Polytector II G750

Multi-Gas Detector

- Robust, portable 6-gas detector
- Intelligent „Smart-Sensor-System“
- Extremely flexible with a wide range of sensor technologies

Worldwide Supplier Of Gas Detection Solutions

Polytector II G750

The Polytector II G750 detects up to 6 different explosive and toxic gases and oxygen simultaneously. The multi-gas detector is based on modules and is extremely flexible. Exceeding or falling below preset thresholds gives a quick, clear warning before hazardous gas concentrations build up.

Robust and compact

The Polytector II G750 is a very robust, compact and portable gas detector. The user-friendly device is carried at the body with an adjustable carrying system with shoulder strap and hip belt and allows comfortable work with both hands.

Flexibility with Smart Sensor System

The intelligent „Smart Sensor System“ allows an individual configuration of sensors for simultaneous detection of up to 6 gases. The characteristic data of the sensors is stored on a chip. The sensors are immediately ready for operation and can be replaced or supplemented quickly and easily. The G750 provides slots for 3 electrochemical sensors, one infrared sensor, and one catalytic combustion sensor. A wide range of sensors provide a considerable number of options to adapt to your requirements.

Example for sensor configuration:

Oxygen 0..25 Vol.-%
Carbon monoxide 0..500 ppm
Hydrogen sulfide 0..100 ppm
Carbon dioxide 0..5 Vol.-%
Methane 0..100 % LEL
Methane 0..100 Vol.-%

Detection mode

After switching on, the detector is ready for operation after self testing. Switching-off is only possible by pressing two buttons simultaneously, preventing accidental switch-off. With a few buttons all functions can be controlled; the easy menu allows failure-free operation.

Display of gas concentration

All gas concentrations are displayed on the large graphic display. The zoom function shows every value in large figures. The display illumination provides clear readings.

Service mode

The service mode allows quick adjustment of alarm thresholds, pump modes, calibration, zeropoint adjustment and many other special functions. A safety code protects the G750 from accidental changing or manipulation of important parameters.

CO_2 – reliable infrared measurement

Direct measurement of the CO_2 concentration guarantees sufficient protection before entering hazardous areas as landfill sites, waste water treatment plants, breweries, sewers, potash mines. The Polytector II G750 uses reliable NDIR technology for quick and precise measurement of CO_2. Unlike electrochemical sensors, IR technology is not subject to cross sensitivity from toxic hydrogen sulphide. Carbon dioxide (CO_2) is characterized by its absorption of light in a small band of infrared wavelength. This measurement is as selective as a fingerprint in criminology. Hydrogen and other gases in the measuring chamber do not affect measurement in this spectrum range. Reference detection eliminates measuring faults, e.g. ageing of the light source or soiling, and increases the measurement accuracy.

Advantages

- Very precise results
- No cross sensitivity for other gases
- Wide detection range
- Exceptionally long lifetime
- Longtime stability without calibration

Catalytic combustion

GfG´s proven catalytic combustion sensors detect all combustible gases up to 100 % LEL simultaneously. Even hydrogen which cannot be measured with infrared technology, can be detected reliably with catalytic combustion sensors.

Advantages

- Detection of all combustible gases, even hydrogen, solvents and alcohols
- Reliable sensors
- Poison resistant
- Long sensor life

Thermal conductivity

High concentrations of combustible gases up to 100 % Vol. are detected by a special sensor combining thermal conductivity and catalytic combustion. By pressing only one button the detection range is changed from monitoring LEL to %-Vol. This function is used only in pump mode; the pump is activated automatically to take samples from e.g. manholes before entering. Alarms for LEL levels are deactivated.

Polytector II G750

Advantages
- No false alarms in detection range 0 .. 100 % Vol.
- Detection of propane, butane and other gases with positive indication within the detection range.

Toxic gases
Even lowest concentrations of various toxic gases can cause poisoning or health hazards in the long term. The Polytector II G750 is capable of monitoring 3 toxic gas hazards simultaneously.

Advantages
- Long life
- Detection of numerous gases
- Unlimited combinations
- Quick response time

Oxygen – Sensors with extra-long lifetime
Even a minimum reduction of the oxygen concentration in the breathing air may mean vital danger. The Polytector II G750 measures oxygen continuously and warns quickly and reliable due to its short response time.

Advantages
- Pressure and temperature compensation
- Quick response time
- Reliable

Alarm signals
For every gas the Polytector II G750 provides 3 adjustable alarm thresholds. The Polytector II G750 monitors the gas concentrations continuously and gives a warning as soon as any of the gases exceeds a pre-set level. 3 different frequencies indicate which alarm is activated. The display shows the alarm level as well as the current concentration of the gas which caused the alarm. Two additional alarms are available for STEL and TWA on toxic sensors.

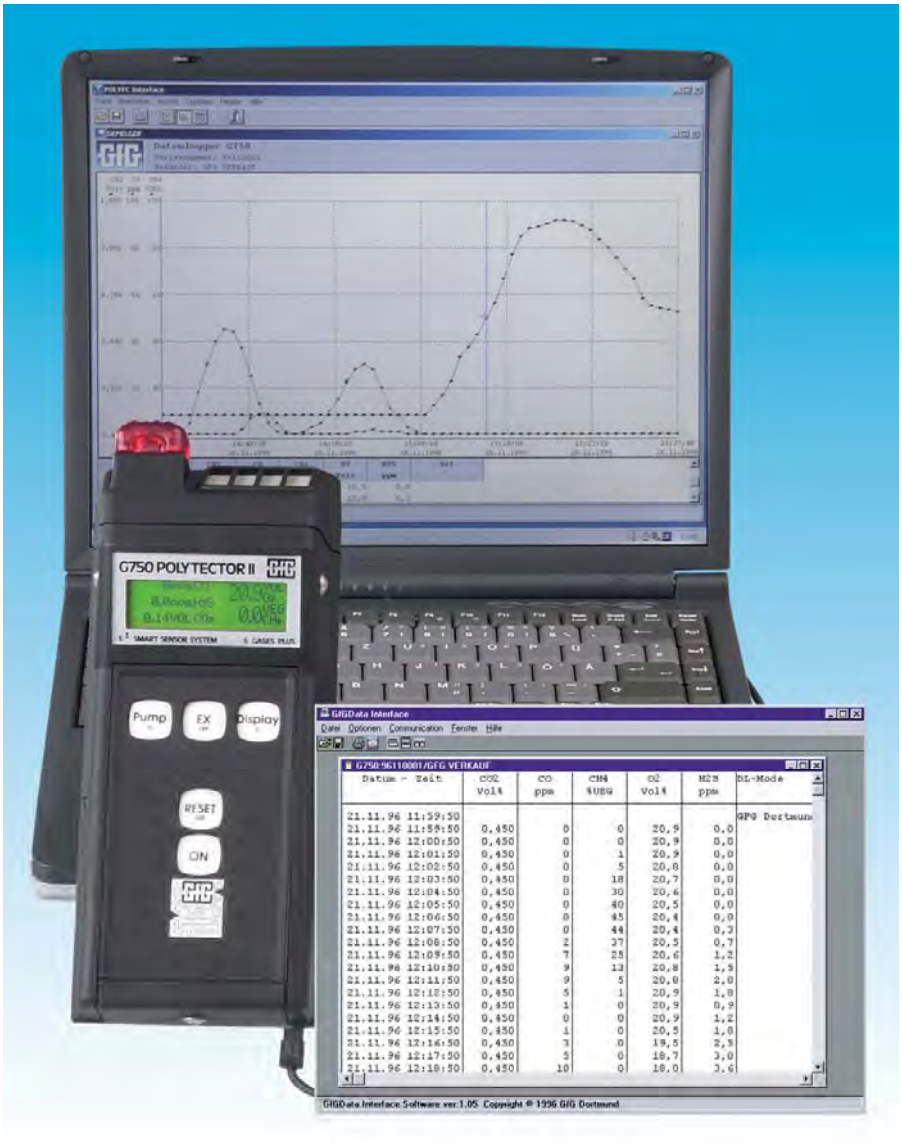
Alarm
The Polytector II G750 warns by penetrating audible signal with a sound level of 90 dB(A). Flashing LEDs give a clear visual warning.

Integrated pump
For permanent monitoring of gas hazards the Polytector II G750 is operated in diffusion mode. Before entering manholes, sewers and containers gas samples can be taken by means of the built-in pump.
Insufficient flow due to e.g. dirt or water activates an audible low-flow alarm. The pump can be switched on or off at any time as requested. There is no pump adaptor necessary.

Battery pack
The high-capacity NiMH battery pack provides an operational time of up to 20 hours in diffusion mode (depending on the number of sensors and pump interval). This means safety with back-up the whole day long. For extended operational time a fully charged battery pack can be fitted quickly.

Documentation
The Polytector II G750 is good for documenting spot checks. The location can be entered as a code. The measurement values are stored including date, time and location. You can select from storing peak concentrations, average or instantaneous values.

Good memory
The data logger stores all data from 1650 measurement points. Depending on the pre-set storage interval, data can be stored over a period of 34 days. The software allows graph or chart documentation, which can also be transferred to other programs.



Polytector II G750 Technical Data

Detection principles :
Electrochemical (EC):
toxic gases and oxygen

Catalytic combustion (CC):
combustible gases and vapours
(up to 100 % LEL)

Thermal conductivity (TC):
for combustible gases and vapours
(up to 100 Vol. %)

Infra-red (IR):
for carbon dioxide

Infra-red (IR):
for hydrocarbons

Sensors:
Further gases e.g.:

Ammonia	NH_3
Butane	C_4H_{10}
Chlorine	Cl_2
Hydrogen Cyanide	HCN
Ethanol	C_2H_6O
Ethylene oxide	C_2H_4O
Heptane	C_7H_{16}
Carbon dioxide	CO_2
Carbon monoxide	CO
Methane	CH_4
Nonane	C_9H_{20}
Pentane	C_5H_{12}
Phosphine	PH_3
Propane	C_3H_8
Oxygen	O_2
Sulfur dioxide	SO_2
Hydrogen sulfide	H_2S
Silane	SiH_4
Nitrogen dioxide	NO_2
Nitrogen monoxide	NO
Hydrogen	H_2

Other gases/ranges on request

Response time t_{90}:
approx. 15 seconds
(depending on sensor)

Expected sensor life:
up to 5 years
(depending on sensor)

Gas supply:
Diffusion, electrical sampling pump

Pump performance:
Standard model:
0.6 l/min resp. 1200 mm water column, for up to 10 m sampling line 0.5 l/min

HD-model:
0.7 l/min resp. 2400 mm water column, for up to 10 m sampling line 0.6 l/min

Display:
Illuminated full graphic LCD,
122 x 32 pixel

Alarms:
3 or 2 (depending on gas):
instantaneous and 2 dosimeter alarms, battery alarm
vibrating alarm optional

Visual:
Bright 360° LED

Audible:
Buzzer 90 dB(A)

Climate conditions for operation:
Temperature:
-20°C .. +40°C (T5) / .. +50°C (T4)

Humidity:
5 .. 95 % r. h., non-condensing

Pressure:
700 .. 1300 hPa

Climate conditions for storage:
-25°C .. +55°C

Humidity:
0 .. 99 % r. h.

Pressure:
700 .. 1300 hPa
(recommended 0 .. +30°C,
0(20) .. 95% r.h., non-condensing)

Zeropoint / Calibration:
Manual or automatically by means of calibration program

Operational time:
Up to 20 hours

Power supply:
Rechargeable NiMH battery pack,
1200 mAh

Charging:
Plug-in charger:
Standard charge

Universal charger:
Standard and trickle charge

Enclosure
Dimensions:
90 x 210 x 60 (40) mm (WxHxD)

Weight:
770 g

Material:
Polyamide

Protection class:
IP54

Inspection date:
Indication when turned on

Data logger (optional):
1650 measuring values per gas, adjustable interval
(1 second to 30 minutes)
Measurement value documentation with GfG interface program

Labelling and Ignition Protection:
Ⓔx II 2G EEx ib d IIC T5/T4
-20°C ≤ Ta ≤ +40°C/+50°C CE 0158

EC-Type Examination Certificate:
BVS 03 ATEX E 174 X
(without measuring function)

BVS 03 ATEX G 014 X
(with measuring function)

Function test:
OX and TOX IBS/PFG-No. 41300598

EMC test:
DIN EN 55011,
EN 55022,
EN 50081-1,
EN 50081-2,
EN 50270 Typ A 1 and 2

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