

## Introduction

**Analog Monitor ZAMs (AMZs)** provide an accurate, multi-featured interface for connecting analog sensors to compatible Autocall 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, and air velocity.

## Features

### Fire detection panel monitoring and annunciation:

- Up to three threshold levels, each with custom action message
- Display and archive actual sensor analog levels
- Can record sensor calibration date
- Requires a single address (two IDNet unit loads)
- Up to 100 custom AMZ point types are available for each panel or for each connected network

### AMZ module features:

- Automatic and manual AMZ self-test
- Onboard manual test switch provides WALKTEST system test feature
- Resettable sensor power output
- Supervised sensor trouble input
- Local LED alarm annunciator output
- Mounts in a 4 in. (102 mm) square electrical box with extension

### Monitors compatible 4-20 mA output sensors:

- Interface linear analog sensor data to Autocall fire detection panel models 4007ES, 4010ES, and 4100ES using IDNet communications, and 4100ES using IDNet communications.
- For additional important information, see the following note.

**Note:** Compatible sensors are typically supplied by non-Autocall manufacturers or distributors. **Autocall disclaims all express warranties nor is it responsible for any service, testing, or inspection of compatible sensors. Autocall disclaims any implied warranties of merchantability and fitness for a particular purpose regarding the compatible sensors.**

## Important application considerations

- An AMZ communicates the status of a compatible 4-20 mA sensor to the Autocall fire detection panel for a correct fire alarm system response including annunciation and event logging.
- Responses required to be initiated by the sensor for fire and life safety actions are to be initiated by sensor output contacts. See [Additional application reference](#).
- Autocall does not assume responsibility for the application, selection, inspection, warranty, calibration, or testing of the analog sensor.
- Locate AMZs, and the connected panel, outside the monitored area and install in accordance with applicable local code requirements.
- The AMZ accommodates 2-wire, 3-wire, or 4-wire connections to a compatible sensor.

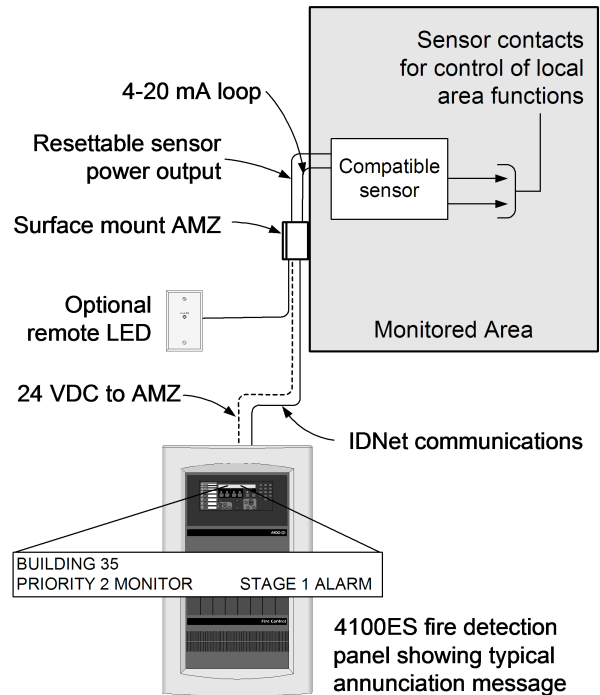


Figure 1: AMZ system interface example

**Note:** In the previous figure, the depicted sensor location is for illustration only. For proper location, refer to specific sensor requirements.

## AMZ detection panel features

**Analog data access.** Use the front panel interface to access real time analog sensor values. Data is formatted in the specific units being measured.

**Flexible sensor programming.** You can designate AMZ point types as Priority 2, Supervisory, Trouble, Latched Supervisory, or Utility, each with a custom label. For Fire and Life Safety monitoring, connect to sensor output contacts. See [Additional application reference](#).

**Monitored communications.** By default, the AMZ provides an **output abnormal** trouble if the monitored sensor produces an output less than 4.0 mA or greater than 20.0 mA.

**Three programmable threshold levels.** Each AMZ can have up to three separate threshold levels, each with a custom action message.

**Custom AMZ point types.** You can program up to 100 custom AMZ point types into a single fire alarm detection panel. For network applications, the network total custom AMZ point type limit is also 100 maximum. Custom point types are required for the same sensor type but with different threshold values, or for different sensors with unique characteristics.

**Calibration date recording.** For secure record keeping, you can manually enter each sensor's calibration date.

**Data exporting.** You can use a TrueSite Workstation or TrueSite Incident Commander to export for archiving, sensor activity pertaining to the three analog alarm threshold levels through the Autocall network.

## 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 determines whether a status annunciation is required and displays 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, directly connect sensors with dry trouble contacts to the AMZ's supervised trouble input circuit.

## AMZ product selection chart

**Table 1: AMZ product selection**

SKU	Mounting type	Description	Connections
A190-9050	Surface mount	Remote AMZ package with cover. It mounts in a 4 in. (102 mm) square box with extension. See <a href="#">AMZ remote location mounting information</a>	Color coded wire leads, 18 AWG (0.82 mm <sup>2</sup> )
A190-9051	Semi-flush		

**Table 2: Options**

SKU	Description	Mounting	Connections
A2098-9808	Remote LED indicator	Single gang stainless steel plate	18 AWG leads
A4081-9026	EOLR, 51Kohm, 1%, 1/2 W used with 4-wire sensor applications for trouble input indication	na	na

## AMZ specifications

**Table 3: Voltage and current specifications**

Specification	Details
Operating voltage	18 to 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 less than 4.0 mA is a trouble condition 20 mA maximum, operation greater than 20.0 mA is a trouble condition
Trouble circuit output current	5 mA for monitoring of dry trouble contacts, voltage supplied by the AMZ
A2098-9808 LED Annunciator	3 mA

**Table 4: General specifications**

Specification	Details
Supervised trouble input	Dry contact, 29 VDC maximum
Wiring, sensor loop and power	18 AWG twisted pair, or as for each sensor's requirements
Communications	IDNet Communications One IDNet address for each AMZ Requires two IDNet unit loads
Communications	IDNet Up to 100 custom AMZ point types for each panel Up to 100 custom AMZ point types total for each Network
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
Installation instructions	574-704AC

## AMZ current requirements

Function	Current
Basic operation	30 mA
Sensor loop (20 mA maximum)	+ ____ mA
Sensor power (400 mA maximum)	+ ____ mA
<b>Sub total =</b> See note.	____ mA
<b>Options</b>	
A2098-9808 LED (3 mA in alarm)	+ ____ mA
Trouble (5 mA with trouble contact closed)	+ ____ mA
<b>Total =</b> See note.	____ mA

**Note:** Do not exceed 450 mA max.

**AMZ remote location mounting information**

4" (102 mm) square electrical box,  
2-1/8" (54 mm) deep, with 1-1/2" (38 mm)  
deep extension (supplied separately)

Cover plate, painted beige:  
4-1/2" square (114 mm)

Surface mount model,  
thickness is 3/16" (4.8 mm) \*

Flush mount model,  
thickness is 3/64" (1.2 mm) \*

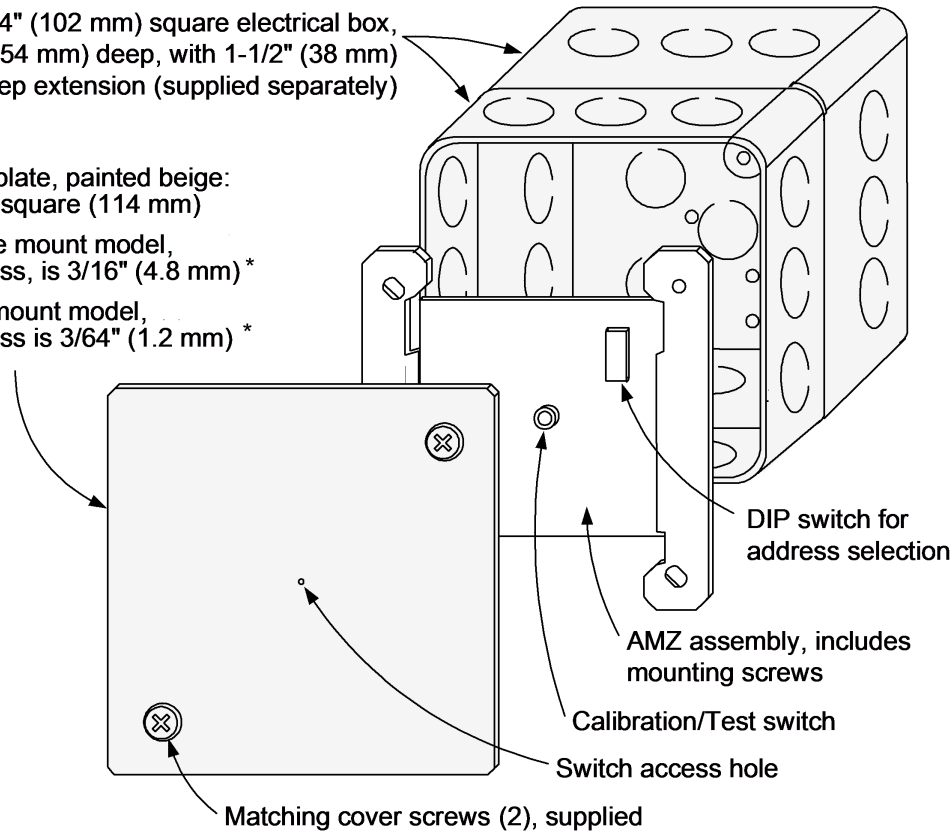
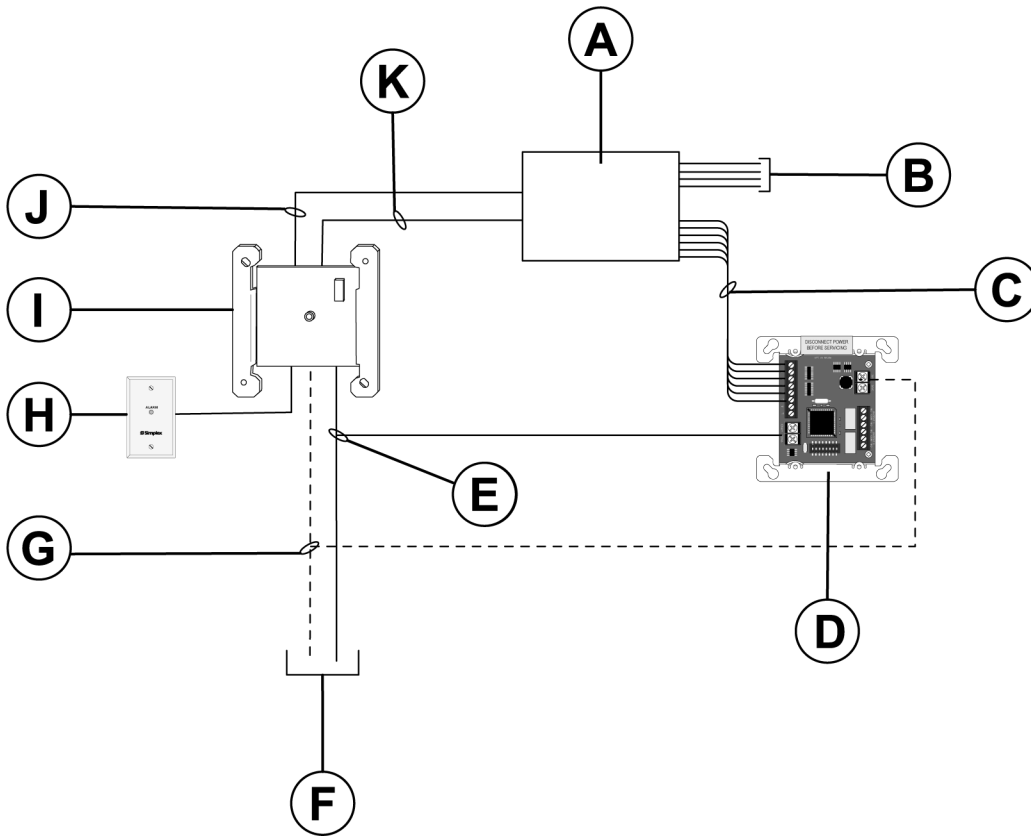


Figure 2: Remote mount AMZ back box installation

**Note:** For sensor wiring and other additional information, refer to Installation Instructions 574-704AC.

\* Surface mount SKU A190-9050 and Flush mount SKU A190-9051 .

**Additional application reference**



**Figure 3: Device connections**

Callout	Description	Callout	Description
A	Compatible sensor	G	24 VDC to AMZ and Six Point Module
B	Local power input and sensor output contacts for control of local area functions.	H	Optional remote LED
C	Alarm, trouble, or other status indicating contact outputs.	I	AMZ
D	A4090-9120 Six Point Module for monitoring multiple contacts / points, four inputs, 2 outputs. Use IAM for single point monitoring. Six Point Module SKU: A4090-9120 and IAM SKU: A4090-9002.	J	Resettable sensor power output
E	IDNET communications	K	4 to 20 mA loop
F	To Simplex 4007ES, 4010ES, 4100ES, or 4100U fire detection panel. Fire detection panel models 4007ES, 4010ES, or 4100ES.		