METERS

CO_2-1 SMA

This small CO_2 meter fits in any measurement set-up. CO_2-1 SMA is compatible with dipping probes, flow-through cells and non-invasive CO_2 sensor spots of type CD1 (measurement range 1 - 25 % CO_2). It has temperature compensation, so even in environments with changing temperatures precise CO_2 measurements can be performed. This USB-powered CO_2 meter is operated with the PreSens Measurement Studio 2 software, which enables simultaneous control of several devices and combination with PreSens O_2 and pH meters, so measurement networks can be set up. With numerous features and additional pressure compensation, the software makes the CO_2-1 SMA applicable in many applications. Optionally, the CO_2-1 SMA can be expanded with 4 - 20 mA analog output (via a converter box).

- For use with non-invasive sensors, dipping probes & flow-through cells
- Compact & lightweight (only 128 g)
- USB-powered
- Controlled by PreSens Measurement Studio 2
- Integrated temperature and pressure compensation
- Optional 4 - 20 mA analog output

TECHNICAL

Specifications	
Carbon dioxide sensors	CD1 (optical SMA connector)
Temperature sensor	1 x Pt100 temperature connector (sensor not included)
Temperature performance	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	0 °C to + 50 °C / - 10 °C to + 70 °C
Relative humidity	0 % to 80 % (non-condensing)
Dimensions	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-SMA, OXY mini and pH-SMA series, as well as the CO2-SMA series. The POF with ST connector is compatible with meters of the Microx, OXY-ST and CO2-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.

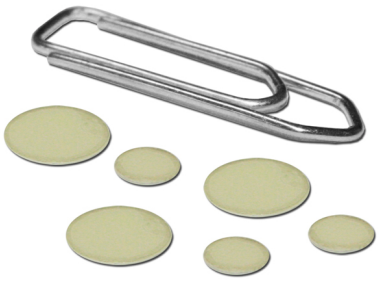
- Enables contactless measurement
- Versatile light guide
- Different lengths available

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: 25 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-SMA, pH-SMA, CO2-SMA series	All devices with ST connector, e.g. Microx, OXY-ST or CO2-ST series

SENSORS

CO_2 Sensor Spot SP-CD1



The CO_2 sensor spots measure the partial pressure of dissolved carbon dioxide. The spots are fixed on the inner surface of glass or transparent plastic vessels. Measurements are then taken contactless from the outside through the transparent container material.

- Re-usable & disposable sensors
- Online monitoring
- Non-invasive & non-destructive measurement
- Measurement range from 10 - 250 hPa pCO_2 (8 ... 180 mmHg)
- No consumption of carbon dioxide
- Measures carbon dioxide in liquids
- Beta-irradiated and autoclavable sensors available

TECHNICAL

Specifications*	
Measurement range	1 - 25 % CO_2 at atmospheric pressure (1013.15 hPa) 10 - 250 hPa pCO_2 8 - 180 mmHg pCO_2
Resolution at + 20 °C	± 0.06 % at 2 % CO_2 ± 0.15 % at 6 % CO_2 ± 0.5 mmHg at 15 mmHg pCO_2 ± 1.2 mmHg at 45 mmHg pCO_2
Accuracy**	± 5 % of reading or 0.2 % (1.5 mmHg); whichever is higher
Drift at + 37 °C***	typically < 5 % of reading per week
Measurement temperature range	from + 15 to + 45 °C
Response time (t_{90}) at + 20 °C	< 3 min. for change from 2 % to 5 % (15 mmHg - 38 mmHg) pCO_2
Properties	
Compatibility	Aqueous solutions, pH 4 - 9
Cross-sensitivity	Optical pCO_2 sensors display reduced cross-sensitivity to ionic strength (salinity); acetic acid, SO_2, HCl vapours
Stability	pCO_2 sensors do not stand: organic solvents, pH above 10 or below 4
Cleaning procedure	Depends on the sensor type used - please ask our experts
Calibration	pCO_2 spots are pre-calibrated , re-calibration is possible Beta-irradiated or autoclavable pCO_2 sensors available
Storage stability	12 months provided the pCO_2 sensor is stored in its original package

* provided pCO_2 spots are used without further handling in physiological solutions
**after multipoint calibration
*** in a carbon dioxide incubator with 100 % rel. hum. at 5 % CO_2; measurement interval of 1 min.

GET IN CONTACT

- **Request more info**
- **Request a quote**
- **Rent-a-meter**

PreSens Precision Sensing GmbH
Am Biopark 11, D-93053 Regensburg
Phone +49 941 942 72 100
Fax +49 941 942 72 111
info@PreSens.de