

# Digital oxygen sensor Memosens COS81D

## Memosens optical oxygen sensor for hygienic applications in Life Sciences, Pharma and Food



More information and current pricing:

[www.de.endress.com/COS81D](http://www.de.endress.com/COS81D)

### Benefits:

- Hygienic design according to EHEDG and ASME BPE (incl. USP class VI and FDA compliance) avoids cross-contamination and fulfills all GMP and GLP requirements.
- The sensor can be used in process applications as well as benchtop fermenters. Providing you with 100% measuring consistency from the first lab trials to the final scaled-up process and your process lab.
- More process up-time than ever before thanks to sensor exchange within seconds: precalibrate the sensor in your lab and then swap it into your process with plug & play. It does not need polarization time and is immediately ready to measure.
- A built-in reference LED compensates the ageing of the measuring LED. This ensures reliable measured values throughout your entire batch production.
- Reduce your maintenance effort: Memosens COS81D does not have a difficult-to-handle electrolyte or sensitive membrane. Just exchange the sensor cap, perform a calibration and you are done.
- Memosens COS81D stores important sensor and process data in its intelligent head. The Memobase Plus CYZ71D sensor management software can use all this data to document the complete sensor lifetime offering full traceability with minimal paperwork.
- Suitable for CIP/SIP and autoclaving and approved for hazardous area use.

### Specs at a glance

- **Measurement range** 0.004 to 30 mg/l 0.05 to 330 %SAT 0.1 to 700 hPa
- **Process temperature** 0 to 140 °C (32 to 284 °F)

- **Process pressure** 0.02 to 13 bar abs (0 to 190 psi)

**Field of application:** Memosens COS81D is the ideal oxygen sensor for hygienic applications such as fermentation and inertization. Its precise, long-term stable measurements and its permanent self-monitoring ensure the most reliable measured values to help meet your desired product quality and optimize product yield. Memosens COS81D is not the latest Memosens generation. To get information on the new Memosens COS81E sensor with extended functionality, click [here](#).

## Features and specifications

### Oxygen

#### Measuring principle

Optical oxygen measurement

#### Application

Process control in enzyme production, control of culture growth, biotechnology, food industry, general process applications

#### Installation

Standard process connection Pg 13.5

Installation in standard pH assemblies possible

#### Characteristic

Hygienic, optical sensor for stable oxygen measurement over multiple sterilization cycles

Measurement possible in still water

#### Measurement range

0.004 to 30 mg/l

0.05 to 330 %SAT

0.1 to 700 hPa

## Oxygen

### Measuring principle

Oxygen-sensitive molecules (marker) are integrated in an optical active layer (fluorescence layer). The fluorescence layer surface is in contact with the medium. The sensor optics are directed at the back of the fluorescence layer. The sensor optics transmit green light pulses to the fluorescence layer. The markers respond (fluoresce) with red light pulses. The duration and intensity of the response signals depend directly on the oxygen contents or partial pressure.

### Design

Optical System, stainless steel

### Material

Sensor shaft: stainless steel 1.4435

Process seal: FKM (USP <87>, <88> Class VI and FDA)

Seal/O-rings: EPDM, FFKM (USP <87>, <88> Class VI and FDA)

### Dimension

Diameter: 12 mm (0.47 inch)

Shaft length: 120, 220, 360 and 420 mm  
(4.72, 8.66, 14.2 and 16.5 inch)

### Process temperature

0 to 140 °C  
(32 to 284 °F)

### Process pressure

0.02 to 13 bar abs  
(0 to 190 psi)

### Temperature sensor

Pt1000 (Class A according to DIN IEC 60751)

### Connection

Memosens-connection head

Oxygen

**Additional certifications**

Material certification 3.1

ASME BPE-2016

Regulation (EC) No. 1935/2004

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