

# **Maretron<sup>®</sup>**

## **SH-003**

### **Photoelectric Smoke / Heat Detector & Sounder Kit Installation Instructions**



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## General:

The SH-003 kit can be used for general smoke / heat detection; however, it is ideal for use in high temperature areas such as engine rooms. The SH-003 kit contains a 24v smoke / heat detector and its mounting relay base, a sounder and its mounting base and all original manufacturers installation instructions and warranty information papers. Please retain the provided papers for additional reference. There is a choice of 32 sounder tones and a sounder volume control for the Klaxon sounder unit. Please refer to the provided 'Klaxon Sonos Sounder Installation Instructions' for information on how to adjust these settings. The kit also comes with an 8K Ohm EOL (End of Line) Resistor and an EOL Relay necessary for circuit monitoring also known as 'circuit supervision'. The components of this kit are rated for operation from -13°F to 158°F (-25°C to 70°C). When an SH-003 is connected to a SIM100 module, the module will broadcast an NMEA 2000 Switch Status Indication for that channel. The NMEA 2000 message broadcast for each SIM100 channel 'Switch Status Indication' is broadcast according to the SIM100's Instance Number and channel number.

## Configuration:

Use a Maretron IPG100, or a Maretron USB100 and PC running N2KAnalyzer software to configure the SIM100 switch channel mode (indicated as "Channel #x Mode") to the 'End of Line Resistor' setting.

## Detector Behavior:

When a detector is triggered or in Test Mode the detector's sounder will sound, the detector base relays will change state, and the integrated Red LED will illuminate solid. To reset an alarm state or exit Test Mode on a detector, the detector's power will need to be cycled.

### LED Modes Detector:

Power-Up.....No LED  
Standby (Detector OK).....Red LED will periodically blink  
Alarm State.....Red LED will illuminate solid

### LED Modes EOL Relay:

Standby.....Red LED ON  
Loss or Power / Alarm State.....Red LED OFF

## Installation:

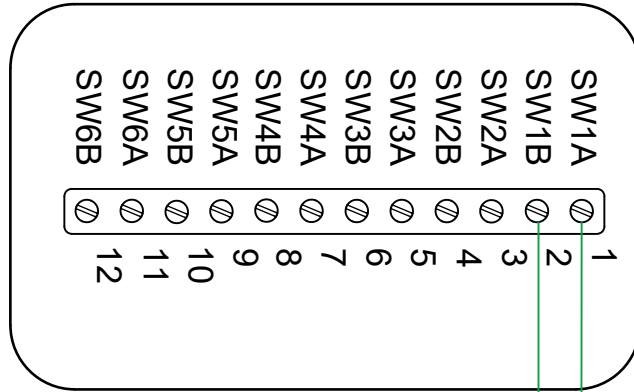
- Install SH-003 in accordance with ABYC and NFPA guidelines for fire and smoke detection based on your application.
- Never exceed 900 sq. ft. of area for any single detector's range.
- Detector and sounder can be ceiling or wall mounted directly or fastened to various sizes of standard electrical boxes.
- Pre-Mount and wire the detector and sounder bases before installing the head units. Twist head units (detector unit and sounder unit) onto respective bases in a clockwise motion. To remove, twist head in a counter-clockwise motion. Both detector and sounder heads are keyed to the base.
- Wire SH-003 in accordance with ABYC or NEC guidelines to select correct wire size (22-16 AWG) and any other applicable wiring guidelines based on your application type.
- The application of dielectric grease on the detector and sounder base connections is recommended.
- Do not mix high current harnessing with fire detection harnessing. For best wiring choice, choose a marine grade, tinned copper, 16 AWG twisted pair cable.
- The detector comes with a pre-installed dust cover. Maintain cover affixed to detector throughout vessel construction or until first use.

## Testing:

To test an SH-003 system connected to a SIM100, the NMEA 2000 network for SIM100 and the SH-003 detector will need to be powered. After power-up, the respective NMEA 2000 Switch Status Indication should indicate 'Off' (Normal State). If either detector power or any connection to SIM100 is lost for the channel, the respective NMEA 2000 Switch Status Indication should indicate 'Error' (Maintenance Required). If a detector is in an Alarm State, the respective NMEA 2000 Switch Status Indication should indicate 'On' (Alarm State). Perform additional testing and maintenance routine as outlined in the provided 'Apollo Orbis Marine Multi-Sensor Detector Instructions'.

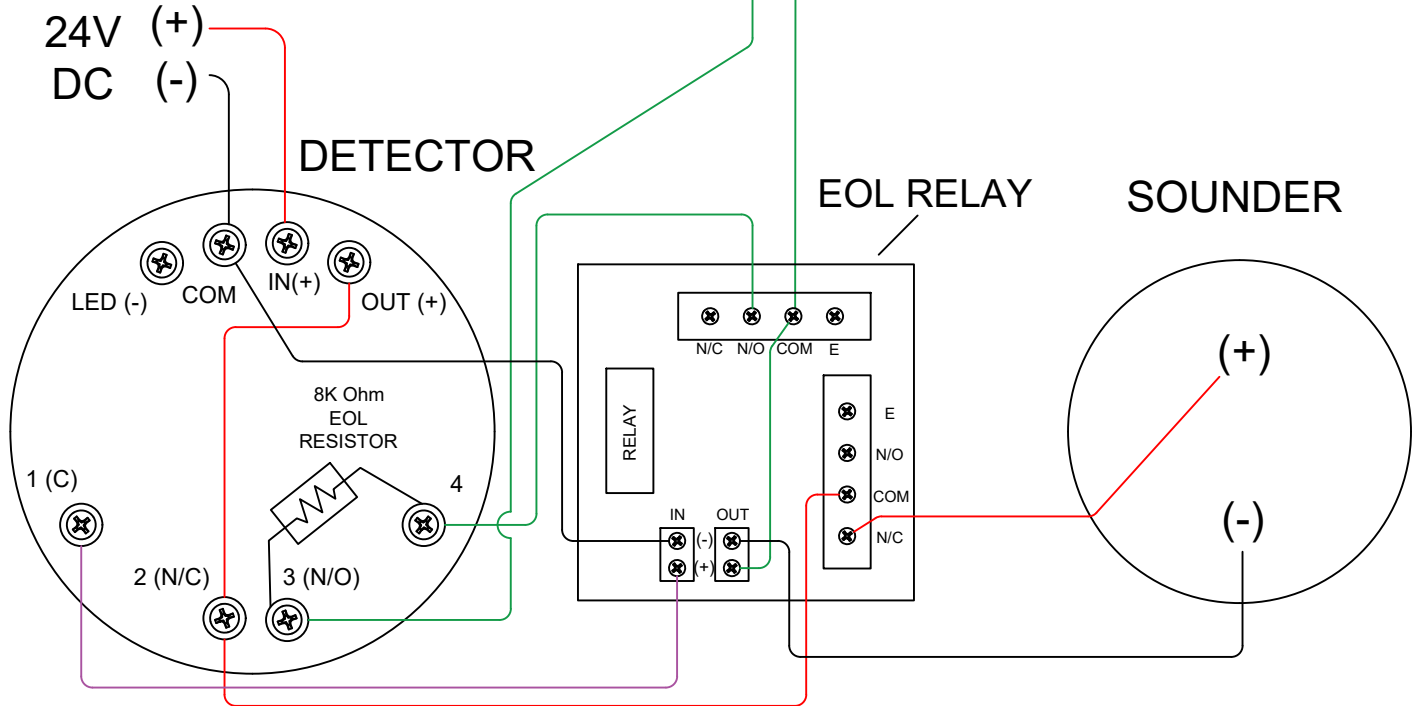
# SMOKE DETECTOR WIRING W/CIRCUIT MONITORING

## SIM100



SIM100 Input Description:

8K Ohm.....System OK  
 Closed.....Alarm Signal  
 Open.....Broken Circuit /  
 Loss of Power  
 (Maintenance Required)



### Note:

These wiring instructions show connections to channel 'SW1' of the SIM100 however, connections could be made to other channels of the SIM100 using the same method. The SIM100 can support up to 6 detector areas.

Detector Dimensions W/Base: 3.96" (101 mm) Diameter, 2.63" (67 mm) Height  
 Sounder Dimensions W/Base: 3.94" (100 mm) Diameter, 3.15" (80 mm) Height  
 EOL Relay Dimensions: 3.44" (87 mm) L x 3.44" (87 mm) W x 1.63" (41 mm) H



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