



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

## 4100U Addressable Peripherals

**4090-9116** Addressable IDNet™ Isolator  
for 4100U and 4008 Series Fire Alarm Controls

### Features

**Dual port, bi-directional communications isolator for use with Simplex® 4100U or 4008 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 control panel for system diagnostics
- Small size fits into 4" square electrical box and allows convenient mounting where protection is required
- Visible LED flashes to indicate communications; optional covers are available to view LED after installation
- When panel mounted quad isolation is also required (available with 4100U only), use IDNet+ Module 4100-3107 (see diagram notes)

**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

**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**

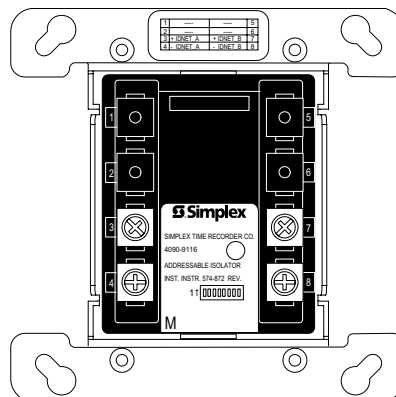
### Description

**4090-9116 Isolators** provide IDNet communications isolation to improve installation convenience and increase system integrity. Isolation is automatically activated when an output short circuit is detected and isolation can also be selected manually from the control panel to assist with troubleshooting wiring problems.

**Operation.** Isolators power-up in isolation mode and are directed to connect by the control panel. If the output wiring is acceptable, the isolator will connect to the rest of the circuit. If the output wiring is shorted, the isolator remains isolated.

**Status Tracking.** The isolator reports back to the panel when it is in isolation mode and the extent of shorted wiring is reported back to the panel by identifying device addresses that are not communicating. [Isolators are assigned sequentially to low number addresses to expedite SLC power-up. Refer to Installation Instructions 574-872 for additional information.]

**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.



**4090-9116 IDNet Communications Isolator**  
(shown approximately 1/2 size)

### Product Selection

Model	Description	
4090-9116	Addressable IDNet Isolator for 4100U and 4008 Systems	
4090-9801	Optional trim plate with LED viewing window, includes mounting screws; galvanized steel	For semi-flush mounted box
4090-9802		For surface mounted box

### Specifications

Electrical	
Communications	4100U or 4008 IDNet, 1 address
Power	Consumes one unit load, power supplied from IDNet SLC
Wire Connections	Screw terminals for input and output wiring, 18 to 14 AWG wire (0.82 mm <sup>2</sup> to 2.08 mm <sup>2</sup> )
Wiring Distances	
IDNet Wiring Reference	Up to 2500 ft ( 762 m) from fire alarm control panel
	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)

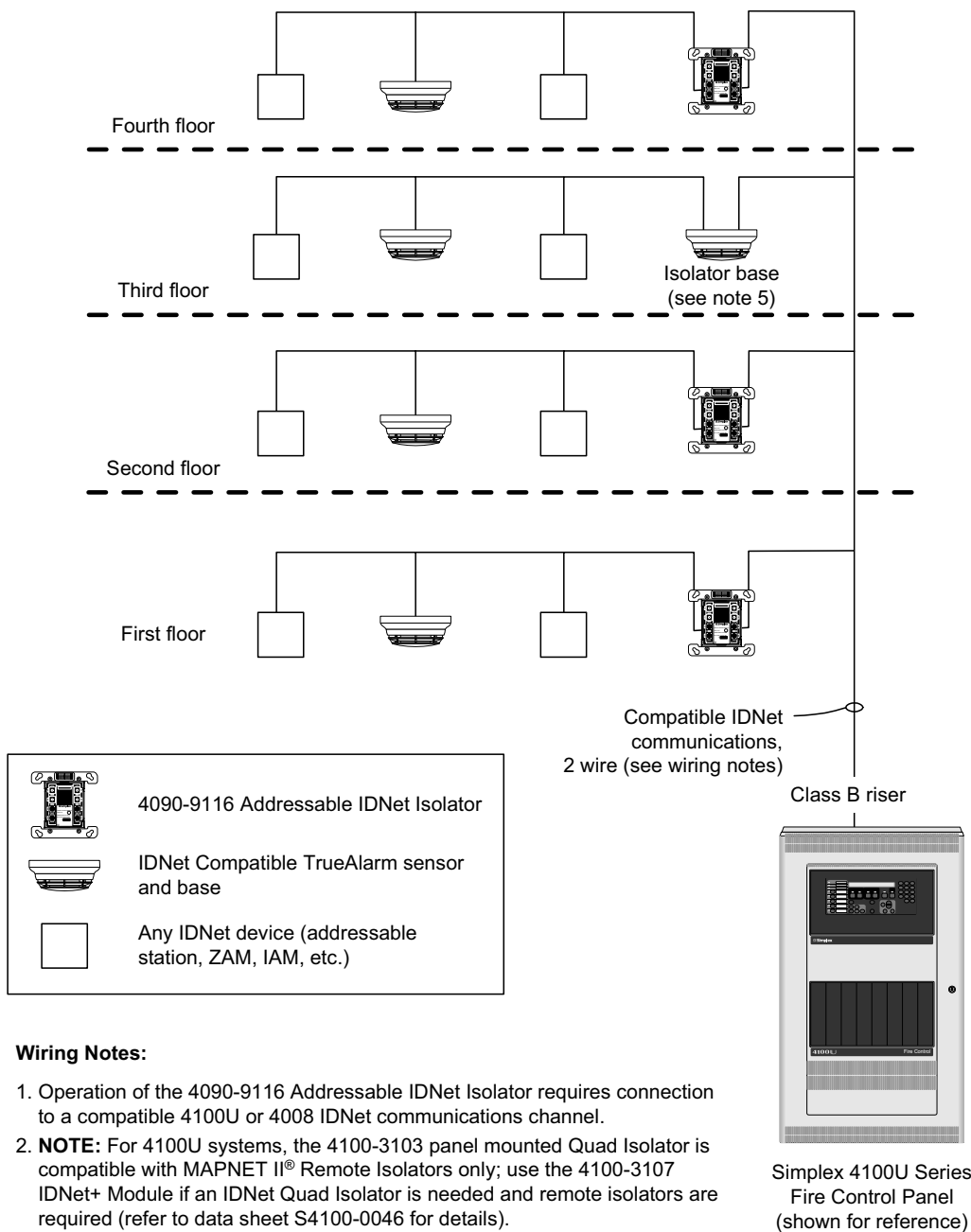
\* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:252 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

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

## 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 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.



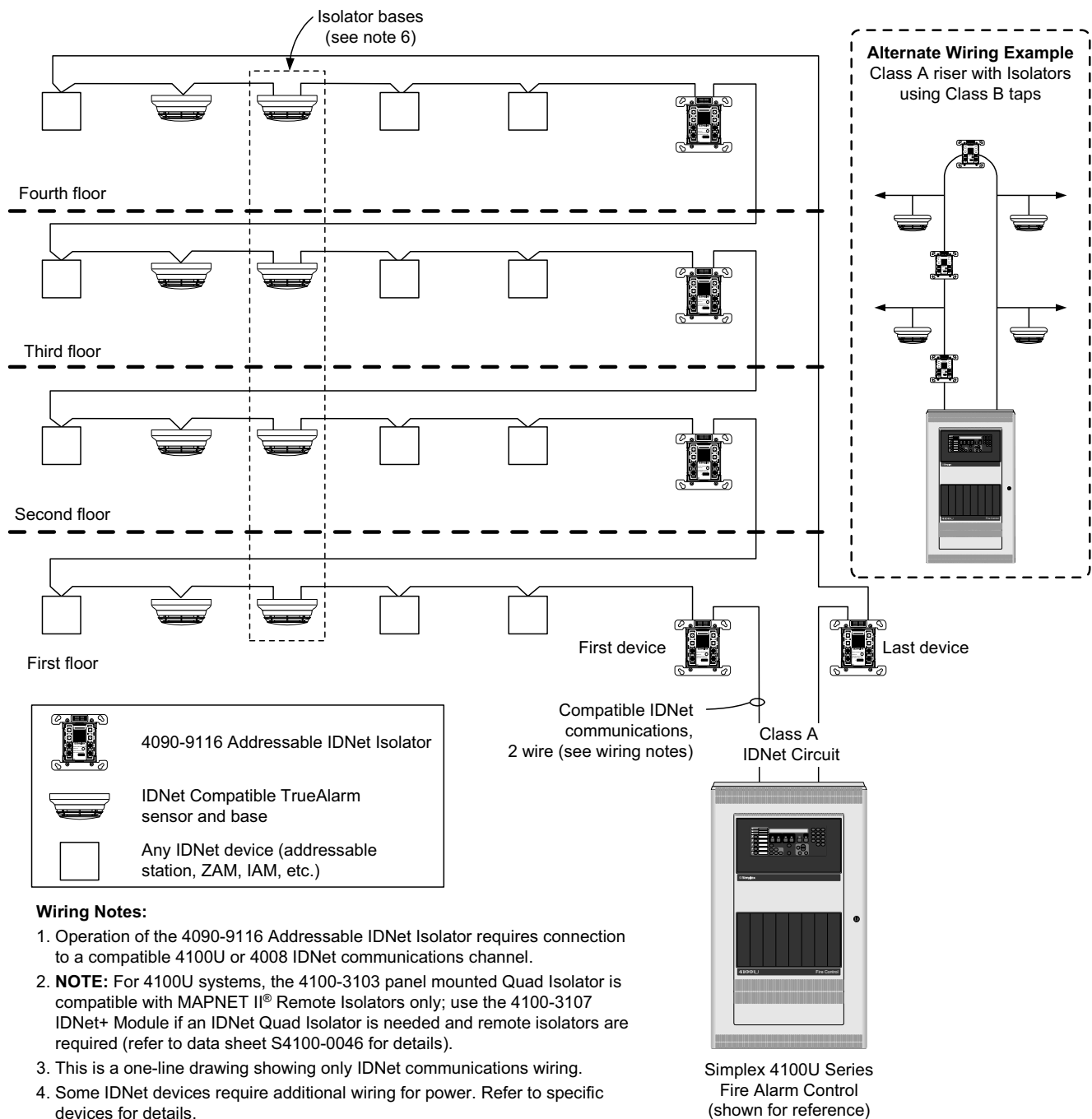
### Wiring Notes:

1. Operation of the 4090-9116 Addressable IDNet Isolator requires connection to a compatible 4100U or 4008 IDNet communications channel.
2. **NOTE:** For 4100U systems, the 4100-3103 panel mounted Quad Isolator is compatible with MAPNET II® Remote Isolators only; use the 4100-3107 IDNet+ Module if an IDNet Quad Isolator is needed and remote isolators are required (refer to data sheet S4100-0046 for details).
3. This is a one-line drawing showing only IDNet communications wiring.
4. Some IDNet devices require additional wiring for power. Refer to specific devices for details.
5. IDNet communications isolation are also available using the 4098-9793 IDNet Isolator base. Refer to data sheet S4098-0025 for information.

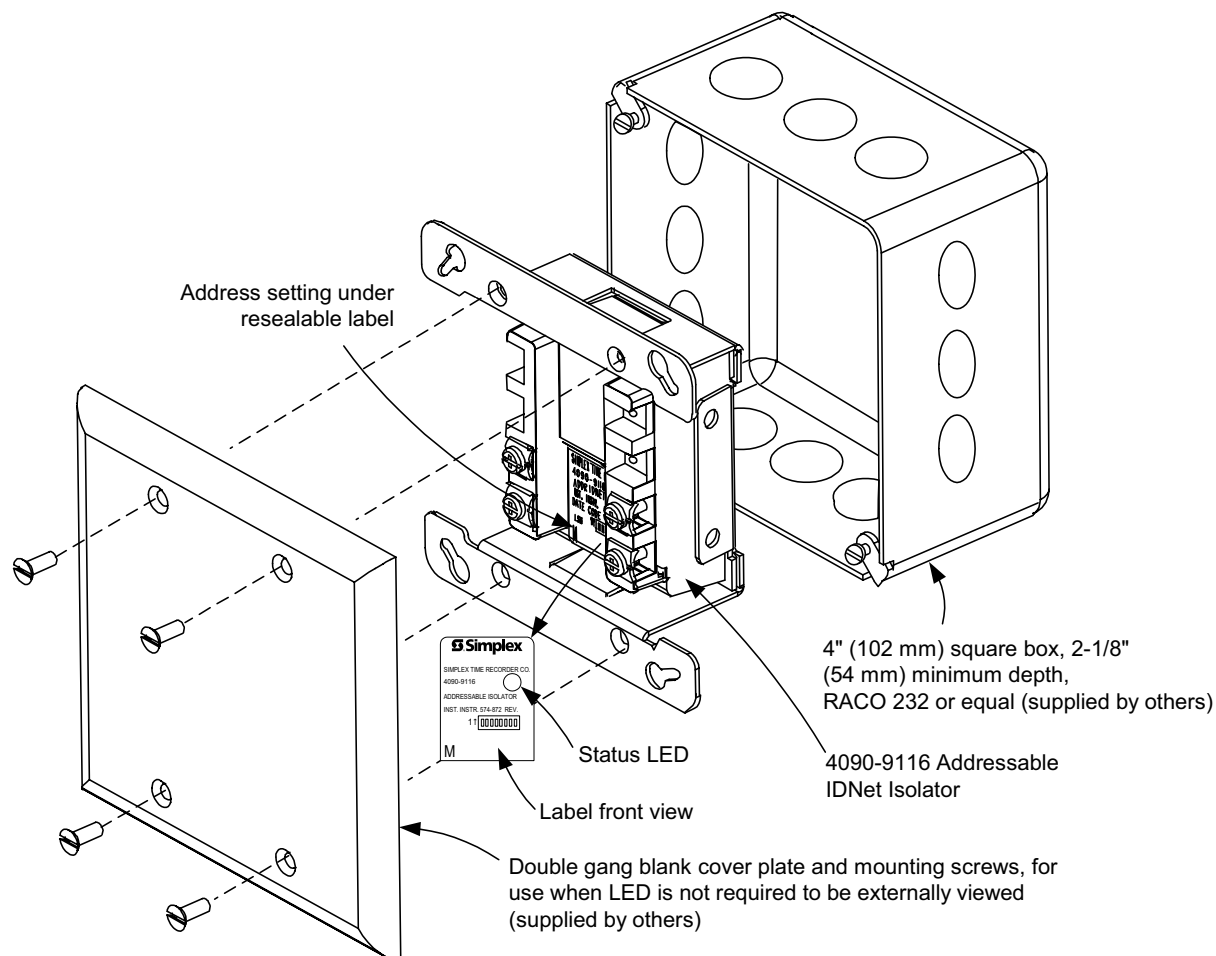
## Multi-Floor Isolator Example 2

**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 of isolated devices in the event of a short circuit.

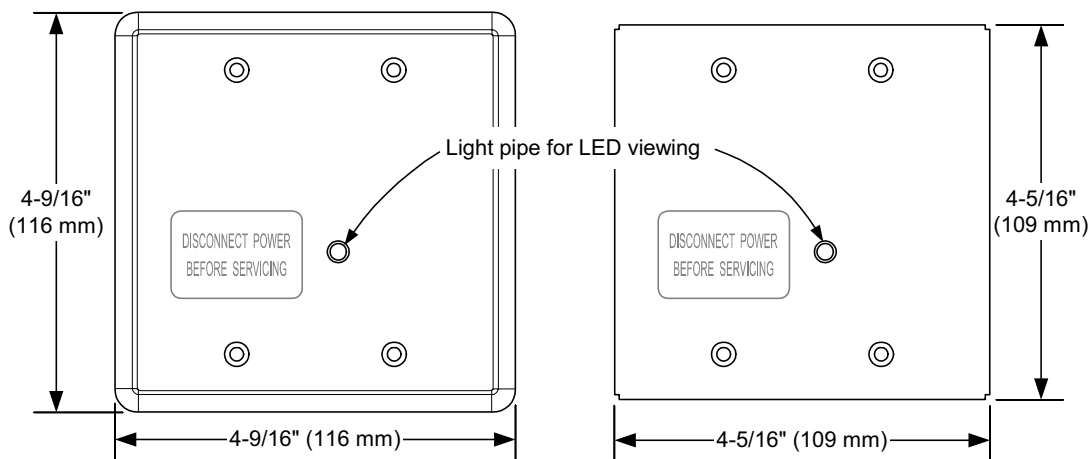
**Diagnostic Assistance.** For Class A wiring, it is recommended that isolators be located as the first and last devices in the loop (as shown below). With the resulting wiring isolation flexibility, locating wiring faults can be made easier. (When connected to a 4100U panel mounted 4100-3107 IDNet+ Module, this is not necessary due to its internal isolation design.)



## 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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