

PolyGard® Digital Gas Controller Module GC-05 RS-485 Bus

DESCRIPTION

Gas measuring controller module for continuous monitoring and warning of toxic, combustible and refrigerant gases and vapours.

The gas controller GC-05 can monitor up to 98 digital gas transmitters of the DT-05 series via the RS-485 bus, or 48 DT-05 with one analog transmitter each. Five alarm thresholds are adjustable per transmitter. The alarms are transmitted by up to 5 relays with potential-free change-over contact.

Via expansion modules EP-05 the Gas Controller can control up to 30 alarm relays.

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

Configuration, parameterization and operation is easy to do without programming knowledge due to the logical, simple menu structure.

The gas controller GC-05 is equipped with a self monitoring system, with power fail message as well as with a functional control of the registered DT-05 and AT transmitters.

The serial interface permits to load and store the application parameters.

APPLICATION

The gas controller GC-05 is used for the monitoring and warning of toxic and combustible gases as well as Freon refrigerants within a wide range of gas measurement technique. Numerous adjustable parameters and set-points permit individual adaptation to many applications.

The GC-05 fulfills the functions of monitoring Carbon monoxide (CO) in garages and tunnels and go-kart race courses etc. according to VDI 2053 and ÖNORM. 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-05 module



GC-05 module for door mounting

FEATURES

- Up to 98 transmitters DT-05, or 48 DT-05 within in each case one AT transmitter
- For monitoring CO, CO₂, NO, NO₂, NH₃, O₂, combustible and refrigerant gases
- Simple and comfortable commissioning by configuration with standard parameters
- Logical system menu in different languages
- Flexible configuration by programmable parameters
- Five free adjustable alarm thresholds for each transmitter
- Four alarm relays with DPDT, potential-free, max. 250 VAC, 5A
- Fault relay with DPDT, potential-free, max. 250 VAC, 5A
- Extension to up to 30 alarm relays possible by expansion modules EP-05
- Two analog outputs, 4 mA to 20 mA
- VDI - 2053 conform
- Mounting on DIN rail (EN 50 022) or in distribution box
- Serial interface
- Power fail flashing light (optional)
- Door mounting (optional)

TECHNICAL DATA

Electrical

| | |
|--|--|
| Power supply | 24 VAC/DC -10% + 20% |
| Power consumption | 5 W, 200 mA |
| 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, DPDT |
| Fault relay (1) | 250 VAC, 5 A, potential-free, DPDT |

Interface

| | |
|-------------|---------------------|
| Transceiver | RS 485 / 19200 Baud |
|-------------|---------------------|

Visualization

| | |
|------------|--|
| Display | 2 lines, 16 characters each, illuminated |
| Status LED | Yellow = status alarm; red = fault |
| Operation | 6 push-buttons |

Gases ¹

| | |
|--------------------------|--|
| Gas transmitter external | CO, CO ₂ , NO, NO ₂ , NH ₃ , O ₂ , combustible and refrigerant gases |
|--------------------------|--|

Environmental conditions

| | |
|---------------------|-------------------------------------|
| Humidity | 15 – 95 % RH non-condensing |
| Working temperature | -10 °C to + 50 °C (14 °F to 122 °F) |
| Storage temperature | 0 °C to + 50 °C (32 °F to 122 °F) |

Physical

| | |
|-----------------------------------|--|
| Enclosure | Plastic housing ABS |
| Color | RAL 7035 |
| Protection class | IP 40 |
| Weight | 0,3 kg (0.6 lbs.) |
| Mounting | Top DIN rail, in distribution box |
| Wire connection: Power supply | Screw type: 2,5 mm ² (14 AWG) |
| Output | Spring type: 0,5 to 1,5 mm ² (22 to 16 AWG) |
| Input | Spring type: 0,5 to 1,5 mm ² (22 to 16 AWG) |
| Dimensions (W x H x D) | 104 x 86 x 56 mm (4.1 x 3.4 x 2.2 in.) |
| Cut-out for door mounting (W x H) | 134 x 125 mm (5.3 x 4.9 in.) |

Guidelines

EMV - Directive 89/336/EWG;
Low voltage directive 73/23/EWG
VDI 2053

Warranty

One year material and workmanship

¹ Further gases on request

ORDERING INFORMATION

GC-05-04-04-00000

| Options | |
|---------|---------------------------|
| X1XXX | Power fail flashing light |
| XX1XX | Door mounting |
| XXXX0 | Language German |
| XXXX1 | Language English |
| XXXX2 | Language USA |
| XXXX3 | Language Dutch |
| XXXX4 | Language Danish |
| XXXX5 | Language Czech |
| XXXX6 | Language French |

Example: GC-05 Module with power fail flashing light, language English

Order Number: **GC-05-04-04-01001**

WIRING CONNECTION

