



Polytector III


G999 for Ex zone 0

7 Sensor Personal Gas Monitor
with smart pump, remote multiple instrument
monitoring, two way communication and Man Down
options




Measurable gases

 Toxic gases

 Carbon dioxide

 Oxygen

 Carbon monoxide

 Flammable gases

Record-breaking

The G999 is the world's smallest and lightest 4-7 personal gas monitor with an integrated electrical suction pump and optional Radio communication. The G888 can detect toxic, flammable gases & vapours along with Oxygen depletion and enrichment. Numerous sensor combinations and comprehensive accessories ensure the G999 can be used in a wide range of industry applications.

Easy operation

The main functions - peak display, EX LED lamp, alarm reset, display zoom and rotating display can all be controlled with a simple keystroke and the device has a convenient 3 button user menu.

Man-down alarm

The G999 has been equipped with a man-down alarm. The time interval for when the alarm should be triggered can be individually set and password protected so that in critical cases no time is lost while initiating rescue measures.

Wireless live measurement data

The G999 can send real-time data by radio to a central GfG-Link or an operation centre.

PC and tablet

The visualisation software, GfG-Connect, can be used on Windows®-based PCs or tablets. Up to 20 devices can be displayed as a list or with a detailed view.

A crocodile clip ensures safe retention

Status display with an integrated Ex-protected lamp

Time

Key assignment

Graphic display with zoom function can be rotated through 180°

Easy operation with 3 keys

LED alarm bar

Slide switch to activate the pump

5 sensor sockets

3/4 smart **EC** sensors
1 pluggable **CC** sensor
1 smart **IR** sensor
1 photo ionisation (**PID**)
1 hybrid (**CC/CS**)

Data logger for 30,000 measured values

Radio reception with signal strength

Battery status

Display of the measured value

Optical alarm system with colour change on the display

IrDA interface and optional radio

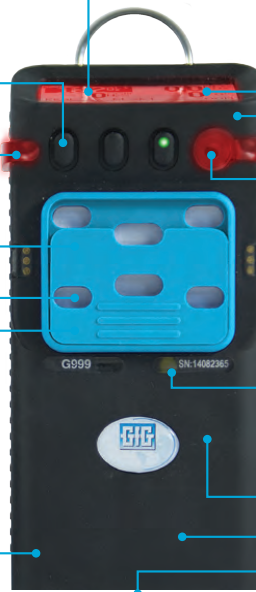
Alarm horn with 103dB(A) and vibration alarm

Integrated explosion protected lamp

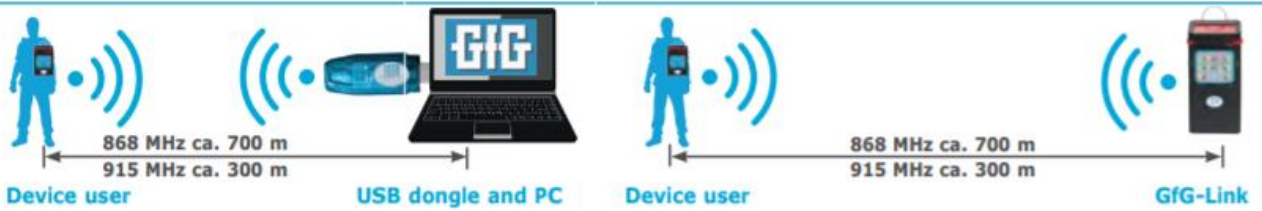
Robust, slip-resistant and water-proof housing (IP67)

Integrated pump

Intake manifold



Housing features



GfG-Link

The GfG-Link can connect from 1-4 or 5-10 devices. Both the user name of the device and the current measurement data is displayed on the GfG Link. The lifesaving man down alarm has a special status and is amplified by an unmistakable acoustic signal sequence and a red flashing alarm display. The GfG-Link display represents all connected devices and their current status. The "open field" range is approximately 700m (1400m radius)

Pager function

The GfG-Link can send short messages to the G999 and you can choose between free text on a PC or preconfigured standard messages with the GfG-Link. The short messages can be confirmed from the G888 with short standard replies such as "OK".

Alarm simulation

In order to prepare your personnel for an emergency, the G999 is equipped with a training mode. It is possible to simulate instrument alarms via PC or the GfG-Link.



Range monitoring

Green: all values ok
Yellow: Pre-alarm
Red: Main alarm / Man down alarm



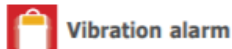
Alarms



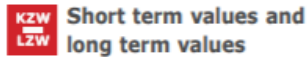
Man down alarm



Three-coloured traffic light alarm



Vibration alarm



Short term values and long term values



Alarm buzzer 103 dB (A)

Sensor Options

Several versions are available:

One version is:

1x combustible catalytic (CC), 1x infra-red (IR), up to 3x electrochemical (EC).

The design of the G999 allows different sensor combinations ensuring most industry requirements are met.

Sensors

Using the best quality sensors ensures reliability, better accuracy, quick response and reduced cross sensitivity. Using "smart" sensors makes servicing easier.

The infrared principle (NDIR)

With only one IR measuring chamber, carbon dioxide and hydrocarbons can be

simultaneously yet precisely detected as the sensor uses up to four gas-specific wavelengths. Absorption paths and wavelengths are perfectly adapted to gases and measuring ranges. Damage to the sensor by silicone compounds or hydrogen sulphide can be excluded with IR technology. The IR sensor has the advantage of heat tone sensors so that it is not damaged even at the highest gas concentrations.

PID Photoionization Detector

Highly volatile organic compounds (VOC) such as solvents, petrol vapours, diesel fumes, or kerosene vapours, are harmful to health even in low ppm or ppb concentrations. The occupational limit value for most of the VOC is far

below the Lower Explosion Limit (LEL) and cannot be detected with heat tone sensors. The PID sensor calibrated on isobutylene can detect these compounds at concentrations of less than 1 ppm.

Hybrid sensor / Leakage localisation

In lots of applications a simple detection of combustible gases in the range from 0 to 100% LEL is not sufficient. The G999 can be equipped with a high quality GfG hybrid sensor which can measure methane from 0 to 10,000ppm, from 0 to 100% LEL and from 0 to 100Vol.%. It is possible to convert your gas warning device to a powerful leakage detector using the smart, electrical suction pump



Main alarm: Highest alert level

Pre-alarm: Caution!

All measured values in the normal range

Functions (choice)



Real-time data transmission



Pager function



Integrated Lamp

Smart suction pump

The integrated high-performance pump is activated by closing the diffusion openings. The measured results are not falsified by the influences of gas in the direct environment of the device. The suction capacity is designed for a distance of up to 100m or more. The current flow rate and the distance of the suction hose will be displayed on the screen providing the safest solution when performing free release measurements in confined spaces, tanks, cellar wells or ducts, also in the Ex zone 0. The pump end sensors are protected against dust and humidity with a filtering system.

Large display & zoom function

The clear graphic display can be rotated through 180° and can be conveniently read in any position it is worn, e.g. if you have attached it to your work clothes you have both hands free and can keep an eye on all the displayed values. The zoom function of the display facilitates the reading of the device while other PPE is worn e.g. under a breathing mask or without the need for reading glasses

Alarm thresholds

The alarm thresholds for oxygen and combustible gases as well as two current limits for toxic gases and explosion alarms provide comprehensive protection for the user.

- Long Term Value (LTV) or (TWA)
- Short Term Value (STV) or (STEL)

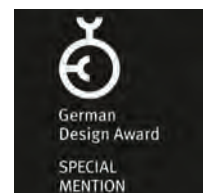
will be automatically monitored as mean value and the average value will be saved. All limits can be individually set and pass code protected.

Data logger

The integrated data logger simultaneously records up to 12 measured values and saves internally up to 30,000 measured values (500 hours at 1 minute logging intervals). The saved data can be conveniently read via the smart cap or drop-in charger.

Safety meets design

The G999 combines technical innovation with captivating design. An independent committee of experts have commended the outstanding performance in design and functionality, with special consideration given to the size and weight of the device.



The sensor cover of the Polytektor III G999 can be individually designed with colours, if desired. In this way, you can distinguish differently equipped devices at a glance.

Smart device management



Smart Cap

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



DIC drop in Charger

- Charger for gentle charging
- Data interface and PC connection
- Avoid charging errors by capacity monitoring of the battery



Test station TS400

- On-site solution for monitoring instrument tests
- No PC required
- Documentation of tests
- Minimises bump-test costs
- Portable and quick and easy to use
- Complies with DGUV information 213-056 (T021) and 213-057 (T023)



Docking station DS400

- Fully automatic calibration or bump test
- No PC required
- Quick and easy to use
- Charging option
- Complies with DGUV information 213-056 (T021) and 213-057 (T023)



Docking station DS404

- Fully automatic functional control and display
- No PC required for the operation
- Quick and easy to use
- Charging option
- 4 cylinder connections
- Complies with the provisions of the DGUV information 213-056 (T021) and 213-057 (T023) for the functional control

Accessories



GfG-PolyLink 4 GfG-PolyLink 10

- Monitoring of 4 or 10 x G888
- Intuitive operation
- ATEX certified
- Range of 1400m



Holster with belt

- Optimum protection



USB Dongle for Radio communications

- Open Field 700m
- Other antennas on request



Holster with belt

- Optimum protection against soiling



Float sensor

- For the clearance measurement of water bearing channels and wells



Stainless steel telescopic suction tube

- For the clearance measurement of channels, wells, containers and confined spaces
- Only use in EX zone 0
- Available in the lengths 1.36m and 1.92m



Antistatic special hose with filter

- For the protection against humidity and particles
- Available in the lengths 3m and 6m

Technical data

Polytector III G999

Electrochemical (EC) measuring

principle:

Up to 4 different sensors:

Toxic gases and oxygen
(ppm / Vol.-%)

Catalytic sensor (CC):

Flammable gases and vapours
(up to 100% LEL)

Infrared (IR):

Carbon dioxide (Vol.-%)
Hydrocarbons
(100 % LEL and Vol.-%)

Expected service life of the sensor

Up to 5 years; depending on the sensor type

Device versions:

G999C

3x electrochemical sensors (EC)
1x catalytic sensor (CC)
1x infrared double sensor (IR1, IR2/IR3)

G999P

3x electrochemical sensors (EC)
1x photo ionisation sensor PID
1x infrared double sensor (IR1, IR2/IR3)

G999E

4x electrochemical sensors (EC)
1x infrared double sensor (IR1, IR2/IR3)

Measuring gas supply:

Diffusion / integrated electrical suction pump

Display:

Illuminated LCD graphics display with colour change for the alarm display can be turned by 180°, automatic zoom for best readability

Alarms:

Three or two current value and two exposure level alarms, battery alarm depending on the type of gas

Optical alarm:

Colour of the display depends on the alarm status of the device (green/orange/red), 360° all-round red LED

Acoustical alarm:

103 dB (A) loud and can be reduced to 90 dB (A)

Temperature:

Operation: -20°C .. +50°C
Storage: -25°C .. +55°C
(Recommended 0 .. +30°C)

Humidity:

Operation and storage: 5 .. 95 % rh

Pressure:

Operation and storage: 70 .. 130 kPa

Zero point / Sensitivity adjustment:

User-friendly, automatic adjustment via AutoCal function, manual adjustment in the sensor menu

Energy supply:

NiMH battery

Charging:

Charging and trickle charging via the charger or docking station

Device runtime depending on the equipment:

15h	EC+CC+IR+radio
18h	EC+CC+IR
22h	EC+PID+IR+radio
42h	EC+CC(ps)
52h	EC+radio
130h	EC

Charging times:

About 6h if the battery is flat
About 3h after a shift
(with 3xEC+CC+IR sensors)

Dimensions:

68 x 135 x 30 mm (WxHxD)
Display diagonal 55 mm

Weight:

up to 395g depending on the sensor equipment

Housing material:

Rubberised polycarbonate

Protection class:

IP67

Automatic maintenance reminder:

Display when switching on

Data logger:

About 500h data recording
(interval of 1 minute)
30,000 measured values, 12 values simultaneously
Intervals can be set (1 s - 60 min)
Recording of mean, peak or instantaneous values can be selected

Type examination certificate:

BVS 15 ATEX E 064X
IECEx BVS 15.0056X

Labelling and ignition protection class:

ATEX for G999E, G999P

II 1G Ex ia IIC T4 Ga
I M1 Ex ia I Ma

IECEx

Ex ia d IIC T4 Ga
M1 Ex ia I Ma

ATEX for G999C

II 2G Ex ia db IIC T4 Gb
I M2 Ex ia db I Mb

IECEx

Ex ia db IIC T4 Gb
Ex ia db I Mb

Wireless:

868MHz Europe
915MHz USA



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