

MILLENNIUM II BASIC

Cost Effective "SMART" Gas Detector



- **Fastest H₂S Response Available on the Market**

- **Low Power Consumption**

- **Market Leading Sensor Warranties**

- **Low Cost Solution**

- **Non-intrusive, One Man Calibrations**

- **Visual LED Indication**

- **Selectable Gas Curves**

- **Wide Input Range, Greater Stability with Voltage Drops**

- **Long Range (+2000ft.) Sensor Separation**



Net Safety's next generation detector, the Millennium II BASIC is a robust, reliable, and low-cost safety solution delivering highly accurate detection and protection. Our state-of-the-art "SMART" technology provides a cost-effective detector solution that includes all the features you demand with complete ease-of-use and operation.

SMART Sensor Technology

The transmitter can be fitted with a wide range of toxic or combustible gas sensors. SMART (Self Monitoring Analysis and Reporting Technology) sensors are pre-calibrated and easily connect to the transmitter which instantly recognizes the newly fitted sensor.

Enhanced Communications

The Millennium II BASIC comes equipped with optional Analog, Relay, RS485 Modbus[®] RTU, or HART[®] communications, making integration with external safety equipment seamless.

Easy to Use and Cost Effective

The Millennium II BASIC has easy-to-read, low-power LED indicators for power and status. Plug-in sensor replacement capability and non-intrusive "one-man" calibration greatly reduce and simplify maintenance.

Proven Sensor Technologies

All of our sensors are engineered to be fast and reliable with field-proven designs. Our solid state sensors do not "fall asleep"; poison-resistant catalytic bead technology with *SensorGuard*, which prolongs catalytic bead sensor life; infrared sensor technology utilizing a dual beam design with no "mirrors" that may become contaminated ("fogged up") or misaligned; and a full range of electrochemical toxic gas sensors.

Global Certifications

The Millennium II BASIC is certified to FM, CSA, ATEX, ANSI-UL/ISA, INMETRO, and GOST-R safety, technical and performance standards.

Market Leading Warranties

All Transmitters – **3 Years**

Catalytic Bead and Infrared Sensors – **5 Years**

Solid State and Electrochemical Sensors – **2 Years**

MILLENNIUM II BASIC

"SMART" Gas Detector

BCR-0036-00-018

MILLENNIUM II BASIC CONTROLLER

Electrical

Power Consumption	@ 24 Vdc Up to 200 mA (depending on sensor type)
Voltage Range	10.5 – 32.0 Vdc
RFI Immunity	RFI: 150 to 170 MHz and 450 to 470 MHz, 5W FM radio 1 meter away
EMI Immunity	EMC: IEC 61000-1-4 and IEC 61000-4-3 Severity Level 2

Display Power and Status LED's (Indicates Normal, Alarm, Fault)

Environmental

Temperature	-55°C to +85°C (-67°F to +185°F) Operating Range
Relative Humidity	0-99% RH non condensing

Enclosure

Metallurgy	Aluminum or 316 SS
Conduit Opening	3/4" NPT (3X)

Mounting Surface Mount / 2" Pipe Mount

Outputs Analog 4-20mA, Three 5 Amp Form C Relays, R5485 Modbus®, Analog 4-20mA/HART®

Certifications **CSA | ANSI-UL/ISA | ATEX | INMETRO | GOST-R**

Ex/AEx/EEEx/BR-Ex/1Ex d IIB+H2, T5
Class 1, Division 1 - Groups BCD; Class 1, Zone 1

Factory Mutual (FM) 6310, 6320 | CSA 22.2 No 152 | IEC 61779

IP67 | NEMA Type 4x

Warranty 3 years

Accessories Calibration Cup, Collecting Cone, Mounting Bracket c/w Hardware, Sun Shade/Deluge Protection, Duct Mount and Hardware Kit, Dust / Sand filter

Weight Approx. 2.0 kg (4.4 lbs.)

Dimensions See below

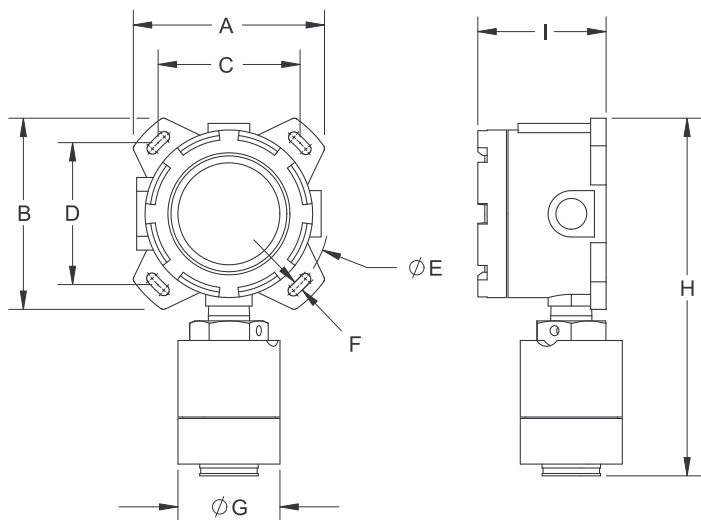
ORDERING INFORMATION

M2B-A	Single Channel - Analog
M2B-R	Single Channel - Relay
M2B-D	Single Channel - Digital Modbus
M2B-AH	Single Channel - Analog & Hart

Enclosures Available: Aluminum (-A) Stainless Steel (-S)

Ordering Matrix Example:

M2B-AH-S (Transmitter - Output - Enclosure)



Millennium Basic & Separation Kit Dimensions (inches)								
	A	B	C	D	E	F	G	H
Millennium Basic & Sensor (Aluminium)	4.8	4.8	3.6	3.6	5.1	0.3	2.6	9.0
Millennium Basic & Sensor (Stainless Steel)	4.7	4.7	3.6	3.6	5.1	0.3	2.6	8.9

Changes are periodically made to the information within this document and incorporated without notice into subsequent revisions. Net Safety Monitoring Inc. assumes no responsibility for any errors that may be contained within this document. Please refer to manuals for complete specifications.

Distributed by:

ISO 9001:2008



FLAME DETECTION • COMBUSTIBLE & TOXIC GAS DETECTION • SAFETY SYSTEMS • SURVEILLANCE • SMOKE DETECTION

2721 Hopewell Place NE, Calgary, Alberta, Canada T1Y 7J7 | 1-866-FIREGAS (347-3427) | ph. (403) 219-0688 | fx. (403) 219-0694 | www.net-safety.com

MILLENNIUM II SENSORS (continued on pg 4)

"SMART" Sensor Technology

COMBUSTIBLE SENSORS

INFRARED

CATALYTIC BEAD

PERFORMANCE	Part Number: SC311(A/S)-100-ASSY	Part Number: SC310(A/S)-100-ASSY
• Response Time	T50 ≤ 4.3 sec T90 ≤ 11 sec	T50 <6sec T60 <7sec T90 < 13sec (100% LEL)
• Accuracy	(+/-) 2% < 50% (+/-) 5% >50%	(+/-)3% up to 50% (+/-)5% above 50%
• Range of Detection	0 to 100% LEL	0 to 100% LEL
• Zero Drift	2% full scale per year	2% full scale over 6 months
• Repeatability	+/- 2% full scale	< 1% full scale
ENVIRONMENTAL		
• Temperature	-40°C to +75°C (-40°F to 167°F)	-55°C to +85°C (-67°F to 185°F)
• Relative Humidity	0–99% RH non condensing	0–99% RH non condensing
ENCLOSURE		
• Metallurgy	Aluminum or 316 SS	Aluminum or 316 SS
CERTIFICATIONS	Factory Mutual (FM) Class 6310, 6320 CSA 22.2 No. 152 IEC/EN 61179-1 and -4 SIL2 by TÜV SÜD	Factory Mutual (FM) Class 6310, 6320 CSA 22.2 No. 152
	CSA ANSI-UL/ISA ATEX INMETRO GOST-R — Ex/AEx/EEEx/BR-Ex/1Ex d IIB+H2 - Class 1, Division 1, Grps BCD; Class 1, Zone 1	
	Temperature Rating: T5 IP 66/67 (filter) NEMA Type 4x	Temperature Rating: T8/T4/T5 IP 66/67 (filter) NEMA Type 4x
SENSOR SEPARATION	Up to 2000 feet/600 meters	Up to 2000 feet/600 meters
WARRANTY	5 years	5 years
SPECIAL FEATURES	<ul style="list-style-type: none"> • Calibration Required Only Once Per Year • Enhanced Sensor Diagnostics • Dual Beam Technology • Flame Arrestor Beam Protector • "Quick" Calibration Option 	<ul style="list-style-type: none"> • Enhanced Sensor Diagnostics • <i>SensorGuard</i> Technology • Poison Resistant • Custom K-factor Input (HART only)

TOXIC SENSORS

SOLID STATE H₂S

SOLID STATE NH₃

PERFORMANCE	Part Number: ST321(A/S)-100-ASSY	Part Number: ST371(A/S)-300-ASSY
• Response Time	T20 ≤ 3 sec T50 ≤ 6 sec (20ppm range)	T20 ≤ 9 sec (50ppm range)
• Accuracy	+/- 2ppm or 10% full scale	+/- 5ppm or 10% full scale
• Zero drift	2ppm full scale over 6 months	2ppm full scale over 6 months
• Repeatability	+/- 1ppm or 5% full scale	+/- 2ppm or 5% full scale
ENVIRONMENTAL		
• Temperature	-40°C to +65°C (-40°F to 149°F) Operational	-40°C to +65°C (-40°F to 149°F) Operational
• Relative Humidity	0–95% RH non condensing	0–90% RH non condensing
ENCLOSURE		
• Metallurgy	Aluminum or 316 SS	Aluminum or 316 SS
CERTIFICATIONS	Factory Mutual (FM) Class 6310, 6320 CSA 22.2 No. 152 ANSI/ISA-S 92.0.01 SIL2 by TÜV SÜD	Factory Mutual (FM) Class 6310, 6320 CSA 22.2 No. 152 ANSI/ISA-S 92.03.01
	CSA ANSI-UL/ISA ATEX INMETRO GOST-R — Ex/AEx/EEEx/BR-Ex/1Ex d IIB+H2 - Class 1, Division 1, Grps BCD; Class 1, Zone 1	
	Temperature Rating: T5 IP 66/67 (filter) NEMA Type 4x	Temperature Rating: T5/T6 IP 66/67 (filter) NEMA Type 4x
SENSOR SEPARATION	Up to 2000 feet/600 meters	Up to 2000 feet/600 meters
WARRANTY	2 years	6 months
SPECIAL FEATURES	<ul style="list-style-type: none"> • Enhanced Sensor Diagnostics • Sensor Will Not Fall Asleep 	<ul style="list-style-type: none"> • Enhanced Sensor Diagnostics • Sensor Will Not Fall Asleep

Changes are periodically made to the information within this document and incorporated without notice into subsequent revisions. Net Safety Monitoring Inc. assumes no responsibility for any errors that may be contained within this document. Please refer to manuals for complete specifications.



Millennium II
Multi-Channel
Gas Detector



Phoenix Triple IR
Multi-spectrum
Flame Detector



FlameWatch
Combination Video
Flame Detector



Millennium II
BASIC Low Power
Gas Detector



Millennium APM
Industrial Air Particle
Smoke Detector



Gas Shield II
Light Industrial
Toxic Gas Detection



PlantSafe 8000
SIL2 PLC Fire & Gas
Safety Systems



Sales Gas Monitor
Continuous Monitoring
for H₂S Content

FLAME DETECTION • COMBUSTIBLE & TOXIC GAS DETECTION • SAFETY SYSTEMS • SURVEILLANCE • SMOKE DETECTION

2721 Hopewell Place NE, Calgary, Alberta, Canada T1Y 7J7 | 1-866-FIREGAS (347-3427) | ph. (403) 219-0688 | fx. (403) 219-0694 | www.net-safety.com

MILLENNIUM II SENSORS

"SMART" Sensor Technology

TOXIC SENSORS

ELECTROCHEMICAL H₂S

PERFORMANCE	Part Number: ST322(A/S)-100-ASSY
• Response Time	T50 ≤ 7 sec T90 ≤ 22 sec (50ppm range)
• Accuracy	50ppm range +/- 2ppm full scale
• Range of Detection	0-100 ppm
• Zero drift	2ppm full scale over 6 months
• Repeatability	Greater of 1ppm or 5% full scale
ENVIRONMENTAL	
• Temperature	-40°C to +75°C (-40°F to 167°F)
• Relative Humidity	0-99% RH non condensing
ENCLOSURE	
• Metallurgy	Aluminum or 316 SS
CERTIFICATIONS	CSA ANSI ATEX INMETRO GOST-R — Ex/AEx/EEEx/BR-Ex/1Ex d IIB+H2 - Class 1, Division 1, Grps BCD; Class 1, Zone 1 Temperature Rating: T4/T5 IP 66/67 (filter) NEMA Type 4x
SENSOR SEPARATION	Up to 2000 feet/600 meters
WARRANTY	2 years
SPECIAL FEATURES	<ul style="list-style-type: none"> • Enhanced Sensor Diagnostics • Sensor Will Not Fall Asleep

TOXIC SENSORS

ELECTROCHEMICAL O₂

PERFORMANCE	Part Number: ST340(A/S)-25-ASSY
• Response Time	T95 <15 sec
• Range of Detection	0 to 25% Oxygen
• Zero Drift	1% full scale over six months
• Resolution	0.1%
• Pressure Range	Atmospheric ±10%
• Pressure Coefficient	0.02% signal/mBar
ENVIRONMENTAL	
• Temperature	-40°C to +75°C (-40°F to 167°F)
• Relative Humidity	0-99% RH non condensing
ENCLOSURE	
• Metallurgy	Aluminum or 316 SS
CERTIFICATIONS	CSA ANSI ATEX INMETRO GOST-R — Ex/AEx/EEEx/BR-Ex/1Ex d IIB+H2 - Class 1, Division 1, Grps BCD; Class 1, Zone 1 Temperature Rating: T4/T5 IP 66/67 (filter) NEMA Type 4x
SENSOR SEPARATION	Up to 2000 feet/600 meters
WARRANTY	6 months
SPECIAL FEATURES	<ul style="list-style-type: none"> • Enhanced Sensor Diagnostics

Changes are periodically made to the information within this document and incorporated without notice into subsequent revisions. Net Safety Monitoring Inc. assumes no responsibility for any errors that may be contained within this document. Please refer to manuals for complete specifications.

Distributed by:

ISO 9001:2008



FLAME DETECTION • COMBUSTIBLE & TOXIC GAS DETECTION • SAFETY SYSTEMS • SURVEILLANCE • SMOKE DETECTION

2721 Hopewell Place NE, Calgary, Alberta, Canada T1Y 7J7 | 1-866-FIREGAS (347-3427) | ph. (403) 219-0688 | fx. (403) 219-0694 | www.net-safety.com