



**HIGH ACCURACY**

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## PRODUCT DATASHEET

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# SafeGuard Alarm Controller

## 16-channel Modbus® Safety System Display and Control

The SafeGuard Alarm Controller is designed as a cost-effective mini-system controller alternative to expensive PLC systems. The SafeGuard comes standard with a centralized, easy-to-read LCD providing simultaneous status on 16 channel inputs as well as several expansion options including Mimic Display capabilities and HMI software packages. The SafeGuard can be equipped for any application, indoors or out, with your choice of a basic wallmount, a weather-proof fiberglass enclosure or rack panel mounting.

- 8-channel display mode and boards allow for economical configuration for smaller systems
- Dual Modbus® RS-485 serial ports for simultaneous master/slave operation
- Alarm zoning feature available - monitor specific zones at the same time or entire areas
- Relay acknowledge feature allows silencing of external audible devices during alarm
- Graphic LCD readout displays monitored data as trends, bar graphs and engineering units

## Features and Benefits

The SafeGuard Controller is easy to configure and user friendly. Measurement ranges in engineering units, adjustable alarm set-points, dual serial interfaces and many other features combine to allow the SafeGuard to satisfy the needs of many demanding applications. It is widely used for centralizing the display and alarm processing functions in critical flame and gas detection applications.

An RS-485 Modbus® slave port allows up to 128 SafeGuard's to be multidropped onto a single data highway for interrogation by another Modbus master. SafeGuard's may also be cascaded by connecting one unit's master port to another's slave port.



SafeGuard Alarm Controller in Enclosure

- Standard A SPDT common alarm relays for HORN, HIGH, WARN and FAULT. Optional discrete channel alarm relays also available
- Alarm event printer interface
- Cal mode offers push button zero/span calibration
- Authorization mode allows locking of critical configuration variables
- Magnetic keypad available for nonintrusive operation in potentially hazardous locations
- NEMA 4X Enclosure wallmounts, basic wallmount and rackmount options available

SafeGuard options such as discrete alarm relays per channel or 4–20 mA I/O are added by connecting appropriate 8 channel boards (2 required for more than 8 channels) to the economical I2 C expansion bus. Familiar “telephone style” cables and connectors interface to this bus. Versatile, expandable, and a wide range of system configuration options – satisfying the most demanding user applications.

# Specifications

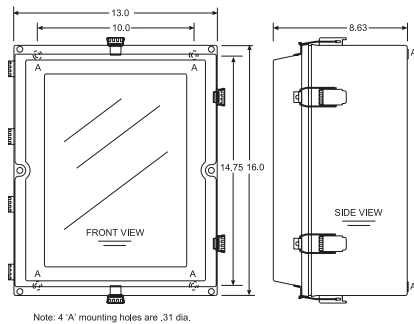
Table 1 - SafeGuard Alarm Controller 16-channel Modbus® Safety System Display and Control

Specifications	
<b>Electrical</b>	
Voltage Range	10 to 30 Vdc
Power Consumption	12 watts max at 24 Vdc
Display	128 x 240 pixel graphic LCD with backlight display bar graphs, trends and engineering units. 52 discrete LED's indicate alarm status for 3 alarms per 16-channels and common relays.
<b>Environmental</b>	
Temperature	Operating temperature range: -25 °C to +60 °C (-13 °F to +140 °F)
Mounting	NEMA 4X fiberglass Enclosure wallmount, Basic wallmount, ½ length 19" inch rackmount
Outputs	<b>Serial Ports:</b> Master and Slave RS-485 half or full duplex ports equipped with Tx/Rx LED's. Protocol = Modbus® RTU <b>Analog:</b> 10 bit 4–20 mA output. Max load 800 ohms with normal 24 Vdc power supply <b>Discrete Alarm Relays:</b> 5 amp 30 Vdc or 250 VAC resistive Form C
Approvals	CSA C22.2 No 1010.1 & 152 for combustibles & ISA S82.02 UL 1604 / C22.2 No 213 (Div 2 Groups A, B, C, D) EN55011 & EN61000 <b>CE</b>
Inputs	Compatible with all Net Safety Analog Output Flame and Gas Detectors
Warranty	Two Years

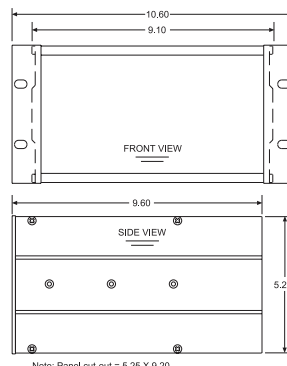
# Compatibility

Figure 1 - Diagram

Dimensions in inches



Nema 4X Wall Mount



Rack/Panel Mount  
(19" Rack Spreader Plates and Panel Mount Bezel Not Shown)

ORDERING INFORMATION	
<b>Part Number</b>	<b>Description</b>
SGX-SM	Basic wallmount (against flat surface) [shipping weight: 4 lbs.]
SGX-PM	Rackmount (includes bezel/rack hardware) [shipping weight: 8 lbs.]
SGX-SM	NEMA 4X Enclosure wallmount, Div. 2 (Fiberglass) [shipping weight: 14 lbs.]
OPTIONAL CONFIGURATIONS	
<b>Part Number</b>	<b>Description</b>
SG10-0158	8 channel analog (4–20 mA) input board c/w terminals
SG10-0167	8 channel analog (4–20 mA) output board
SG10-0195	8 channel discrete relay (5A form C) output board
SG10-0189	NEMA 4X expansion plate (adds up to 4 option positions)
SG10-0172	85–240 VAC universal input 150 W 24 Vdc power supply
SG10-0208	19" rack (supports 1 or 2 SGX-SM controllers)



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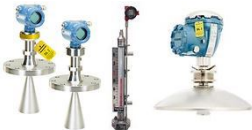














# HIGH ACCURACY

measurement instruments

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	<p>Temperature Measurement</p>		<p>Flow Measurement</p>
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	<p>Liquid Analysis</p>		<p>Flame and Gas Detection</p>
	<p>Tank Gauging</p>		<p>Wireless Infrastructure</p>
	<p>Acoustic &amp; Discrete</p>		

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