Microx 4 & Microx 4 trace

Stand-alone fiber optic oxygen meter

- For use with non-invasive sensors, probes & microsensors
- Straightforward measurement due to unique sensor ID
- Simple calibration via barcode scan
- Compensation of temperature, pressure and salinity
- Energy management for long term measurements
- Optional database supported software offers simultaneous control of multiple devices

PreSens
PRECISION SENSING

Transmitters

Microx 4 & Microx 4 trace

The Microx 4 & Microx 4 trace are completely stand-alone, portable fiber optic oxygen meters. They can be used with non-invasive sensors & probes (1 mm fiber) and oxygen microsensors (200 µm fiber) in different designs. The Microx 4 is compatible with the wide range sensors type PSt7 (detection limit 15 ppb, 0 - 100 % oxygen). The Microx 4 trace can additionally be used with sensors type PSt8 (detection limit 3 ppb, 0 - 10 % oxygen) for measuring oxygen traces.

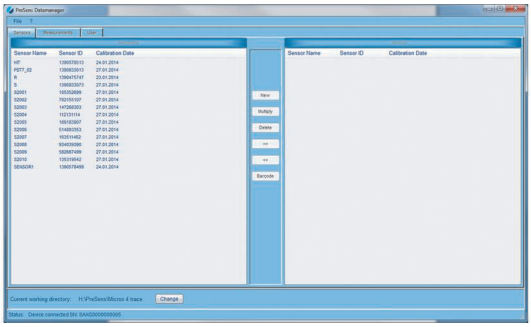
Features

- For use with non-invasive sensors, probes & microsensors
- Easy sensor handling and calibration via barcode scan
- Compensation of temperature, pressure & salinity
- Splash proof, light, robust housing
- Energy management for long term measurements
- Extended database supported software version allowing simultaneous control of multiple devices

The handheld oxygen meters have a robust, light and splash proof housing. The control panel has a color display and few buttons that can be operated even while wearing heavy gloves. Settings allow adapting to dry or humid measurement conditions, and in addition to temperature compensation Microx 4 & Microx 4 trace offer automatic compensation of pressure and salinity. The implemented energy management, which allows long term measurement up to half a year (when taking a measurement every 30 min.) without recharging the batteries, and the huge storage capacity of the oxygen meters enable prolonged computer-independent use.

Sensors & Sensor Management

The oxygen meters are compatible with non-invasive sensors & probes (type PSt7-10, PSt8-10) and oxygen microsensors (type PSt7-02, PSt8-02). The sensors are available as sensor spots, for integration in vessels, dipping probes, flow-through cells, oxygen microsensors integrated in syringe canulas, for piercing container walls or tissue, or bare fiber microsensors, which can be used in customized applications. All sensors will be delivered with a barcode. With the oxygen meters´ integrated barcode reader sensor recognition and calibration can be done in just one scan. The implemented sensor management system allows storing data of up to 100 sensors.



Software

Microx 4 & Microx 4 trace are delivered with the PreSens Datamanager software. Sensor, user and measurement data can be easily transferred between the PC and the oxygen meters. The data management and easy data export will facilitate and speed up your analysis. With the optional extended software version, which is database supported, multiple oxygen meters can be controlled simultaneously so measurement networks can be set up.

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Biological & Environmental Reasearch

The handheld Microx 4 & Microx 4 trace are ideal tools for field reasearch, and can be applied for gaseous or dissolved oxygen measurements. Combined with different types of dipping probes, or oxygen microsensors they allow e. g. water quality assessment, respiration measurements, or measurements inside tissue. These oxygen meters are applicable wherever precise oxygen measurement is needed. With their splash proof, robust housing the oxygen meters can be used in harsh environments. Special energy settings for long term measurements, the almost unlimited storage capacity or features like graphical display of your measurements allow for prolonged and comfortable computer-independent use.

Medical & Life Science Research

Microx 4 & Microx 4 trace can be used with oxygen microsensors in different designs. These sensors allow for precise on the spot measurement and profiling inside tissue constructs. PreSens oxygen microsensors are already applied in several tissue engineering applications. Implantable microsensors without any additional housing are ideally suited for customized application set-ups, integration in catheters or direct implantation into soft tissue. As the oxygen meters can also be applied with sensor spots, even non-invasive measurements inside cell culture vessels can be performed, without the risk of contamination.

The Ideal Tool for Packaging & Quality Control

Oxygen inside packaging can lead to oxidative deterioration and shorten the shelf life of products. The portable, handheld Microx 4 & Microx 4 trace are ideally suited for quality control in the food & beverage industries, and can be applied in different stages of production. The oxygen sensors in various designs can be integrated in pipes, containers or directly held into samples taken for quality control. Calibration and sensor recognition via barcode scan will speed up the work flow when investigating oxygen ingress in hundreds of containers and packages. Applied with the needle-type oxygen microsensors the oxygen content in small scale headspace packages or non-transparent containers can be determined with the oxygen meters.

Oxygen Measurements in Biofilms & Sediments

Microx 4 & Microx 4 trace can be used with oxygen microsensors in different designs, which allow on the spot measurements. Needle-type oxygen microsensors housed in a syringe needle can be inserted in biofilms or sediments for oxygen profiling. Perform exact online oxygen measurements in different depths of your sample. Combined with micromanipulators the oxygen microsensors can be inserted in μm steps for exact positioning. Robust dissolved oxygen probes are available also, for easy application in sediments in the lab or out in the field.

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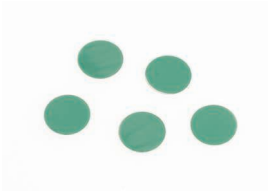
	Microx 4	Microx 4 trace
Specifications		
Oxygen sensors	PSt7 (optical ST connector)	PSt7, and PSt8 (optical ST connector)
Temperature sensor	Pt 100 temperature connector (sensor not included)	
Temperature performance	0 to 50 °C, resolution: ± 0.1 °C	
Power supply	4 AA Nickel-metal hybrid cells (min. 2200 mAh) Use only AC adapter (5 VDC / min. 1 A) supplied for recharging.	
Max. battery operating time	16 hrs. (3 sec. Interval measurement, Default LED Intensity, Display backlight OFF, at room temperature)	
Temperature: operating / storage	0 °C to 50 °C / - 20 °C to 70 °C	
Relative humidity	0 % to 80 % (non condensing)	
Dimensions, weight	37 mm x 180 mm x 119 mm, 0.65 kg (w/o batteries & protection kit), 0.78 kg (w/ batteries & protection kit)	
Digital interface	USB interface (cable included)	
Display	3,5" color TFT, 320 x 240 Pixel	
Internal Memory	4 GB memory (~ 10.000.000 data sets) Export via included software.	

Sensors	**PSt7**		**PSt8**	
Specifications	**PSt7-10**	**PSt7-02**	**PSt8-10**	**PSt8-02**
Measurement range	0 - 100 % O_2, 0 - 1000 hPa 0 - 45 mg/L, 0 - 1400 µmol/L		0 - 10 % O_2, 0 - 100 hPa 0 - 4.5 mg/L, 0 - 140 µmol/L	
Limit of detection	0.02 % O_2, 10 ppb	0.03 % O_2, 15 ppb	0.005 % O_2, 2 ppb	0.007 % O_2, 3 ppb
Resolution	± 0.01 % O_2 at 1 % O_2; ± 0.005 mg/L at 0.4 mg/L; ± 0.05 % O_2 at 20.9 % O_2; ± 0.025 mg/L at 9.0 mg/L		± 0.002 % O_2 at 0.008 % O_2; ± 0.7 ppb at 3 ppb; ± 0.006 % O_2 at 2.5 % O_2; ± 2.5 ppb at 1000 ppb	
Accuracy	± 0.05 % O_2 or < 3 % rel.		± 3 ppb or < 3 % rel.	
Measurement temperature range	0 - 50 °C			
Response time (t_{90})	< 3 sec. (gas), < 10 sec. (liquid)			

Sensors & Accessories



Sensor Spots O_2 Type PSt7 / PSt8

Sensor Spots are the most versatile version of non-invasive oxygen sensors.

Flow-Through Cell Metal Housing Oxygen Microsensor

Provides a gas tight & small measurement cell.

Needle-Type Oxygen Microsensor

This oxygen microsensor is protected by its robust housing.

Implantable Oxygen Microsensors

This oxygen microsensor offers the probe without any additional housing.

Oxygen Dipping Probe Type PSt7/PSt8

These dipping probes are a robust invasive oxygen sensors with excellent long term stability.

Single-Use Flow-Through Cell O_2 (Prototype)

Single-use FTCs are available in different sizes and shapes for various flow rates.

Technical data can change without prior notice.

Bring to light what's inside. Ask our experts:

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