

## Gasmesscomputer 8022 version 813



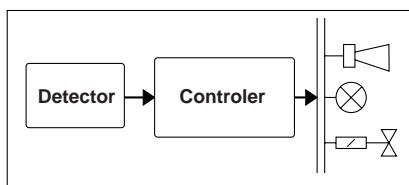
## GMC 8022 E version 813



Data sheet

---

## Structure



Gas alarm unit comprising the following components:

- analysis system
- sensor probe
- selectable units, e.g.:
  - ventilator
  - solenoid valve
  - horn
  - warning sign

## Product features

- Two designs:
  - Gasmesscomputer 8022: wall-mounted, and standard field distributor
  - GMC 8022E: 19" plug-in unit
- 2 measuring channels
- concentration display
- 2 alarm levels and additional horn output
- wide variety of functions and easy operation through microprocessor technology
- alarm trigger test without test gas
- fault monitoring for:
  - mains failure
  - computer defect
  - wire discontinuity / short circuit in sensor leads
- floating relay outputs for:
  - alarm 1 and 2
  - horn
  - error
- Analog output

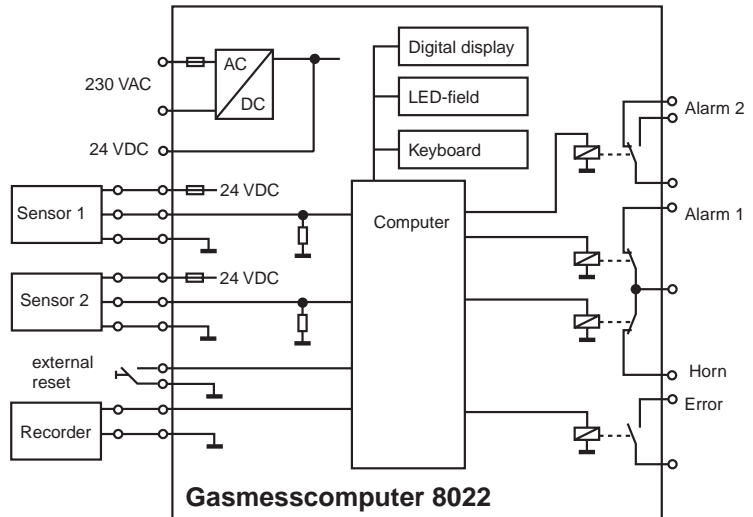
## Mode of function

Lamp test after running up the system, with all LEDs lighting up for 2 seconds. The current software version is then shown on the display. To suppress a false alarm when switching on the system, the system first moves into the monitoring mode („Auto“) after 30 seconds. The current concentration detected at each measuring point is shown in sequence, with the appropriate LED of the displayed sensor probe lighting up. As soon as a sensor probe reaches alarm level 1 or 2, the corresponding alarm LED starts to blink. The appropriate alarm relay is activated as soon as the preset time delay has elapsed. The alarm LED will light continuously. As each alarm level has an adjustable hysteresis, an alarm level will not be canceled until the current concentration falls below a second limit. This also applies to alarm 2 if the system has been programmed „non-memorising“. If not, the alarm 2 remains stored and can only be canceled by pressing the reset key. Depending on programming, a relay output for a horn may also be activated when exceeding the alarm level 1 or 2. This can be canceled immediately by pressing the reset key. With each new alarm trigger the horn is activated again. An LED indicates if the horn is switched on or off. The concentration detected at a certain measuring point can also be displayed permanently (Stop mode). In this mode the surface type of the Gasmesscomputer 8022 transmits the concentration values of this measuring point to the recorder output as analog values (1...5V). With the 19" version of the GMC 8022E the 4...20mA can be read out permanently from each sensor via an additional module. The system monitors permanently if the connecting lead to the sensor probes is in order. A error message is triggered as soon as a wire discontinuity or a short circuit is detected. The error LED „Err“ of the affected measuring point lights up and the error signal relay is activated. If the supply voltage is no longer adequate or fails completely (mains failure), the unit signals a fault, the power LED is

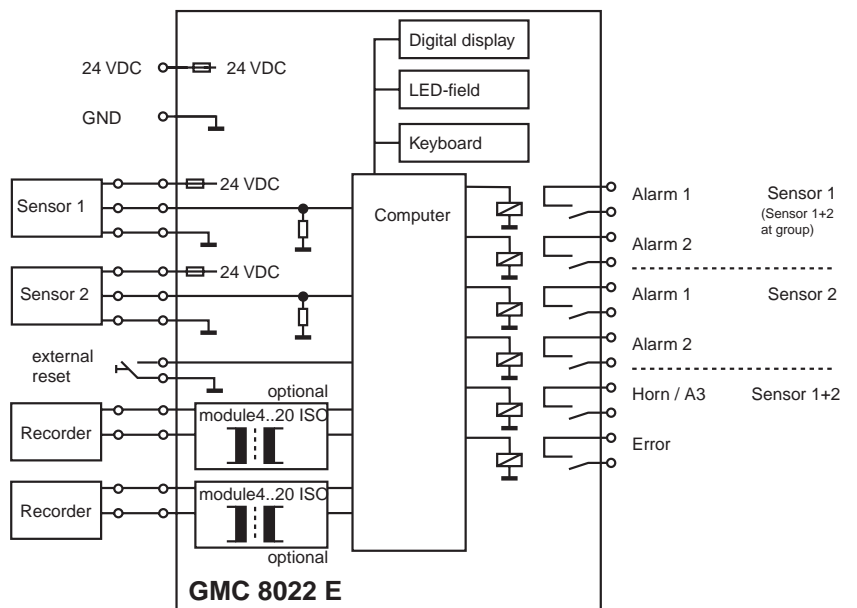
**Mode of function**

dark. The lamps can be tested at any time by pressing the key on the right. The alarm trigger function of the system can be tested without using test gas. In this case the sensors are disconnected internally from the unit, allowing an individual alarm simulation. To prevent false alarm when calibrating the connected sensor probes, the alarm trigger of the analysis unit can be suppressed using a special menu. Sensors featuring a special calibration signal (series Gasmonitor / Exmonitor) automatically activate this menu. The system data (hooter at alarm 1 or 2; alarm 2 memorising or non-memorising; alarm triggered by sensor signal when exceeding or falling below) are shown as code word during programming. The system data can be modified. The numerical formats of each measuring point are then defined. The parameters including measuring range end value, limits for triggering and switching off alarm level 1 and 2, as well as an alarm time delay can now be selected for each individual measuring point. Additional menus such as programming, alarm simulation or suppressing the alarm trigger can only be carried out by entering a special password.

**Block diagram**



Note: Relay shown in alarm status



Note: Relay shown in alarm status

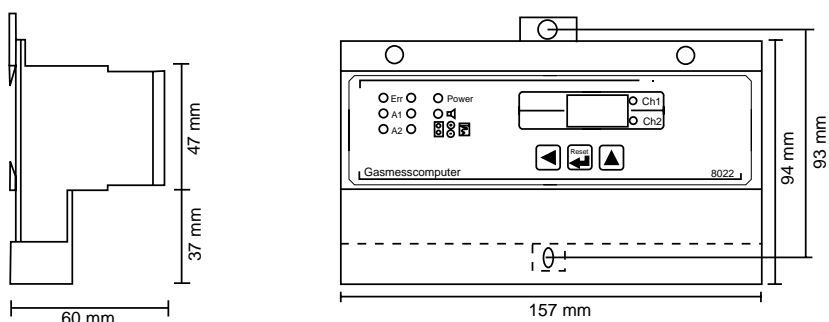
**Technical specifications**

Type designation	Gasmesscomputer 8022	GMC 8022E
Channels	2	
Suitable sensors	Series Gasmonitor, Exmonitor, Exmess HC3	
max. distance of sensors	approx 500 to 1000 m, depending on unit configuration and sensor used . See data sheet of the used sensor.	
Sensor interface	Input 4...20 mA, Shunt 226 Ohm to GND sensor power supply: 24VDC (21,7...27,6 VDC), SELV, max. 100 mA for each sensor	
Alarm levels	Group outputs for measuring channel 1 and 2: <ul style="list-style-type: none"> <li>● alarm 1 and 2</li> <li>● horn</li> <li>● error</li> </ul>	Selectable alarm trigger: <ul style="list-style-type: none"> <li>● group alarm <ul style="list-style-type: none"> <li>- alarm 1 sensors 1 and 2</li> <li>- alarm 2 sensors 1 and 2</li> </ul> </li> <li>● single alarm <ul style="list-style-type: none"> <li>- alarm 1 of each sensor</li> <li>- alarm 2 of each sensor</li> <li>- horn sensors 1 and 2</li> <li>- error sensors 1 and 2</li> </ul> </li> </ul>
Outputs	<ul style="list-style-type: none"> <li>● floating group alarm relay for: <ul style="list-style-type: none"> <li>- alarm 1: make contact</li> <li>- alarm 2: changeover contact</li> <li>- error: break contact</li> <li>- horn: break contact</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● single / group alarm relay with floating contact <ul style="list-style-type: none"> <li>- alarm 1: break contact</li> <li>- alarm 2: break contact</li> </ul> </li> <li>● group alarm relay with floating contact <ul style="list-style-type: none"> <li>- error: break contact</li> <li>- horn: break contact</li> </ul> </li> </ul>
Make-break capacity of output relays	230 VAC, 2A 30 VDC, 2A	50 VAC, 1A 75 VDC, 1A
supply voltage	210...250 VAC, 50...60 Hz 21,7...28 VDC, SELV	21,7...28 VDC, SELV
Current input without sensors at 24 VDC	110 mA	<ul style="list-style-type: none"> <li>● 150 mA</li> <li>● 260 mA with connected 4...20 modules</li> </ul>
Power input	14W / 20VA	
Operating temperature range	0...+55 °C	
Storage temp.	-25...+55 °C	
Display elements	<ul style="list-style-type: none"> <li>● LEDs for each measuring channel: <ul style="list-style-type: none"> <li>- alarm 1 and 2</li> <li>- error</li> <li>- displayed sensor</li> </ul> </li> <li>● ready</li> <li>● horn</li> <li>● digital indication for concentration and programming data</li> </ul>	
Resolution of concentration display	measuring range end value 100 - 999: 1 measuring range end value 10,0 - 99,9: 0,1 measuring range end value 1,00 - 9,99: 0,01	
Operating elements	3 keys for: <ul style="list-style-type: none"> <li>● horn and alarm reset</li> <li>● guidance through menus</li> <li>● programming</li> </ul>	
Reset input	make contact for looping the internal control voltage 24 VDC, SELV	
Run-in time	depending on used sensor	
Analog outputs	1 analog output, freely assignable to a measuring channel	optionally equipped with 2 pcs. 4...20 mA output cards
Analog output data	1-5 VDC, SELV, resolution 19 mVDC, max 3 mADC	4...20 mADC, SELV, resolution 0,078 mA, max load 250 Ohm

**Mechanical specifications**

● **Gasmesscomputer 8022**

Design	suitable for wall-mounting or installation in standard field distribution
Protection class	IP30
Terminals	1,5 mm <sup>2</sup>
Enclosure material	plastic (Lexan)
Weight	approx 750 g
Dimensions (H x W x D)	94 x 157 x 60 mm



● **GMC 8022E**

Design	19" plug-in unit
Connection	32-pin plug connector DIN 41612
Enclosure material	front panel, aluminium
Weight	approx 290 g
Dimensions	19" plug-in unit 12 TE, 3 HE

**Safety**

The following standards guarantee ultimate appliance safety:

- Gasmesscomputer 8022 and GMC 8022E
  - EN 50081-1 01/1992 EMC - emitted interference
  - EN 50082-2 02/1995 EMC - interference immunity
  - EN 61010-1 03/1994 low voltage guideline
  - EN 60439-1 04/1994 low voltage guideline
- Gasmesscomputer 8022:
  - Protection class: 2

**Approval**

**Performance approval PFG-Nr. 41301197:**

- **EN 50054**  
 Electrical apparatus for detection and measurement of combustible gases; General requirements and test methods.
- **EN 50057**  
 Electrical apparatus for detection and measurement of combustible gases; Performance requirements for Group II apparatus indicating up to 100% lower explosive limit.
- **prEN 50271**  
 Electrical apparatus for the detection and measurement of combustible gases, toxic gases and oxygen. Requirements and tests for detectors using software and digital technologies.

## Equipment

- hooters
- warning lights
- solenoid valve
- central emergency power supply
  - GMC 8022E: charger LG 24E
  - Gasmesscomputer 8022: charger LGH2
  - batteries of different capacities
- for GMC 8022E:
  - power supply unit NG 242, NG 243, NGH 242, NGH 243
  - 4-20 mA output modules
  - relay cards RK1, RK2 for switching mains voltages of up to 2A

---

## Service

Everything from one source - from project development to the installation of your new gas alarm unit. Guaranteed by our comprehensive sales and service network. Call us for the address of your local contact partner. Our after-sales technicians are pleased to assist you with hands-on help and advice.

---

## Custom-made equipment

Our sales and service engineers will help you with your measuring and controlling problems. A wide range of units, appliances, enclosures and equipment as well as many years of experience in the field allow us to develop and construct a measuring system for your very special requirements.

---

## GWS Gaswarngeräte-, Sicherheits- und Alarmsysteme GmbH

Postfach 1207, D-73767 Denkendorf  
Berliner Strasse 3, 73770 Denkendorf

Telephone (+49) 711 93 49 06 0  
Telefax (+49) 711 93 49 06 6

State: 02/98  
Subject to change without notice!