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 equiped 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 ÖNORM. Additionally ammonia (NH₃)- 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, CO₂, NO, NO₂, NH₃, O₂, SO₂, H₂S, CL₂, 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, potential-free, 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**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>110/230 VAC 50/60 Hz; 24 VAC/DC -10% + 20%</td>
</tr>
</tbody>
</table>
| 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 Ω |
| Alarm relay (max. 30)         | 250 VAC, 5 A, potential-free, SPDT |
| Fault relay                   | 250 VAC, 5 A, potential-free, SPDT |

**Visualization**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>Two lines, each 16 characters, illumination.</td>
</tr>
<tr>
<td>Status LED</td>
<td>Yellow = status alarm; red = fault</td>
</tr>
<tr>
<td>Operation</td>
<td>6 push-buttons</td>
</tr>
</tbody>
</table>

**Interface**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transceiver</td>
<td>RS 485 / 19200 Baud</td>
</tr>
</tbody>
</table>

**Gases**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas Transmitter DT-05 and AT</td>
<td>CO, CO₂, NO, NO₂, NH₃, O₂, SO₂, H₂S, Cl₂, ETO, combustible- and refrigerant gases</td>
</tr>
</tbody>
</table>

**Environmental**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humidity</td>
<td>15 – 95 % RH non-condensing</td>
</tr>
<tr>
<td>Working temperature</td>
<td>-10 °C to + 50 °C (14 °F to 122 °F)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>0 °C to + 50 °C (32 °F to 122 °F)</td>
</tr>
</tbody>
</table>

**Physical**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure*</td>
<td>Plastic housing with view cover</td>
</tr>
<tr>
<td>Color*</td>
<td>RAL 7035 (gray)</td>
</tr>
<tr>
<td>Protection class</td>
<td>IP 65</td>
</tr>
</tbody>
</table>
| 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 mm² (14 AWG)  
 Spring type: 0.5 to 1.5 mm² (22 to 16 AWG)  
 Spring type: 0.5 to 1.5 mm² (22 to 16 AWG) |
| Relay Input                   | |

**Guidelines**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMV – Directive 89/336/EWG; CE</td>
<td></td>
</tr>
<tr>
<td>Low voltage directive 73/23/EWG</td>
<td></td>
</tr>
<tr>
<td>VDI 2053</td>
<td></td>
</tr>
</tbody>
</table>

**Warranty**

One year on material and workmanship

1 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
- X1XX 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)