GSF 300

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MPS™ flamable Gas Sensor

The GSF 300 MPS™ from the SCENTY® series for combustible gases sets new standards in gas detection in occupational safety, as well as monitoring for leaks when combustible gases are used in production in all industrial sectors. The new measurement technology precisely, quickly and accurately detects over a dozen flammable gases and gas mixtures without specific calibration.

Features

The innovative and intelligent measurement technology of the GSF 300 MPS™ gas sensor detects and quantifies combustible gases and gas mixtures precisely and without specific calibration with the respective gases.

Integrated monitoring and continuous self-testing ensure fail-safe operation. Faults or sensor failure are immediately detected and reported. The intrinsically safe and robust gas sensor has no crosssensitivities and offers industry-leading performance thanks to its unique sensor technology.

With a 5-year lifetime, the GSF 300 MPS™ gas sensor is the perfect choice for monitoring combustible gases in potentially hazardous environments.

- Automatic gas detection
- No cross-sensitivity
- 5 years lifetime
- Intrinsically safe
- Measuring pill ATEX/IS certified
- Built-in self-test for fail-safe operation

Operating Principle

Other sensors such as semiconductors, PID or IR measuring technology are calibrated for a specific type of gas and can lead to considerable measurement deviations or unusable or gas mixtures can lead to significant measurement deviations or unusable measurement results.

The GSF 300 MPS™ gas sensor with new sensor technology automatically detects combustible gases and gas mixtures in real time, without further specific calibration.
This means that almost all combustible gases and gas mixtures in the ambient air can be reliably detected.

The GSF 300 MPS™ gas sensor automatically detects a wide range of gases and gas mixtures such as hydrogen, methane, biogas, ethanes, propanes, butanes, isopropanol, pentanes, hexanes, octanes, toluenes and xylenes.

We are constantly working on the further development of our gas sensors and are open to specific requirements that are not included in our list. Please feel free to contact us at any time.

Flammable gases detected

The volume percentage (%VOL) corresponding to 100 %LEL for a given gas varies across regions and standards due to differences in criteria, including the methods used for ignition and for the determination of an explosion. The MPS Flammable Gas Sensor is factory calibrated to report %LEL concentrations in accordance to the ISO 10156 standard, and automatically achieves the accuracies indicated in the table overleaf without any recalibration or adjustment.

To instead report %LEL concentrations according to IEC60079-20-1 and companion specification EN61779, simply multiply the %LEL reported by the MPS Flammable Gas Sensor by a factor of 1.136.
The accuracy levels indicated in the rightmost column will then be achieved without any further recalibration or adjustment.

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GAS

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.

Gas Types and Measuring Ranges

Medium	Formula	Detection Range [%LEL]	% Volume of gas at 100% LEL (ISO 10156)	MPS Accuracy at 50 %LEL (ISO 10156)	% Volume of gas at 100% LEL (IEC60079-20-1)	MPS Accuracy at 50 %LEL (IEC60079-20-1)
Butane	C4H10	0-100	1.8 %VOL	±5 %LEL	1.4 %VOL	±5 %LEL
Ethane	C2H6	0-100	3.0 %VOL	±5 %LEL	2.4 %VOL	±5 %LEL
Hexane	C6H14	0-100	1.1 %VOL	±8 %LEL	1.0 %VOL	±5 %LEL
Hydrogen	H2	0-100	4.0 %VOL	±5 %LEL	4.0 %VOL	±5 %LEL
Isobutane	HC(CH3)3	0-100	1.8 %VOL	±5 %LEL	1.3 %VOL	±9 %LEL
Isobutylene	C4H8	0-100	1.8 %VOL	±5 %LEL	1.8 %VOL	±5 %LEL
Isopropanol	C3H8O	0-100	2.0 %VOL	±10 %LEL	2.0 %VOL	+20 %LEL
Methane	CH4	0-100	5.0 %VOL	±3 %LEL	4.4 %VOL	±3 %LEL
MEK	C4H8O	0-100	1.4 %VOL	±5 %LEL	1.5 %VOL	+16 %LEL
Octane	C8H18	0-100	1.0 %VOL	±5 %LEL	0.8 %VOL	±5 %LEL
Pentane	C5H12	0-100	1.5 %VOL	±5 %LEL	1.1 %VOL	±6 %LEL
Propane	C3H8	0-100	2.1 %VOL	±5 %LEL	1.7 %VOL	±6 %LEL
Propylene	C3H6	0-100	2.4 %VOL	±5 %LEL	2.0 %VOL	±5 %LEL
Toluene	C7H8	0-100	1.2 %VOL	±10 %LEL	1.0 %VOL	±10 %LEL
Xylene	C8H10	0-100	1.1 %VOL	±10 %LEL	1.0 %VOL	±10 %LEL
Acetone	C3H6O	0-100	2.5 %VOL	+20 %LEL	2.5 %VOL	+24 %LEL
Ethylene	C2H4	0-100	2.7 %VOL	−11 %LEL	2.3 %VOL	−11 %LEL
Heptane	C7H16	0-100	1.1 %VOL	+15 %LEL	0.85 %VOL	+6 %LEL
Styrene	C8H8	0-100	1.1 %VOL	−20 %LEL	1.0 %VOL	−17 %LEL

Data without guarantee

Notes:
1) Accuracy guaranteed for methane across full environmental range.
2) Other gases will typically meet published tolerances across the full environmental range, but guaranteed only near standard conditions: 20°C, 50%RH.
3) Accuracy (+) %LEL corresponds to a higher-than-delivered reading and Accuracy (−) %LEL corresponds to a lower-than-delivered reading.
4) The MPS is also confirmed to detect other gases including ammonia, acetylene, ethanol, and methanol. Contact us for more information.

Technical Data

Housing	Glass fibre reinforced plastic housing
Dimensions	90 x 80 x 80 mm (L x W x H)
Protection class	IP54 (Standard), IP67 (Option), IP69K (Option)
Measuring principle	MEMS sensor
Service life	5 years
Gas inlet	Diffusion
Medium	See Table
Measuring range	0-100 %LEL
Resolution	0.1 %LEL
Humidity	0...100% rH,
Ambient temperature	-40°C ... +75°C
Ambient Pressure	800...1200 mbar
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 mm² shielded
Approval: Sensor without PCB	IEC 60079-0:2017 IEC 60079-11:2011 EN 60079-0:2018 EN 60079-11:2012 FM 3600:2018 FM 3610:2018 CSA 22.2 60079-0:19 CSA 22.2 60079-11:14

Gas detection systems and accessories

Everything at a glance

Evaluation units, signal transmitters, other sensors and accessories can be found quickly and easily on our website.

Your direct way to us:

www.scenty.de

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 and ceiling mounting. The mounting location and the mounting height depend on the type of gas to be monitored. The planning and execution should 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.
The maintenance interval must be determined and set in the risk assessment and in accordance with the 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.

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.

Information for the Englisch 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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