

PRODUCT OVERVIEW

GAS DETECTION OxyDetect

SAFE & HAZARDOUS AREAS



GAS	MEASURES	APPLICATION
OXYGEN	PERCENT	SAFETY

SENSING TECHNOLOGY

PARAMAGNETIC



NON-DEPLETING PARAMAGNETIC O₂ AREA MONITOR DESIGNED FOR OPERATOR PROTECTION APPLICATIONS

UNRIVALLED PERFORMANCE

- Innovative oxygen depletion detection from the industry leader in paramagnetic sensing technology
- Uses advanced microprocessor-based diagnostics that are safe, reliable and easy to access

FLEXIBLE

- Suitable for indoor use for temperatures ranging from +41°F to +113°F (+5°C to +45°C)
- Light wall-mountable design for easy installation
- Output range of 0-25% O₂
- 3 x SPCO relays, Alarm 1, Alarm 2, Fault
- Ethernet or Modbus TCP

EASY TO USE

- Easy to use digital interface
- Fault alarm via mA jam to 0mA and SPCO relay
- Simple integration via isolated 4-20mA output with linear measurement

LOW COST OF OWNERSHIP

- Non-depleting paramagnetic design delivers long life sensor without measurement deterioration
- Eliminates costs associated with regular replacement of electrochemical cells
- Exceptional measurement stability eliminates need for frequent calibration
- Not affected by sterile area cleaning agents

BENCHMARK COMPLIANCE

- SIL2 hardware compliance
- Hazardous Area ATEX Cat. 3, IECEx Zone 2, North American Class 1, Div 2

KEY APPLICATIONS

- Pharmaceutical plants
- Helium production and storage
- Semiconductor facilities
- Laboratories and universities
- Industrial gas plants and storage
- Air separation units (ASU's)
- Enclosed areas: refineries; hydrocarbon processing; chemicals

For more information please contact us

Visit servomex.com/contact



SERVOMEX.COM

SERVOMEX
a spectris company

PRODUCT OVERVIEW

GAS DETECTION OxyDetect

SAFE & HAZARDOUS AREAS

A BREAKTHROUGH IN AREA MONITORING

A general purpose/safe area (O₂) detector that accurately monitors oxygen levels without the sensor deterioration that affects traditional electrochemical sensors used in competitor detectors. Designed for use in operator protection applications, the OxyDetect utilizes the Hummingbird Paracube® Modus Paramagnetic sensor, whose industry-leading levels of linearity, accuracy and reliability have ensured its use as a trusted O₂ sensor for the OEM medical market. The OxyDetect demonstrates several advantages over traditional technologies, ensuring an unprecedented level of safety and performance as well as a lower cost of lifetime ownership.

A NO COMPROMISE SOLUTION

At the heart of the OxyDetect is the tried and tested Servomex Paramagnetic technology. The OxyDetect is certified for Zone 2/Division 2 monitoring, yet the Oxydetect still offers a significant reduction in cost of ownership. The Oxydetect utilizes advanced microprocessor-based diagnostics that are safe, reliable and easy to access via a simple front panel digital interface.

UNBEATABLE VALUE OVER PRODUCT LIFE

Unlike traditional electrochemical sensors, paramagnetic technology is 'non-depleting'. This means that the oxygen sensor will not need to be replaced on a routine (typically annual) basis. This means less maintenance and less down time when your safety depends on detector availability.

USEFUL LINKS



PBTDSOxyDetect Rev. 0 Date: 05/20

These analyzers are not intended for any form of use on humans and are not medical devices as described in the Medical Devices Directive 93/42/EEC.

Please note: Whilst every effort has been made to ensure accuracy, no responsibility can be accepted for errors and omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards and guidelines. This document is not intended to form the basis of a contract.

Servomex has a policy of constant product improvement and reserves the right to change specifications without notice. © Servomex Group Limited. 2020. A Spectris company. All rights reserved.

TECHNICAL DATA SHEET

GAS DETECTION OxyDetect



SPECIFICATIONS

GAS MEASURED	Oxygen	
TECHNOLOGY	Paramagnetic	
PERFORMANCE	GENERAL PURPOSE LOCATIONS	HAZARDOUS AREA LOCATIONS
Measurement	0-25% O ₂	0-21% O ₂
Accuracy (intrinsic error)	±0.2% O ₂	
Zero drift	<±0.2% O ₂ per month*	
Zero temp coefficient	<±0.5% O ₂ per 10°C	
Ambient pressure effects	<0.04 reading per 1% change ambient pressure	
SIGNAL OUTPUTS/INPUTS		
Analog outputs	Isolated 4-20mA, user selectable over measurement range	
Relay outputs	3 x SPCO contacts: 250Vac, 3A or 28Vdc, 1A Alarm 1, Alarm 2, Fault	
Ethernet output	Diagnostics and measurement data, standard RJ45 connector Modbus TCP	
PHYSICAL		
Size	8.3" (210mm) W x 7.9" (200mm) H x 4.2" (106mm) D	
Weight	<5.5lbs (2.5kg)	
SAMPLE CONDITIONS		
Sample gas	Ambient air	
Sample pressure	Atmospheric	
Operating temperature	+41°F to +113°F (+5°C to +45°C) Hazardous location certified +23°F to +113°F (-5°C to +45°C)	
Storage temperature	+23°F to +122°F (-5°C to +50°C)	
Ingress protection (enclosure)**	IP66	
Others (hazardous area version)	Instrument rated Pollution Degree 2 - indoor use only	
OPERATING ENVIRONMENT		
Operating pressure range	Ambient. 80 to 110 kPa (11.6 to 16 psi) hazardous areas	
Relative humidity	10 to 80% RH, non-condensing	
Altitude	-1,600ft to 6,500ft (-500m to 2,000m)	

* After first 48 hours of operation

** In operational use consideration must be made for the protection of the sensor opening which is rated to IP40.
Therefore, the instrument should not be exposed to washing with liquid jets.

The performance specification has been written and verified in accordance with the international standard IEC 61207-1:1994 "Expression of performance of gas analyzers"



SERVOMEX.COM

SERVOMEX 
a spectris company

UTILITIES	
Power	24V dc (10V minimum; 28V maximum) 3VA
CALIBRATION GAS REQUIREMENTS	
Calibration gas flow rate	300ml/min $\pm$ 50ml/min
High calibration set-point	Supplied via the calibration cap 21 $\pm$ 0.5% O ₂ Balance N ₂ (synthetic air) Optional - ambient air by diffusion 20.9% O ₂
Low calibration set-point	0% O ₂ (zero grade nitrogen recommended)
Validation check gas (optional)	17 to 18% O ₂ $\pm$ 0.5% O ₂ Balance N ₂
Minimum difference between low calibration and high calibration points	20% O ₂

OPTIONS

DESCRIPTION	
Detector type	Safe area ATEX Cat 3 / IECEx Zone 2 N. American CL 1 DIV 2 ☐
Sensor	Oxygen ☒
Digital communications	None Modbus TCP (Ethernet) ☐
User manual	English ☒
Functional safety manual	Not required Required ☐

COMPLIANCE

HAZARDOUS AREA APPROVALS	
ATEX	 II 3G Ex ic ec nC IIC T4 Gc (-5°C $\leq$ Ta $\leq$ +45°C)
IECEx	Ex ic ec nC IIC T4 Gc (-5°C $\leq$ Ta $\leq$ +45°C)
North American	Class I, Division 2, Groups A-D, T4 Class I, Zone 2 Group IIC, T4 Ambient temperature range -5 to +45°C IP66
EC DIRECTIVES	
This product complies with the EMC Directive, RoHS II Directive, and all other applicable directives.	
ELECTRICAL SAFETY	
Electrical safety to IEC 61010-1	



DIMENSIONAL DRAWINGS



Dimensions shown in millimetres



> WE'RE READY TO HELP

WHATEVER YOUR GAS ANALYSIS REQUIREMENTS, WHEREVER YOU ARE

PBTD5OxyDetect Rev. 0 Date: 05/20

These analyzers are not intended for any form of use on humans and are not medical devices as described in the Medical Devices Directive 93/42EEC.

Please note: *Whilst every effort has been made to ensure accuracy, no responsibility can be accepted for errors and omissions.*

*Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards and guidelines.
This document is not intended to form the basis of a contract.*

Servomex has a policy of constant product improvement and reserves the right to change specifications without notice. © Servomex Group Limited. 2020.
A Spectris company. All rights reserved.