Gas monitoring systems

Innovative gas monitoring and control systems for saving energy in Underground Car Parks

KIMESSA AG

Gas monitoring systems

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KIMESSA AG was established in 1985 as an innovator in the design and manufacture of electronic fixed gas detection solutions.

KIMESSA AG specialises in fixed gas monitoring and control systems, with customers drawn from industries including underground car parks, HVAC, laboratories, refrigeration, food and brewing.

KIMESSA AG has achieved worldwide notable success with their acclaimed carbon monoxide monitoring and control equipment in the underground car park market, designed to compliment specialist ventilation systems with some of the world's leading companies in this field.

All of our products are developed and manufactured in Switzerland. 50% of our output is exported through an experienced distributor network.

Certified to ISO 9001:2000 in 2004, KIMESSA AG proves they are committed to meeting their customers demand for robust, high quality and innovative products.

Facts

- Swiss quality engineered products

- Free consulting and project design

- Proven competent and co-operative worldwide customer service

- Maintenance provided by dedicated and motivated personnel

- KIMESSA is committed to develop and innovate while maintaining a strict QC protocol combined with rigorous functional tests on each product

- KIMESSA Gas detection solutions represent 24 years experience in the market

- For more information, please consult our website or a distributor near you. **www.kimessa.com**
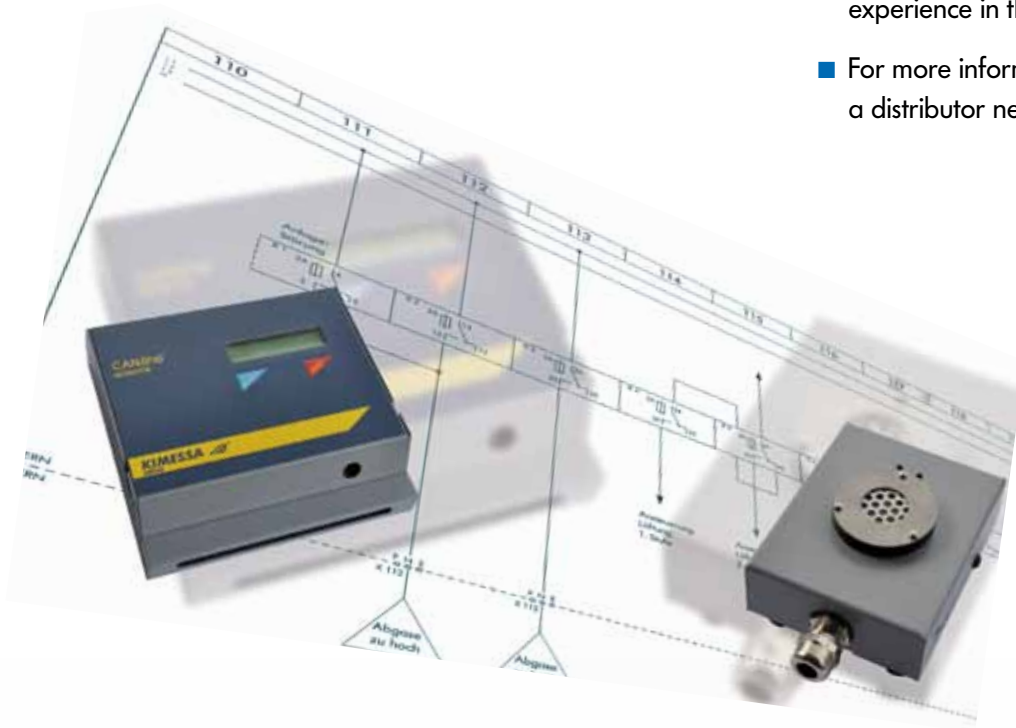
Field of application

Today's society daily lives and works with poisonous, flammable and inert gases. Gas is an economical, functional and essential commodity, but one which can become dangerous if used or released in a non-controlled manner.

Intensive research and development have led to the production of the compact KIMESSA gas monitoring system for industrial and domestic applications. With the DUO*line* and CAN*line* control units, and an extensive variety of Gas Detectors, KIMESSA is helping to prevent accidents and damage to people, homes and the workplace. A gas monitoring system also actively promotes energy saving by monitoring and controlling the use of gas.

Thanks to the superior technical solutions they offer, KIMESSA gas monitoring systems are versatile, of high quality and extremely cost-efficient.

KIMESSA products are subject to stringent quality control and are manufactured using innovative production and testing techniques.

To realise an effective gas monitoring system in your plans, contact KIMESSA or their trained representatives and take the opportunity to benefit from their experience.

Gas Alarm
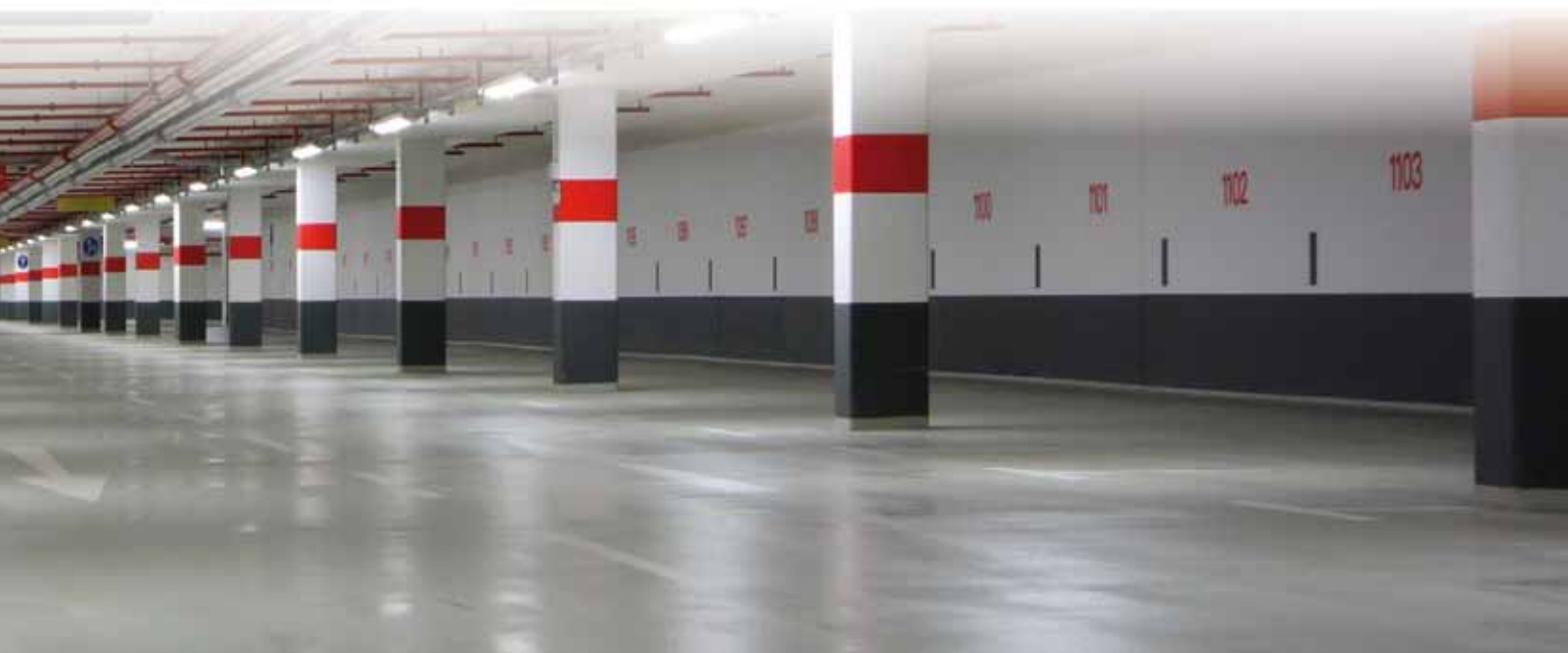
BUS Gas Detection systems for Underground Car Parks

Carbon Monoxide detection systems with CAN*line* BUS system

Carbon Monoxide gas monitoring and ventilation systems are essential equipment in most underground car parking facilities where natural ventilation is inadequate. Likewise in tunnels and vehicle test centres where carbon monoxide can pose a major risk to human health. Energy saving through regulation of ventilation systems, security and air quality are major economic and environmental considerations.

The newly developed CAN*line* control unit, with is innovative technology, offers a dedicated multifunctional approach to regulating and controlling ventilation equipment. Utilising reliable electrochemical sensor technology, a number of digital BUS CO Detectors may be zoned to measure CO and control ventilation. In this way, energy costs can be streamlined while operating effective air quality control.

Positioning of CO Gas Detectors

We can consider the following locations for the positioning of CO gas monitors

- Exits & entrances
- Pedestrian entrances
- Vehicle roadways
- Attended work stations

Gas Detectors may be mounted at ceiling height or at head height where ceilings are high.

Warning messages can be displayed on illuminated remote display boards when CO levels exceed recommended national exposure limits.
As the Gas Detectors are installed on an addressable looped BUS, installation costs are minimised with the CAN*line* system.

Dangerous NOx emissions from diesel engines can also be monitored with new BUS NO_2 Gas Detectors.
As an option, the CAN*line* remote display can be mounted in manned stations to indicate gas concentrations, alarm status and Detector location by parking space number.
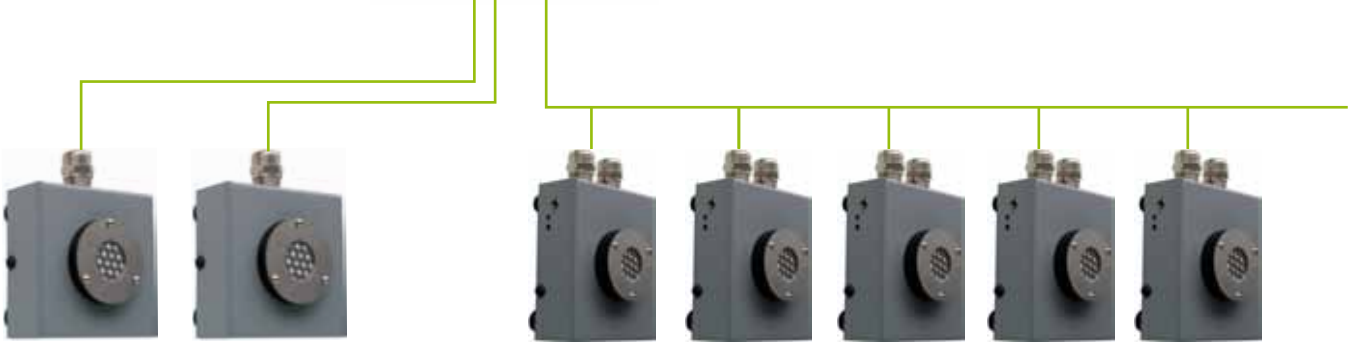

BUS-Wiring, max. 32 BUS-Detectors may be connected
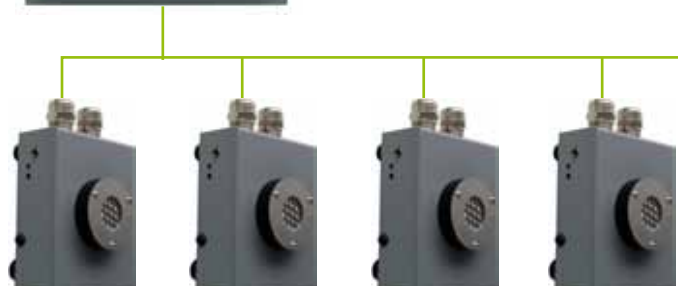
Up to 32 BUS-Detectors can be connected to a CAN*line*

Along with the connection of
BUS-Detectors it is also possible
to connect non-BUS Detectors
(gas, temperature, etc) with a 4...20mA-
output signal to a CAN*line* monitor.

2 x 4..20mA-Detectors Type
KSS 532, for detection of Freon

30 BUS-Detectors loop connected

With the optional CAN*line*-
Connection box it is also possible
to integrate a 4....20mA-Detector into a
CAN*line* BUS system

30 BUS-Detectors loop connected

1 BUS-Detector

CAN*line*-
Connection box

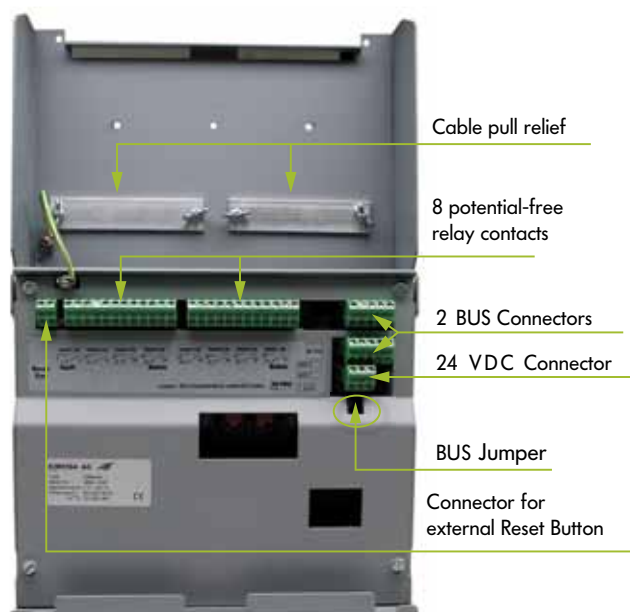4-20mA
Gas Detector
GSP 121 Ex

- Energy optimisation and protection against health risk
- Installation cost saving
- PC based real-time CO monitoring and data-logging

CAN*line* Control unit

- The CAN*line* control unit displays gas concentrations measured and controls the devices connected to it. We can connect up to 32 detectors, remote displays and a maximum of 6 relay cards to the BUS network.

- The SELECT button can be used for selecting several modes of display. The individual sensors may be displayed one after another or the sensor measuring the highest concentration is displayed.

- The integrated timer may be used for a possible periodical switching of the relays.

- Different groups/ zones may be programmed.

- The control unit may be mounted in the control cabinet or directly at the wall.

- The integrated memory function records alarm events and faults.

- The integrated interface is for recording measuring data via computer.

- The CAN*line* BUS gas monitoring solution is extremely cost competitive

- The system has been developed by KIMESSA AG and is manufactured in Switzerland.

Inside View

Cable pull relief

8 potential-free relay contacts

2 BUS Connectors

24 VDC Connector

BUS Jumper

Connector for external Reset Button

Specifications

Operating voltage	20...26 VDC
Emergency power supply	24 VDC
Power consumption	60 mA
Relay contacts	8 potential free 2A 230VAC
Dimensions	H 218 x W 230 x D 63 x mm
Weight	2'700 gr.

Bus-Gas Detector KSEC 504
for detection of Carbon Monoxide CO

Dimensions

120 mm

80 mm

Performance Characteristics

Measuring range:	max. 1000 ppm / linear
Standard calibration:	0...250 ppm / 300 ppm
Response time t 90:	max. 50 sec
Operating temperature:	-10 °C ... +50 °C
Start up after reconditioning:	max. 1 h
Pressure range:	atmospheric ± 10%
Air humidity:	15...90% non condensing
Position sensitivity:	none
Long term output drift:	< 5% / year
Life span at 20 °C:	at least 6 years

Sensor electronic specifications

Cable:	4-core cable, shielded
Power supply:	13.5...30 VDC
Sensor current:	max. 60 mA
Output signal:	digital BUS-signal
Operating temperature:	-40 °C ... +85 °C

Side view

51 mm

Gain-Potentiometer

0.02-2.5 VDC 3.5 mm Jack

Inspection (Maintenance)

The sensor and the electronic require an inspection. Routine calibration is recommended once or twice a year.

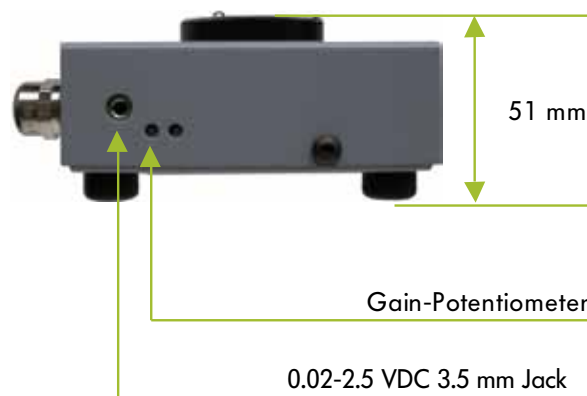## Cross sensitivity to other gases

Test gas	Concentation of the Test gas	Display CO-Sensor
Carbon Dioxide CO_2	5000 ppm	0 ppm
Nitrogen Dioxide NO_2	50 ppm	-1 ppm
Nitric Oxide NO	50 ppm	8 ppm
Hydrogen H_2	100 ppm	20 ppm

Electronic

You will find more technical data sheets of our Gas Detectors on our website **www.kimessa.com**

CAN*line* Display

- The CAN*line* Display is used for displaying the physical values measured.

- Several displays may be connected to the CAN BUS.

- Different groups / zones can be programmed.

- Each sensor may be allocated an individual name.

- The display may be mounted in the control cabinet, at the control cabinet door or directly at the wall.

Inside view

connector plug   cable inlets

Features

- Display of sensors (numerically or alphanumerically) and measured concentrations

- Display of the 4 threshold values when exceeded

Housing base

cable clamp

Specifications

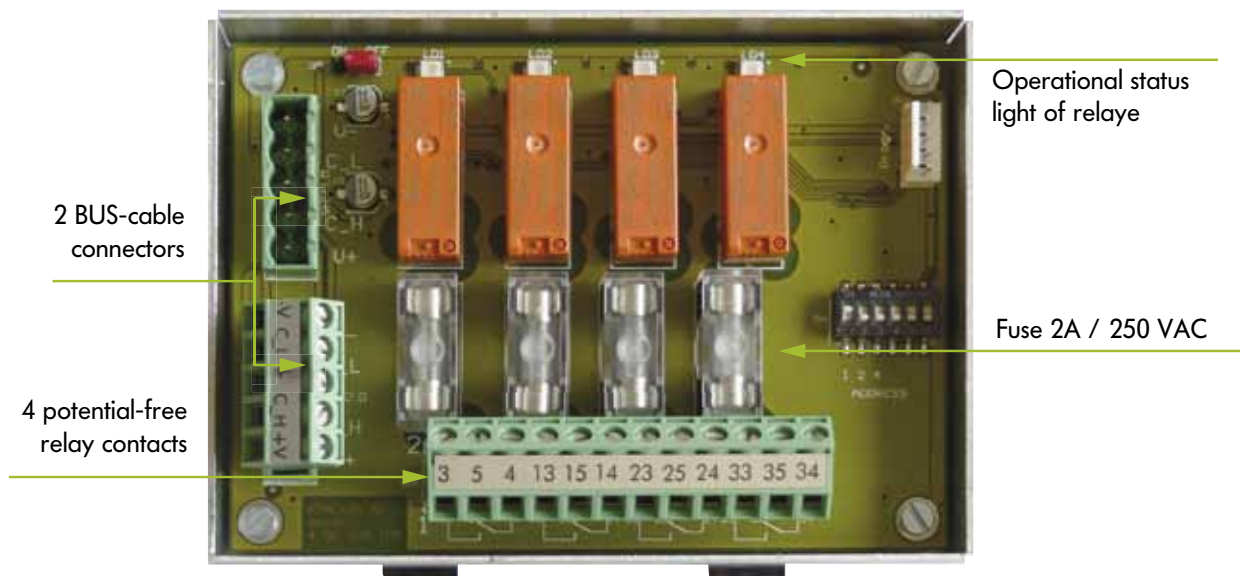|	
Operating voltage	20...26 VDC
Emergency power supply	24 VDC
Power consumption	60 mA
Dimensions	D 38 x H 55 x W 135 mm
Weight	400 gr.

CAN*line* Relay Card

- The CAN*line* Relay Card is used for controlling peripheral devices like fans, alarm displays, signal horns, flasher lamps, gas valves etc.

- The individual relays may be programmed in several modes; e.g. pulsing, manually resetting etc.

- The relay card(s) is merged like a sensor or a display where always desired into the CAN network.

- Up to 6 relay card may be connected to one CAN Bus.

- The relays are protected by fuses from external overload.

- The relay card is preferably mounted in the control cabinet together with the CAN network power supply.

Features

- 4 potential free relays contacts per card 2A 230VAC
- LED indicates active relay
- Overload fuse protection for each relay
- Maximum of 6 relay cards per CAN-Bus
- DIN rail-mounting

Specifications

Operating voltage	20...26 VDC
Emergency power supply	24 VDC
Power consumption	25 mA
Dimensions	D 50 x H 87 x W 120 mm
Weight	220 gr.

Operational status light of relaye

2 BUS-cable connectors

Fuse 2A / 250 VAC

4 potential-free relay contacts

Gas monitoring systems of the fine kind for other applications

(mainly products of ATEX-Category 2G and 3G for Zone 1 and 2)
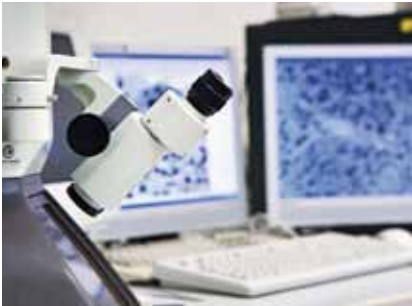
■ **Gas monitoring in laboratories**
  Typical Gases: O_2, CO_2, H_2, CH_4, C_3H_8

■ **Gas monitoring in sewage treatment plants**
  Typical Gases: CH_4, CO, C_3H_8

■ **Gas monitoring in sewage treatment plants**
  Typical Gases: NH_3, O_2, CH_4, H_2S

■ **Gas monitoring in chemical industry**
  Typical: solvents, O_2, varnishes, etc.

Also:

- ■ personnel safety
- ■ energy plant rooms
- ■ food production
- ■ beverage production
- ■ paper production

- ■ loading platforms
- ■ petrochemical plants
- ■ chemical industry
- ■ pharmaceutical plants
- ■ refrigeration plants

References (Samples)

Airport Zuerich/Switzerland
30 CO-Detectors

Laois Train Depot in Portlaoise, Ireland
21 CO, 5 CH_4-Detectors

Einstein Congress St. Gallen/Switzerland
22 CO/NO_2, 2 Freon, 2 CH_4-Detectors

Elysian Building, Cork City/Ireland
48 CO-Detectors

Roche Basel/Switzerland
78 CO-Detectors

Hospital Bolzano/Italy
64 CO, 64 LPG-Detectors

The Hemisphere, Birmingham/UK
18 CO-Detectors

WOW Airport Hotel Istanbul/Turkey
55 CO-Detectors

ISO-Certification

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