Toxgard® II Gas Monitor

For monitoring toxic gases, combustible gases, or oxygen deficiency

PPM CO

CAUTION   WARNING   IR   ALARM

HORN/ALARM
ACKNOWLEDGE

OPEN

TOXGARD® II
GAS MONITOR

MSA

MSA
The Safety Company

Toxgard II
Gas Monitor

Toxgard Monitors are used in a variety of industrial or commercial applications. This monitor is easy to install and operate. Just apply power to the Toxgard II Gas Monitor, and it is ready to go, or use it as a transportable gas monitor with optional internal battery. The combustible gas Toxgard II Monitor requires just a simple connection to its remote sensor.

Applications

Toxgard II Monitors can be used in any application where threat of combustible gas buildup, presence of toxic gases, or oxygen deficiency may exist.

Toxgard II Monitors are suitable for indoor and outdoor applications in virtually any industry including refineries, chemical and petro-chemical facilities, steel mills, water and waste water, mining, and general industry.

Standard Features

- Large, 4-digit LED display
- 3 alarm levels
- Large LED alarm indicators
- Internal relay contacts for FAULT, CAUTION, WARNING, and ALARM
- Fail-safe fault relay output
- Diagnostics display
- Audible alarm
- 4 to 20 mA output

Advanced Features

The Toxgard II Monitor's advanced features provide:

- Date of last successful calibration recorded within the Toxgard II Monitor.
- **Replace Sensor** indication when sensor nears end-of-life.
- Real-time clock for time and date event stamping.
- Logging of minimum, maximum, and average gas concentrations over pre-determined time intervals.
- Selectable output signal lockout during calibration to inhibit alarms and control actions.

Design

All Toxgard II Gas Monitors regardless of gas selected for detection, are housed in rugged, metal enclosures designed for NEMA 4X. With sensor mounted external to enclosure, it is easily replaced by simply unscrewing the sensor housing and removing the plug-in sensor. All Toxgard II Monitors are factory-calibrated and ready for installation and immediate operation. The Toxgard II Monitor's unique design eliminates all potentiometers or any other internal adjustment.

Operation

Toxgard II Monitors normally operate in diffusion mode, but also can be specified with an internal pump for applications where it is necessary or more convenient to draw samples from a remote locations.

All Toxgard II Monitor assemblies are shipped with a unique Sensorgard to protect sensor from dirt, water, etc., while allowing gas to penetrate the unit. The Sensorgard also acts as a baffle in windy environments.

With the remote sensor version, sensors and transmitters can be separated for installations where sensor access may be difficult.

Outputs

All Toxgard II Monitors come standard-equipped with large, 1.75" LED display for local indication of gas readings or any other stored parameter.

Additionally, relay contacts are provided for CAUTION, WARNING, and ALARM levels. A normally energized Fault relay also provides contact output for any condition not considered to be NORMAL by the Toxgard II Gas Monitor.

Calibration

The Toxgard II Monitor reduces the possibility of human error when performing calibration. Simply activate calibration mode and follow LED display instructions for applying zero and span gas.The Toxgard II Monitor automatically makes any necessary adjustments. There's no guesswork with the Toxgard II Gas Monitor, as actual gas readout is displayed during calibration.
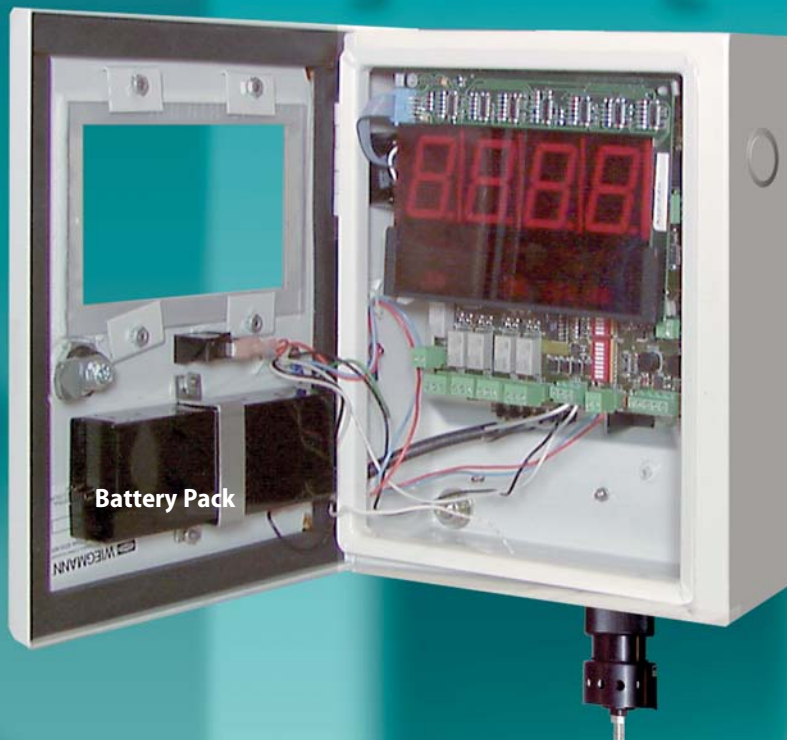
When calibration is complete, the Toxgard II Monitor automatically returns to normal operation.

For convenient record keeping, the Toxgard II Monitor date stamps the last successful calibration.

MSA

Toxgard® II Gas Monitor with options and accessories.

Strobes

Handle

Flow Cap

Air-line Regulator

Federal Horn

Side-Mount Sensor

LP4 Streamline® Low Profile Mini Sounder

Battery Pack

Bottom-Mount Sensor

Internal Pump

Gas – simply select the gas to be monitored.

Sensor location – while bottom mount is the typical selection, side mount option is available particularly if Toxgard II Monitor will be used as a transportable gas monitor. Monitor can then be allowed to sit on any flat surface during operation.

Audible Alarms – all units are standard with 70 db sona-alert, 93 db Federal horn, or 95dB sounder with selectable output tones can be selected as alternative choices.

Strobes – up to 2 top-mounted strobes can be selected to activate from Warning and Alarm levels.

Battery Backup – provides power if unit input power is interrupted. Also allows for unit transportable operation.

Internal Pump – for applications where it is necessary to draw samples to the unit.

Air-line Regulator – allows the unit to monitor breathing air lines, typically for low levels of carbon monoxide.

Flow Cap – used whenever non-pressurized gas sample is to be delivered to the sensor.

Handle – for easy carrying of unit when used as transportable monitor.

Key lock (*not shown*) - if it is necessary to lock enclosure during operation for security purposes.

An internal 2-button keypad allows access to all setup parameters and stored values including calibration initiation. In addition, 2 types of remote communication devices are available for the Toxgard II Monitor. The Toxgard II Calibrator and Controller both provide a digitally encoded signal for non-intrusive calibration and access to advanced features. This patented technique eliminates tools as well as the need to open the enclosure during setup or calibration.

Calibrator

The Toxgard II Calibrator offers the industry's simplest method of calibration. This easy-to-use, 3-button device allows for calibration of the Toxgard II Monitor. The Toxgard II Calibrator is available for those who do not need to access the Toxgard II Monitor's advanced features.

Controller

The Toxgard II Controller provides complete access to all features through its full-function keypad.

The controller is used to:

- Set the real-time clock.
- Set alarm levels.
- Change span gas values.
- Display date of last calibration.
- Display minimum, maximum, and average gas values.
- Change address.
- Set future calibration time/date.

In addition to providing basic calibration functions, the controller is completely password-protected.

Accessories

Remote Sensor Assembly

Allows sensor to be separated from transmitter for difficult-to-reach installations.

Ordering Information

All Toxgard II Monitors are manufactured using MSA's unique Assemble-To-Order (ATO) process, allowing you to select any listed options to ensure that your Toxgard II Monitor satisfies your individual requirements.

Specifications

Gas types	Combustibles; oxygen; toxics
Temperature Range: Toxics and oxygen *(range on some models may differ)*	-20° to +50°C -4° to +122°F
Temperature Range: Combustibles	-40° to +90°C -40° to + 194°F
Zero Drift	< 5%/Yr., typically
Span Drift	< 10%/Yr., typically
Noise	Less than 1% FS
Accuracy: Repeatability	±1% FS or 2 ppm
Accuracy: Linearity	± 2% FS (Combustible; O_2; CO) ± 10% FS or 2 ppm (others)
Step Change Response T20 O_2 and toxics T20 O_2 and toxics T50 combustibles T90 combustibles	< 12 sec. (Typ. 6 sec.) < 30 sec. (Typ 12 sec.) < 8 sec. < 20 sec.
Humidity	0-95% RH, non-condensing
Sensor Life Combustibles Toxics and O_2 Full replacement warranty	3 years typically 2 years typically 1 year
Hazardous Area Rating	General Purpose; XP Remote Sensor. Assembly can be installed in Class I, Div I areas.
Power Input	110-220 VAC power input
Signal Output	4-20 mA: 2-wire current source
Internal Relays	Fault, Caution, Warning, Alarm
Internal Relay Contact Rating	5 amp @ 125 VAC; 5 amp @ 30 VDC
Battery Back Up (12V lead acid) Battery operating time with no options; minimal alarm activity Toxics and O_2 Combustibles	up to 24 hr. up to 10 hr.
Battery Back Up (12V lead acid) Battery operating time with full options; depending on alarm activity E-chem Combustibles	1-4 hr.. 0.5-2 hr.
Physical dimensions Enclosure Toxics and O_2	10" W x 12" H x 5" D 13 lbs.

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