

METERS

O₂ °C

OXY-1 ST



This extremely small and lightweight oxygen meter can be used with microsensors (200 µm fiber) in different designs, non-invasive sensors, dipping probes and flow-through cells (1 mm fiber). Its small outer dimensions make it feasible for almost any application. OXY-1 ST is compatible with sensor type PSt7 (detection limit 15 ppb, 0 - 100 % oxygen). It is operated with the PreSens Measurement Studio 2 software and offers temperature, pressure and salinity compensated measurements. The software has numerous features and allows to control several OXY-1 ST simultaneously. Powered via USB no extra cables or adapters are needed. This oxygen meter is the solution for most precise micro-invasive or non-invasive measurements.

- Measurement range of 0 - 100 % oxygen
- For use with microsensors, dipping probes, non-invasive sensor spots and FTCs
- USB-powered
- Controlled by PreSens Measurement Studio 2
- Compensation of temperature, pressure and salinity
- Lightweight (only 128 g)
- Small outer dimensions

TECHNICAL

Specifications	
Oxygen sensor	PSt7 (optical ST 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	99 mm (with connectors) x 35 mm x 30 mm
Weight	128 g
Digital Interface	USB interface cable to PC (cable included)

SENSORS

O_2

Profiling Oxygen Microsensor PM-PSt7



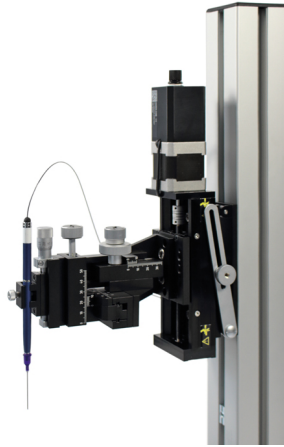
The PM-PSt7 is one of the most robust oxygen microsensor PreSens offers – with a firmer fiber construction and a splash-proof metal housing. It is specifically designed for profiling applications and should be used whenever minimal invasive measurements need to be performed in semi-solid samples, e. g. in sediments, microbial mats or biofilms. The PM-PSt7 is compatible with the Microx 4 and OXY-1 / -4 ST series oxygen meters and has a measurement range of 0 – 100 % oxygen, with a detection limit of 0.03 % oxygen. Together with the Automated Micromanipulator and the software PreSens Profiling Studio boundary layers and gradients can be followed online, while the sensor is automatically moved inside the sample.

- High spatial resolution ($< 50 \mu m$)
- High temporal resolution ($t_{90} < 3 \text{ sec.}$)
- Penetration probe for insertion into semi-solids
- Mechanical interlock for precise vertical localization inside the sample
- Splash-proof metal housing
- No electrical interference due to optical measurements

TECHNICAL

Specifications*	Gaseous & Dissolved O ₂	Dissolved O ₂
Measurement range	0 – 100 % O ₂ 0 – 1000 hPa	0 – 45 mg/L 0 – 1400 µmol/L
Limit of detection	0.03 % oxygen	15 ppb
Resolution	± 0.01 % O ₂ at 1 % O ₂ ± 0.05 % O ₂ at 20.9 % O ₂	± 0.005 mg/L at 0.4mg/L ± 0.025 mg/L at 9.06 mg/L
Accuracy at + 20 °C**	± 0.05 % O ₂ or ± 3 % rel.	
Measurement temperature range	from 0 to + 50 °C	
Response time (t ₉₀)	< 3 sec. (gas)	< 10 sec. (liquid)
Properties		
Compatibility	Aqueous solutions, ethanol, methanol	
No cross-sensitivity	pH 1 – 14 CO ₂ , H ₂ S, SO ₂ Ionic species	
Cross-sensitivity	Organic solvents, such as acetone, toluene, chloroform or methylene chloride Chlorine gas	
Sterilization procedure	Ethylene oxide (EtO)	
Cleaning procedure	3 % H ₂ O ₂ Ethanol Soap solution	
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 at room temperature	
*data for microsensor TF = flat-broken sensor tip with 230 µm diameter		
**after two-point calibration as described in the manual		

ACCESSORIES



Automated Micromanipulator AM

The Automated Micromanipulator is specifically designed for profiling applications with the PreSens profiling microsensor (PM), and can also be operated with needle-type housed (NTH) and implantable (IMP) microsensors, as well as dipping probes (DP). With this system the microsensor can be moved vibration-free with μm reading accuracy and it enables exact localization of the sensor in the sample. Automated profiling can be performed along one dimension in μm resolution. The micromanipulator additionally comprises a tilting platform so the microsensor can be adjusted at an angled position. The associated user-friendly, and database-supported software PreSens Profiling Studio allows easy control of the AM and the respective oxygen, pH or CO_2 meter via USB. The software offers multiple features from clear data organization and export, easy creation of profiling templates, to analysis functions.

- Fully automated system
- No electrical interference due to optical measurement
- Adaptable to any sample
- Software PreSens Profiling Studio included
- Easy USB connection
- Individual profile and step-zone definition
- Compact, with additional manual motor control

TECHNICAL

Specifications	
Compatibility	Profiling (PM), Needle-type Housed (NTH) and Implantable (IMP) oxygen, pH & CO ₂ microsensors
Dimensions	275 mm x 95 mm x 220 mm
Weight	2 kg
Travel range automated	x-axis: 75 mm
Travel range manual	x-axis: 37 mm, fine drive: 10 mm y-axis: 20 mm z-axis: 25 mm
Resolution	1 µm
Repeatability	< 2.5 µm
Mounting adapter	M6 screws, 13 mm length
Power supply	100 - 240 VAC, 50 - 60 Hz Use supplied power adapter (15 VDC, 2.1 mm center positive plug) only.
Digital interface	USB interface (cable included)
Control software	PreSens Profiling Studio (compatible with Windows 7, 8, 10 at 32 or 64 bit)

ACCESSORIES



Heavy Stand (HS)

The Heavy Stand (HS) ensures safe mounting and operation of the Automated Micromanipulator. The heavy base plate enables a most stable and vibration-free set-up. The HS comes with two square profile rails of different lengths, so the micromanipulator can be installed in different heights, and is adaptable to different samples. Additionally, two metal rods can be attached to the HS to install further measurement equipment, like VisiSens, cameras or lighting next to the AM. The HS can be balanced with its three adjusting feet and the spirit level integrated in the base plate if required.

- Adjustable micromanipulator height and orientation & can be balanced
- For AM & MM33
- Additional mounting rods for further equipment

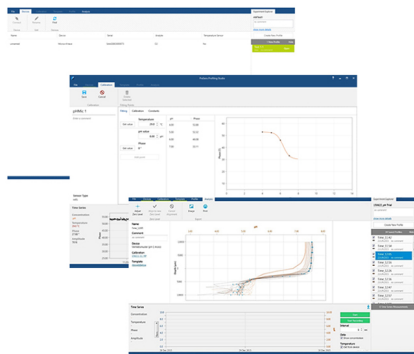
TECHNICAL

Specifications	
Dimensions (H x W x D)	Base plate: 60 mm x 400 mm x 450 mm Posts (H): 500 mm (long post) / 300 mm (short post)
Weight	14 kg
Mounting	M6 screws
Material	Aluminium & stainless steel (screws & mounting rods)
Features	3 x adjustable feet, 1 x circular level, 2 x mounting rods (□ 12 mm)

SOFTWARE



PreSens Profiling Studio



This software enables control of the Automated Micromanipulator and connected oxygen, pH or CO₂ meter. It is database supported and offers multiple features from clear data organization and export, easy creation of profiling templates, to analysis functions.

- Controls AM & connected meter
- Easy creation of profiling templates
- Database supported

TECHNICAL

Minimum System Requirements			
Operating system	Microsoft® Windows® 7, 8 and 10 (32 or 64 Bit)		
Processor	2 GHz CPU		
RAM	2 GB		
Hard disk	500 MB free memory		
USB	2x USB 2.0		
Applications	.xlsx and .csv format reader software		
Compatibility	O ₂ meters:	pH meters:	CO ₂ meters:
	Microx 4 & trace OXY-1 ST & Trace, Fibox 4 & trace OXY-1 SMA & Trace EOM-FDM SMA & trace EOM-FDM ST & trace (Microx TX3 & trace)	pH-1 micro pH-1 mini	pCO2 mini



GET IN CONTACT

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 **Rent-a-meter**

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