Simplex

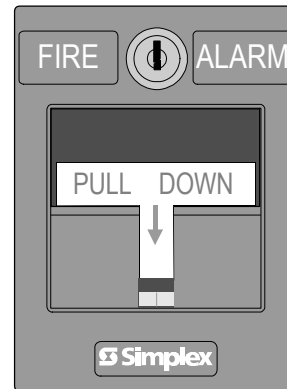# Multi-Application Peripherals and Accessories

UL, ULC Listed
FM Approved

Communicating Devices
MAPNET II® Communications
Individually Addressable Devices

FEATURES

- **Individually addressable communications over a single pair of wires for interfacing to:**
  - Initiating devices
  - Notification appliance circuits
  - Control relays

- **Fire alarm control panel displays device location and status, for use with Simplex:**
  - 4100 Series fire alarm control panels
  - 4100 Series Universal Transponders
  - 4120 Series Network node fire alarm control panels
  - 4020 Series fire alarm control panels
  - 2120 Communicating Device Transponders

- **Zone Adapter Modules (ZAMS):**
  - Provide addressable interface to conventional zoned circuits

- **MAPNET II communications* can be wired:**
  - NFPA Style 4/Class B or Style 6/Class A
  - Style 4/Class B communications may be wired either "T" tapped or In/Out

- **Convenient DIP switch address selection**

- **UL listing Standards:**
  - Addressable stations are listed to Standard 38
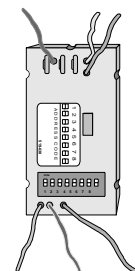 - All other MAPNET II addressable devices are listed to Standard 864
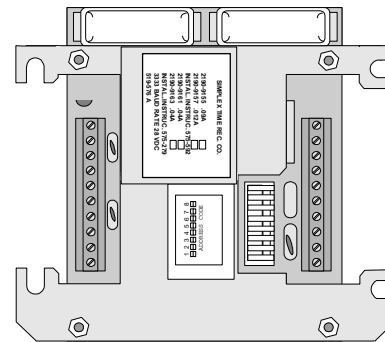
INTRODUCTION

MAPNET II communicating devices individually annunciate identity and accurate status to the connected control panel. Applications include interface to manual fire alarm stations, sprinkler flow switches (or any typical fire detecting device) and addressable control.

New installation wiring is via twisted, shielded wire. Performance is compatible with most retrofit wiring where unshielded and untwisted wire exist.

GENERAL SPECIFICATIONS

MAPNET II input .... 24 to 40 VDC with data
Current .... see chart, page 2
Address Means .... DIP switch, 8 position
Temperature .... 32° F to 120° F (0° C to 49° C)
Humidity .... 85% non-condensing @ 86° F (30° C)

Addressable Manual Stations

Zone Adapter Modules (ZAMs)

Supervised Individual Addressable Module (IAM)

* MAPNET addressable communication operation is protected by U.S. Patent No. 4,796,025.

MAPNET II ADDRESSABLE DEVICE SELECTION CHART

Addressable Manual Fire Alarm Stations***   (refer to page 3)

Model	Description	Current
2099-9795	Single Action	Supplied by MAPNET II communications
2099-9797	Single Action, "Local Fire Alarm" Cover	
2099-9796	Double Action, Breakglass	
2099-9761	Double Action, Push-Pull	
2099-9135	Double Action, Push-Pull without Simplex logo	
2099-9813	Semi-flush Trim Plate	Not Applicable
2099-9814	Surface Trim Plate	
2975-9178	Back Box	

Zone Adapter Modules, Monitor ZAMs* (separate 24 VDC power required)   (refer to page 4)

Model	Cover Type	Description	Supervisory Current	Alarm Current
2190-9153	Surface	Monitor ZAM, Style D	20 mA @ 24 VDC	90 mA @ 24 VDC
2190-9154	Flush			
2190-9155	Surface	Monitor ZAM, Style B		
2190-9156	Flush			
2190-9157	Surface	4-Wire Detector ZAM		
2190-9158	Flush			

Zone Adapter Modules, Signal and Control ZAMs* (separate 24 VDC power required)   (refer to page 5)

Model	Cover Type	Description	Supervisory Current	Alarm Current
2190-9159	Surface	Signal ZAM, Style Z	15 mA @ 24 VDC	65 mA @ 24 VDC
2190-9160	Flush			
2190-9161	Surface	Signal ZAM, Style Y	15 mA @ 24 VDC	40 mA @ 24 VDC
2190-9162	Flush			
2190-9163	Surface	Control Relay ZAM, DPDT Contacts	10 mA @ 24 VDC	
2190-9164	Flush			

Addressable Supervised IAM*   (refer to page 7)

Model	Description	Ref. Data Sheet	Current
2190-9172	Supervised IAM**	S2190-0018	Supplied by MAPNET II communications

*   For ULC listed products, add a "C" suffix (example: 2098-9201 C).

** 2190-9172 is considered as 1.5 devices each for MAPNET II circuit loading. Refer to data sheet S2190-0018 for more information.
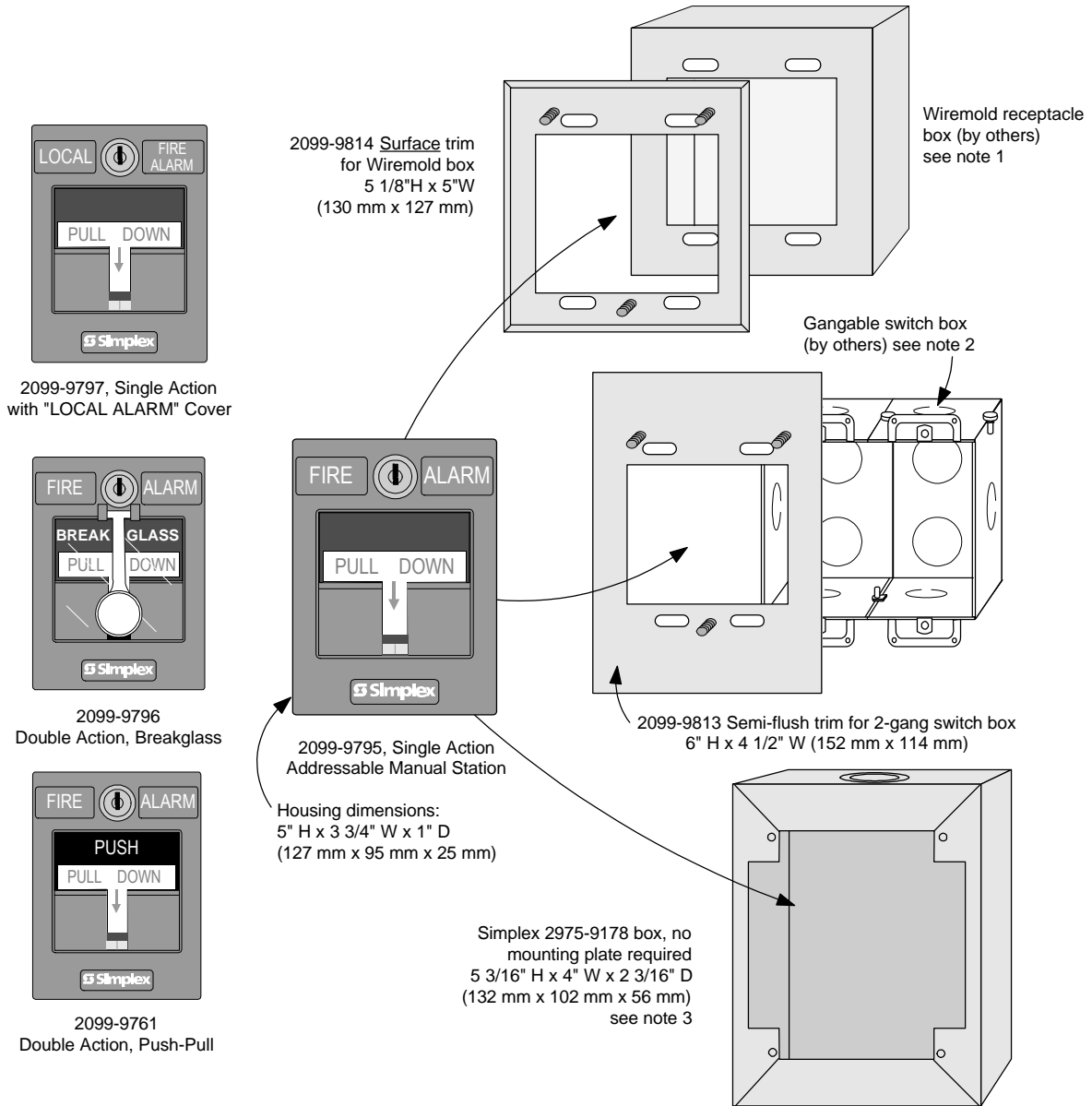
*** For ULC listed products, add the suffix "C" if in English, "CF" if in French, or "CB" if Bilingual.

ADDRESSABLE MANUAL STATIONS

MAPNET II addressable manual stations have an integrally mounted addressable module that monitors the station contact status and communicates changes to the connected control panel via the MAPNET II communications wiring.

Addressable stations are available in either single or double action or single action with "Local Alarm" cover. Mounting is surface or semi-flush using either standard boxes or the Simplex red back box, model 2975-9178.

Addressable Manual Station Mounting Options

2099-9797, Single Action
with "LOCAL ALARM" Cover

2099-9796
Double Action, Breakglass

2099-9761
Double Action, Push-Pull

2099-9814 Surface trim
for Wiremold box
5 1/8"H x 5"W
(130 mm x 127 mm)

Wiremold receptacle
box (by others)
see note 1

Gangable switch box
(by others) see note 2

2099-9795, Single Action
Addressable Manual Station

Housing dimensions:
5" H x 3 3/4" W x 1" D
(127 mm x 95 mm x 25 mm)

2099-9813 Semi-flush trim for 2-gang switch box
6" H x 4 1/2" W (152 mm x 114 mm)

Simplex 2975-9178 box, no
mounting plate required
5 3/16" H x 4" W x 2 3/16" D
(132 mm x 102 mm x 56 mm)
see note 3

Notes:

1. Use a Wiremold® box no. 5744-2, deep receptacle box, 4 3/4" L x 4 3/4" W x 2 1/4" D (121 mm x 121 mm x 57 mm), with the 2099-9814 surface trim band.
2. Use two gangable switch boxes, 3" L x 2" W x 2 3/4" D (76 mm x 51 mm x 70 mm), with the 2099-9813 semi-flush trim band.
3. When the 2975-9178 box is used, no trim is required.
4. The address code dipswitch is accessible when the pull station cover is in the "open" position.
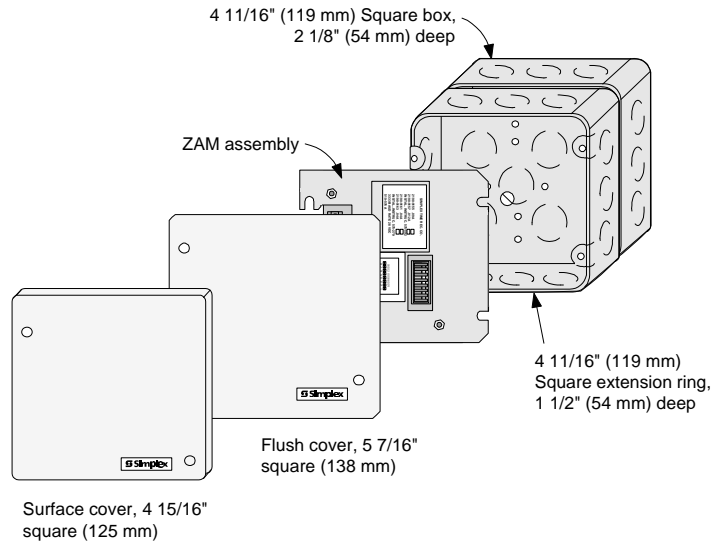
ZONE ADAPTER MODULE – MONITOR ZAM

Monitor ZAMs are used when the fire detecting devices or supervisory switches are mounted separately from the addressable electronics. It provides status monitoring and supervision to the device circuit zone and is used for circuits with non-addressable detectors and for other contact closures such as waterflow and tamper switches or non-addressable manual stations.
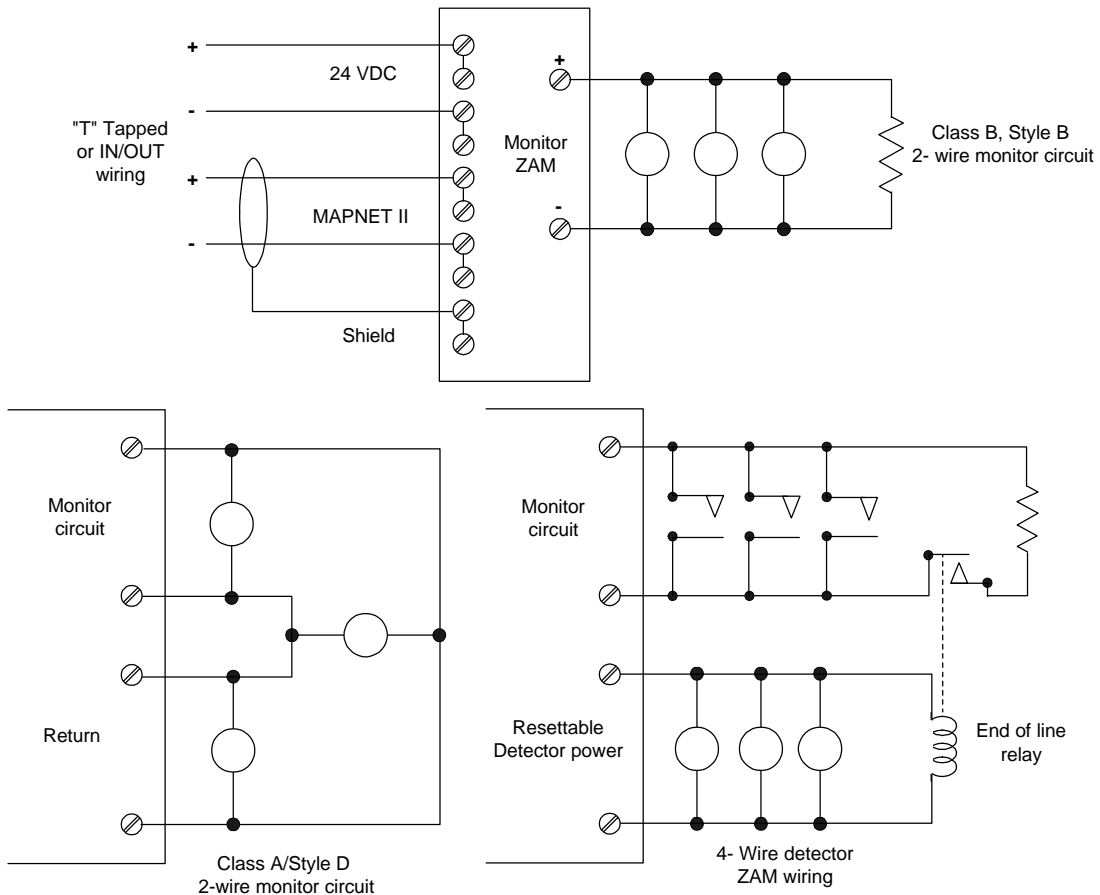
Monitor ZAM models are available for monitoring as:

- Style B (Class B)
- Style D (Class A)
- Style B with separate detector power output (4-wire detector operation)

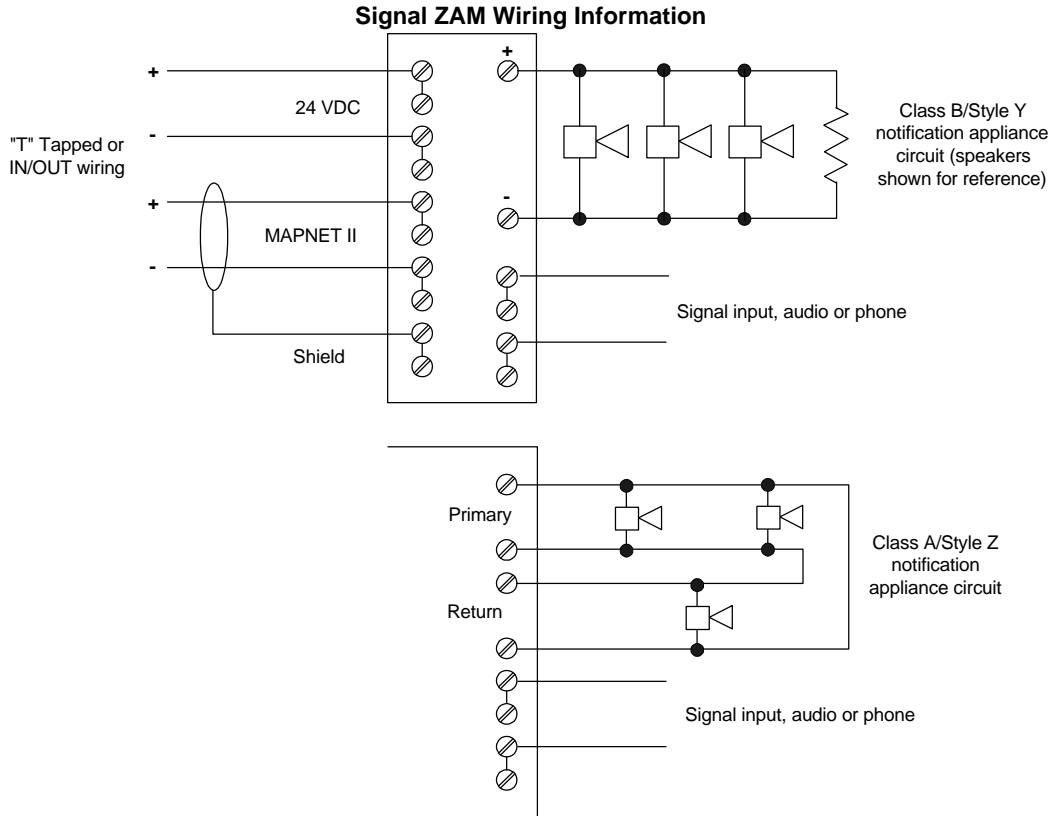### Typical ZAM Mounting, Monitor, Signal, or Control

4 11/16" (119 mm) Square box, 2 1/8" (54 mm) deep

ZAM assembly

4 11/16" (119 mm) Square extension ring, 1 1/2" (54 mm) deep

Flush cover, 5 7/16" square (138 mm)

Surface cover, 4 15/16" square (125 mm)

Monitor ZAM Wiring Diagrams

"T" Tapped or IN/OUT wiring

24 VDC

MAPNET II

Shield

Monitor ZAM

Class B, Style B 2- wire monitor circuit

Monitor circuit

Return

Class A/Style D 2-wire monitor circuit

Monitor circuit

Resettable Detector power

End of line relay
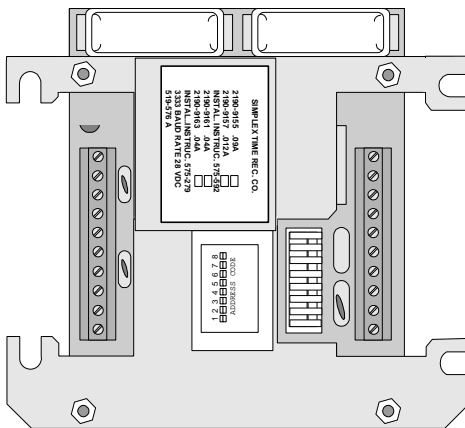
4- Wire detector ZAM wiring

ZONE ADAPTER MODULE – SIGNAL ZAM

Signal ZAMs are used to supervise and operate 24 VDC notification appliances, speakers, and telephone circuits. Output capacity is up to 2 A @ 24 VDC, or 50 W of 25 VRMS speakers, or up to three simultaneously activated firefighter phones.
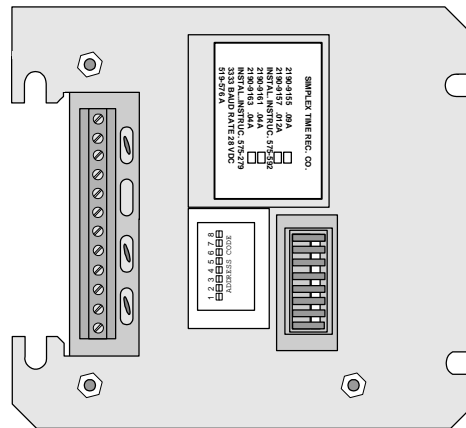
The signal ZAM is available for either Style Y/Class B or Style Z/Class A operation for notification appliance circuits. Wiring diagrams are shown in the following illustrations.

Signal ZAM Wiring Information

+

24 VDC

–

"T" Tapped or IN/OUT wiring

+

MAPNET II

–

Shield

+

–

Class B/Style Y notification appliance circuit (speakers shown for reference)

Signal input, audio or phone

Primary

Return

Class A/Style Z notification appliance circuit

Signal input, audio or phone

ZAM Package Reference Drawings

SIMPLEX TIME REC. CO.

2190-9155 .09A
2190-9157 .012A
INSTAL.INSTRUC.575-592
2190-9161 .04A
2190-9163 .04A
INSTAL.INSTRUC.575-279
3333 BAUD RATE 24 VDC
519-576 A

SIMPLEX TIME REC. CO.

2190-9155 .09A
2190-9157 .012A
INSTAL.INSTRUC.575-592
2190-9161 .04A
2190-9163 .04A
INSTAL.INSTRUC.575-279
3333 BAUD RATE 24 VDC
519-576A

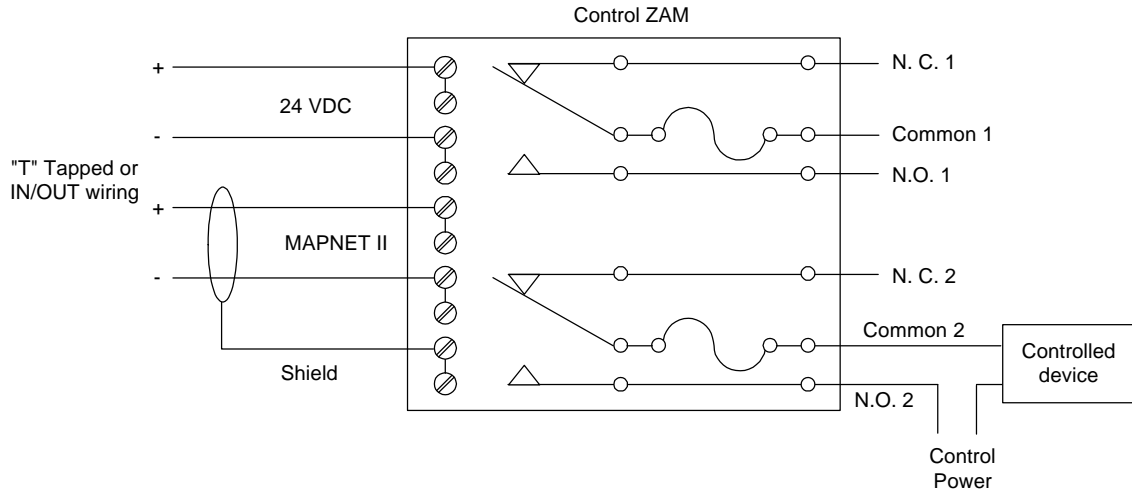**Signal ZAM/Control ZAM**

Monitor ZAM

ZONE ADAPTER MODULE – CONTROL ZAM

Control ZAMs are used to provide addressable control functions such as elevator capture, HVAC control, pressurization fan control, damper control, etc.

Control ZAM Wiring Diagram

Control ZAM Relay Ratings (DPDT Contacts)

Application	Resistive Rating	Inductive Rating**
Power Limited*	2 A @ 28 VDC	1 A @ 28 VDC
Non-Power Limited	2 A @ 28 VDC	1 A @ 28 VDC
	1/2 A @ 120 VAC	1/2 A @ 120 VAC

* DC Voltage must be from a listed Fire Alarm power supply.

** Inductive loads must be properly suppressed.

SUPERVISED INDIVIDUAL ADDRESSABLE MODULE (IAM), MODEL 2190-9172

The 2190-9172 Supervised IAM provides location specific addressability to a single initiating device or multiple devices by monitoring normally open, dry contacts. Closure of the monitored contacts initiates an alarm. An open in the initiating circuit wiring will cause a trouble to be reported at the fire alarm control panel. The small package size of 2 1/4" L x 1 1/8" W x 1/2" D (57 mm x 29 mm x 13 mm) allows easy mounting.

If the initiating device contacts are momentary, such as from a rate-of-rise heat detector, enabling the latch feature allows the IAM to latch the alarm condition until the system is reset. For applications where the contact closure latches, or if its condition needs to be tracked at the control panel, non-latching operation may be enabled.

The following illustrates typical connection information for interfacing into a Simplex fire alarm control panel via MAPNET II. Use with a single station detector is to annunciate the alarm status and to supervise the connector. By using a separate, additional IAM, an isolated heat sensor contact can be monitored.

Typical Supervised IAM Wiring Diagrams
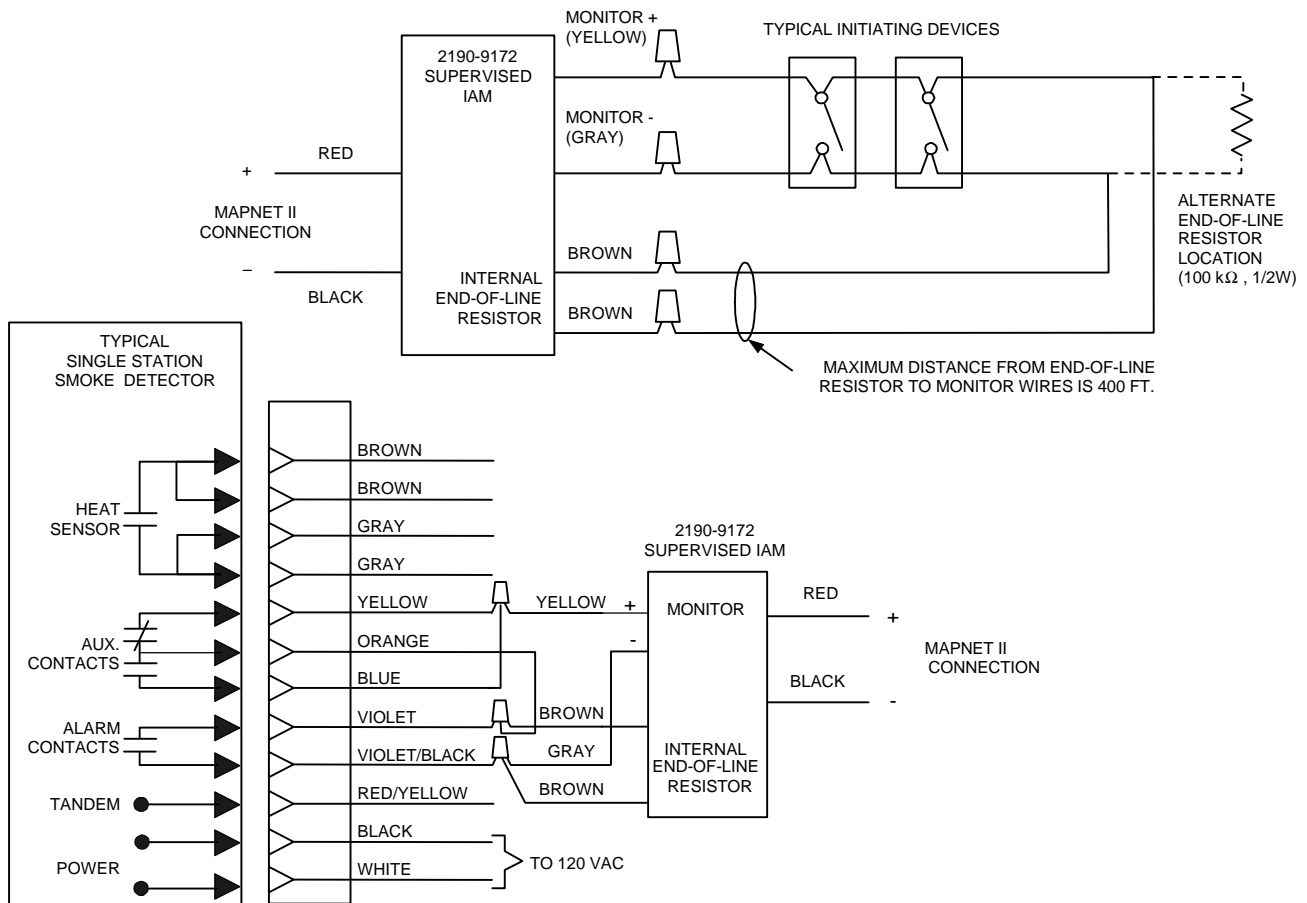
Supervised IAM Mounting with Single Station Detector

4" (102 mm) Square box,
2 1/8" (54 mm) deep

2190-9172
Supervised IAM
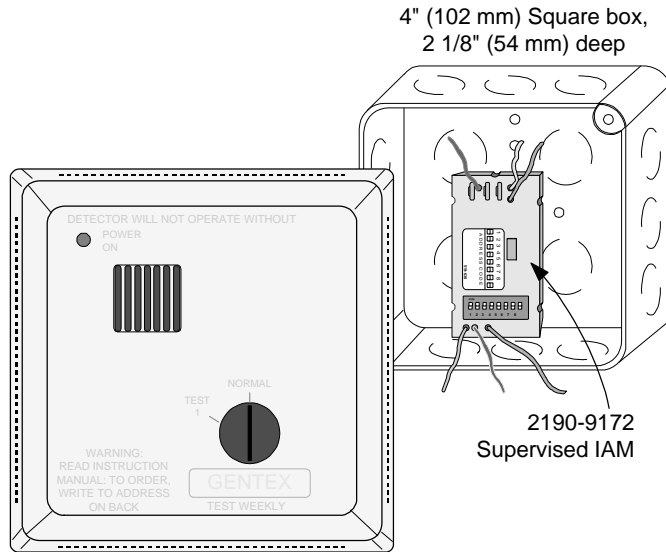
Single Station (Residential) Detector

S2190-0012-13 7/99

S Simplex