Simplex®

# True*Alarm* Fire Alarm Systems

*UL, ULC, CSFM Listed;*
*FM Approved**

Fire Alarm Network Annunciators;
Fire Alarm Ethernet Switches

## Features

**Provides a dedicated Fire Alarm local area network (LAN) for connection of a TrueSite workstation server to remote clients:**

- Fire Alarm Ethernet Switches provide up to eight wired Ethernet connections with individual earth fault supervision
- Wired Ethernet cable distance of up to 328 ft (100 m)
- Fire Alarm Ethernet Switches can be interconnected to extend connection capacity and/or distance using either Ethernet wired ports or fiber optic ports
- Fiber optic cable switch connections provides a distance of up to 1.24 miles (2 km) for multimode fiber, and up to 9.3 miles (15 km) for single-mode
- Fire Alarm Ethernet Switches are UL listed to Standard 864 and ULC listed to Standard S527
- Switches are available without earth fault supervision for special applications not requiring fire alarm listings
- For additional TrueSite Workstation server and client information, refer to data sheet S4190-0016

**Available with three connection options:**

- Eight Ethernet wired ports with RJ-45 terminations
- Four wired ports and two single-mode fiber optic ports (SC connectors)
- Four wired ports and two multimode fiber optic ports (SC connectors)

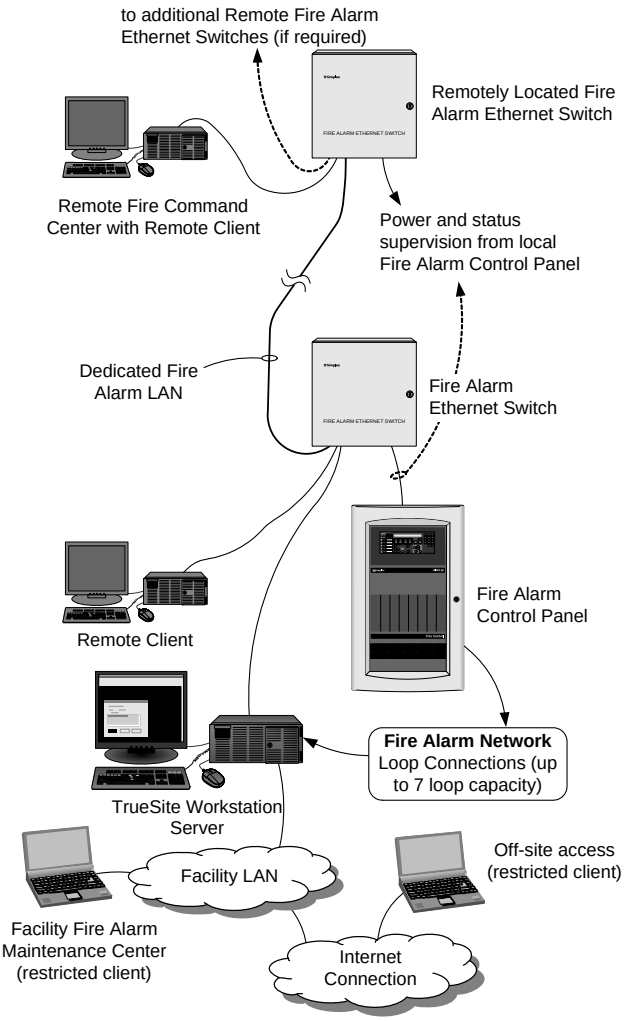
**Earth faults are reported three ways:**

- An on-board IDNet Supervised IAM is available for connection to a compatible Simplex® fire alarm control panel
- An on-board trouble relay provides contact transfer
- On-board LEDs identify fault location per port

## Description

**Overview.** Fire Alarm Ethernet Switches combine an Ethernet switch module with an earth detection circuit (for wired Ethernet connections), housed in a dedicated cabinet. Using Fire Alarm Ethernet Switches allows interconnection of a TrueSite workstation server, and multiple TrueSite workstation clients, into a dedicated Fire Alarm LAN. When networked, the TrueSite workstation clients can monitor and (if authorized) control fire alarm system activity. If additional connections or increased distances are required, Fire Alarm Ethernet Switches can be connected to additional switches.

**Switch Details.** The Fire Alarm Ethernet Switch uses an Ethernet switching hub to bridge between connected data links. It also has the ability to segment the Ethernet network in separate collision domains for network survivability.




Fire Alarm Ethernet Switch Connection Reference

**Switch Operation.** Data packets are inspected to determine the source and destination address of each packet, then forwarded accordingly. Simultaneous data exchanges are allowed on different data links, resulting in more throughput. Operation is either half-duplex or full-duplex.

**Switch Communications Support.** Wired Ethernet Communication protocols include 10Base-T or 100Base-TX, allowing network Ethernet connection speeds of 10 Mbps or 100 Mbps. Models with fiber optic ports allow Fire Alarm Ethernet Switches to be interconnected using the advantages of fiber optics connections. Fiber optics ports operate at 100Base-FX.

* Refer to product selection details on page 2 for listing specifics. 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 7300-0026:336 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 Fire Protection Products.

## Description *(Continued)*

**Earth Fault Detection.** When an earth fault is detected by the Earth Detection Module, it triggers a general trouble for external monitoring. Monitoring is performed by either communicating with the on-board IDNet IAM or by monitoring the trouble relay contacts.

Detailed Earth fault status is indicated by the on-board status LEDs (see list on page 4).

## Product Selection

**Note:** Ethernet Switch equipment and accessories are ordered as options for use with TrueSite Workstation upper level product selection model numbers per the System Order Reference section below. For additional TrueSite Workstation information, refer to data sheet S4190-0016.

**System Order Reference** (to be selected per order type)

| Model | Description |
|---|---|
| 4190-8401 | TrueSite Workstation, Standard Operation |
| 4190-8402 | TrueSite Workstation, Redundant Operation |
| 4190-8403 | TrueSite Workstation Fire Proprietary Supervising Station |
| 4190-8410 | TrueSite Workstation Remote Client |
| 4190-8901 | Aftermarket Hardware Additions |

**Fire Alarm Ethernet Switches** (agency listed for fire alarm)

| Model | Connections | Description | Listings |
|---|---|---|---|
| 4190-6050 | Eight wired Ethernet connections | Fire Alarm Ethernet Switch, 24 VDC, red cabinet; with Earth Detection on wired connections | UL 864, ULC S527; Each TrueSite Workstation Server and Client requires a 4190-6010 Transient Suppressor, see below; power is provided by a listed fire alarm power supply |
| 4190-6054 | Four wired Ethernet connections and two single-mode fiber optic connections | | |
| 4190-6055 | Four wired Ethernet connections and two Multimode fiber optic connections | | |

**Ethernet Switches** (not agency listed for fire alarm)

| Model | Connections | Description | Listings |
|---|---|---|---|
| 4190-6051 | Eight wired Ethernet connections | Ethernet Switch only; 6 W @ 10-36 VDC; 6 VA @ 8-24 VAC; use Power Adapter per below | UL 864 Recognized component, does not include Earth detection module or cabinet<br>Dimensions: 5-11/16” x 7-3/8” x 1-3/4” (145 mm x 187 mm x 44.5 mm) |
| 4190-6056 | Four wired Ethernet connections and two single-mode fiber optic connections | | |
| 4190-6057 | Four wired Ethernet connections and two Multimode fiber optic connections | | |

**Ethernet Switch Power Adapters** (select one for each 4901-6051, 4190-6056, or 4190-6057; Power Adapters are NOT for use with Fire Alarm Ethernet Switches 4190-6050, 4190-6054, or 4190-6055, they require connection to a fire alarm power supply)

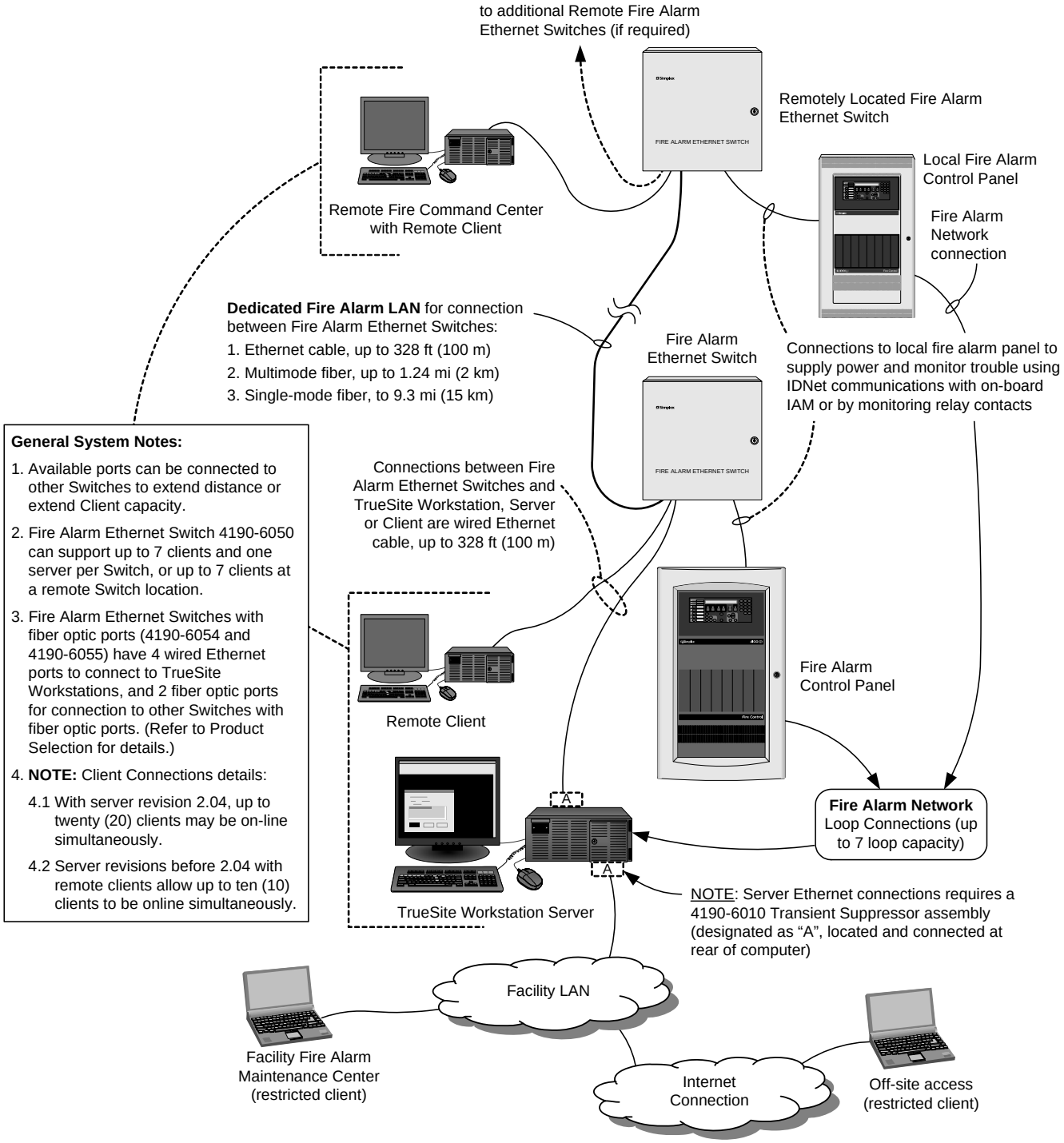
| Model | Description | Ratings | Housing Size |
|---|---|---|---|
| 4190-6052 | Wall Mount Power Adapter with 6 ft (1.8 m) cord | Input: 120 VAC, 60 Hz, 20 W<br>Output: 24 VAC, 650 mA | 2-1/4” W x 2-15/16” H x 1-7/8” D (56 mm x 74 mm x 48 mm) |
| 4190-6053 | | Input: 240 VAC, 50 Hz, 78 mA<br>Output: 24 VAC, 650 mA | 2-5/16” W x 3-3/16” H x 1-15/16” D (58 mm x 80 mm x 49 mm) |

**Transient Suppressor for LAN/WAN Connection**

| Model | Description |
|---|---|
| 4190-6010 | **Required** for agency listing; recommended for each TrueSite Workstation Server and Remote Client computer connection; mounts on rear of PC frame for desktop or rackmount computers |

## Interconnection Reference

For additional information, refer to Installation Instructions 579-903.



## Specifications

### Electrical

| | | |
|---|---|---|
| Input Power | Input Voltage | 24 VDC nominal, from listed fire alarm power supply |
| | Input Current | 300 mA maximum |
| Common Trouble Relay | | Form C contact rated 0.3 A @ 125 VAC resistive; 1 A @ 30 VDC resistive |
| Wiring Connections for Power, IDNet Communications, and Trouble Relay Contacts | | Screw terminals for 18 to 12 AWG (0.82 $mm^2$ to 3.31 $mm^2$ ) |
| Ethernet Cable Connections | | RJ-45 jacks |
| Ethernet Cable Data Rates | | 10 Mbps and 100 Mbps |
| Ethernet Cable Wiring Distance | | Up to 328 ft (100 m) at 10 Mbps with Cat3 cable |
| | | Up to 328 ft (100 m) at 100 Mbps with Cat5 cable |

| Fiber Optic Cable Distance (for connection between Fire Alarm Ethernet Switches) | **Model** | **Fiber and Distance** | **Optical Budget** |
|---|---|---|---|
| | 4190-6054 | Single-mode fiber up to 9.3 miles (15 km) | 19 dB |
| | 4190-6055 | Multimode fiber up to 1.24 miles (2 km) | 13 dB |

| | | | |
|---|---|---|---|
| Fiber Optic Cable Connections | Type SC connectors | | |
| Earth Detection Module Diagnostic LEDs | **Color** | **Function** | **Description** |
| | Green | Power-on LED | On when power is present |
| | Red | IAM LED | Flashes to indicate IDNet communications are being received |
| | Yellow | Common Earth Fault LED | On steady when an earth fault is detected on any of the Ethernet ports |
| | Yellow | Earth Monitor Disabled LED, one per Ethernet Port | If port has earth detection disabled, LED is on steady |
| | | | If port has earth detection enabled, LED flashes to indicate that port has an earth fault |
| Ethernet Switch Module Diagnostic LEDs | **Color** | **Function** | **Description** |
| | Green | Power-on LED | On when power is present |
| | Green | Link Indicator | One per port, indicates a valid Ethernet link has been established |
| | Yellow | Data Rate | One per port, indicates when data is transferring at 100 Mbps |

### Mechanical

| | |
|---|---|
| Cabinet Specifications | 13-1/2” W x 13-1/2” H x 3-5/16” D (343 mm x 343 mm x 84 mm), with locking door, lift-off hinge on left side; refer to page 4 for additional information |

### Environmental

| | |
|---|---|
| Temperature | 32° to 120° F (0° to 49° C) indoor operation only |
| Humidity Range | Up to 90% RH at 90° F (32° C) non-condensing |

## Installation Reference