

BW TECHNOLOGIES GAS/ALERT/MAX MULTI-GAS DETECTORS

Four Gas Detector with Internal Sampling Pump

GasAlertMax provides extraordinary cost of ownership advantages. Training and maintenance costs are minimized through automated calibration, internal plug-in sampling pump, long-life VersaPak battery power (available in local stores) and simple, one-button control. GasAlertMax is powered by two advanced microcontrollers and features plug-in electrochemical and catalytic sensors. High-output audible/visual alarms provide instant notification.

The large alphanumeric LCD shows real-time gas concentrations and the instrument's status at all times. A full-function self-test verifies sensor, circuitry and battery integrity and activates the audible/visual alarms each time the detector is activated. GasAlertMax clearly advises the hazard present—Low, High, TWA and STEL multi-gas alarm. Recorded TWA, STEL and Peak exposures can be displayed on demand.

GasAlertMax satisfies the OSHA safety regulation CFR1910.146 (Permit Required - Confined Space Entry).



Features:

- Large LCD shows real-time gas concentrations of H2S, CO, O2 and %LEL
- Internal plug-in pump for remote sampling
- LOW, HIGH, TWA and STEL alarms with adjustable setpoints
- Equipped with plug-in, replaceable sensors
- Simple, automatic calibration procedure
- Intrinsically safe to U.S. European and Canadian standards
- Provides 95 dB tone and bright LED indication on alarm
- Compact (1.6 x 3.0 x 5.9 in) and lightweight (15.4 oz)
- Runs an entire shift on one Black & Decker VersaPak™ rechargeable battery (available worldwide)
- Peak values displayed on command
- Full-function self-test of: sensor/battery/circuitry integrity: and audible/visual alarms
- One VersaPak rechargeable battery, 2-port charger, 10 ft. sampling hose, calibration hose, carrying holster, and instructions in local languages included
- Vibrating alarm and remote audible/visual alarm (110 dB) accessories available

Ordering Information:

Part No.	GasAlert/Max for:	Measuring Range
GAMAX3-4	4-gas, H2S, CO, O2	H2S 0-100 ppm, CO 0-500 ppm, O2 (% by vol) 0-30%, Combustibles 0-100% LEL
GAMAX3-3H	3-gas, H2S, O2, LEL	H2S 0-100 ppm, O2 (% by vol) 0-30%, Combustibles 0-100% LEL
GAMAX3-2	2-gas, O2, LEL	O2 (% by vol) 0-30%, Combustibles 0-100% LEL

Add suffix for: -DL1 for black box datalogger
-DL2 for user downloadable datalogger
-A to omit VAC charger and batteries

BW TECHNOLOGIES GAS/ALERT/MICRO 5 MULTI-GAS DETECTORS

GasAlertMicro 5

Portable gas detector simultaneously monitors and displays up to five potential atmospheric hazards including O₂, LEL and a range of toxic gases. Compact and lightweight, GasAlertMicro 5 comes housed in IP66 concussion-proof enclosure. Audible, visual and vibrator alarms activate in the event of a low, high, TWA or STEL alarm condition. An optional motorized pump is available for remote sampling. Beyond features that come standard with BW portable instruments such as confidence beep, full function self test, automatic calibration and passcode protection, GasAlertMicro 5 offers an extended selection of user-settable field options including: stealth mode, backlight options, selectable ppm resolution, STEL / TWA measurement choice, combustible correction factors, user-settable calibration gas concentrations and multi-language support.

Complete Specifications Available Upon Request

Features:

- Compact (5.7" x 2.9" x 1.5") and lightweight
- Rugged, highly water-resistant design
- Continuous LCD shows simultaneous gas concentrations for up to five gases
- Integral concussion-proof enclosure for the most rugged environments
- Integral motorized pump option for remote sampling (optional)
- Two power options: three AA alkaline batteries or a rechargeable battery pack
- Provides 95 dB alarm tone (typical), two bright wide-angled alarm bars and internal vibrating alarm for high noise areas
- Multiple language support in English, French, German, Spanish and Portuguese
- Four alarm levels: instantaneous Low and High Alarm for all gases; TWA (time weighted average) and STEL (short term exposure limit) for toxic gases
- Simple automatic calibration procedure; compatible with **BW MicroDock II** system
- Records TWA, STEL and maximum exposures to gas and displays readings on command
- User selectable field options include: confidence beep, pass code protection, latching alarm, calibration due date and "SAFE" display function, stealth mode, span level, selectable ppm resolution for some gases (e.g. SO₂ 0.1 ppm)
- Full function self-test of: sensor, battery and circuit integrity; and audible/visual alarms
- Two year warranty; including sensors
- GasAlertMicro 5 PID version also available

Ordering Information:

Part No.	Description
M5-XWSY-A-D-0-Y-N-00	5-gas detector, combustibles, oxygen, carbon monoxide, hydrogen sulfide, and sulphur dioxide, with AA batteries
M5-XWSY-R-D-0-Y-N-00	5-gas detector, combustibles, oxygen carbon monoxide, hydrogen sulfide, and sulphur dioxide, with rechargeable battery pack
M5-XWOY-A-D-0-Y-N-00	4-gas detector, combustibles, oxygen, carbon monoxide, and hydrogen sulfide, with AA batteries
M5-XWOY-R-D-0-Y-N-00	4-gas detector, combustibles, oxygen, carbon monoxide, and hydrogen sulfide, with rechargeable battery pack

Note: Also available with optional motorized pump - replace suffix: 0-Y-N-00 with 0-Y-N-00-A-D.



Packaging Contents:

Standard Versions: Complete with monitor and sensors (as specified), sensor compartment cover for diffusion operation, calibration adapter and hose, quick reference guide, interactive training and technical documentation CD, integral concussion-proof boot and 3 AA alkaline batteries.

Confined Space Kits: Include standard version contents plus foam lined carrying case for instrument and accessories, 34L cylinder(s) of calibration gas, 1.0 LPM calibration regulator (male) and tubing.

Motorized Pump Units: Include standard version contents plus motorized pump and cover (installed), 12 in. / 30 cm sample probe with hydrophobic barrier (water trap) and particulate filters, 10 ft. / 3 m sample tubing, five spare particulate filters and one spare water trap filter.

CALL 800.833.0247
281.479.9700

FAX 800.282.4365
281.479.6321

CALL US TODAY

-373-

www.safetyfire.com

BW TECHNOLOGIES GAS/ALERT/CLIP EXTREME GAS DETECTORS

2-Year Gas Detection with Event Logging

Simply press the START/TEST button and the GasAlertClip Extreme is ready to use, providing two years of continuous, maintenance-free operation from the day of activation.

The GasAlertClip Extreme is highly water resistant, with a IP-66/67 housing fully immersible to a depth of one meter. The GasAlertClip Extreme housing includes an integral concussion-proof boot, and a heavy-duty, stainless steel, alligator style belt-clip. A large easy-to read LCD shows detector life remaining, alarm setpoints, and peak alarm exposures.

The detector's life remaining is displayed in months, days, then hours. A full-function self-test verifies sensor, circuitry and battery integrity as well as function of the audible, visual and vibrator alarms.

Stored data can be transmitted directly by IR link to a cordless infrared printer for immediate printout, or to a personal computer by means of a IR adapter connected to the computer's USB port.

The GasAlertClip Extreme is equipped with two alarm setpoints used to activate a high output 95 dB (typical) audible alarm, a bright, wide-angled quad LED visual alarm and a built-in vibrator alarm.



Extreme protection!
Extreme durability!
Extreme value!

Simply clip the GasAlertClip Extreme to your lapel, pocket, belt or hard-hat for unequaled, cost-effective protection

Complete Specifications Available Upon Request

Features:

- Internal vibrator alarm
- Small size (1.1 x 2.0 x 3.2 in.) and lightweight (2.7 oz.)
- Maintenance free—no sensor or battery replacement, no calibration, no downtime
- Full-function self-test of audible/visual alarms, plus integrity of sensor, battery and circuitry
- Continuously ON—one-button activation, test and data transmission
- Comes complete with rugged, stainless-steel alligator belt clip and test cap
- Instructions in local languages included
- Optional hard hat clips available
- Two years of protection with zero maintenance costs
- Continuous, alphanumeric, status LCD shows detector life remaining, alarm setpoints and advises self-test status
- Rugged, IP-66/67 highly water-resistant design
- Built-in concussion-proof boot
- Records and displays the peak alarm encountered and the time elapsed since the exposure occurred
- Automatic event logging records 10 most recent alarm events that can be downloaded via infrared port
- Two alarm levels (Low / High)
- Provides typical 95 dB tone and bright, quad-LED indication on alarm

Ordering Information:

Part No.	GasAlertClip for:	Measuring Range	Accessories:
GA24XT-H	Hydrogen sulfide	0-100 ppm	GA-HC-1 Hard hat clip (for use with alligator clips
GA24XT-M	Carbon monoxide	0-300 ppm	GA-AG 1 and 2)
GA24XT-X	Oxygen	0-30% (% by vol)	GA-AG-1 Alligator clip (stainless steel)
GA24XT-S	Sulphur dioxide	0-100 ppm	GA-AG-2 Alligator clip (non-conductive)
			GA-TC-1 Test cap and hose
			GA-TS02 Automatic test station

Automatic Full-Function Test Stations

For Zero-maintenance and single gas detectors

Safe and Automatic

Test Stations are engineered for ease-of-use—simply insert the detector into the test well and press the red button. The station first verifies that the detector is installed, then tests the sensor response time, speed of response, alarm activation. Watch the color coded PASS/FAIL advice LED's as the test quickly progresses. If all tests are successful, the green PASS light activates to confirm the detector is ready for use.

Convenient and Economical

When a test is initiated, the solenoid automatically releases test gas to the detector. The flow of gas shuts off automatically when the test is complete, preventing any waste of test gas and protecting personnel from exposure to the gas. The AC adapter allows an unlimited number of units to be tested without the need for battery replacement.

Test Stations can be conveniently hung on a wall to be conspicuous reminder for individuals to test their detectors before entering a potentially hazardous area.



Simple and Easy

Simply insert the detector into the test-well and press the red button. Quality test-gases are available of all BW Technologies gas detection instruments.

Automatic full-function Test Stations are an economical solution for companies that use large number of gas detectors. Designed specifically for testing numerous units, Test Stations eliminate the risk of exposing personnel to toxic test-gas by providing a fast, safe and easy method of testing a detector's response to gas.

- Detector fully tested in 10-30 seconds
- Easy and fully automatic
- PASS/FAIL advice on each test
- Test Stations verify all functions:
 - Sensor response to gas
 - Speed of response
 - Visual LED alarm activation
 - Audible alarm activation
- Economical use of test-gas
- Test Stations come complete with regulator, reinforced Teflon test-hose, AC wall-mount adapter and 9-volt battery
- Over 350 units tested on one 9-volt battery

Ordering Information:

Part No.	Description
GA-TS04	GasAlert 100 test station (for H2S, CO)
GA-TS02	GasAlertClip test station (for H2S, CO, O2)
GA-TS03	GasAlert & GasAlert LEL test station (for single gas detectors)

Accessories:

Test-Gas Cylinders - Order Gas Separately

G0042-H25	25 ppm H2S, balance nitrogen (58L)
G0041-M100	100 ppm CO, balance nitrogen (130L)
G0043-N2	100% nitrogen for oxygen units (103L)

Whether it's downtime from a short battery life or a component failure, a non-working instrument can cost you. That's why the Scott Instruments Product Development Team has designed the Scout® with features that help assure continued reliability and durability and, in the event of a failure, fast repair time at lower costs.



Scott's modular pump and component assemblies will minimize downtime. Unlike many other portable detectors, should a failure of a pump occur, the Scout® can continue to be operated with a hand aspirator or a new pump can be simply plugged in. In fact, all Scout's major components are modular and designed for simple, fast replacement in the field.

Scout's advanced battery management technology makes every second count. Scout's exclusive ABMT™ feature provides up to 50 hours (30 with pump) of runtime and, with the wireless charger, fast re-charge time. Unlike many other similar instruments, Scout's battery pack is simple to release without having to unscrew or remove components.

Sensors can be replaced, or calibration performed, prior to a critical need situation. The Scout's "Sensor End-of-Life" and "Days to Calibration" features provide added assurance that Scout operators will remain aware of the instrument's operational status. In addition, Scout performs other routine software and electronic diagnostics every time the instrument is powered up for use.

Features:

Innovative IntelliShutter™

Allows users to quickly change from standard (diffusion) mode to sample draw mode (on-the-fly)

Rugged and Easy to Use

Can be dropped from 6 ft. and submerged in a foot of water without any ill-effects

Wireless Charging

Simply place it in its charging cradle and quick charged in under 4 hours to 50 hours of runtime

Powerful Modular Pump

Optional integrated pump permits samples to be taken from up to 100 ft. away

See Next Page for The Most Popular Scott® Instrument Configurations

Specifications:

Toxic Sensor

Gas

Range PPM

Ammonia (NH3) _____	0-200
Carbon Monoxide (CO) _____	0-1500
Hydrogen Cyanide (HCN) _____	0-100
Hydrogen Sulfide (H2S) _____	0-500
Nitric Oxide (NO) _____	0-999
Nitrogen Dioxide (NO2) _____	0-150
Oxygen (O2) _____	0-25%
Phosphine (PH3) _____	0-20
Sulfur Dioxide (SO2) _____	0-100
Combustible Sensor _____ (methane calibrated)	0-5000 ppm/100% LEL

Pump

Typical Flow Rate _____	500mlpm
Max Hose Length _____	100 feet with 1/8" ID Tubing
Max Draw Vacuum _____	12" H2O
Alarm Flow Rate _____	.250mlpm

Internal Filter _____ 70mm hydrophobic

Dimensions _____ 7-1/2" L x 2-5/8" H x 4" W with Li-Ion Battery Pack

Weight _____ 1.45 lbs Alkaline version with batteries

Power Source _____ 3 C-Cell Battery Pack or 3 Li-Ion Cell Battery Pack

Battery Life _____ 50 Hours with combustible sensor, oxygen, 2 toxics and no pump in ambient conditions.

Instrument

Includes instrument in leather hoister and shoulder strap

Pump Units

Includes probe, tubing, and pump

Ordering Information - Carbon Monoxide (CO), Hydrogen Sulfide (H2S), Oxygen (O2), Combustibles (LEL)

Part No.	No. of Gas(s)	Gas(s) Detected	Battery Type		Motorized Pump
			Li-ion + Charger	Alkaline	
096-2561-14	4	CO/H2S/O2/LEL		Yes	Yes
096-2561-18	4	CO/H2S/O2/LEL	Yes		Yes
096-2561-22	4	CO/H2S/O2/LEL		Yes	
096-2561-26	4	CO/H2S/O2/LEL	Yes		
096-2561-15	3	CO/O2/LEL		Yes	Yes
096-2561-16	3	H2S/O2/LEL		Yes	Yes
096-2561-19	3	CO/O2/LEL	Yes		Yes
096-2561-20	3	H2S/O2/LEL	Yes		Yes
096-2561-23	3	CO/O2/LEL		Yes	
096-2561-24	3	H2S/O2/LEL		Yes	
096-2561-27	3	CO/O2/LEL	Yes		
096-2561-28	3	H2S/O2/LEL	Yes		
096-2561-17	2	O2/LEL		Yes	Yes
096-2561-21	2	O2/LEL	Yes		Yes
096-2561-25	2	O2/LEL		Yes	
096-2561-29	2	O2/LEL	Yes		

Value Confined Space Entry Kit

Includes instrument in leather holster and shoulder strap, 34 liter calibration cylinder, fixed flow regulator without gauge, FEP tubing and carrying case

Part No.	No. of Gas(s)	Gas(s) Detected	Battery Type		Motorized Pump	Case	Cal. Kit
			Li-ion + Charger	Alkaline			
096-2561-01	4	CO/H2S/O2/LEL		Yes	Yes	Yes	Yes
096-2561-02	3	CO/O2/LEL		Yes	Yes	Yes	Yes
096-2561-03	3	H2S/O2/LEL		Yes	Yes	Yes	Yes
096-2561-04	2	O2/LEL		Yes	Yes	Yes	Yes

Premium Confined Space Entry Kit

Includes instrument in leather holster and shoulder strap, 34 liter calibration cylinder, demand flow regulator with gauge, FEP tubing and premium water-tight Pelican carrying case

Part No.	No. of Gas(s)	Gas(s) Detected	Battery Type		Motorized Pump	Case	Cal. Kit
			Li-ion + Charger	Alkaline			
096-2561-05	4	CO/H2S/O2/LEL		Yes	Yes	Yes	Yes
096-2561-09	4	CO/H2S/O2/LEL	Yes		Yes	Yes	Yes
096-2561-06	3	CO/O2/LEL		Yes	Yes	Yes	Yes
096-2561-07	3	H2S/O2/LEL		Yes	Yes	Yes	Yes
096-2561-10	3	CO/O2/LEL	Yes		Yes	Yes	Yes
096-2561-11	3	H2S/O2/LEL	Yes		Yes	Yes	Yes
096-2561-08	2	O2/LEL		Yes	Yes	Yes	Yes
096-2561-12	2	O2/LEL	Yes		Yes	Yes	Yes

Remarkable Performance at an Affordable Price:

The ultimate in Confined Space Gas Detectors: The PhD⁵ monitors up to five atmospheric hazards simultaneously; Oxygen, combustible gas, and up to three channels of toxic gas detection. Choose from a wide variety of toxic sensors; including Biosystems' innovative new Duo-Tox two-channel CO/H₂S sensor to measure both carbon monoxide and hydrogen sulfide when both hazards are present without cross interference.

The PhD⁵ is housed in a rugged, compact, metal-plated case designed to stand up to the most demanding environments. All procedures necessary for day-to-day operation, including fully automatic calibration adjustment, are still controlled through a single button. The easy-to-read graphics display and navigation keys make the PhD⁵ even easier to use than earlier versions.



Most Common PhD⁵ Detector Configurations

Ordering Information

Part No.	Description	Part No.	Description
54-24-30000	LEL/O ₂	54-24-31400	LEL/O ₂ /Duo-Tox (CO/H ₂ S)
54-24-30100	LEL/O ₂ /CO	54-24-30300	LEL/O ₂ /SO ₂
54-24-30200	LEL/O ₂ /H ₂ S	54-24-30103	LEL/O ₂ /CO/SO ₂
		54-24-31403	LEL/O ₂ /Duo-Tox (CO/H ₂ S)/SO ₂

PhD⁵ Options (Add option code letter to part number)

Option	Code	Comments
Alkaline	A	Alkaline configurations may be upgraded to NiCad/Alkaline after purchase.
Rechargeable	N	NiCad configuration includes charger and a spare alkaline battery pack.
Confined Space Kit (CSK)	C	Confined Space kits contain, standard accessories, standard sized calibration gas and fixed flow rate regulator, conveniently packaged in a rugged waterproof carrying case.
Value Pack	V	Value Pack kits contain, standard accessories, compact sized calibration gas, fixed flow rate regulator, and compact foam lined ABS carrying case.
Datalogging	D	Includes add-on board, which enables the PhD ⁵ to record measurements. This option is available as an upgrade after purchase. Download software must be purchased separately.
TouchID™	T	Please note that datalogging is included automatically when the instrument is equipped with "Touch ID". TouchID buttons and programming software must be purchased separately.
Remote Alarm Connector	R	Remote alarm connector is required to connect optional remote alarm device. Remote alarm device must be purchased separately.

Training video is included with every PhD⁵ - See next page for accessories

Standard Accessories:

Each PhD5 detector is shipped complete with leather case, carrying strap, hand aspirated sample draw kit with 10 feet of tubing, operator's guide, reference manual, quick reference card, and comprehensive training video. The sample draw kit includes sample draw/calibration adapter, squeeze bulb, tubing, sample probe, and spare sample probe filters. "Alkaline" PhD5 detectors include an alkaline battery pack and set of three AA disposable batteries. "Ni-Cad" PhD5 detectors include a Ni-Cad battery pack and slip-in "Datadock"/Fast Charger as well as a spare alkaline battery pack and set of three AA disposable batteries.

PhD⁵ Remote Accessories:

Part No.	Description
54-27-0101	Continuous sample pump for PhD ⁵ , slip on. Includes 10' of tubing and sample probe assembly.‡
54-27-0102	Continuous sample pump for PhD ⁵ , screw on. Includes 10' tubing and sample probe assembly.
54-05-A0401	Sample draw kit for PhD ⁵ . Includes adapter, squeeze bulb, 10' of tubing and sample probe assembly. Not for use with Cl ₂ , ClO ₂
54-05-A0403	Sample probe assembly. Does not include tubing, squeeze bulb, or sample draw adapter.
54-05-A0405	Sample probe assembly with 11.5 inch stainless steel probe tube. Does not include tubing, squeeze bulb, or sample draw adapter
10-263	Sample draw/calibration adapter for PhD ⁵ .

PhD⁵ "Smart Sensors"

Part No.		Description	Range
54-25-80	LEL	Combustible Gas	0-100%LEL
54-25-90	O ₂	Oxygen	0-30%/Vol.
54-25-01	CO	Carbon Monoxide	0-1000 PPM
54-25-02	H ₂ S	Hydrogen Sulfide	0-200 PPM
54-25-14	Duo-Tox	Dual Channel CO / H ₂ S Provides substance specific readouts for CO & H ₂ S	CO: 0-1000 PPM H ₂ S: 0-200 PPM
54-25-03	SO ₂	Sulphur Dioxide	0-25 PPM
54-25-21*	HN ₃	Ammonia	0-300 PPM
54-25-08* **	CL ₂	Chlorine (non-specific)	0-50 PPM
54-25-18* **	CL ₂	Chlorine (specific)	0-50 PPM
54-25-12* **	ClO ₂	Chlorine Dioxide (non-specific)	0-15 PPM
54-25-20* **	ClO ₃	Chlorine Dioxide (specific)	0-5 PPM

* Special corrosive gas calibration adapter (No. 54-26-0405) required for proper calibration.

** The non-specific CL₂ and ClO₂ sensors can be used for the detection of both gases.
The specific CL₂ and ClO₂ sensors are designed for the target gas only.

PhD⁵ Calibration Kit

Part No.	Description
54-27-0501	Calibration Kit for PhD5 includes foam lined carrying case with room for up to three cylinders of calibration gas. Kit contains 12-023 regulator and other fittings. Kit does not include gas.

The PhD Ultra multi-gas detectors are designed to monitor up to four atmospheric hazards simultaneously. The PhD Ultra detector measures oxygen, combustible gas, and up to two toxic additional toxic gases. It also includes the added feature of automatic datalogging. The instrument automatically logs data such as gas readings, turn on/off times, calibration dates, temperature, battery conditions, types of sensors installed, sensor serial numbers, warranty expiration, service due dates, current alarm settings, location and user ID.



Optional Datalink software provides 2-way communication between gas detector and personal computer, allowing programming, downloading, and data analysis. Data may be reviewed on the computer screen or used to automatically generate and print reports, tables and graphs.

Most Common PhD Ultra Configurations

Ordering Information

Part No.	Description
54-02-30000	LEL/O2
54-02-30100	LEL/O2/CO
54-02-30102	LEL/O2/CO/H2S
54-02-30103	LEL/O2/CO/SO2
54-02-30200	LEL/O2/H2S

PhD Ultra Options: (Add option code letter to part no.)

Option	Code	Comments
Alkaline	A	Alkaline configurations may be upgraded to Nicad / Alkaline after purchase
Rechargeable	N	NiMH configuration includes charger and spare alkaline battery pack
Confined Space Kit (CSK)	C	Confined space kit contains, standard accessories, sized calibration gas and fixed flow regulator, conveniently packaged in a rugged waterproof carrying case
RFI Resistant Instrument Case	R	PhD Ultra ordered with RFI option feature metal plated case for extra RFI protection
PRO configuration	P	Substitute "N" (NiCad) with a "P". This configuration includes download software. NiCad battery and Datadock / Fast Charger.

Accessories

Ordering Information:

Part No.	Description
54-05-A0101	Continuous sample pump. Includes pump and 10 feet of sample tubing and sample probe assembly.
10-263	Sample draw/calibration adapter

Smart Sensors

Ordering Information:

Part No.	Description
54-04-80	LEL - Combustible gas
54-04-90	O2 - Oxygen
54-04-01	CO - Carbon monoxide
54-04-02	H2S - Hydrogen sulfide
54-04-03	SO2 - Sulfur dioxide

Continuous Sample Draw Multi Gas Detectors

Features

Design:

- Rugged RFI-protected case designed for the most demanding environments
- IP65 rated protected against dust and water

Pumps:

- Available with dual pumps for accurate dilution monitoring in inert environments without the use of a dilution orifice
- Automatic leak test before every use

Recording:

- Available with optional datalogging for convenient and easy downloading to a computer
- Available with optional TouchID™

Smart Sensors & Calibration:

- Four Sensors: O₂, LEL and up to three toxic channels using the Duo-Tox two channel CO/H₂S sensor



Batteries:

- Interchangeable alkaline (5 "D" cell) and rechargeable NiMH batteries
- Operating Life:
Alkaline - Up to 24 hours
NiMH - Up to 16 hours

Ordering Information:	Standard Version (1 Pump)	Dilution Version (2 Pumps)
Sensors Installed	Part No.	Part No.
LEL / O ₂	54-34-30000	54-35-30000
LEL / O ₂ / CO	54-34-30100	54-35-30100
LEL / O ₂ / H ₂ S	54-34-30200	54-35-30200
LEL / O ₂ / Duo-Tox (CO/H ₂ S)	54-34-31400	54-35-31400
LEL / O ₂ / CO / H ₂ S	54-34-30102	54-35-30102

Cannonball³ Options: (Add option code letter to part no.)

Option	Code	Comments
Alkaline	A	NiMH battery pack and charger may be purchased separately
Rechargeable	N	NiMH configuration includes charger. Alkaline battery packs may be purchased separately
Datalogging	D	Enables the Cannonball3 to record and download measurements. This option is available as an upgrade after purchase. Download software must be purchased separately. Computer must support IrDA to download.
TouchID™	T	This option includes both datalogging and TouchID™ reader. TouchID™ buttons and programming software must be purchased separately.
Remote Alarm Connector	R	Remote alarm connector is required to connect an optional remote alarm device. Remote alarm device must be purchased separately.

Accessories

Ordering Information:

Part No.	Description
35-0379	Motorized sample draw pump module
35-0378	Motorized sample draw pump module for dual pump version (2 pumps)
54-36-01	Remote audible and visual alarm

Smart Sensors

Ordering Information:

Part No.	Description
54-25-80	LEL - Combustible gas
54-25-90	O ₂ - Oxygen
54-25-01	CO - Carbon monoxide
54-25-02	H ₂ S - Hydrogen sulfide
54-25-14	Duo-Tox - Dual channel CO/H ₂ S (provides substance specific readouts for CO & H ₂ S)

MSA SOLARIS™ FX MULTIGAS DETECTOR

The Solaris™ FX Multigas Detector is an affordable, durable, reliable, easy-to-use portable instrument for detecting the presence of O2, H2S, CO and combustible gas. It is designed to withstand rough handling in harsh environments.

Features:

Ergonomic Design and Lightweight

For maximum comfort. Under 8 oz., compact size that makes it easier to wear.

Alarm System

World class triple alarm system with 100+ decibel audible alarm, multiple high-intensity visual alarm and strong vibrating alarm.

Display Features

Superior display features simultaneous gas concentration display, back-lighting for easy reading and alphanumeric message bar for easy use.

Durable

Case with rubberized armor provides superior protection against liquid and dust ingress (IP65 rated).

Long-Life Battery

Rechargeable lithium ion battery provides 14+ hours of continuous run time and delivers best-in-class performance in extreme conditions.

Warranty

Outstanding 2-year, all-inclusive warranty.



Solaris™ FX Kits

Ordering Information

Part No.				
Basic Kits	Standard Kits*	Industrial Kits**	Deluxe Kits***	Description
1056449	1056453	1056457	1056461	4-Gas (LEL, O2, CO, H2S)
1056450	1056454	1056458	1056462	3-Gas (LEL, O2, CO)
1056451	1056455	1056459	1056463	3-Gas (LEL, O2, H2S)
1056452	1056456	1056460	1056464	2-Gas (LEL, O2)
* Includes datalogging option				
** Includes calibration kit				
*** Includes calibration kit, datalogging & sampling pump				

Solaris™ FX Accessories

Ordering Information

Part No. Description

Replacement Sensors

10055613 Combustible
 10046946 Oxygen
 10046944 Carbon monoxide
 10046945 Hydrogen sulfide

Sampling Probe

10046528 Universal pump probe (UL approved)

Chargers & Power Supplies

10049410 Vehicle
 10048185 Charge cradle assembly
 10047342 North American power supply
 10047343 Global power supply

Maintenance-Free

The PULSAR Single-Gas Detector is reliable, easy to use and durable with a service life of 24 months. With sensor options for CO, H₂S or O₂, this unit will provide maintenance-free performance and stand up to the roughest handling in even the toughest industrial environments.

Features:

- Two-year service life with no maintenance
- Small, ultra-thin profile
- Leak-proof stainless steel Button™ sensors
- Long-life lithium battery can meet specification of two minutes of alarm mode per day.
- Large easy-to read display
- Excellent water and dust resistance; IP54-rated
- Triple alarm system. Piercing audio, ultra-bright quadruple visual and optional vibrating alarms
- Extremely durable
- Lifetime warranty



(1) Instrument Type

- 1 = CO without vibrating alarm
- 2 = CO with vibrating alarm
- 3 = H₂S without vibrating alarm
- 4 = H₂S with vibrating alarm
- 5 = O₂ without vibrating alarm
- 6 = O₂ with vibrating alarm

Ordering Matrix - To obtain part number, write in numbers and letters from selections shown.

**A-PULSAR-__-__
(1) (2)**

(2) Alarm Setpoints

- | | |
|--------------------------|--------------------------------------|
| A = CO 25 ppm & 100 ppm | L = H ₂ S 10 ppm & 15 ppm |
| B = CO 30 ppm & 60 ppm | M = H ₂ S 10 ppm & 20 ppm |
| C = CO 35 ppm & 100 ppm | N = H ₂ S 10 ppm & 25 ppm |
| D = CO 35 ppm & 400 ppm | O = H ₂ S 15 ppm & 25 ppm |
| E = CO 50 ppm & 200 ppm | W = O ₂ 19.5% & 18.0% |
| F = CO 100 ppm & 300 ppm | X = O ₂ 22.5% & 19.5% |
| G = CO 150 ppm & 200 ppm | |

Also available is the Pulsar™+ single-gas detector offering a gas-concentration display and a replaceable sensor and battery. Call for ordering information.

Approvals:

Approved for UL and ULC as intrinsically safe for use in Class I Div. 1, Groups A, B, C, and D.

MSA FIVE STAR® MULTIGAS DETECTOR

The FiveStar Alarm provides the flexibility to meet your gas detection needs, yet is incredibly simple to use. The durable, high-impact case makes it long-lasting, while the advanced ergonomic design and software reduce worker load and simplify operation. This means less time spent training and less time out of service. Over its life, the FiveStar Alarm's ease of use, safety features, and long-term money savings combine to provide the best in gas detection available today.



The FiveStar Alarm's simplicity is obvious from the start:

- Three well-marked, easy-to-use keys.
- Display faces user.
- High levels of RFI protection.
- Flexible smart sensors.
- Weatherproof — IP54 - rated.

The FiveStar Alarm's advanced software features mean safer operation:

- Limits on sensor zeroing.
- Limits on one-button calibration.
- User acknowledges configuration changes.
- Data recording is standard

The FiveStar Alarm saves money:

- Unbeatable warranty and service.
- Long-life combustible sensor.
- One-button calibration saves training and gas.
- 5-gas capability means one detector can do the job of two.
- Battery "gas gauge" reduces down time.
- 20-hour NiMH battery option means one battery can do the job of two.

FiveStar Alarm Kits		NiCd Battery	AC Charger	Fast Charger	Calibration Cap	Pulsecheck Pump	10 ft. Line	1 ft. Probe	Leather Jacket	Carrying Case	Calibration Kit
Part No.	Description										
10018002	Deluxe, 4-gas (LEL, O2, CO, H2S)	X		X		X	X	X	X	X	X
10018003	Deluxe, 3-gas (LEL, O2, CO)	X		X		X	X	X	X	X	X
10018004	Deluxe, 3-gas (LEL, O2, H2S)	X		X		X	X	X	X	X	X
10018005	Industrial, 4-gas (LEL, O2, CO, H2S)	X	X			X	X	X	X		
10018006	Industrial, 3-gas (LEL, O2, CO)	X	X			X	X	X	X		
10018007	Industrial, 3-gas (LEL, O2, H2S)	X	X			X	X	X	X		
10018008	Economy, 4-gas (LEL, O2, CO, H2S)	X	X		X						
10018009	Economy, 3-gas (LEL, O2, CO)	X	X		X						
10018030	Economy, 3-gas (LEL, O2, H2S)	X	X		X						

FiveStar® Accessories

Ordering Information:

Replacement Sensors

Part No.	Description
710317	Combustible
815333	Oxygen
710656	Carbon monoxide
710657	Hydrogen sulfide
710664	Sulfur dioxide

Approved for use in Class I Div. 1, Groups A, B, C and D; Class II Div. 1, Groups E, F, G; and Class III hazardous locations.

Sample Lines

497333	10-foot
497335	25-foot

Replacement Battery

Part No.	Description
10013145	Heavy-duty NIMH

Chargers

494716	110V
495965	220V

Probes

8000333	3-foot plastic
---------	----------------

MSA ORION™ FX MULTIGAS DETECTOR

The Orion™ FX Multigas Detector is a low-cost, reliable and easy-to-use portable instrument for detecting the presence of O2, H2S, CO and combustible gas. It will stand up to the roughest handling in even the toughest environments. A charger and optional built-in sampling pump are included in the price.

Features:

- One-button calibration
- Weather resistance rating of IP54
- Passes six-foot drop test
- Large, easy-to-read display
- Provides with NiMH battery, 16 hours of continuous operation in pump mode, 20 hours in non-pump mode
- Provides with alkaline batteries, 8 hours of continuous operation in pump mode
- Durable and easily maintained sensors
- Carbon-filled-nylon case holds up under toughest conditions and corrosive environments

Approvals:

Approved for UL and ULC for use in Class I Div. 1, Groups A, B, C, and D.



Orion™ FX Multigas Detector Kits		NiMH Battery & Charger	Alkaline Battery	Calibration Cap	Internal Pump	10 ft. Line	1 ft. Probe	Orange Cordura Case	Calibration Kit	Black Economy Case	Boot
Part No.	Description										
1056447	Deluxe, 4-gas, datalog (LEL, O2, CO, H2S)	X			X	X	X	X	X	X	X
1056441	Deluxe, 4-gas (LEL, O2, CO, H2S)	X			X	X	X	X	X	X	X
1056442	Deluxe, 3-gas (LEL, O2, H2S)	X			X	X	X	X	X	X	X
1056443	Deluxe, 3-gas (LEL, O2, CO)	X			X	X	X	X	X	X	X
1056444	Industrial, 4-gas (LEL, O2, CO, H2S)	X			X	X	X	X			X
1056445	Industrial, 3-gas (LEL, O2, H2S)	X			X	X	X	X			X
1056446	Industrial, 3-gas (LEL, O2, CO)	X			X	X	X	X			X

Orion™ FX Accessories

Ordering Information

Part No.	Description	Part No.	Description	Part No.	Description
Replacement Sensors		Sample Lines		Chargers	
1005614	Combustible	497333	10-foot	10020551	NiMH battery charger
10025940	Oxygen	497335	25-foot	10034276	Vehicle charger
711306	Carbon Monoxide	Battery Packs		Probes	
711307	Hydrogen Sulfide	10031091	Rechargeable NiMH	800332	1-foot long
		10031092	Alkaline	800333	3-foot long

MSA WATCHMAN® MULTIGAS MONITOR

GAS DETECTION

The Watchman Multigas Monitor is a durable, portable instrument used to detect and monitor combustible gases, oxygen, and toxic gases in workplace atmospheres, especially in confined spaces such as manholes, storage tanks, tank cars, vaults, mines, and sewers. Designed for rugged handling, the monitor incorporates the state-of-the-art technology in a strong aluminum housing. The Watchman Monitor is ideal for long jobs in heavy industrial environments, as the instrument will run up to 16 hours on a single charge.



Approvals

Meets intrinsic safety testing requirements for use in Class I Div. 1, Groups A, B, C and D; Class II Div. 1, Groups E, F, G; and Class III hazardous locations.

Part No.	LEL Display	O ₂	CO	H ₂ S	Peak	STEL/TWA/Tag	AC Charger	10 ft. Line	Probe	Water Stop	Line Trap
711132 Industrial 4-Gas	X	X	X	X	X		X	X	X		X
711406 Industrial 4-Gas	X	X	X	X	X	X	X	X	X	X	
711407 Industrial 3-Gas	X	X	X		X	X	X	X	X	X	
711408 Industrial 3-Gas	X	X		X	X	X	X	X	X	X	
711409 Industrial 2-Gas	X	X			X	X	X	X	X	X	

Notes:

- No. 711407 Replaces old model 360
- No. 711408 Replaces old model 361
- No. 711409 Replaces old model 260

Watchman® Accessories

Ordering Information:

Replacement Sensors

Part No.	Description
478537	Combustible
480566	Oxygen
636240	Carbon monoxide
636241	Hydrogen sulfide
807476	Sulfur dioxide

Replacement Battery

Part No.	Description
814127	Heavy-duty NIMH

Chargers

494716	110V
495965	220V

Probes

486934	18-inch plastic
73743	3-foot plastic
11961	3-foot brass

Sample Lines

11955	10-foot
11913	25-foot

The perfect complement for a stationary toxic gas monitoring system

A personal monitor should be just that — personal. An instrument you can put on and forget about. Right up until the moment you need it. And that's just what MST Technology had in mind when it designed the MSTox 9001 Personal Toxic Gas Monitor. A monitor so small and lightweight that most of the time you won't even realize you are wearing it. Yet it is always ready to alert you the instant you encounter a potentially hazardous situation.

The heart of the MSTox 9001 is a fully warranted electrochemical sensor. Designed for optimum stability, sensitivity, and specificity, it reacts quickly with the gas being monitored, producing an electrical signal directly proportional to the actual gas concentration.

The MSTox 9001 continuously displays gas concentration on an easy-to-read liquid crystal display (LCD). So you can check ambient conditions or judge the severity of a release with just a quick glance at the instrument. Equally important, the MSTox 9001 features both acoustical and optical alarms that automatically alert you whenever gas concentrations exceed your pre-set levels.



Size: 3.63" x 1.83" x 0.82"

Detectable Gases

<i>Ammonia (NH₃)</i>	<i>Hydrogen Sulfide (H₂S)</i>
<i>Arsine (AsH₃)</i>	<i>Nitric Oxide (NO)</i>
<i>Bromine (Br₂)</i>	<i>Nitrogen Dioxide (NO₂)</i>
<i>Carbon Monoxide (CO)</i>	<i>Ozone (O₃)</i>
<i>Chlorine (Cl₂)</i>	<i>Oxygen (O₂)</i>
<i>Diborane (B₂H₆)</i>	<i>Phosgene (COCl₂)</i>
<i>Fluorine (F₂)</i>	<i>Phosphine (PH₃)</i>
<i>Germane (GeH₄)</i>	<i>Silane (SiH₄)</i>
<i>Hexamethyldisilazane (HMDS)</i>	<i>Tetraethylorthosilicate (TEOS)</i>
<i>Hydrazine (N₂H₄)</i>	
<i>Hydrogen (H₂)</i>	
<i>Hydrogen Bromide (HBr)</i>	
<i>Hydrogen Chloride (HCl)</i>	
<i>Hydrogen Cyanide (HCN)</i>	
<i>Hydrogen Fluoride (HF)</i>	

Call for part number ordering information for each specific gas.