Simplex 4090 9116

Simplex 4090-9116 Addressable IDNet Isolator

Model: 4090 9116 | Brand: Simplex

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Simplex 4090-9116 Addressable IDNet Isolator. This device is designed to enhance the reliability of fire alarm systems by isolating faults on the Signaling Line Circuit (SLC).

2. PRODUCT OVERVIEW

The Simplex 4090-9116 is an addressable IDNet isolator module. Its primary function is to protect the integrity of the IDNet communication loop by automatically isolating sections of the circuit that develop a short circuit fault. This ensures that other parts of the fire alarm system continue to operate normally, maintaining critical communication and detection capabilities.

When a short circuit is detected, the isolator opens the circuit on both sides of the fault, effectively removing the faulty section from the loop. Once the fault is cleared, the isolator automatically restores the circuit to normal operation. This self-healing capability significantly improves system resilience and reduces downtime during fault conditions.

Figure 2.1: Front view of the Simplex 4090-9116 Addressable IDNet Isolator, showing terminal blocks for wiring connections.

3. SAFETY INFORMATION

WARNING:

- Installation and servicing must be performed by qualified personnel only, in accordance with all local and national electrical codes, and the National Fire Alarm and Signaling Code (NFPA 72).
- Disconnect all power before installing or servicing this device to prevent electrical shock and/or equipment damage.
- Ensure proper grounding and wiring to prevent system malfunctions.
- Do not operate the device outside its specified environmental limits.

4. SETUP AND INSTALLATION

The 4090-9116 isolator is designed for easy integration into Simplex IDNet fire alarm systems. It typically mounts in a standard 4-inch square electrical box or compatible enclosure.

Figure 4.1: The 4090-9116 isolator module shown with its original packaging and accompanying instruction manual.

4.1 Mounting

1. Select a suitable location for mounting, ensuring it complies with local fire codes and accessibility requirements.
2. Mount the isolator module securely within a compatible electrical box or enclosure using appropriate fasteners.

4.2 Wiring

Connect the IDNet Signaling Line Circuit (SLC) wiring to the designated terminals on the isolator module. Ensure correct polarity and secure connections. Refer to the specific wiring diagrams provided with your Simplex fire alarm control panel and the isolator's included documentation for detailed instructions.

- Input/Output terminals are clearly marked.
- Use appropriate wire gauge as specified by system requirements.
- Verify all connections before applying power.

Figure 4.2: The 4090-9116 isolator module securely placed within its protective cardboard packaging, ready for installation.

4.3 Addressing

The 4090-9116 is an addressable device. Set the unique address for the isolator using the rotary switches or DIP switches on the module, as per your system's addressing scheme. Consult the fire alarm control panel's manual for address assignment procedures.

5. OPERATING PRINCIPLES

The Simplex 4090-9116 operates passively within the IDNet SLC. It continuously monitors the circuit for short circuit conditions. In the event of a short circuit:

- The isolator detects the fault and automatically opens the circuit on both sides of the shorted section.
- This action prevents the short circuit from affecting the entire SLC loop, allowing other devices on the unaffected sections to continue communicating with the fire alarm control panel.
- Once the short circuit is resolved, the isolator automatically closes the circuit, restoring full loop communication.

The isolator does not require external power; it draws power directly from the IDNet SLC.

6. MAINTENANCE

The Simplex 4090-9116 isolator is designed for reliable, long-term operation with minimal maintenance. However, regular system checks are recommended as part of a comprehensive fire alarm system maintenance program.

- **Visual Inspection:** Periodically inspect the isolator and its wiring for any signs of physical damage, corrosion, or loose connections.
- **System Testing:** Ensure the isolator's functionality is verified during routine fire alarm system testing, as required by NFPA 72 and local codes. This typically involves simulating a fault to confirm proper

isolation.

- **Cleaning:** If necessary, gently clean the exterior of the device with a soft, dry cloth. Do not use abrasive cleaners or solvents.

Any maintenance or repair beyond visual inspection and cleaning should be performed by a qualified fire alarm technician.

7. TROUBLESHOOTING

If a fault is indicated on the fire alarm control panel related to an IDNet SLC, and an isolator is suspected, consider the following:

- **System Fault Indication:** If the control panel indicates an SLC fault, identify the specific section of the loop that is isolated. This points to the location of the short circuit.
- **Wiring Check:** Verify all wiring connections to the isolator and connected devices for shorts, opens, or ground faults.
- **Device Malfunction:** While rare, an isolator itself could malfunction. If all other devices and wiring in the isolated section are confirmed to be fault-free, the isolator may need to be replaced by a qualified technician.
- **Power Issues:** Ensure the fire alarm control panel is providing stable power to the SLC.

Always consult the fire alarm control panel's troubleshooting guide for specific fault codes and resolutions.

8. SPECIFICATIONS

Attribute	Value
Brand	Simplex
Model Number	4090 9116
Part Number	4090-9116
Item Weight	16 ounces (1 pound)
Product Dimensions	23 x 16 x 18 inches (packaging dimensions)
Power Source	IDNet SLC
Batteries Included?	No
Batteries Required?	No
Manufacturer	Simplex
UPC	643485654193
Date First Available	August 5, 2015

Note: Product dimensions listed may refer to shipping package dimensions rather than the device itself.

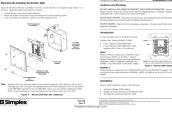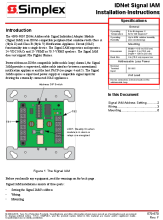## 9. WARRANTY AND SUPPORT

For warranty information and technical support regarding your Simplex 4090-9116 Addressable IDNet Isolator, please contact Simplex customer service or your authorized Simplex distributor. Ensure you have your product model number and any relevant system details available when seeking support.

For general inquiries, you may refer to the official Simplex website or contact their support channels. Always rely on qualified professionals for installation, maintenance, and troubleshooting of fire alarm system components.

Related Documents - 4090 9116

	[Simplex 4090-9007 IDNet Signal IAM: Addressable Module for Fire Alarm Systems](#) Detailed technical specifications and features for the Simplex 4090-9007 IDNet Signal Individual Addressable Module (IAM), designed for enhanced selective signaling and audio control in Simplex 4100ES, 4010ES, 4100U, and 4008 Series fire alarm control panels. Includes wiring, operation, and mounting information.
	[Módulo Endereçável Individual Simplex 4090-9007 IDNet para Sinalização de Alarme de Incêndio](#) Este documento técnico detalha o Módulo Endereçável Individual (IAM) Simplex 4090-9007 IDNet, projetado para fornecer sinalização adicional em painéis de controle de alarme de incêndio Simplex séries 4007ES, 4008, 4010ES, 4100ES e 4100U. Inclui características, recursos de supervisão, detalhes de operação, especificações elétricas e mecânicas, requisitos de fiação e informações de montagem para otimização de sistemas de alarme de incêndio.
	[Módulo Direccionable Individual Simplex 4090-9007 IAM de Señal para Paneles de Alarma de Incendios](#) Descubra el Módulo Direccionable Individual (IAM) de Señal Simplex 4090-9007, un periférico IDNet para paneles de control de alarma de incendios 4007ES, 4008, 4010ES, 4100ES y 4100U. Proporciona señalización selectiva, supervisión de NAC, control de audio y cumple con UL, ULC, CSFM y FM.
	[Simplex 4090-9116 Aislador de Comunicaciones IDNet Direccionable - Especificaciones Técnicas](#) Documento técnico detallado sobre el Aislador de Comunicaciones IDNet Direccionable Simplex 4090-9116, cubriendo sus características, operación, ejemplos de instalación, especificaciones eléctricas y mecánicas para sistemas de alarma contra incendios.
	[Simplex 4090-9101, 4090-9106 Monitor ZAM Installation Instructions](#) Installation instructions for Simplex 4090-9101 and 4090-9106 Monitor Zone Adapter Modules (ZAMs). Covers mechanical installation, address setting via DIP switches, and electrical connections for IDNet and MAPNET II systems.

[Simplex IDNet Signal IAM Installation Instructions](#)

Detailed installation instructions for the Simplex 4090-9007 IDNet Addressable Signal Individual Adapter Module (Signal IAM), covering address setting, wiring configurations for Class A and Class B Notification Appliance Circuits (NACs), and mounting procedures. This guide provides essential information for integrating the Signal IAM with fire alarm control panels and notification appliances.