



METERS

O₂ °C

Fibox 4



The battery powered Fibox 4 is designed for easy handheld use. The robust, splash-proof housing and controls were contrived to be operated even under harsh conditions while wearing heavy gloves. The oxygen meter adapts to dry or humid environmental conditions, and has temperature as well as automatic pressure and salinity compensation. The Fibox 4 is compatible with sensor type PSt3 (detection limit 15 ppb dissolved oxygen, 0 – 100 % oxygen). With the oxygen meter's integrated barcode reader sensor identification and calibration can be realized by performing just one scan. With the implemented sensor management system data of up to 100 sensors can be stored. Fibox 4 has 16 GB internal memory which allows prolonged computer-independent operation. The device is delivered with the PreSens Datamanagement software allowing data transfer to a PC for further analysis.

- Simple measurement due to unique sensor ID
- Easy calibration via barcode scan
- Compensation of temperature, pressure and salinity
- 16 GB internal memory
- Energy management for long term measurements
- Optional database supported software offers simultaneous control of multiple devices

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 |
| Power supply | 4 AA nickel-metal hybrid cells (min. 2200 mA) 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 | from 0 °C to + 50 °C / from - 20 °C to + 70 °C |
| Relative humidity | up to 80 % (non condensing) |
| Dimensions | 37 mm x 180 mm x 119 mm |
| Weight | 0.65 kg (w/o batteries & protection kit) 0.78 kg (with batteries & protection kit) |
| Digital interface | USB interface (cable included) |
| Display | 3.5 " color TFT, 320 x 240 pixel |
| Internal memory | 16 GB memory (~ 40,000,000 data sets) Export via included software |

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 CO₂-1 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 ₂ mini | All devices with ST connector, e.g. Microx 4 or OXY-1 ST series |

SENSORS



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 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 0.21 % O ₂ ± 0.1 % O ₂ at 20.9 % O ₂ ±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 ₂ at 20.9 % O ₂ ± 0.05 % O ₂ at 0.2 % O ₂ | |
| Drift | < 0.03 % O ₂ within 30 days (sampling interval of 1 min. / at 0% oxygen) | |
| Measurement temperature range | from 0 to + 50 °C | |
| Response time (t ₉₀) | < 6 sec. | < 40 sec. |
| 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) Gamma irradiation | |
| Cleaning procedure | Cleaning in place (CIP, 2 % NaOH, + 80 °C, + 176 °F) 3 % H ₂ O ₂ Acidic agents (HCl, H ₂ SO ₄), 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 | | |



GET IN CONTACT

 **Request more info**

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 **Rent-a-meter**

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