Simplex®

Addressable Peripherals

UL, ULC, CSFM Listed; FM Approved;
*MEA (NYC) Acceptance**

IDNet Addressable Devices, Model 4090-9007
Signal IAM (Individual Addressable Module)

Features

Signal IAMs provide additional selective signaling for Simplex® 4007ES, 4008, 4010ES, 4100ES, and 4100U Series fire alarm control panels:

- Signal output notification appliance circuit (NAC) wiring is supervised and connected to the signal input under IDNet communications control
- NAC output is rated 0.5 A for Special Application or Regulated 24 VDC Appliances, or for audio operation (12.5 W @ 25 VRMS, 35 W @ 70.7 VRMS); and can be wired Class B or Class A; see additional information on page 2, specifications section
- Signal coding of horn/strobe control, strobe synchronization, or other coding is provided by the signal input; *coding at the Signal IAM via IDNet addressable communications is not supported*
- 4100U compatibility requires Software Revision 11.11.01 or higher
- Signal IAMs are not compatible with 4010 fire alarm control panels IDNet communications

Supervision features:

- Relay contacts isolate signal inputs from outputs during supervision and do not monitor signal presence; *signal inputs sources will need to be monitored separately*
- During supervision, signal outputs are isolated from signal inputs by open contacts allowing consideration for use with SCIF applications (Sensitive Compartmented Information Facilities)

Operation details:

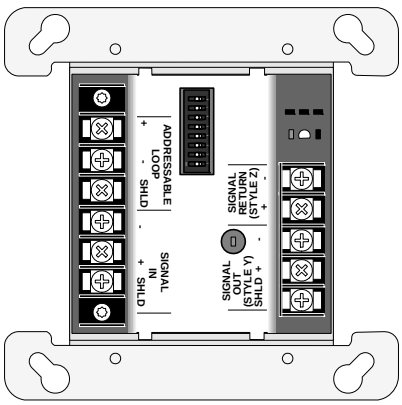
- Signal IAM operation is powered and supervised by the IDNet addressable communications loop – separate 24 VDC is not required for the IAM – separate signal power is required for the on-board NAC
- Signal IAM communications use a single physical address; however, each Signal IAM reduces the IDNet loop capacity by *two addresses* to accommodate the extra power required for output NAC supervision

Compact construction:

- Mounts in standard 4” square electrical box
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation
- Screw terminals for wiring connections

UL Listed to Standard 864

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7300-0026:319, 7165-0026:251, 7165-0026:318, and 7170-0026:250 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



4090-9007 Signal IAM
(shown approximately 1/2 size)

Description

Additional NAC Operation. For applications requiring additional individual NAC supervision and control, the 4090-9007 Signal IAM provides a 0.5 A remote NAC under host panel addressable point control. IDNet communications monitor the Signal IAM status and then connects the output NAC to the separate signal input for local alarm notification.

NOTE: *The Signal IAM provides additional NACs to the host control panel, it does not provide additional power. Refer to the diagram on page 3 for additional system requirements.*

Audio Control. The Signal IAM also allows the control panel to use IDNet communications to control audio circuits from a compatible Simplex audio control panel. Only one signal source is used per Signal IAM, separate Signal IAMs would be required for control of DC powered appliances such as strobes.

NOTE*: Firefighter phone circuits are not supported.*

Application Reference

Selective Signaling. Use Signal IAMs to provide additional local area notification zones per applicable version of NFPA 72 (the *National Fire Alarm and Signaling Code*), local codes and system requirements.

General Signaling. Use Signal IAMs to connect to higher current appliances (rated output is 0.5 A).

For retrofit of Class B NAC wiring, where only two wires are available, in/out connections can be made at the Signal IAM maintaining appliance wiring supervision per applicable version of NFPA 72 and local codes .

NOTE: *Signal IAM operation is programmed at the fire alarm control panel per system requirements.*

Wiring Requirements

Wire Signal IAMS with both IDNet communications and signal/NAC input to the latest requirements of UL 864, and to NFPA 72 per local code. Please refer to the diagram on page 3 for additional information.

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Product Selection

Model	Description
4090-9007	Signal IAM; programming types are hardware type SIGNAL for 4008; device type SIGIAM for other compatible fire alarm control panels
4090-9801	For semi-flush mounted box — Optional trim plate with LED viewing window, includes mounting screws; galvanized steel
4090-9802	For surface mounted box
4090-9116	IDNet Communications Isolator; may be required for loop connections to Signal IAM (see diagram on page 3); refer to data sheet S4090-0005 for details
4081-9008	End-of-line resistor for Signal IAM NAC output when wired Class B; 10 kΩ, 1/2 W; (ref. 733-894)
2081-9044	Overvoltage Protector; for up to 200 mA DC or IDNet communications; required where wiring exits and enters a building; refer to data sheet S2081-0016 for details

Specifications

Electrical

Communications	IDNet communications, one address
Channel Loading	Consumes **two** unit loads (each Signal IAM reduces the IDNet loop capacity by two addresses); refer to the IDNet source for the total available address capacity
NAC Input Choices	Nominal 24 VDC from control panel NAC or NAC extender
	25 VRMS or 70.7 VRMS from compatible listed audio source
NAC Output Ratings	Special Application or Regulated 24 VDC Appliances = 0.5 A
	Audio rating for speakers = 0.5 A @ 25 VRMS (12.5 W) or 70.7 VRMS (35 W)
Appliance Compatibility Details	Compatible with Simplex strobe synchronization; not compatible with SmartSync 2-wire horn/strobe control or with TrueAlert addressable control; for horn/strobe appliance applications, use 4-wire appliances (see data sheet S4903-0011), for horn control, select horn operation as free-run
Wire Connections	Screw terminals for in/out wiring, 18 to 12 AWG wire (0.82 mm^2 to 3.31 mm^2)
End-of-Line Resistor	For Class B NAC; 10 kΩ, 1/2 W; 4081-9008

Wiring Distance Information Reference

IDNet Communications, General Reference	2500 ft (762 m) maximum distance from panel
	10,000 ft (3048 m) maximum total wiring distance (including T-Taps on Class B wiring)
	Note: IDNet communications specifications may vary depending on the host fire alarm control panel, refer to specific panel product documentation for details
NAC Wiring Distance Considerations (refer to diagram on page 3)	1. Wiring connections from the NAC Riser, through the Signal IAMs, and to the notification appliances are branch circuits on the NAC Riser and must be calculated accordingly. 2. Wiring distances are limited by wire size and the allowable voltage drop from the fire alarm control panel to the Signal IAM, **and** then to the farthest notification appliance per branch connection. (The Signal IAM voltage drop is considered negligible for wiring distance calculations.)

Mechanical

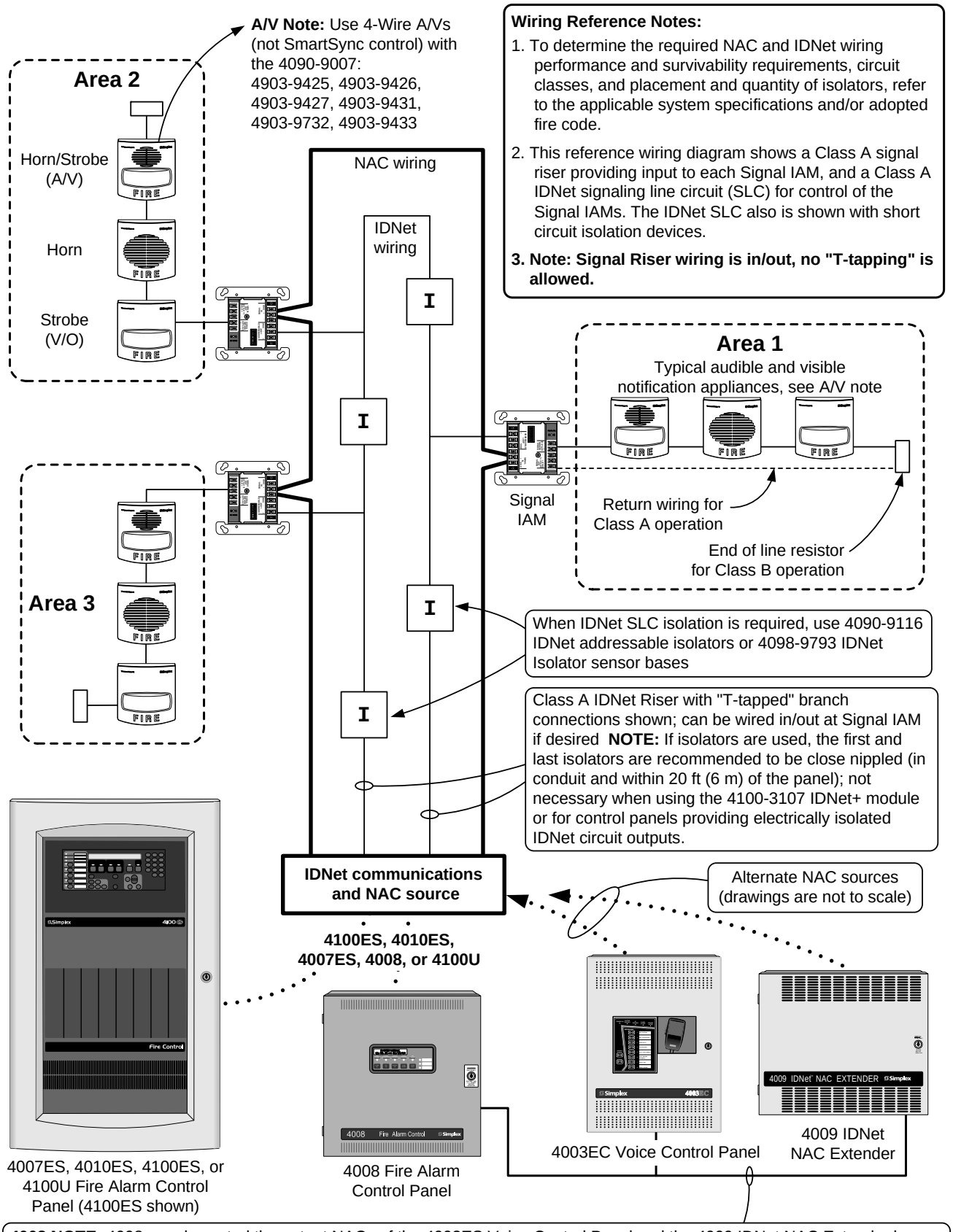
Dimensions	4” x 4-1/8” x 1-1/4” D (102 mm x 105 mm x 32 mm)
Temperature Range	32° to 120° F (0° to 49° C) indoor operation only
Humidity Range	Up to 93% RH at 100° F (38° C)

Additional Information

Product	Document	Product	Document	Product	Document
Installation Instructions	579-670	4003EC Voice/Audio Panel	S4003-0002	4010ES Control Panel	S4010-0004
4100ES Basic	S4100-0031	4090-9116 IDNet Isolator	S4090-0005	4010ES Control Panel (International)	S4010-0006
4100ES Audio	S4100-0034	4098-9793 Isolator Base	S4098-0025		
4007ES Hybrid	S4007-0001	4008 Control Panel	S4008-0001		

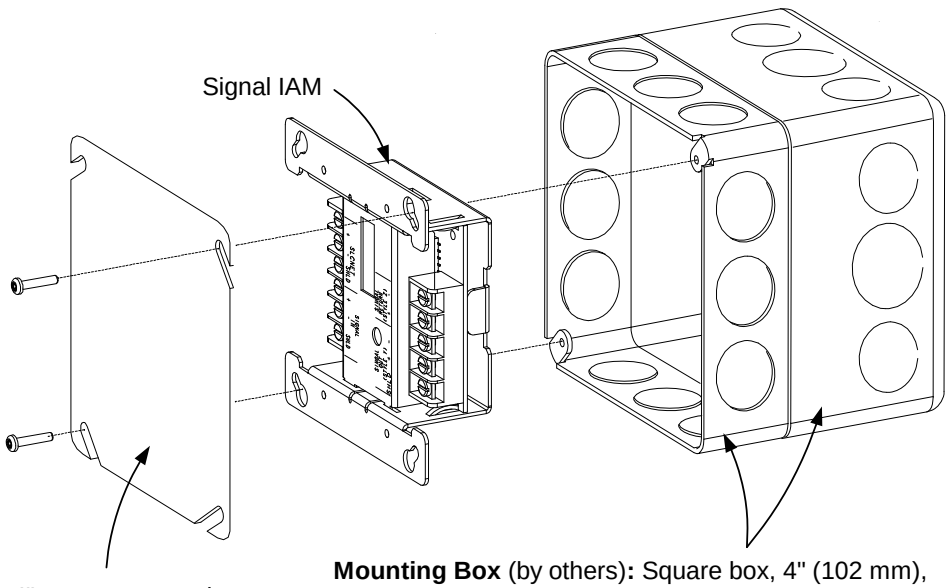
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One-Line Wiring Reference



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Mounting Information



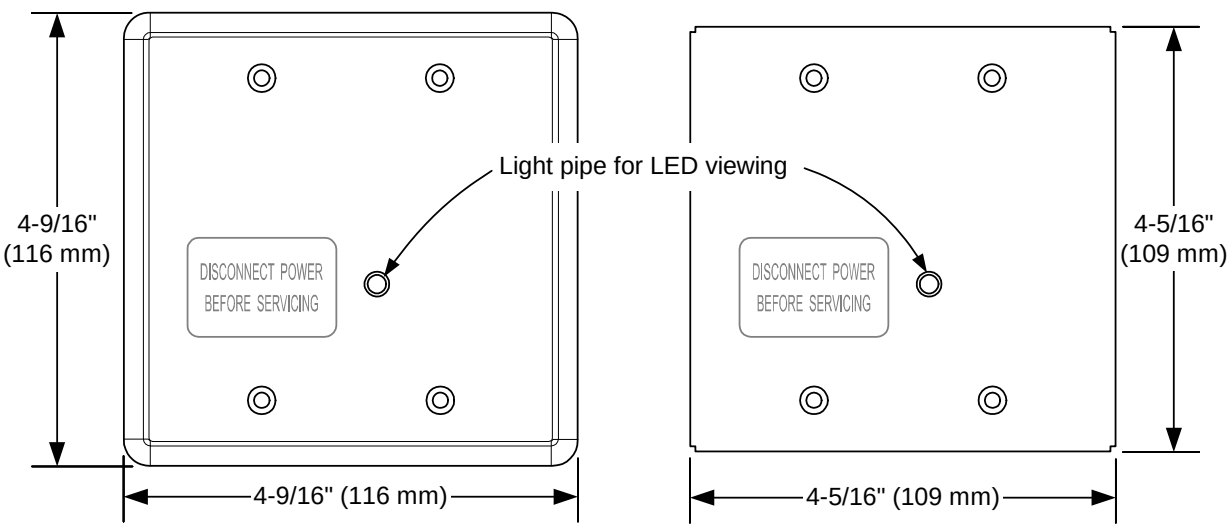
4" square cover plate, RACO 752 or equal (by others)

Mounting Box (by others)**:** Square box, 4" (102 mm), required depth depends on total conductor requirements

Minimum depth = 2-1/8" (54 mm), RACO 232 or equal

Extended depth (for maximum conductors), add 1-1/2" (38 mm) extension ring, RACO 201 or equal

Mounting Reference with 4" Square Blank Cover Plate



4090-9801, Trim plate for semi-flush mounted box

4090-9802, Trim plate for surface mounted box

Optional Trim Plates for Visible LED

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