OXYTRANS TR

Optical O_2-Sensor

- Highly precise and fast Oxygen in Liquids and Gases
- Optical, without Membrane or Electrolyte
- Inline and compact with local display
- Analogue and digital In-/Outputs, optional Profibus
- Long run stable, low response time
- Easy Maintenance, hygienic Construction, CIP-capable

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The O_2-transmitter Oxytrans TR measures continuously and exactly the content of oxygen in liquids and gases. The sensor is especially designed for breweries and further applications with high requirements, e.g. power plants or bioreactors. The optical principle of measurement is based on the effect of dynamic luminescence quenching by molecular oxygen. The indicator layer on the glass installed in the measuring head is illuminated with a blue-green-light. With this, the indicator molecules are transferred into an excited state and emit a red light and detected by the internal detector. If oxygen is in the medium, this luminescence effect is prevented by energy transfer to the oxygen molecule. After the collision with the indicator molecule the oxygen molecule is transferred from its ground state (triplet state) to its excited singlet state. As a result, the indicator molecule does not emit luminescence and the measurable luminescence signal decreases linear to existing oxygen concentration. This decrease is the basis for the oxygen calculation. The O2-concentration can be displayed in different units like ppb, ppm, %oxygen, etc.

Technical Data:

Measuring range (liquid phase):	I) 1 ppb – 2 ppm or II) 30 ppb – 35 ppm
Accuracy (liquid phase):	I) +/- 1 ppb or II) +/- 30 ppb
Measuring range (gas phase):	I) 0 – 4,2 %O_2 or II) 0 – 50 %O_2
Accuracy (gas phase):	I) +/- 0,002 %O_2 or II) +/- 0,03 %O_2
Response time:	T90 < 10s
Temperature comp.:	PT100
Temperature range, Medium:	Measurement: -5°C - 55°C Resistance: max. 130 °C
Pressure range:	Max. 12 bar
Material in contact with medium:	Stainless steel 1.4404, Silicone (FDA), PTFE (FDA)
Process Connections:	- DN65 Varivent©, comp. to Inline housings DN40-150 - DIN, ANSI, others on request
Inputs:	- 2x digital (24 VDC)
Outputs:	- 3x digital (24 VDC) - 2x analog (4-20 mA)
Optional:	Profibus DP
Enclosure rating:	IP 65
Power supply:	24 VDC

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