INSTALLATION AND OPERATING INSTRUCTIONS

ams® KombiAlarm compact CE

Alarm device with sensor for anesthetic gas 1-sensor system

Introduction

These operating instructions provide important information on the correct installation and operation of your anesthetic gas alarm. Please read the instructions completely and carefully before installation. Keep the instructions and pass them on to third parties as necessary.

Intended use

The Alarm device KombiAlarm compact is designed to detect anesthetic gas. It is intended for use in caravans and campers of smaller size.
The system is also suited for lorry drivers' cabs.
The included sensor additionally detects liquid gas, i.e. propane/butane (LPG) as well as natural gas (methane). We draw your attention that the alarm device is designed to detect anesthetic gas.

The design is based on a type B device - to emit a visual and acoustic alarm.

Scope of delivery

1 KombiAlarm compact
2 fixing screws
2 Warning decal
1 Installation and Operating Instructions

Safety information

- Operate the KombiAlarm compact only with the operating voltage specified for the device.
- This device is only suitable for indoor use. Keep away from moisture.
- Modifications made to the KombiAlarm compact can result in electric shock or malfunction.
- Do not open the device. Opening the device voids all guarantee claims.

Placement

The KombiAlarm compact is designed to be wall-mounted.
The installation location must be selected in accordance with the following criteria:

Anasthetic Gas

Point of attachment
The function as anesthetic gas alarm device consists in warning in time the passengers in case of robberies with anesthetic gas. The KombiAlarm compact detects such anesthetic gases in the atmosphere just in the lowest concentrations, i.e. yet before they can spread their anesthetizing effects and eliminate the passengers' reactivity.
This warning is made by means of a loud alarm signal, for ex. to wake up the passengers asleep at night. By the loud alarm signal the proximate neighbours' attention is called to the crime, too.
The system reacts to all volatile hydro-carbons with anesthetic effect. The alarm threshold is adjusted very sensitively.

Placement

The system should be installed near by the sleeping area in the vehicle.

If you just put one sensor into operation, you have to adhere to the following instructions for installation as necessary.

Propane/Butane/Methane

Point of attachment
The installed sensoric for the detection of anesthetic gas reacts also to liquid gas, i.e. propane/butane (LPG) as well as town gas/natural gas (methane).
The Alarm threshould is far beneath the lower border of explosion, i.e. before an explosive mixture arises.

Placement liquid gas (Propane/Butane)
Escaped liquid gas is heavier than the air, falls down to the floor and spreads there.
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.

Placement town gas / natural gas (Methane)
Town gas and natural gas are lighter than the air and mount upwards.
For the detection of town gas/natural gas, the KombiAlarm compact 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.

Attention:

Devices designed to detect combustible gases are no substitute for correct gas installation and proper operation of gas plants.

The following locations are <u>not</u> suitable installation sites:

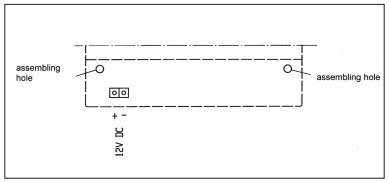
- Outside of the vehicle, e.g. for the monitoring of open bottle crates
- Separated areas (e.g. closet interiors or behind curtains) which could, in the event of a gas leak, prevent the alarm from triggering
- In air currents from fans (ventilation, air-conditioning, etc.) or in the vicinity of doors or windows
- Close to a smoke exhaust
- 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 may not be used outdoors!**

Installation

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

The device is flushed with the wall by two screws (s. ill.). Use the enclosed screws. The assembling holes as well as the terminals lie under a cover plate. This cover is only attached by two pins and can be removed without any tools by lateral intervention.



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

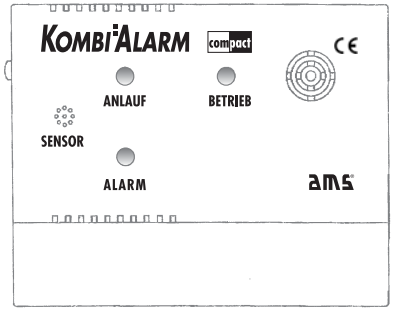
Electrical connection

Electrical connection only to a DC voltage of 12 V.
Tolerance: -10% / +20%.
For connection we recommend a conduit with conductor designation.
Recommended connection:
double wire red/black 2 x 0.34 mm^2 Liyz.
Connect the cable to the terminals marked with ‚+12 V DC' and ‚-12 V DC' .

A smaller conductor cross section is not permitted!
Observe the right terminal connections!

Putting into operation

After the successful connection the system can be put into operation: Therefore turn the main switch to position ‚I'. Then the yellow LED display ‚ANLAUF' lights up. Wait until the yellow LED goes out after about 2 minutes and the green LED display ‚BETRIEB' is activated. Now your system is ready-to-run. The sensitivity of the threshold is automatically adjusted.
To put the appliance out of operation, turn the main switch to position ‚0'. The system supposed for permanent operation and should run permanently during your vacancies.



The system is fitted out with the 3 following LED displays:

LED yellow **‚ANLAUF'**
Lights up for about 2 min. straight at the switch-on (system is in activation phase, i e the sensor is brought up to operation temperature)

LED green **‚BETRIEB'**
Lights up after about 2 min. (system is ready-to-run)

LED red **‚ALARM'**
Lights up, when alarm is given by the integrated sensor.

Function Test

The function test at the system in operation (LED green lights up) is performed as follows:

- Hold a normal gas lighter in front of the case opening ‚SENSOR ' and let escape gas without igniting the flame.
- In case of proper operating the KombiAlarm compact gives alarm within a few seconds by lighting up the red LED and activation of the acoustic warning signal.
- The alarm goes out as soon as the gas concentration has evaporated.

The function test should be carried out regularly, at least every 4 weeks!

Alarm

If the anesthetic gas concentration or the gas concentration is exceeding the threshold of sensitivity adjusted ex works, the device immediately gives an alarm – volume about 85 dB (A) – by the red warning light and the siren.

- Open then immediately all windows and doors
- Avoid arcing (do not press electrical switches)
- Turn off all gas-operating appliances and open fire
- Do not hesitate to bring children and persons asleep to leave the car.
- Immediately try to find out the cause of the alarm.
- Especially in case of leaking gas system, ensure that the repair is made by a specialist.

⚠ **Do not switch of the device in the event of an alarm!**

False Alarm

According to its purpose, the warning system is adjusted very sensitively. Therefore, the sensor of the system reacts to other gaseous materials.
The use of aerosols (fuel gas in sprays, etc) but also dense tobacco fume or alcoholic evaporations can release an alarm, even if no anesthetic gas or gas is existing.

Technical Data

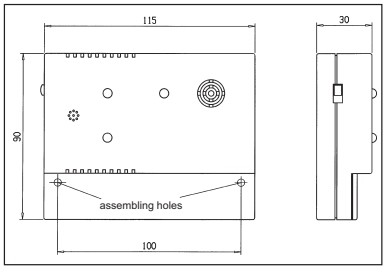
Operating voltage: 12 V DC (-10% / +20%)

Alarm threshold / sensitivity (for anesthetic gas):
Lowest possible from ca 100 ppm
(depends on the anesthetic gas used)

Alarm threshold/sensitivity (for gas), guiding value:
butane (liquid gas) ca 0.4% in the ambient air
propane (liquid gas) ca 0.5% in the ambient air
methane (natural gas) ca 0.8% in the ambient air

Acoustic alarm generator: ca 85 dB (A)
Power consumption: ca 90 mA (state of rest)
ca 145 mA (state of alarm)
Temperature range: -10°C / +40°C
Humidity: max. 95% rel.
Protection level: IP 20 DIN 40 050

Measurements in mm



Subject to changes in construction and design!

Service life

When operating continuously under normal ambient conditions, the expected service life of the sensor is approx. 7 years.

Replace the KombiAlarm compact after a service life of 7 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)
- Moisture and condensate
- Salt-laden atmospheres

Maintenance and cleaning

- Regularly clean the housing of the device with a duster or slightly damp cloth. Remove as much of the dust deposits as possible from the slit openings in the housing.

The KombiAlarm compact must never be sprayed with water!

- Regularly check the functionality of the device (see the chapter on function tests).

Important

- The KombiAlarm compact must be installed properly. Please work as specified in the operating instructions.
- Please consider permitted range of temperature and moisture.
- In case you put the system into operation in a vehicle, you may exclusivly activate the system if the engine is turned off.
- 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.

Disposal

Electrical devices may not be disposed of in normal household waste. In accordance with the law, used electrical devices must be recycled in an environmentally compatible way. At the end of its service life, take the device to the waste disposal facility of your city or community.

Guarantee

We guarantee this device for 2 years from the date of purchase.
The guarantee applies only to material and manufacturing defects. Further claims or other claims, especially those for compensation for injury to persons or damage to property outside of the device, are excluded. There is no legal claim for the compensation of damage arising from fire or explosion. We are under no obligation to make repairs or to replace components whose defects derive from misuse, damage or modification after the date of purchase. The obligation to bear liability arising from the sale of the device will under no circumstances exceed the cost for replacement of the product. Under no circumstances will we assume liability for consequential damages arising from product defects. The warranty does not cover any damages (property damages or injuries to persons) resulting from a robbery with an anesthetic gas. The guarantee applies in connection with the sales receipt which must be sent in with the device. The cost of postage is borne by the customer. Unauthorised work on the device invalidates all guarantee claims.
Your statutory rights are not limited by this guarantee.

The product is intended for private use only, and not for commercial use.

Manufacturer:
ams®
Automatische Mess- und Steuerungstechnik GmbH
Enge Gasse 1, D-91275 Auerbach/Opf.
Phone: +49(0)9643 / 9205-0
Fax: +49(0)9643 / 9205-90
E-Mail: info@ams-messtechnik.de

KAC-0612-2011-GB