

Intelligent 120 VAC I/O Module

The Advanced Intelligent 120 VAC I/O Module is an application specific addressable module for use with the Axis AX Series Intelligent Fire Alarm Control Panels. Each module is SLC loop powered, eliminating the need for additional field wiring and external power supplies.

Designed for installation on Advanced Axis AX Series SLC (signaling line circuit), the Intelligent 120 VAC I/O Module provides a single initiating device circuit (IDC) input and an independently controlled Form-C relay contact output, rated 4 Amp @ 120 VAC/30 VDC. The Intelligent 120 VAC I/O Module utilizes the Advanced unique sub-addressing for the independently controlled relay. By sub-addressing the independently controlled relay the Axis AX Series system point capacities are expanded with installation, programming, and commissioning time minimized. The Intelligent 120 VAC I/O Module mounts to the front of a standard 4" square or 2-gang electrical outlet box.

The IDC input of the Intelligent 120 VAC I/O Module is capable of being wired Class A or B and can monitor a single contact device or a group of devices. Contacts can be normally open (N.O.) or normally closed (N.C.) ranging from heat detectors, linear heat detectors, 4-wire conventional smoke detectors, waterflow switches, tamper switches, manual pull stations, control point status, switch control input, or any other supervised input requirement. Though the IDC input can monitor any number of contact devices, it is recommended not to mix alarm, supervisory, or security contacts on the same IDC module circuit.

Compatible with the Axis AX Series Dynamix I/O relationship programming, the relay output of the Intelligent 120 VAC I/O Module can be individually assigned to any input or output relationship, output group, timing function, gated function, invert operation, etc. to perform project specific control operations. Ideally suitable for HVAC control/shutdown or similar ancillary functions, the Intelligent 120 VAC I/O Module relay contact is rated 120 VAC/30 VDC at 4 Amp (resistive).

Each Intelligent 120 VAC I/O Module incorporates an integral eight position programming DIP switch which allows for device addressing and IDC wiring classification definition. The module contains a red status LED which illuminates steady during active condition of the IDC input.



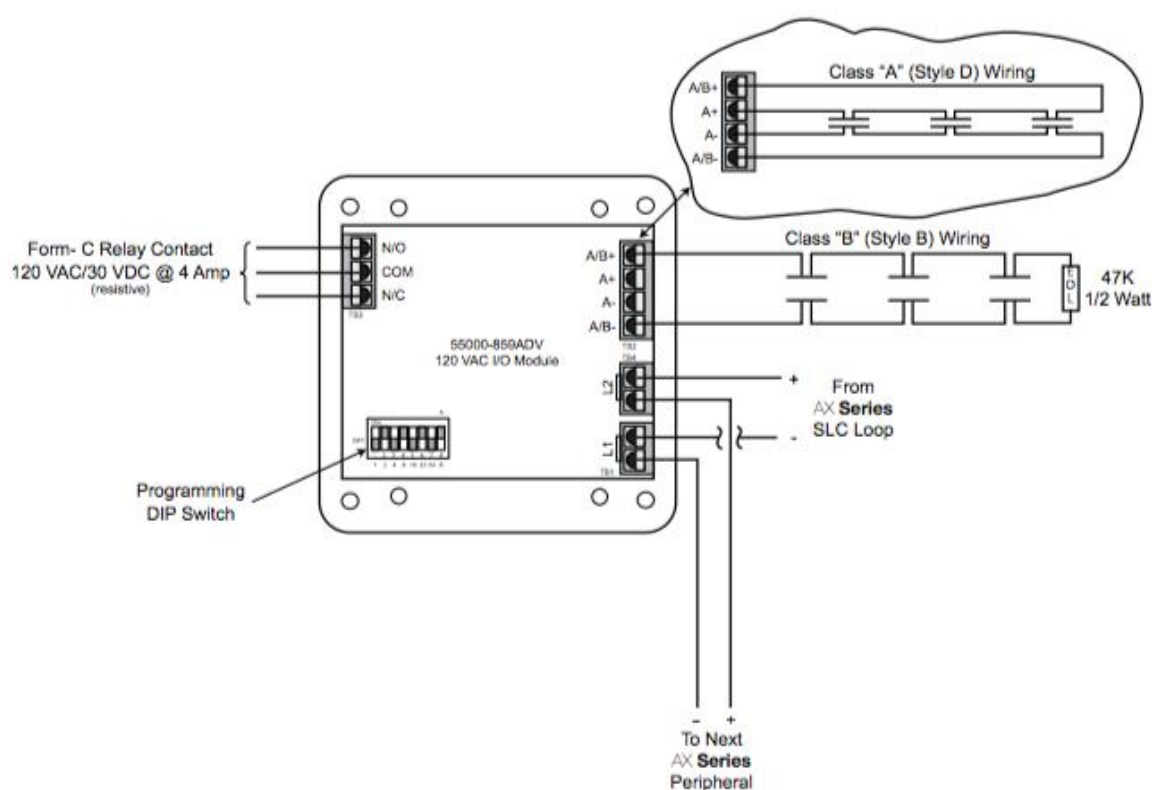
Features

- Switches 120 VAC @ 4 Amp
- SLC Loop-Powered & Sub-Addressable
- 4" Square or 2-Gang Electrical Box Mounting
- Flexible Programming
- Durable Construction
- Cost-Effective & Trouble-Free Installation
- Supervised Initiating Device Circuit (IDC)
- Class A or B Wiring
- Independently Controlled 120 VAC/30 VDC Relay Contact
- Axis AX Series Dynamix I/O Relationship Programming
- IDC Activation Status LED

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460

Wiring Diagram



Specification

Voltage	17-28 VDC, with Communication Pulses 5-9 VDC
Operating Current	
Quiescent	0.95 mA
Alarm	3 mA
With LED's	5 mA
Line Impedance	100 Ω
Wiring Classification	Class A or Class B
End-of-Line Resistor	47 K Ω , 0.5 Watt (Class "B" Only)
Relay Output	Form-C
Rating	120 VAC/30 VDC @ 4 Amp (Resistive)
Wiring	Screw In-Out Terminals
Mounting	4" Square or 2-Gang Electrical Outlet Box
Dimensions (Diameter & Height)	4 1/2" W x 4 1/2" H x 1" D
Weight	2.8 oz
Operating Temperature	32°F -120°F (0°C-49°C)
Humidity	10-93% (Non-condensing)

Order Codes and Options

55000-859AFC	Intelligent 120 VAC I/O Module
45681-157AFC	120 VAC Switching Accessory Foam Pad

Intelligent Detector Bases

The Intelligent Detector Bases from Advanced offer unique fire alarm industry features that simplify installations and provide tremendous flexibility. Incorporating sub-addressable and SLC loop-powered ancillary outputs, these intelligent bases allow for cost-effective and trouble-free installations.

By sub-addressing ancillary outputs off of the Intelligent Detector Bases, remote LEDs and relays are independently controlled by the Axis AX Series Intelligent Fire Alarm Control Panels. In addition, the remote LEDs and relays are SLC loop-powered (powered directly from the Axis AX Series fire alarm control panel's SLC loop) which reduces the need for additional field wiring and external power supplies. Sub-addressing and SLC loop powering of ancillary outputs makes installation, programming, and commissioning of the most complex projects extremely simplistic.

The Intelligent Detector Bases are available in either standard, E-Z-Fit, relay, or isolating base configurations. The Advanced Intelligent Detector Bases mount to a 3" or 4" square or octagonal electrical box. Based on type of base selected, an optional Advanced adapter kit may be required for 4" square or octagonal mounting.

Bases are specifically designed to enable "one-way-only" intelligent detector insertion without any 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 its associated detector by a mini hexagonal screw.

Utilizing the Advanced unique method of addressing intelligent detectors, the Intelligent Detector Bases incorporate 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.

All bases have a wide interior diameter for ease of access for wiring to in-out terminals. Though not required for proper operation, each base has a dedicated earth connection terminal for clean, isolated, and continuity maintenance of earth ground connection of wire shield when shielded cable is utilized.



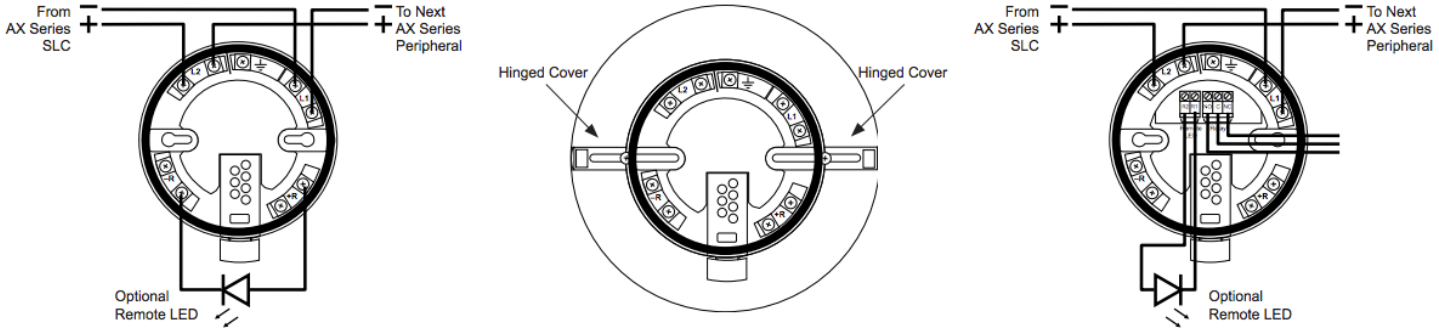
Features

- Patented XPerT Addressing Card
- Sub-Addressable Ancillary Outputs
- SLC Loop-Powered Ancillary Outputs
- Integral Remote LED Output
- In-Out Terminals for Ease of Wiring
- Dedicated Terminal for Shielded Cable
- Low-Profile Design
- 3" or 4" Square or Octagonal Electrical Box Mount
- Sub-Addressable Relay Option
- Style 7, Isolation Options
- "One-Way-Only" Detector Insertion
- Base to Detector Locking Mechanism
- Integral XPerT Card Address Labeling Tab

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UROXC.S24459

Wiring Diagram



E-Z-Fit Base (45681-250ADS)

Designed for mounting flexibility, the E-Z-Fit base mounts to a 4" square or octagonal electrical box. The E-Z-Fit is easy to install and allows the screws of a 3" or 4" square or octagonal electrical box to be fitted loosely prior to mounting the base. The base is then placed over the screws and shifted left to right for optimum positioning. Once positioned, the mounting screws are tightened and unique hinged covers are closed concealing the screws. The intelligent detector when installed, locks the hinged covers in-place. The E-Z-Fit base offers a sub-addressable remote LED output.

Standard Base (45681-210ADS)

Designed to mount on a 3" octagonal electrical box, the standard base incorporates a sub-addressable remote LED output. The remote LED output can be programmed to activate from any cause and effect program of the Axis AX Series Intelligent Fire Alarm Control Panel. To mount to a 4" square or octagonal box, an Advanced adapter kit is required.

Relay Base (45681-242ADS)

The relay base mounts on a 3" octagonal electrical box and incorporates a sub-addressable remote LED output and Form "C" relay contact. The Form "C" relay contact has a low current draw and is rated 30 VDC/VAC @ 1 Amp (resistive) and can be utilized to control various remote ancillary functions. The remote LED output and the Form "C" relay contact are capable of being programmed to activate from any cause and effect program of the Axis AX Series Intelligent Fire Alarm Control Panels.

Adapter Kit (38531-829ADS, 38531-830ADS)

The adapter kits are utilized in installations requiring standard bases, relay bases, and/or isolating bases to be mounted to 4" square or octagonal electrical boxes. The adapter kit includes a mounting plate for electrical box mounting and trim ring for the base.

Intelligent Isolating Bases

Refer to Intelligent Isolating Bases data sheet.

Specification

Remote LED Output Current	5 mA (Maximum)
Relay Base Only	
Relay Voltage/Current	30 VDC/VAC @ 1 Amp. (Resistive)
Activation Surge Current	5 mA
Energized Current	40 µA
De-energized Current	Less than 1 µA
Terminals	Nickel-Plated Steel
Environment	Indoor, Dry
Operating Temperature	32°F-120°F (0°C-48°C)
Humidity	10-93% (Non-condensing)
Dimensions (Diameter & Height)	
Standard & Relay Base	4" D x 15/16"H
E-Z-Fit Base	6 3/8"D x 5/8"H
Weight	3.5 oz
Housing	Polycarbonate, 94 V0

Order Codes and Options

45681-250AFC	E-Z Fit Low Profile Base (Fits 3" or 4" Square or Octagon Electrical Box)
45681-210AFC	Standard Base (Fits 3" Octagon Electrical Box)

45681-242AFC	Relay Base (Fits 3" Octagon Electrical Box)
Adapter Kit:	
38531-830ADS	Mounting Bracket
38531-829ADS	Trim Ring
38531-771	Blank XPerT Card
45682-127	Pre-Addressed XPerT Cards (1-127)
* Refer to AX Series Intelligent Isolating Bases data sheet for Information and features pertaining to these products.	

Intelligent Air Duct Detectors

The Advanced Intelligent Air Duct Detectors are the latest innovation for early detection of smoke and products of combustion present in air moving through HVAC ducts in Commercial, Industrial, and Residential applications. The units are designed to prevent the recirculation or spread of smoke by air handling systems, fans, and blowers. Complete systems may be shut down in the event of smoke detection.

The operating principle of the Intelligent Air Duct Detectors is based on the Venturi effect. Two tubes extend into the HVAC duct. Air flowing through the duct is forced into the air intake (inlet) tube via the air intake holes (facing the air flow) and passes over the detector head. The air will be drawn out via the exhaust tube back into the HVAC duct. When the concentration of smoke particles suspended in the air stream reach the alarm threshold of the intelligent detector head the Intelligent Air Duct Detector will go into alarm thus alarming the Axis AX Series Intelligent Fire Alarm Control Panel.

The Intelligent Air Duct Detectors are designed to operate in duct widths from 6" to 10' wide with an air velocity between 100 to 4,000 feet per minute.

Four (4) versions of the Intelligent Air Duct Detector are available from Advanced, the versions include both two and four wire operation with an intelligent photoelectric or ionization detector. Two wire versions do not include an alarm relay contact, and can only drive a remote LED indicator. If alarm relay contact and/or additional remote accessory options are required, beyond a remote LED, the four wire version must be provided.

The Intelligent Air Duct Detectors are built to meet all local code requirements, as well as the NFPA and ICC standards regarding HVAC supply and return duct smoke detectors. Output terminals are provided for a wide range of remote accessories such as remote status indicators, and test/reset key switches or push buttons. The Intelligent Air Duct Detectors include many features that represent true innovations from current generation duct smoke detectors.



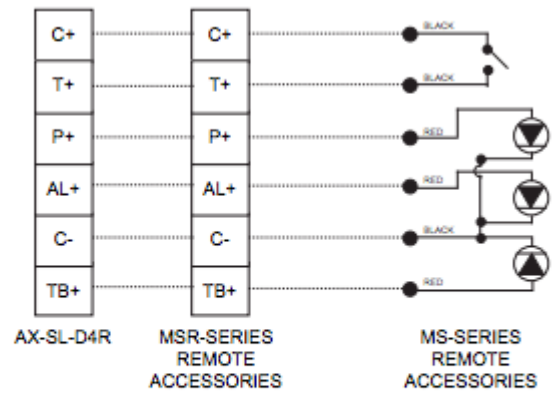
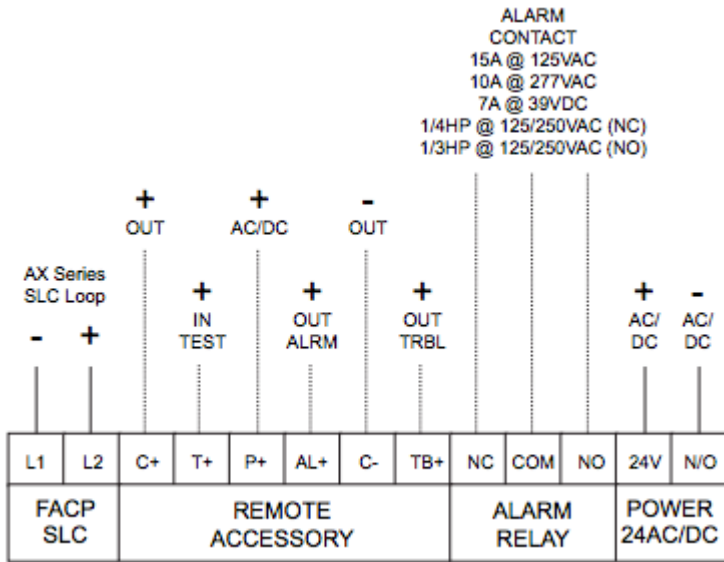
Features

- 2/4 Wire with Intelligent Photo or Ion Detector
- Low-Flow Technology (100-4000ft/min)
- Listed for High-Temp Applications
- Patented "No-Tools Required"
- Patented "Test Port Valve"
- Instantaneous Cover Removal Indication
- Staggered Terminal Blocks for Easier Wiring
- Flashing Detector LED Indicating Normal Operation

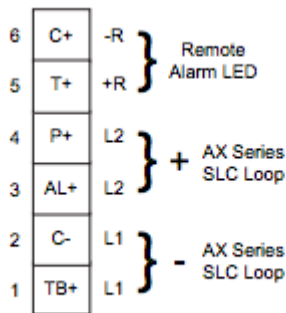
Listings and Approvals

- ETL ANSI/UL 864 Listed: 101564744NYM-001
- UL File: UROX.S2829
- ULC File: UROXC.S2829
- CSFM Approved: 3240-1004:0116
- NYC MEA: 73-92-E

Wiring Diagram



X-SL-DAA (P or N) TERMINAL CONNECTIONS AX-SL-DAA (P or N) TERMINAL CONNECTIONS



Specification

AX Series SLC Loop

Voltage	17-28 VDC
Modulation Voltage	5-9 VDC (Peek to Peek)
Supervisory Current	0.85 mA
Surge Current	2.5 mA
Alarm Current	3.5 mA (LED On) (Max.)
Line Impedance	50 Ω(Max.)
Alarm Relay Contact Rating (4-Wire Only)	
DC Voltage	7 Amp @ 39VDC
AC Voltage	15 Amp @ 125VAC, 10 Amp @ 277VAC
Wiring	Screw In-Out Terminals
Humidity	10% to 85% RH Non-Condensing
Dimensions (Diameter & Height)	13 1/2" L x 4 1/2" W x 2 1/4" D
Weight	2.25 lbs
Ambient Temperature	
AX-SL-DA4R-P, AX-SL-DAA-P	32° -140°F (0°-60°C)
AX-SL-DA4R-N, AX-SL-DAA-N	32° -140°F (0°-60°C)
Air Velocity	100 to 4,000ft/min.

Radioactive Material
AX-SL-DA4R-N, AX-SL-DAA-N

Americium 241, 0.9 micro curie

Order Codes and Options

AX-SL-DA4R-P	Intelligent Duct Detector, PHOTO, 4-Wire
AX-SL-DA4R-N	Intelligent Duct Detector, ION, 4-Wire
AX-SL-DAA-P	Intelligent Duct Detector, PHOTO, 2-Wire
AX-SL-DAA-N	Intelligent Duct Detector, ION, 2-Wire
STN-1.0	10" Sampling Tube for Ducts 6" - 12" wide
STN-2.5	30" Sampling Tube for Ducts 1' - 3' wide
STN-5.0	5' Sampling Tube for Ducts 3' - 5' wide
STN-10.0	10' Sampling Tube for Ducts 5' - 10' wide

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As our policy is one of constant product improvement the right is therefore reserved to modify product specifications without prior notice.

Intelligent Heat Detector

The low-profile Advanced Intelligent Heat Detectors have a common profile with the intelligent photoelectric and ionization detectors, but have a low airflow resistance case made of self-extinguishing white polycarbonate. Designed with a built-in dedicated microprocessor, the intelligent heat detector offers a wide range of capabilities to suit any commercial, industrial, or institutional application. Incorporating dual-alarm LEDs which illuminate red during alarm, the detector provides a complete 360° view of device status. The detector's dual-alarm LEDs can also be programmed for flashing during quiescent mode.

The Intelligent Heat Detector incorporates a unique industry method of addressing the detector. Each detector is individually addressed through its associated base by 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. Once the address is set on the XPerT card, it can be slid into place and locked into the detector base. By addressing the detector at the base rather than internally to the detector, the all-too-common errors associated with detector removal and maintenance are eliminated.

Each Intelligent Heat Detector is capable of being field programmed for one of five response/heat modes (see Table 1). All five response modes relate to different heat characteristics. Response modes 1, 2, and 5 are Static / Rate of Rise. Modes 3 and 5 are static only, with Mode 3 being default. Response mode settings of individual detectors are stored within the detector's memory. The advantage of storing this information in the detector rather than in the fire alarm control panel software is that the detector will maintain the programmed response/heat settings when power is removed from the detector. If the detector is powered down or inadvertently replaced in another location, the detector response/heat mode is not lost.

Another unique industry feature of the Advanced Intelligent Heat Detector, in conjunction with the Axis AX Series Intelligent Fire Alarm Control Panel, is its ability to sub-address detector base ancillary functions. Each Intelligent Heat Detector is capable of incorporating, based on optional intelligent base utilization, a remote LED and/or relay. When these options are utilized, the user is capable of subaddressing each of these options (remote LED and/or relay) to activate independently of the intelligent heat detector. This provides 100% free programmability of the detector base outputs to meet the demanding requirements of today's installations. (For further explanation, refer to Intelligent Detector Bases and Intelligent Isolator data sheets).



Features

- Patented XPerT Detector Base Addressing
- Built-in Dedicated Microprocessor
- Five Selectable Response/Heat Modes
- 135°F to 200°F Static/Rate of Rise
- Sub-Addressing of Ancillary Functions
- Dual-Alarm LEDs with 360° View
- Integral XPerT Card Address Labeling Tab
- Automatic Detector Testing w/Maintenance Alert
- Sub-Addressable Remote LED Output
- Optional Relay and Isolator Bases
- Superior Rejection of Transient Signals
- Detector to Base Locking Mechanism
- Plastic Dust Cover for Construction Protection
- 100% Digital Communication Protocol

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UQGSC.S24459

Table 1

Response Mode	Sensitivity Characteristics
1	Ordinary 135°F Static / Rate-of-Rise
2	Ordinary 150°F Static / Rate-of-Rise
3	Ordinary 150°F Static
4	Ordinary 200°F Static / Rate-of-Rise
5	Intermediate 200°F Static

Table 2

Warehouse Restaurant					Loading Bay Parking Garage					Kitchen; Laundry (enclosed & ventilated)					Boiler Rm				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
✓	✓				✓	✓						✓	✓	✓			✓		✓

1, 2, 3, 4, 5 = Response/Sensitivity Modes
✓ = Mode Suitable for Installation

Specification

Voltage	17-28 VDC
Modulation Voltage	5-9 VDC
Operating Current	
Quiescent	0.5 mA
Alarm	0.5 mA
W LED's	5.5 mA
Surge Current	1.0 mA
Sensitivity - Heat	135°F, 150°F, 200°F
Environment	Indoor, Dry
Ambient Temperature	32-15°F (0-65°C)
Humidity	10-93% (Non-Condensing)
Dimensions	4" x 1 7/8"
Weight	3.7 oz
Housing	Polycarbonate, 94 V0

Order Codes and Options

58000-450AFC	Intelligent Heat Detector
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* Refer to Intelligent Detector Bases and Intelligent Isolator data sheets for specific information

Intelligent I/O Relay Output & Switch Monitor

The Advanced Intelligent I/O Relay Output & Switch Monitor (55000-820AFC) is an application specific addressable module for use with the Axis AX Series Intelligent Fire Alarm Control Panels. Each module is SLC loop powered, eliminating the need for additional field wiring and external power supplies.

Designed for installation on Advanced Axis AX Series SLC (signaling line circuit), the 55000-820AFC provides a single initiating device circuit (IDC) input, an independently controlled Form-C relay contact output, and an unmonitored optically isolated voltage input. The 55000-820AFC utilizes the Advanced unique sub-addressing for both the independently controlled relay and the optically isolated voltage input. By subaddressing these I/O features, Axis AX Series system point capacities are expanded with installation, programming, and commissioning time minimized. The 55000-820AFC mounts to the front of a standard 4" square or 2-gang electrical outlet box.

The IDC input of the 55000-820AFC is capable of being wired Class A or B and can monitor a single contact device or a group of devices. Contacts can be normally open (N.O.) or normally closed (N.C.) ranging from heat detectors, linear heat detectors, 4-wire conventional smoke detectors, waterflow switches, tamper switches, manual pull stations, switch input points for control, or any other supervised input requirement. Though the IDC input can monitor any number of contact devices, it is recommended not to mix alarm, supervisory, or security contacts on the same IDC module circuit.

Compatible with the Axis AX Series Dynamix I/O relationship programming, the relay output of the 55000-820AFC can be individually assigned to any input or output relationship, output group, timing function, gated function, invert operation, etc. to perform project specific control operations. Ideally suitable for elevator control, HVAC shut down, door holder release, or similar ancillary functions, the 55000-820AFC relay is rated 24 VDC @ 1 Amp (resistive) or 30 VAC .5 Amp (resistive).

The optically isolated voltage input of the 55000-820ADV is utilized for special applications when unsupervised status monitoring of a voltage input is required (i.e. HVAC status, ancillary product status, manufacturing process equipment status, etc.).

Each 55000-820AFC incorporates an integral eight position programming DIP switch which allows for device addressing and wiring classification definition. The module contains a red status LED which illuminates steady during active condition of the IDC input.



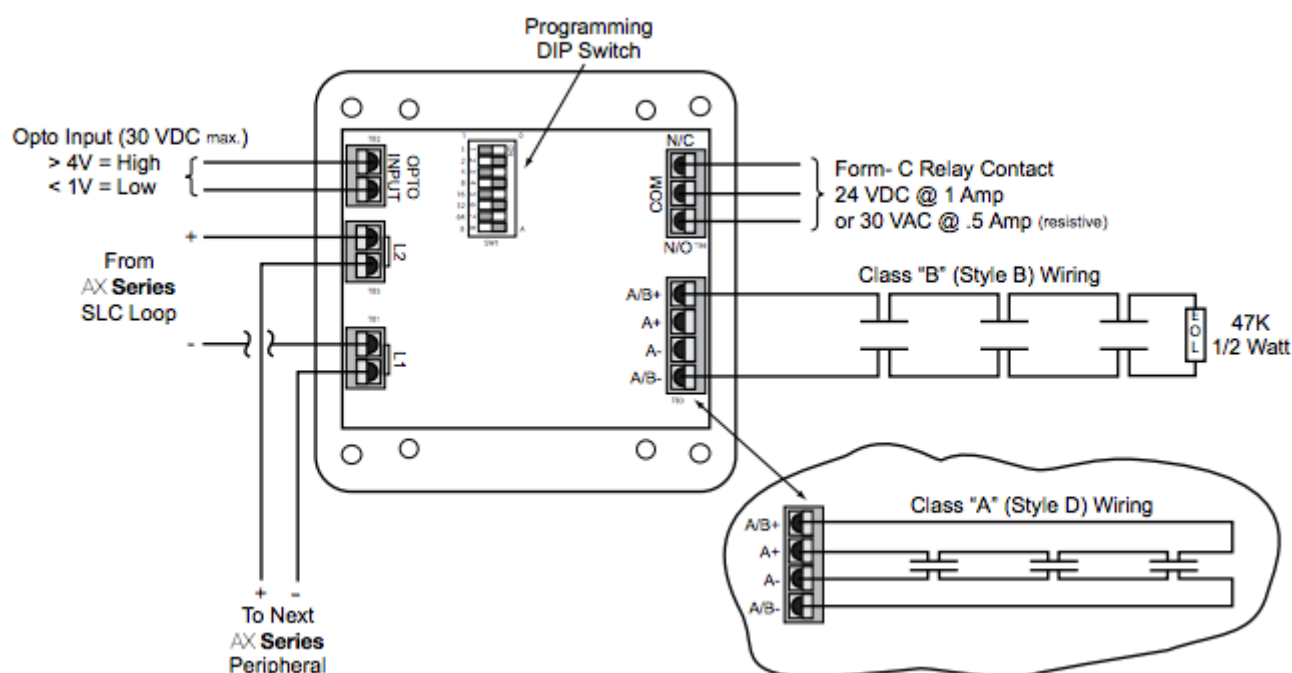
Features

- SLC Loop-Powered & Sub-Addressable
- 4" Square or 2-Gang Electrical Box Mounting
- Flexible Programming
- Durable Construction
- Cost-Effective & Trouble-Free Installation
- Optically Isolated Voltage Input
- Supervised Initiating Device Circuit (IDC)
- Class A or B Wiring
- Independently Controlled Form-C Relay Contact
- Axis AX Series Dynamix I/O Relationship Programming
- IDC Activation Status LED

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460

Wiring Diagram



Specification

Voltage	17-28 VDC, with Communication Pulses 5-9 VDC
Operating Current	
Quiescent	0.85 mA
Alarm	0.85 mA
With LED's	5.85 mA
Line Impedance	100Ω
Wiring Classification	Class A or Class B
End-of-Line Resistor	47 KΩ, 0.5 Watt (Class "B" Only)
Relay Output	Form-C
Rating	24 VDC @ 1 Amp or 30 VAC @ .5 Amp (Resistive)
Optically Isolated Input	Unsupervised
Voltage	35 VDC (Max.)
Input	Programmable Active High (Less than 4V) or Low (Less than 1V)
Mounting	4" Square or 2-Gang Electrical Outlet Box
Dimensions (Diameter & Height)	4 1/2"W x 4 1/2"H x 1"D
Weight	2.8 oz
Operating Temperature	32° -120°F (0° -49°C)
Humidity	10-93% (Non-Condensing)

Order Codes and Options

55000-820AFC	Intelligent I/O Relay Output & Switch Monitor
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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 Detector 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.

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



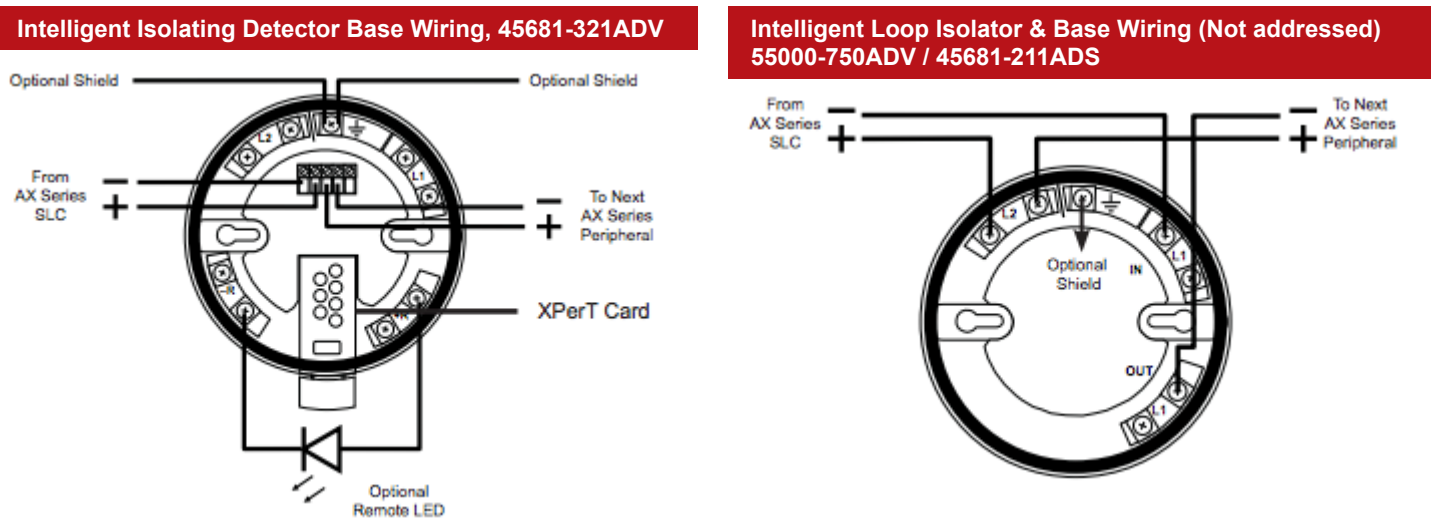
Features

- 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

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460
- ULC Listed: UROXC.S24459

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.



Specification	
Remote LED Output Current	5 mA (Maximum)
Voltage	17 - 28 VDC
Environment	Indoor, Dry
Operating Temperature	32°-120°F (0°-48°C)
Humidity	10-93% (Non-Condensing)
Dimensions	4"D x 15/16"H
Weight	3.5 oz
Housing	Polycarbonate, 94 V0

Ordering Codes and Options	
45681-321AFC	Isolating Detector Base (Fits 3" Octagonal Electrical Box)
55000-750AFC	Loop Isolator (Fits 3" Octagonal Electrical Box)
45681-211AFC	Isolator Base (use with 55000-750ADV)
Optional Adapter Kit:	
38531-830ADS	Mounting Bracket
38531-829ADS	Trim Ring
38531-771	Blank XPerT Card
45682-127	Pre-Addressed XPerT Cards (1-127)

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

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.

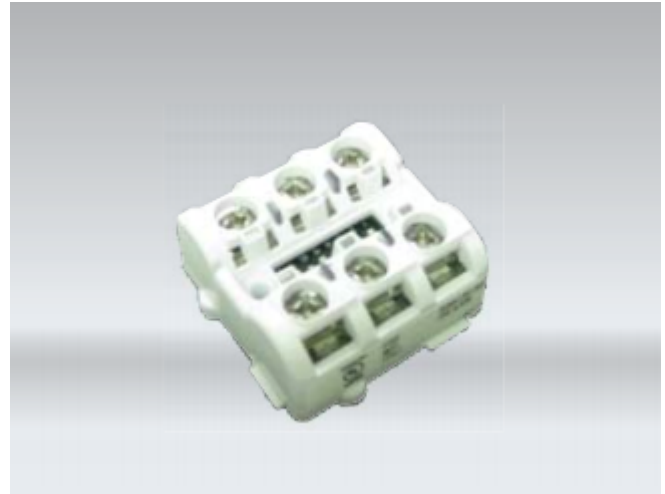
Each Intelligent Mini Switch Monitor Module provides an addressable interface for a single contact device or group of contact devices connected via an initiating device circuit (IDC). With the flexibility of the Advanced Axis AX Series Intelligent Fire Alarm Control Panel's contact devices can be normally open (N.O.) or normally closed (N.C.) dry contacts. Contact devices range from heat detectors, linear heat detectors, 4-wire conventional smoke detectors, waterflow 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.

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



Features

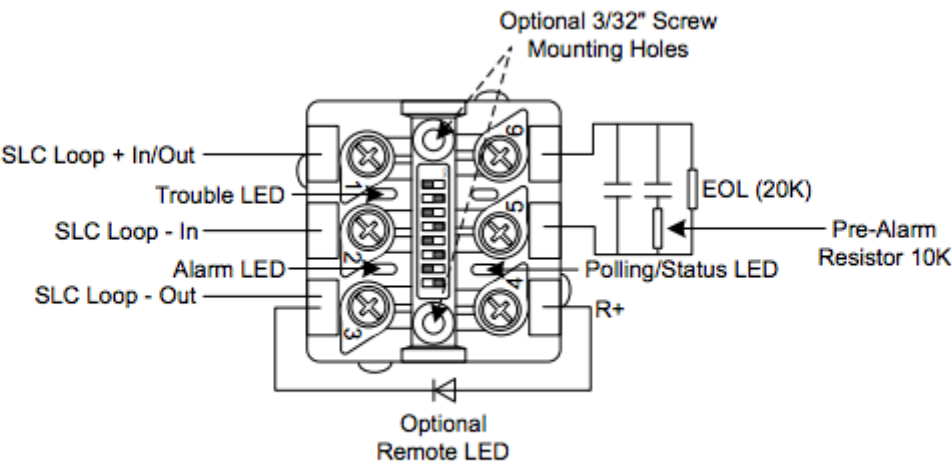
- Miniature Device Interface
- Class B Wiring
- PC-NeT Flexible Device Type Programming
- Programmable Priority Interrupt
- Optional Remote LED Output
- Durable Construction
- Adaptable for Pre-Alarm Signaling
- Integral Status LEDs
 - Green Flashes during Device Polling
 - Yellow Flashes during Trouble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

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460

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	0.2 mA
Alarm	3.6 mA
With Remote LED	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	32°-120°F (0°-49°C)
Humidity	10-93% (Non-Condensing)

Order Codes and Options

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

Intelligent Multi Sensor Detector

The low-profile Advanced Intelligent Multi Sensor Detector, utilizes a combination of photoelectric and thermal sensing technologies to monitor two types of fire signatures (smoke and heat), offering increased immunity to potential false alarms. The signals from the photoelectric sensing element and the temperature sensor are completely independent, and represent the smoke level and the air temperature respectively in the vicinity of the detector. The built-in dedicated microprocessor processes the two signals according to the response/sensitivity mode selection of the device. In addition, to provide the best protection possible, when utilized in the multi sensor mode of operation, the saturation of any one element (extreme heat or heavy smoke concentration) will result in device operation.

Distinguished by clear dual-alarm LEDs which illuminate red during alarm, the detector provides a complete 360° view of device status. The detector's dual-alarm LEDs can also be programmed for flashing during quiescent mode.

The Intelligent Multi Sensor Detector incorporates a unique industry method of addressing the detector. Each detector is individually addressed through its associated base by 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. Once the address is set on the XPerT card, it can be slid into place and locked into the detector base. By addressing the intelligent detector at the base rather than internally to the detector, the all-too-common errors associated with detector removal and maintenance are eliminated.

The response characteristics of the Intelligent Multi Sensor has been carefully set to comply with the stringent requirements of UL and NFPA 72. Each multi sensor is continuously monitored and tested for proper sensitivity and thermistor operation. If a problem is detected with the device's sensitivity or thermistor monitoring capability, a trouble or maintenance signal is reported back to the fire alarm control panel. In addition to the monitoring of the detectors operation, the multi sensor photoelectric chamber will compensate for any sensitivity drift of the initial programmed response/sensitivity value due to environmental contamination and/or dust buildup. Initial device sensitivity settings will be maintained at a constant level even when the chamber is severely contaminated. When compensation levels exceed normal values, a maintenance signal will be generated.



Features

- Patented XPerT Detector Base Addressing
- Built-in Dedicated Microprocessor
- Combination Photoelectric and Thermal Technology
- Five Selectable Response/Sensitivity Modes
- Ten 7-Day Response/Sensitivity Mode Timers
- Dual-Alarm LEDs with 360° View
- 100% Digital Communication Protocol
- Integral XPerT Card Address Labeling Tab
- Automatic Drift Compensation
- Automatic Detector Testing w/Maintenance Alert
- Field Programmable Alarm Verification
- Sub-Addressable Thermal Sensor and Remote LED Output
- Optional Relay and Isolator Bases
- Superior Rejection of Transient Signals
- Detector to Base Locking Mechanism
- Plastic Dust Cover for Construction Protection

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UROXC.S24459
- ULC Listed: UQGSC.S24459

The Intelligent Multi Sensor Detector response/sensitivity modes (see Table 2) relate to different combinations of smoke sensitivity characteristics with or without thermal sensing and transient rejection/stabilization times. When operating in mode settings 1, 3 or 4 the temperature signal processing extracts rate-of-rise information and combines it with the photoelectric signal to evaluate for potential fire signatures. In this configuration the detector responds to the smoke characteristics and to a large sudden change in temperature indicative of a flaming fire. The response/sensitivity modes correspond to unique response behaviors of the detector and the type of environment it is protecting, which can be broadly related to the characteristics of a fire (see Table 1). Response mode 1 is more sensitive than response mode 4. Detectors set to response mode 1 would be more suitable for environments in which sources of unwanted alarms are rare (i.e.: clean rooms and computer rooms). Response mode 4 set detectors would be suitable for more dusty or smoky environments (i.e.: laundry rooms, loading dock areas). Response mode 3 (default programmed) would be the mid-sensitivity level used for most normal applications. Response mode setting and hysteresis of the individual detectors are stored within the detector's memory. The advantage of storing this critical information in the detector rather in the fire alarm control panel software is that the detector will maintain the programmed response settings and compensated values even when power is removed from the detector. If the detector is powered down or inadvertently replaced in another location, the detector response mode and clean values are not lost, thereby minimizing the errors associated with inferior products; false alarms due to a dirty detector and non-calibrated response/sensitivity mode parameters.

Equally beneficial as the response mode settings, the detectors are each capable of being programmed for different response/sensitivity mode settings based on the time of day and day of week. Detectors can be set to one of ten 7-day response mode/sensitivity timers, allowing the detector to be more or less sensitive due to installation changing environments based on time of day and day of week. The detector can also be programmed to have thermal only or smoke only operation during specific times. Such changing environments can be industrial, manufacturing, or assembly processes that produce smoke, fumes, or excessive dust during normal working hours.

Another unique industry feature of Intelligent Multi Sensor Detector, in conjunction with the Axis AX Series Intelligent Fire Alarm Control Panel, is its ability to sub-address the detector thermal sensing element and detector base ancillary functions. Each detector is capable of being programmed as a single addressable input point (photo detector, heat detector or combo photo/heat detector) or as a dual addressable input point (photo detector, heat detector or combo photo/heat detector and a heat detector), this feature allows for unique apartment/dormitory monitoring of Intelligent Multi Sensor Detectors.

In addition, each detector is capable of incorporating, based on optional detector base utilization, a standard remote LED or a subaddressable remote LED and/or relay. When these options are utilized, the user is capable of programming these options (remote LED and/or relay) to activate independently of the detector. This provides 100% free programmability of the detector base outputs to meet the demanding flexibility requirements of today's installations. (For further explanation, refer to Intelligent Detector Bases and Intelligent Isolator data sheets).

Table 1

Clean Rm Computer Rm					Hotel Rm Apartment					Office Hospital Ward Factory Light Industry					Warehouse Restaurant					Loading Dock Parking Garage					Kitchen Laundry (enclosed & ventilated)					Boiler Rm				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
✓							✓	✓				✓	✓			✓	✓	✓	✓		✓	✓	✓	✓			✓	✓			✓			
1, 2, 3, 4, 5 = Response/Sensitivity Modes ✓ = Mode Suitable for Installation																																		

Table 2

Response Mode	Sensitivity Characteristics	Programmable Assessment Time
1	1.7 %/ft w/Thermal	20 sec
2	2.3 %/ft Smoke Only	30 sec
3	2.7 %/ft w/Thermal	20 sec
4	3.3 %/ft w/Thermal	20 sec
5	135°F Static Only	30 sec

Specification

Voltage	17-28 VDC
Modulation Voltage	5-9 VDC
Operating Current	
Quiescent	0.4 mA
Alarm	0.4 mA
With LED's	5.4 mA
Surge Current	1.0 mA
Air Flow	0-300 ft/min
Sensitivity - Smoke & Heat	1.7 - 3.3 %/ft & Rate-of-Rise /Fixed Temp. 135° F

Environment	Indoor, Dry
Ambient Temperature	32-135°F (0-57°C)
Humidity	10-93% (Non-Condensing)
Dimensions	4" x 17/8"
Weight	3.7 oz
Housing	Polycarbonate, 94 V0

Order Codes and Options

58000-750AFC	Intelligent Multi Sensor Detector
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* Refer to Intelligent Detector Bases and Intelligent Isolator data sheets for specific information

Intelligent Multi-Flex Sounder Base

The Intelligent Multi-Flex Sounder Base, with or without optional synchronization modules, provides advanced functionality and performance, delivering flexible notification capabilities for any installation. The sounder base offers selectable steady or temporal (NFPA 72 three-pulse) signal pattern output with a high or low volume level.

With Advanced built-in sub-addressing, each sounder base can be independently controlled by the Axis AX Series Intelligent Fire Alarm Control Panel's SLC loop. Intelligent Multi-Flex Sounder Bases can be programmed to activate from associated intelligent detectors or from any other system criteria, such as general alarm. Sub-addressing makes installation applications, programming, and commissioning of the most complex projects extremely flexible and simplistic.

The Intelligent Multi-Flex Sounder Base can accommodate any Axis AX Series intelligent detector, providing the ultimate in smoke detection and alarm signaling.

Intelligent Multi-Flex Sounder Bases require an external 24VDC power input. The 24VDC may be obtained from the power outputs of the Axis AX Series Intelligent Fire Alarm Control Panel or from any external power supply, Listed for Fire Protective Signaling. In addition to the sub-addressing control features of the sounder bases, reversing the polarity of the 24VDC supply voltage will put all connected sounder bases into a general alarm mode.

Optional synchronization modules are available to allow temporal pattern signaling to be completely synchronized throughout the installation. When utilizing the optional synchronization module general alarm signaling of all sounder bases is accomplished by reversing the polarity of the 24VDC power input. This eliminates the merging of tones from multiple sounder bases programmed for temporal pattern signaling.

The Intelligent Multi-Flex Sounder Base mounts to a 4-inch octagonal or 4-inch square electrical box. The sounder base has in-out terminals for Axis AX Series SLC loop wiring. Though not required for proper operation, each sounder base has dedicated earth connection terminals for clean, isolated, and continuity maintenance of earth ground connection of wire shield when shielded cable is utilized. Each Intelligent MultiFlex Sounder Base's are designed to enable "one-way-only" intelligent detector insertion without any 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 its associated detector by a mini-hexagonal screw.



Features

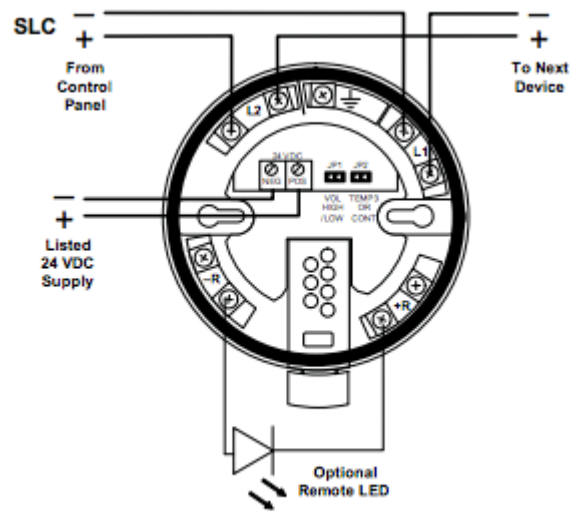
- Sub-Addressable
- DynamiX I/O Relationship Programming
- Patented XPerT Card Addressing
- Optional Synchronization of Temporal Pattern
- In-Out Terminals for Ease of Wiring
- Dedicated Terminal for Shielded Cable
- Integral XPerT Card Address Labeling Tab
- Single Station / Multi-Station Programming
- Compatible with all AxisAX Series Intelligent Detectors
- Selectable Temporal or Steady Tone
- Selectable High or Low Volume
- 4" Square Electrical Box Mounting
- Base to Detector Locking Mechanism
- "One-Way-Only" Detector Insertion

Listings and Approvals

- ETL ANSI/UL 864 Listed: 101564744NYM-001
- UL File: UROX.S2829
- ULC File: UROXC.S2829
- CSFM Approved: 7300-1004:0117
- NYCFCF MEA 73-92-E

Similar to all other Axis AX Series intelligent bases, the sounder bases incorporate a fire alarm industry unique method of addressing plugged in intelligent detectors. The Intelligent Multi-Flex Sounder Base is addressed by 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. Once the address is set on the XPerT card, it is slid into the base and locked in place. By addressing the Axis AX Series intelligent detector at the base rather than internally to the detector, the all-too-common errors associated with detector removal and maintenance are eliminated.

Wiring Diagram



Specification

Operating Voltage	17 - 28 VDC
Sounder Output Level (Jumper Selectable)	75 or 85 dB
Sounder Alarm Current	29 mA
Environment	Indoor, Dry
Operating Temperature	32-120°F (0-48°C)
Humidity	95% (Non-Condensing)
Dimensions	6"L x 6"W x 1.6"D
Weight	4 oz
Terminals	Nickel-Plated Steel
Housing	Polycarbonate, 94 V0

Order Codes and Options

MB-SDRT-AA	Intelligent Multi-Flex Sounder Base
MB-SDRT-SM	Multi-Flex Synchronization Module

Intelligent NAC Module

Advanced Intelligent NAC Module is an addressable module for use with the Axis AX Series Intelligent Fire Alarm Control Panel's SLC Loops. Each module incorporates an independent, individually programmable, notification appliance circuit (NAC), providing cost-effective solutions in areas requiring multiple notification appliance circuits. Each NAC module allows switching of an external power supply, such as a 24 VDC regulated power source or audio amplifier to a group of notification appliances.

The notification appliance circuit can be wired either Class A or B. Each module also supervises the wiring for opens, shorts and grounds and reports this status back to the intelligent fire alarm control panel. Typical input power to the NAC module would be from the main FACP, a power supply booster or an amplifier.

To increase the already rapid response activation, each module can be set to a group address, allowing all NAC modules assigned to a common group address to be activate from a single command poll from the intelligent fire alarm control panel.

An eight position programming DIP switch is provided on each NAC module for NAC circuit addressing and wiring classification definition. An additional four position programming DIP switch is provided for group addressing. The NAC module mounts to the front of a standard 4" square or 2-gang electrical outlet box. Displayed on the front of each module is a single red status LED that flashes when the module is polled.

Compatible with the Axis AX Series Dynamix I/O relationship programming, the NAC module can be individually assigned to activate from any input zone or address. In addition, the NAC module can be programmed with various output relationships, timing functions, gated functions, etc. to perform project specific control operations.



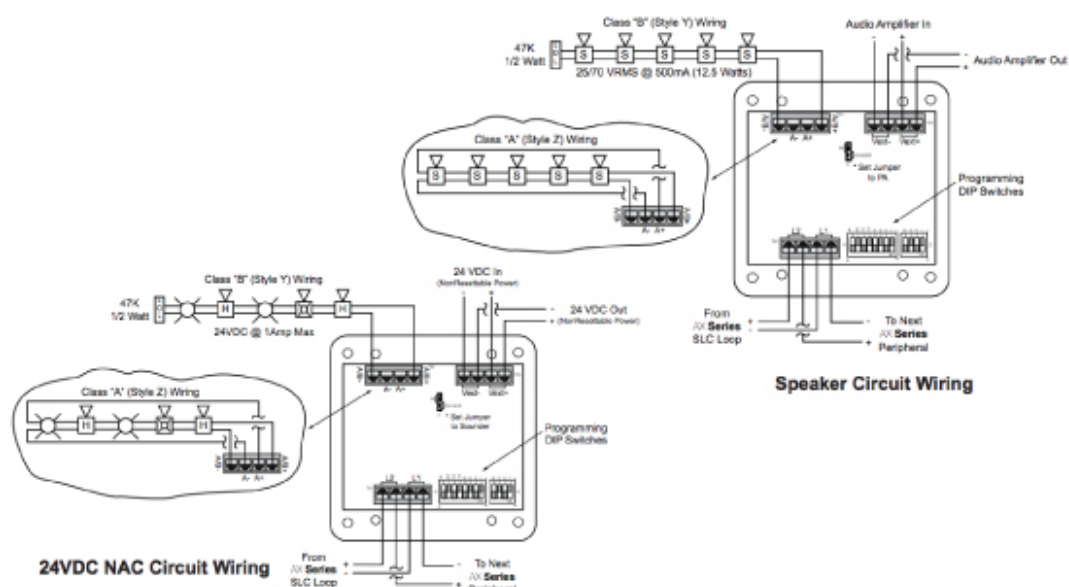
Features

- Class A or B Wiring
- Horn/Strobe or Speaker Control
- Flexible Programmability
- Durable Construction
- Cost-Effective & Trouble-Free Installation
- 25/70 VRMS Speaker Capability
- 4" Square or 2-Gang Electrical Outlet Box Mounting
- Power Limited

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460

Wiring Diagram



Specification

Voltage	17-28 VDC, with Communication Pulses 5-9 VDC
Operating Current	1 mA (Quiescent) 1 mA (Alarm) 6 mA (With LED's)
Line Impedance	50 Ω
Wiring Classification	Class A or B
End-of-Line Resistor	47 K Ω , 0.5 Watt (Class "B" Only)
Circuit Voltage Input	24 VDC or 25/70 VRMS
Max NAC Circuit Line Loss	24VDC @ 1 Amp (Use Regulated DC Listed Supply)
Max Speaker Circuit Output	24VDC, 25 /70.7VRMS @ 500mA
Wiring Terminals	Screw In-Out Terminals
Mounting	4" Square or 2-Gang Electrical Outlet Box
Dimensions (Diameter & Height)	4 1/2"W x 4 1/2"H x 1"D
Weight	2.8 oz
Operating Temperature	32° -120° F (0o -49° C)
Humidity	10 - 93% (Non-Condensing)

Order Codes and Options

55000-825AFC	Notification Appliance Circuit Module
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Intelligent Photoelectric Detector

The low-profile Intelligent Photoelectric Detector, with built-in dedicated microprocessor, offers a wide range of capabilities to suit any commercial, industrial, or institutional application. Distinguished by its clear dual-alarm LEDs which illuminate red during alarm, the detector provides a complete 360° view of device status. The detector's dual-alarm LEDs can also be programmed for flashing during quiescent mode.

The Intelligent Photoelectric Detector incorporates a unique industry method of addressing the detector. Each detector is individually addressed through its associated base by 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. Once the address is set on the XPerT card, it can be slid into place and locked into the detector base. By addressing the detector at the base rather than internally to the detector, the all-too-common errors associated with detector removal and maintenance are eliminated.

Designed to adapt to changing environments and protect against unwanted false alarms, the response characteristics of the detectors have been carefully set to comply with the stringent requirements of UL 268 and NFPA 72. Each detector is continuously monitored and tested for proper sensitivity and operation. If a problem is detected with either the device's sensitivity or proper operation, a trouble or maintenance signal is reported back to the fire alarm control panel. In addition, the detector will compensate for any sensitivity drift of the initial programmed response/sensitivity value due to environmental contamination and/or dust build-up. Each detector will maintain the initially set sensitivity at a constant level even when the chamber is severely contaminated. When compensation levels exceed normal values, a maintenance signal will be generated.

In addition to the detector's superior false alarm reduction features, each detector is capable of being field programmed for one of five response/sensitivity modes (see Table 1).

Response modes correspond to unique response behaviors of a detector and the type of environment it is protecting, which can be broadly related to the characteristics of a fire. The detector response modes relate to different combinations of smoke sensitivity characteristics and transient rejection/stabilization times (see Table 2). Response mode 1 is more sensitive than response mode 5. Detectors set to response mode 1 would be for environments in which sources of unwanted alarms are rare. Response mode 5 set detectors would be suitable for more dusty or smoky environments (i.e.: factory, light industry areas). Response mode 3 (default programmed) would be the mid-sensitivity level used for most normal ionization detector applications.

Response mode setting and hysteresis of the individual detectors are stored within the detector's memory. The advantage of storing this critical information in the detector rather than in the fire alarm control panel software is that the detector will maintain the programmed response settings and compensated values even when power is removed from the detector. If the detector is powered down or inadvertently replaced in another location, the detector response mode and clean values are not lost, thereby minimizing the errors associated with inferior products; false alarms due to a dirty detector and non-calibrated response/sensitivity mode parameters.



Features

- Patented XPerT Detector Base Addressing
- Built-in Dedicated Microprocessor
- Five Selectable Response/Sensitivity Modes
- Ten 7-Day Response/Sensitivity Mode Timers
- Sub-Addressing of Ancillary Functions
- Dual-Alarm LEDs with 360° View
- 100% Digital Communication Protocol
- Integral XPerT Card Address Labeling Tab
- Automatic Drift Compensation
- Automatic Detector Testing w/Maintenance Alert
- Field Programmable Alarm Verification
- Sub-Addressable Remote LED Output
- Optional Relay and Isolator Bases
- Superior Rejection of Transient Signals
- Detector to Base Locking Mechanism
- Plastic Dust Cover for Construction Protection

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UROXC.S24459

Equally beneficial as the response mode settings, the detectors are each capable of being programmed for different response/sensitivity mode settings based on the time of day and day of week. Detectors can be set to one of ten 7-day response mode/sensitivity timers, allowing the detector to be more or less sensitive due to installation changing environments based on time of day and day of week. Such changing environments can be industrial, restaurant, or factory processes that produce smoke, fumes, or excessive dust during normal working hours.

Another unique industry feature of the Intelligent Photoelectric Detector, in conjunction with the Axis AX Series Intelligent Fire Alarm Control Panel, is its ability to sub-address detector base ancillary functions. Each detector is capable of incorporating, based on optional intelligent base utilization, a remote LED and/or relay. When these options are utilized, the user is capable of sub-addressing each of these options (remote LED and/or relay) to activate independently of the detector. This provides 100% free programmability of the detector base outputs to meet the demanding requirements of today's installations. (For further explanation, refer to Intelligent Detector Bases and Intelligent Isolator data sheets).

Table 1

Clean Rm Computer Rm					Hotel Rm Apartment					Office Hospital Ward Factory Light Industry					Warehouse Restaurant					Loading Bay Parking Garage					Boiler Rm				
1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
✓							✓	✓	✓			✓	✓	✓				✓					✓					✓	✓
1, 2, 3, 4, 5 = Response/Sensitivity Modes ✓ = Mode Suitable for Installation																													

Table 2

Response Mode	Sensitivity Characteristics	Programmable Assessment Time
1	1.7 %/ft	5 sec
2	1.7 %/ft	30 sec
3	2.3 %/ft	5 sec
4	2.3 %/ft	30 sec
5	2.9 %/ft	5 sec

Specification

Voltage	17-28 VDC
Modulation Voltage	5-9 VDC
Operating Current	
Quiescent	0.4 mA
Alarm	0.4 mA
With LED's	5.4 mA
Surge Current	1.0 mA
Air Flow	0-300 ft/min
Sensitivity - Smoke	1.16 - 4 %/ft
Environment	Indoor, Dry
Operating Temperature	32°-120°F (0°-48°C)
Humidity	10-93% (Non-Condensing)
Dimensions	4" x 1 7/8"
Weight	3.7 oz
Housing	Polycarbonate, 94 V0

Order Codes and Options

58000-650AFC	Intelligent Photoelectric Detector
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* Refer to Intelligent Detector Bases and Intelligent Isolator data sheets for specific information.

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W: www.advancedco.com

As our policy is one of constant product improvement the right is therefore reserved to modify product specifications without prior notice.

Intelligent Relay Module

Advanced Intelligent Relay Module is an application specific addressable module for use with the Axis AX Series Intelligent Fire Alarm Control Panels. Each module is SLC loop powered, eliminating the need for additional field wiring and external power supplies.

Designed for installation on Advanced Axis AX Series SLC (signaling line circuit) loop the Intelligent Relay Module provides two isolated Form "C" relay contacts for controlling a variety of auxiliary control functions, such as elevators, HVAC, door holders, dampers, control equipment, etc.

Compatible with the Axis AX Series Dynamix I/O relationship programming, the Intelligent Relay Module's Form "C" outputs can be assigned to any input or output relationship, output group, timing function, gated function, etc. enhancing project specific control operations.

Relay ratings of each Form "C" contact is 24 VDC @ 2 Amp (resistive) or 30 VAC @ .5 Amp (resistive).



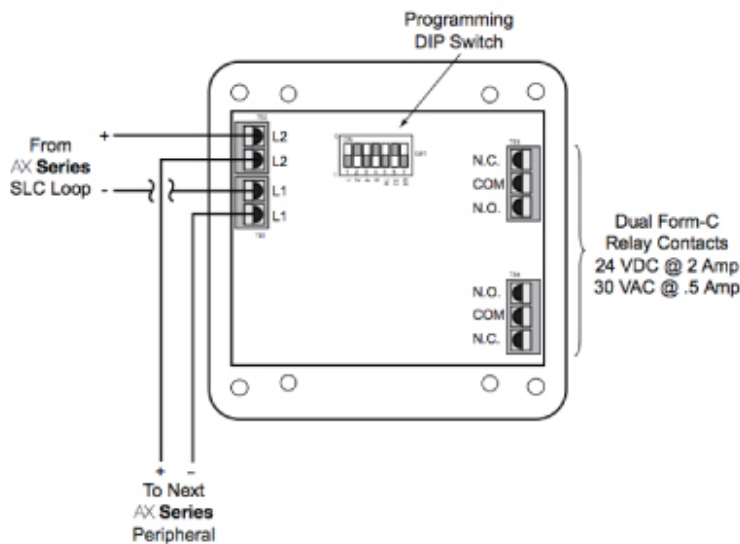
Features

- Compact Size
- Two Isolated Form "C" Relay Contacts
- Flexible Device Type Programming
- Loop Powered Directly from SLC Loop
- Cost-Effective & Trouble-Free Installation
- 7 - Position Addressable DIP Switch
- Integral Polling Status LED
- 4" or 2-Gang Electrical Box Mounting
- Durable Construction

Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460

Wiring Diagram



Specification

AX Series SLC Loop

Voltage	17-28 VDC
Modulation Voltage	5-9 VDC (Peek to Peek)
Supervisory Current	0.85 mA
Surge Current	2.5 mA
Alarm Current	3.5 mA (LED On) (Max.)
Line Impedance	50 Ω (Max.)
Relay Output Rating	
DC Voltage	24 VDC @ 2 Amp (Resistive)
AC Voltage	30 VAC @ .5 Amp (Resistive)
Wiring	Screw In-Out Terminals
Mounting	4" Square or 2-Gang Electrical Box
Dimensions (Diameter & Height)	4 1/2"W x 4 1/2"H x 1"D
Weight	2.8 oz
Operating Temperature	32°-120°F (0°-49°C)
Humidity	10-93% (Non-Condensing)

Order Codes and Options

55000-863AFC	Intelligent Relay Module
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Intelligent Switch Monitors

Available in various configurations, compact package (mini), 4" electrical box mount and with or without priority interrupt, the Intelligent Monitor Modules from Advanced offer unique fire alarm industry features that simplify installations and provide superior flexibility.

Designed for installation on Advanced Axis AX Series SLC (signaling line circuit), each Intelligent 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 Panels, 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, waterflow switches, tamper switches, manual pull stations, switch input points for control, etc.

Mini Switch Monitor (55000-831AFC) Designed with flying leads for field wiring, the Mini Switch Monitor can either fit inside the device being monitored, or can be placed in an electrical box in the vicinity of the device being monitored. Based on installation requirements, the Mini Switch Monitor's initiating device circuit (IDC) is capable of being wired Class A or B to the monitored contact device(s). An integral eight position programming DIP switch must be set for device addressing and wiring classification definition. Each Mini Switch Monitor incorporates a red status LED which illuminates steady during active condition. Mini Switch Monitor's 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.

Mini Priority Switch Monitor (55000-830AFC) The Mini Priority Switch Monitor is identical to the Mini Switch Monitor with the exception of a priority interrupt feature. The priority interrupt provides the fastest response possible 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 Mini Priority Switch Monitor is utilized to monitor highly critical contact devices such as manual pull stations.



Features

- Compact Size
- Class A or B Wiring
- Flexible Device Type Programming
- Optional Priority Interrupt
- Cost-Effective & Trouble-Free Installation
- 8 Position DIP Switch Addressing
- Integral Status LED
- 4" or 2 Gang Electrical Box Mounting
- Durable Construction

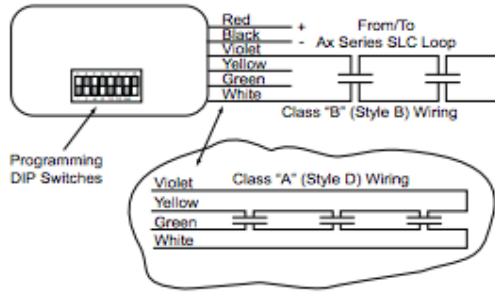
Listings and Approvals

- CAN/ULC-S527-11 & CAN/ULC-S559-04 Listed: 100780709NYM-001
- ULC Listed: UOXXC.S24460

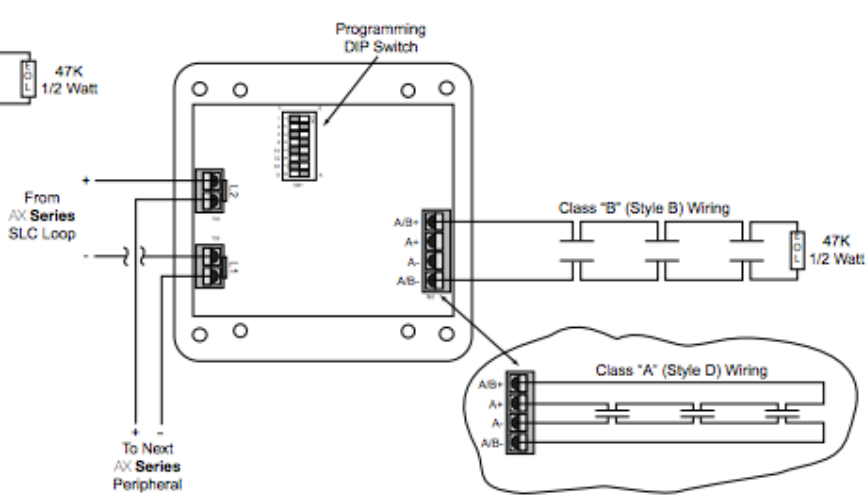
Switch Monitor (55000-805AFC) The Switch Monitor is designed to mount to the front of a 4" square or 2-gang electrical box. Based on installation requirements, the Switch Monitor's initiating device circuit (IDC) is capable of being wired Class A or Class B to the monitored contact device(s). An integral eight position programming DIP switch provides programming of device address and wiring classification definition. Each Switch Monitor incorporates a red status LED which illuminates steady during active condition. Switch Monitor's 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.

Priority Switch Monitor (55000-806AFC) The Priority Monitor is identical to the Switch Monitor with the exception of a priority interrupt feature. The priority interrupt provides the fastest response possible 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 Switch Monitor is utilized to monitor highly critical contact devices such as manual pull stations.

Mini Switch Monitor (55000-831ADV, -830ADV)



Switch Monitor (55000-805ADV, -806ADV)



Specification

Voltage	17-28 VDC, with Communication Pulses 5-9 VDC
Operating Current	(55000-805ADV, -806ADV, -831ADV, -830ADV)
Quiescent	0.6 mA
Alarm	0.6 mA
W/LED	5.6 mA
Line Impedance	100 Ω
End-of-Line Resistor	47 KΩ, 0.5 Watt (Class "B" Only)
Wiring	
Mini Switch Monitor(55000-831AFC, -830AFC)	Wire Leads (18 AWG, 6" Long)
Switch Monitor (55000-805AFC, -806AFC)	Screw In-Out Terminals
Mounting	
Mini Switch Monitor (55000-831ADV, -830AFC)	Inside Electrical Box Mount
Switch Monitor (55000-805AFC, -806AFC)	4" Square or 2-Gang Electrical Box
Dimensions (Diameter & Height)	
Mini Switch Monitor(55000-831AFC, -830AFC)	3"W x 2"H x 3/4"D
Switch Monitor (55000-805AFC, -806AFC)	4 1/2"W x 4 1/2"H x 1"D
Weight	
Mini Switch Monitor (55000-831AFC, -830AFC)	1.5 oz
Switch Monitor (55000-805AFC, -806AFC)	3 oz
Operating Temperature	32°-120° F (0°-49° C)
Humidity	10-93% (Non-Condensing)

Order Codes and Options

55000-831AFC	Mini Switch Monitor
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55000-830AFC	Mini Priority Switch Monitor
55000-805AFC	Switch Monitor
55000-806AFC	Priority Switch Monitor

The VESDA VLC-400 is a derivative of the standard VESDA VLC product family specifically designed to support Apollo communication protocol. It operates as a smoke sensor on the Axis AX Series SLC loop and reports directly to the Axis AX Series Intelligent Fire Alarm Control Panel. Up to 126 VLC-400 detectors may be connected directly to an Axis AX Series Intelligent Fire Alarm Control Panel SLC loop eliminating the need for a separate loop interface thereby providing simpler installation and lower costs.

The VLC-400 provides very early smoke detection for small to medium areas within a single environment and incorporates:

A purpose built aspirator design	Clean air barrier optics protection
A simplified display	Onboard relay and remote LED output
An onboard isolator supporting NFPA 72 Style 7 SLC wiring	Supervised PSU monitor input (47K EOL)

VLC detectors provide Very Early Warning of potential fire conditions by drawing air samples through a single pipe up to 260 ft long, or through two pipes of up to 98ft when branched within 16ft of the detector. Smoke is sampled through holes in the pipe and transported to the detector by an integrated aspirator. Holes are positioned according to the application and often follow the spacing of standard conventional point detectors. Where necessary sampling points can be constructed using capillary tubes and sample point devices.

As an Advanced Axis AX Series SLC detector, the VLC-400 operates in one of 5 sensitivity modes (see specifications section). The threshold associated with each mode is independently configurable using a PC running Xtralis VSC with the default settings.

The detector continuously passes air samples from the protected area through to the Laser Detection Chamber. Ultra-fine air filtration provides very clean air to protect the optical surfaces inside the detector from contamination. If any smoke is detected in the chamber, its concentration is signaled to the Main Processor Card. When the concentration of smoke is higher than the set alarm thresholds, then it is reported either as a Pre-Alarm or an Alarm depending upon the set alarm thresholds.



Features

- Compatible with Advanced Axis AX Series SLC Loops
- Protects Areas up to 8000 sq. ft.
- Absolute Smoke Detection
- Wide Sensitivity Range
- AutoLearn Smoke
- Single Pipe Inlet
- VESDALink Communications
- Clean Air Barrier Optics Protection
- Airflow Monitoring
- Simple Mounting Design

Listings and Approvals

- ETL ANSI/UL 864 Listed: 101564744NYM-001
- UL
- LPCB
- CE - EMC and CPD
- EN 54-20
- ULC Listing Pending

*Regional approvals listings and regulatory compliance vary between VESDA product models. Refer to www.xtralis.com for the latest product approvals matrix.

Specification

Supply Voltage	18 to 30 VDC (Nominal 24 VDC)
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Power Consumption	Maximum 5.4 watts (Including Alarm)
Maximum No. of Detectors per SLC Loop:	126 (Addresses 1-126)
Configurable Onboard Relay	Follows Fire LED [or Control by FACP] (NO or NC, 2A @ 30 VDC)
Isolation	Fuse rating: 1.6A, Integrated Apollo Loop Isolation Meeting NFPA Style 7
Enclosure Dimensions (WHD):	4.2 lbs (1.9 kg)
Operating Temperature	32°F to 103°F (0°C to 39°C) *Tested: 14°F to 131°F (-10°C to 55°C) *Sample Air: -4°F to 140°F (-20°C to 60°C) *Humidity 10% to 95% RH, Non-Condensing
Sampling Network	Maximum Single Pipe Length: 260 ft (80 m Approx.), Maximum Two Pipe Lengths: 164 ft (50 m Approx.) Each, Maximum Area of Coverage: 8000 sq. ft (800 m2 Approx.)
Pipe ID	Internal Diameter: 9/16" - 7/8" (15-21mm) External Diameter: 1.05" (25mm)
IP Rating	IP30
Cable Termination	Screw Terminal Blocks 30-12 AWG (0.2 - 2.5 mm2)
Sensitivity Range	0.0015 to 6% Obs/ft (0.005 to 20% Obs/m)
Default Settings for Sensitivity Modes	Mode 1 - 0.015% Obs/ft - 15 Sec Delay Mode 2 - 0.03% Obs/ft - 10 Sec Delay Mode 3 - 0.06% Obs/ft - 10 Sec Delay Mode 4 - 0.15% Obs/ft - 10 Sec Delay Mode 5 - 0.31% Obs/ft - 15 Sec Delay
Software Features	Event Log: Capacity 10,240 Events Reporting Smoke Level, Alarms, Faults with Time and Date Stamp AutoLearn Function which Adapts the Detector to the Surrounding Environment (Minimum 15 Minutes, Maximum 15 days)

Order Codes and Options

VLC-400	VESDA VLC 400
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Xtralis XAS Smoke Detector

The Xtralis XAS Air-sampling Smoke Detection system provides a flexible detection solution to meet unique needs of challenging applications found in typical commercial and industrial sites. The XAS solution is well suited to installations where access to the monitored areas is restricted and provides tamper-proof and unobtrusive detection. The ability to mount the device outside the protected area makes it ideal for use in applications such as correctional facilities, transformer vaults, cable tunnels, elevator machine rooms and HVAC ducts.

The XAS systems actively draw air from the protected area through sampling holes in a pipe network. Sampled air is then filtered before being analyzed by a compatible Advanced Axis AX Series Intelligent Fire Alarm Control Panel SLC smoke detector. The XAS system is available with one inlet pipe (XAS-1) or two inlet pipes (XAS-2), and can be used with one or two analog detectors.



Features

- Compatible with Advanced Axis AX Series SLC Loops
- Single or Dual Inlet Detection
- High Performance Aspirator
- Multiple Programmable Detection Strategies
- Multiple Piping Options
- 164 ft (50 m) Maximum per Unit
- 50 ft (15 m) Maximum per Flexible Tube
- Microprocessor Controlled
- Integral Display and Programmer
- Field Serviceable Air Filter
- Adjustable Aspirator Speed with Airflow Monitoring

Listings and Approvals

- ETL ANSI/UL 864 Listed: 101564744NYM-001
- UL-268
- UL-268A
- ULC-529

		XAS-1	XAS-2
Two Detector Strategy	Dual Addressable areas		✓
	Redundancy	✓ (OR)	✓ (OR)
	Coincident / Double Knock *	✓ (AND)	✓ (AND)

* Subject to local codes and standards

Note: (OR / AND) represents the suggested programming logic for combining two analog detectors to achieve detection strategy.

The systems may be configured for a number of detection strategies including:

- Single or dual analog addressable area detection
- Redundant analog detection
- Coincident or double-knock detection

Detector Configuration Options:

Several configuration options are available for the XAS-1 and XAS-2 systems:

- XAS-1 system – one or two analog detectors (shared inlet)
- XAS-2 system – two analog detectors (dual inlet)

XAS-1 systems with one analog detector are capable of providing single area detection, but XAS-1 and XAS-2 systems with two analog detectors are able to provide a number of detection strategies. The table below describes the recommended configuration options to fit the selected detection strategy when two analog detectors are installed into an XAS system.

Specification	
Supported Detectors	1 or 2 - analog photoelectric smoke detectors Sensitivity Range: 1.30 %/ft - 3.43 %/ft Air Velocity Range: 0 - 4000 FPM 4 in. mounting base
Supply Voltage	24 VDC nominal
Current:	350 mA maximum In-Rush 680 mA
Dimensions (WHD)	10.2 in x 12.6 in x 6.5 in (259 mm x 321 mm x 166 mm)
Weight	XAS-1: 7.27 lbs (3.3 kg) XAS-2: 7.5 lbs (3.4 kg)
Operating Conditions	Tested to: 14°F to 131°F (-10°C to 55°C) Recommended Detector Ambient: 32°F to 100°F (0°C to 38°C) Sample Air: 4°F to 140°F (-20°C to 60°C) Humidity: 10% to 95% RH, non-condensing
Air Inlet Pipe	Accepts both metric and American standard sizes. Metric: 25 mm (1.05 in.) American pipe: 3/4 in. I.D. (21 mm) Flexible tubing: 3/4 in. O.D. (19 mm)
Sampling Network	Pipe length: up to 164 ft (50 m) total per device Flexible tube length: maximum 50 ft (15 m)
IP Rating	IP30 wiring enclosure Detector enclosure: IP65
Filtration	Serviceable filter External filter optional
Flow Monitoring and Reporting	High and low programmable flow limits
Aspirator	Control: 10 programmable speeds Pressure: 250 Pa
Relay Outputs	XAS-1: 1 fault relay output XAS-2: 2 fault relay outputs
Field Wiring	Screw Terminals 18 to 10 AWG (0.9 to 5.5 sq. mm) solid 20 to 12 AWG (0.6 to 3.5 sq. mm) stranded

Order Codes and Options

XAS-1-US	Air-sampling Smoke Detector with 1 Inlet
XAS-2-US	Air-sampling Smoke Detector with 2 Inlets
58000-650	Enhanced Analog Photoelectric Smoke Detector
55000-650	Analog Photoelectric Smoke Detector
45681-234ADS	4 in. Low Profile Base

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As our policy is one of constant product improvement the right is therefore reserved to modify product specifications without prior notice.