OXY-1 SMA (Trace)

Instruction Manual

PreSens

PRECISION SENSING

OXY-1 SMA (Trace)

Specification:

Fiber optic (Trace) oxygen meter for use with oxygen sensor spots, flow-through cells & dipping probes

Software:

PreSens Measurement Studio (PMS2)

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1 Preface

You have chosen a new, innovative technology for measuring oxygen.

The OXY-1 SMA (Trace) is a compact fiber optic oxygen meter. It is based on a novel technology, which creates very stable, internally referenced measured values. This allows a more flexible use of oxygen sensors in various fields of interest.

Optical oxygen sensors (also called optrodes) have several important features:

- They are small.
- Their signal does not depend on the flow rate of the sample.
- They can be physically divided from the measuring system which allows a non-invasive measurement.
- They can be used in disposables.

Therefore, they are ideally suited for the examination of small sample volumes, for highly parallelized measurements in disposables, and for biotechnological applications. A set of different oxygen minisensors, flow-through cells and non-invasive sensors is available to make sure you have the sensor which matches your application.
Please feel free to contact our service team to find the best solution for your application.

Your PreSens Team

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY BEFORE WORKING WITH THIS DEVICE. WHEN DISREGARDING THESE INSTRUCTIONS THE SAFETY OF THE DEVICE CAN BE IMPAIRED.

2 Safety Notes

! It is the customer's responsibility to validate the sensor and transmitter under end-user conditions according to safety precautions of the application to ensure that the use of the sensor is safe and suitable for the intended purpose.

PreSens is explicitly not liable for direct or indirect losses caused by the application of these measurement systems. In particular it has to be considered that malfunctions can occur due to the naturally limited lifetime of the sensor depending on the respective application. The set-up of backup measurement stations is recommended when using the sensors in critical applications to avoid consequential losses. It is the customer's responsibility to install a suitable safety system in the event of sensor failure.

3 Set-Up

1. Remove the protective cap from the male plug on the polymer optical fiber (or the probe) and insert it in the SMA connector of the OXY-1 SMA. The safety nut has to be screwed on.

Fig. 1 Connecting the SMA plug to the OXY-1 SMA

For further information on sensor handling and calibration please refer to the respective sensor instruction manual.

2. Connect the USB cable to the connector on the OXY-1 SMA and to an USB port of your PC / notebook.

Fig. 2 Connecting the USB cable

3. If required, you can now connect a Pt100 temperature sensor to the device. There is a red mark on the temperature sensor connector of the OXY-1 SMA as well as on the temperature sensor plug. Match those two marks before inserting the temperature sensor plug into the connector on the device, else the plug might get damaged.

Fig. 3 Connecting the temperature sensor

4. Now start the PreSens Measurement Studio (PMS2) software on your PC / notebook. (The OXY-1 SMA always has to be connected via USB before the software is started.) After successful initialization the software main screen is displayed and the OXY-1 SMA will show in the Device section.

For further details on how to use the PreSens Measurement Studio please refer to the software instruction manual.

Important Considerations for USB Handling

!   PreSens recommends the use of a dedicated USB 2.0 PCI Card to connect and handle USB PreSens Devices with a Desktop PC.

!   In order to enhance the system stability avoid the use of USB hubs and connect PreSens Devices directly to your PC / notebook USB Ports.

!   If possible, disconnect all other USB devices that are not in use, as they may reduce or disturb the USB resources of your PC / notebook.

!   Docking stations may also reduce or disturb the USB resources of your PC / notebook and therefore affect the correct function of the software.

!   It is also recommended to disable the Power Saving Settings of your USB Root controller.

4 Technical Data

OPTICAL SENSOR	
Oxygen sensor	OXY-1 SMA: PSt3 OXY-1 SMA Trace: PSt3, PSt6
Optical connector	SMA
Channels	1; up to 10 OXY-1 SMA (Trace) can be controlled simultaneously via PMS2 software
LED peak wavelength	505 nm

TEMPERATURE SENSOR		
Potentiometric temperature sensor (Pt100)	Range	0 – 50 °C
	Resolution	± 0.1 °C

POWER SUPPLY	
Supply voltage	5 VDC (USB-2.0-Mini-B)
Current / Power	400 mA

DIGITAL INTERFACE	
USB interface cable to PC	Cable included

ENVIRONMENTAL CONDITIONS	
Operating temperature	0 °C to 50 °C
Storage temperature	- 20 °C to 70 °C
Relative humidity	0 % to 80 % (non-condensing)

DIMENSIONS / WEIGHT	
H x L x W	ca. 30 x 95 (with connectors) x 34 mm
Weight	128 g

5 Operational Notes

5.1 Optical Output

The SMA connector is a high precision optical component. Please keep it clean and dry. Always use the rubber cap to close the output when not in use.

5.2 Maintenance

The transmitter is maintenance-free.
The housing should be cleaned with a cloth only. Avoid any moisture entering the housing. Never use benzine, acetone, alcohol or any other organic solvents.
The SMA fiber connector of the sensor can be cleaned with lint-free cloth or a cleaning implement for SMA connectors only.

5.3 Service

Alignment, rework or repair work may only be carried out by the manufacturer:

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Please contact our service team in case of any question. We look forward to helping you and are open for any proposition or criticism.

6 Concluding Remarks

Dear Customer,

With this manual, we hope to provide you with an introduction to work with the OXY-1 SMA (Trace) fiber optic oxygen meter.
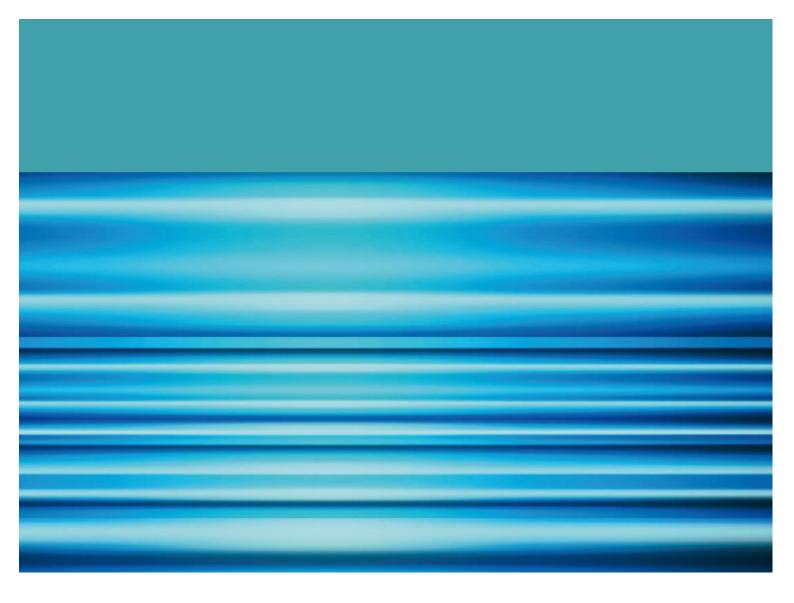
This manual does not claim to be complete. We are endeavored to improve and supplement this version.

We are looking forward to your critical review and to any suggestions you may have.

You can find the latest version at www.PreSens.de.

With best regards,

Your PreSens Team

Manufacturer

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