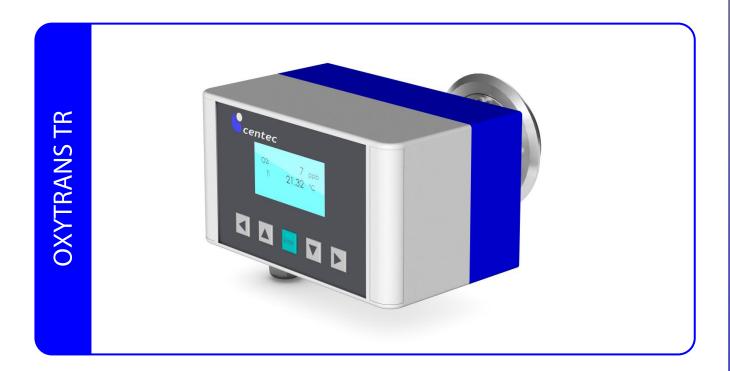


Optical O₂ Measurement in Liquids and Gases



The Principle

OXYTRANS TR is an optical oxygen sensor for measurement of O₂ in e. g. deaerated water, wort, beer, beverages, liquid food, CO2 and protective gases. The instrument is designed for applications requiring maximum sensitivity and highest accuracy. The measurement technology is based on the radiationless redistribution of excitation energy via molecular interaction. In the measuring head a small glass component with a thin layer of indicator molecules is installed, the optical window. The indicator molecules are illuminated with blue-green light produced by an LED in the sensor. They absorb the incident light and are promoted to a higher energy state. After a certain time the molecules convert back to their ground state, during which red light is emitted. The red light is detected inside in the sensor. If O₂ molecules are present the energy is transferred from the excited indicator molecules to the oxygen. The detected signal decreases with increasing concentration of O₂ molecules in the product. Other gases don't absorb this energy, so they have no impact on the measurement result.

Highlights

Technical Data	
Liquid Phase Measuring Ranges	I) 1 ppb - 2 ppm II) 30 ppb - 35 ppm
Accuracies	I) ± 1 ppb II) ± 30 ppb
Gas Phase Measuring Ranges	I) 0 - 4,2 % O ₂ II) 0 - 50 % O ₂
Accuracies	I) ± 0,002 % O ₂ II) ± 0,03 % O ₂
Response Time	t90 ≤ 10 s
Pressure of Operation	max. 12 bar
Temperature of Operation	- 5 - + 55 °C (Pt100) option: + 98 °C
Material	1.4404/AISI 316L, silicone (FDA), PTFE (FDA)
Input	3 x digital (24 VDC)
Output	3 x digital (24 VDC) & 2 x analog (4 - 20 mA) option: Profibus DP
Enclosure Rating	IP65
Power Supply	24 VDC

Optical technology, no electrolyte and membrane changes Short response time and excellent long-term stability Hygienic execution; various flange connections

The Centec Group

Centec offer fully automated, skid-mounted process units and high precision measurement technology from a single source. Our systems and sensors are engineered to perfectly meet the most demanding requirements of the brewery, beverage, food and pharmaceutical industries. With a team of experienced engineers, we aim to create quantifiable added value for our customers. We are your partner from planning and design through to commissioning of your plant.



ProDetec Pty.Ltd.

- P. +61 (02) 9620 8700
- F. +61 (02) 9620 8755
- E. info@prodetec.com.au
- A. 17/38 Powers Rd, Seven Hills NSW 2147 www.prodetec.com.au

Centec Gesellschaft für Labor- & Messtechnik mbH Wilhelm-Röntgen-Strasse 10 63477 Maintal. Germany **6181 1878-0 9 9**

+49 6181 1878-50

centec.de centec.cz centec-uk.com centec-usa.com centecrrr.com