

Features

Six point operation provides four supervised multi-state inputs and two relay outputs in a single package using only one address:

- For use with Simplex® 4007ES, 4010ES, 4100ES, or 4100U Fire Alarm Control Panels providing IDNet communications (4100U requires software revision 11 or higher)
- Typical applications include fan motor control centers, monitoring fire pump motor running status, low pressure fuel warnings, and for multiple dual damper position feedback monitoring

Input/Output details:

- Four “T-Sense” inputs provide supervised monitoring of normally open, dry contacts
- Status conditions are Normal, Open Circuit (trouble condition), Current Limited (position input 1), and Short (position input 2)
- Total wiring distance to supervised contacts is up to 500 ft (152 m); for indoor wiring applications
- Two relay outputs with Form C contacts rated 2 A @ 30 VDC, and 0.5 A @ 120 VAC (resistive ratings)

Compact construction:

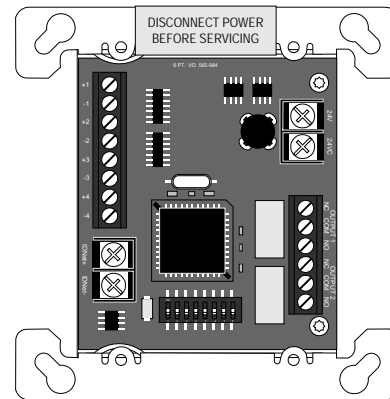
- Mounts in standard 4” square electrical box
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation
- Screw terminals for wiring connections

UL Listed to Standard 864

Description

Single Address Six Point Module. The 4090-9120 Six Point Module allows a compatible Simplex fire alarm control panel IDNet communications channel to monitor **four** T-sense input circuits and control **two** output relays from a single compact module requiring a single address. Power is supplied by a 24 VDC connection to a listed fire alarm power supply.

Multi-Point Device Description. The input circuits and output relay operation are controlled independently and may be disabled separately. Point association is determined at the host panel. At the host panel display, the device address is designated as a single hardware location (such as 1-1). Each of the six individual points appear as “sub-points” and are layered underneath (such as 1-1-1, 1-1-2, 1-1-3,1-1-6).



4090-9120 Six Point Module
(shown approximately 1/2 size)

T-Sensing Operation

Supervised Input. Each of the four input circuits monitors for continuity to an end-of-line resistor and can differentiate between a short circuit contact closure and a current limited contact closure.

Four State Operation. **Normal** is when all contacts are open and there is continuity to the end-of-line resistor; **Open** is when continuity does not exist to the end-of-line resistor, causing a Trouble condition; **Short**, indicates that a contact has closed that is directly connected to the input circuit; and **Current Limited** indicates that a contact has closed beyond a series connected current limiting resistor. This operation allows differentiation between two different contact types due to their wiring location, and reporting as a single IDNet addressable point to the fire alarm control panel.

Typical Applications

Efficient Package. For smoke control applications, this module provides an efficient package for fan damper control with position feedback. Monitor points can be connected to two separate status indicator switches per circuit, allowing the host panel to track fan damper status with respect to the requested fan control operation.

General Applications. The monitor and control points can be applied for a variety of associated or independent operations. Flexible programming abilities at the host panel can provide the association logic required for a wide variety of fire or utility operations.

* 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 7300-0026:311 for allowable values and/or conditions concerning material presented in this document. 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.

Product Selection

| Model | Description |
|-----------|----------------------------|
| 4090-9120 | Six Point Module |
| 4090-9801 | For semi-flush mounted box |
| 4090-9802 | For surface mounted box |

Optional trim plate with LED viewing window, includes mounting screws; galvanized steel

End-of-Line Resistor Harnesses (ordered separately as required)

| Model | Reference No. | Description |
|-----------|---------------|--|
| 4081-9004 | 733-886 | 6.8 k Ω , 1/2 W; Standard end-of-line resistor harness for N.O. contact supervision |
| 4081-9003 | 733-896 | 4.7 k Ω , 1/2 W |
| 4081-9005 | 733-984 | 1.8 k Ω , 1/2 W |

Use for current limited monitoring applications, refer to diagram below

T-Sense Input Operating Modes

Common Circuit Status Modes

| Circuit Status | Device Status | Panel Display |
|----------------|----------------------|---------------|
| Normal | Switches open | Normal |
| Open circuit | Wiring discontinuity | Trouble |

Damper Position Monitoring Status Modes

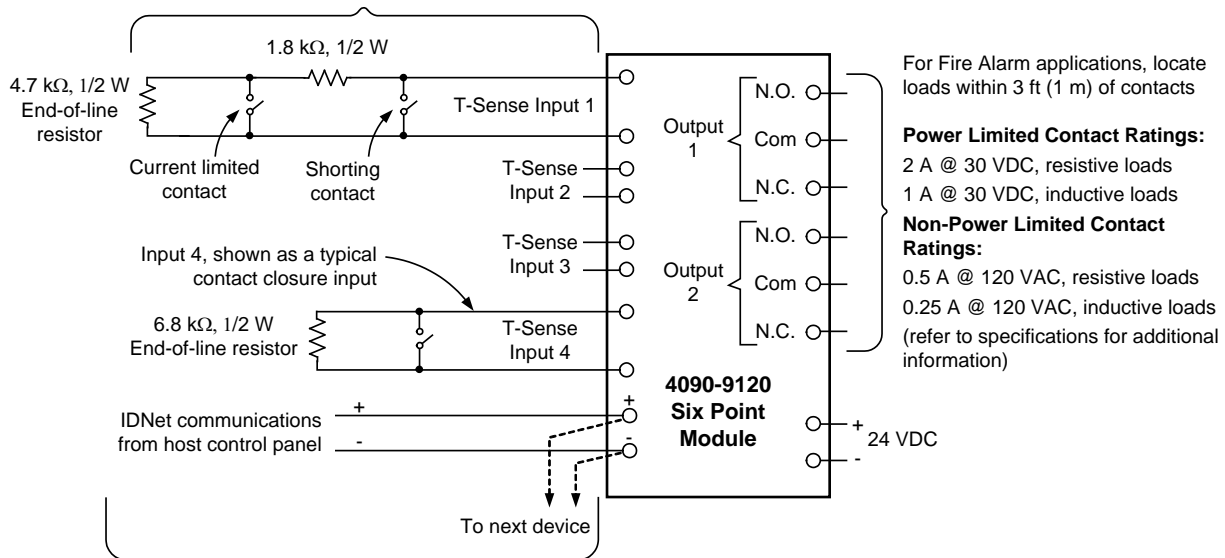
| Circuit Status | Device Status | Typical Panel Display |
|-----------------|-----------------|-----------------------|
| Short | Switch A closed | Damper Closed |
| Current Limited | Switch B closed | Damper Open |

Waterflow and Tamper Switch Monitoring Status Modes

| Circuit Status | Device Status | Panel Display |
|-----------------|-------------------------|---------------|
| Short | Waterflow switch closed | Fire Alarm |
| Current Limited | Tamper switch closed | Supervisory |

Wiring Reference

Maximum distance to contacts is 500 ft (152 m) (inputs are for indoor wiring only)

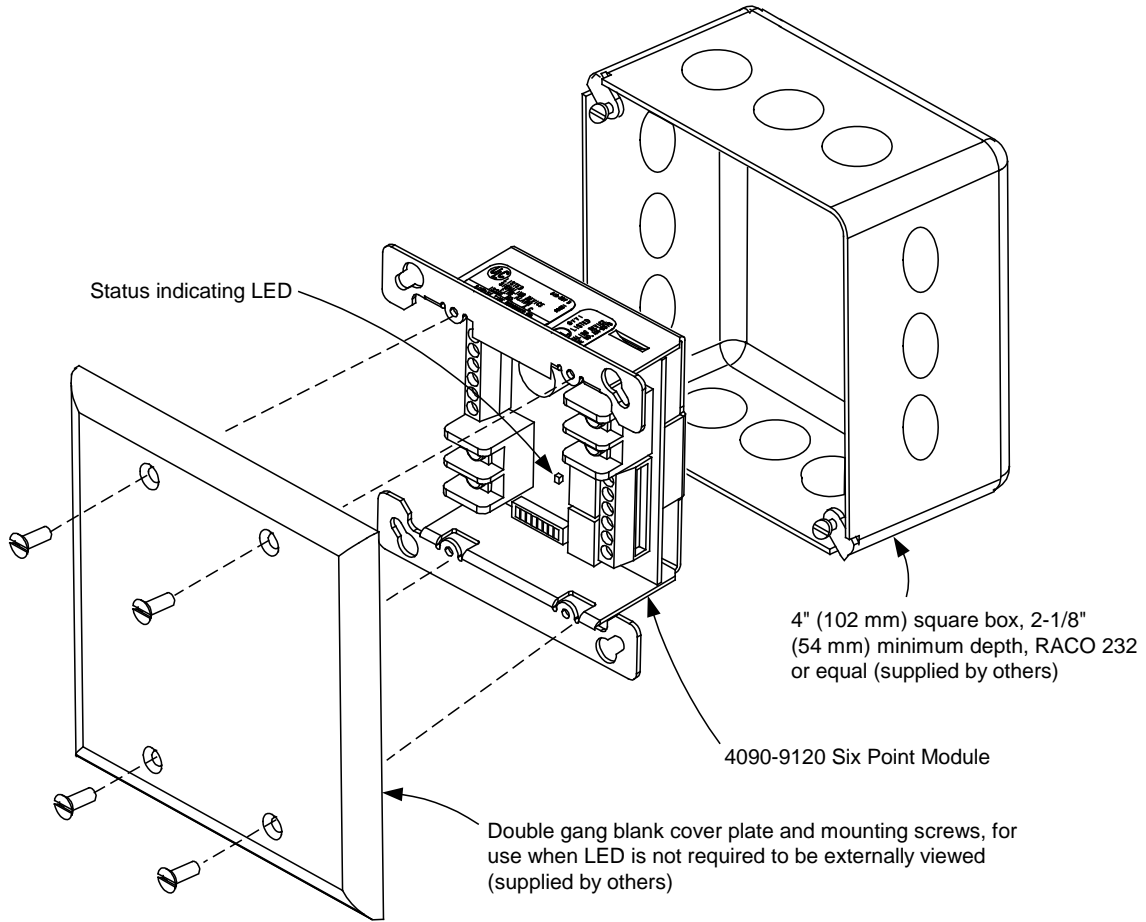


IDNet Wiring Distances:

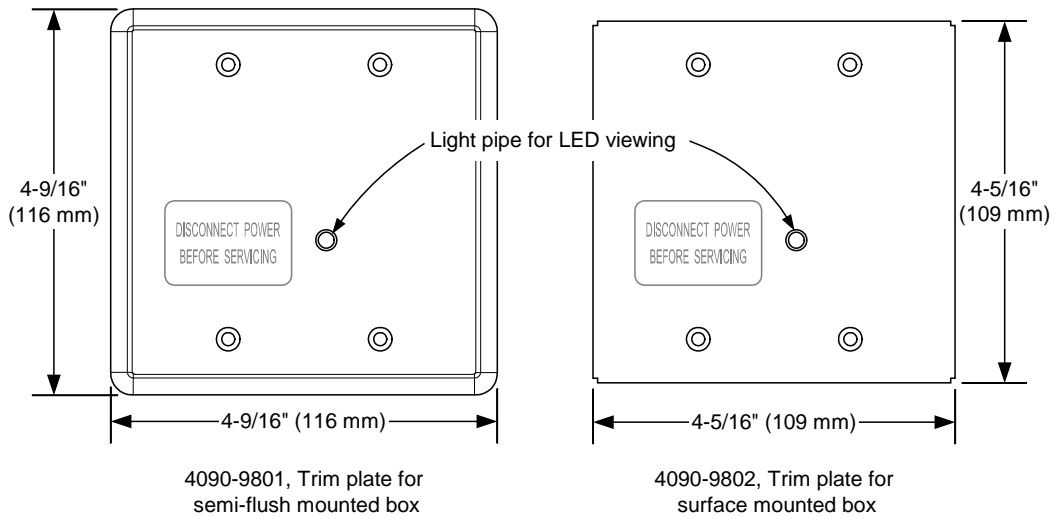
- Up to 2500 ft (762 m) from host control panel.
- Up to 10,000 ft (3048 m) total wiring distance, including "T" taps.

NOTE: Refer to Installation Instructions 574-876 for detailed installation information.

Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

Specifications

Electrical

| | | | |
|---|---|---|-------------------------------|
| Communications | IDNet communications, one address | | |
| Input Power | Voltage | 18 to 32 VDC (nominal 24 VDC) | |
| | Current | 30 mA maximum @ 24 VDC from listed fire alarm power supply | |
| Point Allocation Reference | Point Type | MLPTIO | |
| | I/O Point Usage per Panel | 6; 1 per relay, 1 per input | |
| | Public Points Usage | up to 7; 1 per relay, 1 per input, 1 for trouble; for points mapped to the Fire Alarm Network | |
| Input Requirements | Normally open dry contacts | | |
| | Up to 500 ft (152 m) total distance from Six Point Module | | |
| | For indoor wiring applications only | | |
| Input Supervision Resistors | Two required per T-sense input, refer to page 2 and to Installation Instructions 574-876 for additional information and wiring detail | | |
| Wire Connections | Screw terminals for input and output wiring, 18 to 14 AWG wire (0.82 mm ² to 2.08 mm ²) | | |
| Relay Contact Ratings* Form C (SPDT) (not rated for incandescent switching) | Power-Limited | 2 A @ 30 VDC, resistive | from listed fire alarm supply |
| | | 1 A @ 30 VDC, inductive | |
| | Nonpower-Limited | 0.5 A @ 120 VAC, resistive | |
| | | 0.25 A @ 120 VAC, inductive | |
| IDNet Wiring Distance Reference | Up to 2500 ft (762 m) from the fire alarm control panel | | |
| | Up to 10,000 ft (3048 m) total Class B wiring distance including T-Taps | | |
| | Compatible with 2081-9044 Overvoltage Protectors | | |

* Provide circuit fusing and transient suppression as required per application. DC inductive loads can typically be diode suppressed; 120 VAC loads may require RC networks or varistors, depending on device type. Refer to Installation Instructions 574-876 for additional information.

Mechanical

| | |
|---------------------------|--|
| Dimensions | 4-1/8" H x 4-1/8" W x 1-3/8" D (105 mm x 105 mm x 35 mm) |
| Mounting Bracket | Galvanized sheet metal |
| Temperature | 32° to 120° F (0° to 49° C) indoor operation only |
| Humidity Range | 10 to 90% RH at 90° F (32° C) |
| Installation Instructions | 574-876 |