



GSZ 300

Gas Detector zirconium oxide

Gas detector with zirconium oxide sensor, for indoor and outdoor use, designed for monitoring oxygen levels.

Fast response time, long service life and minimal calibration requirements make the GSZ 300 an ideal reliable gas sensor in all industrial sectors.

Features

- Continuous monitoring for oxygen depletion and enrichment concentrations
- Low cross-sensitivity to other gases
- Protected against dusty and dirty environments
- High accuracy
- Long service life
- IP54, IP67, IP69K variants available

Sensor Technology

Gas Sensor GSZ 300 is designed for the monitoring of oxygen depletion and enrichment comply with occupational exposure limits (AGW).

The zirconium oxide sensor has a long service life of at least 5 years, long-term stability and has a low cross sensitivity to other gases.

It is suitable for use in harsh industrial environments - and with our especially developed waterproof housing, is ideal for use in food processing or wet areas.

Further fields of application:

- Air Quality Monitoring
- Food Industry
- Greenhouses
- Fruit and Vegetable Storage
- Biogas Facilities
- Medical Equipment
- Laboratory Instruments

Sensor Connection

We recommend a stable 24 V DC power supply to operate the gas sensors GSZ 300. The allowed voltage range is 18 to 36 V DC. The sensor may be connected using a shielded cable with two twisted pairs, i.e. JY(St)Y 2 x 2 x 0.8 mm, using the wires:

- Red: +24 V DC, Terminal 1
- White: Sensor output 4 - 20 mA, Terminal 2
- Black: 0 V, Terminal 3
- Yellow: PE/Shield, Terminal 4

We recommend twisting the supplementary earth wire and the yellow wire at the control unit and connecting those two to sensor terminal 4 (PE).

At the sensor end the supplementary wire is to be connected to the enclosure, making sure that the bare wire does not touch any of the electronic parts.

If the sensor box is mounted on a steel structure connected to PE, the supplementary wire and terminal 5 should not be connected to the enclosure.

Special requirements require special solutions

Due to a waterproof but gas-permeable construction, a diffusion measuring head specially developed for the application, robust technology and a housing specially adapted for SCENTY® gas sensors in the food industry, the sensor technology is virtually insensitive to high-pressure cleaners and water.

Due to the high demands on the protection class - especially in the food industry - we had checked the protection class IP67 and IP69K of the SCENTY® gas detection again. The test was performed by an accredited test institute and the protection classes have been reconfirmed.

The SCENTY® gas sensors are waterproofed and reliably protect against the dangers of toxic and flammable gases.



Information for the English Version:

Our notes on German regulations do not necessarily apply in your country. The respective National Regulations for the safe handling of gases and the use of gas warning systems should be strictly observed. Worldwide we only work with authorized sales and service partners. Regular training and instruction ensure optimum safety and quality. We will be happy to put you in touch with our partners in your country.

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Adjustment Instructions

Zirconium oxide sensors are immediately ready for use after a short warm-up period of approx. 5 minutes. Adjustment is rarely necessary after factory calibration. Please refer to the operating instructions for this. The test gases used must be at ambient temperature, i.e. the same temperature as the detector.

The adjustment of the gas sensor may only be carried out by qualified persons.

For the adjustment and calibration of SCENTY® Gas Detection Systems and Gas Sensors, appropriate software modules are required.

Safety instructions

Careful handling of the gas sensors and their use in areas where monitoring is required needs specialist knowledge and procedures, which can be found in the relevant Instruction Manual. It is theretofore imperative that the section in the manual titled "Safety Instructions for Installers and Operators" is read and strictly observed!

Technical rules for hazardous substances - Occupational exposure limit values TRGS 900

The current occupational exposure limit values (OELs) can be found in the Table contained within the Data Sheet. The limit values were defined by TRGS900 and may change. Please check the valid workplace limit values before defining the limit values.

https://www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/pdf/TRGS-900.pdf?__blob=publicationFile

The Technical Rules for Hazardous Substances (TRGS) represent the state of the art in technology, occupational medicine, occupational hygiene and other scientific evidence for activities involving hazardous substances, including their classification and labelling.

They are drawn up by the Committee for Hazardous Substances (AGS) and are updated by it in line with developments. The TRGS are published by the Federal Ministry of Labour and Social Affairs (BMAS) in the Joint Ministerial Gazette (GMBL).

Installation

The gas sensor is suitable for wall or ceiling mounting. For mounting we recommend an installation height of 80-120 cm above the ground. The installation location should only be determined by a specialist.

Commissioning

All sensors are factory calibrated by HTK. The setting of the sensor must be checked during commissioning by means of a gas test. For this purpose, appropriate software modules are required.

Maintenance

Maintenance at certain intervals is required in order to maintain functional reliability.

The maintenance interval can be found on the test sticker on the control panel.

SCENTY® Series Zirconium Oxide Sensors should be maintained every year. The maintenance interval must be determined and set in the risk assessment and the recommendations of HTK Hamburg. Please note the maintenance requirements according to T021/T023 of the BG. For Maintenance of SCENTY® Gas Detection Systems and Gas Sensors are corresponding software modules required.

Assembly instructions

Everything at a glance

Further information on installation heights and the dimensions of our sensor housings and our Stainless steel protective cover can be found in our Data Sheet "Gas Sensor Mounting Instructions".



Option: Stainless steel protection housing



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Decommissioning

If the sensor is out of operation for longer than 4 weeks, it must be checked after one week of operating time with test gas and recalibrated if necessary.

Technical Data

Housing	Glass fibre reinforced plastic housing/ Aluminium housing
Dimensions	90 x 80 x 80 mm (L x W x H)
Protection class	IP54 (Standard), IP67 (Option), IP69K (Option)
Measuring principle	Zirconium oxide
Service life	High service life, ≥ 5 years
Gas inlet	Diffusion
Target gas	Oxygen
Measuring range	0-25 Vol.% or 0-100 Vol.%
Humidity	0-95% rH, non-condensing
Temperature range	-20°C ... +50°C
Output signal	4 - 20 mA, 3-wire, temperature compensated
Power supply	18 - 36 V DC
Connecting cable	up to 600 m e.g. IY(St)Y 2 x 2 x 0,8 above 600 m e.g. 4 x 1.5 mm ² shielded

Gas types and measuring ranges

Medium	Formula	OELs [ppm]	Mounting Location	Note
Oxygen	O ₂	17	Eye level	> 30.000 operating hours

Highest reliability and maximum performance, various measuring ranges and special designs for special applications in a compact housing.

The list is not exhaustive. Further sensors for gas types are available on request.

Please contact us if you cannot find your target gas!