

Monitores Personales

Personal Monitor



GfG Instrumentation



ZIROBA INDUSTRIAL S.A. DE C.V.

Micro IV

Full Featured Personal Monitor



Micro IV Single-gas Detector

- Highly configurable **smart sensor** design
- Wide range of sensors including O₂, H₂S, CO, NH₃, SO₂, CL₂, CLO₂, PH₃, NO₂, HCN, HCl, ETO, HF, O₃, NO, H₂, THT **and more!**
- Full **3-year** warranty on O₂, CO and H₂S sensors
- Optional sample draw pump
- Large display with real-time readout
- **Event / Datalogging** standard
- Programmable ceiling (3), STEL & TWA alarms
- **Vibrating Alarm** standard
- **AutoCal**® automatic calibration
- Optional docking station

GfG Instrumentation

1194 Oak Valley Dr, Ste 20, Ann Arbor MI 48108 USA
(800) 959-0329 • (734) 769-0573 • www.goodforgas.com

Micro IV Single-gas detector

Durable, compact design

The **Micro IV** is compact, robust and very easy to use. It is designed to be used in the harshest environments. The **Micro IV** includes a set of rubber boots to withstand hard knocks and drops.

Widest Range of sensors

Micro IV detectors are available for use with a wide range of long-lasting, interchangeable smart-sensors for the detection of O₂, H₂S, CO, NH₃, SO₂, Cl₂, ClO₂, PH₃, NO₂, HCN, HCl, ETO, HF, O₃, NO, H₂ and more.

Easy Operation

The **Micro IV** keeps gas detection simple. Most day-to-day functions are controlled with a single button, and calibration is fully automatic. Simply select the calibration mode from the keypad, attach the adapter and flow gas to the sensor. The GfG Autocal® feature automatically makes the adjustments and updates the information in the instrument's on-board memory.

Up to six months of battery life

The **Micro IV** delivers up to 3,000 hours of continuous operation from a single off the shelf AA alkaline battery. Battery replacement, when needed, can be completed in less than 30 seconds and requires no tools.

Clip-on attachment

The **Micro IV** comes with a heavy duty alligator clip that allows the detector to be conveniently clipped on to clothing and if so desired near the breathing zone.

Optional motorized pump

The **Micro IV** is available with an optional motorized pump to allow sampling from a remote location. The

motorized pump may also be used in extraordinary harsh conditions, such as extreme heat, where it may be desirable to protect the instrument under protective clothing; using a tube the pump can draw air samples from the breathing zone.



Large graphic display

The **Micro IV** detector features a large backlit easy-to-read graphic display that provides a continuous readout for the sensor installed. By pressing a single button additional information such as Peak, STEL and TWA readings may be displayed.

Audible, vibrating and visual alarms

The **Micro IV** detector features a loud alarm (95db at 12 inches), a built-in vibrating alarm and a bright multi-directional visual LED alarm light.

Lifetime warranty

The **Micro IV** carries a lifetime warranty on non-consumable components and two or more years of warranty on most sensors. Select sensors such as O₂, H₂S, and CO carry a full three year warranty against failure.

DS220 docking station

The **Micro IV** is available with a six position fully automatic docking station. The docking station makes bump test and calibration even easier and all maintenance records are stored automatically. The docking station fully test sensor response, alarms and other functionality.



Specifications

Ranges & Resolution for Select Sensors

Ammonia (NH ₃)	0 - 500 ppm	5 ppm
Ammonia (NH ₃)	0 - 200 ppm	1 ppm
Carbon monoxide (CO)	0 - 300 ppm	1 ppm
Chlorine dioxide (ClO ₂)	0 - 2 ppm	0.01 ppm
Chlorine (Cl ₂)	0 - 10 ppm	0.1 ppm
Ethylene oxide (ETO)	0 - 20 ppm	0.1 ppm
Hydrogen fluoride (HF)	0 - 10 ppm	0.1 ppm
Hydrogen sulfide (H ₂ S)	0 - 100 ppm	*1.0 ppm
Hydrogen (H ₂)	0 - 4 % vol	0.01 %/vol
Hydrogen chloride (HCl)	0 - 30 ppm	0.2 ppm
Hydrogen cyanide (HCN)	0 - 50 ppm	0.5 ppm
Nitrogen oxide (NO)	0 - 100 ppm	1 ppm
Nitrogen dioxide (NO ₂)	0 - 50 ppm	0.2 ppm
Oxygen (O ₂)	0 - 25 % vol	0.1 %/vol
Ozone (O ₃)	0 - 1 ppm	0.01 ppm
Phosgene (COCl ₂)	0 - 2 ppm	0.01 ppm
Phosphine (PH ₃)	0 - 10 ppm	0.05 ppm
Silane (SiH ₄)	0 - 20 ppm	0.05 ppm
Sulphur dioxide (SO ₂)	0 - 10 ppm	0.05 ppm
Tetrahydrothiophene (THT)	0 - 100 mg/m ³	0.1 mg/m ³

* 0.1 ppm available at special request.

Other Specifications

Dimensions:	3.5x1.85x1 inches (88x47x25 mm)
Weight:	2 - 4 ounces (57 - 113 g)
Power:	One single alkaline AA-battery
Operation time:	Up to 3000 hours, continous
Alarms:	Vibrating: Standard Audible: 95 db (12 inches) Visual: Multi-directional LEDs
Housing:	IP54
Temperature range:	-4 to +131°F (-20 to +55°C)
Humidity range:	5 to 95% r.h. (non-condensing)
Pressure Range:	700 to 1,300 hPa
Intrinsic safety:	c-UL-us Class 1, Div. 1, Groups A, B, C, D Temperature Code T3C

Standard Accessories

Rubber boot
Alkaline battery
Belt clip
Manual

Optional Accessories

Slide-on motorized pump
PC connection interface
Docking Station
Calibration gas, kits and regulators

Warranty

Limited lifetime on instrument and electronics. Two years on most sensors, three years on select sensors including O₂, CO and H₂S.

Refer to GfG complete warranty for details

Specifications subject to change without notification

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Rev. 12 (8/27/14)

G450

The World's Most Advanced Confined Space Gas Detector



G450

Multi-gas Detector



- Compact and robust 1-to-4 sensor design
- Full 3-year warranty on **all sensors**
- Interchangeable battery packs for up to 25 hours continuous operation
- Motorized pump operable in diffusion or sample-draw mode
- Highly water resistant (IP 67)
- **Affordable price!**

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G450 Series

Continuously measures up to four gas hazards

The **G450 Confined Space Gas Detector** continuously measures up to four hazards (CO, H₂S, O₂ and percent LEL combustible gas) in air.

Water resistant design

The **G450** is compact, robust and very easy-to-use. The dust proof and highly water resistant (IP-67) housing is designed to survive the toughest environmental conditions. The housing even includes a built-in rubberized boot to withstand the hard knocks of confined space entry.

Three year warranty on all sensors

Dependable and accurate **G450** sensors keep the cost-of-ownership down. All sensors – including O₂, LEL combustible, CO and H₂S sensors – carry a full three year warranty from the date of purchase.

Easy operation

The **G450** keeps gas detection simple. Most day-to-day functions are controlled with a single button, and calibration is fully automatic. Simply attach the adapter and flow gas to the sensors. GfG AutoCal® programming automatically makes the adjustments, and updates the information in the instrument's on-board memory.

Datalogging Standard

All **G450** instruments are equipped with datalogging. The datalogger records gas concentrations and alarms on a moment-to-moment basis. Monitoring results can be downloaded to a PC for viewing, storage and evaluation.

Up to 25 hours continuous operation

G450 battery packs deliver up to 25 hours of continuous operation. Alkaline packs are powered by two "AA" batteries. Rechargeable battery packs can even be equipped with optional "flash light" LEDs.



Loud audible and bright visual alarms warn users of dangerous conditions

The **G450** includes an extremely loud audible alarm (103 dB at 12 inches), built-in vibrator and bright wrap-around LED alarm lights *visible from every direction*. The top-mounted display changes color from green, to orange to red *just like a traffic signal* to help communicate the severity of the hazardous condition.

Top-mounted display easy to read even in the dark

Whether it's worn on your belt or held by hand, the **G450** is easy to read. The top-mounted, full graphics LCD includes a built-in backlight for use in the dark. Readings can be "zoomed" or "flipped" at the push of a button to make it even easier to see your monitoring results.

Motorized sampling pump

The field attachable motorized pump is powered by its own alkaline or rechargeable battery pack. The powerful diaphragm pump is equipped with an on / off shutter that allows the instrument to be used in diffusion mode *even while the pump is attached*.



Accessories

Each **G450** comes complete with sensors and battery pack (as specified), calibration adapter, and a manual. Rechargeable instruments additionally include a drop-in cradle charger and wall power adapter. The DS400 Docking Station offers completely automatic functional testing, calibration, instrument charging and record keeping.



Specifications

Ranges & Resolution for Sensors

Carbon monoxide (CO)	0 - 500 ppm	1 ppm
Hydrogen sulfide (H ₂ S)	0 - 100 ppm	0.1 ppm
Oxygen (O ₂)	0 - 25 % vol	0.1 %/vol
LEL	0 - 100% LEL	0.5 LEL
CH ₄	0 - 5 % vol	0.02 %/vol

Expected Sensor Life

Carbon monoxide (CO)	3 years or longer
Hydrogen sulfide (H ₂ S)	3 years or longer
Oxygen (O ₂)	3 years
LEL	3 years
Unfiltered LEL	2 years

Datalogging: Included

1,890 intervals (55 hours at 2 minutes).
Also stores events, calibration history and other information.

Other Specification

Dimensions:	2.95x4.33x2.17 in (75x110x55 mm)
Weight:	10 oz (280 g)
Power:	2 "AA" batteries or rechargeable NiMH battery pack
Operation time:	Up to 25 hours
Charge Time:	8 hours
Alarms:	Vibrating: Standard Audible: 103 db (30 cm) Visual: Bright, 360° wraparound LEDs, plus heterochromatic (green / orange / red) backlit display
Housing:	IP-67 (dust proof and highly water resistant)
Temperature range:	-4 to +122°F (-20 to +50°C) ambient
Humidity range:	5 to 95% r.h. (non-condensing)
Pressure Range:	700 to 1,300 hPa
Intrinsic safety:	c-CSA-us Class 1, Div. 1, Groups A, B, C, D Temperature Code T3 Class I, Zone 0: Ex ia IIC T3
EMI / RFI resistance:	EMC Directive 89/336/EEC

Standard Accessories

Charger (if specified)
Calibration Adapter
Manual
Informational CD

Optional Accessories

Pump, 10 feet of tubing and probe
Datalogging kit
Docking Station
Calibration gas, kits and regulators

Warranty

Limited lifetime on instrument and electronics. Three years on all sensors including LEL*, O₂, CO and H₂S.

* Two year warranty on unfiltered LEL sensor.

Refer to GfG complete warranty for details

Specifications subject to change without notification

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Rev. 10 (3/17/14)

G460

The World's Most Advanced Multi-sensor Atmospheric Monitor



G460

Multi-gas Detector



- Exceptional HAZMAT and Confined Space performance
- Up to 6 channels of detection, including...
- PID sensor for direct reading of toxic VOCs
- Infrared (IR) sensors for CO2 and combustible gas (0 % LEL - 100% volume)
- Full 3-year warranty on O2, Combustible, CO, H2S and CO2 sensors
- Wide range of additional sensors including SO2, HCN, Cl2, NH3, PH3, H2, NO, NO2, ClO2, O3, ETO, THT and more!
- Highly configurable smart sensor design
- Full featured, rugged design
- Optional motorized pump operable in diffusion or sample draw mode
- Affordable price!

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G460 Multi-gas Detector

Continuously measures up to six gas hazards

The durable **G460** continuously measures and displays readings for up to six gases at the same time.

Durable, compact design

The **G460** is compact, robust and very easy-to-use. The dust proof and highly water resistant (IP-67) housing is designed to survive the toughest environmental conditions. The housing even includes a built-in rubberized boot to withstand the hard knocks of confined space entry.

Widest range of sensors

G460 detectors are available for use with a wide range of long-lasting, interchangeable smart-sensors for LEL, O₂, H₂S, CO, NH₃, SO₂, Cl₂, PH₃, NO₂, HCN, ETO, ClO₂, HF, O₃, NO and H₂. As well as PID (photoionization detectors) for the measurement of volatile organic chemical (VOC) hazards and Infrared (NDIR) sensors for the direct measurement of CO₂ and combustibles.

Easy operation

The **G460** keeps gas detection simple. Most day-to-day functions are controlled with a single button, and calibration is fully automatic. Simply attach the adapter and flow gas to the sensors. GfG AutoCal® programming automatically makes the adjustments, and updates the information in the instrument's on-board memory.

Lifetime warranty

The **G460** carries a lifetime warranty on nonconsumable components and a two-year warranty on most sensors. O₂, LEL, H₂S, CO, COSH and infrared sensors carry a full three-year warranty against failure.

Up to 25 hrs. continuous operation

Depending on the sensors installed, **G460** battery packs deliver up to 25 hours of continuous operation. Alkaline packs are powered by two "AA" batteries. Rechargeable battery packs can even be equipped with optional "flash light" LEDs.



Top-mounted display easy to read even in the dark

Whether it's worn on your belt or held by hand, the **G460** is easy to read. The top-mounted, full graphics LCD includes a built-in backlight for use in the dark. Readings can be "zoomed" or "flipped" at the push of a button to make it even easier to see your monitoring results.

Audible and visual alarms

The **G460** includes an extremely loud audible alarm (103 dB at 12 inches), built-in vibrator and bright wrap-around LED alarm lights visible from every direction. The top-mounted display changes color from green, to orange to red just like a traffic signal to help communicate the severity of the hazardous condition.

Motorized sampling pump

The field attachable motorized pump is powered by its own alkaline or rechargeable battery pack. The powerful diaphragm pump is equipped with an on / off shutter that allows the instrument to be used in diffusion mode *even while the pump is attached*.



Accessories

Each **G460** comes complete with sensors and battery pack (as specified), cal adapter and manual. Rechargeable instruments include a drop-in cradle charger and wall power adapter. The DS400 Docking Station offers completely automatic functional testing, calibration, instrument charging and record keeping.



Specifications

Ranges & Resolution for Select Sensors

Ammonia (NH ₃)	0 - 200 ppm	1 ppm
Carbon dioxide (CO ₂)	0 - 5 % vol	0.01 % vol
Carbon monoxide (CO)	0 - 300 ppm	1 ppm
Chlorine (Cl ₂)	0 - 10 ppm	0.1 ppm
Chlorine dioxide (ClO ₂)	0 - 2 ppm	0.01 ppm
Combustible (Catalytic)	0 - 100 % LEL	0.5 %
	0 - 5 % vol	0.02 %
Combustible (Infrared)	0 - 100 % LEL	0.2 %
	0 - 100 % Vol	0.01 % vol
Ethylene oxide (C ₂ H ₄ O)	0 - 20 ppm	0.1 ppm
Hydrogen (H ₂)	0 - 2,000 ppm	2 ppm
Hydrogen chloride (HCl)	0 - 30 ppm	0.2 ppm
Hydrogen cyanide (HCN)	0 - 50 ppm	0.5 ppm
Hydrogen fluoride (HF)	0 - 10 ppm	0.1 ppm
Hydrogen sulfide (H ₂ S)	0 - 100 ppm	0.1 ppm
Nitric oxide (NO)	0 - 100 ppm	1 ppm
Nitrogen dioxide (NO ₂)	0 - 50 ppm	0.2 ppm
Oxygen (O ₂)	0 - 25 % vol	0.1 %/vol
Ozone (O ₃)	0 - 1 ppm	0.01 ppm
Phosgene (COCL ₂)	0 - 2 ppm	0.01 ppm
Phosphine (PH ₃)	0 - 10 ppm	0.05 ppm
PID (VOC)	0 - 2,000 ppm	0.5 ppm
	0 - 500 ppm	0.1 ppm
Silane (SiH ₄)	0 - 40 ppm	0.1 ppm
Sulphur dioxide (SO ₂)	0 - 10 ppm	0.05 ppm
Tetrahydrothiophene (THT)	0 - 100 mg/m ³	0.1 mg/m ³

Other Specifications

Dimensions:	2.95x4.33x2.17 in (75x110x55 mm)
Weight:	10 oz (280 g) w/O ₂ /LEL/CO/H ₂ S 14 oz (380 g) above w/IR, CO ₂ or PID
Power:	2 "AA" or rechargeable NiMH pack
Operation time:	24 hrs continuous operation with LEL and toxic sensors; up to 18 hours with IR combustible, IR CO ₂ or PID
Charge time:	6 hours
Alarms:	Vibrating: Standard Audible: 103 db (30 cm) Visual: Bright, 360° wraparound LEDs, plus heterochromatic (green / orange / red) backlit display
Housing:	IP-67 (dust proof and highly water resistant)
Temperature range:	-4 to +131°F (-20 to +55°C)
Humidity range:	5 to 95% r.h. (non-condensing)
Pressure Range:	700 to 1,300 hPa
Intrinsic safety:	c-CSA-us Class I, Div. 1, Groups A, B, C, D Temperature Code T3
EMI/RFI resistance:	EMC Directive 89/336/EEC

Datalogging

Standard on all instruments

- Records gas readings
- Gas alarms
- Zero Point Adjustments and calibrations.
- Full datalogging functionality (1,700 logged intervals)

Optional Accessories

Motorized pump
Datalogging kit
Docking Station
Calibration gas, kits and regulators

Warranty

Limited lifetime on instrument and electronics. Two years on most sensors, three years on select sensors including O₂, LEL (Catalytic), LEL (IR), CO, H₂S and IR CO₂.

Refer to GfG complete warranty for details

Specification subject to change without notification

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Rev. 13 (3/17/14)

G300 Series

Portable Leak Detector



G300 Leak Detector

- Compact and lightweight
- Durable
- One-handed operation
- For combustible gases, ammonia (NH₃) and freons
- Bar graph display for trend recognition
- More than 8 hours of continuous operation

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G300 Series Leak Detector

Even from small leaks large amounts of gas can escape. Regular checks and fast discovery of weak points in piping can prevent unnecessary gas loss and avoid the build up of dangerous gas concentrations in the atmosphere. The leak detector **G300** is the ideal instrument for accurate detection of gas leaks and dangerous gas concentrations.

The **G300** finds the smallest leaks on gas tubes and systems. It reacts to minimum concentrations of combustible gases (e.g. methane, natural gas) or toxic gases and vapors (e.g. ammonia). Different tone intervals indicate if the detector is getting closer or further from a leak. A bar graph continuously shows the gas concentration. In less than 3 seconds the detector reacts to explosive or toxic gases and vapors.

The leak detector consists of a basic detector and a long life chemosorption sensor. The accessories consist of a 30 cm flexible gooseneck and a 1 m flexible helix cable, which allows for measurement even in areas that are difficult to reach. The **G300** is operated with only one button, which allows for resetting the acoustic display to zero to restart the detection range even in gas-enriched air. The built-in battery allows for an operation time of more than 8 hours. The detector can be used to rapidly check new pipe installations for leaks. It is more sensitive and is easier to handle than common sprays for leak detection.

User friendly display and audible warning

Changing gas concentrations are indicated audibly and visually. The frequency of the audible warning rises with gas concentrations, allowing the user to pinpoint leaks. The bar graph display will warn the user if dangerous gas concentrations arise.

Light, compact and durable

Designed for one-handed operation, the G300 reacts to concentrations as small as 5 ppm and measures up to more than 10,000 ppm or 1% volume. The sensor is located at the end of a flexible gooseneck or a helix cable to allow the user to reach difficult or unreachable locations. The G311 operates on four "AA" alkaline batteries. All others have a rechargeable battery with run time of more than eight hours.



Specifications

Ranges for Select Sensors

Ammonia (NH ₃)	(0)5	-	1,000 ppm
Methane	(0)5	-	10,000 ppm
R22	1	-	5,000 ppm
R12	10	-	50,000 ppm
R13a	from approximately 300 ppm		
and others			

Response Time

Less than 3 seconds

Detection Principle

Chemosorption

Gas Supply

Diffusion

Other Specifications

Dimensions:	2.4x4.8x1.4 inches (60x120x35 mm)
Weight:	12.25 ounces (350 g)
Power:	
G300 II:	rechargeable battery pack
G300 III:	alkaline battery pack
Operation time:	Greater than 8 hours, continuous
Alarms:	Audible and visual
Casing:	Polyamide - IP-53 protection from splash water
Temperature range:	-4 to +131°F (-20 to +50°C)
Humidity range:	20 to 99% r.h. (non-condensing)
Pressure Range:	800 to 1,200 hPa

Standard Accessories

Alkaline or rechargeable batteries
Charger (with rechargeable battery pack only)
Fixed gooseneck (alkaline version only)
Manual

Optional Accessories

Leather carrying case
Helix cable
Gooseneck

Warranty

Limited lifetime on instrument and electronics. One year on sensor.
Refer to GfG complete warranty for details

Specification subject to change without notification

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