AimSafety™ PM500

Multi-Gas Monitor w/ Pump

User Instructions

IMPORTANT: Read and understand contents of this manual prior to operation. Keep these user instructions for reference.

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Warning

- Do not replace or change any parts. Unauthorized replacement of parts and/or maintenance will void the warranty.
- Remove any debris on the surfaces of the sensor, display, LED's, buzzer and pump hole before use.
- Test the performance of the gas sensor with a bump test and using calibration gas regularly.
- Test whether the LED, alarm and vibration function properly on a regular basis.
- Using the device in conditions outside the certified, humidity and pressure range may cause the instrument to malfunction or fail.
- The sensors inside the device may indicate the gas concentration differently according to the temperature, pressure and humidity they are in. Please make sure to calibrate the detector in a similar environment in which it will be used but ensure that it is in clean air.
- Extreme changes in temperature may cause drastic changes of the gas concentration such as using the detector where there is a huge difference between the inside and outside temperature. Do not use the device until the readings are stable.
- Severe pressure or impact may cause drastic changes of the gas concentration. Do not use the device until the readings are stable. Severe pressure or impact may cause also malfunction in the sensor or the device.
- The default alarm levels are set according to U.S. standards but may need to be changed to meet local requirements.
- Charging or replacing the battery must be done in a safe area where there is no risk of explosion or fire. The use of spare parts not supplied by AimSafety will void the warranty.
- IR communication with the PM Link should only be done in a safe area where there is no risk of explosion or fire.
- Do not expose the detector to poisons such as alcohol and citrus based products. Poisons may damage the device's accuracy and response time.
- If you suspect sensor poisoning, bump test and calibrate the instrument before further use.
- The detector is designed for use only in potentially explosive atmospheres where oxygen concentrations do not exceed 20.9% VOL. Oxygen deficient atmospheres (<10% VOL) may suppress some sensor outputs.
- Recharge the battery before it is discharged to preserve the life of the battery.
- Charge the detector in ambient temperature ranged from 32°F to 104°F.
- The efficiency of the rechargeable battery decreases by approximately 20% after two years of normal use.
- Do not use a charging adapter unless it is supplied by AimSafety.
- Do not calibrate the device while or immediately after charging the battery.
- Do not calibrate if recently exposed to conditions representative of the IP rating.
- Do not perform the calibration during the sensor warmup process after turning on the device.
- Sudden changes in atmospheric pressure may cause oxygen concentration to vary temporarily.
- Before each use, confirm that the pump port is clear of any obstructions, debris, or blockage.
- If the pump port is blocked by any pollutants, measurements may be lower than the actual concentration.

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- If a charge-generating mechanism is present, the exposed metallic part on the enclosure is capable of storing a level of electrostatic charge that could ignite IIC gases. Therefore, the user / installer shall implement precautions to prevent the build-up of electrostatic charge. This is particularly important if the equipment is being used in a CID1 or Zone 0 environment.
- The equipment shall only be charged while in a non-hazardous area, using a charger specifically supplied for use with the unit, approved as SELV or Class 2 equipment against IEC 60950, IEC 61010-1 or an equivalent standard. The maximum voltage and current from the charger shall not exceed 6.3 Vdc plus tolerances and 1.2 A respectively and shall be further limited by the charging system to Um = 6.3 Vdc.
- The battery and sensors should only be replaced by AimSafety or authorized service providers in a safe zone that is free of hazardous gases.

Caution

- Please read the manual carefully.
- The device is not a gas analyser, but a gas detector designed to detect the presence of a gas.
- If the instrument fails to pass calibration, stop using and consult the manufacturer.
- Test the device every 30 days under the atmospheric environment of clean air without gases.
- To clean the exterior of the device use only a soft cloth and do not use chemical detergents.

Reference

- For flammable gas equipment installation, operation and maintenance information, please refer to IEC 60079-29-2
- Conversion for %LEL and %vol follows the ANSI/NFPA 497 standard.

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1 Product Overview

1.1. Introduction

The PM500 is a portable sampling type gas detector that measure up to six (6) gases simultaneously to protect workers from the disasters caused by the Oxygen deficiency, Toxic gas poisoning and gas explosions.

This series of portable monitors detects multiple toxic and flammable gas combinations. It displays their concentrations and raises an alarm (visual, vibrating, and audible) when the risk occurs.

The detector with a catalytic bead / pellistor sensor (LEL) will operate continuously for more than 30 hours when fully charged. The detector with an NDIR sensor (LEL) will operate continuously for around five days when fully charged under normal operating conditions.

2 Specifications

Model	PM500-IR, PM500-P, PM500-IR-XX, PM500-P-XX *(XX denotes additional gases)*			
Display	Segment LCD Backlight Display			
Key	Three Operation and Programming Keys			
Gas Type	Toxics	O2	LEL	VOC
Measure Type	Electrochemical	Electrochemical	Catalytic Bead or Infrared	Photoionization 10.6 eV
Range	CO: 0-500 PPM H2S: 0-100 PPM SO2: 0-50 PPM NH3: 0-100 PPM NO2: 0-20 PPM	0-30% VOL	0-100% LEL	0-4,000 PPM
Sensor life	> 2 years	2 years	PM500-IR: > 5 years PM500-P: > 2 years	2 years
Alarm Setpoints (Low / High)	CO: 35 / 100 PPM H2S: 10 / 15 PPM SO2: 2 / 5 PPM NH3: 25 / 50 PPM NO2: 2.5 / 5 PPM	19.5 / 23.5% VOL	10 / 20% LEL	10 / 20 PPM
Alarm Setpoints (TWA / STEL)	CO: 35 / 200 PPM H2S: 10 / 15 PPM SO2: 5 / 5 PPM NH3: 50 / 35 PPM NO2: 1 / 1 PPM			
Calibration Span Concentration	CO: 100 PPM H2S: 25 PPM SO2: 10 PPM NH3: 50 PPM NO2: 10 PPM	18% VOL	50% LEL CH4	100 PPM (isobutylene)
Alarm	Backlight LCD alarm display LED indicator		Audible buzzer (90dB at 10cm) Vibrating alarm	

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Data Logging	Event Log: 30 EA Calibration Log: 30 EA Bump Log: 30 EA Data Log: Two Months or longer
Dimension	5.7” (L) x 3.0” (W) x 1.7” (H) (14.6 cm x 7.7 cm x 4.3 cm)
Weight	17.3 oz. (490g)
Mounting Type	Clip
Ingress Protection	IP67 (IP ratings do not imply that the equipment will detect gas during and after exposure to those conditions)
Sampling	Built-in pump
Battery Type	Rechargeable Lithium-Ion Nominal Voltage: 3.7V, Nominal Capacity: 4000mAh Maximum Charging Voltage: 6.3V
Operating Time	PM500-IR: 5 days PM500-P: 30 hours
Enclosure Material	Thermoplastic Polyurethane and Polycarbonate
Accessories	PM Link, Sampling Probe, PM500-STN
Flow Rate	250~300cc
Operating Conditions	
Temperature	-4°F to 122°F (-20°C to 50°C)
Humidity	10%~90% RH (Non-condensing)
Pressure	80-120KPa
Storage Conditions	
Temperature	32°F to 68°F (0°C to 20°C)
Humidity	15%~90% RH (Non-condensing)
Pressure	90-110KPa
Shelf Life	Six Months

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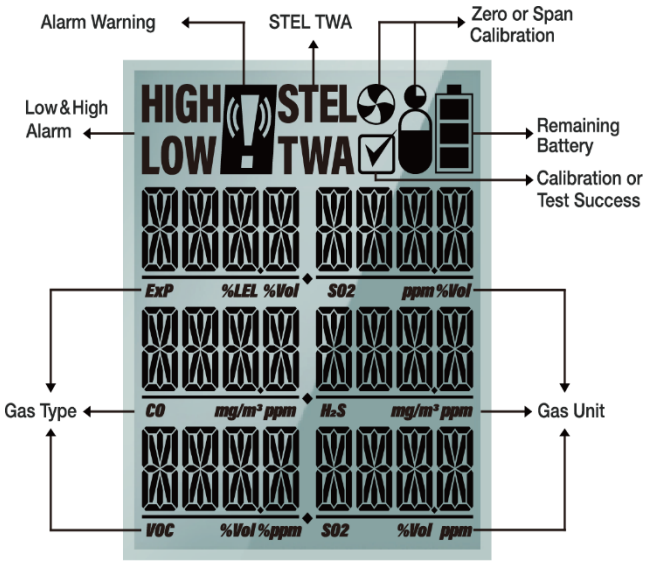
2.1. LCD Display Symbols



HIGH	High Alarm		Fresh Air Calibration
LOW	Low Alarm		Device Stabilization & Configuration View & Calibration Succeeded
	Alarm Condition		Standard Gas Calibration
STEL	STEL Alarm		Remaining Battery
TWA	TWA Alarm		

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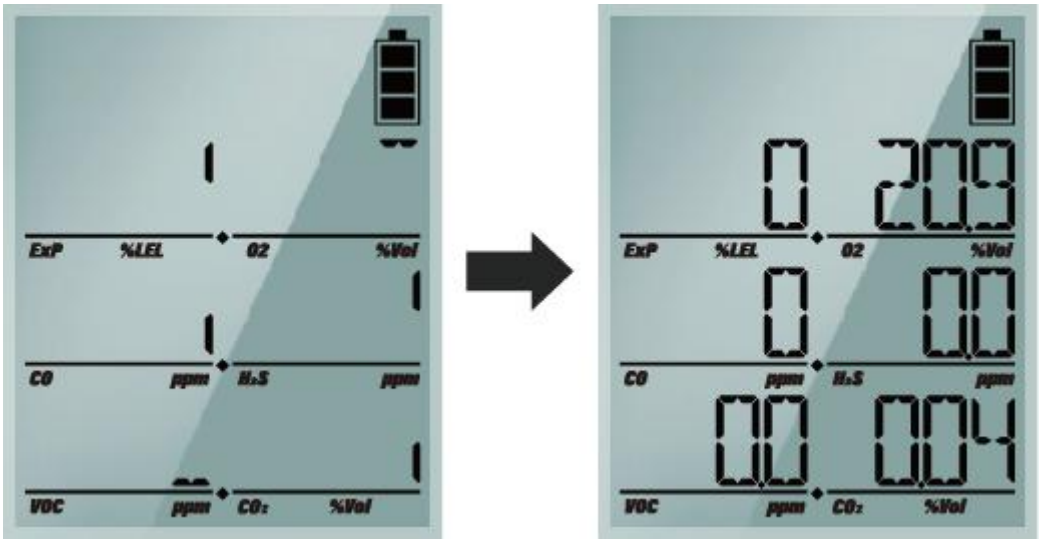
3 Activation

3.1. Power On the Monitor

Press the Power/Enter button for 2 seconds and SYS boot is displayed. Once the device turns on, the version and LCD are displayed. After 10 seconds of system test, the warmup will begin. If errors occur during system test, the device will indicate an error code. (Regarding error code, please refer to Chapter 8 (Failure and Escape).



Initial Setting Mode **Gas Measuring Mode**

The exact warmup time differs depending on which sensor types are fitted. After completing the warmup, the device goes into the measurment mode.

CAUTION

To check the gas response performance of the sensor, it is recommended to do a bump test with gas concentration higher than the alarm set point. It is recommended to do a bump test before each use of the device. Users are required to check if the device is working properly and ensure the pump port is clear of any obstructions, debris, or blockage.

3.2. Powering Off the Monitor

To turn off, from the main screen, press and hold down the Power/Enter button for three seconds. The display counts down three seconds with the “SYS OFF” message. The device will not turn off unless you hold down the button for longer than three seconds.

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4 Pump

4.1. Pump Test

When you change the gas tube or reconnect to the detector, test the sampling system by blocking the end of the tube. When the flow is blocked, warning alarm will be activated and the device will continue to alarm. If no alarm activates, this indicates a leak in the system or a failure of the pump.

4.2. Filter Replacement

The gas inlet is protected by the particulate filter and membrane filter. If the filter is blocked, the sampling system will be unable to work and the warning alarm will be activated sounding every second.

Visually inspect the filter to ensure the filter is free of debris or obstructions. Discoloration of the filter is the best indicator that the filter needs replacing. If the filter needs to be replaced, loosen the two screws and replace with a new filter. After replacement, reassemble the screws and test the pump again before continuing to use it.

4.3. Regulator

The detector has an internal pump that pulls in a sample. When performing a calibration or bump test, a demand flow regulator should be used with the gas cylinder.

5 Display

5.1. Measuring Mode

After stabilization, the device goes into the normal measuring mode. The gas concentration and the battery power level are displayed on the LCD display. Oxygen is displayed in %VOL, combustible gases in %LEL and toxic gases in PPM (parts per million). When the gas concentration levels change, the value is displayed in real time. When the levels exceed the threshold for either LOW or HIGH alarms (or STEL/TWAL where applicable), the display icons of ***LOW***, ***HIGH***, ***STEL*** or ***TWA*** flash regularly. The audible, visual and vibration alarms will also activate.

When the concentration detected by the device returns below the alarm threshold, the alarms stop. The alarm icon will continue to indicate that an alarm has occurred until the Power/Enter button is pressed to acknowledge it.

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5.2. Display Mode

Pressing the △ or ▽ button steps the display through fourteen different display modes as shown above.

Measure Value (Min)

Measure Value (Max)

Measure Value (STEL)

Measure Value (TWA)

Alarm Value(1st)

Alarm Value (2nd)

Alarm Value (STEL)

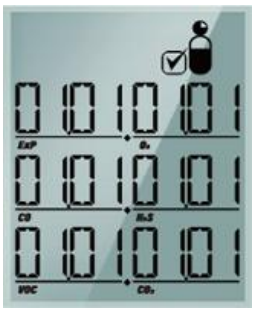
Alarm Value (TWA)

Version / Battery / Temperature

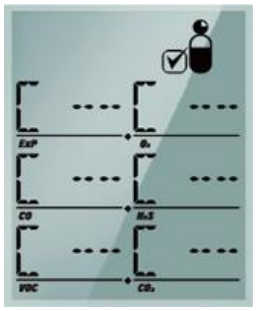
Date / Time

Calibration Concentration Value

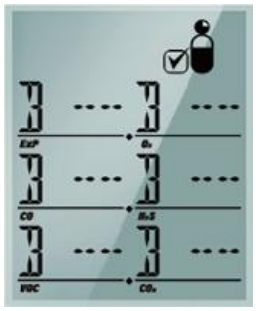
Measure Value (TWA)



Cal Remain Day



Bump Remain Day



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5.2.1. Display Mode in Detail

LCD Display	Description in Detail
	- **Measuring Mode** (Basic Display) - Display the current gas levels of the atmosphere - Battery power level icon is displayed.
	- A low gas alarm has been triggered. - *In ambient air, the Oxygen level normally indicates 20.9%vol.
	- A high gas alarm has been triggered. - *In ambient air, the Oxygen level normally indicates 20.9%vol.
	- A STEL (Short Term Exposure Limit) gas alarm has been triggered indicating the 15 minute average exposure limit has been exceeded.
	- A TWA (Time weighted average) gas alarm has been triggered indicating the 8 hour average exposure limit has been exceeded.

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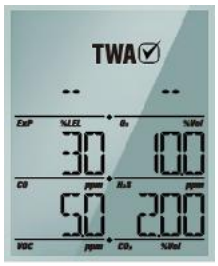
LCD Display	Description in Detail
	- Display the preset low alarm levels.
	- Display the preset high alarm levels.
	- Display the preset STEL levels.
	- Display the preset TWA levels.
	- Firmware Version, Current battery voltage, Current temperature (Fahrenheit)

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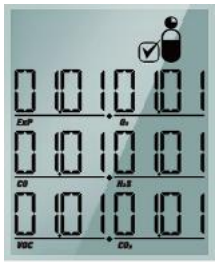
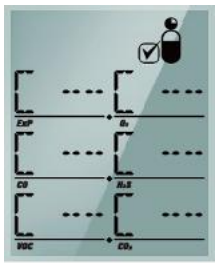
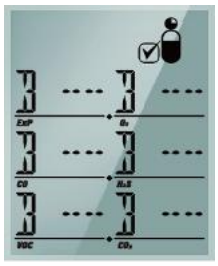
LCD Display	Description in Detail
	- Date / Time
	- Calibration Concentration Value
	- Last Calibration Date (01.01= January 1st)
	- Remaining time to next calibration date when the calibration interval is configured. (Default: N/A)
	- Remaining time to next bump test date when the bump interval is configured. (Default : N/A)

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5.3. Alarm Display

Type	Trigger Condition	LCD Display	Alarm Sound
Low Alarm	Exceed LOW alarm value	LOW icon & gas concentration levels displayed	BUZZER, LED Vibration
High Alarm	Exceed HIGH alarm value	HIGH LOW icon & gas concentration levels displayed	BUZZER, LED Vibration
TWA Alarm	Exceed TWA alarm value	TWA icon & gas concentration levels displayed	BUZZER, LED Vibration
STEL Alarm	Exceed STEL alarm value	STEL icon & gas concentration levels displayed	BUZZER, LED Vibration
Bump Test	A bump test is now due to be performed	Bump Display “bump” blinking	Stops after Bump Test is completed successfully
Execute Calibration	A calibration is now due to be performed	icon & Gas Title Blinking	Stops after Calibration is completed successfully
Over Limit	Exceeding the overrange Limit for a sensor	OL OL OL OL	BUZZER, LED Vibration
Under Limit	Sensor is reading a below Zero value	UL	Stops after Zero Calibration

LOW Alarm / HIGH Alarm activation: In the event of a High Alarm the user must leave the area immediately. The audible, visual and vibration alarms stop when the device is in a safe area where the gas concentration is normal.

TWA Alarm activation: The alarm activates when the average gas levels for the last eight hours exceed the TWA concentration. The audible, visual and vibration alarms stop when the device is in a safe area where the gas concentration is normal.

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STEL Alarm activation: The alarm activates when the average gas levels for the last fifteen minutes exceed the STEL concentration. The audible, visual and vibration alarms stop when the device is in a safe area where the gas concentration is normal.

Over Limit: When the detector is exposed to gas concentrations above the upper limit range, it will display OL (Over Limit) alarm on the display.

Under Limit: When the detector indicates a below zero value, it will display UL(Under Limit) & Zero calibration warning on the display. The alarm will clear when a successful zero calibration is performed.

NOTE

- If a gas alarm occurs, evacuate to a safe place and take appropriate action.
- The factory setting for gas alarms is non-latching. Latching alarms can be set up by using the PM Link (optional) with a computer.

AimSafety PM Link Options:

Bump Test Interval: Notifies the user on a regular basis to check the device.

Calibration Interval: Notifies the user on a regular basis to calibrate the sensor.

Self-Test Interval: Notifies the user on a regular basis to Self-Test.

5.4. Battery Display

The battery status is indicated by three icons: High, Medium, Low.
Low: When the battery icon indicates “low”, the detector will activate alarm every three minutes. When the low battery point is reached, the detector will continue to operate for about 30 minutes.
End: When the battery icon indicates “end”, the detector will display “SYS L-Bat” for two seconds and then it will turn off.
To charge the detector, plug in the charging adapter. During charging, the battery indicator will circulate.

WARNING

- Do not charge the battery in an explosive atmosphere.
- Only charge the battery in temperature ranges between 32°F to 104°F.
- Use only the charging adapter provided by AimSafety for charging the battery.
- Charging the battery after the device is fully turned off is recommended.

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6 Settings and Operation

Press and hold △ + ▽ buttons for two seconds simultaneously to enter the Settings menu. In the settings menu, the Alarm Menu, Calibration Menu, Inspection (Test) Menu, and Setup Menu will display. Users can configure a setting by scrolling to the required menu and pressing the Power/Enter button in a menu. In Settings Mode, the display will return to the measurement mode after 10 seconds of inactivity.

Alarm	Calibration	Inspect	Setup
			
Change alarm value setting	Zero calibration function	Self test (Including pump test)	Back-light On/Off
Clear previous Min & Max value	Span Calibration function	Bump test	LED On/Off
Clear previous TWA, STEL value			Buzzer On/Off
Change auto or latch alarm mode			Vibration On/Off
			Pump Low/Mid/High
			LEL Correction Factor
			VOC Correction Factor
			Initialize Settings

6.1. Alarm Menu

In the alarm menu, press the Power/Enter button and the device will enter the alarm setting mode. In the alarm setting mode (ALR SET), pressing the △ or ▽ button steps through the four menus. The user can enter and change or clear the previous MIN, MAX, TWA, and STEL alarms by pressing the Power/Enter button.

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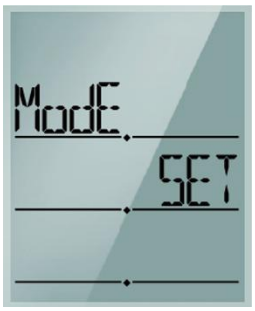
Change alarm value settings	Clear the previous Min, Max value	Clear the previous TWA & STEL value	Change Auto or Latch alarm mode
			

① ALR SET: Adjust the Low, High, STEL & TWA alarm levels
② MIN MAX CLR: Deletes the previously measured MAX and MIN levels.
③ STEL TWA CLR: Deletes the previously measured STEL and TWA levels.
④ ModE SET: Sets the alarm mode to Latch or Auto
- Latch – Device stays in alarm when a gas alarm is triggered until a button is pressed to acknowledge it.
- Auto – Alarm stops when gas readings return to normal levels.

6.2. Calibration Menu

Zero Calibration Function	Span Calibration Function
	

Calibration is the process of adjusting the sensor's response by using a specific concentration of calibration gas. Sensors will drift for a variety of reasons, so it is important to perform a full calibration periodically to ensure that the sensors response to the target gas are accurate. A full calibration consists of two points, a Fresh Air Calibration and a Span Calibration.

Fresh Air Calibration adjusts the zero offset of the toxic and LEL sensors or sets the oxygen sensor to 20.9% Vol.

Span Calibration adjusts the sensors' response to gas to account for sensor drift. It is recommended to perform a Fresh Air Calibration prior to a Span Calibration.

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To activate a zero or span calibration, press the Power/Enter button.

① Zero Run (Zero / Fresh Air Calibration)

② SPAn Run (Span Calibration)

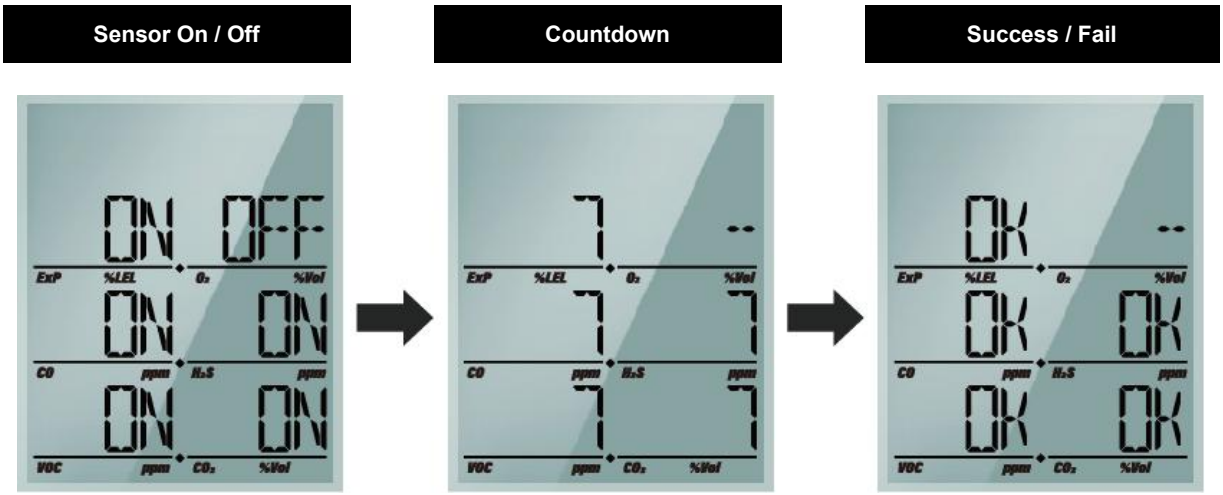
In the Span calibration mode, you must specify which sensor(s) will be calibrated.

NOTE

- If the sensitivity of each sensor has drifted below the standard accuracy, the calibration will fail.
- If the detector is dropped or damaged, if any of the sensors are replaced, or if the device fails a bump test, a calibration must be performed.

6.2.1. Zero Calibration (Fresh Air Calibration)

In the zero run mode, when pressing the Power/Enter button, ON/OFF will be displayed. By pressing △ or ▽, move to all sensors that will be calibrated and select on or off. When you press the Power/Enter button for three seconds, the zero calibration will be performed for 10 seconds. To abort the calibration, press the Power/Enter button. If the calibration fails, “FA” will be displayed. If the calibration fails continuously, stop using the detector and contact the manufacturer or authorized agents for a replacement sensor or a warranty request.



6.2.2. Span Calibration

After selecting the applicable sensor(s) in the calibration mode, connect the tubing as shown below. Ensure that the demand flow regulator is firmly attached to the gas bottle and that the hose is securely attached to both the regulator and the quick disconnector of the PM500. Confirm that the cylinder matches with the calibration setting levels.

IMPORTANT

- For span calibrations, if an additional toxic or VOC (PID) sensor is included, perform the span calibration of those sensors after the other sensors are calibrated.

CAUTION

- Before calibration, confirm that the sensor warmup is completed. The device will display normal concentrations when the warmup is complete. If normal concentrations are not displayed, it may indicate that the warmup is not complete.
- The calibration must be performed in a clean air environment free of hazardous gases.

In the “SPAn RUN” span calibration mode, when you press the Power/Enter button, the On/Off will be displayed for each sensor. Press the △ or ▽ button to select a sensor to be calibrated and the Power/Enter button to select either On or Off, then press the Power/Enter button for three seconds to activate the calibration. The normal countdown will take between 90 and 180 seconds. Each sensor has different calibration time. To abort the calibration, press the Power/Enter button. If the calibration fails, the gas name of the sensor that failed will flash.

If the calibration fails continuously, stop using the detector and contact the manufacturer or authorized agents for a replacement sensor or a warranty request.

CAUTION

- All PM500 monitors are factory calibrated. Calibration values are saved in the unit. Do not use gas cylinders with concentrations that differ from those values as it will impair the accuracy and performance of the device. It is important to perform a full calibration periodically to ensure that the sensors response to the target gas are accurate.
- The device is calibrated on the assumption that the oxygen concentration is 20.9% VOL, combustible gas is 0% LEL, and toxic gas levels are 0 PPM in a clean air atmosphere. Fresh air calibration must be conducted in the same clean air without the presence of any other gases. Fresh air calibration in airtight spaces and hazardous environments is not recommended. Adequate ventilation is required for any exhaust gases.

6.3. Test (Inspection) Menu

In the test menu, when pressing the Power/Enter button, the self-test and bump test mode will be displayed. In the SELF RUN mode, press the △ or ▽ to select the desired function and press the

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Power/Enter button to activate the test. There are function tests for the LCD, buzzer, LED's, Backlight (Yellow), Backlight (Red), Motor and Memory.

Self Test

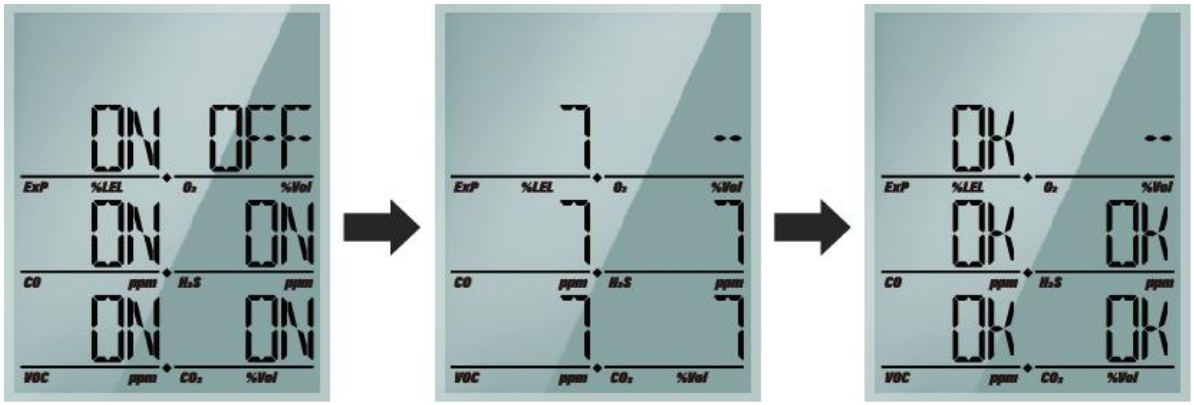
Bump Test

In the BUMP RUN mode, press the Power/Enter button to enter the mode, and then select either on or off for each sensor. Attach the tube and apply the gas once the countdown starts. If the test passes, "OK" will be displayed. If the test fails, "FA" message will be displayed and the bump test message will flash in the measurement mode.

Sensor On / Off

Countdown

Pass / Fail



IMPORTANT

- Ensure that all sensors are warmed up before performing the bump test. It will take some time to warm up the sensors. You can distinguish the sensor warm up by looking at the sensor readings. If the detector is not warmed up, the last segment will be blinking.
  * When you perform the bump test, make sure to use a gas concentration that is above the 1st alarm level.

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6.4. Set Menu

In the “set menu”, press the Power/Enter button to enter into the mode, and then select from the four menus below by pressing the △ or ▽ button. To enter the mode, press the Power/Enter button.

Backlight On/Off	LED On/Off	Buzzer On/Off	Vibration On/Off
			
Pump Speed Low/Mid/High	**Response Factor LEL 0.00 ~ 99.99**	**Response Factor VOC 0.00 ~ 99.99**	**Initialize Settings**
			

① BL SET: Blacklight Display Setting (ON / OFF)
② LED SET: LED Setting (ON / OFF)
③ BUZ SET: Buzzer Setting (ON / OFF)
④ Mot SET: Pump Motor Setting (ON / OFF)
⑤ PUMP SET: Pump Speed Setting (Low/Mid/High)
⑥ RSPF LEL SET: Response Factor Setting for LEL Sensor (0.00 - 99.99)
⑦ RSPF VOCs SET: Response Factor Setting for PID Sensor VOCs (0.00 - 99.99)
⑧ INIT SET: Initialize Settings

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7 Log

During a normal operation, data, event, calibration, and bump logs are stored in the device. The stored data can be downloaded via AimSafety PM Link with the PC program.
Up to 30 log events will be saved, and once the data is full, the oldest date will be overwritten automatically and the new data will be stored. (First in-First out). The detector will save a data log every one minute in clean air without hazardous gases. In the event of gas alarms or configuration changes, the data log will be saved every one second.

Type	Condition Trigger
EVENT (High, Low, TWA, STEL) Alarm	Occurrence time, Duration, Alarm Type, Gas Concentration, Serial Number
BUMP TEST Log	Test date, Pass / Fail, Calibration Gas Concentration, Detected Concentration
Calibration Log	Date of the Calibration, Type, Calibration Gas Concentration, Detected Concentration
Data Log	Time, Date of executing PM Link, Concentration, Alarm Types, Options

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8 Certification

√ FCC compliance

This device is tested according to FCC rules Part 15 and complies with restrictions for a Class A digital device. These restrictions are designed to provide adequate protection against an industrial environment which may cause harmful interference during operation. This device generates, uses, and can radiate radio frequency energy. If the instruction manual is not followed correctly, it may cause interference to wireless communications.

	Certifications	Standards
UL/CSA	**LC24CA22331-1** "Ex db ia IIC T4 Gb Class I, Division 1, Groups A, B, C, and/or D, T4 Class I, Zone 1, AEx db ia IIC T4 Gb" "Ex db ia IIB T4 Gb Class I, Division 1, Groups C, and/or D, T4 Class I, Zone 1, AEx db ia IIB T4 Gb" • PM500-IR (Infrared LEL) "Ex ia IIC T4 Ga Class I, Division 1, Groups A, B, C, and/or D, T4 Class I, Zone 0, AEx ia IIC T4 Ga" "Ex ia IIB T4 Ga Class I, Division 1, Groups C, and/or D, T4 Class I, Zone 0, AEx ia IIB T4 Ga" • PM500-IR-SO2 (Infrared LEL) • PM500-IR-NH3 (Infrared LEL) • PM500-IR-PID (Infrared LEL) "Ex da ia IIC T4 Ga Class I, Division 1, Groups A, B, C, and/or D, T4 Class I, Zone 0, AEx da ia IIC T4 Ga" "Ex da ia IIB T4 Ga Class I, Division 1, Groups C, and/or D, T4 Class I, Zone 0, AEx da ia IIB T4 G" • PM500-P (Catalytic Bead LEL) • PM500-P-NO2 (Catalytic Bead LEL)	CSA C22.2 No. 60079-0:2019 / UL 60079-0 – Edition 7 CSA C22.2 No. 60079-1:16(R2021) / UL 60079-1 – Edition 7 CSA C22.2 No. 60079-11:14(R2023) / UL 60079-11 – Edition 6 UL 913 – Edition 8 CAN/CSA-C22.2 No. 61010-1-12 (R2022) / UL 61010-1 – Edition 3
IECEx	**IECEx CSA 23.0016X** Ex db ia IIC T4 Gb or Ex db ia IIB T4 Gb • PM500-IR (Infrared LEL) Ex ia IIC T4 Ga or Ex ia IIB T4 Ga • PM500-IR-SO2 (Infrared LEL) • PM500-IR-NH3 (Infrared LEL) • PM500-IR-PID (Infrared LEL) Ex da ia IIC T4 Ga or Ex da ia IIB T4 Ga • PM500-P (Catalytic Bead LEL) • PM500-P-NO2 (Catalytic Bead LEL)	IEC 60079-0: 2017 Ed. 7 IEC 60079-1: 2014-06 Ed. 7 IEC 60079-11: 2011 Ed. 6
KCs	**KTL 23-KA2BO-0353X** Ex ia IIC T4 Ga • PM500-IR-SO2 (Infrared LEL) • PM500-IR-NH3 (Infrared LEL) • PM500-IR-PID (Infrared LEL) **KTL 23-KA2BO-0355X** Ex da ia IIC T4 Ga • PM500-P (Catalytic Bead LEL) • PM500-P-NO2 (Catalytic Bead LEL)	IEC 60079-0: 2017 Ed. 7 IEC 60079-1: 2014-06 Ed. 7 IEC 60079-11: 2011 Ed. 6

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ATEX	**CSANe 23ATEX1128X** CE 0080 Ex II 1G II 2G Ex db ia IIC T4 Gb Ex db ia IIB T4 Gb • PM500-IR (Infrared LEL) Ex ia IIC T4 Ga Ex ia IIB T4 Ga • PM500-IR-SO2 (Infrared LEL) • PM500-IR-NH3 (Infrared LEL) • PM500-IR-PID (Infrared LEL) Ex da ia IIC T4 Ga Ex da ia IIB T4 Ga • PM500-P (Catalytic Bead LEL) • PM500-P-NO2 (Catalytic Bead LEL)	EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-11:2012
INMETRO	**BRA 23.GE0011X** Ex d ia IIC T4 Gb or Ex d ia IIB T4 Gb • PM500-IR (Infrared LEL) Ex ia IIC T4 Ga or Ex ia IIB T4 Ga • PM500-IR-SO2 (Infrared LEL) • PM500-IR-NH3 (Infrared LEL) • PM500-IR-PID (Infrared LEL) Ex da ia IIC T4 Ga or Ex da ia IIB T4 Ga • PM500-P (Catalytic Bead LEL) • PM500-P-NO2 (Catalytic Bead LEL)	ABNT NBR ISO IEC 60079-0:2020 ABNT NBR IEC 60079-1:2016 ABNT NBR IEC 60079-11:2013
EMC	**Directive 2014/30/EU**	

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9 Error Codes

The following error codes may be displayed on the LCD if the detector is not working properly.

Code	Description	Solution
Err – 1	Pump Operation Error	Visually inspect the pump and filter. If dirty and/or damaged, replace with new pump inlet and/or filters and cycle power on the monitor.
Err – 2	Memory Error	Memory Access Error, Power OFF -> ON
Err – 3	Sensor Error	Sensor Operation Error, Power OFF -> ON
Err – 4	IR Sensor Error (LEL)	Sensor Operation Error, Power OFF -> ON
Err – 5	IR Sensor Error (LEL or CO2)	Sensor Operation Error, Power OFF -> ON
Err – 6	IRDA Communication Error	IRDA Communication Error, Power OFF -> ON
Err – 7	PID Power removed	PID Sensor Operation Error, Power OFF->ON, Contact Manufacturer
Err – 8	PID Oscillator overloaded	PID Sensor Operation Error, Power OFF->ON, Replace the PID Sensor
Err – 9	PID Oscillator not working	PID Sensor Operation Error, Power OFF->ON, Replace the PID Sensor
Err – 10	PID Lamp not illuminated	PID Sensor Operation Error, Power OFF->ON, Lamp Cleaning

If the error code persists, please contact AimSafety. If pump operation fails, it will activate an alarm every minute continuously until the detector is turned off.

10 Troubleshooting

Problem	Possible Cause	Troubleshooting
Device will not power on	Battery is fully discharged or not connected.	Charge sufficiently or replace battery.
“ERR” on display	Device is in error.	Restart device or change the sensor.
Gas is not being measured accurately	Sensor response has drifted or filter is clogged.	Perform a calibration, clean/replace filter(s) and/or replace the sensor(s).
Alarm is on but unrelated to gas levels	Monitor needs calibration or there is a device error.	Perform a calibration or replace sensor(s).
Calibration failed	Expired/incorrect span gas or faulty sensor	Confirm span gas cylinder, replace sensors if necessary and recalibrate.
Battery will not charge	Charger error, device error or bad battery.	Check charger connection or replace battery.
Continuous charging but device will not charge to 100%	Unit is being charged incorrectly.	Power down the monitor before charging.

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11 Maintenance & Cleaning

11.1. Charging

A universal charging adapter is included with every PM500 monitor. Only AimSafety certified adapters should be used to charge the unit.

CAUTION

- Charge at room temperature (32°F to 104°F)
- Ensure the charging adapter is firmly connected to the PM500
- The backlight indicates charging is taking place by switching On/Off every 1 second
- Do not use any alternative adapter.
- Do not charge unit in a hazardous or explosive environment.

11.2. Gas Cylinders

Certified, NIST traceable gas provided by AimSafety is required to ensure the performance and accuracy of the PM500. Before using a gas cylinder for bump testing or calibration, be sure to confirm the expiration date. Do not use the cylinder if it is expired. Also confirm that the gas concentrations of the cylinder match the settings of the PM500 unit.

11.3. Demand Flow Regulator

A demand flow regulator is required for use with the PM500 as the pump that is integral to the monitor draws in the exact amount of gas that the instrument requires.

11.4. Battery

Only use the supplied charging adapter from AimSafety when charging the battery. Charging should be carried out in the temperature range of 32°F to 104°F.

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11.5. Pump

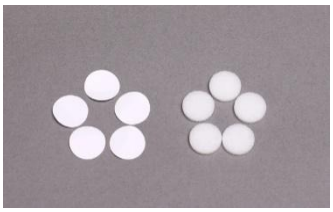
When you change or reconnect any sampling tubing, a pump test should be performed. To perform a pump test, firmly block the end of the tube and confirm that the unit goes into alarm.

11.6. Filter

Ensure the dust and PTFE filters are free from debris, obstructions and discoloration. If a filter needs to be replaced, loosen the two screws and replace with a new filter. After replacing, reassemble the screws and continue use. The gas inlet is protected by both filters. If a filter is blocked and the pump is unable draw in a sample, the unit will not be able to accurately measure gas concentrations. Because of this, a warning alarm will trigger.

11.7. Standard Accessories

The standard accessories below are all included in the box.

Quick Disconnector & Tubing	Universal Charging Adapter	Dust Filter & PTFE Filter
		

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12 Response Factors for Combustibles and VOCs

12.1. Catalytic Bead / Pellistor LEL Sensor

LEL (Lower Explosive Limit) sensors are designed to detect a wide variety of combustible gases and vapors. Different gases exhibit varying responses when detected by LEL sensors. For the most accurate readings, it is recommended that the instrument be calibrated with the target gas.

If calibrating with the target gas is not possible, refer to the provided LEL Response Factors. These factors will enable you to adjust the readings from your LEL sensor, ensuring accurate detection of various gases based on a calibration with a common standard gas. Please consult the LEL Response Factors table below to determine the appropriate Response Factor for the gas you are working with.

Please note that the default value for the Response Factor (RF) is 1.00, which is methane.

Gas / Chemical / Vapor	Chemical Formula	Methane (CH_4) RF
Methane	CH_4	1
Hydrogen	H_2	1.06
Ethylene	C_2H_4	0.96
Propane	C_3H_8	0.82
Isobutane	C_4H_{10}	0.74
n-Pentane	C_5H_{12}	0.67
Hexane	C_6H_{14}	0.5

12.2. Photoionization (PID) VOC Sensor

PID (Photoionization Detector) sensors are designed to detect a wide range of volatile organic compounds (VOCs) and other gases. Different gases exhibit varying responses when detected by PID sensors. For the most accurate readings, it is recommended that the instrument be calibrated with the target gas.

If calibrating with the target gas is not feasible, refer to the provided PID Response Factors. These factors will allow you to adjust the readings from your PID sensor, ensuring accurate detection of various gases based on a calibration with a common standard gas. Please consult the PID Response Factors table below to determine the appropriate Response Factor for the gas you are working with.

Please note that the default value for the Response Factor is 1.0 and is based on the industry standard isobutylene (C_4H_8).

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Gas / Chemical / Vapor	Formula	Response Factor
Acenaphthalene	$C_{12}H_8$	0.7
Acenaphthene	$C_{12}H_{10}$	0.7
Acetaldehyde	C_2H_4O	6
Acetamide	C_2H_5NO	2
Acetic acid	$C_2H_4O_2$	28
Acetic anhydride	$C_4H_6O_3$	4
Acetoin	$C_4H_8O_2$	1.4
Acetone	C_3H_6O	1.17
Acetophenone	C_8H_8O	0.8
Acetyl bromide	C_2H_3BrO	8
Acrolein	C_3H_4O	3.2
Acrylic acid	$C_3H_4O_2$	21
Alkanes, n-, C6+	CnH_2n+2	1.2
Allyl acetoacetate	$C_7H_{10}O_3$	1.5
Allyl alcohol	C_3H_6O	2.3
Allyl bromide	C_3H_5Br	3
Allyl chloride	C_3H_5Cl	3.3
Allyl glycidyl ether	$C_6H_{10}O_2$	0.8
Allyl propyl disulfide	$C_6H_{12}S_2$	0.4
Allylamine	C_3H_7N	0.8
Ammonia	NH_3	8.5
Amyl acetate	$C_7H_{14}O_2$	1.8
Amyl alcohol	$C_5H_{12}O$	2.6
Amyl alcohol, tert-	$C_5H_{12}O$	1.5
Amyl salicylate	$C_{12}H_{16}O_3$	4
Anethole	$C_{10}H_{12}O$	0.4
Aniline	C_6H_7N	1
Anisole	C_7H_8O	0.59
Anisyl aldehyde	$C_8H_8O_2$	0.4
Aromatic hydrocarbons, C8	H_8H_{10}	0.55
Asphalt, petroleum fumes		1
Benzaldehyde	C_7H_6O	0.7
Benzene	C_6H_6	0.5
Benzenethiol	C_7H_7S	0.8
Benzoic acid	$C_7H_6O_2$	0.7
Benzonitrile	C_7H_5N	0.5
Benzoquinone, o-	$C_6H_4O_2$	1

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Gas / Chemical / Vapor	Formula	Response Factor
Benzoquinone, p-	$C_6H_4O_2$	1
Benzoyl bromide	C_7H_5BrO	2
Benzyl 2-phenylacetate	$C_{15}H_{14}O_2$	0.5
Benzyl acetate	$C_9H_{10}O_2$	0.6
Benzyl alcohol	C_7H_8O	1
Benzyl chloride	C_7H_7Cl	0.7
Benzyl formate	$C_8H_8O_2$	0.8
Benzyl isobutyrate	$C_{11}H_{14}O_2$	0.5
Benzyl nitrile	C_8H_7N	1.4
Benzyl propionate	$C_{10}H_{12}O_2$	0.8
Benzylamine	C_7H_9N	0.6
Biphenyl	$C_{12}H_{10}$	0.4
Borneol	$C_{10}H_{18}O$	0.8
Bromine	Br_2	15
Bromo-2,2-dimethylpropane, 1-	$C_5H_{11}Br$	2
Bromo-2-chloroethane, 1-	C_2H_4BrCl	3
Bromo-2-methylpentane, 1-	$C_6H_{13}Br$	2
Bromoacetone	C_3H_5BrO	1
Bromoacetylene	C_2HBr	4
Bromobenzene	C_6H_5Br	0.32
Bromobutane, 1-	C_4H_9Br	1.6
Bromobutane, 2-	C_4H_9Br	0.97
Bromocyclohexane	$C_6H_{11}Br$	2
Bromoethane	C_2H_5Br	1.6
Bromoethanol, 2-	C_2H_5BrO	2
Bromoethyl methyl ether, 2-	C_3H_7OBr	2.5
Bromoform	$CHBr_3$	2.7
Bromopentane, 1-	$C_5H_{11}Br$	1.1
Bromopropane, 1-	C_3H_7Br	1.5
Bromopyridine, 3-	C_5H_4BrN	2
Bromopyridine, 4-	C_5H_4BrN	2
Bromotrimethylsilane	C_3H_9BrSi	1.9
But-2-ynal	C_4H_4O	3
But-3-ynal	C_4H_4O	1.5
Butadiene diepoxide, 1,3-	$C_4H_6O_2$	4
Butadiene, 1,2-	C_4H_6	1
Butadiene, 1,3-	C_4H_6	0.8

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Gas / Chemical / Vapor	Formula	Response Factor
Butane, n-	C_4H_{10}	40
Butanediol, 2,3-	$C_4H_{10}O_2$	5
Butanedione, 2,3-	$C_4H_6O_2$	0.86
Butanoic acid	$C_4H_8O_2$	4.3
Butanol, 1-	$C_4H_{10}O$	3.9
Butanol, 2-	$C_4H_{10}O$	3
Butanone oxime, 2-	C_4H_9NO	1
Buten-3-ol, 1-	C_4H_8O	1.8
Butene nitrile, 3-	C_4H_5N	3
Butene, 1-	C_4H_8	1.5
Butene, 2-	C_4H_8	1.3
Butene, cis-2-	C_4H_8	1.3
Butene, trans-2-	C_4H_8	1.3
Butenoic acid, 3-	$C_4H_6O_2$	2
Butoxyethanol, 2-	$C_6H_{14}O_2$	1.3
Butoxyethoxyethanol	$C_8H_{18}O_3$	3
Butoxyethyl acetate, 2-	$C_8H_{16}O_3$	2
Butyl acetate	$C_6H_{12}O_2$	2.5
Butyl acetate, sec-	$C_6H_{12}O_2$	1.8
Butyl acrylate	$C_7H_{12}O_2$	1.3
Butyl butyrate	$C_8H_{16}O_2$	1.53
Butyl chloroformate	$C_5H_9ClO_2$	3.2
Butyl cyclohexan-1-ol, 4-tert-	$C_{10}H_{20}O$	1.4
Butyl cyclohexyl acetate, 2-tert-	$C_{12}H_{22}O_2$	0.9
Butyl ether, n-	$C_8H_{18}O$	0.82
Butyl glycidyl ether	$C_7H_{14}O_2$	2
Butyl iodide	C_4H_9I	0.27
Butyl isocyanate	C_5H_9NO	2.5
Butyl lactate	$C_7H_{14}O_3$	2.5
Butyl mercaptan, n-	$C_4H_{10}S$	0.8
Butyl mercaptan, tert-	$C_4H_{10}S$	0.62
Butyl methacrylate	$C_8H_{14}O_2$	1.2
Butyl propionate, n-	$C_7H_{14}O_2$	1.9
Butylamine, n-	$C_4H_{11}N$	1
Butylamine, sec-	$C_4H_{11}N$	0.9
Butylamine, tert-	$C_4H_{11}N$	1.2
Butylbenzene	$C_{10}H_{14}$	0.6

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Gas / Chemical / Vapor	Formula	Response Factor
Butylbenzene, sec-	$C_{10}H_{14}$	0.4
Butylbenzene, tert-	$C_{10}H_{14}$	0.4
Butyldiglycol acetate	$C_{10}H_{20}O_4$	1.6
Butylene carbonate, 1,2-	$C_5H_8O_3$	18
Butylphenol, o-sec-	$C_{10}H_{14}O$	0.9
Butyn-1-ol, 2-	C_4H_6O	0.6
Butyn-2-one	C_4H_4O	3
Butyraldehyde	C_4H_8O	1.7
Butyrolactone, gamma-	$C_4H_6O_2$	15
Butyryl chloride	C_4H_7ClO	3
Camphene	$C_{10}H_{16}$	0.35
Camphor	$C_{10}H_{16}O$	0.4
Carbitol acetate	$C_6H_{16}O_4$	1.6
Carbon disulfide	CS_2	1.4
Carbon suboxide	C_3O_2	10
Carbon tetrabromide	CBr_4	11
Carene	$C_{10}H_{16}$	0.4
Carvacrol	$C_{10}H_{14}O$	0.8
Carvone, R-	$C_{10}H_{14}O$	1.6
Caryophyllene	$C_{15}H_{24}$	0.4
Chloramine	ClH_2N	2
Chloro-1,1-difluoroethene, 2-	C_2HClF_2	1.5
Chloro-2-propanone, 1-	C_3H_5ClO	1
Chloroacetaldehyde	C_2H_3ClO	3
Chloroacetyl chloride	$C_2H_2Cl_2O$	8
Chlorobenzene	C_6H_5Cl	0.45
Chlorobutane, 1-	C_4H_9Cl	10
Chlorobutane, 2-	C_4H_9Cl	5.8
Chlorocyclohexane	$C_6H_{11}Cl$	2
Chloroethanol, 2-	C_2H_5ClO	10
Chloroethyl methyl ether, 2-	C_3H_7ClO	2.6
Chloromethoxyethane	C_3H_7ClO	4
Chloroprene	C_4H_5Cl	1.3
Chloropyridine, 2-	C_5H_4ClN	1
Chlorostyrene, o-	C_8H_7Cl	0.4
Chlorothiophene, 3-	C_4H_3ClS	0.7
Chlorotoluene, m-	C_7H_7Cl	0.5

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Gas / Chemical / Vapor	Formula	Response Factor
Chlorotoluene, o-	C_7H_7Cl	0.5
Chlorotoluene, p-	C_7H_7Cl	0.4
Chlorotrifluoroethylene	C_2ClF_3	1
Cinnamic aldehyde	C_8H_8O	0.4
Cinnamyl acetate	$C_{11}H_{12}O_2$	0.4
Cinnamyl alcohol	$C_9H_{10}O$	0.4
Citral	$C_{10}H_{16}O$	1.7
Citronellal	$C_{10}H_{18}O$	0.9
Citronellol	$C_{10}H_{20}O$	1
Citronellol acetate	$C_{12}H_{22}O_2$	1.5
Citronellol formate	$C_{11}H_{20}O_2$	1.5
Citronellyl isobutyrate	$C_{14}H_{26}O_2$	0.9
Clary propyl acetate	$C_{11}H_{20}O_3$	1.2
Coumarin	$C_9H_6O_2$	0.4
Creosote		1
Cresol, m-	C_7H_8O	1.4
Cresol, o-	C_7H_8O	1.4
Cresol, p-	C_7H_8O	1.5
Cresyl acetate, p-	$C_9H_{10}O_2$	1
Cresyl ethyl ether, p-	$C_9H_{12}O$	0.8
Cresyl methyl ether	$C_8H_{10}O$	0.8
Crotonaldehyde	C_4H_6O	1
Crotonyl alcohol	C_4H_8O	0.8
Cycloalkanes		1.5
Cyclobutanone	C_4H_6O	1.12
Cyclobutene	C_4H_6	3
Cycloheptane	C_7H_{14}	1.1
Cyclohex-2-enedione, 1,4-	$C_6H_6O_2$	1
Cyclohexane	C_6H_{12}	1.3
Cyclohexanethiol	$C_6H_{12}S$	0.5
Cyclohexanol	$C_6H_{12}O$	1.6
Cyclohexanone	$C_6H_{10}O$	1
Cyclohexene	C_6H_{10}	0.9
Cyclohexyl acetate	$C_8H_{14}O_2$	1.2
Cyclohexylamine	$C_6H_{13}N$	3
Cyclooctadiene	C_8H_{12}	1
Cyclopentadiene	C_5H_6	0.8

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Cyclopentane	C_5H_{10}	10
Cyclopentanone	C_5H_8O	0.9
Cyclopentene	C_5H_8	1.5
Cyclopentene-1,3-dione, 4-	$C_5H_4O_2$	1
Cyclopropylamine	C_3H_7N	1.5
Cymene, p-	$C_{10}H_{14}$	0.4
Decahydronaphthalene	$C_{10}H_{18}$	0.9
Decanal	$C_{10}H_{20}O$	1.2
Decane	$C_{10}H_{22}$	1.2
Decenal, trans-4-	$C_{10}H_{18}O$	1.4
Decene	$C_{10}H_{22}$	0.8
Decyne, 1-	$C_{10}H_{18}$	0.43
Diacetone alcohol	$C_6H_{12}O_2$	0.9
Diazine, 1,2-	$C_4H_4N_2$	3
Diazine, 1,3-	$C_4H_4N_2$	3
Dibromoacetylene	C_2Br_2	2
Dibromochloromethane	$CHBr_2Cl$	10
Dibromocyclohexane, 1,2-	$C_6H_{10}Br_2$	3
Dibromocyclopentane	$C_5H_8Br_2$	3
Dibromodichloromethane	CBr_2Cl_2	4
Dibromodifluoromethane	CF_2Br_2	3
Dibromoethane, 1,2-	$C_2H_4Br_2$	2
Dibromoethene, 1,1-	$C_2H_2Br_2$	1.5
Dibromoethene, 1,2-	$C_2H_2Br_2$	1.5
Dibromomethane	CH_2Br_2	1.9
Dichloro-1,2-difluoroethene, 1,2-	$C_2Cl_2F_2$	2
Dichloro-1,3-butadiene, 1,4-	$C_4H_6Cl_2$	0.6
Dichloro-1-propene, 2,3-	$C_3H_4Cl_2$	1.4
Dichloro-2,2,-difluoroethene, 1,1-	$C_2Cl_2F_2$	1
Dichloro-2-butene, 1,4-	C_4H_7Cl	2
Dichloro-2-butene, trans-1,4-	C_4H_7Cl	2
Dichloroacetylene	C_2Cl_2	5
Dichlorobenzene, m-	$C_6H_4Cl_2$	0.5
Dichlorobenzene, o-	$C_6H_4Cl_2$	0.6
Dichlorobenzene, p-	$C_6H_4Cl_2$	0.5
Dichloroethene, 1,1-	$C_2H_2Cl_2$	1
Dichloroethene, 1,2-	$C_2H_2Cl_2$	0.4

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Dichloroethene, cis-1,2-	$C_2H_2Cl_2$	0.8
Dichloroethene, trans-1,2-	$C_2H_2Cl_2$	0.4
Dichloromethane	CH_2Cl_2	70
Dichloromethylamine	CH_3Cl_2N	2
Dicyclohexylamine	$C_{12}H_{23}N$	0.9
Dicyclopentadiene	$C_{10}H_{12}$	0.65
Diesel fuel		0.8
Diethoxyethane, 1,1-	$C_6H_{14}O_2$	1.5
Diethoxymethane	$C_5H_{12}O_2$	1
Diethyl carbonate	$C_5H_{10}O_3$	7
Diethyl ether	$C_4H_{10}O$	1.5
Diethyl maleate	$C_8H_{12}O_4$	2
Diethyl malonate	$C_7H_{12}O_4$	4
Diethyl phosphite	$C_4H_{11}O_3P$	2
Diethyl phthalate	$C_{12}H_{14}O_4$	1
Diethyl sulfate	$C_4H_{10}SO_4$	20
Diethyl sulfide	$C_4H_{10}S$	0.8
Diethyl sulfone	$C_4H_{10}O_2S$	2
Diethylacetylene	C_6H_{10}	2
Diethylamine	$C_4H_{11}N$	3
Diethylaminoethanol, 2-	$C_6H_{15}ON$	2.7
Diethylaminopropylamine, 3-	$C_7H_{18}N_2$	5
Diethylchlorophosphite	$C_4H_{10}ClO_2P$	1
Diethylene glycol	$C_4H_{10}O_3$	15
Diethylene glycol monoethyl ether	$C_6H_{14}O_3$	1.5
Diethylenetriamine	$C_4H_{13}N_3$	1
Diethylhydroxylamine	$C_4H_{11}NO$	1.5
Diethylsilane	$C_4H_{12}Si$	2
Diglycidyl ether	$C_6H_{10}O_3$	3
Dihydroeugenol	$C_{10}H_{14}O_2$	0.4
Dihydrojasmone	$C_{11}H_{18}O$	0.6
Dihydromyrcenol	$C_{10}H_{20}O$	0.8
Dihydroxybenzene, 1,2-	$C_6H_6O_2$	1
Dihydroxybenzene, 1,3-	$C_6H_6O_2$	1
Diiodomethane	CH_2I_2	1.2
Diisobutyl ketone	$C_9H_{18}O$	0.8
Diisobutylene	C_8H_{16}	0.7

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Diisopropyl ether	$C_6H_{14}O$	0.7
Diisopropylamine	$C_6H_{15}N$	0.7
Diisopropylbenzene	$C_{12}H_{18}$	0.5
Diketene	$C_4H_4O_2$	2.2
Dimethoxybenzene, 1,4-	$C_8H_{10}O_2$	1.3
Dimethoxyethane, 1,2-	$C_4H_{10}O_2$	0.9
Dimethoxymethane	$C_3H_8O_2$	2.8
Dimethyl carbonate	$C_3H_6O_3$	60
Dimethyl chlorothiophosphate	$C_2H_6ClO_2PS$	1
Dimethyl disulfide	$C_2H_6S_2$	0.2
Dimethyl ether	C_2H_6O	1.3
Dimethyl hydrogen phosphite	$C_2H_7O_3P$	8
Dimethyl phthalate	$C_{10}H_{10}O_4$	1
Dimethyl sulfoxide	C_2H_6OS	20
Dimethylacetamide N,N-	C_4H_9NO	1.3
Dimethylacetylene	C_4H_6	0.19
Dimethylamine	C_2H_7N	1.5
Dimethylaminoethane, N,N-	$C_2H_8N_2$	1
Dimethylaminoethanol, 2-	$C_4H_{11}NO$	3
Dimethylaniline, NN-	$C_8H_{11}N$	2
Dimethylboron bromide	C_2H_6BBr	4
Dimethylbutene, 2,3-	C_6H_{12}	0.8
Dimethylbutyl acetate, 1,3-	$C_8H_{16}O_2$	1.6
Dimethylcycloheptane, 1,2-	C_9H_{18}	1.3
Dimethylcyclohexane,1,2-	C_8H_{16}	0.55
Dimethylcyclopentane	C_7H_{14}	1.2
Dimethylethylamine, NN-	$C_4H_{11}N$	1.6
Dimethylformamide	C_3H_7NO	1.3
Dimethylmethylphosphonate	$C_3H_9O_3P$	5
Dimethyloctan-1-ol, 3,7-	$C_{10}H_{22}O$	1.2
Dimethyloctan-3-ol, 3,7-	$C_{10}H_{22}O$	1.2
Dimethylpentane, 2,4-	C_7H_{16}	1
Dimethylsilane	C_2H_8Si	2
Di-n-butylamine	$C_8H_{19}N$	6
Dioxane, 1,4-	$C_4H_8O_2$	1.45
Dioxolane	$C_3H_6O_2$	2.7
Dipentene	$C_{10}H_{16}$	0.9

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Gas / Chemical / Vapor	Formula	Response Factor
Dipentene, (+)-	$C_{10}H_{16}$	0.8
Diphenyl ether	$C_{12}H_{10}O$	1.5
Dipropyl ether	$C_6H_{14}O$	1
Dipropylamine	$C_6H_{15}N$	1.5
Dipropylene glycol	$C_6H_{14}O_3$	4
Disilane	Si_2H_6	2
Disulfur dibromide	S_2Br_2	1.5
Disulfur dichloride	S_2Cl_2	3
Di-tert-butyl-p-cresol	$C_{15}H_{24}O$	0.3
Divinylbenzene, 1,2-	$C_{10}H_{10}$	0.7
Divinylbenzene, 1,3-	$C_{10}H_{10}$	0.6
Dodecene	$C_{12}H_{24}$	1
Epichlorohydrin	C_3H_5ClO	5
Epoxypropyl isopropyl ether, 2,3-	$C_6H_{12}O_2$	1.2
Estragole	$C_{10}H_{12}O$	0.7
Ethanol	C_2H_6O	11
Ethanolamine	C_2H_7NO	3
Ethoxy-2-methylpropane, 1-	$C_6H_{14}O$	1
Ethoxy-2-propanol, 1-	$C_5H_{12}O_2$	1.2
Ethoxybutane, 2-	$C_6H_{14}O$	1
Ethoxyethanol, 2-	$C_4H_{10}O_2$	2
Ethoxypropanol	$C_5H_{12}O_2$	1.2
Ethyl 2,2,2-trifluoroethyl ether	$C_4H_7F_3O$	5
Ethyl 2-methylbutyrate	$C_7H_{14}O_2$	1.4
Ethyl acetate	$C_4H_8O_2$	4.5
Ethyl acetoacetate	$C_6H_{10}O_3$	2.5
Ethyl acrylate	$C_5H_8O_2$	2.3
Ethyl benzoate	$C_9H_{10}O_2$	0.9
Ethyl butyrate	$C_6H_{12}O_2$	1.4
Ethyl chloroformate	$C_3H_5O_2Cl$	80
Ethyl cyanoacrylate	$C_6H_7O_2N$	1.5
Ethyl decanoate	$C_{12}H_{24}O_2$	1.4
Ethyl formate	$C_3H_6O_2$	35
Ethyl hexanoate	$C_8H_{16}O_2$	1.6
Ethyl hexanol, 2-	$C_8H_{18}O$	1.5
Ethyl iodide	C_2H_5I	0.3
Ethyl isopropyl ketone	$C_6H_{12}O$	0.8

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Gas / Chemical / Vapor	Formula	Response Factor
Ethyl lactate	$C_5H_{10}O_3$	2.1
Ethyl mercaptan	C_2H_6S	0.6
Ethyl methacrylate	$C_6H_{10}O_2$	1.06
Ethyl methyl carbonate	$C_4H_8O_3$	18
Ethyl octanoate	$C_{10}H_{20}O_2$	2
Ethyl phenylacetate	$C_{10}H_{12}O_2$	1.2
Ethyl propanoate	$C_5H_{10}O_2$	2.5
Ethyl tert-butyl ether	$C_6H_{14}O$	0.8
Ethyl-2-methylbenzene, 1-	C_9H_{12}	0.5
Ethyl-3-ethoxypropionate	$C_7H_{14}O_3$	3
Ethylacetylene	C_4H_6	0.2
Ethylamine	C_2H_7N	1
Ethylbenzene	C_8H_{10}	0.56
Ethylcyclohexane	C_8H_{16}	0.8
Ethylene	C_2H_4	50
Ethylene glycol	$C_2H_6O_2$	9
Ethylene glycol diacetate	$C_6H_{10}O_4$	4
Ethylene glycol monopropyl ether	$C_5H_{12}O_2$	3
Ethylene oxide	C_2H_4O	9
Ethylenediamine	$C_2H_8N_2$	10
Ethyleneimine	C_2H_5N	2
Ethylhexanal, 2-	$C_8H_{16}O$	1.5
Ethylhexanoic acid, 2-	$C_8H_{16}O_2$	5
Ethylhexenal, 2-	$C_8H_{14}O$	1.3
Ethylhexyl acrylate, 2-	$C_{11}H_{20}O_2$	1
Ethylmorpholine, 4-	$C_6H_{13}NO$	3
Ethyltoluene, 3-	C_9H_{12}	0.6
Ethyltoluene, 4-	C_9H_{12}	0.6
Eucalyptol	$C_{10}H_{18}O$	0.6
Eugenol	$C_{10}H_{12}O_2$	10
Eugenol methyl ether	$C_{11}H_{14}O_2$	0.4
Fenchol	$C_{10}H_{18}O$	0.4
Ferrocene	$C_{10}H_{10}Fe$	0.8
Fluorobenzene	C_6H_5F	0.74
Fluorobenzoic acid, 4-	$C_7H_5FO_2$	2
Formamide	CH_3ON	2
Furan	C_4H_4O	0.4

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Gas / Chemical / Vapor	Formula	Response Factor
Furfural	$C_5H_4O_2$	1.1
Furfuryl alcohol	$C_5H_6O_2$	2
Furfuryl mercaptan	C_5H_6OS	0.8
Gasoline		0.9
Geranial	$C_{10}H_{16}O$	0.6
Geraniol	$C_{10}H_{18}O$	0.7
Geranyl acetate	$C_{12}H_{20}O_2$	1.2
Germane	GeH_4	10
Glutaraldehyde	$C_5H_8O_2$	5
Glycidyl methacrylate	$C_7H_{10}O_3$	1.2
Glycolaldehyde	$C_2H_4O_2$	5
Guaiacol	$C_7H_8O_2$	0.8
Heptan-2-one	$C_7H_{14}O$	0.85
Heptan-3-one	$C_7H_{14}O$	0.73
Heptan-4-one	$C_7H_{14}O$	0.9
Heptane	C_7H_{16}	2.2
Heptanol	$C_7H_{16}O$	1.7
Heptene, 1-	C_7H_{14}	0.88
Heptylcyclopentan-1-one, 2-	$C_{12}H_{22}O$	0.8
Heptyne, 1-	C_7H_{12}	2
Hex-1-en-3-ol	$C_6H_{12}O$	0.9
Hexachlorodisilane	Cl_6Si_2	8
Hexamethyl cyclotrisiloxane	$C_6H_{18}O_3Si_3$	0.3
Hexamethyldisilazane, 1,1,1,3,3,3-.	$C_6H_{18}NSi_2$	0.45
Hexamethyldisiloxane	$C_6H_{18}OSi_2$	0.31
Hexamethylene diisocyanate	$C_8H_{12}N_2O_2$	1.5
Hexamethyleneimine	$C_6H_{13}N$	1.1
Hexan-2-one	$C_6H_{12}O$	0.8
Hexane	C_6H_{14}	3
Hexanoic acid	$C_6H_{12}O_2$	4
Hexanol	$C_6H_{14}O$	2
Hexenal, cis-3-	$C_6H_{10}O$	1
Hexene, 1-	C_6H_{12}	0.98
Hexenyl acetate, cis-3-	$C_8H_{14}O_2$	1
Hexenyl butyrate, cis-3-	$C_{10}H_{18}O_2$	1.5
Hexylaldehyde	$C_6H_{12}O$	1.2
Hydrazine	H_4N_2	3

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Gas / Chemical / Vapor	Formula	Response Factor
Hydrogen iodide	HI	5
Hydrogen selenide	H_2Se	2
Hydrogen sulfide	H_2S	4
Hydrogen telluride	H_2Te	2
Hydroxybutanal, 3-	$C_4H_8O_2$	2
Hydroxycitronellal	$C_{10}H_{20}O_2$	1
Hydroxyethyl acrylate	$C_5H_8O_3$	1.2
Hydroxylamine	H_3NO	2
Hydroxypropyl acrylate, 2-	$C_6H_{10}O_3$	1.5
Indene	C_9H_8	0.6
Indole	C_8H_7N	0.4
Iodine	I_2	0.18
Iodobenzene	C_6H_5I	0.2
Iodoethene	C_2H_3I	1.2
Iodoform	CHI_3	1.5
Iodomethane	CH_3I	0.4
Isoalkanes, C10-C13	$C_8H_{18}O$	1
Isoamyl acetate	$C_7H_{14}O_2$	1.5
Isoamyl salicilate	$C_{12}H_{16}O_3$	1
Isoamylene, beta-	C_5H_{10}	0.82
Isobornyl acetate	$C_{12}H_{20}O_2$	0.5
Isobutane	C_4H_{10}	8
Isobutanol	$C_4H_{10}O$	3
Isobutyl acetate	$C_6H_{12}O_2$	2
Isobutyl acrylate	$C_7H_{12}O_2$	1.2
Isobutyl chloroformate	$C_5H_9ClO_2$	10
Isobutylamine	$C_4H_{11}N$	1
Isobutylbenzene	$C_{10}H_{14}$	0.4
Isobutylene	C_4H_8	1
Isobutylene epoxide	C_4H_8O	3
Isobutyraldehyde	C_4H_8O	1.38
Isobutyric acid	$C_4H_8O_2$	4.4
Isodecanol	$C_{10}H_{22}O$	0.9
Isodihydrolavandulal	$C_{10}H_{18}O$	0.7
Isoeugenol	$C_{10}H_{12}O_2$	0.4
Isoheptane	C_7H_{16}	1.2
Isojasmone	$C_{11}H_{18}O$	0.7

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Isomenthone	$C_{10}H_{18}O$	0.6
Isononanal	$C_9H_{18}O$	0.9
Isononanol	$C_9H_{20}O$	1.5
Isooctane	C_8H_{18}	1.1
Isooctanol	$C_8H_{18}O$	1.7
Isopentane	C_5H_{12}	5
Isopentanol	$C_5H_{12}O$	2
Isopentene	C_5H_{10}	0.8
Isophorone	$C_9H_{14}O$	0.8
Isophorone diisocyanate	$C_{12}H_{18}N_2O_2$	0.6
Isoprene	C_5H_8	0.9
Isopropanol	C_3H_8O	4
Isopropanolamine	C_3H_9NO	1.5
Isopropoxyethanol, 2-	$C_5H_{12}O_2$	1.2
Isopropoxyethyl acetate, 2-	$C_7H_{14}O_2$	1.2
Isopropyl acetate	$C_5H_{10}O_2$	2.4
Isopropyl chloroformate	$C_4H_7O_2Cl$	1.6
Isopropyl mercaptan	C_3H_8S	0.6
Isopropyl nitrite	$C_3H_7NO_2$	4
Isopropylamine	C_3H_9N	1
Isopropylaminoethanol, 2-	$C_5H_{13}NO$	2
Isopropylcyclohexane	C_9H_{18}	0.7
Isothiazole	C_3H_3NS	3
Isovaleraldehyde	$C_5H_{10}O$	1.3
Isovaleric Acid	$C_5H_{10}O_2$	5.5
Jasmal	$C_{11}H_{22}O_3$	1.4
Jasmone, cis-	$C_{11}H_{16}O$	0.5
Jet Fuel Jp-4		0.8
Jet Fuel Jp-5		0.7
Jet Fuel Jp-8		0.7
Kerosene		0.8
Ketene	C_2H_2O	3
Linalool oxide	$C_{10}H_{18}O_2$	0.6
Linalyl acetate	$C_{12}H_{20}O_2$	1.1
Liquefied petroleum gas		40
Maleic anhydride	$C_4H_2O_3$	2
Menthol	$C_{10}H_{20}O$	0.9

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Gas / Chemical / Vapor	Formula	Response Factor
Menthone	$C_{10}H_{18}O$	0.4
Mercaptoacetic acid	$C_2H_4O_2S$	1
Metaldehyde	$C_8H_{16}O_4$	10
Methacrolein	C_4H_6O	1.5
Methacrylamide	C_4H_7NO	2
Methacrylic acid	$C_4H_6O_2$	2.3
Methacrylonitrile	C_4H_5N	5
Methoxy-1-butanol, 3-	$C_5H_{12}O_2$	3
Methoxy-1-propanol, 2-	$C_4H_{10}O_2$	2
Methoxy-2,2-dimethylpropane	$C_6H_{14}O$	0.9
Methoxybutyl acetate, 3-	$C_7H_{14}O_3$	2
Methoxyethane	C_3H_8O	1
Methoxyethanol, 2-	$C_3H_8O_2$	3
Methoxyethene	C_3H_6O	1
Methoxyethoxyethanol, 2-	$C_5H_{12}O_3$	1.4
Methoxyethyl acetate, 2-	$C_5H_{10}O_3$	5
Methoxyethyl ether, 2-	$C_6H_{14}O_3$	1
Methoxymethylethoxy-2-propanol	$C_7H_{16}O_3$	1.3
Methoxypropan-2-ol, 1-	$C_4H_{10}O_2$	1.6
Methoxypropane, 2-	$C_4H_{10}O$	1.2
Methoxypropyl acetate	$C_6H_{12}O_3$	1.6
Methyl 2-methylpropanoate	$C_5H_{10}O_2$	2
Methyl acetate	$C_3H_6O_2$	7
Methyl acetoacetate	$C_5H_8O_3$	3
Methyl acrylate	$C_4H_6O_2$	3.6
Methyl anthranilate	$C_8H_9NO_2$	0.4
Methyl benzoate	$C_8H_8O_2$	1.2
Methyl bromide	CH_3Br	1.9
Methyl dimethylacrylate	$C_6H_{10}O_2$	2.5
Methyl ethyl ketone	C_4H_8O	0.96
Methyl ethyl ketone peroxides	$C_8H_{18}O_6$	0.8
Methyl heptyne carbonate	$C_9H_{14}O_2$	1.3
Methyl ionone	$C_{14}H_{22}O$	0.4
Methyl isobutyl ketone	$C_6H_{12}O$	0.9
Methyl isocyanate	C_2H_3NO	5
Methyl isopropyl ketone	$C_5H_{10}O$	0.99
Methyl isothiocyanate	C_2H_3NS	0.6

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Gas / Chemical / Vapor	Formula	Response Factor
Methyl mercaptan	CH_4S	0.7
Methyl methacrylate	$C_5H_8O_2$	1.31
Methyl phenylacetate	$C_9H_{10}O_2$	0.4
Methyl propargyl ether	C_4H_6O	2
Methyl propionate	$C_4H_8O_2$	3.8
Methyl propynoate	$C_4H_4O_2$	10
Methyl salicylate	$C_8H_8O_3$	0.8
Methyl sulfide	C_2H_6S	0.8
Methyl tert-butyl ether	$C_5H_{12}O$	1
Methyl thiocyanate	C_2H_3NS	2.2
Methyl thioglycolate	$C_3H_6O_2S$	2
Methyl vinyl ketone	C_4H_6O	0.6
Methyl-1-butene, 2-	C_5H_{10}	0.8
Methyl-1-butene, 3-	C_5H_{10}	0.8
Methyl-2-butanol, 3-	$C_5H_{12}O$	3.3
Methyl-2-butenal, 3-	C_5H_8O	1
Methyl-2-hexenoic acid, trans-3-	$C_7H_{12}O_2$	1.5
Methyl-2-propen-1-ol, 2-	C_4H_8O	1.3
Methyl-2-pyrrolidinone, N-	C_5H_9NO	0.9
Methyl-5-hepten-2-one, 6-	$C_8H_{14}O$	0.63
Methylamine	CH_5N	1.5
Methylbutan-1-ol, 3-	$C_5H_{12}O$	2.3
Methylbutanal, 2-	$C_5H_{10}O$	1.2
Methylbutyric acid, 2-	$C_5H_{10}O_2$	6
Methylcyclohexane	C_7H_{14}	1.1
Methylcyclohexanol	$C_7H_{14}O$	2.4
Methylcyclohexanol, 4-	$C_7H_{14}O$	2.4
Methylcyclohexanone, 2-	$C_7H_{12}O$	1
Methylcyclopentane	C_6H_{12}	2.5
Methylcyclopentene, 1-	C_6H_{10}	1.5
Methylenepentane, 3-	C_6H_{12}	0.9
Methylheptan-3-one, 5-	$C_8H_{16}O$	0.77
Methylhexan-2-one, 5-	$C_7H_{14}O$	0.7
Methylhydrazine	CH_6N_2	1.3
Methylmorpholine, N-	$C_5H_{11}NO$	1.2
Methylolacrylamide, N-	$C_4H_7NO_2$	2
Methylpent-3-en-2-one, 4-	$C_6H_{10}O$	0.6

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Methylpentan-2-ol, 4-	$C_6H_{14}O$	1.4
Methylpentane, 2-	C_6H_{14}	3
Methylpentane, 3-	C_6H_{14}	2.5
Methylpentane-2,4-diol, 2-	$C_6H_{14}O_2$	4
Methylpropanoyl chloride, 2-	C_4H_7ClO	8
Methylpyrrole, N-	C_5H_7N	0.9
Methylstyrene	C_9H_{10}	0.57
Methylthiopropional, 3-	C_4H_8OS	2
Methylundecanal, 2-	$C_{12}H_{24}O$	1
Mineral oil		0.8
Mineral spirits		0.6
Monoisobutanolamine	$C_4H_{11}NO$	1.6
Morpholine	C_4H_9NO	4
Myrcene	$C_{10}H_{16}$	0.49
Naphtha, heavy aromatic		0.4
Naphtha, hydrotrated heavy		1
Naphtha, light aromatic		0.5
Naphtha, medium aliphatic		0.8
Naphthalene	$C_{10}H_8$	0.63
Naphthol methyl ether, 2-	$C_{11}H_{10}O$	0.5
Neopentane	C_5H_{12}	3
Neopentyl alcohol	$C_5H_{12}O$	2
Nitric oxide	NO	8
Nitrobenzene	$C_6H_5NO_2$	1.7
Nitrogen dioxide	NO_2	13
Nonanal	$C_9H_{18}O$	1.3
Nonane	C_9H_{20}	1.4
Nonanol (mixed isomers)	$C_9H_{20}O$	1.2
Nonene (mixed isomers)	C_9H_{18}	0.6
Nonene, 1-	C_9H_{18}	0.6
Norbornadiene, 2,5-	C_7H_8	0.6
Octalactone, gamma-	$C_8H_{14}O$	3
Octamethylcyclotetrasiloxane	$C_6H_{12}O_4Si_4$	0.3
Octamethyltrisiloxane	$C_8H_{24}O_2Si_3$	0.26
Octanal	$C_8H_{16}O$	1.1
Octane	C_8H_{18}	1.6
Octanol	$C_8H_{18}O$	1.6

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Octene (mixed isomers)	C_8H_{16}	0.7
Octene, 1-	C_8H_{16}	0.7
Oxalyl bromide	$C_2Br_2O_2$	5
Paraffin wax, fume		1
Paraffins, normal		1
Paraldehyde	$C_6H_{12}O_3$	2.2
Pentacarbonyl iron	FeC_5O_5	1
Pentan-2-one	$C_5H_{10}O$	0.99
Pentan-3-one	$C_5H_{10}O$	0.77
Pentanal	$C_5H_{10}O$	1.5
Pentandione, 2,4-	$C_5H_8O_2$	1.2
Pentane	C_5H_{12}	7
Pentanoic acid	$C_5H_{10}O_2$	8
Pentanol, 2-	$C_5H_{12}O$	2
Pentanol, 3-	$C_5H_{12}O$	1.7
Pentene, 1-	C_5H_{10}	0.92
Pentene, cis-2-	C_5H_{10}	0.9
Pentene, trans-2-	C_5H_{10}	0.9
Pentylcyclopentan-1-one, 2-	$C_{10}H_{18}O$	1
Pentylcyclopentane	$C_{10}H_{20}$	1.1
Pentyne, 1-	C_5H_8	3
Perfluorobutadiene	C_4F_6	3
Perfluoro-tert-butylamine	$C_4H_2F_9N$	5
Petroleum ether		0.9
Phellandrene	$C_{10}H_{16}$	0.8
Phenethyl methyl ether, 2-	$C_9H_{12}O$	0.6
Phenol	C_6H_6O	0.9
Phenoxyethanol, 2-	$C_8H_{10}O_2$	4.5
Phenoxyethyl acrylate, 2-	$C_{11}H_{12}O_3$	1.5
Phenyl chloroformate	$C_7H_5ClO_2$	1.1
Phenyl propene, 2-	C_9H_{10}	0.4
Phenyl-2,3-epoxypropyl ether	$C_9H_{10}O_2$	0.8
Phenylacetaldehyde	C_8H_8O	0.7
Phenylacetic acid	$C_8H_8O_2$	1
Phenylcyclohexane	$C_{12}H_{16}$	0.4
Phenylethanol, 2-	$C_8H_{10}O$	1.2
Phenylethyl acetate, 1-	$C_{10}H_{12}O_2$	0.7

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Phenylethyl isobutyrate, 2-	$C_{12}H_{16}O_2$	1.5
Phosphine	PH_3	2
Picoline, 3-	C_6H_7N	0.7
Pine oil		1
Pinene	$C_{10}H_{16}$	0.4
Pinene, α-	$C_{10}H_{16}$	0.34
Pinene, β-	$C_{10}H_{16}$	0.5
Piperazine	$C_4H_{10}N_2$	0.8
Piperidine	$C_5H_{11}N$	1
Piperylene	C_5H_8	0.9
Prop-2-yn-1-ol	C_3H_4O	3.7
Propadiene	C_3H_4	1
Propan-1-ol	C_3H_8O	5.4
Propanamide	C_3H_7NO	2
Propane-1,2-diol	$C_3H_8O_2$	3
Propanolamine	C_3H_9NO	1.5
Propargyl chloride	C_3H_3Cl	8.4
Propen-1-imine, 2-	C_3H_5N	2
Propene	C_3H_6	1.4
Propiolic acid	$C_3H_2O_2$	8
Propionaldehyde	C_3H_6O	3
Propionic acid	$C_3H_6O_2$	10
Propoxy-2-propanol, 1-	$C_6H_{14}O_2$	1.2
Propyl acetate, n-	$C_5H_{10}O_2$	3
Propyl butanoate	$C_7H_{14}O_2$	1.3
Propyl formate	$C_4H_8O_2$	19
Propyl iodide	C_3H_7I	1
Propyl mercaptan	C_3H_8S	1
Propylamine, n-	C_3H_9N	1.1
Propylbenzene	C_9H_{12}	0.5
Propylbenzene (all isomers)	C_9H_{12}	0.5
Propylbenzene, 2-	C_9H_{12}	0.6
Propylene carbonate	$C_4H_6O_3$	15
Propylene glycol ethyl ether acetate	$C_7H_{14}O_3$	1.2
Propylene oxide	C_3H_6O	6
Propyleneimine	C_3H_7N	1.4
Propyne	C_3H_4	4

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Pyrazine	$C_4H_4N_2$	3
Pyridine	C_5H_5N	0.7
Pyridinol, 4-	C_5H_5NO	3
Pyridylamine, 2-	$C_5H_6N_2$	0.8
Pyrrole	C_4H_5N	1.4
Pyrrolidine	C_4H_9N	4
Pyruvaldehyde	$C_3H_4O_2$	0.7
Rose oxide, cis-	$C_{10}H_{18}O$	0.8
Sec-amyl acetate	$C_7H_{14}O_2$	5
Stibine	SbH_3	1.5
Styrene	C_8H_8	0.45
Sulfur dichloride	Cl_2S	2
Terpineol, α-	$C_{10}H_{18}O$	1
Terpinolene	$C_{10}H_{16}$	0.6
Terpinyl acetate, α-	$C_{12}H_{20}O_2$	1.2
Terpinyl methyl ether, alpha-	$C_{11}H_{20}O$	0.7
Tert-amyl methyl ether	$C_6H_{14}O$	0.8
Tert-butanol	$C_4H_{10}O$	1.6
Tert-butyl acetate	$C_6H_{12}O_2$	1.05
Tert-butyl bromide	C_4H_9Br	0.99
Tert-butyl formate	$C_5H_{10}O_2$	8
Tetrabromoethane, 1,1,2,2-	$C_2H_2Br_4$	2
Tetracarbonylnickel	NiC_4O_4	1
Tetrachloroethylene	C_2Cl_4	0.6
Tetrachloropyridine, 2,3,5,6-	C_5HNCl_4	1
Tetraethyl orthosilicate	$C_8H_{20}O_4Si$	3
Tetrafluoroethylene	C_2F_4	15
Tetrahydrofuran	C_4H_8O	2.3
Tetrahydronaphthalene	$C_{10}H_{12}$	0.4
Tetrahydropyran	$C_5H_{10}O$	1.5
Tetrahydrothiophene	C_4H_8S	0.7
Tetramethyl orthosilicate	$C_4H_{12}O_4Si$	2
Tetramethylbenzene (all isomers)	$C_{10}H_{14}$	0.3
Tetramethylbutane, 2,2,3,3-	C_8H_{18}	1
Tetramethyldisiloxane, 1,1,3,3-	$C_4H_{14}OSi_2$	1
Tetramethylgermane	$C_4H_{12}Ge$	2
Tetramethylguanidine, N,N,N',N'	$C_5H_{13}N_3$	0.6

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Gas / Chemical / Vapor	Formula	Response Factor
Tetramethylsilane	$C_4H_{12}Si$	2
Thioacetic acid	C_2H_4OS	1.4
Thioanisole	C_7H_8S	0.6
Thiocarbonyl fluoride	CSF_2	6
Thiocyanogen	$C_2S_2N_2$	8
Thioformaldehyde trimer	$C_3H_6S_3$	1.5
Thiophene	C_4H_4S	0.46
Thiophosgene	$CSCl_2$	1
Thymol	$C_{10}H_{14}O$	0.7
Titanium-n-propoxide	$C_{12}H_{28}O_4Ti$	3
Toluene	C_7H_8	0.56
Toluene-2,4-diisocyanate	$C_9H_6N_2O_2$	1.6
Toluenesulfonyl chloride, p-	$C_7H_7SO_2Cl$	3
Toluidine, o-	C_7H_9N	0.5
Tolylaldehyde, p-	C_8H_8O	0.8
Triazine, 1,3,5-	$C_3H_3N_3$	6
Tributyl phosphate	$C_{12}H_{27}O_4P$	5
Tributylamine	$C_{12}H_{27}N$	1
Trichlorobenzene, 1,2,4-	$C_6H_3Cl_3$	0.6
Trichloroethylene	C_2HCl_3	0.6
Triethyl borate	$C_6H_{15}O_3B$	5
Triethyl phosphate	$C_6H_{15}O_4P$	1.2
Triethyl phosphite	$C_6H_{15}O_3P$	1.5
Triethylaluminum	$C_6H_{15}Al$	1
Triethylamine	$C_6H_{15}N$	1.3
Triethylbenzene	$C_{12}H_{18}$	0.4
Triethylsilane	$C_6H_{16}Si$	2
Trifluoroethene	C_2HF_3	5
Trifluoroethyl methyl ether, 2,2,2-	$C_3H_5F_3O$	10
Trifluoroiodomethane	CF_3I	2
Trimethoxymethane	$C_4H_{10}O_3$	4
Trimethoxyvinylsilane	$C_5H_{12}O_3Si$	2
Trimethyl phosphate	$C_3H_9O_4P$	4
Trimethyl phosphite	$C_3H_9O_3P$	2
Trimethylamine	C_3H_9N	0.5
Trimethylbenzene mixtures	C_9H_{12}	0.3
Trimethylbenzene, 1,2,4-	C_9H_{12}	0.6

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Trimethylbenzene, 1,3,5-	C_9H_{12}	0.4
Trimethylcyclohexane, 1,2,4-	C_9H_{18}	1
Trimethylene oxide	C_3H_6O	1.5
Trimethylsilane	$C_3H_{10}Si$	1
Trioxane	$C_3H_6O_3$	13
Turpentine	$C_{10}H_{16}$	0.6
Turpentine oil	$C_{10}H_{16}$	0.6
TVOC		1
Undecane	$C_{11}H_{24}$	1.1
Vanillin	$C_8H_8O_3$	1
Vinyl acetate	$C_4H_6O_2$	1.5
Vinyl bromide	C_2H_3Br	1.5
Vinyl chloride	C_2H_3Cl	2.1
Vinyl ethyl ether	C_4H_8O	1
Vinyl fluoride	C_2H_3F	2
Vinyl-2-pyrrolidinone, 1-	C_6H_9NO	4.5
Vinylcyclohexene	C_8H_{12}	0.47
Vinylene carbonate	$C_3H_2O_3$	3.5
Vinylidene difluoride	$C_2H_2F_2$	5
Vinylsilane	C_2H_6Si	1.5
Xylene mixed isomers	C_8H_{10}	0.54
Xylene, m-	C_8H_{10}	0.5
Xylene, o-	C_8H_{10}	0.5
Xylene, p-	C_8H_{10}	0.55
Xylidine, all	$C_8H_{11}N$	0.7

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13 Product limited warranty

AimSafety warrants this product will be free from defective materials and workmanship for a period of two (2) years from date of manufacture, provided it is maintained and used in accordance with AimSafety instructions and/or recommendations. If any component becomes defective during the warranty period, it will be replaced or repaired free of charge, if the unit is returned in accordance with the instructions below. This warranty does not apply to units that have been altered or had repair attempted, or that have been subjected to abuse, accidental or otherwise. The above warranty is in lieu of all other express warranties, obligations or liabilities. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE ARE LIMITED TO A PERIOD OF TWO (2) YEARS FROM THE PURCHASE DATE. AimSafety shall not be liable for any incidental or consequential damages for breach of this or any other warranty, express or implied, arising out of or related to the use of said gas monitor. Manufacturer or its agent's liability shall be limited to replacement or repair as set forth above. Buyer's sole and exclusive remedies are return of the goods and repayment of the price, or repair and replacement of non-conforming goods or parts.

Warranty Procedure
Contact the local AimSafety authorized reseller or AimSafety Technical Support to obtain a Return Materials Authorization (RMA). An RMA requires the following information:

- Company name, contact name, phone number, and email address
- Description and quantity of items to be returned
- Equipment serial number(s)
- Reason for return

No returns shall be accepted without an AimSafety RMA. Any returns received without an RMA will be rejected and returned to the sender.

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