AUTOCALL

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

Datasheet

IDNAC Addressable Notification Appliances

IDNAC Isolator2 Module, Model A4905-9849

Introduction

IDNAC addressable notification SLCs

IDNAC addressable notification SLCs are internally isolated from each other. In the event of a channel wiring short circuit, the channel safely isolates and then monitors the wiring for restoration to normal when the wiring is repaired. In the branch and T-tap wiring of an IDNAC channel, you can use IDNAC Isolator2 modules to provide additional isolation. This can reduce the quantity of TrueAlert addressable appliances impacted by a short circuit.

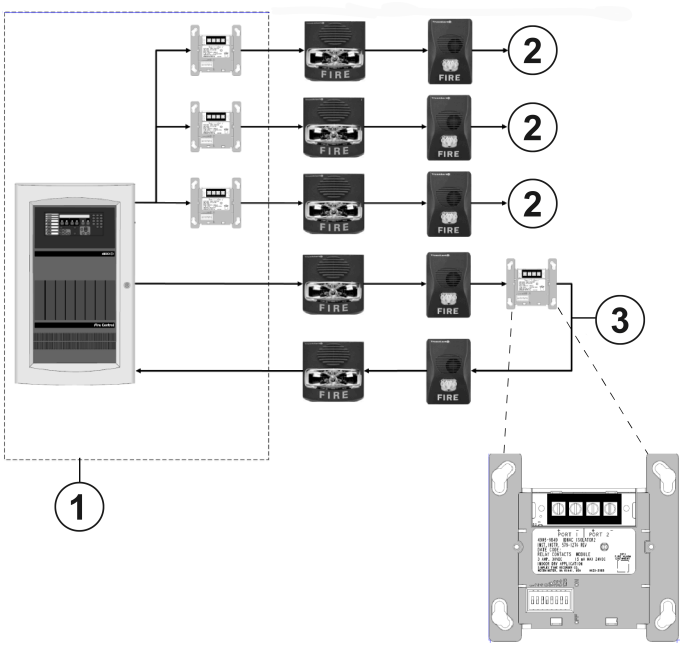
Short circuit isolation

Internal isolation switches allow the Isolator2 module to separate shorted or disabled wiring from functioning wiring to optimize the available appliances. Isolator2 module status displays at the FACU to help locate shorted wiring.

Convenient location

You can mount the IDNAC Isolator2 module in a standard 4 in. (102 mm) square, 2 1/8 in. (54 mm) deep electrical box. This means you can locate isolators on the IDNAC SLC channel where local wiring benefits the most.

Figure 1: Example of IDNAC Isolator2 module application



Callout	Description
1	4100ES FACU with ES-PS, IDNAC Card, and Dual Class A Isolator (DCAI)
2	Class B
3	Class A
	IDNAC Isolator2 A4905-9849

Features

- You can use the A4905-9849 IDNAC Isolator2 module to isolate short circuits on NXNA addressable notification appliance wiring.
- To supply power and communication, use Autocall® 4100ES, 4010ES, and 4007ES fire alarm control units (FACUs) equipped with power supplies with advanced addressable notification from IDNAC Signaling Line Circuits (SLCs) and from 4009 IDNAC Repeaters. See note.
- The dual port design accepts communications and power from either port and automatically isolates one port from the other when a short circuit occurs.
- You can mount the module in a standard 4 in. (102 mm) square electrical box, 2 1/8 in. (54 mm) deep.
- On fault removal, the module automatically repairs connections.

Note: In this data sheet, TrueAlert refers to TrueAlert ES notification appliances and IDNAC SLCs also refers to operation of TrueAlert ES SLCs.

Status diagnostics

- The onboard yellow LED provides module status. It can indicate communications poll or you can activate it from the FACU.
- The module reports faults to the host FACU.

Short circuit isolation

- You can identify the location of short circuits at the FACU.
- You can use Autocall FACUs with IDNAC SLCs to identify individual appliances that are disabled due to activated isolators.
- Other FACUs that control TrueAlert Addressable Controllers do not recognize appliance addresses but receive a report of any open circuit channel troubles due to activated isolators.

IDNAC SLC wiring

- You can connect a maximum of 25 Isolator2s in a series or in parallel to each IDNAC SLC with Class B or DCLB wiring.
- You can connect a maximum of 25 Isolator2s in a series to each IDNAC SLC with Class A or DCLC wiring.

General channel loading rules

- Isolator2 modules require one address and are rated as 1 unit load.
- Addressable notification appliances are 1 unit load.

*Additional listings may be applicable, contact your local Autocall ® product supplier for the latest status. Listings and approvals under Autocall Time Recorder Co.

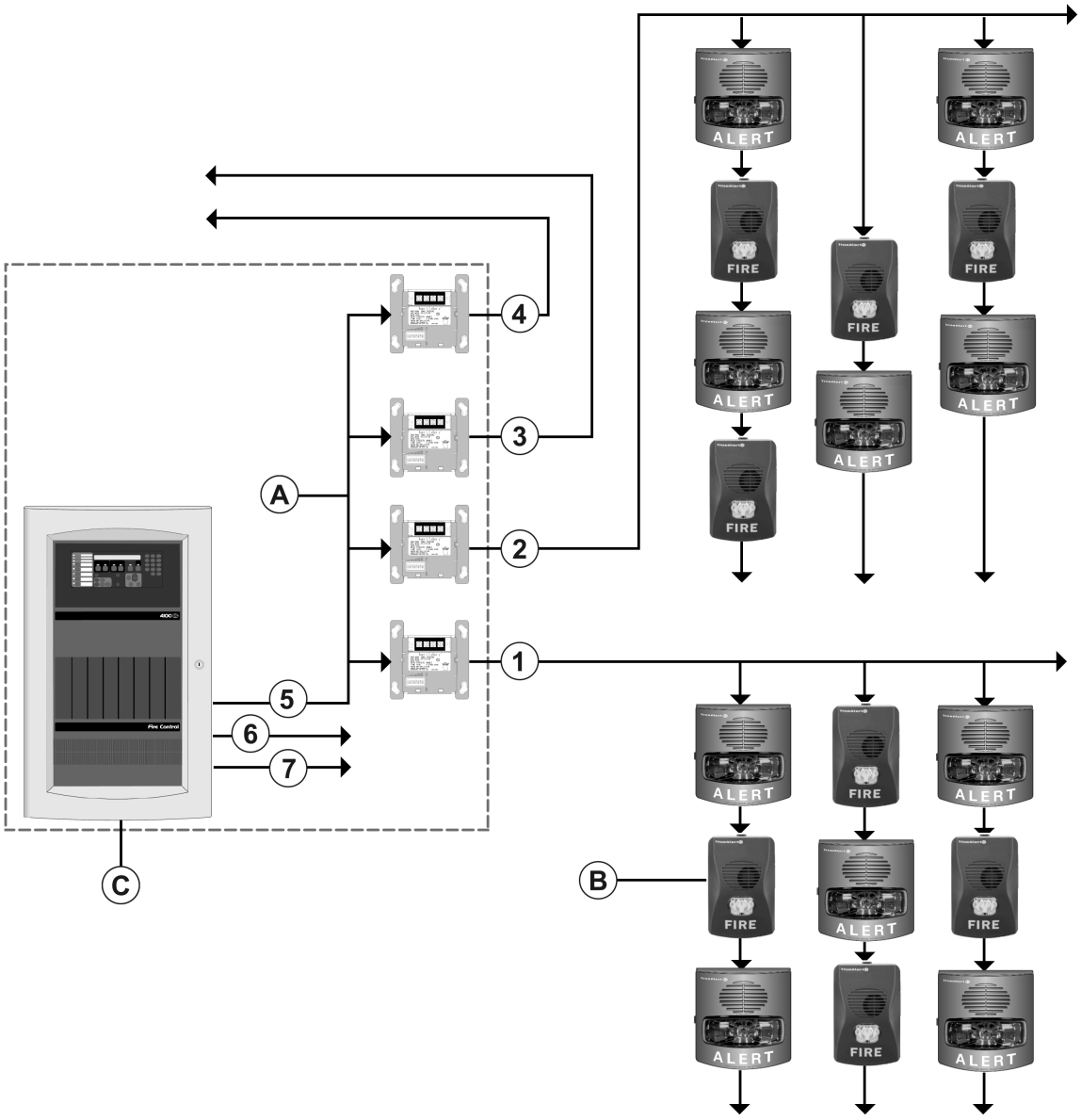
IDNAC Isolator2 example one

Class B or DCLB wiring branch protection. Figure 2 illustrates the addition of A4905-9849 Isolator2 modules to IDNAC SLC wiring located at the start of each branch. This increases the overall system operation in the event of a short circuit.

Class B or DCLB wiring branch short circuits. As with conventional Notification Appliance Circuit (NAC) operation, the entire channel is inoperative without Isolator2 modules if a short circuit occurs on a branch connection.

With the addition of Isolator2 modules, short circuits only disable appliances that are electrically connected beyond the Isolator2 module. You can use Isolator2 modules to help find short circuits that occur during initial wiring installations. This can lead to a decrease in the total installation and checkout time.

Figure 2: IDNAC Isolator2 individual branch protection

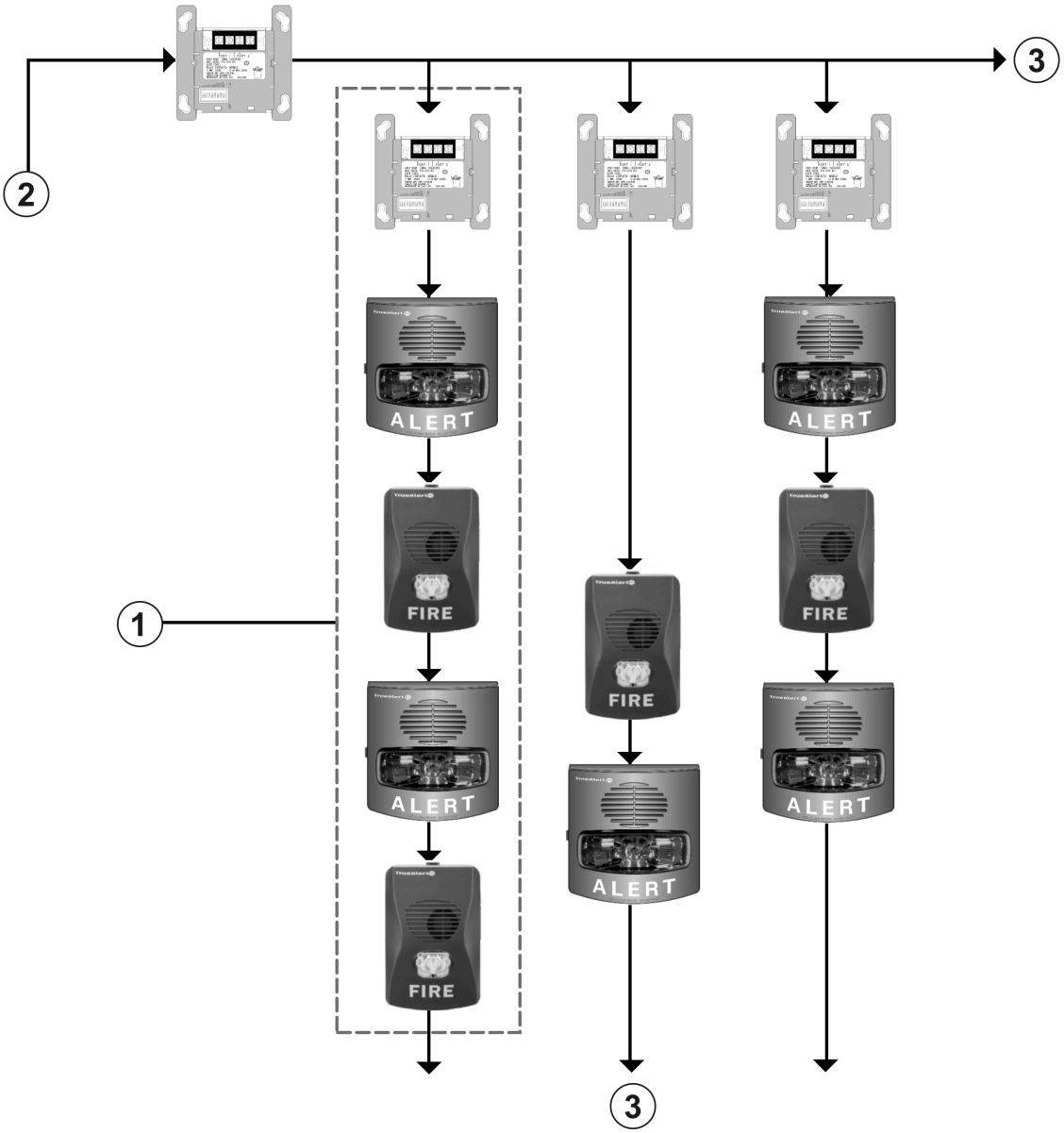


Callout	Description	Callout	Description
1	Branch 1	7	IDNAC channel 3
2	Branch 2	A	Individual branch protection requires a close-nippled IDNAC Isolator2 A4905-9849.
3	Branch 3	B	4900 series and 5900 series addressable notification appliances, shown with Class B or DCLB wiring, T-tapped.
4	Branch 4	C	4100ES FACU with ES-PS power supply and an IDNAC Card with IDNAC SLCs.
5	IDNAC channel 1		IDNAC Isolator2 A4905-9849.
6	IDNAC channel 2	—	—

IDNAC Isolator2 example two

Class B or DCLB T-tap wiring isolation. Figure 3 shows Isolator2 modules located at the start of each T-tap on a single branch of a single IDNAC SLC, all wired Class B. This approach isolates each tap from short circuits that may occur on the other taps.

Figure 3: IDNAC Isolator2 individual T-tap protection

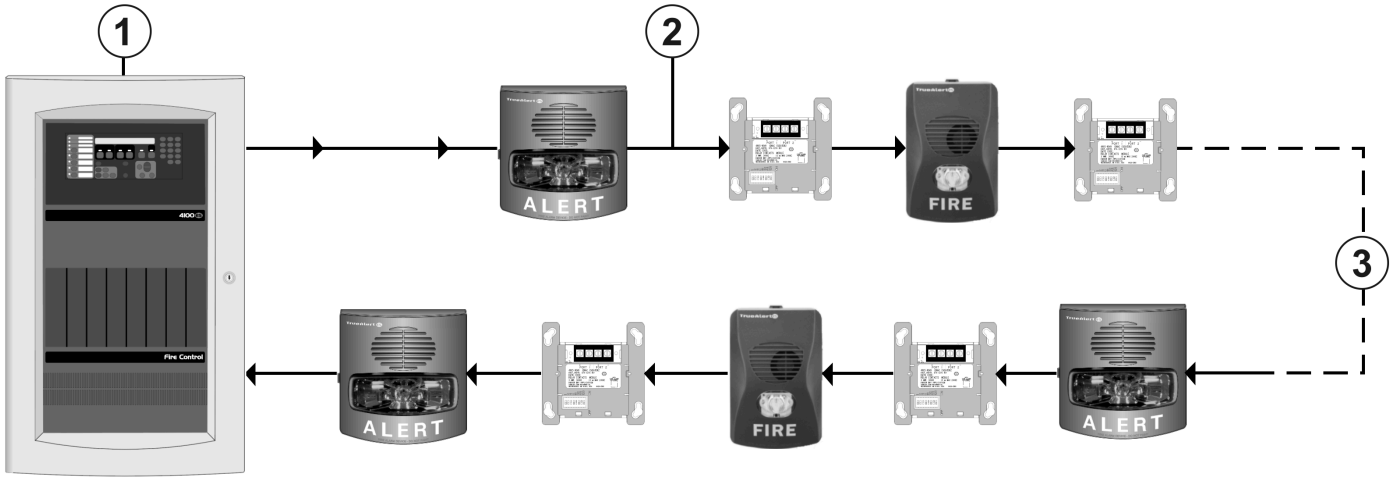


Callout	Description
1	4900 series and 5900 series addressable notification appliances shown with Class B or DCLB wiring, T-tapped.
2	From IDNAC SLC.
3	To additional NXNA notification appliances.
	IDNAC Isolator2 A4905-9849.

IDNAC Isolator2 example three

Class A or DCLC wiring isolation. Figure 4 illustrates an optimized Class A IDNAC SLC with each notification appliance connected between an Isolator2 module. With this connection, a single short circuit between Isolator2 modules only disables one TrueAlert notification appliance.

Figure 4: IDNAC Isolator2 with Class A or DCLC wiring with isolators

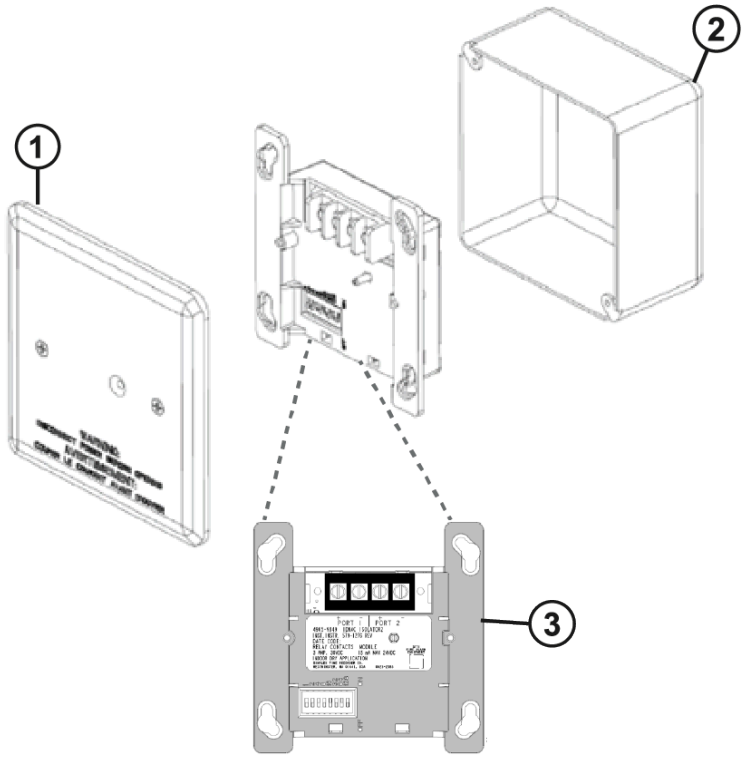


Callout	Description
1	4100ES FACU with ES-PS, IDNAC Card, and DCAI.
2	A single IDNAC Class A or DCLC loop, shown for reference.
3	Connect a maximum of 25 IDNAC Isolator2s to each IDNAC Channel.
	IDNAC Isolator2 A4905-9849.

IDNAC Isolator2 mounting information

Figure 5 shows the IDNAC Isolator2 in the standard 4 in. (102 mm) square, 2 1/8 in. (54 mm) deep, electrical box, with a A4090-9814 Isolator2 Trim Plate. Alternatively, you can use a 4 in. (102 mm) square cover plate.

Figure 5: IDNAC Isolator2 mounting



Callout	Description
1	A4090-9814 Isolator2 Trim Plate
2	4 in. (102 mm) square box, 2 1/8 in. (54 mm) minimum depth
3	A4905-9849 IDNAC Isolator2

Specifications

The IDNAC Isolator2 is only compatible with 4900 series and 5900 series appliances. Compatible devices have an ISOLATOR2 COMPATIBLE sticker according to ULC requirements.

The IDNAC Isolator2 is not compatible with the A4906 addressable appliances series. You cannot use the IDNAC Isolator2 on the same IDNAC circuit with the TrueAlert Isolator+ A4905-9929.

You can operate the IDNAC Isolator2 through the 4100ES ES-PS with IDNAC Card, the 4010ES ESS, the 4007 IDNAC PSU and the 4009 IDNAC Repeater.

Table 1: Electrical

Specification	Details
Isolated circuit wire resistance	5 ohms maximum, measured from any IDNAC Isolator2 port to the farthest appliance in the protected segment.
Voltage range	9 VDC to 30 VDC, provided from TrueAlert channel.
Current, isolated mode	3 mA at 24 VDC.
Address requirements	1 address for each Isolator2 module.
Unit load requirements	1 unit load for each Isolator2 module. 1 unit load = 3 mA FACU current.

Table 2: IDNAC SLC loading

Wiring	Maximum isolators
Class B	25 in a series or parallel.
Class A	25 in a series.

Table 3: Mechanical

Specification	Details
Dimensions	4 1/8 in. H x 4 1/8 in. W x 63/64 in. D (105 mm x 105 mm x 25 mm)
Housing material	ABS/PC
Temperature range	32° F to 120° F (0° C to 49° C) intended for indoor operation
Humidity range	Up to 93% RH at 100° F (38° C)
Wiring connections	Screw terminals for 20 AWG to 12 AWG (0.52 mm^2 to 3.31 mm^2)

Table 4: Reference

Document number	Title
579-1276AC	A4905-9849 IDNAC Isolator2 Installation Instructions
579-1314AC	IDNAC Isolator2 Usage Guidelines
579-1407AC	IDNAC Isolator2 Compatibility Chart
AC4007-0002	4007ES Fire Detection and Control with Addressable Initiation and Addressable Notification
AC4009-0004	4009 IDNAC Repeater; Power and Distance Extender
AC4010-0011	Addressable Fire Detection with IDNAC, Fire Alarm Control Unit and Accessories; International
AC4100-1031	4100ES Addressable Fire Detection and Control Basic Panel Modules and Accessories