

Digital optical oxygen sensor Memosens COS81E

Memosens 2.0 hygienic sensor for the life sciences and food industries



More information and current pricing:

www.at.endress.com/COS81E

Benefits:

- Memosens COS81E is designed according to EHEDG and ASME BPE. It avoids cross-contamination and is fully compliant to USP class VI and FDA as well as all GMP and GLP requirements.
- High process up-time: 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.
- Reliable measurement: A built-in reference LED compensates the ageing of the measuring LED. This ensures precise measured values even after CIP/SIP and autoclaving.
- Reduce your maintenance effort: Memosens COS81E does not have a difficult-to-handle electrolyte or sensitive membrane. Just exchange the sensor cap, perform a calibration and you are done.
- 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.
- Perfectly suited for inertization processes thanks to its approvals for hazardous and dust-explosive areas.
- IIoT ready: Memosens 2.0 offers extended storage of calibration and process data, enabling better trend identification and providing a future-proof basis for predictive maintenance and enhanced IIoT services.

Specs at a glance

- **Measurement range** 0.004 to 30 mg/l 0.05 to 330 %SAT 0.1 to 700 hPa
- **Process temperature** 1 to 140 °C (32 to 284 °F)
- **Process pressure** 0.02 to 13 bar abs (0 to 190 psi)

Field of application: Memosens COS81E is the ideal optical oxygen sensor for hygienic applications. Its well-tuned measuring system prevents ageing of the optical spot and offers precise, long-term stable measurements for high product quality. Thanks to its approvals for hazardous and dust-explosive areas, COS81E is perfectly suited for inertization applications. With Memosens 2.0 digital technology, COS81E offers extended data storage providing the perfect basis for predictive maintenance and efficient operation.

Features and specifications

Oxygen

Measuring principle

Optical oxygen measurement

Application

- Oxygen control in fermenters, e.g. in the pharmaceutical or biotechnology sectors
- Monitoring of explosive atmospheres with an oxygen concentration of $\geq 2\%$ Vol
- Quality control in the food industry

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 range

0.004 to 30 mg/l

0.05 to 330 %SAT

0.1 to 700 hPa

Measuring principle

Principle of luminescence quenching

Oxygen

Design

Optical system, stainless steel

Material

Sensor shaft: Stainless steel 1.4435 (AISI 316L)

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

Process seal for Ex versions: FKM (not FDA-compliant)

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

Spot cap: Stainless steel 1.4435 (AISI 316L), titanium or hastelloy

Spot layer: Silicone (USP<87>, <88> Class VI and FDA)

Dimension

Diameter: 12 mm (0.47 inch)

Shaft length: 120, 160, 220, 320 and 420 mm

(4.7 , 6.3 , 8.7 , 12.6 and 16.5 inch)

Process temperature

1 to 140 °C

(32 to 284 °F)

Process pressure

0.02 to 13 bar abs

(0 to 190 psi)

Temperature sensor

Pt1000

Ex certification

With ATEX, IECEx, NEPSI, Japan and INMETRO approvals for use in hazardous areas Zone 0, Zone 1 and Zone 2 and furthermore Zone 20, Zone 21 and Zone 22 in dust hazardous areas.

With CSA C/US approval for use in hazardous areas Class I Division 1 and furthermore Class II Division 1 in dust hazardous areas.

Connection

Inductive, digital connection head with Memosens 2.0 technology

Oxygen

Ingres protection

IP68

IP69

Additional certifications

Additional certifications

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