

**Cautions and
Warnings**

READ AND SAVE THESE INSTRUCTIONS - Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.



DO NOT INSTALL ANY SIMPLEX® PRODUCT THAT APPEARS DAMAGED - Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.



ELECTRICAL HAZARD - Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of your local Simplex product supplier.



STATIC HAZARD - Static electricity can damage components. Handle as follows:

- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

Introduction

The 4090-9116 IDNet Isolator is a line powered addressable device that provides short circuit protection on an IDNet channel. When a short is detected on the IDNet channel, an IDNet Isolator connected between the 4100ES, 4100U, 4010ES, or 4008 Fire Alarm Control Panel (FACP) and the short shall automatically open the IDNet channel. The FACP is able to command the Isolator to open or close the lines, which enables the FACP to locate earths or shorts on the IDNet channel. The IDNet channel provides the communication link between Addressable IDNet Isolator and FACP and powers the circuit.

The in and out IDNet wiring (Style 6) must be wired through the 4090-9116 IDNet Isolator to provide segregation between fire and non-fire alarm devices in the following non-fire applications:

- A 4090-9001 or -9051 Supervised IAM is configured for monitoring single-station smoke detectors
- A 4090-9121 Security IAM is connected to the same IDNet channel as other IDNet loop devices

When the IDNet channel is wired Style 4, the non-fire IAM(s) must be wired as the last devices on the loop and the input to the first non-fire IAM must be wired through a 4090-9116 IDNet Isolator.

The range of possible temperatures under which the 4090-9116 Addressable IDNet Isolator may function are between 0° C (32° F) and 49° C (120° F).

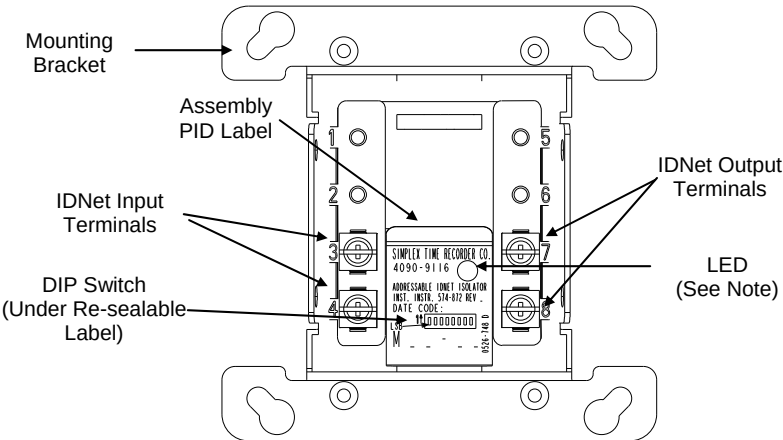
The 4090-9116 Addressable IDNet Isolator operates normally under non-condensing humidity conditions up to 93% with relative humidity at 32° C (90° F).

4090-9116 Addressable IDNet Isolator Installation Instructions

Installation

Addressable IDNet Isolator installation consists of the following:

- Setting the Addressable IDNet Isolator address
- Making electrical connections to the Addressable IDNet Isolator
- Mechanically installing the Addressable IDNet Isolator



Note: The LED flashes approximately once every three seconds to indicate valid communications with the FACP.

Figure 1. Addressable IDNet Isolator Assembly

Setting the Addressable Power Isolator Address

Note: The 4100ES, 4100U, and 4010ES IDNet channels support address codes 1 through 250, while the 4008 supports address codes 1 through 200.

Each Addressable IDNet Isolator has a unique address. The address of the Addressable IDNet Isolator is set via an eight position dip switch (Figure 1), DIP switch position 1 is the least significant bit (LSB) and position 8 is the most significant bit (MSB). Set the Addressable IDNet Isolator address using Figure 2 as reference. Use a small screwdriver or pen to set the switches. The device address for the Addressable IDNet Isolator should be written on the re-sealable label, this information provides an aid in troubleshooting the system.

Note: DIP switch in "1" position is "ON" while DIP switch in "0" position is "OFF".

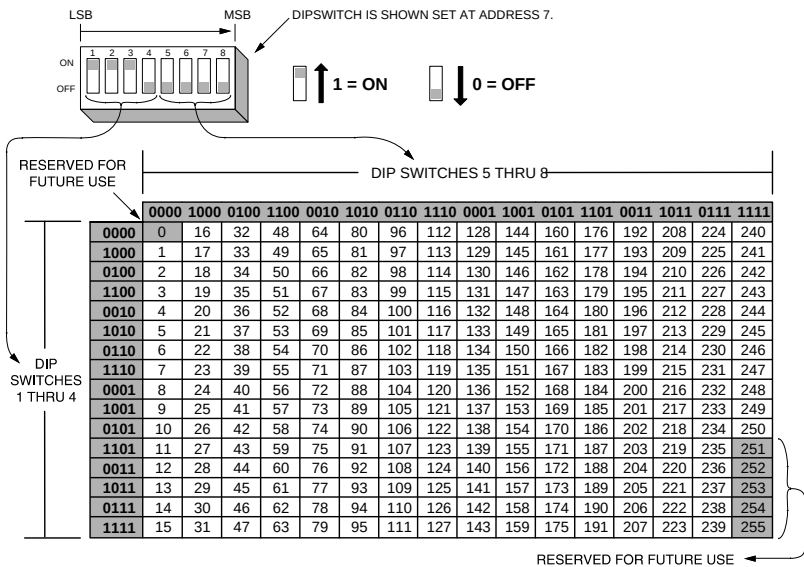


Figure 2. Addressable IDNet Isolator Address Chart

4090-9116 Addressable IDNet Isolator Installation Instructions

Panel Configuration

Configure the Addressable IDNet Isolator to the 4100 panel using the *ES Panel Programmer's Manual* (574-849).

Configure the Addressable IDNet Isolator to the 4008 panel using programming manuals 579-716 or 579-717.

Making Electrical Connections to the Addressable IDNet Isolator

Terminal connections for the Addressable IDNet Isolator are illustrated in Figure 3.

CAUTION: Do not loop wire under terminals. Break wire runs to provide supervision.

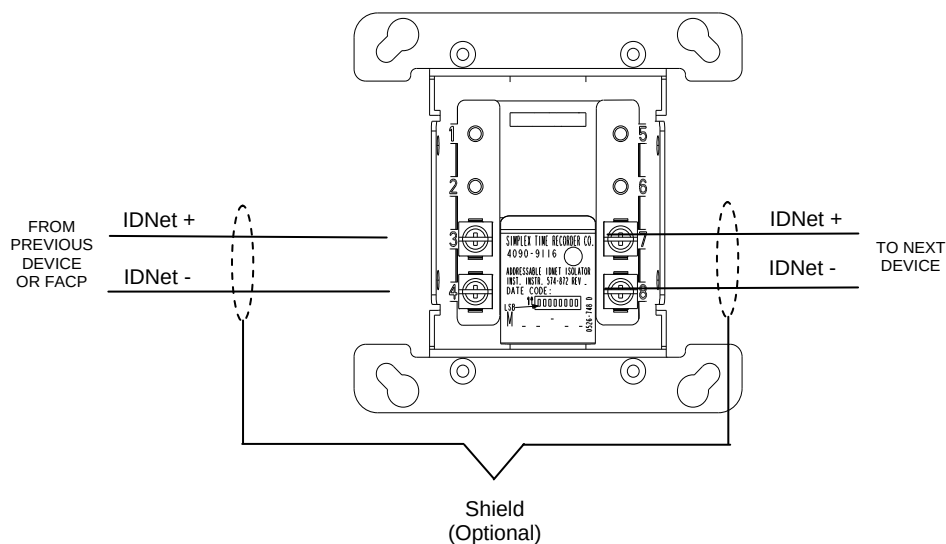


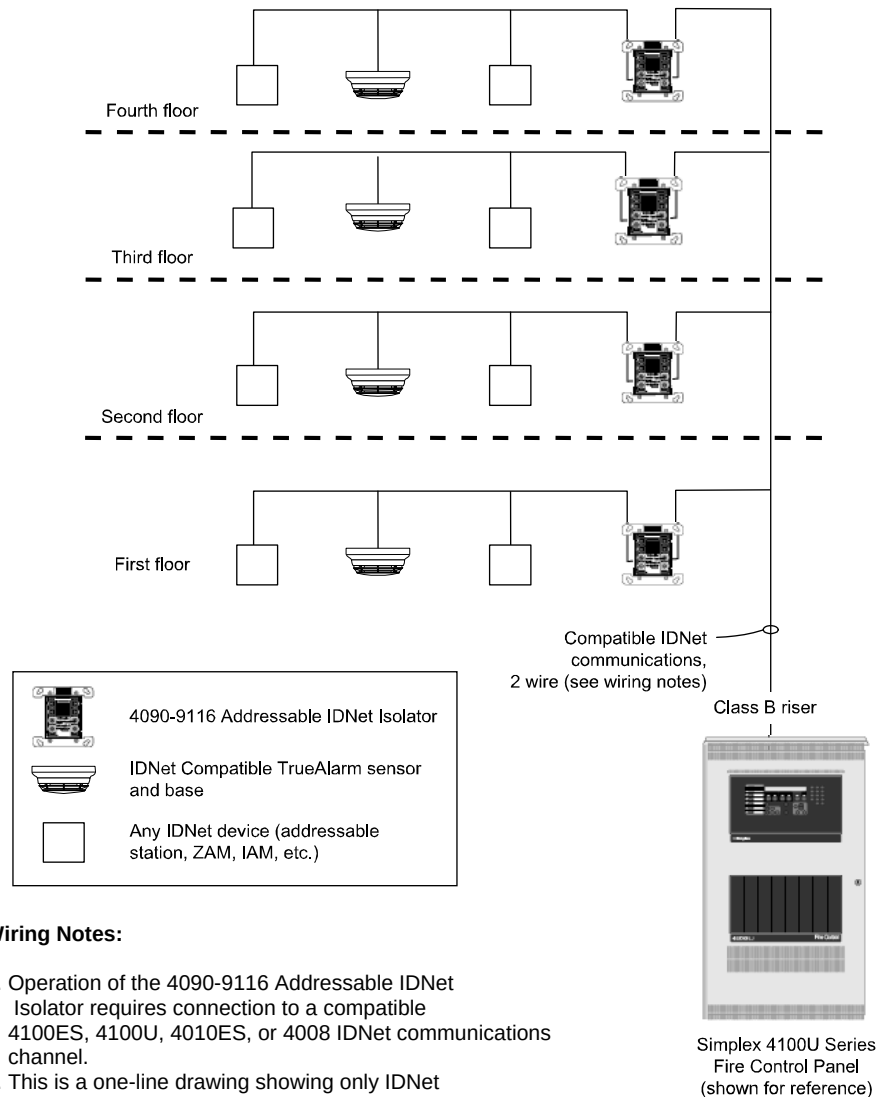
Figure 3. Addressable IDNet Isolator Connections

4090-9116 Addressable IDNet Isolator Installation Instructions

Multi-Floor Isolator Examples

Short Circuit Isolation: The one-line diagram (figure 4) shows a multiple floor example with Class B (style 4) IDNet communications for each floor starting at an Isolator. If floor wiring beyond the isolator should experience a short circuit, each floor is automatically separated from the next, preventing the short circuit from disabling the entire IDNet communications wiring.

Earth Fault Isolation: In the event of an earth fault, each floor can be individually isolated using built-in control panel diagnostics. With individual floor control, the earth fault can be isolated to the floor level to narrow the search area. By adding more isolators, the section required to be isolated can be reduced, allowing more devices to remain active.



Wiring Notes:

1. Operation of the 4090-9116 Addressable IDNet Isolator requires connection to a compatible 4100ES, 4100U, 4010ES, or 4008 IDNet communications channel.
2. This is a one-line drawing showing only IDNet communications wiring.
3. Some IDNet devices require additional wiring for power. Refer to specific devices for details.
4. Maximum line resistance between panel and isolator and between two isolators is 10 ohms (780 ft @ 18 AWG).

Figure 4. Class B Multi-Floor Wiring Example

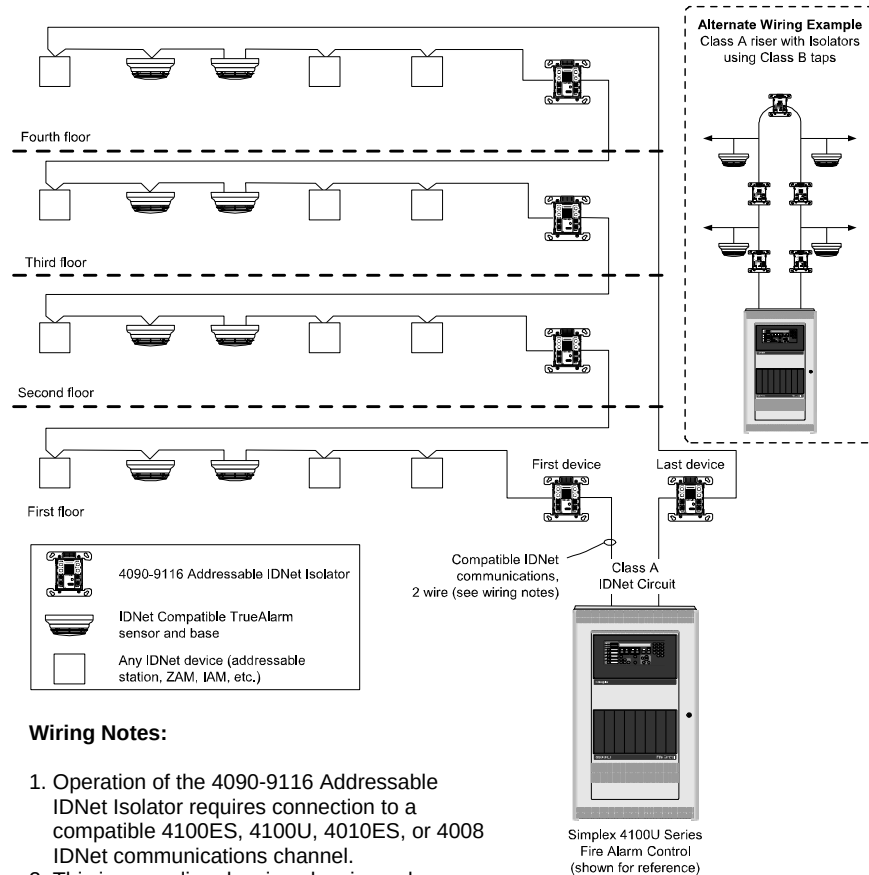
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Multi-Floor Isolator Examples

Class A Wiring: Figure 5 is a modification of Figure 4. Each floor is wired as a Class A (Style 6) connection.

Diagnostic Assistance: For Class A wiring, it is recommended that isolators be located as the first and last devices in the loop (as shown below in figure 5). With the resulting wiring isolation flexibility, locating wiring faults can be made easier.



Wiring Notes:

1. Operation of the 4090-9116 Addressable IDNet Isolator requires connection to a compatible 4100ES, 4100U, 4010ES, or 4008 IDNet communications channel.
2. This is a one-line drawing showing only IDNet communications wiring.
3. Some IDNet devices require additional wiring for power. Refer to specific devices for details.
4. For Class A IDNet communications, it is recommended that Isolators be located close to the panel as the first and last device as indicated.
5. Maximum line resistance between panel and isolator and between two isolators is 10 ohms (780 ft @ 18 AWG).

Figure 5. Class A Multi-Floor Wiring Example

Notes:

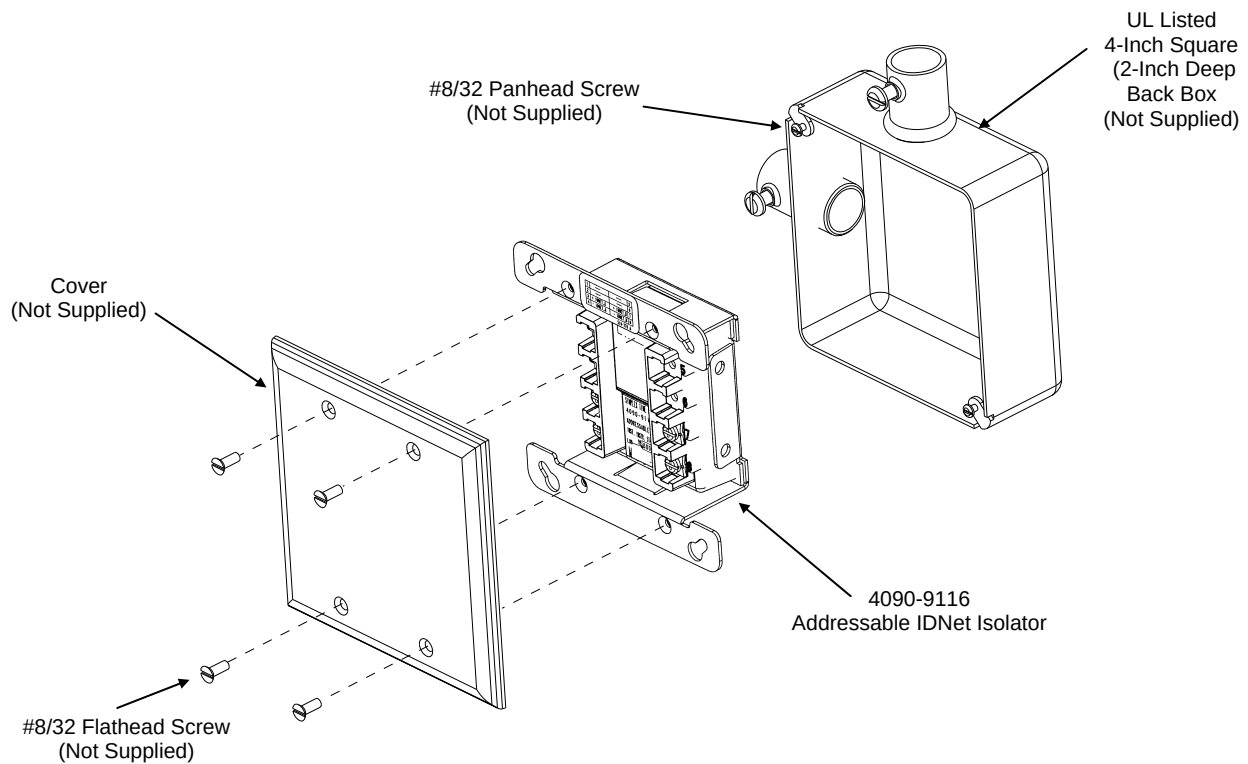
1. Maximum allowable run from FACP to farthest device not to exceed 2500 feet. Maximum total wire (including all T-Taps) from FACP is 10000 feet. IDNet and lines are 18 AWG twisted pair (shield recommended).
2. The Addressable IDNet Isolator counts as one unit load.
3. IDNet wiring is supervised and Power-Limited.

4090-9116 Addressable IDNet Isolator Installation Instructions

Mechanically Installing the Addressable IDNet Isolator

Install the Addressable IDNet Isolator into a grounded 4-inch U.L.-Listed back box (not supplied) using Figure 6 as a reference. Mount the Addressable IDNet Isolator to the back box as follows:

1. Loosen the two screws on the square back box.
2. Mount the Addressable IDNet Isolator to the back box using the teardrop holes on the mounting bracket.
3. Secure the Addressable IDNet Isolator to the back box using the two #8/32 panhead screws.



Note: Simplex offers semi-flush and surface covers (ordered separately) with a light pipe. The cover(s) with light pipe allow viewing of the communications LED without taking the cover off. Installation of the 4090-9806 semi-flush cover and 4090-9807 surface cover are detailed in publication *4090 IDNet™ Semi-Flush/Surface Covers and IAM Bracket Installation Instruction (574-796)*.

Figure 6. Addressable IDNet Isolator Back Box Installation