



500 Series Intelligent Modules

The System Sensor intelligent module products are designed to meet a wide range of applications.

Features

- SEMS screws for easing wiring
- Panel controlled status LED (except M501M)
- Analog communications
- Rotary address switches (except M500X)
- Low standby current
- Mounts in standard 4" junction box



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 in x 4 in x 2 1/8 in junction box. Wiring terminals are easily accessible for troubleshooting.

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

System Sensor 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 (M500M device 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 detection of impedance changes in the supervised loop to the monitored device. The M500DM module is capable of monitoring two separate Class B circuits simultaneously, making it ideal for waterflow tamper switch and flow switch monitoring. The compact size of the M501M module allows it to fit inside devices or junction boxes behind devices.

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. A maximum of 25 devices are recommended for each group.

M502M Zone Interface Module

The M502M Zone Interface Module allows intelligent panels to interface and monitor 2-wire conventional smoke detectors. All

continued

Agency Listings



continued

2-wire detectors being monitored must be UL or ULC compatible with the module. The M502M module is addressed through the communication line of an intelligent system. It transmits the status of one zone of 2-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 module will disconnect the supervision and connect the external power supply across the load device. The disconnection of the supervision provides a verification 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.

M500DR Dual Audio Riser Module

The M500DR module is a special applications control module that is designed to supervise a loop of speakers under normal conditions. When commanded by the control panel, the module then connects either of two audio amplifier circuits to the speakers. In this way, two separate audio messages can be broadcast over a single set of speakers with a single module.

M500FP Firefighter Phone Module

The M500FP module is intended to monitor and control a loop of firefighter phones. It has the ability to differentiate between normal, off-hook, and trouble conditions. When taken off-hook, a phone will immediately receive a ringing tone, and the panel will receive an off-hook indication. The panel can then connect that off-hook phone to the main riser for the system.

500 Series Intelligent Module Specifications

General Specifications	
Operating Voltage	15 to 32 VDC
Communication Line Loop Impedance	40 Ω max.
Temperature Range	32°F to 120°F (0° to 49°C)
Relative Humidity	10% to 93% noncondensing
Shipping Weight	M501M: 1.2 oz (37 g) Others: 6.3 oz (196 g)
Dimensions	M501M: 2.7 in W × 1.7 in H × 0.5 in D Others: 4.25 in W × 4.65 in H × 1.1 in D
Specifications, M502M	
Standby Current	300 μA max @ 24VDC (one communication every 5 sec. with LED enabled)
External Power Supply	18 to 28 VDC (100 mV ripple max.)
End-of-Line Resistance	3.8 kΩ (included)
External Supply Standby Current	11.5 mA @ 24 VDC (nominal)
External Supply Alarm Current	80 mA @ 24 VDC (nominal)
Specifications, M500R	
Standby Current	300 μA max @ 24VDC (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, M500X	
Standby Current	450 μA max.
Isolation Impedance	2.25 kΩ to 2.9 kΩ
Fault Detection Delay	250 ms min.
Fault Detection Threshold	4 Volts
Line Restoration Threshold	7 Volts
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)
Specifications, M500M, 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, M500FP	
Standby Current	2.4 mA max. (one communication every 5 sec. with LED enabled)
Comm. Line Current	4.0 mA max. (no communication, LED off, 1200 Ω phone)
Acceptable Phone Resistance	1200 Ω (nominal)
End-of-Line Resistance	3.9 kΩ (included)

