

Features

Dual port, bi-directional communications isolator for use with Simplex® 4100U Series fire alarm control panel IDNet Signaling Line Circuits (SLCs):**

- Either port can serve as an input or output, ports are automatically separated when a communications short circuit occurs
- Isolation can also be activated from the 4100U control panel for system diagnostics

Earth fault isolation reduces time to fix wiring problems:

- Built-in control panel diagnostics assist in locating earth fault conditions – the most common installation wiring problem

Small size fits into 4” square electrical box and allows convenient mounting where protection is required

For Class B (Style 4) or Class A (Style 6) wiring:

- Communications are monitored from either port
- Class A wired SLCs can optimize operation by maintaining communications with devices outside of the isolated wiring section

UL listed to Standard 864

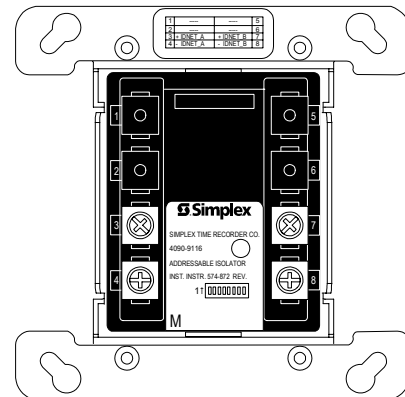
Description

The 4090-9116 IDNet communications isolator provides communications isolation to improve installation convenience and increase system integrity. Mounting requires a standard 4-inch square electrical box, allowing the isolator to be conveniently installed where protection is most likely to be desired.

Short Circuit Isolation. An internal isolation relay allows a compatible fire alarm control panel to separate shorted communications wiring from functioning wiring to optimize the available sensors or other IDNet addressable devices. The isolator’s status is communicated to the control panel, allowing it to assist in identifying the location of the shorted wiring. When visible by using the optional trim plates, a pulsing status LED indicates communications polling status and then becomes steady on when the isolator is in isolation mode.

Earth Faults. During installation, earth faults frequently occur. Finding these faults normally requires extensive wiring disconnection. With the 4090-9116, earth faults on the IDNet communications lines can be quickly located to assist in their repair and to restore the system wiring to normal.

** IDNet addressable communications designs are protected by U.S. Patent No. 4,796,025. Refer to specific devices and control panels to ensure compatibility.



4090-9116 Isolator for 4100U Series IDNet Communications (shown approximately 1/2 size)

Product Selection

| Model | Description | |
|-----------|--|----------------------------|
| 4090-9116 | Addressable IDNet Isolator for 4100U Systems | |
| 4090-9801 | Optional trim plate with LED viewing window, includes mounting screws; painted beige | For semi-flush mounted box |
| 4090-9802 | | For surface mounted box |

Specifications

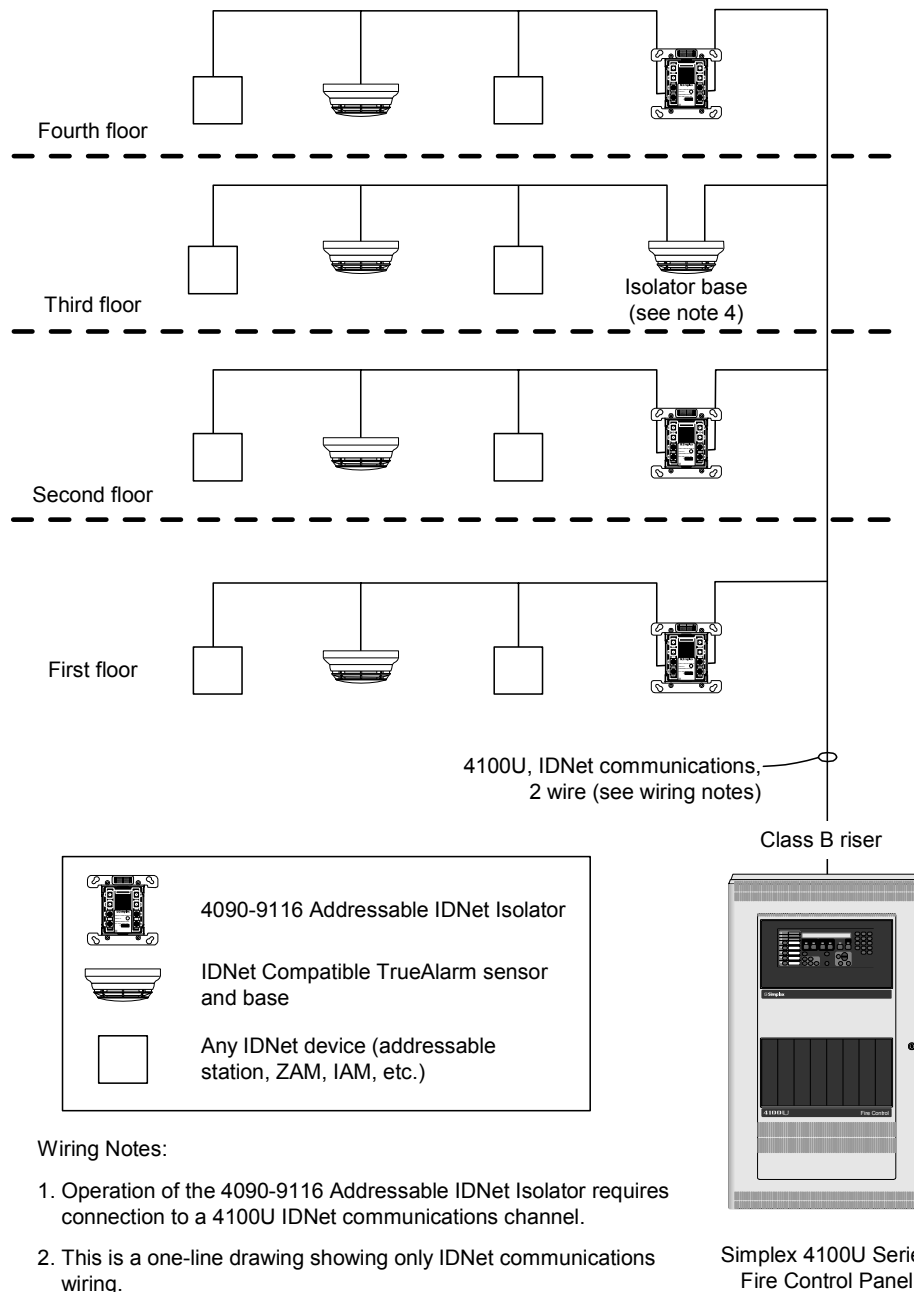
| Electrical | |
|------------------------|--|
| Communications | 4100U IDNet, 1 address |
| Power | Consumes one unit load, power supplied from 4100U IDNet |
| Wire Connections | Screw terminals for input and output wiring, 18 to 14 AWG wire (0.82 mm ² to 2.08 mm ²) |
| Wiring Distances | |
| | Up to 2500 ft (762 m) from fire alarm control panel |
| IDNet Wiring Reference | Up to 10,000 ft (3048 m) total wiring distance (including T-Taps) |
| | Compatible with Simplex 2081-9044 Overvoltage Protectors |
| Mechanical | |
| Dimensions | 4-1/8" H x 4-1/8" W x 1-3/8" D (105 mm x 105 mm x 35 mm) |
| Package | Black thermoplastic housing on metal mounting plate |
| Temperature | 32° to 120° F (0° to 49° C) indoor operation only |
| Humidity Range | 10 to 90% RH at 90° F (32° C) |

* 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 Listing 7300-0026:252 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Additional listings may be applicable; contact your local Simplex product supplier for the latest status.

Multi-Floor Isolator Example 1

Short Circuit Isolation. The one-line diagram on this page shows a multiple floor example with Class B (Style 4) IDNet communications for each floor starting at an Isolator. (A sensor in the 4098-9793 Isolator Base is shown for reference as an alternate isolating device.) 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 4100U 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.



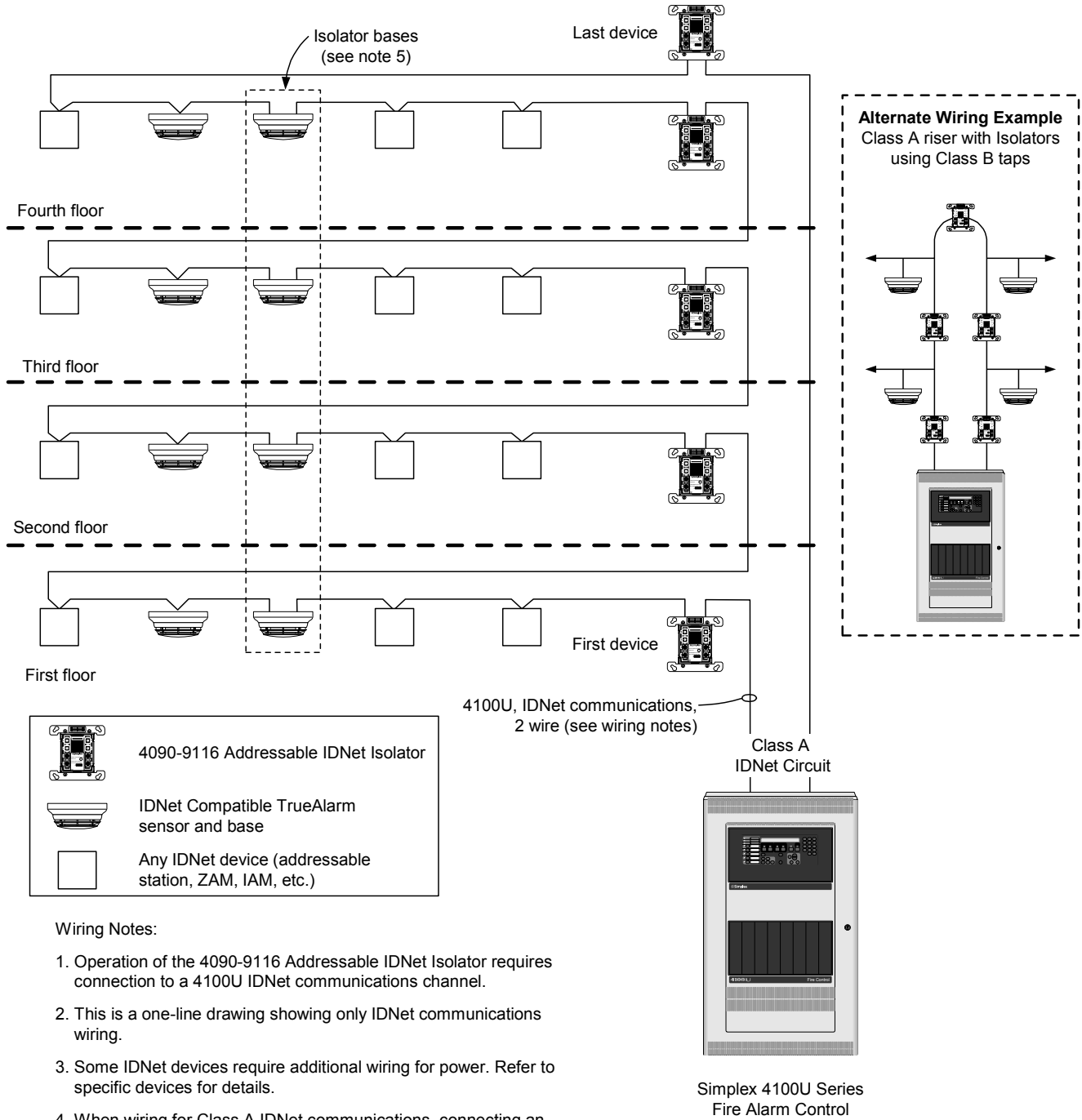
Wiring Notes:

1. Operation of the 4090-9116 Addressable IDNet Isolator requires connection to a 4100U 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. IDNet communications isolation are also available using the 4098-9793 IDNet Isolator base. Refer to data sheet S4098-0025 for information.

Multi-Floor Isolator Example 2

Class A Wiring. The illustration below is a modification of Example 1. Each floor is wired as a Class A (Style 6) connection, and a sensor mounted in a 4098-9793 Isolator Base has been added for reference. This illustrates that with additional isolators (either the 4090-9116 or the isolator base), there is a reduction in the number isolated devices in the event of a short circuit.

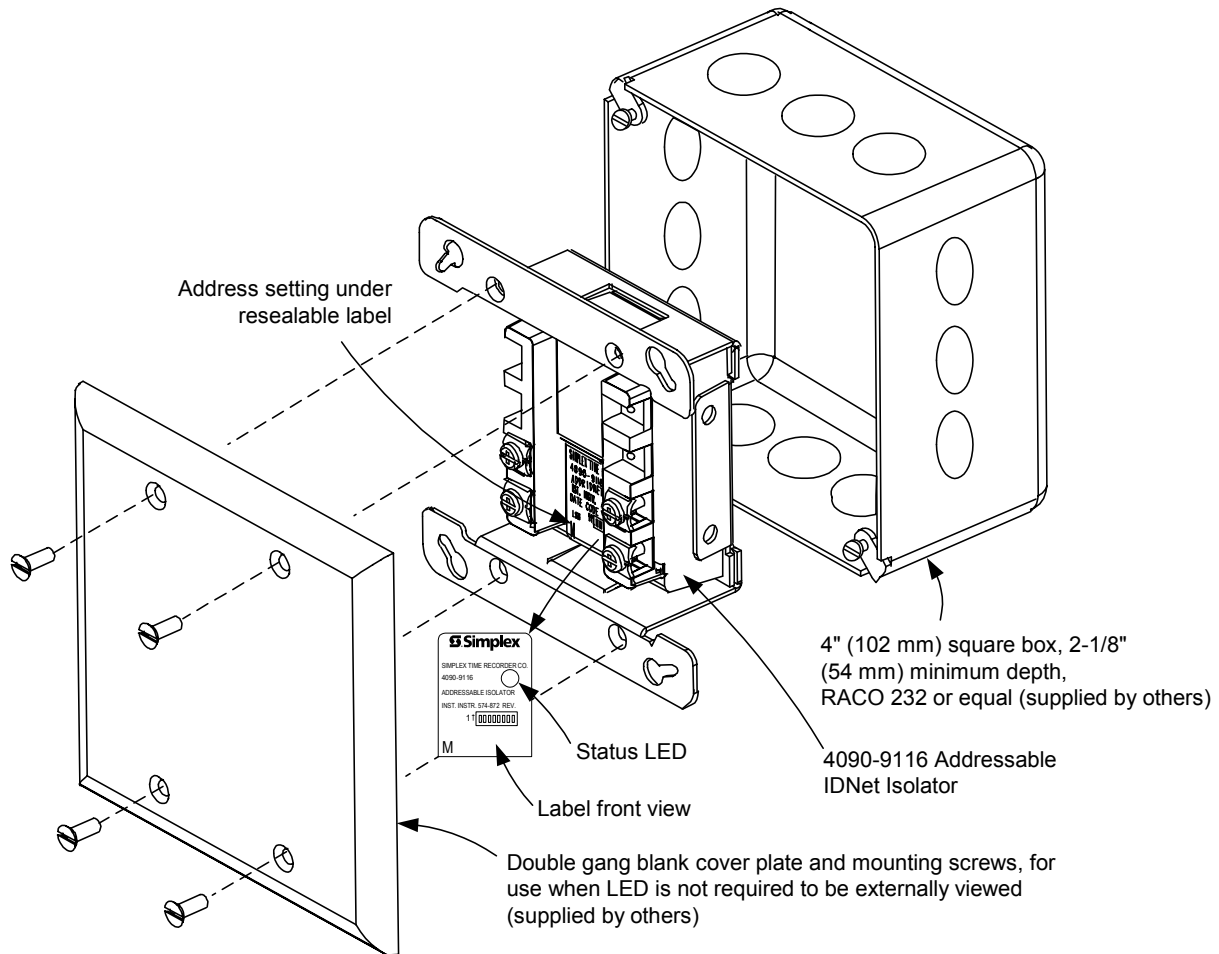
Diagnostic Assistance. It is recommended that for Class A wiring, isolators be located as the first and last devices in the loop (as shown below). With the resulting wiring isolation flexibility, locating earth wiring faults can be made easier.



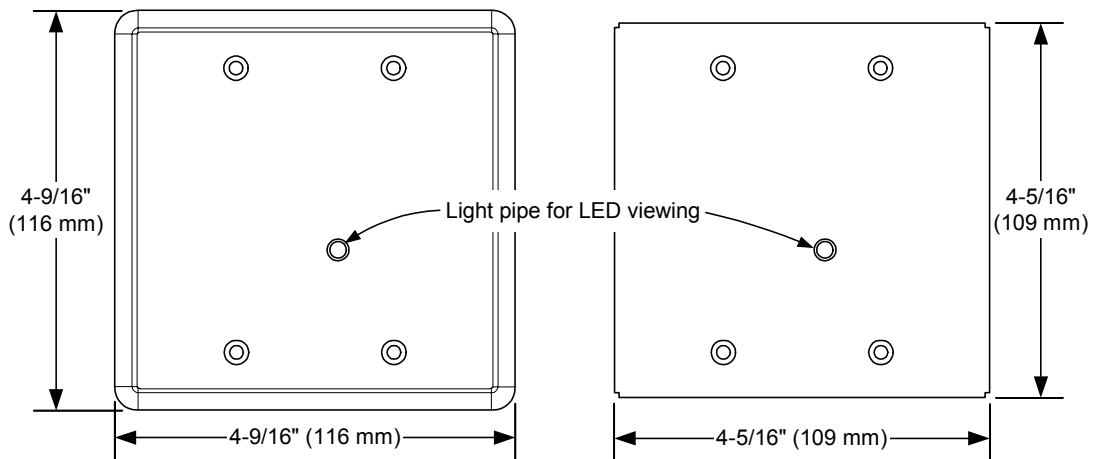
Wiring Notes:

1. Operation of the 4090-9116 Addressable IDNet Isolator requires connection to a 4100U 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. When wiring for Class A IDNet communications, connecting an Isolator as the first and the last device is recommended to assist with earth fault control panel diagnostics.
5. IDNet communications isolation are also available using the 4098-9793 IDNet Isolator base. Refer to data sheet S4098-0025 for information.

Mounting Information



Mounting Reference, Double Gang 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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