Microtector III G999

Universal Worker Protection



smart
GasDetection
Technologies



Microtector III G999 – Your safety is our goal

The Microtector III G999 combines the demands of a modern multi-gas measurement device for protecting workers with the ability to safely measure confined spaces. As a robust and sophisticated multi-gas detector, it is versatile in its application and flexible in sensor combinations.

Your Advantages

Safety Through Quality and Functionality

To fit every environment, there are three versions available. All versions include three electrochemical and one infrared sensor. Depending on the version, the G999 features a catalytic combustion (CC) sensor, a combined CC/semiconductor sensor, a PID sensor or a fourth electrochemical sensor. This allows a variety of gas combinations or measuring ranges to be defined and simultaneously monitored.

The well thought-out design of the housing and the menu navigation, allows for easy operation in difficult situations. For example, the display can be easily rotated 180°, so that it is always easy to read. For work in poorly lit rooms or in emergency situations, the G999 features an explosion-proof LED torch.

Designed for Difficult Working Conditions

The Microtector III G999 is certified for use in Ex Zone 0 and is water and dust-proof according to protection class IP 67 and is suitable for challenging applications. The rubberized polycarbonate housing provides excellent protection against jolts and impacts, while the practical design and robust crocodile clip ensure optimum wearing comfort.

Ample Battery Power for Long Operating Times

Unlike other devices, the G999 features a double battery capacity of up to 130 hours of operation and provides power supply to the pump.

Remote Monitoring to Protect Employees

If devices with radio modules are used, teams can be monitored centrally via the portable GfG-Link or using a computer and USB dongle. Information regarding the measured gas concentrations, alarms and the status of the man-down alarm will then be available in real time.

Prepared for an Emergency - Alarm for Exercise

In the event of an alarm, knowing how to behave is highly important. By means of the alarm simulation any gas values can be transmitted to the Microtector III G999 to simulate and train different emergency scenarios.

Maintenance & Documentation – Location-Independent and Legally Compliant

The test and docking stations for the Microtector III G999 not only allow location-independent, daily display tests and regular functional checks, but also the complete documentation.

G888 – The Perfect Match

It is not always necessary to equip every employee with a gas detector including a pump for safe measurement of confined spaces, but everyone should have a modern multi-gas detector. In such situations the Microtector III G888 is recommended. Like the G999, it offers optimum individual protection for all those who have to work in hazardous areas and/or enclosed spaces.

TRIPLE WARNING SIGNAL

Optical, acoustic and vibration alarm

RADIO MODULE (OPTIONAL)

Real-time data and alarm transmission with 868 MHz (Europe) or 915 MHz (America)

MAN-DOWN ALARM

2 local warning levels plus notification of the supervisor or the control center*

(*optional with radio module and GfG-Link)

STRONG BATTERY

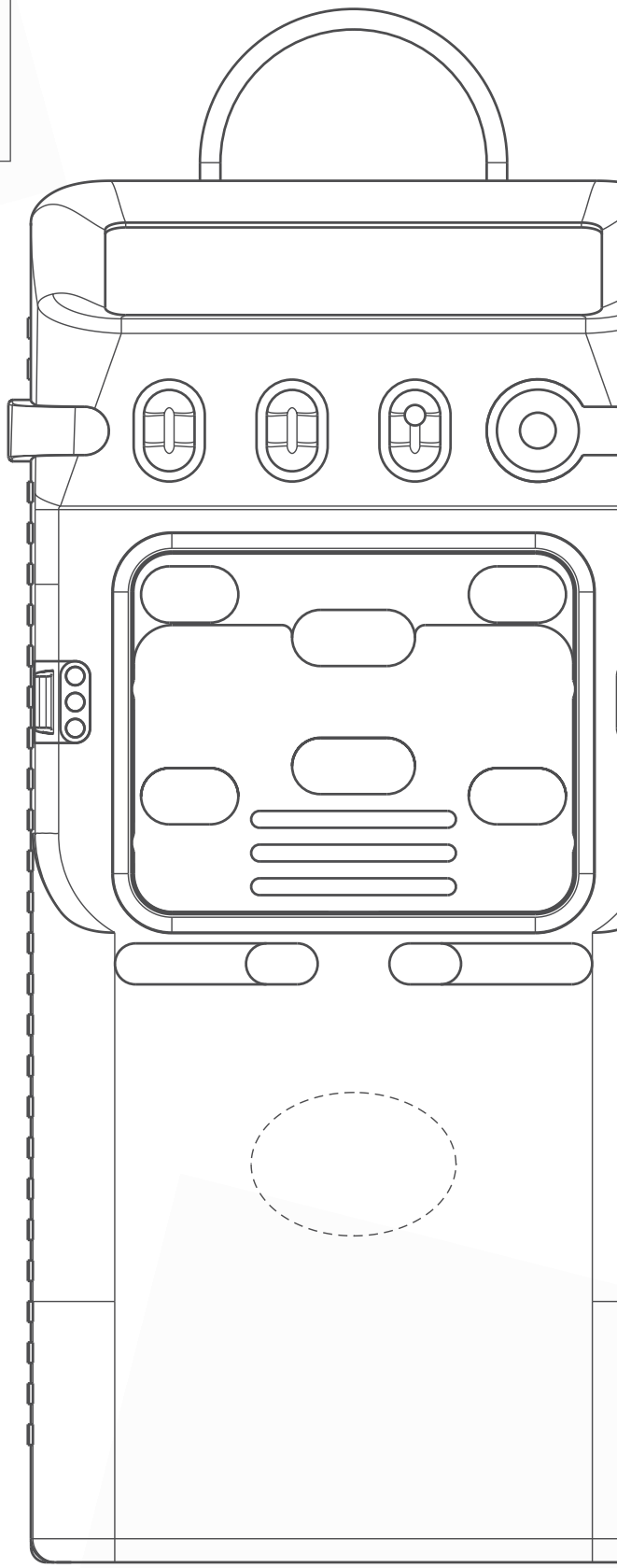
High battery capacity for pump operation and longer operating times in normal conditions

LARGE SENSOR SELECTION

Five slots for rugged, accurate and durable sensors to measure toxic/flammable gases/vapors, VOCs and O_2

PUMP

The pump can be used as required. The volume of gas transmitted is around 0.5 to 0.6 liters per minute. A dynamic flow monitoring system incl. a display of the intake flow rate.



INTUITIVE OPERATION

One click for important displays, convenient menu navigation with 3 buttons



Connected workers, connected data

Modern safety concepts are becoming smart. Modern gas detectors are becoming increasingly integrated with data networks and are able to detect a growing number of dangerous situations.



The warning of dangerous, local gas concentrations remains the primary task of portable gas detectors. However, smart safety goes beyond that:

- It allows for the remote protection of individual workstations and when separated from ones team, depending on the situation
- Rescue teams receive up-to-date information of the dangerous situation on site
- National and international security compliance requirements are observed
- Pager function for basic messages and pre-set replies

Security for Local Teams

The Microtector III G999 with a radio model and the mobile monitoring unit, the GfG Link, is the perfect solution for fire brigades, service and repair teams or other groups operating in potentially dangerous areas.

The supervisor is immediately informed of which team member triggered an alarm, and receives the current gas readings. With the man down alarm they are also notified whether or not the team member requires rescuing.

With a radio range of up to 700 meters, it is possible to secure teams at different locations, enabling a quick and targeted response in case of an emergency.



Green: No danger
Amber: Pre-alarm
Red: Main alarm / Man-down alarm



Safety for Individual Workstations

The safety net can reach even further. If an LTE module is used instead of a radio module, the remote protection of personnel can be extended to all areas with mobile coverage. The technology is called Narrowband IoT (NB-IoT) and while using existing infrastructure, the connection to the target is significantly improved compared to normal mobile networks.

Connected Data in IIoT

The Connected Worker is also part of the Industrial Internet of Things (IIoT) because the data contains valuable information for process optimization and analytics. The difference between fixed and portable gas detectors is becoming less evident in modern safety concepts, which opens the door to new possibilities such as the precise location of victims. The future belongs to smart Gas Detection Technologies.



The appropriate accessories for every application

Docking and Test Stations

The GfG test stations offer fast, automatic and cost-effective execution of daily bump tests including documentation according to DGUV information 213-056 (T021) and 213-057 (T023). In addition, the docking stations also enable the required, routine functional checks to be carried out.



DS400 Docking Station

- 1x single/multi-gas, 1x fresh air and 1x exhausted gas connection
- Display and documentation of calibration with zero and test gas

DS404 Docking Station

- Like DS400
- 4x single/multi-gas, 1x fresh air and 1x exhaust connection



TS400 Test Station

- Can also be used mobile (no PC - 12/24 V power supply)
- Including a data logger
- Charging function (optional)

TX400 Test Station

- Like TS400
- Sensitivity adjustment of the sensors
- Display and documentation of calibration with test gas

Individual Job Security

Improving Lone Worker safety is simple. The G888 or G999 multi-gas detectors report measured gas concentrations, alarms and the status of the man-down alarm to the supervisor's mobile GfG-Link or a control center by radio.



GfG-Link 10

- Monitoring of up to 10 employees
- 868 MHz band (Europe/Africa); 915 MHz band (North and South America)
- Range max. 700 m
- Pager function



USB-Dongle

for wireless connection incl. G888/G999 Visual software

- Monitoring range up to 700 m
- 868 MHz band (Europe/Africa); 915 MHz band (North and South America)
- Operating system: Windows

Related Products



Smart Cap

- Adapter for manual test gas supply
- Data interface and connection to the PC



Stainless Steel Telescopic Suction Pipe

- For free measurement of channels, shafts, containers and narrow spaces
- Suitable for use in EX Zone 0
- Available in the lengths 1.36 m and 1.92 m



Drop-in-Charger DIC 888/999

» Smart charge control for optimum charge level and long battery life



Transport and Storage Case

» Suitable for GfG single and multi-gas test bottles
» Space for TS400 or TX400 and accessories

« Safety in confined spaces or shafts made easy. »



G888/G999 Visual

» Safeguarding teams and individual workplaces
» Monitor measured values and alarms using PC or Tablet
» Motion status and man-down alarm
» Possibility of alarm simulation
» Operating system: Windows



Microtector III G888

» For toxic and flammable gases, as well as O_2
» Optional radio module. Range dependent on interference (max. free field 700 m)
» Man-down alarm and possibility to monitor individual workstations
» Possibility of alarm simulation



TECHNICAL DATA: MICROTECTOR III G999

Measuring Principle:	Electrochemical (EC) for toxic gases and oxygen 	Catalytic Combustion (CC) for flammable gases and vapors (up to 100% LEL) 	Infrared (IR) for flammable gases and vapors and carbon dioxide 	Photoionization (PID) for volatile organic compounds (VOC) 
Sample Gas Supply:	Diffusion mode with pump switched off or remote sample-draw during pump operation (sensor cover closed)			
Display:	Illuminated LCD full graphic display, automatic size adjustment for optimum reading, display of battery capacity, gas concentration as current value and peak value			
Alarm:	Depending on gas type 2 or 3 immediate exceeding gas alarm and 2 calculated exposure alarms, battery alarm with visual and audible signaling and display, color of display depending on alarm status (amber/red) Horn: 103 dB(A) (can be reduced to 90 dB(A))			
Zero Point and Sensitivity Adjustment:	Manual or automatic adjustment of the program if necessary Test gas supply via "SMART CAP" with 0.5...0.6slpm			
Radio:	Optional 868 MHz for EU; range approx. 700 m (free field) Optional 915 MHz for USA; range approx. 300 m (free field)			
Power Supply:	NiMH rechargeable battery module; 5.2V 2100 mAh; rechargeable			
Operating Time*	Without Additional Function: ca. 26h (EC+CC_{PS}+IR) ca. 42h (EC+CC_{PS}) ca. 52h (EC+PID) ca. 130h (EC) ca. 18h (EC+CC+IR) ca. 25h (EC+CC) ca. 30h (EC+PID+IR) ca. 47h (EC+IR)	With Radio: ca. 20h (EC+CC_{PS}+IR) ca. 28h (EC+CC_{PS}) ca. 33h (EC+PID) ca. 52h (EC) ca. 15h (EC+CC+IR) ca. 19h (EC+CC) ca. 22h (EC+PID+IR) ca. 30h (EC+IR)	With Pump: ca. 11h (EC+CC+IR+Pmp) ca. 13h (EC+CC+Pmp) ca. 14h (EC+PID+IR+Pmp) ca. 17h (EC+IR+Pmp)	With Radio and Pump: ca. 10h (EC+CC+IR+Pmp) ca. 11h (EC+CC+Pmp) ca. 12h (EC+PID+IR+Pmp) ca. 14h (EC+IR+Pmp) PS: Power Save Mode

*The operating time applies to new battery modules at operating temperatures of +20°C and without consideration of other energy consumers (lamps, alarms, etc.). Power Safe mode (PS) of the heat tinting sensors can optionally be switched off.

Climate Conditions:

For operation:	-20...+50°C	5...95 % r.F.	70...130 kPa
For storage:	-25...+55°C	5...95 % r.F.	70...130 kPa (recommended 0...+30°C)

Case:

Material:	Rubberized polycarbonate
Dimensions:	68 x 136 x 39 mm (W x H x D)
Weight:	Up to 395 g (depending on sensor configuration)
Protection Class:	IP67

Approvals / Tests:

Markings & Ignition protection types:	G999C	I M2 Ex ia db I Mb	II 2G Ex ia db IIC T4 Gb	-20°C ≤ Ta ≤ +50°C
	G999E	I M1 Ex ia I Ma	II 1G Ex ia IIC T4 Ga	-20°C ≤ Ta ≤ +50°C
	G999P	I M1 Ex ia I Ma	II 1G Ex ia IIC T4 Ga	-20°C ≤ Ta ≤ +50°C

EU Type Examination Certificate:	BVS 15 ATEX E 064 X
IECEx Certificate of Conformity:	IECEx BVS 15.0056 X
Electromagnetic compability:	DIN EN 50270:2015 — Interference emission: Type class I; Interference immunity: Type class II
Standards:	IEC 60079-0:2011 (Ed.6) IEC 60079-7:2015 (Ed.5) IEC 60079-1:2014 (Ed.7) IEC 60079-11:2011 (Ed.6) CSA C22.2 No. 152-M1984 (pending) UL 913 ANSI / ISA-12.13.01-2000
EMI / RFI Resistance:	EMC Directive 89 / 336 / EEC

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smart GasDetection Technologies

All information in this brochure is subject to technical changes due to further development.
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