



Create Your Set-up Multiparameter & Multi-channel Measurements

Dear Max Mustermann

Do you need to monitor processes in small bioreactors, or do you want to measure the metabolic rate of living organisms, or - perhaps - microfluidics are relevant for you? Do you need top measurements of several parameters (O₂, pH & CO₂) and that with several channels each? You should then have a closer look on our tailor-made, precise, fast and reliable approaches for your application.

Our [SMA-devices](#) can be combined in any imaginable way, as several of them can be connected to the [PreSens Measurement Studio Software PMS2](#) offering you flexible configurations. Should you need only one channel each for O₂, pH and CO₂ measurements, the new and economic all-in-one [MCR-O1P1C1](#) will be your match. Find your perfect solution!

We are looking forward to hearing from you!

Your PreSens Team

[>> Product Information](#)

[>> Application Examples](#)

Several SMA Devices - 1 Controlling PC / Software



Connect several of our compact benchtop meters for oxygen, pH and CO₂ to the same PC and create herewith your own multi-parameter and/or multi-channel set-up. The common bracket for the control of all connected devices is then our [PreSens Measurement Studio 2 software](#), allowing even pressure and salinity compensation. Additionally, temperature and (for O₂ & CO₂ devices) pressure inputs from one single device can be shared with the rest of the connected devices / channels. The following, USB-powered meters can be used for these set-ups:

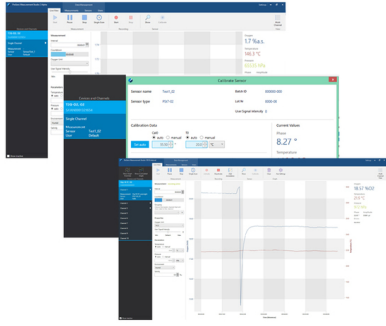
- [OXY-1 SMA \(trace\) single-channel](#)
- [OXY-2 / -3 / -4 / ... / -10 SMA \(trace\) multi-channel](#)
- [OXY-1 SMA-trace-RS232-AO](#)
- [pH-1 SMA HP5: 5.5 - 8.5 pH](#)
- [pH-1 SMA LG1: 4.0 - 7.5 pH](#)
- [CO₂-1 SMA: 1 - 25 % CO₂](#)

Parallel O₂, pH & CO₂ monitoring with one device - the MCR-01P1C1

PreSens offers a new optical O₂, pH and CO₂ meter: [the all-in-one three-channel MCR-01P1C1](#) is compact, light-weight (430 g) and economic. As this USB-powered meter is operated with the PreSens Measurement Studio 2 software (PMS2), it allows you to set up measurement networks by controlling several of the MCR-01P1C1 simultaneously. Each channel of this meter has separate temperature compensation, so most precise measurements in environments with changing temperatures can be taken. The software allows pressure and salinity compensation and the separate temperature compensation of each single channel makes it to a well suited tool for measurements in environments with changing temperatures.



Control Your Set-up: The PreSens Measurement Software PMS2



The [PreSens Measurement Studio 2](#) has been developed and designed to control several PreSens devices connected to a PC / notebook with one software. Easy data management for sensors, measurement files, and users as well as export of files into .csv format can be realized with just a few clicks. The intuitive measurement control eases performing precise oxygen, pH and/or CO₂ measurements with a multitude of devices simultaneously.

- Control multiple devices connected to one PC/notebook
- Easy data management
- Data transfer
- Grouping of measurement channels

>> [Watch our short video](#) on the PMS2 to get a perfect idea of this software.

Your Set-up - Your Choice of Sensor Types

An additional benefit of the described set-ups above is the variety of sensor types which can be used. The meters are compatible with dipping probes, flow-through cells, non-invasive sensor spots, sensor plugs or sensor sticks.

This flexibility in the composition of analytes, number of measuring channels and sensor types enables **exciting applications** such as

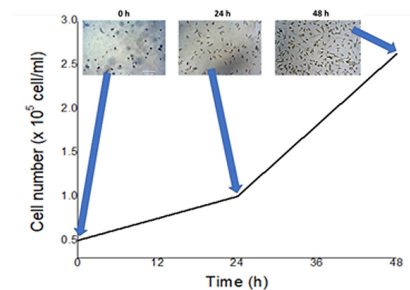
- monitoring O₂, pH and CO₂ in microfluidic mammalian cell cultures,
- examining the effect of chewing xylitol gum on salivary,
- a real-time and non-invasive monitoring of microglia polarization,
- monitoring potential contamination in the culture meat bioprocess,
- doing long-term measurements in stirred-tank bioreactors or
- developing a biomimetic lung-on-a-chip platform.

Exemplary Application:

O₂, pH and CO₂ Monitoring in Microfluidic Mammalian Cell Culture - Cultivated Meat Bioprocess Optimization with SensorPlugs

We tested the efficacy of PreSens SensorPlugs for monitoring mammalian cell culturing processes in microfluidic bioreactors (MBs) with integrated sensors. MRC-5 fibroblasts (ATCC CCL-171) were used as a model of adherent mammalian cells instead of primary cell culture of animal-derived satellite cells/myoblasts. SensorPlugs showed good ability to monitor adherent mammalian cell culture parameters inside the MB over time.

>> [Read the entire application note!](#)



You would like to learn even more about PreSens Precision Sensing? Please visit our homepage www.presens.de and don't hesitate to contact us. Any feedback will be appreciated.

With kind regards

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