

Features

Provides additional Simplex® Fire Alarm Network connection flexibility using modem communications:

- Network topologies include ring (loop), star (hub), and combinations
- Connections can include linking of two Network loops into one network
- Total Network/System linking can include passing communications through up to three (3) physical bridge links
- Hub nodes in the fire alarm control panel connecting to Star communications wiring assist in expansion and retrofit of existing Simplex 2120 Multiplex systems**

Available for Simplex 4100ES, 4100U, and 4010ES Series fire alarm control panels:

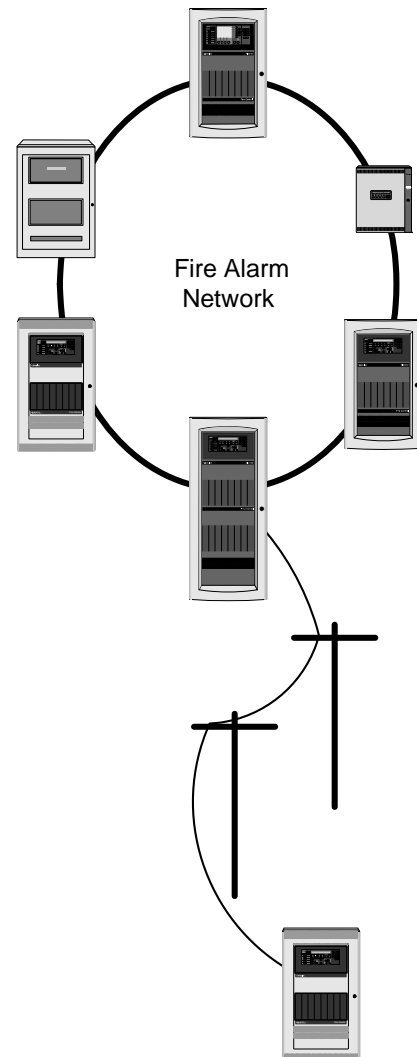
- Standard Physical Bridge modules include wired media modules for Network connections and a modem media module for bridge connections
- Models are available for Class B or Class X communications
- Fiber optic media modules can be field installed as required for Network communications
- Also compatible with legacy 4100/4100+/4020 Series control panels

UL Listed to Standard 864

Description

Network Connection Flexibility. Physical bridge modules provide an intelligent network link that increases the flexibility of Simplex fire alarm Networks. Communications between the physical bridge modules use a proprietary, full duplex, two-wire modem protocol for efficient information transfer. Additionally, each physical bridge module functions as a “proxy” for its remote node information to maintain overall network performance.

Multiple Network Loop Connections. Connection options include linking of two network loops into one network, branching to single or multiple remote nodes using existing two-wire connections, creating hub nodes to form Star configuration systems, and combinations of these connections, providing convenient networking flexibility.



Physical Bridge Module Link Connected to a Single Remote Node

* 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 7165-0026:251 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. 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 Fire Protection Products.

** Refer to data sheet S4190-0016 for details on the Serial Line Interface (SLI) for connection to multiple 2120 systems using a TrueSite workstation.

Product Selection

Modules for 4100ES and 4100U

Model	Description	Additional Details	Mounting Space Requirements
4100-6101	Physical Bridge Class B (Style 4) Module	Includes one modem module and 2 wired communications modules	Single slot size
4100-6102	Physical Bridge Class X (Style 7) Module	Includes two modem modules and 2 wired communications modules	Two slot size
4100-6057	Fiber optic media module	Order separately as needed to replace wired media modules on-site per system requirements	Mounts to Modular Network Interface Card
4100-0156	8 VDC Converter Module	Required for multiple Physical Bridge Modules, 3 A maximum	Single block module (4 x 5 card) for 4100ES or 4100U only (not applicable to 4010ES)

Modules for 4010ES*

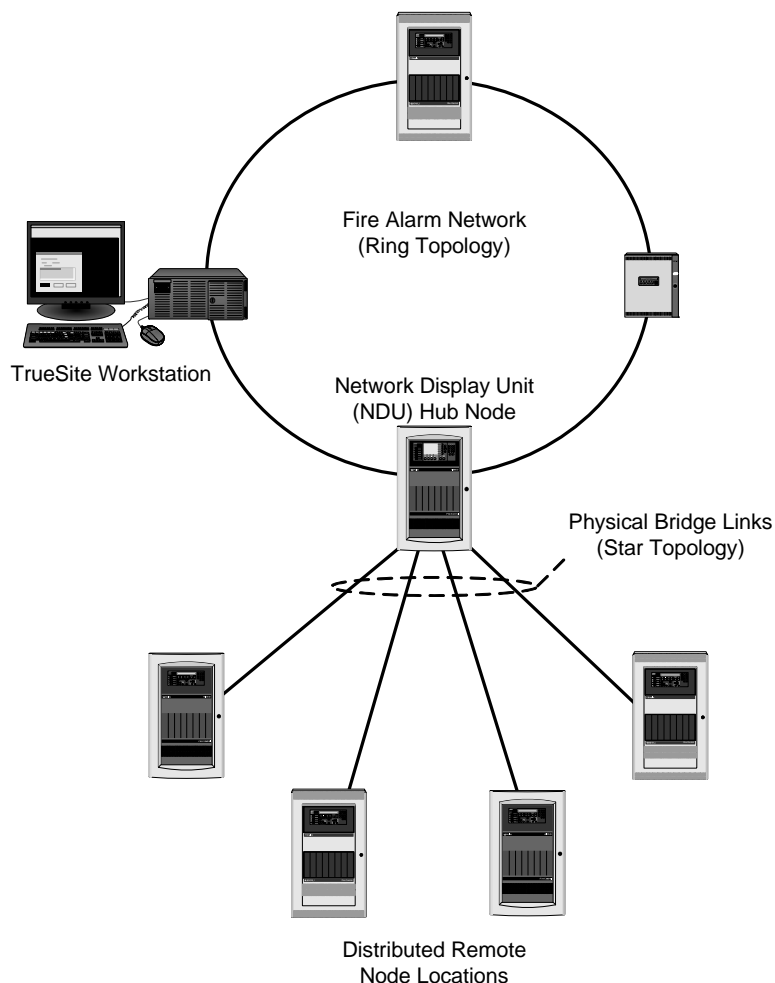
Model	Description	Additional Details	Mounting Space Requirements
4010-9924	Physical Bridge Class B (Style 4) Module	Includes one modem module and 2 wired communications modules	Two vertical blocks*
4010-9925	Physical Bridge Class X (Style 7) Module	Includes two modem modules and 2 wired communications modules	Two vertical blocks*
4010-9819	Fiber optic media module	Order separately as needed to replace wired media modules on-site per system requirements	Mounts to Modular Network Interface Card

* Refer to data sheet S4010-0004 for additional mounting details. (For international applications; refer to data sheet S4010-0006.)

Hub Node Connection to Star Topology

Ring to Star Connections. The diagram to the right illustrates the use of multiple physical bridge modules to allow a conventional ring topology Network to interface into a Star topology. Each physical bridge link requires a physical bridge module at each end. A network interface module is required at each node to complete the network communications path (refer to internal block diagrams on pages 3 and 4 for additional information).

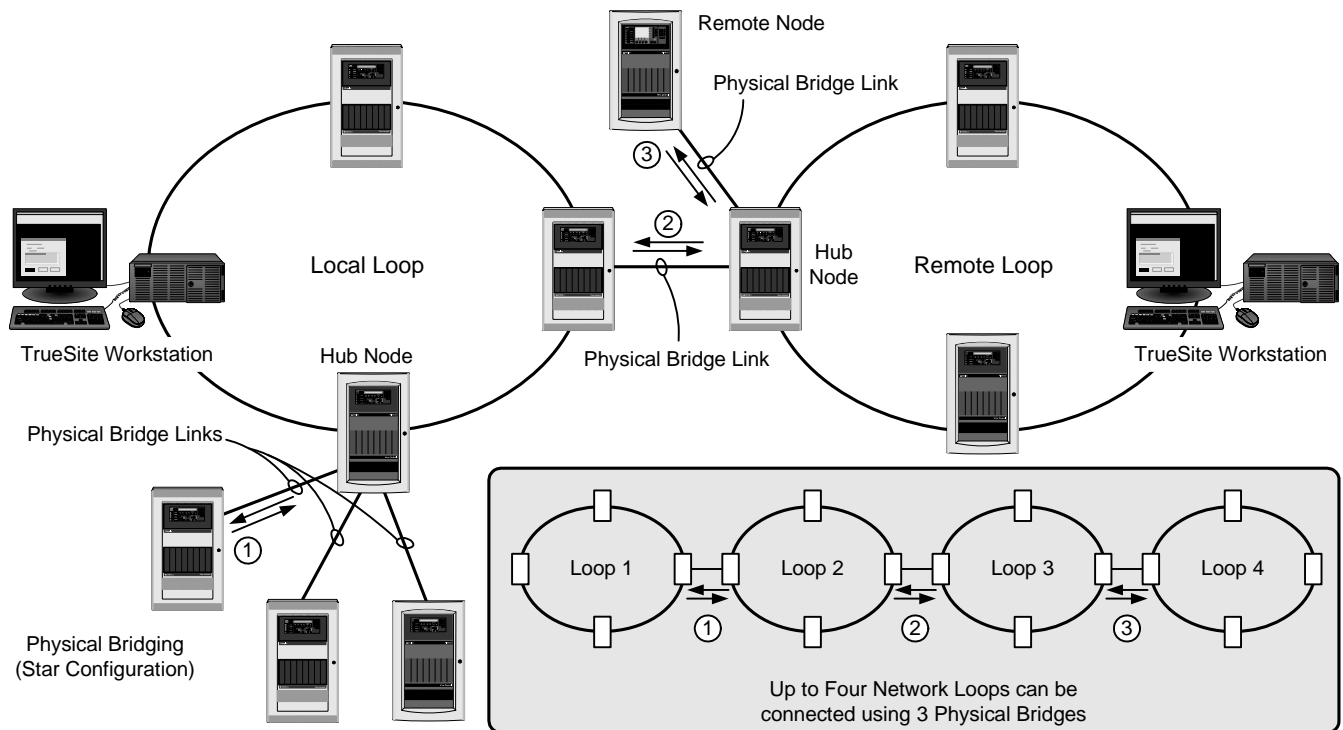
Retrofit Capability. This example illustrates the flexibility available when retrofitting existing Star connection topology system wiring such as for replacement of Simplex 2120 series Multiplex fire alarm control panels.



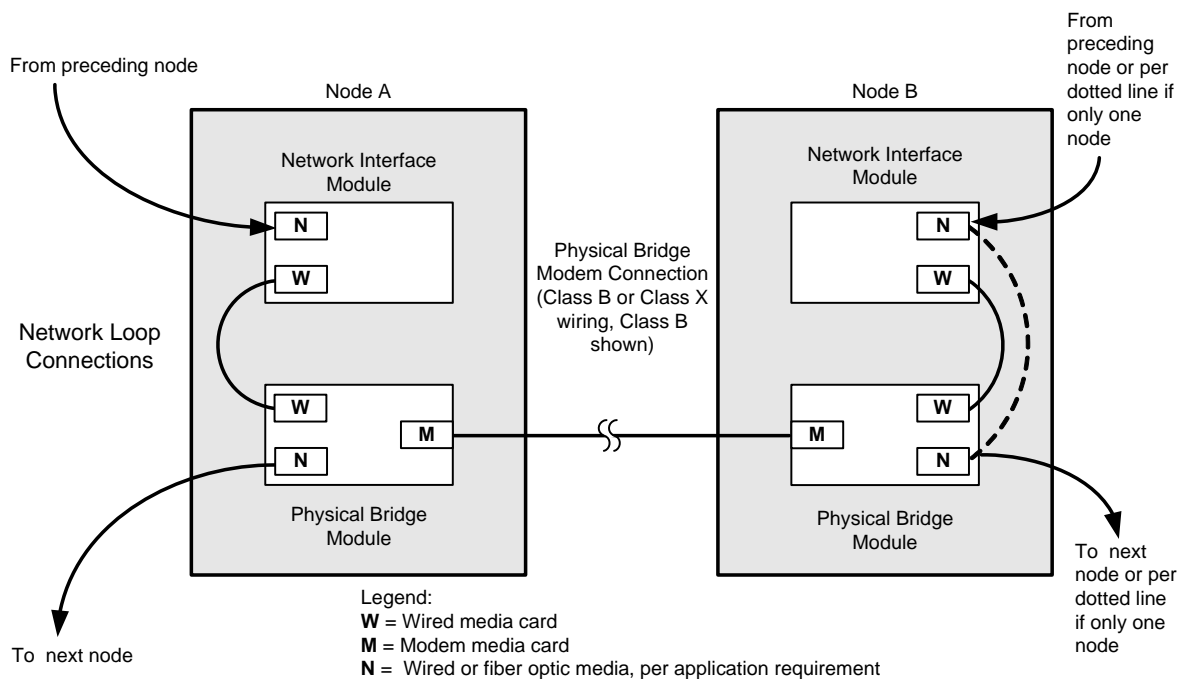
Additional Applications

The diagram below illustrates Network connection flexibility using Physical Bridges. Network nodes can communicate through up to three (3) physical bridge connections as indicated by the arrows. Star topology bridges each link once back to the hub node and then communicate using standard Network wired connections.

In the shaded section below, with three (3) Physical Bridge links, up to four (4) separate Network loops can be connected (without Star connections).



Basic Physical Bridge Block Diagram



Specifications (for additional information refer to Installation Instructions 579-184)

"Short Haul" Twisted Pair Lines

Maximum Distance	26 AWG = 9500 ft (2.85 km)
	24 AWG = 15,000 ft (4.5 km)

"Long Haul" Leased Telco Lines

Maximum Distance	Essentially Unlimited
Characteristics	Private leased lines for analog data, point-to-point, full duplex, no line conditioning or signaling required, two wire line interface

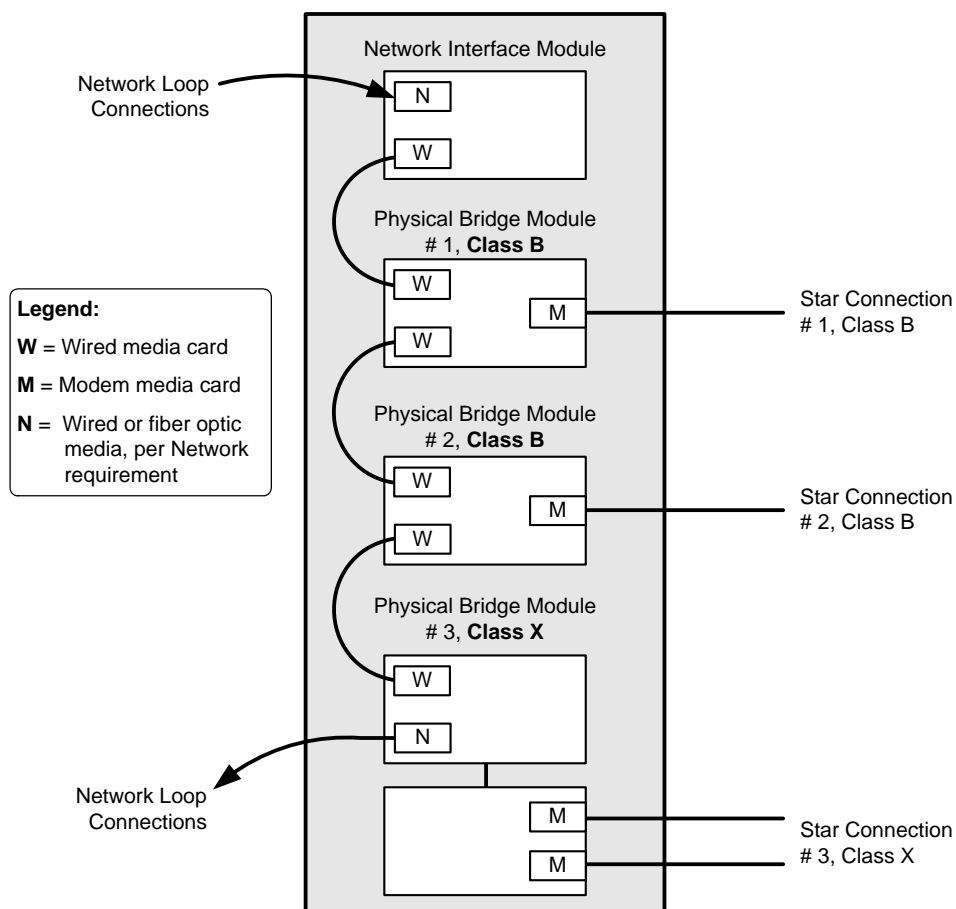
Connections and Data Information

Class B (Style 4) Connection	One, 2-wire RJ-11 Interface
Class X (Style 7) Connection	Two, 2-wire RJ-11 Interfaces
Data Rate	Up to 14.4 kbps
Throughput	Up to 38.4 kbps using MNP-5 compression and error correction

Current Requirements and Environmental

4100-6101 or 4010-9924, Class B	Supervisory = Alarm = 210 mA; 24 VDC system power
4100-6102 or 4010-9925, Class X	Supervisory = Alarm = 300 mA; 24 VDC system power
With 4100-6057 Fiber Optic Media	Each media module in use reduces above currents by 30 mA
Operating Temperature	32° to 120°F (0° to 49° C)
Operating Humidity	Up to 93% RH, non-condensing @ 90° F (32° C) maximum

Physical Bridge Hub Node to Multiple Star Connections Block Diagram



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S4100-0057-5 9/2012

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