

GMA101/103/104

Fixed Gas Monitoring System

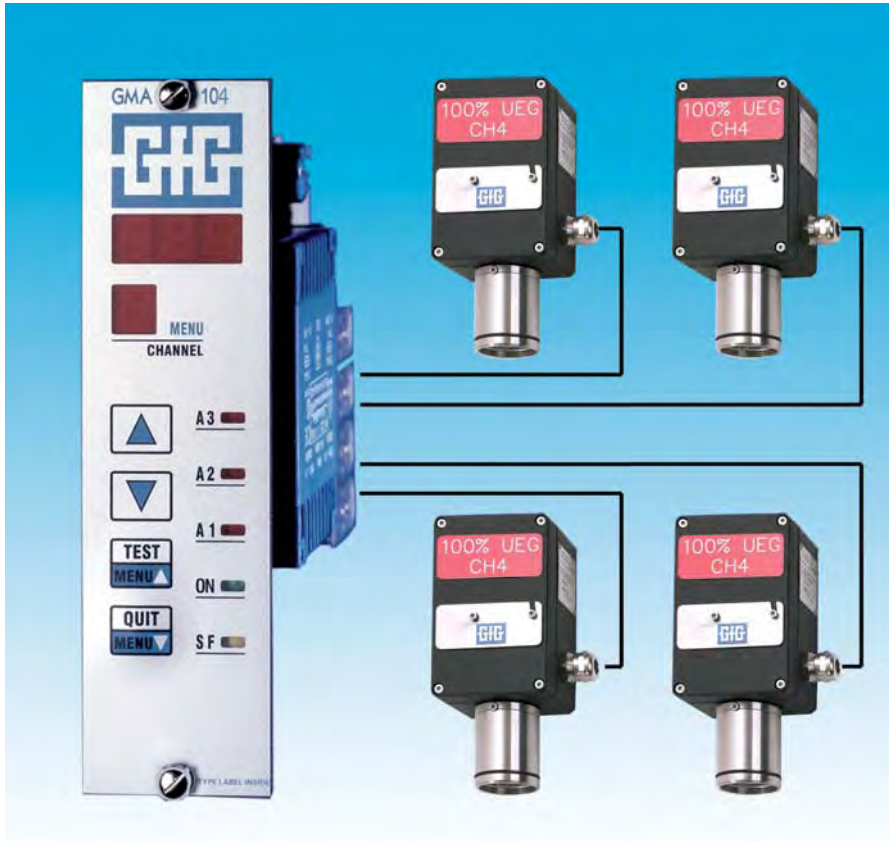


- Flexible, individual and competitive
- Microprocessor controlled, for all monitoring tasks
- Easy handling
- Function tested (GMA 101)

Worldwide Supplier Of Gas Detection Solutions



Gas Warning System for 19" Racks



Gas monitoring system with 4 transmitters

Fixed gas monitoring systems

In many industries toxic, combustible gases and vapours or oxygen deficiency affect people's health and cause resultant costs for production and plant. There are regulations in most countries, which give clear guidance for the handling of dangerous gases. It is always the owner, who is made responsible for all damages. Supervisory authorities inspect and may close plants and production areas, if there is a lack of safety. Even the smallest amounts of gas may cause dangerous situations. Only a continuously monitoring, fixed gas warning system ensures the required „safety around the clock“.

Control modules GMA101, GMA103 and GMA104

In combination with GfG's transmitters the GMA101, GMA103 and GMA104 form fixed gas warning systems. The transmitter monitors the gas concentration continuously and gives a signal to the GMA for evaluation. In return the GMA permanently checks its operational status and provides the supply voltage for the transmitter.

Safe recognition and warning of gas hazards

The GMA101, GMA103 and GMA104 provide 3 alarm levels, which can be used for taking appropriate counter measures in case of gas hazards. The pre-alarm, for example, may give a warning for low gas concentrations, thus indicating leakages before dangerous situations occur. The following first and second main alarm thresholds notify direct danger requiring immediate action. The alarm levels can be variably set within the detection range and adapted to changing requirements. Every threshold can be selected to be latching/non-latching and resettable/non-resettable. The adjustable alarm delay prevents false alarms.

The GMA103 for up to 3 detection points provides one individual alarm per transmitter.

Quick reaction means increased safety

Every GMA controller provides optional voltage-free relays for the 3 alarms and for fault warning. The relays may be used for controlling external alarm devices like beacons and buzzers or, e.g. by closing

solenoid valves or turning a fan on, they can introduce specific counter measures to prevent dangers from gases or vapours. Every relay can be either a normally closed (NC) or normally open (NO) contact and works in either closed or open circuit operation.

This flexibility allows the GMA to meet individual requirements and to offer a safe solution for specific gas detection problems.

Control modules for up to 4 channels

The GMA104 controller allows the user to operate up to 4 transmitters simultaneously. This considerably reduces the cost of a multi-detection point gas detection system.

„Watch Dog“ as per CENELEC standards

The independent surveillance unit (watch dog) of the GMA101, GMA103 and GMA104 constantly checks the functions of the microprocessor, parameter memory, circuitry and transmitter. The GMA complies with EN 50271.

Decisive Advantage in Safety



Battery Back-Up

Everything at a glance

A 3-digit LED display indicates the present gas concentration. Depending on the measurement task, the readout is done in ppm, mg/m³, % LEL or Vol.-%. Additional LEDs inform about operational status, alarm or failure. You can easily see all measurement values at a glance - a perfect control of the whole hazardous area.

Memory

The peak and minimum memory of the GMA 101 allows to exactly determining the gas hazard, once an alarm was triggered. The GMA stores the peak and the minimum measurement value. Just push a button to read the values from the LED display.

Easy handling

A keypad controls the indication of detection range, gas and unit. The relays can be controlled and checked individually. Setting of alarm levels and calibration are done via menu control, i.e. no more trouble with mechanical „fine tuning“ on potentiometers. No additional meters or special tools are required.

Single or collective alarm

The relay module GMA RB and the key-operated switch GMA SW allow to group several control modules. The key-operated switch provides the alarm suppression during service. In addition to the collective alarm you can extend individual controllers by 4 relays for specific alarm systems.

Not affected by mains failure

In case of mains failure the optional battery back-up NAV takes over automatically and without delay. Even in such a critical situation safety remains unaffected. Just slide the NAV into the rack; it does not require additional wiring.

For 19" racks

The controllers GMA101, GMA103 and GMA104 are designed as slide-in modules for 19" racks. Just slide the controllers and the battery back-up in: Wiring or grouping of alarms is done automatically on the back-panel motherboard of the rack.

For more than 500 gases - Safety for all gas hazards

GfG's powerful and robust transmitters provide a safe and reliable solution for specific detection tasks.

GfG's transmitters are available for more than 500 gases. Every transmitter can be connected to the GMA. Easy programming with a laptop adapts the controller to almost all requirements.

Combustible gases

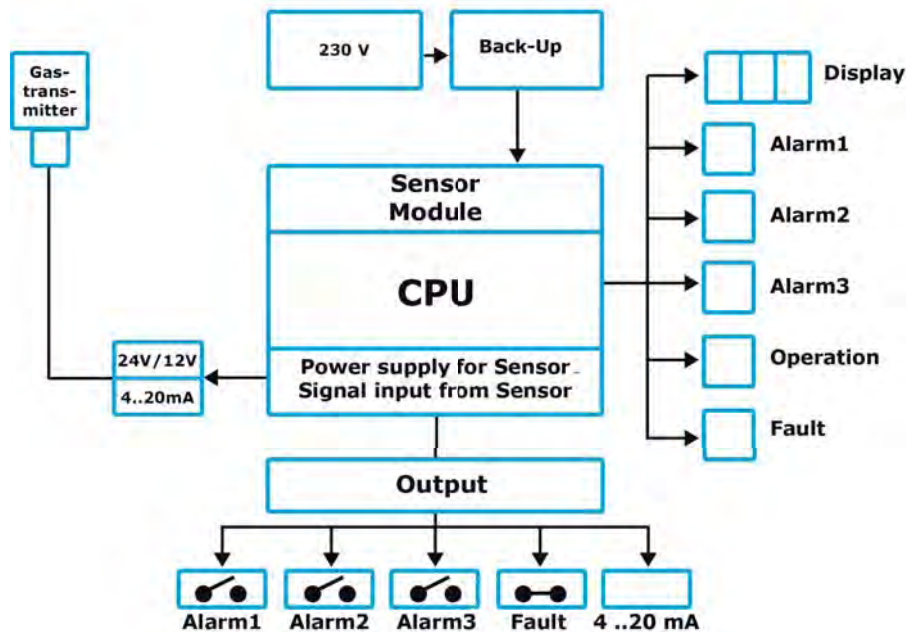
Where combustible gases may build up explosive concentrations, GfG offers a variety of sensors and transmitters.

Toxic gases

Specially selected GfG transmitters provide reliable monitoring of areas, where toxic gases and vapors may be present.

Oxygen

GfG transmitters ensure reliable protection from hazards caused by oxygen deficiency or surplus.



Technical Data

GMA101 / GMA103 / GMA104

Gas:

Depending on transmitter:
Combustible and toxic gases and vapors, oxygen

Detection range:

Depending on requirements:
% LEL, Vol.-%, ppm, mg/m³

Ambient temperature:

0 .. +55°C

Humidity:

0 .. 99 % r.h.

Power supply:

230/115 V, 50/60 Hz
24 V DC
Battery back-up

Power consumption:

Max. 4 W, normal 2 W

Input signal:

0.2 .. 1 mA / 4 .. 20 mA

Alarm functions:

Exceeding / falling short
Latching / non-latching
Resettable / non-resettable
Adjustable hysteresis
Alarm delay 0 .. 2 min.
Alarm allocation for GMA104

Relay outputs:

4 voltage-free relay outputs for alarm and fault, NC contacts, NO contacts
Load: max 250 V, 1000 VA

Display:

3-digit LED display for linearized measurement values, service
1 LED green - Operation,
1 LED yellow - Fault,
3 LEDs red - Alarm,
peak and minimum reading

Output signal:

Linearized transmitter signal
4 .. 20 mA (GMA101)

Function keys:

4 keys for all functions, e.g. alarm thresholds, calibration, function and relay test

Calibration:

Automatic zeroing, calibration by means of measurement value memory

EC-Type Examination:

Certificate GMA101:
CE II 2 G BVS 03 ATEX G 004 X

Function certificate GMA101:

PFG Nr. 41300700

Electro-magnetic compatibility:

CE₀₁₅₈

Dimensions:

35 x 128 x 172 mm (WxHxD)

Ordering information:

Single channel GMA101
controller 24 V

3-channel GMA103
controller 24 V

4-channel GMA104
controller 24 V

230 V extension
GMA R 4 relays

Relay module:
GMA RB 2130201

Key-operated switch module:
GMA SW

Enclosures:

Wall mount casings for 2, 4, 7, 12, 24, 36 or 48 controllers

19" racks for 2, 4, 7 or 12 controllers

Cabinets for large systems

Accessories:

Buzzer
Siren
Horn EEx de II BT6
Flashlight
Beacon
EEx flashlight

Battery back-up:

GMA-NAV 1 21TE

	GMA101	GMA103	GMA104
Number of Transmitter	1	up to 3	up to 4
Alarms	3 thresholds, adjustable within detection range	1 individual threshold for every transmitter	3 thresholds as collective alarm, adjustable within detection range



GfG Headquarters
Klönnestrasse 99
44143 Dortmund • Germany
Phone: +49 / (0)231 - 564 000
info@gfg-mbh.com • www.gasmessung.de

GfG Europe
Great Dunmow
Essex CM6 1XG • United Kingdom
Phone: +44 / (0)1371 - 874 447 • Fax: +44 / (0)1371 - 879 904
info@gfgeurope.com • www.gfgeurope.com