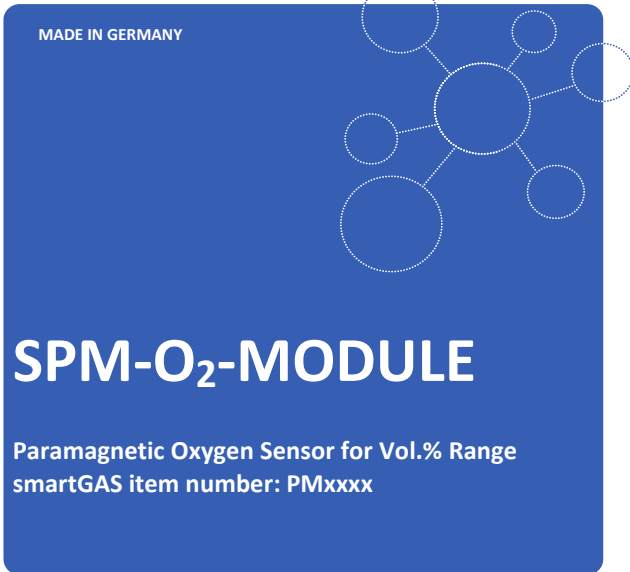


MADE IN GERMANY



SPM-O₂-MODULE

Paramagnetic Oxygen Sensor for Vol.% Range
smartGAS item number: PMxxxx

Product features:

- Long lifetime
- Long-term stability
- High performance measurement
- Maintenance-free
- Fast response time
- Internal heated
- Thermal Isolated
- Compact design



The paramagnetic sensor utilizes the paramagnetic susceptibility of oxygen. The sensor incorporates two glass spheres mounted on a rotating suspension. This assembly is suspended in a strong magnetic field. The oxygen in the surrounding gas is attracted to the magnetic field, resulting in a force on the glass spheres. The strength of torque acting on the suspension is proportional to the oxygen content of the surrounding gases. **SPM-O₂-MODULE** use this magnetomechanical form, with the 3 seconds fast response time which can offer high performance measurement data of oxygen. The span calibration can be adjusted within 85%-110% of span point, which offer better linearity. The modules are maintenance-free, have a long lifetime, give a rapid and accurate signal response and are virtually insensitive to other gases. It has a compact design which meets high quality standards.

Options

- Different Ranges
- Different Interfaces
- Calibration and Test-Gases
- Gas Cooler, Filter
- Pre-Treatment

Support

- Design-In support
- Customization:
 - Software
 - Protocols
 - Measuring ranges
 - Background gas optimizing
 - Interfaces

General features

Measurement principle:	Paramagnetic Oxygen Measurement
Measurement range:	0 ... 10/25/30/100 Vol.-% Full Scale (FS)
Gas supply:	by flow (nearly atmospheric pressure)
Operating temperature:	5°-45°C, (heated measuring cell 55°C)
Mounting dimensions:	200 mm x 120 mm x 113.2 mm (L x W x H) with stands L: 215mm with Gas connections
Warm-up time:	< 60mins @20°C Environment

Measuring response*

Response time T90	3 s with 150 ml/min flow and gas change from nitrogen to air
Repeatability:	<±0,03% of FS (time base for gas switch >= 5 min)
Linearity error (straight line deviation):	<1% of O ₂
Long term stability (zero):	<±0.1 % of O ₂
Long term stability (span):	<±1% of O ₂

Influence of T, P, flow rate*

Temp. dependence (zero):	<±0,02% of O ₂ per °C
Flow rate dependence:	<±0.1% of O ₂ between 20 and 100ml/min
Effect of Tilt	<±0.02% of O ₂ per 1° tilt from horizontal
Gas dew point requirement:	< + 5°C dew point (stable), particle free and clean sample gas

Electrical parameters

Supply voltage	24VDC / 15W
Analog Output	(0)4..20 mA / other on request
Permissible load resistance	250Ω~350Ω
Power /Signal Connector	Weipu SP1310/S71

Inlet Gas Requirement

Gas Inlet Flow Rate	Max 250ml/min Optimal 100ml/min (Flow fluctuations≤±0.02L/min)
Inlet Gas pressure	Defined by max flow rate. Outlet pressure less ± 300 hPa
Inlet Gas Temp.	5-45°C
Moisture in Gas	not condensing
Dust in gas flow	100µg/m ³ , ≤1µm, Dust filter required
Gas Inlet/Outlet	4/6mm Rubber tube fitting
Materials of gas conducting parts	PU, PVDF, glass, steel 1.4571, gold, viton®, platinum, epoxy resin, nickel

Options

Different Analog Interfaces also High Voltage Isolated Industrial Standard

Rage from 0-10 up to 0-100 Vol.%

Option for Chlorine CL₂ Background Gas

* Typical values related to 1013 hPa, Ta = 22 °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas.
Stated values exclude calibration gas tolerance.

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For more information, please visit www.smartgas.eu or contact us at sales@smartgas.eu

Please consult smartGAS sales for parts specified with other temperature and measurement ranges. At first initiation and depending on application and ambient conditions recalibration is recommended. Recurring cycles of recalibration are recommended.