

PolyGard® Gas Controller Module GC-06

DESCRIPTION

Measuring, warning and controlling module for toxic, combustible and refrigerant gases and vapours.

The gas controller GC-06 can monitor and process up to 98 digital or four analog (4 to 20 mA) sensors. Five free adjustable alarm thresholds are provided per sensor. For the alarm messages, four alarm relays with potential-free changeover contact and two analog outputs (4 to 20 mA) are available. Up to 96 analog gas sensors, 32 alarm relays and 16 analog outputs can be connected by using the extension modules EP-06.

The free adjustable parameters and set-points enable a very flexible use in the gas measuring technique. Simple and comfortable commissioning is granted by default parameters.

Configuration, parameterization and operation are easy to do without special programming knowledge due to the logical, simple menu structure directly at the controller. The DGC 06-EasyConf Software enables the loading, changing and storing of the application parameters via a serial interface.

The gas controller GC-06 is equipped with a self monitoring system, with power failure message as well as with a functional control of the registered digital/analog sensors according to the requirements of the gas measuring technique.

The optional data logger function permits to protocol all measured values, alarms and faults.

APPLICATION

The gas controller GC-06 is used for the monitoring and warning of toxic and combustible gases as well as of Freon refrigerants within a wide range of the gas measurement technique. Numerous adjustable parameters and set-points permit individual adaptation to many applications.

The GC-06 fulfills the functions of monitoring Carbon monoxide (CO) in garages, tunnels and kart tracks etc. according to EN 50545. Additionally ammonia (NH₃) refrigerant plants can be monitored in accordance with the requirements EN 378, VBG 20 and the guideline "safety regulations for ammonia refrigeration systems".



GC-06 module



GC-06 module for door mounting with mounting plate

FEATURES

- Four analog inputs, 4 to 20 mA (standard)
- Extendable to max. 96 bus-sensors and/or 32 analog sensors via EP06 modules
- Sensors can be connected in digital (RS 485) and/or analog (4 to 20 mA) mode.
- For monitoring more than 30 toxic, combustible or refrigerant gases, temperature and humidity
- Simple and comfortable commissioning by configuration with standard parameters
- Logical system menu
- Flexible configuration by programmable parameters and set-points
- Four free adjustable alarm thresholds per sensor
- 6 menu languages free adjustable
- Several alarm relays configurable per alarm
- Adaptation of the sensor communication (digital and/or analog) in the menu
- Stored alarms resettable via a digital input
- Temporary locking of sensors possible for the customer
- Alarm release selectable for falling or increasing gas concentrations
- Connector for DGC06-EasyConf at the controller module
- Four alarm relays with change-over contact, potential-free, max. 250 VAC, 5A
- Fault relay with change-over contact, potential-free, max. 250 VAC, 5A
- Two analog outputs, 4 to 20 mA
- Max. 7 EP-05 modules (96 analog inputs, 30 alarm relays, 12 analog outputs) connectable
- EN 50545 conform
- Suitable for rail mounting (in electric distribution box)
- Option: Flashing light at power failure
- Option: USB port for data logger function, for all measured values and alarms/ faults
- Option: Serial interface with ModBus protocol for the connection to BMS etc.
- Option: Serial interface TLS protocol
- Option: Door mounting¹
 - ¹ Version door mounting comes with two modules, display module for door mounting and relay module for rail mounting.

TECHNICAL DATA

Electrical

Power supply	24 VAC/DC -10% + 20%
Power consumption	4 W, 150 mA
Analog input (4)	4 to 20 mA, overload and short-circuit protected, input resistor 200 Ω
Tension for external analog sensors	24 VDC, max. 50 mA / per sensor
Analog output (2) adjustable to each channel	4 to 20 mA, overload and short-circuit protected, input resistor 500 Ω
Alarm relays (4)	250 VAC, 5 A, potential-free, change-over SPDT
Fault relay (1)	250 VAC, 5 A, potential-free, change-over SPDT

Visualization

Display	2 lines, 16 characters each, illuminated
Status LED	Operation – Fault – 1 st alarm – ≥ 2 nd alarm
Operation	6 push-buttons
Menu language (selectable)	German, English, Dutch, USA, French, Swedish

Interface field bus

Transceiver	RS 485 / 19200 Baud
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Gases

Gas Sensors ADT-X3 and MA/MD	Toxic, combustible and refrigerant gases
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Environmental conditions

Humidity	15 – 95 % RH non-condensing
Working temperature	-10 °C to + 40 °C (14 °F to 104 °F)
Storage temperature	0 °C to + 40 °C (32 °F to 104 °F)

Physical

Enclosure	Plastic housing ABS
Colour	RAL 7035
Protection class	IP 40
Weight	0.3 kg (0.6 lbs.)
Mounting	Top DIN rail, in distribution box
Dimensions (W x H x D)	104 x 86 x 56 mm (4.1 x 3.4 x 2.2 in.)
Wire connection: Power supply	Screw type: 2.5 mm ² (14 AWG)
Output	2x spring: min. 0.5 max. 1.5 mm ² (22 - 16 AWG)
Input	Spring t.: min. 0.5 max. 1.5 mm ² (22 - 16 AWG)

Guidelines

EMC – Directive 2004/108/EC;
Low voltage directive 2006/95/EC
EN 50545
EN 61010-1:2010
CAN/CSA-C22.2 No. 61010-1

Warranty

One year material and workmanship

Options

Flashing light at power failure

Battery backed LEDs

Operation duration

10 h (flashing)

Analog input 0 – 10 V

Min. load

25 kΩ

Data Logger

Function

Storage of measured values, of alarm status and faults with time and date stamp on an USB

Log rate

Log rate adjustable from 10 to 10,000 sec.

Data format

Output of the data in standard Excel format

Interface ModBus RTU RS 485

Function

Transmission of all current/ average values, of status alarm relays and analog inputs to extern. devices in ModBus RTU RS 485 protocol

ORDERING INFORMATION

GC-05-XXXXX-XX

Special version¹

¹ Is defined by MSR-E.

Options

1XXXX	Power failure flashing light
X1XXX	Door mounting without mounting plate
X2XXX	Door mounting with mounting plate
X3XXX	Door mounting without mounting plate, lockable
XXX1X	Data Logger function & USB stick
XXXX1	Interface ModBus RTU RS 485
XXXX4	Interface TLS Protokoll RS 485

WIRING CONNECTION

