

# ARIES® -SLX

## Intelligent Single-Loop Fire Alarm-Suppression Control Unit



Effective: January 2021  
K-76-650

### FEATURES

- "Triple R" safeguards substantially reduce the risk of inadvertent activation caused by microprocessor failure
- 1 SLC supports up to 255 SmartOne® addressable devices
- 6 output circuits - 2 NACs, 2 release, 2 NAC/release
- 3 Programmable and 1 Trouble Form-C relays
- 2 auxiliary power outputs, 1 amp each
- Remote release modules (RRM) supported on SLC, up to 66 for standalone control unit, 1000+ for large networks (limitations apply)
- 32 network node capacity (up to 8,160 addresses)
- Can be networked with other legacy Chemetron Fire Systems and Fenwal Protection Systems single loop control units
- Control for wide array of fire suppression systems:
  - Kidde® ECS™ Clean Agent
  - Kidde® ADS™ Clean Agent
  - Kidde® Inert Gases
  - Kidde® HP CO2
  - Kidde® LP CO2
  - Kidde® WHDR™ Wet Chemical
  - Kidde® IND™ Dry Chemical
  - Marioff® HI-FOG® Water Mist
- Suppression systems by others:
  - Sprinkler Supervisory
  - Deluge/Pre-action
  - Foam and Foam/Water
- 120/240V, 50/60 Hz AC input
- 5.4 A Power Supply Unit
- Charging capacity of 70 AH
- Easy to service, advanced diagnostics
  - 80-Character (2 X 40) LCD Display
  - Flexible programming
  - Event log
  - Internet connectivity with e-mail notification
- Spurt and Squirt functions
- Modbus TCP/IP compatibility
- Backwards compatible with installed investment
  - SmartOne SLC devices & protocol
  - Kidde®, Fenwal® and Chemetron® Control Heads and Actuators
  - Fenwal Initiators
  - Remote display and output driver (LED & Relay) modules
- UL Listed to ANSI 864, 10th edition
- FM Approved
- California State Fire Marshal

### DESCRIPTION

The ARIES® -SLX is an intelligent, addressable, single loop Fire Alarm-Suppression control unit that supports Kidde Fire Systems' wide array of suppression products and is backward-compatible with legacy Kidde, Fenwal, Chemetron and Marioff agent release devices including control heads and initiators. It is compact, networkable and supports both simple and complex programming for the demanding operational requirements of single- and multi-hazard fire suppression applications.

The unit provides one signaling line circuit, two notification-appliance circuits, two releasing circuits, and two combo circuits that are user-configurable for NAC, or release to actuate one solenoid valve for control of a special extinguishing system or a pre-action/deluge sprinkler system. The unit has four on-board relays, a 5.4 amp filtered and regulated power supply, and provides charging for batteries up to 70 AH.



The ARIES-SLX annunciates alarm, trouble, and supervisory events via an 80-character, backlit LCD display with integral status LEDs. Event acknowledgment, alarm silence, and system reset are accomplished with dedicated control keys. Basic user and maintenance operations such as viewing history or isolation commands to initiating points and system outputs are performed via the control keys and associated digit keys. A security password prevents unauthorized access to the system.

### SIGNALING LINE CIRCUIT

The Signaling Line Circuit (SLC) is the communications path between the ARIES-SLX control unit and SmartOne field devices. It uses a highly-efficient, fully-digitized protocol to communicate with up to 255 SmartOne initiating devices including DS-PS photoelectric smoke detectors, DS-HFS heat detectors, DS-SD duct detectors, monitor modules and control modules (some mix and match limitations apply).

SmartOne devices are supervised and power-limited. Each SmartOne initiating device has a microprocessor, memory, and decision-making algorithms to interrupt normal control unit communications and initiate an alarm signal. This distributed intelligence to the sensor level ensures rapid response to all types of initiating signals.

The SLC can be wired for Class A or Class B operation. Optional isolator modules can be used for a Class X circuit. All SLC wiring must be twisted, unshielded, low-capacitance, fire-alarm wire.

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## RELEASING CIRCUITS

The ARIES-SLX control unit has two releasing circuits that can be configured to actuate releasing devices via any of the following ways:

- Single control head or solenoid valve
- Two series-supervised, parallel-actuated control heads or solenoid valves.
- One Metron actuator
- Fenwal initiators

These releasing circuits can be used to actuate various Kidde control heads for waterless-extinguishing-system storage containers, or solenoid valves for sprinkler control that are FM Release Panel Group 2. A releasing circuit can actuate an unmatched pair of control heads or solenoid valves because it activates these releasing devices in parallel, not in series. This means that a releasing circuit can activate the control valves for a waterless suppression system and a back-up pre-action-sprinkler system simultaneously which makes efficient use of the control unit's circuitry and increases system reliability by enabling a single action to operate both extinguishing systems.

The releasing circuits are protected against inadvertent activation via the main microprocessor by "Triple-R" (for triple redundancy) safeguard system. The "Triple-R" system requires that the main microprocessor issue two release commands, of opposite polarity and via separate signaling channels, and that these commands be combined with a signal from the control unit's watchdog timer confirming proper microprocessor operation, in order to activate a release circuit. This triple-redundant release-command requirement ensures that an electrical transient or disturbance that temporarily interferes with the operation of the main microprocessor will not inadvertently activate an extinguishing system.

## NOTIFICATION-APPLIANCE CIRCUITS

The ARIES-SLX control unit has two notification appliance circuits (NACs). Each circuit can provide up to 1.5 Amps @ 24 Vdc for horns, strobes, chimes, or other notification appliances. Power for the notification appliances is fully filtered and regulated. Each NAC is programmable, and supports continuous and master-coded outputs for audible devices. The NACs' coded patterns are dynamically adjustable and can be programmed to sound different codes to notify the occupants of progressively-more-serious conditions.

Both circuits are supervised, power limited, and are compatible with conventional, UL-Listed, 24-Vdc regulated notification appliances. They can be used with the following Wheelock horns and strobes:

- MT Series Multi-Tone Horns and Horn/Strobes
- NS Series Horn/Strobes (See Note)
- NH Series Horns
- RSS(P) Series Strobes (See Note)
- Exceder Series Horns, Strobes, and Horn/Strobes (Xenon flashtube models only)

**Note:** Wheelock NS Series Horn/Strobes and Wheelock NH Series Horns cannot be programmed for synchronization. Horn/strobe combination devices utilizing the appropriate synch protocol have the option to use silenceable horns and non-silenceable strobes. Refer to the horn/strobe manufacturer's installation sheet for details.

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## COMBO CIRCUITS (NAC OR RELEASE)

The ARIES-SLX has two combo circuits which can be configured as a NAC or a release circuit to activate one solenoid for special-extinguishing-system actuation or pre-action/deluge sprinkler-system actuation. When configured for release, the circuit is protected against inadvertent activation via the main microprocessor by the Triple-R safeguard feature.

## ON-BOARD RELAYS AND AUXILIARY POWER

The ARIES-SLX has four Form-C relays. Three of the four relays are user-programmable for any system condition and the fourth relay is dedicated to trouble conditions. Each relay is rated for 1 Amp @ 28 Vdc.

Two auxiliary power outputs are provided, each with a 1 amp output. These auxiliary power outputs are user configurable for resettable or continuous power.

## INTEGRATION WITH SPECIALTY DETECTION SYSTEMS

SmartOne loop protocol interface cards enable the ARIES-SLX to seamlessly integrate with specialty detectors. AIR-Intelligence Air Sampling Smoke Detectors (ASD) connect via Addressable Protocol Interface Cards (APIC) and report pre-alarms and alarms in a manner analogous to SmartOne smoke detectors.

Fixed Temperature Linear Heat Sensor cables (LHS) connect via Addressable Input Modules (AI) and report point alarms.

## PROGRAMMING

The ARIES-SLX Configuration Tool (ACT-SLX) is used to program the control unit for each individual, site-specific application. Programming is for control-by-event scenarios, and consists of entering a series of conditional control statements that logically join initiating points to control-unit-based outputs and remote control modules. Each SmartOne field device can be assigned a location message of up to 40 characters via the tool. A USB Device Port is available to connect to a laptop computer for application upload.

A front panel-activated AutoLearn routine can be executed that will create a general alarm, one input activates all outputs application to speed the system-configuration process. The more sophisticated Auto-Setup routine allows the system to be automatically configured for the typical control scenario utilized by waterless fire-suppression systems.

## OPTIONAL MODULES:

### ARIES-SLX NETWORK – NIC AND OCC CARDS

The ARIES-SLX networking structure supports a mixture of twisted-wire and fiber-optic interconnections between networked control units. The ARIES-SLX can be networked with legacy Fenwal and Chemetron single loop control units which allows the ARIES-SLX to be used as either a service replacement for existing networks or for system expansion.

The ARIES-SLX Network Interface Card (NIC) mounts to the control unit's printed circuit board as a "daughter" card and provides peer-to-peer interconnection for up to 32 control units. It supports Class B interconnecting wiring, and acts as a repeater to boost and regenerate the communications signals. It transmits and receives messages via the RS-485 format. One NIC is required for each node.

The Fiber-Optic Converter Card (OCC) allows ARIES-SLX networked control units to be interconnected using 62.5/125 multi-mode duplex fiber-optic media. One OCC is required per node to terminate each end of a fiber optic communications-channel(s) segment using ST type connectors. The OCC is housed in its own enclosure and connects to the NIC that passes communications to the control unit. The OCC support distances up to 1 mile, 1.6 km between nodes (with no more of 4 dB/km cable attenuation).

### REMOTE DISPLAY/CONTROL MODULE (RDCM)

The ARIES-SLX supports up to 15 RDCMs on its Annunciator bus. The RDCM uses the same 80-character, backlit LCD display found on the main control unit. The RDCM permits remote event acknowledgment, alarm silencing, and system reset, and is secured with a key lock. User- and maintenance-level functions are also possible from the remote annunciator.

### LED AND RELAY OUTPUT DRIVER MODULES

The Model ATM-L Annunciator LED Driver also operates on the Annunciator bus and provides the ARIES-SLX with up to 32 programmable, supervised LED outputs for graphical or tabular annunciators, along with 6 system-level LED outputs and 5 system-level input circuits for functional switches.

The system-level LEDs correspond to the following general conditions: Module Power, Pre-Alarm, Alarm, Alarm Silence, Supervisory, and Trouble.

The input circuits for functional switches provide for the following operator intervention: System Reset, Event Acknowledgment, Alarm Silence, Fire Drill, and Lamp Test.

The Model ATM-R Relay Driver Module can activate up to 32 programmable, supervised relays. It provides up to 80 mA per output to drive relays.

The ARIES-SLX supports up to 16 graphic annunciator driver modules.

### INTELLIGENT COMMUNICATIONS MODULE

The Intelligent Communications Module (ICM) can be used to access the ARIES-SLX System via the Internet to view system status, current events and to download the history log. The ICM can be programmed to transmit up to five e-mails upon the occurrence of any unsolicited event in the system. The e-mail message embeds a link with the IP address of the control unit that sent the message for instant access to the remote system.

The ICM can be accessed via the Internet Explorer and Mozilla Firefox web browsers.

The ICM also allows the ARIES-SLX control unit to report as a slave device via the MODBUS TCP/IP protocol to a master monitoring system for automated process control.

### ARIES-SLX ENCLOSURE

The ARIES-SLX enclosure has a NEMA 1 rating and is large enough to house two 12 VDC, 12 AH batteries. It provides up to 2 inches (51 mm) of wiring and finger space between the circuit board and the cabinet wall.

The enclosure can be surface or flush mounted. The trim ring used for flush mounting application is ordered separately.

## ORDERING INFORMATION

Part Number	Description
<b>ARIES-SLX control unit</b>	
77-600000-901	ARIES-SLX control unit, Red (for use in USA only)
76-600000-901	ARIES-SLX control unit, Red (for use outside USA only)
76-600000-007	Red Trim Ring for semi-flush mounting of ARIES-SLX control unit
76-100010-001	Large Capacity Battery Cabinet, Red (Optional)
<b>Optional Modules</b>	
76-600000-005	Remote Display/Control Module (RDCM)
76-600000-010	RDCM Trim Ring - Red
06-220080-002	Intelligent Communications Module (ICM): Use for remote Internet access and MODBUS protocol
76-600000-018	ICM Enclosure - Red
76-600000-009	Network Interface Card (NIC): One required for each network control unit
76-600000-006	Fiber Optic Converter Card in Red Enclosure (OCC)
76-200004-032	ATM-L Annunciator Driver Module: 32 independently programmable LED drivers
76-200005-032	ATM-R Relay Driver Board: 32 independently programmable relay drivers
<b>Replacement/Spare Parts</b>	
76-600000-902	ARIES-SLX Enclosure
76-600000-904	ARIES-SLX Printed-Circuit Board with Display
76-600000-011	Keypad Display Assembly
06-118394-002	Power Supply
06-220151-001	Spare Bezel Assembly
06-129829-102	RDCM Circuit Board Assembly
06-220024-002	Wiring Installation Kit
06-220043-002	Fiber Optic Converter Card
06-129924-001	Kidde Panels - Spare Lock w/ 2 Keys

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## SPECIFICATIONS

<b>Primary AC Power:</b>	120 Vac, 50/60 Hz, 3.2 A 220/240 Vac, 50/60 Hz, 1.6 A	<b>Relays:</b>	3 Programmable and 1 Trouble Relay. - 1.0 A @ 30 Vdc (resistive) - 0.5 A @ 30 Vdc (inductive) - 0.5 A @ 120 Vac (inductive)
<b>Power Output:</b>	5.4 A @ 24Vdc Filtered and Regulated Inherently Power-Limited	<b>2 Class B Auxiliary-Power Outputs:</b>	Programmable for Resettable or Continuous Output 1 A @ 24 Vdc (each output)
<b>Battery (Sealed, Lead-Acid Only):</b>	70 Ah Maximum Capacity Enclosure fits two 12AH batteries	<b>2 RS-232 Serial Ports:</b>	Bi-Directional 9600 Baud, 8 Data Bits, 1 Stop Bit, No Parity
<b>1 Signaling Line Circuit:</b>	255 Devices Maximum, (limitations apply) Class A, Class B, or Class X (with Isolator Modules)	<b>1 RS-485 Communications Port:</b>	Maximum 31 Remote Addresses 15 RDCM and 16 Model ATM-L or ATM-R modules
<b>SLC Loop Resistance:</b>	40 Ohms Maximum	<b>1 USB Device Port:</b>	USB Serial
<b>SLC Conductor-to-Conductor Capacitance:</b>	0.5 $\mu$ F Maximum	<b>Dimensions:</b>	Enclosure Only: 14-1/4 in. (362 mm) W x 19 in. (483 mm), H x 5 in. (127 mm) D Enclosure with Door: 14-13/32 in. (366 mm) W x 19-5/32 in. (487 mm) H x 5-1/16" (129 mm) D
<b>SLC Loop Capacitance to Earth Ground:</b>	0.5 $\mu$ F Maximum	<b>NEMA 1 Enclosure:</b>	- 18 gauge sheet steel with door - Red color - Suitable for semi flush and surface wall mounting - Indoor/Dry Use Only - Optional Trim Ring - Operating temperature range: 32°F to 120°F (0°C to 49°C) - Humidity: 93 $\pm$ 2% RH at 90 $\pm$ 3°F (32 $\pm$ 2°C) non-condensing
<b>2 Notification Appliance Circuits:</b>	Class A or Class B 24 Vdc regulated 1.5 A (maximum per circuit) Suitable for Synchronized Notification Appliances	<b>Note:</b>	The ARIES-SLX system is FM Approved, UL Listed and approved/listed by various other agencies. For a complete description of approvals and listings, please refer to the Distributor Extranet at <a href="http://www.kiddefiresystems.com">www.kiddefiresystems.com</a> .
<b>2 Releasing Circuits:</b>	Configurable for:  - One or two Control Heads and/or Solenoid Valves - One Metron Actuator 24 Vdc, 2.4 A (maximum per circuit) - One set of initiators		
<b>2 Combination Circuits:</b>	Each Configurable as:  Class A or Class B NAC, 24 Vdc, regulated 1.5 A (maximum per circuit) Suitable for Synchronized Notification Appliances OR Release Circuit with One Control Head or Solenoid Valve 24 Vdc, 2.4A (maximum per circuit)		