sierra monitor corporation

Model 4101 Series
Gas Sensor Modules

The Model 4101 Series Gas Sensor Modules feature accurate detection of the specified gas with linear 4-20 mA output.

The Sierra Monitor Model 4101 Series provides the user with the features needed in a stand-alone, fixed-point hazardous gas monitor system. Utilizing electrochemical sensor technology the Model 4101 provides accurate monitoring of hazardous gas conditions. Proven sensor design matched with reliable state-of-the-art electronics results in the ideal complete single channel package to protect your plant and personnel.
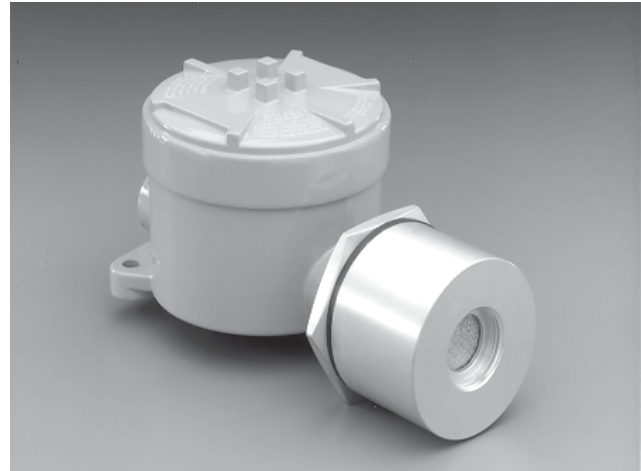
Automatic Low Sensitivity Check
Monitoring integrity is ensured with the automatic low sensitivity check. After calibration, a sensor sensivity check confirms that the sensor response to gas is sufficient to provide reliable operation without false indication. If the sensor has low sensitivity, an LED lights to indicate that sensor replacement is due.

False Alarm Avoidance
During Power-Up and Calibration, the transmitter output is locked at 4 mA. The output remains locked for five minutes directly after power is applied or after calibration gas is removed, allowing sufficient time to fully stabilize before coming on-line. This avoids erroneous readings during warm-up and prevents alarm caused by calibration gas.

Convenient Diagnostic Measurements
Critical measurements are made at convenient jacks for a Volt Ohm Meter. Each measurement location is clearly marked. All modules have a signal output adjustment.

Simple Zero and Span Adjustments
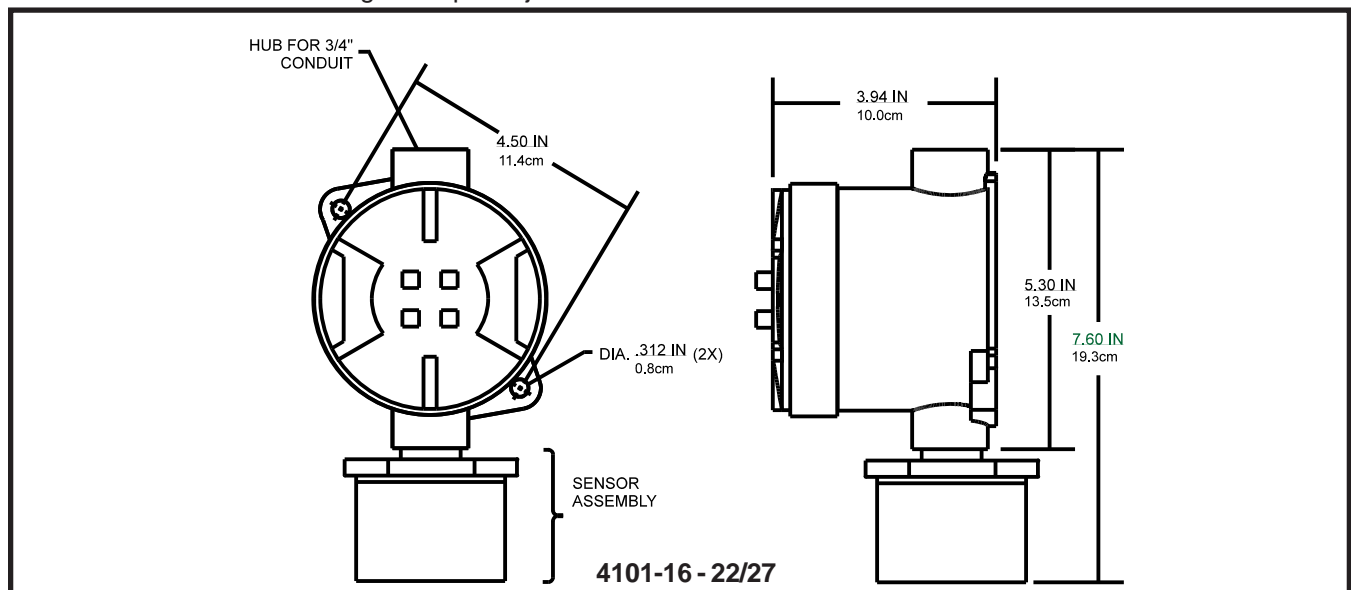Easily accessible potentiometers enable calibration adjustments to be made in minutes by non-technical personnel for reduced maintenance cost.

Flexible Alarm and Logging Options
The analog gas sensor modules can be used as part of a facility gas risk management plan. The 4-20 mA output signal is ideally suited to interface with a wide range of instrumentation for alarm annunciation and recording.

The sensor module is housed in a NEMA-7 enclosure rated for Class 1, Division 1, Groups C, D environments. An optional NEMA 4 Group B enclosure is available.

Be sure to also look at the 5100-XX-IT Series Intelligent Gas Sensor Modules for network-enabled hazardous gas monitoring.

HUB FOR 3/4"
CONDUIT

4.50 IN
11.4cm

DIA. .312 IN (2X)
0.8cm

SENSOR
ASSEMBLY

3.94 IN
10.0cm

5.30 IN
13.5cm

7.60 IN
19.3cm

4101-16 - 22/27

Specifications

Gas Type	Model	Sensor	Std. Range [6]	Units	Resolution	Response Time [2]	Sensor Life [3]	Operating Range °F	°C	RH
Oxygen	5100-03-IT [1]	EC	5-25	% Vol.	+/- 0.1%	<10 Sec.	2 Yrs.	5 to 122	-15 to 50	15-99%
Carbon Monoxide	5100-04-IT [1]	EC	0-500	PPM	0.5 PPM	<25 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-99%
Hydrogen Sulfide	5100-05-IT [1]	EC	0-100	PPM	0.1 PPM	<30 Sec.	2 Yrs.	-40 to 122	-40 to 50	15-99%
Chlorine	5100-06-IT [1]	EC	0-10	PPM	0.1 PPM	<60 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-99%
Sulfur Dioxide	5100-10-IT [1]	EC	0-100	PPM	0.5 PPM	<20 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%
Nitrogen Dioxide	5100-12-IT [1]	EC	0-20	PPM	0.2 PPM	<35 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%
Carbon Monoxide [4]	4101-16	EC	0-2000	PPM	0.1 PPM	<35 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%
Nitric Oxide	4101-19	EC	0-20	PPM	0.5 PPM	<15 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%
Hydrogen Chloride	4101-21	EC	0-20	PPM	0.1 PPM	<100 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%
Hydrogen Cyanide	4101-22	EC	0-20	PPM	0.1 PPM	<70 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%
Ammonia	5100-25-IT [1]	EC	0-50	PPM	1.0 PPM	<30 Sec.	[5]	14 to 122	-10 to 50	20-95%
Hydrogen Fluoride [5]	4101-26	EC	0-10	PPM	1.0 PPM	<30 Sec.	[5]	14 to 122	-10 to 50	20-95%
Ethylene Oxide	4101-27	EC	0-20	PPM	0.1 PPM	<90 Sec.	2 Yrs.	-4 to 122	-20 to 50	15-90%

Notes:
[1] 5100-XX-IT Series provide intelligent network-enabled hazardous gas detection
[2] Response time to 90% full signal value for applied concentration
[3] Sensor life typical for use at standard temperature and pressure with occasional exposure to gas of interest
[4] Hydrogen tolerent
[5] Diffusion via memberane. Requires electrolyte
[6] Optional ranges available

Electrical Data

Loop Type:	3 wire
Loop Resistance:	800 Ohm with 28VDC
Input Voltage DC:	14-30 VDC
Input Current:	40 mA
Input Power Max:	1.4W
Signal Output:	4-20 mA DC linear (trouble 0 mA)
Operating Pressure:	+10% (variation from ambient)
Mounting:	3/4" NPT
Housing:	Explosion proof (NEMA 7) (Div. I, Class 1, 2, Groups C, D, E, F, G) Optional NEMA 4 Group B housing available

Construction:

Modules	Dimensions	Weight
4101-16-27	H: 8.0", D: 4.5", W: 4.0" (20.3 x 15.2 x 15.2 cm)	2.7 lb (1.3 Kg)
4101-26	H: 10.2", D: 6.0", W: 6.0" (25.9 x 15.2 x 15.2 cm)	2.7 lb (1.3 Kg)
Warrenty:	Two year on non-consumables	

ISO 9001 REGISTERED QUALITY SYSTEM

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