

# PolyGard® Digital Gas Controller DGC-05 RS-485 Bus

## DESCRIPTION

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

The gas controller series DGC-05 can monitor up to 98 digital gas transmitters of the DT-05 series via RS-485 bus, or 48 digital transmitters DT-05 with in each case one transmitter of the AT series. For each transmitter five free alarm thresholds are adjustable. For the alarms up to 30 relays with changeover contact are available.

The adjustable parameters and alarm 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 DGC-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.

In addition the gas controller is available with emergency power supply.



## APPLICATION

The DGC-05 gas controller 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 DGC-05 gas controller fulfils the functions of monitoring Carbon monoxide (CO) in garages and tunnels etc. according to VDI 2053 and ONORM. Additionally ammonia (NH<sub>3</sub>)- refrigerant plants can be monitored according to the requirements EN 378, VBG 20 and the guidelines "safety requirements for ammonia refrigeration systems".

## FEATURES

- Up to 98 digital transmitters DT-05 or 48 DT-05 with in each case one AT transmitter
- For monitoring CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, NH<sub>3</sub>, O<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S, CL<sub>2</sub>, ETO 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
- Up to 30 relays with SPDT, potential-free, max. 250 VAC, 5A
- Fault relay with SPDT, potentialfree, max. 250 VAC, 5A
- Up to 12 analog outputs, 4 to 20 mA
- VDI - 2053 conform
- Shapely, durable housing
- Serial interface
- Option: Housing lockable
- Option: Emergency power supply
- Option: Flashing light at power failure

## SPECIFICATIONS

### Electrical

Power supply	110/230 VAC 50/60 Hz; 24 VAC/DC -10% + 20%
Power consumption (incl. max. DT / AT) (24 VDC)	min.: 50 VA, 2,2 A max.: 120 VA, 5,0 Depending of type
Option emergency power supply	Supply duration 60 minutes
Analog output (max. 12)	4 to 20 mA, overload- proof short-circuit- proof, max. 500 $\Omega$
Alarm relay (max. 30)	250 VAC, 5 A, potential-free, SPDT
Fault relay	250 VAC, 5 A, potential-free, SPDT

### Visualization

Display	Two lines, each 16 characters, illumination.
Status LED	Yellow = status alarm; red = fault
Operation	6 push-buttons

### Interface

Transceiver	RS 485 / 19200 Baud
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### Gases<sup>1</sup>

Gas Transmitter DT-05 and AT	CO, CO <sub>2</sub> , NO, NO <sub>2</sub> , NH <sub>3</sub> , O <sub>2</sub> , SO <sub>2</sub> , H <sub>2</sub> S, CL <sub>2</sub> , ETO, combustible- and refrigerant gases
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### Environmental

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 with view cover
Color*	RAL 7035 (gray)
Protection class	IP 65
Weight*	min.: 2,7 kg (6 lbs.) max.: 13 kg (28,5 lbs.) Depending of type
Dimensions: (W x H x D)*	min.: 298 x 260 x 140 mm (11.7 x 10.2 x 5.5 in.) max.: 410 x 655 x 140 mm (16.1 x 25,8 x 5.5 in.) Depending of type
Mounting	Wall mounting
Cable entry	M 16; M 20; M 25
Wire connection: Power supply	Screw type: 2,5 mm <sup>2</sup> (14 AWG)
Relay	Spring type: 0,5 to 1,5 mm <sup>2</sup> (22 to 16 AWG)
Input	Spring type: 0,5 to 1,5 mm <sup>2</sup> (22 to 16 AWG)

### Guidelines

EMV – Directive 89/336/EEG; CE  
Low voltage directive 73/23/EEG  
VDI 2053

### Warranty

One year on material and workmanship

<sup>1</sup> Other gases on request \* Data for plastic enclosure

## ORDER INFORMATION

**DGC-05-24-04-00000**

### Option

1XXXX	Emerg. power supply 2,0 Ah
2XXXX	Emerg. power supply 7,2 Ah
3XXXX	Emerg. power supply 12 Ah
X1XXX	Power failure flashing light
XX1XX	Housing lockable
XXX1X	Repeater
XXX2X	Two Repeater
XXX3X	Three Repeater
XXX5X	Repeater + power supply
XXXX0	Language German
XXXX1	Language English
XXXX2	Language USA
XXXX3	Language Dutch
XXXX4	Language Danish
XXXX5	Language Czeche

### Unit

24-04	24 DT – 5 relays
32-08	32 DT or 16 DT + 16 AT - 10 relays
32-12	32 DT or 16 DT + 16 AT - 15 relays
32-16	32 DT or 16 DT + 16 AT - 20 relays
32-20	32 DT or 16 DT + 16 AT - 25 relays
32-24	32 DT or 16 DT + 16 AT - 30 relays
48-08	24 DT + 24 AT - 10 relays
48-16	24 DT + 24 AT - 20 relays
48-24	24 DT + 24 AT - 30 relays
64-08	64 DT - 10 relays
64-12	64 DT - 15 relays
64-16	64 DT - 20 relays
64-20	64 DT - 25 relays
64-24	64 DT - 30 relays
96-08	48 DT + 48 AT - 10 relays
96-16	48 DT + 48 AT - 20 relays
96-24	48 DT + 48 AT - 30 relays
98-12	98 DT - 15 relays
98-16	98 DT - 20 relays
98-20	98 DT - 25 relays
98-24	98 DT - 30 relays

### Enclosure

0X	Plastic enclosure (standard)
1X	Metal enclosure

Example: DGC-05 for 16 DT-1110 and 16 AT-3400, 10 relays, 7,2 Ah emergency power supply, language English, plastic housing.

Order No. **DGC-05-32-08-20001**

## WIRING CONFIGURATION

(Example DGC-05-24-04-XXXXX)

