



PRODUCT DATASHEET

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ST Series Toxic Gas Detector

Electrochemical Sensor Technology

The Millennium ST Series of toxic gas detectors utilize electrochemical sensing technology to continuously monitor your site for a wide range of toxic gas types. The Millennium ST Series of sensors are fast, accurate, and requires only periodic calibration and maintenance with a typical sensor life of 3–5 years.

- Low operating voltage
- Long range (+2,000 ft.) sensor separation
- Numerous ppm ranges, full range of gas toxicity
- Two wire sensor separation reduces installation costs
- Intuitive menu system, simple set-up and calibration
- CSA certified
- Analog or relay configurations
- Explosion-proof, Class I, Division 1



ST Series Toxic Gas Detector

Features and Benefits

Utilizing our field-proven electrochemical sensor design, the Millennium ST Series continuously monitors your industrial site for a wide range of toxic gas types. Fast and accurate response with only periodic calibration and maintenance required, the ST Series provides reliable coverage and is backed by one of the best warranties in the industry.

Enclosed in a compact and explosion-proof housing, the Millennium transmitter features a power disconnect switch to simplify maintenance, a clearly visible scrolling LED display for calibration and configuration, and meter jacks for easy current loop monitoring.

The transmitter includes internal push button controls as well as an external magnetic switch for non-intrusive controls during calibration and configuration. The Millennium ST Toxic Gas

Detector was designed for both 12 or 24 VDC systems and is available with Analog or Relay configurations as well as a Low Power option that draws as little as 32 mA of power.

The Millennium ST Toxic Gas Detector is an intelligently designed toxic gas detector, engineered to the highest standards for performance and quality, and ideally suited to provide reliable coverage in even the most extreme, high-risk industrial applications.

Specifications

Table 1 - ST Series Toxic Gas Detector

Millennium Toxic Sensors					
ST Series Sensor *	Detection Range	Accuracy/Repeatability	Span Drift	Response Time	Operating Temperature
Hydrogen Sulfide H ₂ S (ST1200)	0–20/50/100 ppm	3 % full scale/1 % full scale	< 2 % full scale/mth	< 30 s - T90	-40 °C to +50 °C (-40 °F to 122 °F)
Carbon Monoxide CO (ST1600)	0–500 ppm	3 % full scale/1 % full scale	< 5 % full scale/yr	< 30 s - T90	-20 °C to +50 °C (-4 °F to 122 °F)
Chlorine Cl ₂ (ST1500) *	0–10 ppm	±2 ppm or ±15 % of reading, whichever is greater /2 % full scale	< 2 % full scale/mth	< 60 s - T80	-20 °C to +50 °C (-4 °F to 122 °F)
Ammonia NH ₃ (ST1700) *	0–100 ppm	5 % full scale/10 % full scale	< 2 % full scale/mth	< 90 s - T90	-10 °C to +50 °C (14 °F to 122 °F)
Certifications	CSA and NRTL/C certified for hazardous locations. Class I, Division 1 (* Division 2 only), Groups C and D. IEC Rating Ex d IIB T6 NEMA 3R				
Enclosure Material	Anodized Powder Coated Aluminum (Optional Stainless Steel)				
Sensor Warranty	2 Years				

Millennium Transmitter/Controller		
Specification	MLP "A" Version	MLP "AR" Version
Operating Voltage Range	10.5 to 32.0 VDC	10.5 to 32.00 VDC
Power Consumption (at 24 VDC)	Nominal 55 mA, 1.32 W Maximum 73 mA, 1.76 W	Nominal 83 mA, 1.49 W Maximum 92 mA, 2.21 W
Operating Temperature and Humidity Range	-40 °C to +85 °C (-40 °F to 185 °F) 0–95 % RH, non-condensing	
Output(s)	Analog 4–20 mA: Max. loop impedance of 800 ohms at 32 VDC or 150 ohms at 10.5 VDC. Isolated or non-isolated loop supply	Relays: 3 Form C contacts rated 5 A at 30 VDC/250 VDC
Enclosure Material	Powder Coated Aluminum 6061 (316 Stainless Steel Optional)	
Weight	3.2 kg (7.0 lbs)	
Electronics Warranty	3 Years	
Alpha-numeric display	Bright 8-digit LED scrolling type display - English, French, and Spanish languages available.	
Unique Features	Local Power Switch and Meter Test Jacks on faceplate for easy maintenance. Easy to read instructions for one-person, NON-INSTRUSIVE calibrations	
Certifications	- CSA and NRTL/C certified for hazardous locations. Class I, Division 1, Groups B, C and D. Temperature code T5. - IEC Rating Ex d IIB+H2 T5 (Class I, Zone 1 Group IIB+H2 T5). Maximum Operating Ambient of 85 °C. Enclosure Type 4X - II2G EEx d IIB+H2 T5 (-40 °C ≤ Tamb ≤ 85 °C).	

Ordering Information		
Millennium Premium	Toxic Sensors Element	Options/Accessories
MLP-A- Analog Output Only	ST1200-20 0 to 20 ppm H ₂ S ST1200-50 0 to 50 ppm H ₂ S ST1200-100 0 to 100 ppm H ₂ S ST1300-20 0 to 20 ppm SO ₂ ST1300-100 0 to 100 ppm SO ₂ ST1500-10 0 to 10 ppm Cl ₂ ST1600-500 0 to 500 ppm CO ST1700-100 0 to 100 ppm NH ₃	-SEP Analog Sensor Separation Kit CCS-1 Splash guard/Calibration cup -SS Stainless Steel
MLP-AR- Analog and Relay Outputs		Order Example: MLP-A-ST1200-100-SEP Millennium Premium Toxic Gas Detector with ST1200 H ₂ S sensor for 0–100 ppm H ₂ S range, 4–20 mA output only and sensor separation option included.

EmersonProcess.com/FlameGasDetection

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HA HIGH ACCURACY

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Our offering:

	Pressure Measurement		Level Measurement
	Temperature Measurement		Flow Measurement
	Marine Measurement & Analytical		Gas Analysis
	Liquid Analysis		Flame and Gas Detection
	Tank Gauging		Wireless Infrastructure
	Acoustic & Discrete		

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