

GA 90

GB

Gas Alarm

**with liquefied gas sensor (propane/butane)
and town gas/natural gas (methane)**

Operating Instructions

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Gazalarm

**avec capteur pour le gaz liquide (propane/butane)
et le gaz de ville/gaz naturel (méthane)**

Mode d'emploi



Installation and Operating Instructions



Introduction

These operating instructions provide important information on the correct installation and operation of the gas alarm. Please read the instructions completely and carefully before installation. The operating instructions belong to this product and contain important points concerning bringing the appliance into service and its operation.

Always pay attention to all safety instructions. Should you have any questions or be unsure about operating the appliance ask a specialist. Keep the instructions and pass them on to third parties as necessary.

Intended use

The GA 90 is designed to detect methane, butane and propane gas. It is intended for use in private homes.

The design is based on a type A device - to emit a visual and acoustic alarm and trigger an output signal which, in turn, directly or indirectly activates the ventilation or triggers other auxiliary equipment.

The gas alarm is designed to be connected to a supply voltage of 230 V AC / 50 Hz. A mains cable attached to the device is used to connect to the mains. As a separate model, the gas alarm is available for an operating voltage of 12 V DC. The electrical connection for this model is made via a 2-pole connecting terminal. The gas alarm must not be used in rooms with potentially explosive atmospheres and is not a primary measure of protection against explosions in accordance with the guidelines of the Accident Prevention & Insurance Association.

This equipment is not suitable for use by persons (including children) with limited physical, sensory, or

mental abilities or with lacking experience or lacking knowledge unless they are supervised by a person responsible for their safety or obtain instructions on how to use the equipment. Children must be supervised to make sure they do not play with the equipment.

Attention:

- Devices designed to detect combustible gases are no substitute for correct gas installation and proper operation of gas devices.
- The selection of the location and the correct installation of the gas detector are decisive for the proper operation of device. It is strongly recommended, therefore, that the device is only installed by a qualified specialist.



Scope of delivery

- 1 GA 90
- 2 fixing screws used for installation, 2 fixing plugs
- 1 installation and operating Instructions

Technical data

Alarm thresholds / sensitivity:

Methane (town gas/natural gas)	0.4000 vol. % (approx. 9 % of the lower explosion limit)
Butane (liquefied gas)	0.2050 vol. % (approx. 14.5 % of the lower explosion limit)
Propane (liquefied gas)	0.2400 vol. % (approx. 14.1 % of the lower explosion limit)
Alarm volume	85 dB (A) / 1 m
Relay output	potential-free switching contact, 5A/230V AC, 5A/30V DC
12 V DC output	switched when an alarm goes off, 12 V DC

Reset	(±10%), max. 200 mA automatic if gas concentrations fall below the alarm threshold
Operating temperature	-10°C to +40°C
Humidity	max. 95% rel.
CE conformity	EN 61000-6-3:2007 EN 50270:2006
Type test	EN 50194-1:2009
Dimensions (W x H x D)	140 x 125 x 42 mm
Protection level	IPX2D
<u>230 V model:</u>	
Operating voltage:	230 V AC / 50 Hz
Power consumption:	max. 6 VA
Weight:	approx. 500 g
Protection class	II 
<u>12 V model:</u>	
Operating voltage:	12 V DC (-15% / +20%)
Current consumption:	max. 130 mA
Weight:	approx. 250 g
Protection class	III 

Safety information

- Operate the gas alarm only with the operating voltage specified for the device. The 12 V model must be powered only by a 12 V DC (SELV) supply.
- Do not leave small children unsupervised with the appliance, batteries, packing material or small parts. Otherwise there is a risk of fatal injury due to choking.
- Do not damage any cables or pipes for gas, electricity, water or telecoms when you are drilling or mounting the device! Otherwise there is a risk to life and limb!
- This device is only suitable for indoor use. Keep away from moisture.
- Modifications made to the gas alarm can result in

electric shock or malfunction.

- If the mains power cable of this device is damaged, it must be replaced by the manufacturer or his customer service department or a similarly qualified person in order to avoid hazards.

Placement

The gas alarm is designed to be wall-mounted.

The installation location must be selected in accordance with the following criteria:

For liquefied gas (propane/butane)

For the detection of liquefied gas, the distance from the floor should be 15 - 30 cm and the distance to the gas device at most 4 m. Please make sure that the selected installation site is not directly next to an exit.

Escaping liquefied gas is heavier than air so falls to the floor and spreads out there.

For town gas/natural gas (methane)

For the detection of town gas/natural gas, the gas alarm should be installed 15 - 30 cm below the ceiling and at most 6 m from the gas device. Please make sure that the selected installation site is above the highest window or door opening. Town gas and natural gas are lighter than air so rise upwards.

The following locations are NOT suitable installation sites:


- Outside of buildings, e.g. for the monitoring of open bottle crates
- Separated areas (e.g. closet interiors or behind curtains) which could, in the event of a gas leak, prevent the alarm from triggering
- In air currents from fans (ventilation, air-conditioning, etc.) or in the vicinity of doors or windows
- Close to a extractor vent or hood
- Areas in which the temperature can fall below -

10° C or rise above +40° C


- Wet rooms such as bathrooms and showers where the relative humidity can rise above 95%
- Directly next to a cooking stove
- Directly above cooking facilities
- Directly above a drain (for town gas/natural gas)
- Directly below a drain (for liquefied gas)
- Areas where dirt and dust can clog the sensor
- In rooms with potentially explosive atmospheres

 The alarm must not be used outdoors!

Installation

 Make sure that the voltage is disconnected during installation and when connecting the power supply!

Two screws are used to fasten the alarm to the wall or selected location. Use the enclosed screws. Both the assembly holes and the connection terminals are under a cover plate. The cover plate is attached simply with two pins and can be lifted off by lifting it off carefully without the need for tools.

 Make absolutely sure to install the alarm at the height specified in the chapter entitled 'Placement'!

Electrical connection

230 V model:

The gas alarm is delivered with a connection cable and Euro plug. This is to be used with a 230 V AC (alternating current) power socket.

12 V model:

Electrical connection to 12 Volt direct current (DC) only. Tolerance: -15%/ +20%

We recommend a connection cable with core identification.

Connect the supply cable to the '+' and '-' connection

terminals. Make sure that the voltage is disconnected when connecting the current supply.

Make sure the connections have the correct polarity!

Switching outputs

The gas alarm has two switching outputs which are used to control an alarm system or other signal transmitters and devices. The respective connection terminals are under the cover plate.

Only connect the alarm when the power supply is disconnected!

12 Volt switching output

Switched 12 V DC signal for the direct control of an external horn (e.g. AS 05, Art.Nr. 33 133) or warning light (e.g. BL 02, Art.Nr. 33 134), for example. The maximum load is 200 mA. The connection is made via a 2-pole +/- terminal output connection.

Make sure the connections have the correct polarity!

Relay output

Potential-free NO and NC contact. These contacts are used for connection to an alarm system, a telephone dialer, a warning light or similar. Connection to an NO contact (normally open → closes in the event of an alarm) is made at the N.O. and COM terminals.

Connection to an NC contact (normally closed → opens in the event of an alarm) is made at the N.C. and COM terminals. When the gas alarm is not powered and in normal mode, the N.C. and COM contacts are closed, i.e. the relay is at rest.

When using the relay output with voltages higher than 25 Volt AC or 25 Volt DC, a terminal box on site must be used for connection of the cable to the external consumer (e.g. warning light). Installation must be carried out by a qualified electrician.

Operation

As soon as the gas alarm has been properly connected to the power supply, an automatic self-test is conducted: The green POWER LED flashes during this self-test. The self-test takes approx. 20 seconds. The three LEDs light up briefly when the self-test has been successfully completed. A signal horn sounds at the same time. The green POWER LED then indicates that the alarm is operational.

Alarm

The sensor of the gas alarm registers escaping gas. The device emits an alarm if the sensor registers a gas concentration in excess of the sensitivity threshold set in the factory: An evenly pulsing signal tone sounds and the red ALARM LED flashes. A signal is given to any other connected devices.

The alarm continues until the gas concentration falls below the preset sensitivity threshold.

 Do not disconnect the gas alarm in the event of an alarm!

What to do in the event of an alarm

Remain calm in the event of an alarm or if you smell gas. Carry out the following measures in the sequence that makes the most sense to you:

- Extinguish all open flames including all smokers' articles such as cigarettes, cigars, pipes, matches, lighters, etc.
- Turn off all gas applications.
- Do not turn electrical devices on or off.
- Do not, under any circumstances, disconnect the gas alarm from the power supply.
- Interrupt the gas supply at the main shutoff valve or at the cylinder or storage tank valve.
- Open doors and windows to increase ventilation.
- Do not use telephones in the building in which the

presence of gas is suspected.

If the alarm continues and the source of the escaping gas is not obvious or cannot be corrected, the building must be cleared and the gas supplier or the 24-hour emergency service IMMEDIATELY informed so that the gas installation can be checked, secured and repaired.

If the alarm stops and the cause of the alarm has been established and corrected (e.g. the gas valve was open and the burner not in operation), the main gas supply can be opened again once the escaping of gas has been stopped and it is sure that all consumers have been shut down.

Please also proceed as outlined above when using the device's switching output to close a solenoid valve in the gas line. The gas alarm issues an output signal which can be used to trigger auxiliary equipment such as a ventilation fan or a gas shutoff valve. Once it has been triggered, it may be necessary to manually reset the equipment. The equipment should not be reset until the source of the gas has been identified and the fault has been corrected. In the case of gas-operated devices, if the gas supply was cut off by closing the solenoid valve, it may only be opened by a qualified plumbing contractor or a specialist from the gas supplier.

Function checks

Use a gas lighter to test that the gas alarm is functioning. Please proceed in the following steps:

- Release gas out of the lighter directly next to the sensor opening of the gas alarm without a flame.
- The sensor will register the escaping gas. The device emits an alarm if the sensor registers a gas concentration in excess of the preset sensitivity threshold: A pulsing signal tone sounds and the red ALARM LED flashes.

- As soon as the alarm signal goes off, do not let any more gas out of the lighter.
- The alarm mutes automatically as soon as the gas concentration at the sensor falls below the preset sensitivity threshold.
- Check whether the ambient temperature lies outside the permissible range of -10°C to $+40^{\circ}\text{C}$.
- Check whether chemicals in the ambient air or other substances could have triggered the fault display, such as an excessive concentration of acid or alcohol in the air, cleaning liquids, paints, lacquers, sprays, polishing agents, cooking vapours or tobacco smoke. Check the gas alarm in another room if necessary. If an alarm is not signalled in the other room, the cause of the fault is in the original installation site.

The function test must be carried out regularly, at least every 4 weeks.

Service life

When operating continuously under normal ambient conditions, the expected service life of the sensor is approx. 5 years. Replace the gas alarm after a service life of 5 years!

Various chemicals can damage the sensor permanently. Do not subject the sensor to the following substances and environments:

- Sprays and adhesives containing silicone
- Aggressive environments in which hydrogen sulphides, sulphur dioxide, chlorine or hydrogen chloride is present (cleaning agents containing chlorine, descaler sprays, bleach)
- Moisture and condensation
- Salt-laden atmospheres

Fault display

The gas alarm carries out a continuous self-test. Flashing of the yellow FAULT indicator indicates the presence of a fault. In addition, two short signal tones are issued per minute.

○ ○ ○ ○ 2 short signal tones every
60 seconds, yellow FAULT
indicator flashes

The fault display can either be triggered by the surroundings or there is a defect in the device.

Please proceed as follows if a fault is indicated:

If the fault display continues to be active, there is either a contamination, a defect in the device or the gas alarm has reached the end of its service life of approx. 5 years. The gas alarm must be replaced in this case!

Maintenance and cleaning

- Regularly clean the housing of the gas alarm with a duster or slightly damp cloth. Remove as much of the dust deposits as possible from the opening in the sensor. The gas alarm must never be sprayed with water!
- Regularly check the functionality of the device (see the chapter on function tests).
- The gas alarm must not be painted or coated

Important

- For maximum security, the device should be operated continuously.
- The gas installation and any shut-off device must fulfil the regulations that apply in the country where the alarm is installed.
- The gas alarm must be installed properly. Please work as specified in the operating instructions.
- Make absolutely sure that the gas alarm is

installed at the correct height for each type of gas.

- You may smell gas before the gas alarm is triggered.
- The gas alarm can also react to a brief escape of gas, e.g. when a device starts up.
- We reserve the right to make improvements to the construction and design so we are always able to supply state-of-the-art warning devices.

Optional Accessories

For direct connection to 12 V output:

- Indoor siren AS05 with connection cable, 110 dB(A), Art. No. 33133
- Strobe light BL02 in compact weatherproof housing, with red cover, Xenon strobe and connection cable, Art. No. 33134

Disposal



Packaging material, used batteries or electrical products must not be disposed of as household waste. Use your recycling system. Details are available from your local authority.



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