

## METERS

O<sub>2</sub> °C

### OXY-1 SMA



Due to its small outer dimensions OXY-1 SMA can be set up almost anywhere. It is compatible with non-invasive sensors, dipping probes and flow-through cells of type PSt3 (detection limit 15 ppb dissolved oxygen, 0 - 100 % oxygen). OXY-1 SMA has temperature compensation, so most precise measurements in environments with changing temperature can be taken. This USB-powered oxygen meter is operated with the PreSens Measurement Studio 2 software, which enables simultaneous control of several devices, so measurement networks can be set up. With numerous features and additional pressure and salinity compensation, the software makes the OXY-1 SMA suitable for almost any application where precise oxygen measurements are needed.

- Measurement range of 0 - 100 % oxygen
- Compact system with small outer dimensions
- Lightweight (only 128 g)
- USB-powered
- Controlled by PreSens Measurement Studio 2
- Compensation of temperature, pressure and salinity
- For use with non-invasive sensors, dipping probes and flow-through cells
- One calibration for a multitude of sensor spots

## TECHNICAL

Specifications	
Oxygen sensor	PSt3 (optical SMA connector)
Temperature sensor	Pt100 temperature connector (sensor not included)
Temperature performance	from 0 °C to + 50 °C , resolution ± 0.1 °C, accuracy ± 1.0 °C
Power supply	5 VDC (USB-2.0-Mini-B, cable included)
Temperature: operating / storage	from 0 °C to + 50 °C / from - 20 °C to + 70 °C
Relative humidity	0 % to 80 % (non-condensing)
Dimensions	ca. 101 mm (with connectors) x 35 mm x 30 mm
Weight	128 g
Digital Interface	USB interface cable to PC (cable included)

## ACCESSORIES

### Polymer Optical Fiber POF



A polymer optical fiber (POF) is needed to transfer excitation light to the sensor and the sensor response back to the meter. We offer different versions for different meters depending on their optical connector type. A POF enables non-invasive and non-destructive measurements to be made from the outside through the wall of a transparent or slightly colored container. The POF with SMA connector is compatible with meters of the Fibox, OXY-1 SMA, OXY-1 WM, OXY mini and pH-1 SMA series, as well as the CO<sub>2</sub>-1 SMA. The POF with ST connector is compatible with meters of the Microx 4 and OXY-1 ST series. Different standard lengths are offered, e. g. 2.5 m, and fibers with connectors on one or both ends are available, depending on your adapter or sensor application.

- Enables contactless measurement
- Versatile light guide
- Different lengths available

## TECHNICAL

Specifications	SMA	ST
Dimensions	Optical diameter: 2 mm Outer diameter (incl. black cladding): approx. 2.7 mm Min. bending radius: 40 mm	Optical diameter: 1 mm Outer diameter (incl. black cladding): 2.2 mm Min. bending radius: 17 mm
Connector type	SMA connectors on one or both ends available for use with SOA or ARC	ST connectors on one or both ends available for use with SOA or ARC-1 ST
Length of fiber	Available standard lengths 1.0, 2.5 and 5.0 m; for lengths of more than 5 m, please contact our service team	
Compatibility	All devices with SMA connector, e.g. Fibox, OXY-1 SMA, pH mini series, pCO <sub>2</sub> mini	All devices with ST connector, e.g. Microx 4 or OXY-1 ST series

## SENSORS

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### Oxygen Sensor Spot SP-PSt3-NAU



Sensor spots are the most versatile version of non-invasive optical oxygen sensors. The red side of the spot can be attached to the inner surface of any transparent glass or plastic vessel like e. g. shake and spinner flasks, tubes, Petri dishes or cultivation bags. Oxygen is measured contactless and non-destructively through the transparent vessel wall. The SP-PSt3-NAU has a measurement range of 0 – 100 % oxygen in dissolved or gaseous phase. The oxygen sensitive coating is immobilized on 125 µm flexible transparent polyester foil, which does not stand autoclaving.

- Non-invasive measurements through the vessel wall
- No consumption of oxygen
- Signal independent of flow velocity
- Measure oxygen in liquids as well as in gas phase

## TECHNICAL

Specifications	Gaseous & Dissolved O <sub>2</sub>	Dissolved O <sub>2</sub>
Measurement range	0 – 100 % O <sub>2</sub> 0 – 1000 hPa	0 – 45 mg/L 0 – 1400 µmol/L
Limit of detection	0.03 % oxygen	15 ppb
Resolution	± 0.01 % O <sub>2</sub> at 0.21 % O <sub>2</sub> ± 0.1 % O <sub>2</sub> at 20.9 % O <sub>2</sub> ±0.1 hPa at 2 hPa ± 1 hPa at 207 hPa	± 0.004 mg/L at 0.091 mg/L ± 0.04 mg/L at 9.1 mg/L ± 0.14 µmol/L at 2.83 µmol/L ± 1.4 µmol/L at 283.1 µmol/L
Accuracy*	± 0.4 % O <sub>2</sub> at 20.9 % O <sub>2</sub> ± 0.05 % O <sub>2</sub> at 0.2 % O <sub>2</sub>	
Drift	< 0.03 % O <sub>2</sub> within 30 days (sampling interval of 1 min. / at 0% oxygen)	
Measurement temperature range	from 0 to + 50 °C	
Response time (t <sub>90</sub> )	< 6 sec.	< 40 sec.
Properties		
Compatibility	Aqueous solutions, ethanol, methanol	
No cross-sensitivity	pH 1 – 14 CO <sub>2</sub> , H <sub>2</sub> S, SO <sub>2</sub> Ionic species	
Cross-sensitivity	Organic solvents, such as acetone, toluene, chloroform or methylene chloride Chlorine gas	
Sterilization procedure	Ethylene oxide (EtO) Gamma irradiation	
Cleaning procedure	Cleaning in place (CIP, 2 % NaOH, + 80 °C, + 176 °F) 3 % H <sub>2</sub> O <sub>2</sub> Acidic agents (HCl, H <sub>2</sub> SO <sub>4</sub> ), max. 4 – 5 % Ethanol Aqueous solutions	
Calibration	Two-point calibration with oxygen-free environment (nitrogen, sodium sulfite) and air-saturated environment	
Storage stability	60 months provided the sensor material is stored in the dark	
*after two-point calibration as described in the manual		

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## GET IN CONTACT

 **Request more info**

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 **Rent-a-meter**

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