

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 Autocall 4007ES, 4010ES, or 4100ES Fire Alarm Control Panels providing IDNet communications
- 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

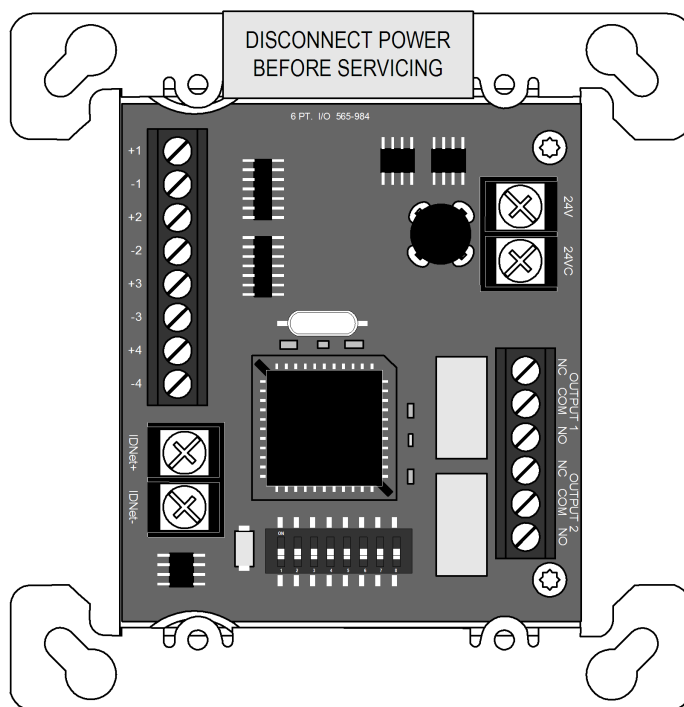


Fig 1: A4090-9120 Six Point Module

Description

Single Address Six Point Module.

The A4090-9120 Six Point Module allows a compatible Autocall 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).

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.

A4090-9120 Six Point Module with Four T-Sense Inputs and Two Relay Outputs

Product Selection

Table 1: Product Selection

Model	Description	
A4090-9120	Six Point Module	
A4090-9801	For semi-flush mounted box	Optional trim plate with LED viewing window, includes mounting screws; galvanized steel
A4090-9802	For surface mounted box	

Table 2: End-of-Line Resistor Harnesses (ordered separately as required)

Model	Reference No.	Description	
A4081-9004	733-886	6.8 k Ω , 1/2 W; Standard end-of-line resistor harness for N.O. contact supervision	
A4081-9003	733-896	4.7 k Ω , 1/2 W	Use for current limited monitoring applications, refer to Wiring Reference on page 3
A4081-9005	733-984	1.8 k Ω , 1/2 W	

T-Sense Input Operating Modes

Table 3: Common Circuit Status Modes

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

Table 4: 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

Table 5: Waterflow and Tamper Switch Monitoring Status Modes

Circuit Status	Device Status	Panel Display
Short	Waterflow switch closed	Fire Alarm

Table 5: Waterflow and Tamper Switch Monitoring Status Modes

Circuit Status	Device Status	Panel Display
Current Limited	Tamper switch closed	Supervisory

Wiring Reference

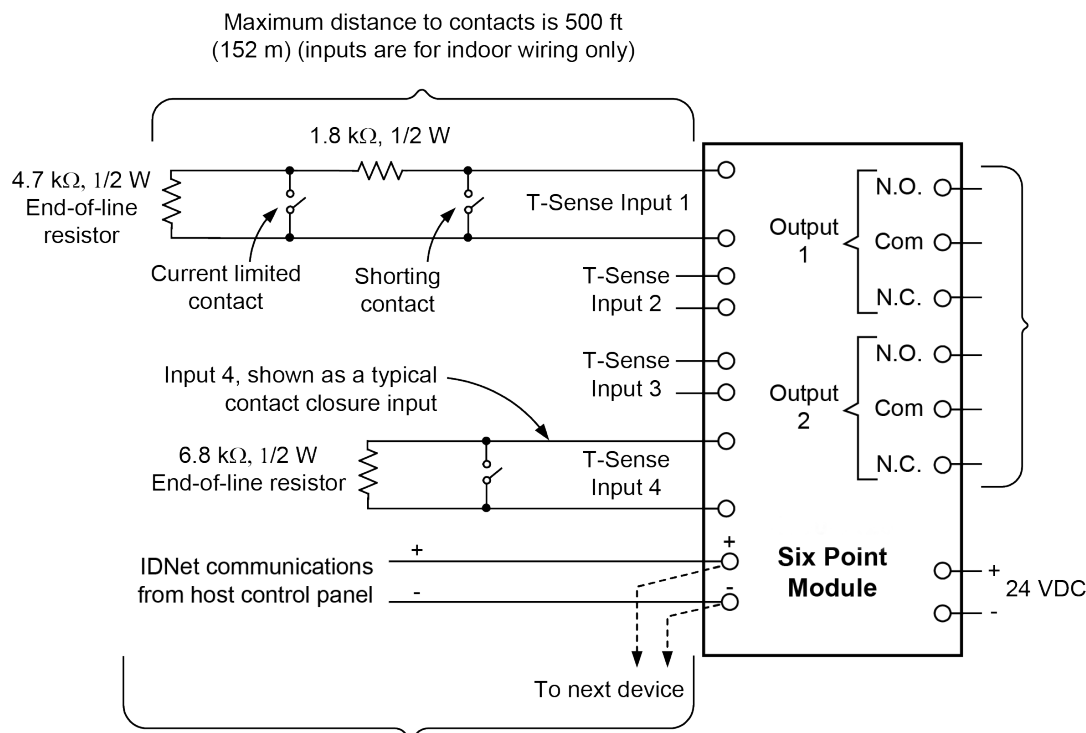


Fig 2: Wiring information

For Fire Alarm applications, locate loads within 3 ft (1 m) of contacts

Power Limited Contact Ratings:

2 A @ 30 VDC, resistive loads

1 A @ 30 VDC, inductive loads

Non-Power Limited Contact Ratings:

0.5 A @ 120 VAC, resistive loads

0.25 A @ 120 VAC, inductive loads

(refer to specifications for additional information)

Note:

- Refer to Installation Instructions 574-876AC for detailed installation information.
- A4090-9120 Six Point Model is illustrated in Figure 2

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.

Mounting Information

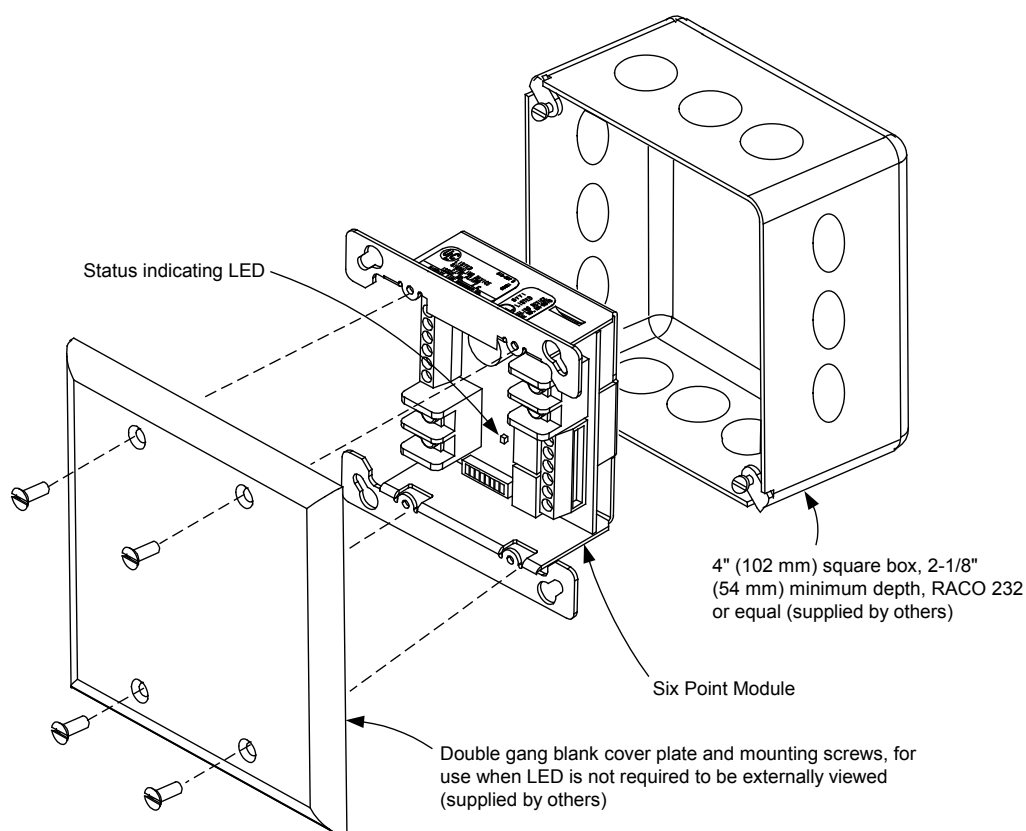


Fig 3: Mounting Reference, Double Gang Blank Cover Plate

Note: A4090-9120 Six point module is shown in Figure 3

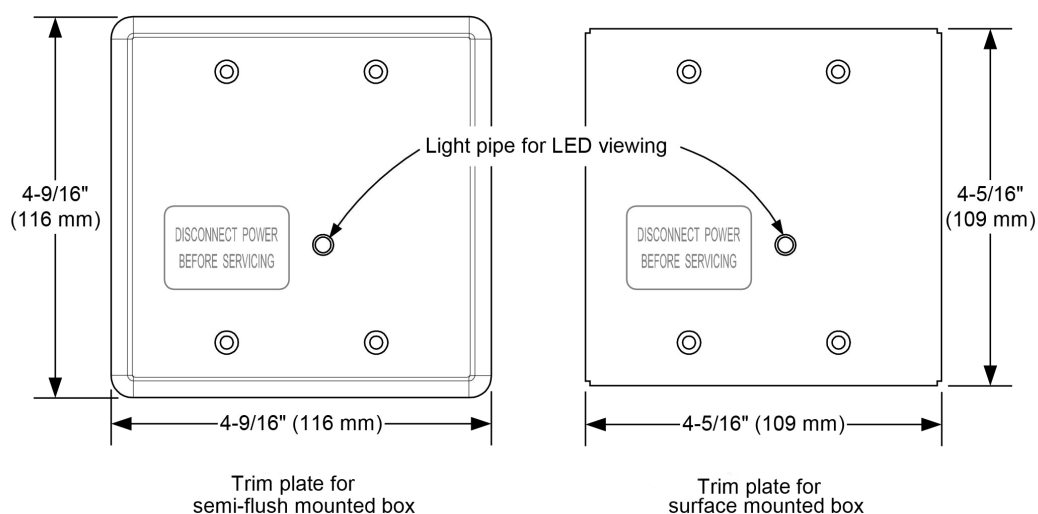


Fig 4: Optional Trim Plates for Visible LED

Note: The following products are illustrated in Figure 4.

- A4090-9801, Trim plate for semi-flush mounted box
- A4090-9802, Trim plate for surface mounted box

A4090-9120 Six Point Module with Four T-Sense Inputs and Two Relay Outputs

Specifications

Table 6: Electrical

Specification			Rating	
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 574-876AC 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	
			1 A @ 30 VDC, inductive	
	Nonpower-Limited		0.5 A @ 120 VAC, resistive	
			0.25 A @ 120 VAC, inductive	
* 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 574-876AC for additional information.				
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 A2081-9044 Overvoltage Protectors	

Table 7: Mechanical

Specification	Rating
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	574-876AC

