


**DESCRIPTION**

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

The gas controller series CGM can monitor and process up to 98 digital (RS 485) and/or analog (4 to 20 mA) gas transmitters. Five freely adjustable alarm thresholds are provided per transmitter. For the alarm messages, up to 30 alarm relays with potential-free change-over contacts and up to 12 analog outputs (4 to 20 mA) are available.

The freely adjustable parameters and set points enable a very flexible use in the gas measuring technique. Simple and comfortable commissioning, however, is granted by the configuration with default parameters.

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

The CGM series are equipped with a self-monitoring system, with power failure message as well as with a functional control of the registered digital/ analog transmitters according to the requirements of the gas measuring technique.

In addition, the gas controller is available with an uninterruptible power supply supported by a rechargeable battery. The optional data logger function makes it possible to protocol all measured values, alarms and faults.

**APPLICATION**

The CGM gas controller series is used for 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 CGM gas controller fulfils the functions of monitoring carbon monoxide (CO) in garages, tunnels and cart tracks etc. according to the current VDI 2053 and ÖNORM. 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**

- For up to max. 98 AP transmitters.
- Transmitters 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 thanks to programmable parameters and set-points
- Five freely adjustable alarm thresholds per transmitter
- 6 menu languages
- Several alarm relays configurable per alarm
- Adaptation of the transmitter communication (digital and/or analog) in the menu
- Stored alarms resettable via a digital input
- Temporary locking of transmitters possible for the customer
- Alarm release selectable for falling or increasing gas concentrations
- Connector for DGC-EasyConf at the controller module
- Max. 30 relays with change-over contact, potential-free, max. 250 VAC, 5A
- Fault relay with change-over contact, potential-free, max. 250 VAC, 5A
- Max. 12 analog outputs, 4 to 20 mA
- Max. 23 PE-05 modules (= 96 analog inputs) connectable
- VDI - 2053 conform
- UL/ EN-61010 conform
- Shapely, durable housing

**OPTIONS**

- Housing lockable
- Integrated UPS
- Flashing light at power failure
- Integrated buzzer
- USB port for data logger function, for all measured values and alarms/ faults
- Serial interface with ModBus protocol for the connection to BMS etc.
- Serial interface TLS protocol
- Certification according to UL 2017

Ordering Code	Gas Controller	No of detectors
CGM 416	24Vac/dc	16
CGM 432	24Vac/dc	32
CGM 448	24Vac/dc	48
CGM 464	24Vac/dc	64
CGM 480	24Vac/dc	80
CGM 498	24Vac/dc	98
CGM 316	230Vac	16
CGM 332	230Vac	32
CGM 348	230Vac	48
CGM 364	230Vac	64
CGM 380	230Vac	80
CGM 398	230Vac	98

**Technical data**

<b>Electrical</b>	
Power supply	110/230 VAC 50/60 Hz; 24 VAC/DC -10% + 20%
Power consumption (incl. transmitters)	Min. 30 W, 0.15 A Max. 160 W, 0.7 A Depending on type and configuration
Analog input (4 to max. 96)	4 to 20 mA, overload and short-circuit- protected, input resistance 200 Ω
Power supply for external analog transmitter	24 VDC, max. 50 mA /per transmitter
Analog output (max 12) configurable for each input	4 to 20 mA, overload and short-circuit- protected, max. load 500 Ω
Alarm relay (max. 30)	250 VAC, 5 A, potential-free, change-over SPDT
Fault relay (1)	250 VAC, 5 A, potential-free, change-over SPDT
<b>Visualization</b>	
LCD	Two lines, 16 characters each, illuminated
Status LED (4)	Operation – Fault – 1st alarm – ≥ 2nd alarm
Operation	6 push-buttons
Menu language (selectable)	German, English (UK), English (US), Dutch, French, Swedish
<b>Interface field bus</b>	
Transceiver	RS 485 / 19200 Baud
<b>Gases</b>	
Gas Transmitters, 20mA	Toxic, combustible and refrigerant gases
<b>Environmental</b>	
Humidity	15 – 95 % RH non-condensing
Working temperature	- 5 °C to + 40 °C (23 °F to 104 °F)
Storage temperature	0 °C to + 40 °C (32 °F to 104 °F)
<b>Physical</b>	
Enclosure	Plastic housing with view cover
Colour	RAL 7035 (grey)
Protection class	IP 65
Weight	Min. 2.7 kg (4.4 lb) Max. 13 kg (28,7 lb) depending on type
Mounting	Wall mounting
Cable entry	M 16; M 20; M 25
Dimension Type 1 (XS) (W x H x D)	298 x 260 x 140 mm (11.7 x 10.2 x 5.5 in.)
Dimension Type 2 (S) (W x H x D)	298 x 420 x 140 mm (11.7 x 16.5 x 5.5 in.)
Dimension Type 3 (M) (W x H x D)	298 x 570 x 140 mm (11.7 x 22.4 x 5.5 in.)
Dimension Type 4 (L) (W x H x D)	410 x 655 x 140 mm (16.1 x 25.8 x 5.5 in.)
Wire connection: Power supply	Screw type terminal: 2.5 mm <sup>2</sup> (14 AWG)
Output	2 x spring type terminal: min. 0.5, max. 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)
<b>Guidelines</b>	EMC – Directive 2004/108/EC; Low voltage directive 2006/95/EC VDI 2053 EN 61010-1:2010 ANSI/UL 61010-1 CAN/CSA-C22.2 No. 61010-1



<b>UPS</b>	
Battery backed supply for controller and transmitter	Supply duration 60 minutes, maintenance-free rechargeable batteries with charging function and deep discharge protection
Housing	Plastic housing with view cover
Colour	RAL 7035
Protection class	IP 65
Weight	Min. ca. 3.8 kg (6.6 lb) Max. ca. 7.2 kg (15.4 lb) (depending on type)
Mounting	Wall mounting
Cable entry	M 16; M 20
Dimensions: (W x H x D)	298 x 260 x 140 mm (11.7 x 10.2 x 5.5 in.) 410 x 285 x 140 mm (16.1 x 25.8 x 5.5 in.) (depending on type)
<b>Flashing light at power failure</b>	
	Battery backed LEDs
Operation duration	10 h (flashing)
<b>Warning buzzer</b>	
Acoustic pressure	85 dB (distance 1000 mm)
Frequency	3.5 kHz
<b>Version according to UL 2017</b>	
Housing	Plastic housing with view cover
Colour	RAL 7035
Protection class	IP 65
Weight	Min. ca. 2,7 kg (4.4 lb) Max. ca. 13 kg (28.7 lb) (depending on type)
Mounting	Wall mounting
Cable entry	M 16; M 20; M 25
Combustion	UL 95-5V
Conformity	UL Type 1 UL508/UL 50
Dimension: Type 1 (XS) (W x H x D)	306 x 290 x 145 mm (12.0 x 11.4 x 5.7 in.)
Dimension: Type 2 (S) (W x H x D)	306 x 430 x 145 mm (12.0 x 16.9 x 5.7 in.)
Dimension: Type 3 (M) (W x H x D)	306 x 580 x 145 mm (12.0 x 22.8 x 5.7 in.)
Approval controller	Conform to standard ANSI/UL 2017
Approval housing	UL Listed, E75645
<b>Data Logger</b>	
Function	Storage of measured values, of alarm status and faults with time and date stamp on an USB stick
Log rate	Log rate adjustable from 10 to 10,000 sec.
Data format	Output of the data in standard Excel format
<b>Interface ModBus RTU RS 485</b>	
Function	Transmission of all current and average values, of status alarm relays and analog inputs to external devices in ModBus RTU RS 485 protocol format
<b>Communication module BacNET 05</b>	
	Technical data, function and protocol see datasheet DB-BAC
<b>LON Coupler DA &amp; DB</b>	
	Technical data, function and protocol see datasheet DB-GC05-RS485-LON
<b>Print Communication module PR-05</b>	
	Technical data, function and protocol see datasheet DBPrint05



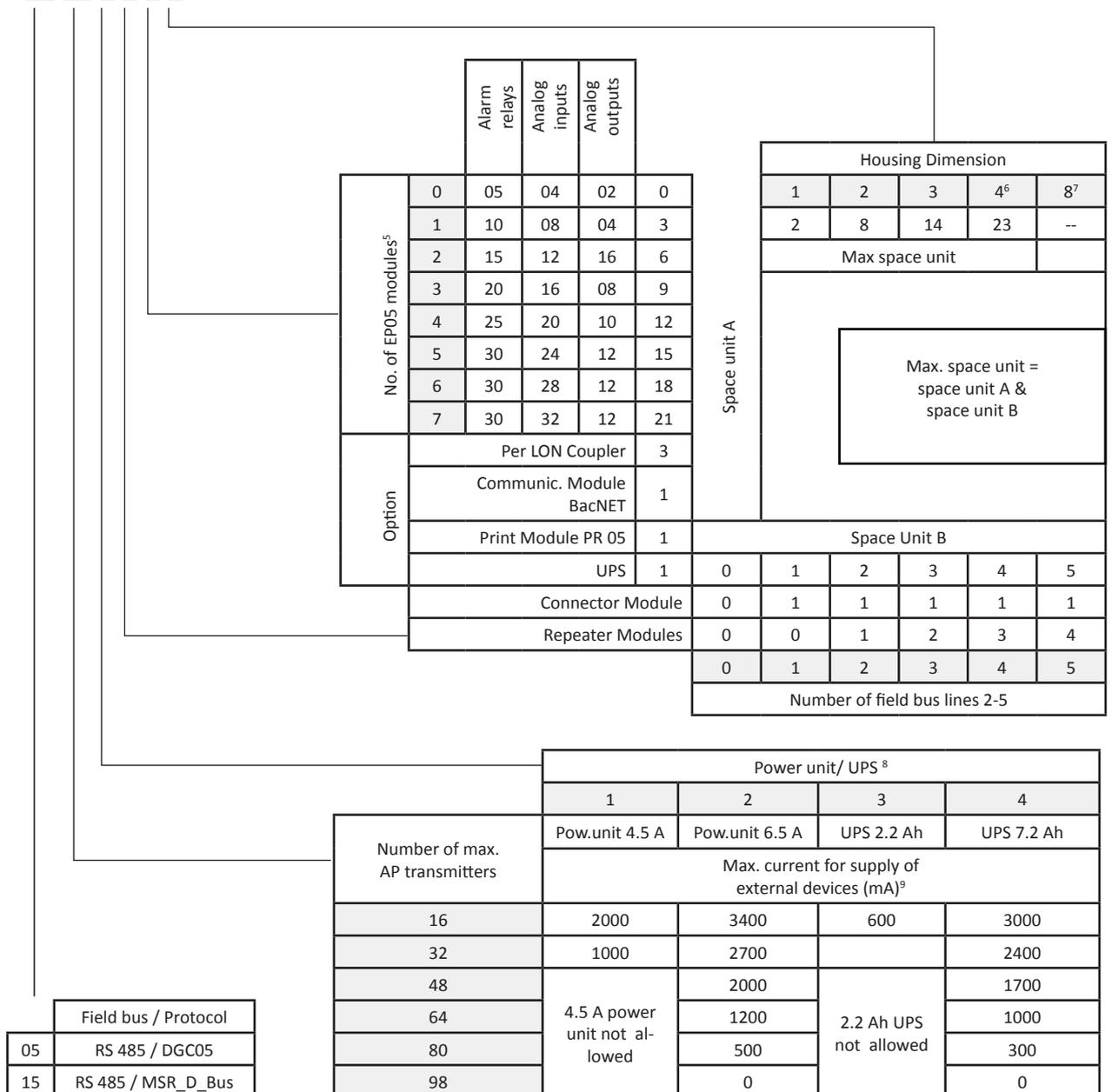
ORDERING INFORMATION

- <sup>1</sup> Warning buzzer already included
- <sup>2</sup> Standard is from above
- <sup>3</sup> Respect place requirement in the housing, number code see data sheet
- <sup>4</sup> is defined by MSR-E
- <sup>5</sup> More (max. 23) modules on request
- <sup>6,7</sup> Not for option UL 2017
- <sup>7</sup> Metal housing on request
- <sup>8</sup> Higher capacity or without power unit – on request
- <sup>9</sup> Only for supply of external warning buzzers and warning lights.

Options	
1XXXXXX	Power failure flashing light
X1XXXXX	Warning buzzer
X2XXXXX	Version according to UL 2017 <sup>1</sup>
XX1XXXX	Cable entry from below <sup>2</sup>
XX2XXXX	Cable entry from below and above <sup>2</sup>
XXX1XXX	Housing lockable
XXXX1XX	Data Logger function & USB stick
XXXXX1X	Interface ModBus RTU RS 485
XXXXX4X	Interface TLS protocol RS 485
XXXXXX?	Communication module BacNET 05 <sup>3</sup>
XXXXXX?	LON coupler <sup>3</sup>
XXXXXX?	Print communication module PR-05 <sup>5</sup>

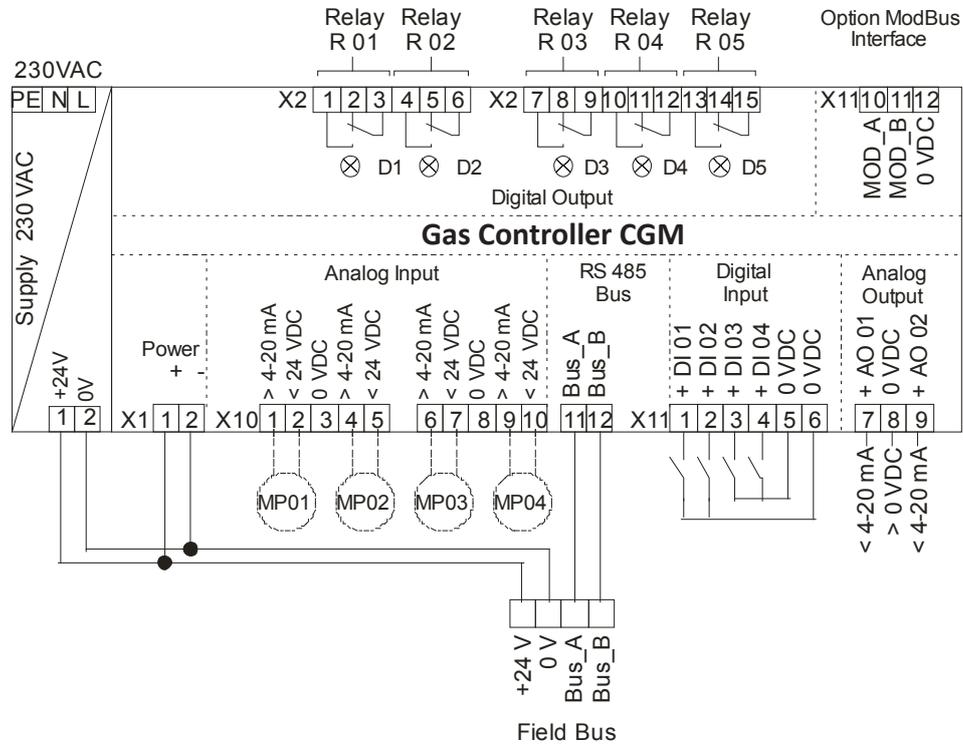
CGM-X5-16-1-3-0-1-XXXXXXXX-XX

Special versions<sup>4</sup>



**WIRING CONFIGURATION**

(Example CGM)



We cannot be held responsible for errors in the manual/datasheet and reserve the right to correct any errors and to make product improvements, which may affect the accuracy of the manual/datasheet, without prior notice.