no false alarms

GAS DETECTION SYSTEMS

NEW & smarter

TOX-ARRAY 2000

Wall Mount Gas Detection Systems

Acrylonitrile (ACN)	C_3H_3N
Ammonia	NH_3
Arsenic Pentafluoride	AsF_5
Arsine	AsH_3
Boron Trichloride	BCl_3
Boron Trifluoride	BF_3
Bromine	Br_2
Carbon Dioxide	CO_2
Carbon Monoxide	CO
Chlorine	Cl_2
Chlorine Dioxide	ClO_2
Chlorobenzene	C_6H_5Cl
Combustible Gas	L.E.L.
Diborane	B_2H_6
Dichloroethane	$C_2H_4Cl_2$
Dichlorosilane	SiH_2Cl_2
Difluoromethane	CH_2F_2
Fluorine	F_2
Freon Gases, R-123, 134a, 11, 12, others	ALL
Germane	GeH_4
Hydrazine	N_2H_4
Hydrogen	H_2
Hydrogen Bromide	HBr
Hydrogen Chloride	HCl
Hydrogen Cyanide	HCN
Hydrogen Fluoride	HF
Hydrogen Iodide	HI
Hydrogen Peroxide	H_2O_2
Hydrogen Sulfide	H_2S
Iodine	I_2
Methyl Bromide	CH_3Br
Methyl Chloride	CH_3Cl
Methyl Iodide	CH_3I
Methylene Chloride	CH_2Cl_2
Nitric Acid Vapors	HNO_3
Nitric Oxide	NO
Nitrogen Dioxide	NO_2
Nitrogen Trifluoride	NF_3
Oxygen	O_2
Ozone	O_3
Phosgene	$COCl_2$
Phosphine	PH_3
Phosphorous Oxychloride	$POCl_3$
Silane	SiH_4
Sulfur Dioxide	SO_2
Sulfuric Acid Vapors	H_2SO_4
Tetrachloroethylene	C_2Cl_4
Trichloroethylene	C_2HCl_3
And More (Call Factory)	

DESCRIPTION

The Model **TOX-ARRAY 2000** wall-mount system, front panel programmable, provides in any combination, up to 6 channels of toxic, combustible and oxygen monitoring in a 9-1/4”W x 11-1/4”H x 6”D Nema 4X fiberglass enclosure.

Any combination of toxic, combustible and oxygen sensors can be used on the **TOX-ARRAY 2000**. Each channel can have the RS-485/4-20mA 3 or 4-wire ***smarter*** trransmitter, that features labor free auto self-calibration, which adjusts span monthly based on life curve, non-intrusive hands free auto gas calibration in 2 minutes, off-site sensor calibration to replace sensors in the field without recalibration, remaining sensor life indicator, and replace sensor indicator, four 12-15 Amp relays option, diagnostics, backlit LCD display, peak value, loop test and rapid warm-up. Also available with the 2-wire loop powered ***smarter*** transmitter. MIL-RAM’s patented TOX-ARRAY sensors are based on time proven electrochemical technology. A unique and innovative approach to sensor design eliminates false alarms and is not affected by changes in temperature, humidity or pressure and does not react with air; this eliminates zero drift. Interferences typically encountered on other detectors are avoided with the TOX-ARRAY sensors. The result is fast, accurate and reliable response with outstanding sensitivity and selectivity. The TOX-ARRAY sensors are extremely stable with a service life of greater than 3 years and are factory rechargeable. No additional electrolyte is required during the 3+ years of life of the sensor charge.

The **TOX-ARRAY 2000** offers tremendous microprocessor-based capability, the simplified design eliminates the complexity encountered in setting up other microprocessor-based systems. It was clearly designed with the end user in mind.

Each channel features a three-digit LED display. High, low and trouble LEDs provide alarm status, while a buzzer provides audible alarms at the controller.

Programmable relays offer added flexibility in area monitoring and reduced installation cost. Discrete relays for each alarm level are standard in the same 9-1/4”W x 11-1/4”H x 6”D enclosure.

An easy-to-read, backlit LCD prompts you for easy setup of each channel. Push button switches enable the user to address various setup parameters on the LCD and easily program each channel. Alarm set points, relay assignment and function (latching or non-latching) are easily installed for each channel.

The Model **TOX-ARRAY 2000** is designed to operate from field selectable 115/230 volts AC, 50/60Hz, 12-24 volts DC. An optional battery backup with trickle charge circuit is available as well as RS-485.

SENSOR FEATURES

- ***no false alarms*** - does not react with changes in temperature humidity, or pressure
- Does not drift - no autozeroing or adjustments required
- Not affected by humidity - 5% to 95% relative humidity
- Not affected by temperature - -40°C to +50°C is not temperature compensated; inherent design makes it stable
- Maintains calibration for over six months - good practice dictates calibration be checked monthly
- Maintenance free - no replenishment of electrolyte or water during 3+ years of normal life of each charge
- Long life - over three years and is factory rechargeable at reasonable cost
- Fast response - 90% of reading in less than 45 seconds
- Fast recovery - 90% recovery in less than 30 seconds
- Not saturated by occasional high concentrations of gas in the work environment (continuous gas exposure reduces service life)
- Stays awake - does not go to sleep when it has not been exposed to gas for long periods of time
- Chemically selective
- Does not react with air
- No L.E.L., methane, hydrocarbons, CO, CO_2 gas interference
- No sensor warm-up time
- Zero and Span are not interactive
- Simple push-button setup of each channel
- Large backlit LCD "walks" the user through channel setup
- User programmable relays, two per channel, with common trouble relay
- One-man calibration
- LED indicators for alarm status
- 4-20mA transmitters for toxic, combustibles and oxygen monitoring. Available without display and with 2, 3 or 4-wire ***smarter*** transmitters
- 4-20mA, 0-1V, 0-100mV outputs
- Standard power: 115/230VAC/12-24VDC
- Three-digit 7 segment LED display for each channel
- Accommodates any combination of toxic, combustible and oxygen transmitters
- System is easily expanded in a space efficient manner
- Custom engineered systems available, sample-draw, RFI protected, pyrolyzer, data acquisition, others

CONTROLLER SPECIFICATIONS

Power	115/230 VAC, 50-60 Hz, 12-24 VDC, battery backup available with trickle charger Sample-Draw Option: 115 VAC pump voltage
Outputs	4-20 mA, 0-1 volt, 0-100 mV, RS-485 (optional), RS-232 (optional)
Relays	Two DPDT relays per channel, latching or non-latching (user programmable); common DPDT trouble relay - relays rated 15 Amps @ 120 VAC
Standard Enclosure	9-1/4"W x 11-1/4"H x 6"D Nema 4X, fiberglass, 1 to 6 channels
Other Enclosures	Explosion-proof, UL approved or any other Nema enclosure, 1 to 6 channels or more
Optional	RS-485/4-20mA 3 or 4-wire ***smarter*** Transmitter Data Acquisition Software

Manufacturer's Representative

SENSORS (Typical)

Detection Principle	Electrochemical
Detection Method	Diffusion (Sample-Draw Available, Nema 4X)
Detection Range	0.00-1.00 ppm to 0-5000 ppm
Output Signal	Linear
Resolution	0.01/0.1/1 ppm
Response Time	<45 sec. to 90% of final reading
Recovery Time	<30 sec. to 90% recovery
Temperature Range	-40°C to +50°C -40°F to +122°F
Humidity Range	5% to 95% RH, noncondensing - continuous 0% to 99% RH, noncondensing - intermittent
Pressure Range	Atmospheric ± 15%
Zero Drift	<0.1 ppm
Position Sensitivity	Install vertically
Storage Life	>18 months in container
Life Expectancy	>3 years in clean air - factory rechargeable many times
Approvals	UL, CSA

NOTE: Specifications subject to change without notice

MIL-RAM

Patented Technology

no false alarms

Gas Detection Systems

ISO 9001:2000 Certified

MIL-RAM TECHNOLOGY, INC.

Patented Technology

no false alarms

Gas Detection Systems

Wireless Telemetry Systems

TOLL FREE: 888-4MILRAM • 1-888-464-5726

4135 Business Center Drive • Fremont, CA 94538

Tel: 510-656-2001 • Fax: 510-656-2004

sls@mil-ram.com • www.mil-ram.com

www.wirelessmil-ram.com