GMA200-MW4 Controller

Gas detection PLC

- Connect 4 analog transmitters
- Detect combustible, oxygen and toxic gases
- 4 programmable relays
- PLC functionality
- Built-in audible and visual alarms
- IP65 wall mounting
- Connect any 4-20mA measuring device

smart
GasDetection
Technologies

Decisive safety advantage

Conception
The GMA200 control systems are designed for commercial and industrial applications for the detection of oxygen, combustible and toxic gases.

Flexibility
1-4 analog and/or 16 digital transmitters can be connected to the GMA200-MW4 and monitored simultaneously. The detection range, transmitter location, transmitter type along with 3 alarm set points per transmitter can be configured with PLC functions.

Integrated Relays
Dedicated "Fault" and "Service" relays. 4 programmable relays ensure system safety requirements can be achieved.

Relay modules
The GMA200-RT or GMA200-RTD have a further 16 programmable relays. A maximum of 4 relay modules can be connected via the digital interface RS485 and allows a decentralized installation of the relay modules, offering greater flexibility and reducing installation costs.

System functions:
LED status of the controller, healthy, fault, service due and relays activated.

Graphic display
Real-time values are shown continuously. Red backlight on alarm indication.

Alarm 1,
Alarm 2 and
Alarm 3

The integrated storage allows the display of the alarm stages along with the minimum and maximum concentrations on the LCD-display for the first alarm.

Data logger
Storage of system data can be made via a Micro SD memory card. Measurement values, averages, alarm events and errors can be saved and evaluated if required.

Keypad
5 button operation of the controller. Main functions are the acknowledgement of alarms and the operation menu. The status of the controller, transmitters and relays can also be accessed.

Configuration
The GMA200 configuration software is connected via USB interface to a PC.

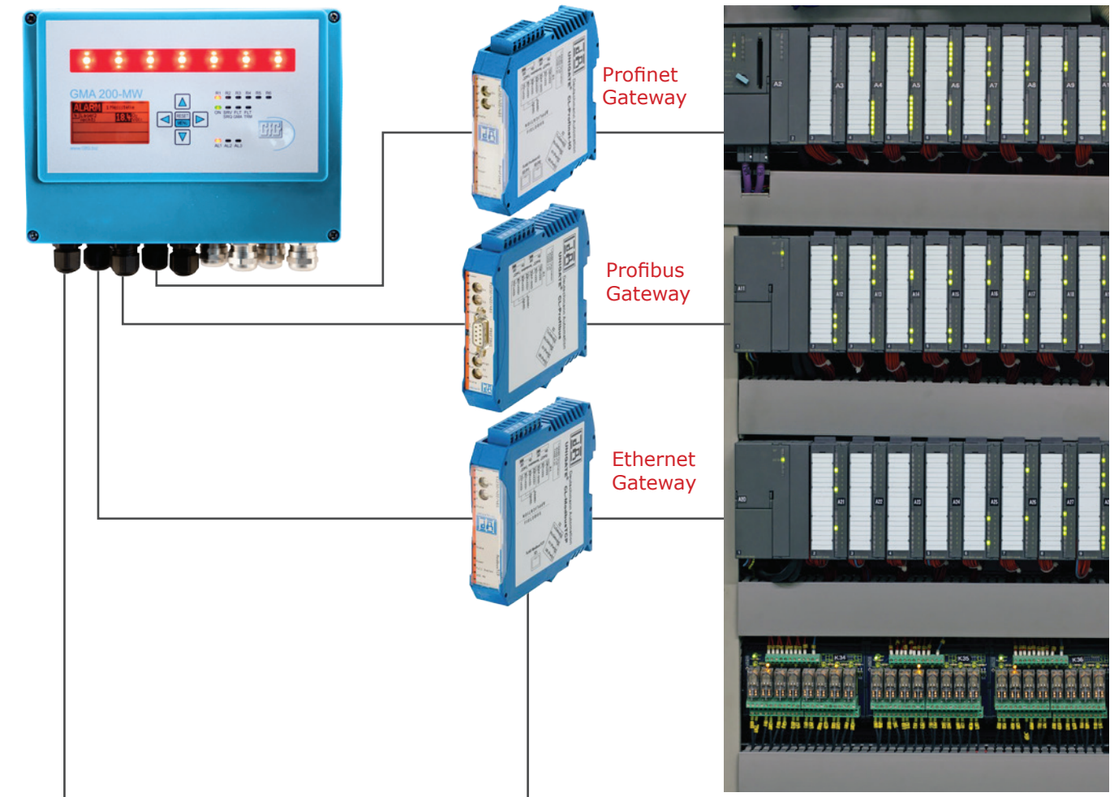
Digital Interfaces (RS485)
The GMA200-MW4 has 3 x RS485 in- terfaces.

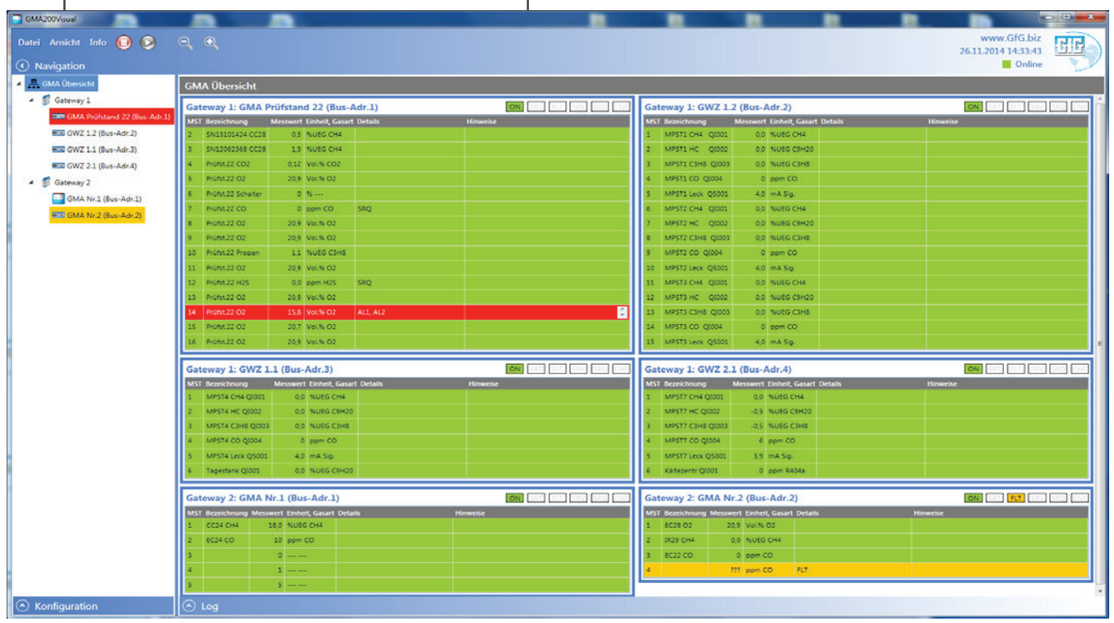
Digital Interface TRM BUS
The TRM BUS allows the connection of 1-16 GfG digital transmitters. Connected in loops or lines. In addition each TRM BUS can also support the GMA200-RT or GMA200-RTD.

Digital Interface GMA BUS
Besides the option to use this BUS for the connection of the GMA200-RT or GMA200-RTD, this interface offers the possibility to integrate the GMA200-MW4 into a network. A Modbus protocol transmitted via the GMA BUS allows the system status transmission to a PC. Additional gateways (Profibus, ProFinet) can be supplied by GfG to enable the digital status monitoring and data processing via further external modules (e.g. PLC)

GMA200-Visual
Complex gas detection systems with multiple controllers and numerous transmitters need a central overview point call to ensure complete safety and control. GfG's PC based visualization Software, "GMA200-Visual" evaluates the status of the complete gas detection system, displaying real-time values clearly, in case any alarm is activated. Concentration values and the gas type are immediately visible, ensuring appropriate measures can be taken promptly.

Easy integration in the system network





Technical data
GMA200-MW4

Measuring gases:
combustible and toxic gases and vapours, for all GfG transmitters

Display and control elements:
2,2"-LCD graphic display;
5 button keyboard (left, right, up, down, OK);
13 LEDs for Alarms, operation and Relay status

Environmental conditions:
for storage:
-25..+60°C | 0..99%r.F.
(recommended 0...+30°C)

for operation:
-20..+55°C | 0..99%r.F.

Power supply:
Operating voltage:
100-240V AC 50-60Hz or/and
24V DC (20-30V DC valid)

Power consumption:
max.7W (without Transmitter)
max.25W (with Transmitter)

Fuse:
F1=T 500mA (for GMA200-MW4)
F2=M 1A (for Transmitter)

Transmitter connection:
Power supply:
24V DC ±3% with built in power supply unit, otherwise 20-30VDC (see above)
4x 150mA respectively I_{total}=0,6A at any other subdivision

Analog signals IIN1-4:
4-20mA respectively 0,2-1mA
(Burden ca.50..100Ω, Imax=70mA permanent / 500mA momentary)
Digital signalesTRM-Bus1+2:
RS485; Half-Duplex; max. 38400 Baud

RS485 outputs:
TRM-Bus1+2:
RS485; Half-Duplex; max. 38400 Baud
(only for GMA200-MW4 relay modules)

GMA-Bus:
RS485; Half-Duplex; galvanically isolated; max. 230400 Baud
(for GMA200-MW4 relays modules, control center, PC, SPS or Gateway)

Relay Outputs:
Contactors:
Six Relays with one open contact each

Contact current capacity:
3A/250V AC or 3A/30V DC

Isolation spacings:
Basic isolation between the Relays:
1&2, 3&4, 5&6
Double isolation between the Relays:
2&3, 4&5

Analog outputs:
2 x analog output
4-20mA (burden max.560Ω)
free allocatable

Alarm acknowledgement inputs:
2 x Reset
free allocatable

Data logger (optional):
2GB microSD memory card with FAT (FAT16) formatting

USB terminal:
Mini USB jack for configuration of the device via PC

Connection cable:
Cable entries:
max. 9 units M16x1,5 (for cable cross section 4,5-10mm)

Terminal blocks:
0,08..2,5mm² cross section

cable:
3-4cored ≥0,75mm² LiYY, NYM
(for GMA200-MW4 power supply)
2-4cored 0,5-1,5mm² LiYY, LiYCY
(for Transmitter)
2cored 1x2x0,22mm2 BUS-LD
(for GMA-Bus at a length >10m)

Housing:
Protection:
IP65

Material:
Plastics

Weight:
ca. 890g

Dimensions:
209 x 180 x 64mm (W x H x D)

Approvals/Testings:
Electromagnetic compability:
DIN EN 50270:2006
emitted interference: Type I
interference immunity: Type II

Electrical Safety:
DIN EN 61010:2010
pollution degree 2
Overvoltage category II
for power supply
Overvoltage category III
for relay contacts

Metrological suitability testing:
Requested according to
DIN-EN 60079-29-1

Functional Safety:
SIL 2/3 requested

Controller GMA200-MW4 product brochure, English
The information in this brochure is subject to technical changes due to further development. GMA200-MW4/10-2015/1-200. Printed in Germany

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