

- ✓ **180 Day Calibration Interval**
 - ✓ **Modbus RTU RS-485 output**
 - ✓ **8 Amp Integral Relay option**
 - ✓ **4-20 mA Output**
 - ✓ **Comprehensive user-friendly menus**
 - ✓ **Non-intrusive calibration and set-up**
 - ✓ **Extensive diagnostics for reliability**
- All in one compact gas sensor module!**

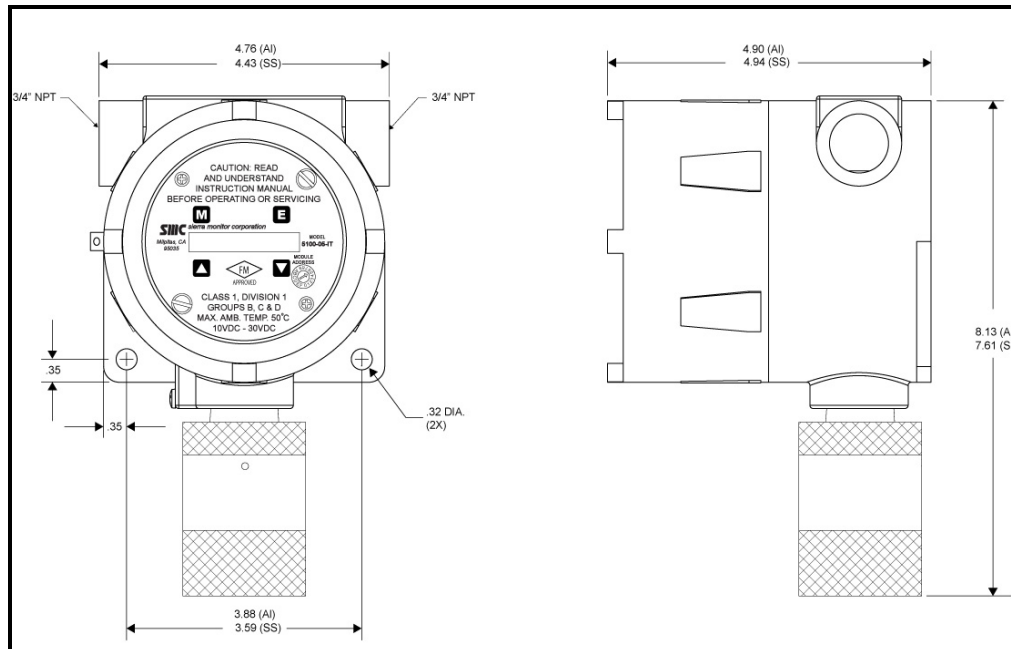
The **IT** Toxic Series Gas Sensor Modules utilize proven electrochemical technology to monitor for toxic gases or oxygen deficiency. **IT** Modules require minimal maintenance. Continuous self-diagnostics will automatically detect and indicate any fault condition. This gas sensor module interfaces directly with the Sierra Monitor Sentry Controller via the Sentry digital bus or to other devices using RS-485 Modbus RTU communications. The module also offers a three or four wire 4-20 mA analog output signal. By integration of IT modules into a Sentry system the user gains the capability of system Modbus serial communications, extensive diagnostic features, WebServer interface, multiplexed sensor wiring and field-proven reliability.



Sentry IT technology has the benefits of:

- ◆ Non-intrusive, one-person calibration and best in industry calibration frequencies for reduced maintenance costs
- ◆ User-friendly, 8-character, fixed and scrolling LED display for ease of set-up and calibration
- ◆ Remote sensor configuration to meet unique applications requirements

- ◆ Cast aluminum or 316 Stainless Steel enclosures for Class I, Div. 1, Groups B, C, D areas
- ◆ Choice or combination of outputs:
 - ✓ 4-20 mA output
 - ✓ Serial RS-485 Modbus RTU interface
 - ✓ SMC Sentry digital bus Interface
 - ✓ Optional 8 Amp Integral High/Low relays, 2 amp Trouble relay



5100-XX-IT Dimensions

Specifications:

Gas Type	Model	Max Range	Units	Resolution	Response Time ⁽¹⁾	Accuracy	Operating Range		
							°F	°C	RH
Oxygen	5100-03-IT	0-25	%Vol	0.1%	<10 sec.	+/- 0.1%	5 to 122	-15 to 50	5 – 99%
Carbon Monoxide	5100-04-IT	0-1200	PPM	0.5 PPM	<25 sec	+/- 0.5 PPM	-4 to 122	-20 to 50	5 - 99%
Hydrogen Sulfide	5100-05-IT	0-100	PPM	0.1 PPM	<30 sec	+/- 0.5 PPM	-40 to 122	-40 to 50	5 – 99%
Chlorine	5100-06-IT	0-10	PPM	0.1 PPM	<60 sec	+/- 0.5 PPM	-4 to 122	-20 to 50	5 – 99%

(1) Response time to 90% full signal value for applied concentration

Specifications common to all IT Toxic Gas Sensor Modules

Sensor type: Electrochemical

Performance
 Range: Default range as above
 User selectable alternative ranges)
 Sensor Life⁽²⁾: Typically >2 years

Output:
 Display: Fixed and Scrolling LED
 Signal Outputs: Sentry digital bus
 Analog 4-20 mA (Trouble, 3.6 mA)
 Serial RS-485 Modbus RTU
 Optional Relays –
 High & Low Alarm (8A), Trouble (2A)
 Digital Input: Normally open (supervised and non-supervised)

Electrical Data:
 Power consumption: 2 watts maximum
 Connection type: 3 wire
 Input voltage: 24 VDC nominal: 10-30VDC

Approvals: FM Performance Approval pending
 SIL2 Approval pending

Construction:
 Dimensions: (HxWxD)
 Aluminum : 8.1 x 4.4 x 4.9 in. (19.1 x 11.2 x12.5 cm)
 316SS : 7.6 x 4.8 x 4.9 in. (19.3 x 12.2 x12.5 cm)
 Weight: Aluminum Enclosure: 2.7 lb. (1.3 Kg)
 316SS Enclosure: 5.4 lb. (2.6 Kg)
 Housing:
 Standard: Epoxy-coated, die-cast, copper-free Aluminum
 Option: 316 Stainless Steel
 Rating: Explosion proof, Class 1, Div. I, Groups B, C, D
 Warranty: 2 years

Modbus:
 Format: RS-485
 Baud: 38400 (Adjustable 2400 – 38400)
 Parity: None
 Stop bit: 1
 Data bits: 8
 Flow Control: None
 Memory map available from Sierra Monitor



Specifications subject to change without notice
 (2) *Sensor life typical for use at standard temperature and pressure with occasional exposure to gas of interest*

Ordering Information:

5100 - XX - IT - YY - ZZ

- 5100 Series				
- 03 = O ₂		- IT Series		
- 04 = CO			- Al (Aluminum Enclosure)	- 01= Sentry, RS-485, 4-20mA, & Digital Input
- 05 = H ₂ S			- SS (Stainless Steel)	- 02= Sentry, RS-485, 4-20mA, Digital Input & Relays
- 06 = Cl ₂				

Accessories:
 5394-52 Remote Display, 5100-XX-IT Toxics
 5311-00 Rainshield

Calibration Accessories
 1250-01 Gas Sensor Calibration Kit, Type A
 1250-03 Gas Sensor Calibration Kit, Type C
 1260-00 Gas Cylinder, Air, (Type A) 105 Liters
 1260-04 Gas Cylinder, CO, 100 PPM, (Type A) 105 Liters
 1260-05 Gas Cylinder, H₂S in N₂, 25 PPM, (Type A) 57 Liters
 1260-06 Gas Cylinder, Cl₂, 5 PPM, (Type C) 104 Liters
 1260-13 Gas Cylinder, CO, 1000 PPM, (Type A) 105 Liters
 5360-00 Calibration Head, Standard

Cross Sensitivity Data Reading from 100 PPM of interfering gas

Model Number	Gas Type	CO	H ₂ S	Cl ₂	H ₂	SO ₂	NO ₂	NO	HCl	HCN	C ₂ H ₄
5100-04-IT	CO	100	5	0	<20	0	0	6	0	0	<50
5100-05-IT	H ₂ S	<2	100	-20	<0.1	<15	-15	0	0	0	0
5100-06-IT	Cl ₂	0	<-10	100	0	0	105	0	0	0	0