

# GMA 200-MT Controller

High-performance gas measurement and warning system for up to 16 transmitters

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- Up to 16 transmitters per GMA 200-MT module...*in any combination*
- Scalable system with fully programmable menu driven relays
- Flexible, reliable and economic
- Clearly structured, easy-to-use push-button interface
- Backlit graphic LCD changes color to indicate alarm
- Easy-to-install DIN rail mounted assembly
- Connect other measurement devices with 4-20 mA output
- SIL certified



# Decisive safety advantage

### GfG Instrumentation

GfG Instrumentation is a global leader in the design and manufacture of gas detection products used to protect people, facilities and the environment. For over 50 years we have provided gas detection solutions for life critical health and safety applications. Our innovative and reliable gas warning and measurement systems provide the industry benchmark for accuracy, dependability, and cost-effective ownership.

### GMA 200-MT Controller

The GMA 200-MT is our most flexible and advanced gas detection system controller. The design of the GMA 200-MT ensures simple and clearly structured operation in industrial and commercial applications. The system can be configured for control of any combination of GfG gas transmitters for the measurement of an extremely wide range of toxic and combustible gases and vapors.

### ATEX 94/9/EC Conformity

The GMA 200-MT provides full conformity with ATEX Directive 94/9/EC, "Equipment and protective systems intended for use in potentially Explosive Atmospheres - Fourth edition September 2012 - Update December 2013". Conformity with ATEX 94/9/EC is explicitly required if switching or control functions for explosion protection are intended via the gas warning system.

### Flexible modular design

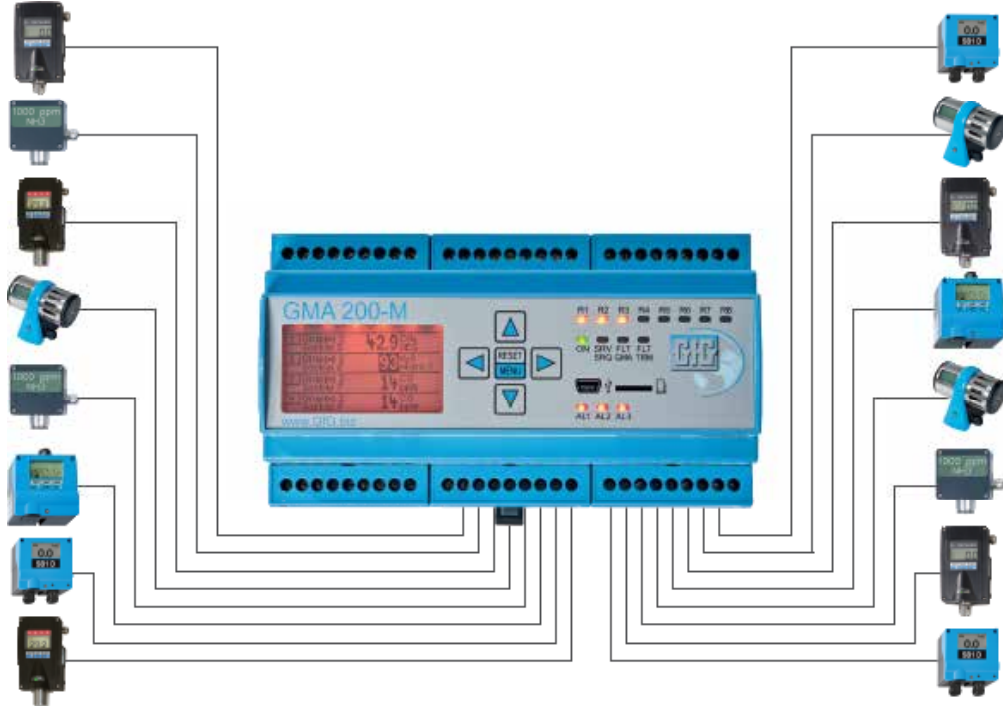
Each GMA 200-MT module can control up to 16 individual gas transmitters (sensors). The compact DIN rail mounted design facilitates cost-effective and space-saving installation in existing or custom control cabinets. GMA 200-MT systems are scalable, and easy to expand by adding additional controller and relay modules. Optional gateway modules allow control via remote or touch-screen computer interface.

### Easy to configure

Easy-to-use, menu driven GMA 200-MT software allows configuration of sensor type, gas type, measuring point designations, units of measurement, calibration curves, and function of the comprehensive and fully programmable relays. Up to three individual or specified alarm thresholds can be programmed for each measuring point. The GMA 200-MT continuously evaluates the analog input signals of the connected detectors.

### Integrated relays

GMA 200-MT systems include comprehensive and fully programmable relays. Each controller is equipped with 8 internal relays. Menu-driven software allows easy assignment of measuring points to relays, single or multiple alarms per point, alarm thresholds, configuration of collective or group alarms, zoning, fault messages and voting functions.



Up to 16 transmitters for combustible, O<sub>2</sub> and toxic gas measurement can be connected to the GMA 200-MT

# Universal: Use to connect and control all available GfG gas transmitters

## Relay modules

Each GMA 200-RT relay module provides an additional 16 freely configurable relays. A total of four additional relay modules (for 64 additional relays) can be managed by the same GMA 200-MT system. Digital connection with the GMA 200-MT controller allows remote positioning of the relay module wherever it makes the most sense, substantially reducing cabling and installation costs. Relay modules are available with or without an integral display for readings and system information, making it easy to add a remote terminal wherever needed.

## Optional Fieldbus-Gateways

Optional gateway modules allow integration of the GMA 200-MT system into existing company networks based on TCP/IP, Process Field Bus or Process Field Network protocols. Monitoring and system performance data are easily exported for viewing or analysis. A wifi interface can be added to the gateway to allow wireless connection with a touch screen Windows® computer or smart phone to display or access system information.

## GMA 200 power options

GMA 200-MT power options include traditional voltage inputs (2 x 24 V DC, 20-30 V), as well as operation via a redundant, uninterruptible power supply (UPS), ensuring continued operation of the gas warning system even during a power outage.

## LED indicator lights

The status of the GMA 200-MT system (including operation, fault, service, alarm and relay status) is shown via LEDs. Individual LED indicators identify the type and severity of the alarm condition, (FLT, AL1, AL2, AL3), and any relays activated by the condition, (R1 through R8).

## Graphical display

Currently measured values are displayed on a backlit, graphical LCD. In the event of an alarm the display changes color from green to red, and highlights the affected channels.

## Operation via keypad

Operation of the GMA 200-MT is through easy-to-use menus, and a simple 5 button interface for alarm acknowledgement, and viewing information on the status of the gas warning system, detectors and relays. The intuitive push-button controls make it easy to navigate through additional screens of information. The integrated display enables the reading of alarm levels through the controller LCD for easy hazard assessment.

## Datalogging standard

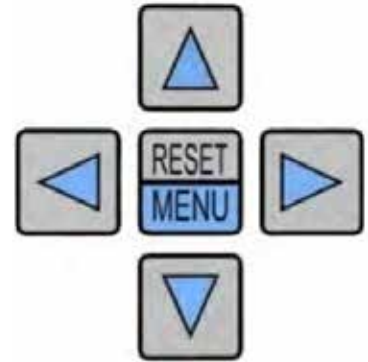
Measured values, mean values, alarm events and faults are permanently stored on a microSD memory card.

## Configuration

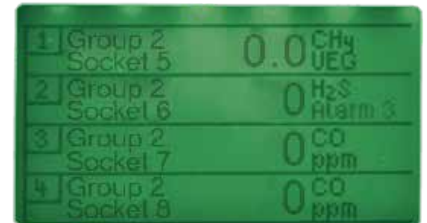
A built-in USB port in the GMA 200-MT is used for connection to the configuration software. GMA 200-MT systems equipped with a Fieldbus gateway can be remotely connected with a GfG factory service center for configuration, diagnostic or service evaluation.

## Easy and convenient service

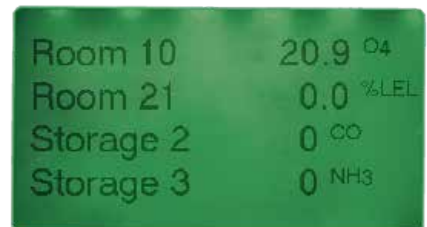
GfG offers full after-the-sale commissioning and field service support.



Full control with only five buttons: GMA 200-MT keypad



GMA 200-RTD with display for remote measured value display



Display for quick and safe evaluation



GMA 200-MT configuration via software

# Technical data

## GMA 200-MT

### Gases and sensors:

GfG transmitters for combustible, oxygen and toxic gases and vapors

### GMA 200-MT DIN rail (dimensions):

Approx. 6.5 x 3.5 x 2.5 in / 160 x 90 x 65 mm (W x H x D)

### Display and control elements:

Backlit LCD graphical display  
1.3 x 2.1 in (33 x 53 mm with 132 x 65 pixels)

5 buttons (left, right, up, down, OK)

LED indicators: 8 status and alarm (4x red, 1x green, 3x yellow); 8 relay (8x red)

### Connection options:

Gas warning system GMA200-MT6:  
Up to 6 analog or digital detectors

Gas warning system GMA200-MT16:  
Up to 16 analog or digital detectors

### Inputs:

16 analog inputs (4-20 mA or 0.2-1 mA); max. 50 Ohm input resistance

2 digital inputs: Acknowledgement of alarms can be freely configured

2x RS485 BUS (for connection of external relay modules or digital transmitters in BUS wiring)

1x RS485 BUS (for digital transfer of measured and output data to a higher-level control centre or with master functionality of a GMA 200-MT for the connection of GMA 200-RT relay modules)

### Outputs:

6 relays (normally open contact), freely configurable for single alarms per measuring point and alarm threshold, configuration of collective or group alarms, fault messages and voting functions

1 relay for maintenance and 1 for fault messages (closed-circuit principle)

2 analog outputs: 4-20mA / 600 Ohm max. resistance, freely configurable

### External relay module:

16 relays per module; up to 4 relay modules per GMA 200-MT system (for up to 64 additional relays); freely configurable for single alarms per measuring point and alarm threshold, configuration of collective or group alarms, fault messages and voting functions

### Alarms:

3 independent threshold alarms per measuring point (AL1, AL2, AL3)

Gas alarms can be freely set in the measuring range

### Alarm activation logic:

Ascending, descending, exceeding, not achieved acknowledgeable (additional horn only), non-acknowledgeable non-self-locking / self-locking

### Ambient temperature:

Operation: -4 °F to +122 °F / -20 °C to +50 °C  
Storage: -22 °F to +140 °F / -30 °C to +60 °C

### Data storage:

Measured values stored on microSD card

Intervals can be set (5 sec.-60 min.)

Records instantaneous and mean values, minimum/maximum concentration

Logger settings individually programmable per measuring channel

### Power supply:

2 x 24 V DC, 20-30 V  
(1 x redundant voltage supply)

### Power consumption:

Gas warning system GMA 200-MT6:  
30 W (incl. connected detectors)

Gas warning system GMA 200-MT16:  
5 W (not incl. connected detectors)

Relay module GMA 200-RT: 6 W

### Protection classes/Approvals: Housing:

IP-20

### ATEX approval

Applied for in accordance with ATEX 94/9/EC

### Electromagnetic compatibility:

EN 50270:2015  
(interference emission: type class I, interference immunity: type class II)

### Electrical safety:

EN 61010-1:2010  
(Pollution degree 2, overvoltage category III for relay contacts)

### Functional safety:

EN 50402:2017; IEC 61508-1 to -7:2010 (SIL2/SC3)  
EN 50271:2018; EN 62061:2016; ISO 13849-1:2015

### Metrological suitability:

EN 60079-29-1:2016 (EX); EN 50104:2010 (OX); EN 45544-1/-2/-3:2015 (TOX)



Specifications subject to change without notification



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