Supervised Control Module
MRI-M501M	Mini Monitor Module
MRI-501MA	Mini Monitor Module (ULC listed for Canada)
MRI-M502M	Zone Interface Module
MRI-M500X	Isolator Module
MRI-M500DM	Dual Input Monitor Module

Add suffix "A" for Canadian model.

