

# CGM II 900

## AutoCal<sup>®</sup> Series

### Multi-gas Monitor with ToxAlert



- 4 gas monitor plus ToxAlert (protection from hundreds of gases)
- AutoCal<sup>®</sup> automatic calibration
- Smart sensor technology
- PTO connection for accessories and datalogging
- Limited lifetime warranty

#### ToxAlert

Electrochemical sensors are standard in virtually all portable confined space monitors because they can identify specific known gases. However, in many environments such as sewers or storage vessels, unknown gases may be present. For protection in these cases, a **broad range** sensor is essential. The ToxAlert sensor literally protects you from hundreds of toxic gases with no false alarms. Today's CGM remains the only instrument to successfully combine the unique characteristics and benefits of both electrochemical and broadrange MOS sensors.

# The New Standard in Safety

The CGM combines smart sensor technology with advanced electronics for a truly superior confined space instrument. The groundbreaking ToxAlert sensor, without false alarms, ensures superior protection from hundreds of unknown toxic gases. The AutoCal® feature simplifies and reduces the time required for calibration. With these key features and a power take off (PTO) port for datalogging, an optional mini-pump, remote alarms and other useful accessories, the CGM provides you with the protection and convenience you need.

## A misconception

It is true that the combustible sensor in conventional gas monitors will also detect most of the gases or vapors listed below. But the concentration levels at which these gases are combustible is usually far in excess to the level at which they pose a threat to health. Some extremely dangerous gases, such as trichloroethylene, are not combustible and would therefore never be detected.

## What does OSHA think about broad range sensors?

"Where the employer has already identified (atmospheric) hazards, substance-specific sensors are preferable, because they accurately indicate the concentrations of identified air contaminants. By contrast, where the employer has not been able to identify the specific atmospheric hazards present or potentially present in a sewer, **broad range sensors are preferable** because they indicate that the hazardous threshold of a class (or classes) of contaminants (i.e. hydrocarbons) in the sewer have been exceeded."

## The broad range ToxAlert sensor protects you from hundreds of gases!

Conventional toxic gas detectors can protect you from only two or three gases.

acetic acid (C<sub>2</sub>H<sub>4</sub>O<sub>2</sub>)  
acetone (C<sub>3</sub>H<sub>6</sub>O)  
acrylonitrile (C<sub>3</sub>H<sub>3.5</sub>N)  
ammonia (NH<sub>3</sub>)  
benzene (C<sub>6</sub>H<sub>6</sub>)  
butanone (mek) (C<sub>4</sub>H<sub>8</sub>O)  
butyl acetate (C<sub>4</sub>H<sub>10</sub>O)  
butyl alcohol  
(C<sub>4</sub>H<sub>9</sub>OH)  
carbon monoxide (CO)  
carbon tetrachloride (CCl<sub>4</sub>)  
chlorobenzene (C<sub>6</sub>H<sub>5</sub>Cl)  
cyclohexene (C<sub>6</sub>H<sub>10</sub>)  
dichlorobenzene (C<sub>6</sub>H<sub>4</sub>Cl<sub>2</sub>)  
dichloroethylene (C<sub>2</sub>H<sub>2</sub>Cl<sub>2</sub>)

diisobutyl ketone (C<sub>9</sub>H<sub>18</sub>O)  
dimethylamine ((CH<sub>3</sub>)<sub>2</sub>NH)  
ethanol (C<sub>2</sub>H<sub>6</sub>O)  
ethanolamine  
(NH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>OH)  
ethyl acetate (C<sub>4</sub>H<sub>8</sub>O<sub>2</sub>)  
ethyl chloride (C<sub>2</sub>H<sub>5</sub>Cl)  
ethyl ether (C<sub>4</sub>H<sub>10</sub>O)  
ethyl mercaptan (C<sub>2</sub>H<sub>5</sub>SH)  
ethylamine (CH<sub>3</sub>CH<sub>2</sub>NH<sub>2</sub>)  
flourtrichloromethane  
(CCl<sub>3</sub>F)  
formaldehyde (CH<sub>2</sub>O)  
heptane (C<sub>7</sub>H<sub>16</sub>)  
hexane (C<sub>6</sub>H<sub>14</sub>)

hexone (C<sub>6</sub>H<sub>12</sub>O)  
hydrogen chloride (HCl)  
hydrogen cyanide (HCN)  
hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>)  
hydrogen sulfide (H<sub>2</sub>S)  
isoamyl acetate (C<sub>7</sub>H<sub>14</sub>O<sub>2</sub>)  
isobutyl alcohol (C<sub>4</sub>H<sub>10</sub>O)  
isopropyl alcohol (C<sub>3</sub>H<sub>8</sub>O)  
isopropylamine (C<sub>3</sub>H<sub>9</sub>N)  
jp8  
lpg  
methanol (CH<sub>3</sub>OH)  
methyl acetate (C<sub>3</sub>H<sub>6</sub>O<sub>2</sub>)  
methyl alcohol (CH<sub>4</sub>O)  
methyl chloride (CH<sub>3</sub>Cl)

methyl chloroform  
(C<sub>2</sub>H<sub>3</sub>Cl<sub>3</sub>)  
methyl ketone (C<sub>4</sub>H<sub>8</sub>O)  
methyl mercaptan (CH<sub>3</sub>SH)  
methyl styrene (C<sub>9</sub>H<sub>10</sub>)  
methylene chloride (CH<sub>2</sub>Cl<sub>2</sub>)  
naphthalene (C<sub>10</sub>H<sub>8</sub>)  
nitropropane (C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>)  
nitrotoluene (C<sub>7</sub>H<sub>7</sub>NO<sub>2</sub>)  
propyl alcohol ((CH<sub>3</sub>)<sub>2</sub>CHOH)  
styrene (C<sub>8</sub>H<sub>8</sub>)  
sulfur dioxide (SO<sub>2</sub>)  
tetrachloroethylene (C<sub>2</sub>Cl<sub>4</sub>)  
toluene (C<sub>7</sub>H<sub>8</sub>)  
trichloroethylene (C<sub>2</sub>HCl<sub>3</sub>)

turpentine (UVCB)  
vinyl chloride (C<sub>2</sub>H<sub>3</sub>Cl)  
xylene (C<sub>8</sub>H<sub>10</sub>)  
xylylene ((CH<sub>3</sub>)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>)  
...and dozens more

# Technical Data

## CGM 900 multi-gas monitor

### Gases

Carbon monoxide (CO)  
Combustible gases (CH<sub>4</sub>)  
Hydrogen sulfide (H<sub>2</sub>S)  
Oxygen (O<sub>2</sub>)  
ToxAlert (broad range)

### Detection range

Broad range 0-20 ppm  
CH<sub>4</sub> 0-100% LEL  
CO 0-500 ppm  
H<sub>2</sub>S 0-100 ppm  
O<sub>2</sub> 0-25% volume

### Detection principles (sensors)

CH<sub>4</sub> Catalytic combustion  
CO, H<sub>2</sub>S and O<sub>2</sub> Electrochemical  
ToxAlert Metal oxide sensor (MOS)

### Response time

4 to 30 seconds depending on type of gas

### Expected sensor life

CH<sub>4</sub> 1 year  
CO, H<sub>2</sub>S, O<sub>2</sub> and ToxAlert 2 years

### Gas supply

Diffusion / sampling pump (optional)

### Display

Auto-backlight, graphic alpha-numeric display

### Operation

Touch keys for on / off, auto-zeroing, peak values, TWA and STEL readings, pump / display functions

### Alarms

Visual – red LED, flashing gas readings  
Audible – buzzer

### Operation time

10 to 12 hours (depending on sensors, alarms, and sampling time)

### Power source

Rechargeable NiMH battery pack

### Temperature range

+25 to +110°F / -4 to +44°C continuous  
0 to +120°F / -18 to +49°C intermittent

### Casing

RF resistant, reinforced carbon fiber

### Weight

18 ounces (504 grams)

### Dimensions

6.2X3.5x1.8 inches (199x90x60 mm) (HxWxD)

### Ratings and certifications (intrinsic safety)

UL Class I, Groups A B C D

### Accessories / options

12 VDC charger  
Dosimeter PC program and cable  
Easy-to-grip rubber boot  
Hand aspirator  
Protective soft carrying case  
Universal pump

Specifications subject to change without notification

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