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AIRSENSE 9-XXX APIC for ModuLaser Aspirating Smoke Detection Systems Installation Guide

Contents

AIRSENSE 9-XXX APIC for ModuLaser Aspirating Smoke Detection Systems

Specifications

- Product Name: Aritech APIC Installation Sheet for ModuLaser Aspirating Smoke Detection Systems
- Compatibility: ModuLaser display modules with hardware version 00.00.11 or later
- Interface: Aritech Addressable Protocol Interface Card
- Support: Connects ModuLaser aspirating smoke detection systems to compatible Aritech 2X and 2X-A addressable fire alarm systems
- Addressing Mode: Multi address mode with available addresses from 1 to 127

Product Usage Instructions

Addressing:

The APIC supports multi address mode. Set the address range using rotary switches SW1-SW6. The lowest and highest address settings must be different. Example: to monitor modules 3 to 5, set SW1-SW3 to 003 and SW4-SW6 to 005.

Installation:

- **Electrocution Hazard:** Ensure all power sources are removed and energy is discharged before installation.

Handle electric components with antistatic precautions to prevent damage.

- **Maximum Installation:** Do not install more than 10 APICs in an addressable loop. Use the NeXT System Builder application for guidance on maximum installations.

Connecting the Addressable Loop:

Backplane APIC Connector	Adaptor Board Connector
IN +	IN +
IN S	S
OUT +	OUT +
OUT S	S

Installing the APIC:

1. Connect the addressable loop as per the provided connections.
2. Remove the front of the display module and open the inside cover.
3. Connect the APIC ribbon cable to the J501 connector on the display PCB.
4. Push the APIC board onto the alignment stud.

FAQ

- **Q:** What should I do if the number of devices monitored exceeds 32?
  - **A:** If the number of devices monitored by the APIC is greater than 32, the response time to indicate an alarm at the fire alarm control panel may exceed 10 seconds. Consider reducing the number of devices monitored or consult with technical support for further assistance.

Description

Caution: This product is only compatible for use with ModuLaser display modules with hardware version 00.00.11 (or later). To confirm compatibility, first check the hardware version of the display module where the APIC will be installed (Device Settings > Device Details > [select module] > HW Version).

The Aritech Addressable Protocol Interface Card (APIC) provides an interface to connect ModuLaser aspirating smoke detection systems to compatible Aritech 2X and 2X-A addressable fire alarm systems.
The APIC includes an integrated short circuit isolator.

Important:

- This product must be installed and maintained by qualified personnel adhering to all local or national installation requirements and any other applicable regulations.
- Always use the NeXT System Builder application to calculate the maximum number of APICs that can be installed. See "Calculating the maximum number of APICs that can be installed" on page 2 for more details.
- You must configure alarms and faults as unlatched at the display module. See "Configuring the alarm and fault latching status at the display module" on page 3 for more details.

- This APIC is not compatible for installation in Stratos range aspirating devices (and variants) or for use with Aritech FP1200C-2000C addressable fire systems.

Figures
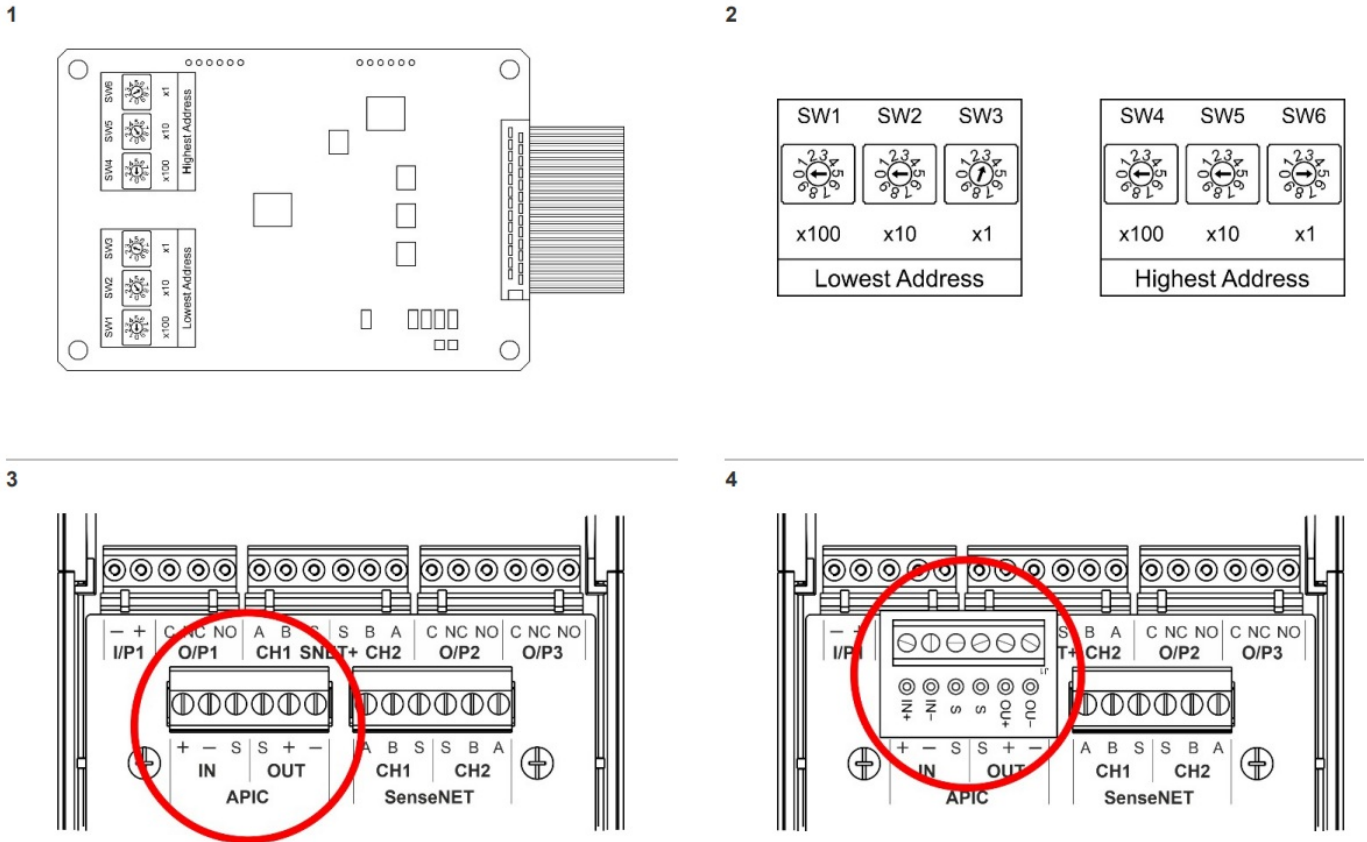
- **Figure 1:** Aritech APIC
- **Figure 2:** Example address range setting
- **Figure 3:** Backplane APIC connector
- **Figure 4:** Backplane APIC connector with optional 9-30441-JUM adaptor board (not supplied)

Addressing

The APIC only supports multi address mode. The lowest address and highest address settings must be different. Use the rotary switches SW1-SW3 (Lowest Address) and SW4-SW6 (Highest Address) to set the address range for the modules to be monitored.
The available addresses are 1 to 127.

To set the address range:

1. Set rotary switches SW1-SW3 (Lowest Address) to the first address in the range.
2. Set rotary switches SW4-SW6 (Highest Address) to the last address in the range.

Example

- To monitor modules 3 to 5 in a SenseNET or SenseNET+ network, set SW1-SW3 to 003 and SW4-SW6 to 005 as shown in Figure 2.

WARNING

- The response time to indicate an alarm at the fire alarm control panel may exceed 10 seconds if the number of devices monitored by the APIC is greater than 32.

Notes:

- There is no translation between the detector address(es) and the SenseNET loop. The detector address(es) must be configured with the same address(es) as the fire panel loop address(es).
- Each module (including the display module) represents one address on the addressable loop.
- Changes to a device address are only visible after a loop restart.
- The maximum number of devices that can be controlled by the APIC is defined by local regulations.
- For MatrixScan support, contact your regional Technical Support office.

Installation

WARNING: Electrocution hazard. To avoid personal injury or death from electrocution, remove all sources of power and allow stored energy to discharge before installing or removing equipment.

Caution

- When handling any electric components or printed circuit boards, antistatic precautions must be followed. Failure to do so may result in component damage.

Calculating the maximum number of APICs that can be installed

- Never install more than 10 APICs in an addressable loop.
- Depending on the installation wiring and electrical load, you may need to purchase and install the optional 9-30441-JUM adaptor board for loop connections.

Note

- Short circuit isolation is not supported when the adaptor board is installed.

As a guideline:

- A maximum of 5 APIC boards may be installed without the adaptor board.
- A maximum of 10 APIC boards may be installed with the optional 9-30441-JUM adaptor board.

The above details are for guidance only. Always use the NeXT System Builder application to calculate the maximum number of APICs that can be installed with or without the adaptor board.

Connecting the addressable loop

Connect the addressable loop as follows:

- For installations that do not require the adaptor board, connect the addressable loop directly to the APIC connector on the display module backplane (see Figure 3).
- For installations that do require the adaptor board, install the board onto the APIC connector on the display module backplane and then connect the addressable loop to the adaptor board (see Figure 4).

Table 1: Loop connections

Backplane APIC Connector	Adaptor board Connector	Description
IN +	IN +	Loop in + (positive)
IN –	IN –	Loop in – (negative)
IN S	S	Loop in shield
OUT +	OU +	Loop out + (positive)
OUT –	OU –	Loop out – (negative)
OUT S	S	Loop out shield

Installing the APIC

1. Connect the addressable loop (see "Connecting the addressable loop" above).
2. Remove the front of the display module, and then open the inside cover by pulling the holding clips outwards.
3. Connect the APIC ribbon cable to the J501 connector on the display PCB, and then push the APIC board onto the alignment stud.
    - See the ModuLaser Installation Manual for the location of the J501 connector.
4. Secure the APIC to the display PCB using 2 x M3 screws.
5. Close the inside cover, and then replace the front of the display module.

Configuration

After installation, complete the configuration at the display module and at the fire alarm control panel.

Configuring the APIC 1 input at the display module

- Configure the APIC 1 input function as Remote Reset (Device Settings > Inputs > APIC 1).
- This operation requires Access Level 3 or higher.

Note

- If the APIC is installed in a Command Module, do not configure the APIC 1 input for the other display modules.

Configuring the alarm and fault latching status at the display module

- To ensure correct operation and to avoid the need for performing a reset at both the display module and at the

fire alarm control panel, configure the latching status for alarms and faults as unlatched (Device Settings > Latching Status).

- This operation requires Access Level 3 or higher.

Configuring the device type and sensitivity values at the fire alarm control panel

- Each configured address is automatically assigned device type OD (optical detector) in the fire alarm control panel.
- Configure the day and night sensitivity values for the OD device type as 2 or 3 (the default configuration).

Interface details

Analogue values for device status are shown in the table below

Value	Status
1	General Fault
2	Flow/Filter Fault
3	Disabled
4	Internal APIC Fault (Hardware)
5	Internal APIC Fault (Data Corruption)
6	Internal APIC Fault (Parallel Comms – Ribbon Cable)
7	Internal APIC Fault (Watchdog)
8	Internal APIC Fault (Low loop Voltage)
64	Normal
104	Prealarm
105	Aux. Alarm
160	Fire Alarm

Note: Use mode GRP_AB to view analogue values (Test > Diagnostics) – other modes may indicate different values (see your fire alarm control panel installation manual for more information on how to view analogue values).

Maintenance And Specifications

Maintenance

- Basic maintenance consists of a yearly inspection.

- Do not modify internal wiring or circuitry.

Specifications

Power requirements [1]	17 to 28 VDC (4 to 11 V pulsed)
Current consumption [1] Standby Alarm	1.85 mA 3.25 mA
Environmental Operating temperature [2] Storage temperature Relative humidity	−20 to +60°C −30 to +75°C 10 to 95% (noncondensing)
Weight	40 g
Dimensions	101.4 x 68.4 mm
[1] Control panel loop protocol voltage. [2] Certified at −10 to +55°C.	

[1] Control panel loop protocol voltage.
[2] Certified at −10 to +55°C.

Isolation

Short circuit isolation is not supported when the optional 9-30441-JUM adaptor board is installed.

Isolation voltage Minimum Maximum	13 VDC 15 VDC
Reconnect voltage Minimum Maximum	13 VDC 15 VDC
Rated current Continuous (switch closed) Switching (short circuit)	1 A 1.2 A
Series impedance	1.9 Ω max.

Regulatory information

Conformity	CE
Notified/Approved body	0370
Manufacturer	Carrier Manufacturing Poland Spółka Z o.o., Ul. Kolejowa 24, 39-100 Ropczyce, Poland. Authorized EU manufacturing representative: Carrier Fire & Security B. V., Kelvinstraat 7, 6003 DH Weert, Netherlands.
Declaration of Performance number	03-0275-360-0010
Year of first CE marking	22
EN 54	EN 54-17 EN 54-18
Product identification	9-30441
	2012/19/EU (WEEE Directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: **recyclethis.info.**

Contact Information

Contact information and product documentation

For contact information or to download the latest product documentation, visit **firesecurityproducts.com**.

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Documents / Resources

	AIRSENSE 9-XXX APIC for ModuLaser Aspirating Smoke Detection Systems [pdf] Installation Guide 9-XXX, 9-XXX APIC for ModuLaser Aspirating Smoke Detection Systems, APIC for ModuLaser Aspirating Smoke Detection Systems, ModuLaser Aspirating Smoke Detection Systems, Aspirating Smoke Detection Systems, Smoke Detection Systems, Detection Systems, Systems

References

- 🌐 **Home - Fire Security Products**
- 🌐 **HOME**
- **User Manual**