Axis AX

Enhanced Mini Switch Monitor Module

The Mini Switch Monitor Module is a loop-powered device incorporating a monitored input circuit for connection to remote switches, and is for indoor use only.



Features

- Built-in isolator
- Visible LEDs
- Loop powered
- Ground fault detection
- Selectable priority to monitor equipment where a fast response is required
- Interrupt facility
- Fits into equipment that has limited space
- Improved design for ease of mounting
- Communicates with XP95 and Discovery protocols

Listings and Approvals

- UL, ULC, SII and CSFM

Specification

General	
Product Operating Temperature	32° to 120° F
Humidity	10% to 93% RH (no condensation or icing)
Standards and Approvals	UL, ULC, SII, CSFM
Dimensions	1.9" W x 3.0" H x 0.6" D
Materials	Housing UL94 V-0 polycarbonate
Wire Size	18 AWG
LED Status	
LED Colour: Green Yellow (solid) Red (alarm)	 Polling Isolation Alarm
Single Line Circuit (SLD) - Supervised Power Limited	
Supply Voltage	17 V to 28 VDC
Modulation Voltage	5 V to 9 V peak to peak
Supervisory Current	500 µA
Switch-on Surge Current	900 µA
Alarm/Operated Current, LED On	1.6 mA per LED
Maximum Loop Current	1 A

Initiating Device Circuit (IDC)	
Wiring Styles	Supervised power limited Class A and Class B
Voltage	3.3 VDC
Line Impedance	100 Ω Max
End-of-line Resistors*	47 kΩ

* A UL-listed end-of-line resistor is available - Part no. 44251-146

NB All data is supplied subject to change without notice. Specifications are typical at 24 V, 73° F and 50% RH unless otherwise stated.

Order Codes and Options

SA4705-600ADV	Enhanced Mini Switch Monitor Module

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Axis AX

Enhanced Switch Monitor Module

The Switch Monitor Module is a loop-powered device incorporating a monitored input circuit for connection to remote switches and is for indoor use only.



Features

- Built-in isolator
- Visible LEDs
- Loop powered
- Ground fault detection
- Selectable priority to monitor equipment where a fast response is required
- Interrupt facility
- Improved design for ease of mounting
- Communicates with XP95 and Discovery protocols

Listings and Approvals

- UL, ULC, SII and CSFM

Specification

General	
Product Operating Temperature	32° to 120° F
Humidity	10% to 93% RH (no condensation or icing)
Standards and Approvals	UL, ULC, SII, CSFM
Dimensions	4.9" W x 4.9" H x 1.175" D
Materials	Housing UL94 V-0 polycarbonate
Wire Size	12-24 AWG
LED Status	
LED Colour: Green Yellow (solid) Red	 Polling Isolation Alarm
Single Line Circuit (SLD) - Supervised Power Limited	
Supply Voltage	17 V to 28 VDC
Modulation Voltage	5 V to 9 V peak to peak
Supervisory Current	500 µA
Switch-on Surge Current	900 µA
Alarm/Operated Current, LED On	1.6 mA per LED
Maximum Loop Current	1 A

Initiating Device Circuit (IDC)	
Wiring Styles	Supervised power limited Class A and Class B
Voltage	3.3 VDC
Line Impedance	100 Ω Max
End-of-line Resistors*	47 kΩ

* A UL-listed end-of-line resistor is available - Part no. 44251-146

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Order Codes and Options

SA4705-700ADV	Enhanced Switch Monitor Module

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Axis AX

Enhanced Dual Switch Monitor Module

The Dual Input Monitor Module is a loop-powered device incorporating a dual monitored input circuit for connection to remote switches and is for indoor use only.



Features

- Built-in isolator
- Visible LEDs
- Loop powered
- Ground fault detection
- Selectable priority to monitor equipment where a fast response is required
- Interrupt facility
- Improved design for ease of mounting
- Communicates with XP95 and Discovery protocols

Listings and Approvals

- UL, ULC, SII and CSFM

Specification

General	
Product Operating Temperature	32° to 120° F
Humidity	10% to 93% RH (no condensation or icing)
Standards and Approvals	UL, ULC, SII, CSFM
Dimensions	4.9" W x 4.9" H x 1.175" D
Materials	Housing UL94 V-0 polycarbonate
Wire Size	12-24 AWG
LED Status	
LED Colour: Green Yellow (solid) Red	 Polling Isolation Alarm
Single Line Circuit (SLD) - Supervised Power Limited	
Supply Voltage	17 V to 28 VDC
Modulation Voltage	5 V to 9 V peak to peak
Supervisory Current	500 µA
Switch-on Surge Current	900 µA
Alarm/Operated Current, LED On	1.6 mA per LED
Maximum Loop Current	1 A

Initiating Device Circuit (IDC)	
Wiring Styles	Supervised power limited Class A and Class B
Voltage	3.3 VDC
Line Impedance	100 Ω Max
End-of-line Resistors*	47 kΩ

* A UL-listed end-of-line resistor is available - Part no. 44251-146

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Order Codes and Options

SA4705-720ADV	Enhanced Dual Switch Monitor Module

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Axis AX

Enhanced Switch Monitor Input/Output Module

The Input/Output Module is a loop-powered device which incorporates a monitored input circuit for connection to remote switches. It also has a 240V rated volt-free relay output.



Features

- Built-in isolator
- Visible LEDs
- Loop powered
- Ground fault detection
- Improved design for ease of mounting
- Communicates with XP95 and Discovery protocols

Listings and Approvals

- UL, ULC, SII and CSFM

Specification

General	
Product Operating Temperature	32° to 120° F
Humidity	10% to 93% RH (no condensation or icing)
Standards and Approvals	UL, ULC, SII, CSFM
Dimensions	4.9" W x 4.9" H x 1.175" D
Materials	Housing UL94 V-0 polycarbonate
Wire Size	12-24 AWG
LED Status	
LED Colour: Green Yellow (solid) Red	 Polling Isolation Alarm
Single Line Circuit (SLD) - Supervised Power Limited	
Supply Voltage	17 V to 28 VDC
Modulation Voltage	5 V to 9 V peak to peak
Supervisory Current	500 µA
Switch-on Surge Current	900 µA
Alarm/Operated Current, LED On	1.6 mA per LED
Maximum Loop Current	1 A

Initiating Device Circuit (IDC)	
Wiring Styles	Supervised power limited Class A and Class B
Voltage	3.3 VDC
Line Impedance	100 Ω Max
End-of-line Resistors*	47 kΩ
Output Circuit	
Relay Output	Non-Supervised Programmable Dry contact 30 V DC - 4 A - resistive 240 V AC - 4 A - resistive

* A UL-listed end-of-line resistor is available - Part no. 44251-146

NB All data is supplied subject to change without notice. Specifications are typical at 24 V, 73° F and 50% RH unless otherwise stated.

Order Codes and Options

SA4705-703ADV	Enhanced Switch Monitor Input-Output Module

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Axis AX

Enhanced NAC Module

The NAC Module enables sounders to be operated continuously or be pulsed. Sounders may be operated individually or in groups and whichever address mode has been applied may be synchronized when in pulsed operation.



Features

- Built-in isolator
- Visible LEDs
- Loop powered
- Can be used for public address speakers
- Power supply health monitoring
- Reverse polarity detection
- Active short circuit detection (panel/power supply dependent)
- AC/DC monitoring (limited by wire length)
- Improved design for ease of wiring
- Communicates with XP95 and Discovery protocols

Listings and Approvals

- UL, ULC, SII and CSFM

Specification

General*	
Product Operating Temperature	32° to 120° F
Humidity	10% to 93% RH (no condensation or icing)
Standards and Approvals	UL, ULC, SII, CSFM
Dimensions	4.9" W x 4.9" H x 1.175" D
Materials	Housing UL94 V-0 polycarbonate
Wire Size	12-24 AWG
LED Status	
LED Colour: Green Yellow (solid) Red	 Polling Isolation Alarm
Single Line Circuit (SLD) - Supervised Power Limited	
Supply Voltage	17 V to 28 VDC
Modulation Voltage	5 V to 9 V peak to peak
Supervisory Current	500 µA
Switch-on Surge Current	900 µA

Alarm/Operated Current, LED On	1.6 mA per LED
Maximum Loop Current	1 A
Initiating Device Circuit (IDC)	
Wiring Styles	Supervised power limited Class A and Class B
End-of-line Resistors**	47 kΩ
Max (NAC)	Regulated 24 V DC, 2A Use of regulated power limited DC supply that is listed for fire protection applications. The maximum number of connected devices must be within the output rating.
Max (Speakers)	70.7 V rms, 500 mA with wire supervision capability as per NFPA requirements. The speakers used must be listed for fire protection applications.

* Local supply failure, NAC short/open circuit or group address.

** A UL-listed end-of-line resistor is available - Part no. 44251-146

NB All data is supplied subject to change without notice. Specifications are typical at 24 V, 73° F and 50% RH unless otherwise stated.

Refer to fire control panel literature for details on how to achieve audio and visual synchronisation.

Order Codes and Options

SA4705-706ADV	Enhanced NAC Module

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Axis AX

Enhanced Relay Output Module

The Relay Output Module is a loop-powered device which incorporates a 240 V rated volt-free relay output. The module can be used outdoors if mounted in a suitable weatherproof enclosure.



Features

- Built-in isolator
- Visible LEDs
- Loop powered
- Improved design for ease of wiring
- Communicates with XP95 and Discovery protocols

Listings and Approvals

- UL, ULC, SII and CSFM

Specification

General*	
Product Operating Temperature	32° to 120° F
Humidity	10% to 93% RH (no condensation or icing)
Standards and Approvals	UL, ULC, SII, CSFM
Dimensions	4.9" W x 4.9" H x 1.175" D
Materials	Housing UL94 V-0 polycarbonate
Wire Size	12-24 AWG
LED Status	
LED Colour: Green Yellow (solid)	Polling Isolation
Single Line Circuit (SLD) - Supervised Power Limited	
Supply Voltage	17 V to 28 VDC
Modulation Voltage	5 V to 9 V peak to peak
Supervisory Current	500 µA
Switch-on Surge Current	900 µA
Alarm/Operated Current, LED On	1.6 mA per LED
Maximum Loop Current	1 A
Relay output	Non-supervised Programmable Dry contact 30 V DC - 4 A - resistive 240 V AC - 4 A - resistive

Output Circuit	
Relay output	Non-supervised Programmable Dry contact 30 V DC - 4 A - resistive 240 V AC - 4 A - resistive

NB All data is supplied subject to change without notice. Specifications are typical at 24 V, 73° F and 50% RH unless otherwise stated.

Order Codes and Options

SA4705-701ADV	Enhanced Relay Output Module

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Intelligent Loop Isolator & Isolating Detector Bases

Available in two versions, Loop Isolator only and Isolating Detector Base for Intelligent Detector mounting, the Intelligent Isolators offer superior SLC loop protection. The Intelligent Isolating Bases sense and isolate short-circuit faults associated with Axis AX Series SLC loop wiring.

Under normal operation, the SLC loop power and communications are passed through the Isolators. If a short-circuit or an abnormally low line impedance occurs, the isolator senses the drop in voltage and isolates the negative supply of the SLC loop, in the direction of the fault. The short-circuit fault will be indicated on the Axis AX Series Intelligent Fire Alarm Control Panel's graphical display and on the isolators via an illuminated yellow LED. If an intelligent detector is associated with an active short-circuited isolating base, the detector will continue to function properly. During the isolated condition the isolating base will continually test the circuit, and when the fault is rectified will automatically restore the isolated SLC loop to normal.

If an installation requires that not a single intelligent device be lost in the event of a single short-circuit to an SLC loop ("true" NFPA Style 7 circuit), every device on the Axis AX Series SLC loop should be protected by an isolator. In applications requiring minimal short-circuit protection (not necessary to provide a "true" NFPA Style 7), isolated groups of devices can be created with one Isolator protecting a maximum group of twenty intelligent detectors/ devices. Each Axis AX Series Intelligent Fire Alarm Control Panel's SLC's have built-in isolators.

Isolating Detectors Bases are specifically designed to enable "one-way only" intelligent detector insertion without the need for force. Simply insert the detector and rotate clockwise. Incorporating a high degree of protection against unauthorized removal of detectors, each base can be locked to it's associated detector by a mini-hexagonal screw.

Both the Loop Isolator and the Isolating Dectector Bases have a wide interior diameter for ease of access for wiring to in-out terminals. Though not required for proper operation, each unit has a dedicated earth connection terminal for clean, isolated, and continuity maintenance of an earth ground connection of wire shield when shielded cable is utilized.

Utilizing the Advanced unique method of addressing intelligent detectors, the Intelligent Isolating Detector Base incorporates a patented address ("XPerT") card. The address is quickly and easily set by removing "pips" on the XPerT card according to a chart supplied with each base. To save time during installation pre-addressed XPerT cards are available. Once the address is set on the XPerT card, it is then slid into the base and locked in place. By addressing the detector in the base rather than in the detector, the all-too-common errors associated with detector removal and maintenance are eliminated.



Features

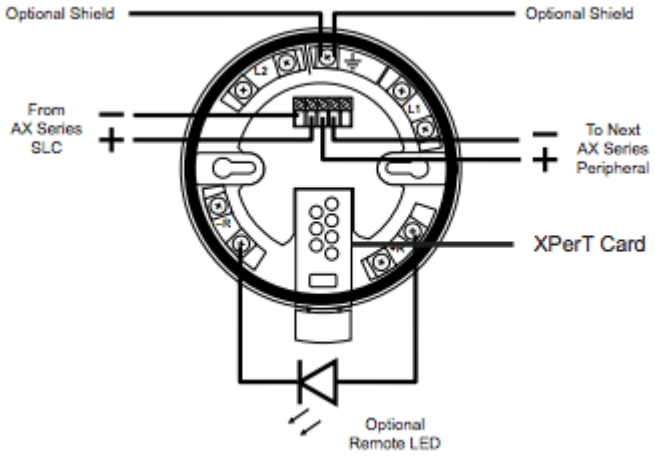
- Patented XPerT Addressing
- Short-Circuit Isolation
- Meets NFPA Style 7 Requirements
- In-Out Terminals for Ease of Wiring
- Dedicated Terminal for Shielded Cable
- Low-Profile Design
- Built-in Short Circuit Yellow LED Indicator
- 3" or 4" Square or Octagonal Electrical Box Mount
- "One-Way-Only" Detector Insertion
- Base to Detector Locking Mechanism

Listings and Approvals

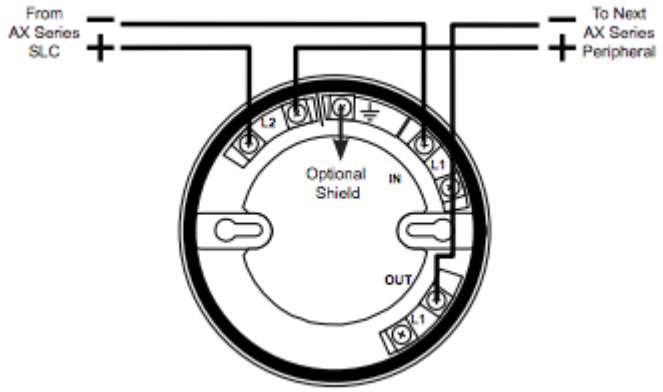
- UL file: UOXX.S24460

Each Intelligent Isolating Detector Base has the capability of supporting a remote LED. The remote LED is sub-addressable and can be programmed to activate from any cause and effect program of the Axis AX Series Intelligent Fire Alarm Control Panel. The Intelligent Isolating Detector Bases mount on 3” octagonal electrical boxes. To mount to 4” square or octagonal electrical boxes the optional Advanced adapter kit is required. **Intelligent Detector Bases:** Refer to Intelligent Detector Bases data sheet.

Intelligent Isolating Detector Base Wiring, 45681-284AEL



Intelligent Loop Isolator & Base Wiring (Not addressed) 55000-750AEL / 45681-211AEL



Specification

Remote LED Output Current	5 mA (Maximum)
Voltage	17 - 28 VDC
Environment	Indoor, Dry
Operating Temperature	32º- 120ºF (0º- 48ºC)
Operating Temperature for AX Detector Isolator Base only	-4º- 140ºF (-20º- 60ºC)
Humidity	10-93% (Non-Condensing)
Humidity for AX Detector Isolator Base only	0-95% (Non-Condensing)
Dimensions	4”D x 15/16”H
Weight	3.5 oz
Housing	Polycarbonate, 94 V0

Ordering Codes and Options

55000-750ADV	Loop Isolator (Fits 3” Octagonal Electrical Box)
45681-211ADS	Isolator Base (use with 55000-750ADV)

* Refer to Intelligent Detector Bases data sheet for Information and features pertaining to these products.

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Advanced

Axis AX

Intelligent Mini Switch Monitor Module

Designed to be a miniature interface for Axis AX Series SLC circuits, the Intelligent Mini Switch Monitor Module from Advanced offers unique fire alarm industry features that simplify installations and provide superior flexibility.

Each Intelligent Mini Switch Monitor Module provides an addressable interface for a single contact device or group of contact devices connected via an initiating device circuit (IDC). With the flexibility of the Advanced Axis AX Series Intelligent Fire Alarm Control Panel's contact devices can be normally open (N.O.) or normally closed (N.C.) dry contacts. Contact devices range from heat detectors, linear heat detectors, 4-wire conventional smoke detectors, water flow switches, tamper switches, manual pull stations, switch control inputs, etc. The Intelligent Mini Switch Monitor Module can monitor any number of contact devices; however, it is recommended not to mix alarm, supervisory, or security contacts on the same monitoring module circuit.

In addition to the standard contact monitoring for alarm type status, each Intelligent Mini Switch Monitor Module has the capability to monitor a normally open contact with a Listed 10K resistor in series with the contact. When this contact is activated, the Axis AX Series Intelligent Fire Alarm Control Panel will interpret this status change as a pre-alarm event rather than an alarm event. Through the Axis AX Series Intelligent Fire Alarm Control Panel, PCNeT programming, separate control/operations can be performed based on this pre-alarm event.

The Intelligent Mini Switch Monitor Module's initiating device circuit (IDC) is wired Class B to the monitored contact device(s). Each Intelligent Mini Switch Monitor Module incorporates three LEDs for device status; a green LED which flashes on device poll, a yellow LED which flashes when the initiating device circuit is in trouble, and a red LED which illuminates steady during an alarm condition. In addition to the onboard LEDs, the Intelligent Mini Switch Monitor Module offers a remote LED output which flashes during device polling and illuminates steady during an alarm condition.

The Intelligent Mini Switch Monitor Module incorporates an integral eight position programming DIP switch for device addressing and priority interrupt programming. DIP switch eight is utilized for programming the priority interrupt feature. The priority interrupt feature provides a less than 2 second response time for alarm reporting to the Axis AX Series Intelligent Fire Alarm Control Panel(s). When the priority interrupt device is in an active state, the monitor's priority interrupt bypasses the normal Axis AX Series SLC communications process, and immediately allows the device to communicate with the Axis AX Series Intelligent Fire Alarm Control Panel(s). The priority interrupt feature is usually utilized for monitoring of highly critical contact devices such as manual pull stations.



Features

- Miniature Device Interface
- Class B Wiring
- PC-NeT Flexible Device Type Programming
- Programmable Priority Interrupt
- Optional Remote LED Output
- Durable Construction
- Adaptable for Pre-Alarm Signaling
- Integral Status LEDs
  - Green Flashes during Device Polling
  - Yellow Flashes during Trouble
  - Red Illuminates Steady during Alarm
- Electrical Box or DIN Rail Mounting
- Optional Remote Device Polling/Alarm LED

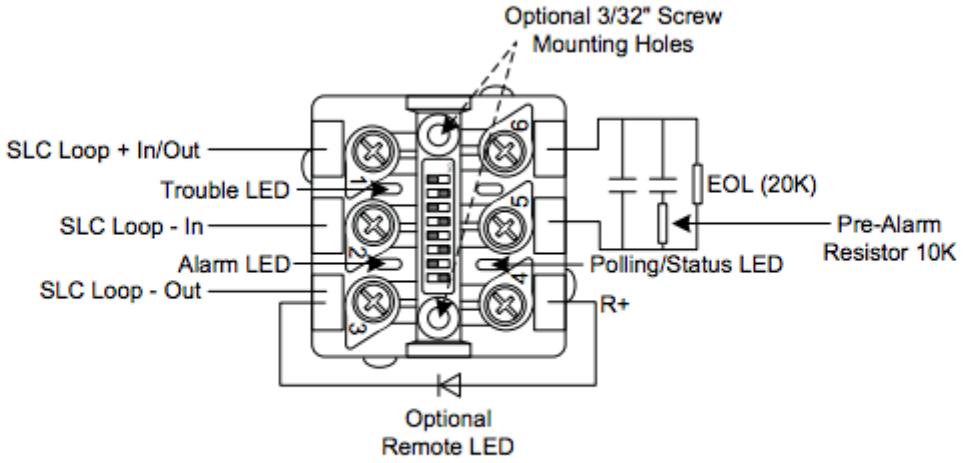
Listings and Approvals

- ETL ANSI/UL 864 Listed: 101564744NYM-001
- UL file: UOXX.S24460
- CSFM Approved: 7300-1713:0115

Engineered to fit into limited space enclosures, the Intelligent Mini Switch Monitor Module can either be installed inside the device being monitored, or it can be placed in an electrical box in the vicinity of the device being monitored. In addition, the Intelligent Mini

Switch Monitor Module can be snapped into a standard electrical 1 3/8” DIN rail track for multiple Intelligent Mini Switch Monitor Module mounting.

Wiring Diagram



Specification

Voltage	17-28 VDC 5-9 VDC (Communication Pulses)
Operating Current Quiescent Alarm With Remote LED	 0.2 mA 3.6 mA 6.4 mA
End-of-Line Resistor	20 KΩ, 0.5 Watt
Pre-Alarm Resistor	10 KΩ, 0.5 Watt
Wiring	Screw In-Out Terminals
Mounting	Electrical Box or 1 3 / 8 ” DIN Rail
Dimensions (Length, Width & Height)	1 11/16” L x 1 11/16” W x 13/16”H
Weight	1.1 oz
Operating Temperature	32º-120ºF (0º-49ºC)
Humidity	10-93% (Non-Condensing)

Order Codes and Options

55000-765ADV	Intelligent Mini Switch Monitor Module
28181-104	Listed End of Line Resistor (20K)
28181-097	Listed Pre-Alarm Resistor (10K)

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