

Features

Monitors compatible 4-20 mA output sensors**:

- Interface linear analog sensor data to Simplex[®] fire detection panel models 4100/4100U/4120
- 4100/4120 Systems interface with the AMZ using MAPNET II communications*** (requires panel software revision 8 or higher)
- Simplex[®] model series 4100U fire detection panels interface with the AMZ using either MAPNET II or IDNet communications***

Fire detection panel monitoring and annunciation:

- Up to three threshold levels, each with custom action message
- Display and archive actual sensor analog levels
- Allows sensor calibration date recording

AMZ module features:

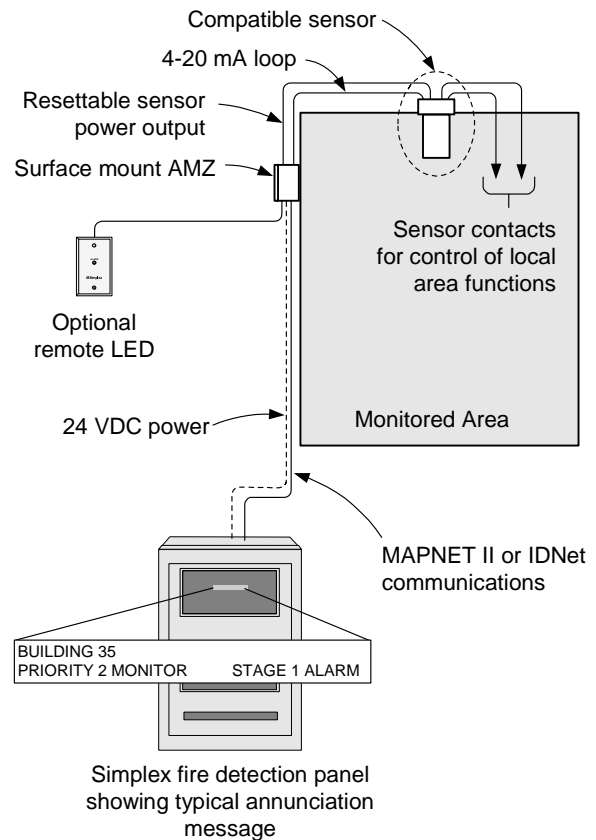
- Automatic and manual AMZ self-test
- On-board manual test switch provides Simplex[®] WALKTEST[™] system test feature†
- Resettable sensor power output
- Supervised sensor trouble input
- Local LED alarm annunciator output
- Mount in 4" square electrical box or internal to 4100 or 4120 panel cabinet

Introduction

Simplex[®] AMZs provide an accurate, multi-featured interface for connecting analog sensors to Simplex[®] addressable fire detection panels. The panel monitors the sensor and annunciates whenever a selected threshold level or trouble condition is observed. Typical applications include: air quality for demand control ventilation, air and liquid temperature, humidity, air velocity, and toxic gas monitoring (see listings reference on page 2).

**** NOTE:** Compatible sensors are supplied by non-SimplexGrinnell manufacturers and/or distributors. SIMPLEXGRINNELL DISCLAIMS ALL EXPRESS WARRANTIES NOR IS IT RESPONSIBLE FOR ANY SERVICE, TESTING AND/ OR INSPECTION OF THE COMPATIBLE SENSORS. SIMPLEXGRINNELL DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE REGARDING THE COMPATIBLE SENSORS.

* Refer to listings compatibility chart on page 2. This product was not approved by MEA (NYC), or CSFM as of document revision date. Additional listings may be applicable, contact SimplexGrinnell for the latest status.



AMZ System Interface Example^{††}

Important Application Considerations

1. The purpose of the Simplex[®] AMZ is to communicate the status of a compatible 4-20 mA sensor to the Simplex[®] fire detection panel for proper fire alarm system response including annunciation and data logging.
2. **All responses required to be initiated by the sensor for actions to be taken in the vicinity of the sensor are to be performed by outputs from the sensor, not from the fire alarm control panel.**
3. SimplexGrinnell does not assume responsibility for the application, selection, inspection, warranty, calibration, or testing of the analog sensor.
4. AMZs and the connected panel are to be located outside of the monitored area and installed in accordance with applicable local code requirements.
5. The AMZ accommodates 2-wire, 3-wire, or 4-wire connections to a compatible sensor.

*** MAPNET II and IDNet addressable communications format is protected by U.S. Patent No. 4,796,025.

† WALKTEST system test is protected under U.S. Patent No. 4,725,818.

†† Depicted sensor location is for illustration only. Refer to specific sensor requirements for proper location.

AMZ Detection Panel Features

Analog Data Access. Real time analog sensor values can be accessed using the front panel interface. Data is formatted in the specific units being measured.

Flexible Sensor Programming. AMZ point types can be designated as Fire, Priority 2, Supervisory, Trouble, Latched Supervisory, or Utility, each with custom label. By default, the AMZ provides an “output abnormal” trouble if the monitored sensor produces an output below 4.0 mA or above 20.0 mA.

Three Programmable Threshold Levels. Each AMZ can have up to three separate threshold levels, each with a custom action message. Up to 100 AMZs can be programmed into a single fire alarm detection panel.

Calibration Date Recording. Each sensor’s calibration date can be manually entered for secured record keeping.

Data Exporting. Sensor activity pertaining to the three analog alarm threshold levels can be exported for

AMZ Detection Panel Features (Continued)

archiving via a Simplex® 4120 Network using a Graphic Command Center (GCC) or Network Processing Unit (NPU) operating with Software Version 2.

Compatible Sensor Operation

Compatible sensors provide a linear output current varying between 4.0 mA and 20.0 mA that represents the present analog measurement as predetermined by the specific sensor. The AMZ monitors the 4-20 mA loop connection and digitally communicates the sensor measurement to the panel. With this information, the panel can determine whether a status annunciation is required and can display the sensor analog level directly in the appropriate units of measurement.

The 4-to-20 mA loop is an established analog format that is highly reliable and inherently supervised for loop integrity. For additional monitoring, sensors with “dry” trouble contacts can be directly connected to the AMZ’s supervised trouble input circuit.

AMZ Product Selection Chart

Remote Mounting Models

Model	Description	Mounting		Connections
4190-9050	Remote AMZ package with cover	Surface mount	4" box, see diagram on page 4	Color Coded Wire Leads, 18 AWG
4190-9051		Semi-flush		

Panel Mount Models*

Model	Description	Panel Compatibility	Connections
4100-0540	Panel mount AMZ, select quantity as required	4100 Series fire detection panels	Terminal Blocks, 12 AWG maximum
4120-0540		4120 Network fire detection panels	
4100-6026	FM labeling for AMZ, required for FM approved systems, order one per cabinet	4100 Series fire detection panels	
4120-6026		4120 Network fire detection panels	
2975-9803	Shock Mounting Kit, required for FM approved systems, order one per cabinet		

Options

Model	Description	Mounting	Connections
2098-9808	Remote LED indicator	Single gang stainless steel plate	18 AWG Leads

Metric wire equivalents: 18 AWG = 0.82 mm²; 12 AWG = 3.31 mm²

* Panel Mounting Notes:

1. Panel mounting is available for Simplex® model series 4100 and 4120 only. Not available for mounting internal to 4100U series models as of document revision date.
2. AMZ mounting plate requires 4" of panel width, with two AMZ's mountable on one plate (vertical mount).

AMZ Product Listings Compatibility Chart

AMZ Model	UL Listing	ULC Listing	FM Approval
4190-9050 4190-9051 4100-0540 4120-0540	Listed for use with: Mine Safety Appliances Co. (MSA) model Chillgard RT Refrigerant Gas Monitor	Listed for use with compatible 4-20 mA sensors	Approved for use with: FM Approved stand-alone 4-20 mA Gas Detection Sensor/Transmitters. Panel is required to be equipped with 4100/4120-6026 FM labeling option and 2975-9803 Shock Mounting Kit,

The listing status shown is as of document revision date. Additional listings may be applicable, contact SimplexGrinnell for the latest status.

AMZ Specifications

Voltage and Current Specifications

Operating Voltage	18-32 VDC, 24 VDC nominal
Sensor Output	Switched input voltage
Sensor Current (3 or 4-wire devices)	400 mA maximum
Basic AMZ Current	30 mA
Sensor Loop Current	4 mA minimum, operation below 4.0 mA is a trouble condition
	20 mA maximum, operation above 20.0 mA is a trouble condition
Trouble Circuit Output Current	5 mA for monitoring of dry trouble contacts, voltage supplied by the AMZ
2098-9808 LED Annunciator	3 mA

General Specifications

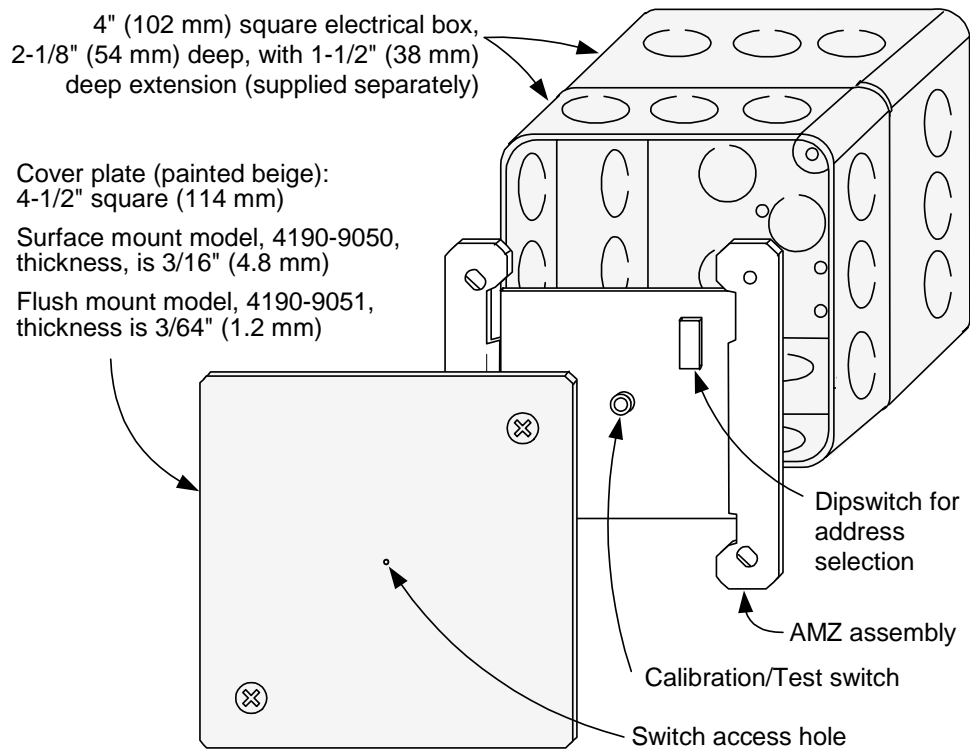
Supervised Trouble Input	Dry contact, 29 VDC maximum
Wiring, Sensor Loop and Power	18 AWG twisted pair, or per sensor requirements
Communications	MAPNET II or 4100U IDNet
	One address per AMZ
	Up to 100 AMZs per panel
Maximum distance, AMZ to sensor	3270 ft (1 km)
Temperature Range	Non-hazardous indoor locations, 32° F to 120° F (0° C to 49° C)
Humidity Range	10 to 90 % RH

AMZ Current Requirements

Function	Current
Basic Operation	30 mA
Sensor Loop (20 mA maximum)	+ _____ mA
Sensor Power (400 mA maximum)	+ _____ mA
Sub Total* =	_____ mA
Options	
2098-9808 LED (3 mA in alarm)	+ _____ mA
Trouble (5 mA with trouble contact closed)	+ _____ mA
Total* =	_____ mA

(*NOTE: Do not exceed 450 mA max.)

AMZ Remote Location Mounting Information*



* For additional information, refer to Installation Instructions 574-704.

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