

# Unisense Microsensor Monometer Version 1.01



## In this box

Unisense Microsensor Monometer, Serial #: \_\_\_\_\_

Hardware version: \_\_\_\_\_

Firmware version: \_\_\_\_\_

Software SensorTrace Logger

Power cables

USB cable

Grounding cable

Getting started guide

Date: \_\_\_\_\_

For Unisense A/S: \_\_\_\_\_



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## CONGRATULATIONS WITH YOUR NEW MICROSENSOR MONOMETER!

The Microsensor Monometer is a powerful and versatile one-channel microsensor amplifier which can be used with all Unisense amperometric sensors.

### OVERVIEW

The Microsensor Monometer is a digital microsensor amplifier with automatic sensor detection, making the connection of the sensors 'plug-and-play'. The user interface consists of a keypad and a graphical OLED display, allowing the user to view signals, adjust signal gain and offset, etc. directly on the instrument. The Microsensor Monometer can be used as a stand-alone instrument or signals can be transferred directly to a PC using the SensorTrace Suite software

### SUPPORT, ORDERING, AND CONTACT INFORMATION

If you wish to order additional products or if you encounter any problems and need scientific/technical assistance, please do not hesitate to contact our sales and support team. We will respond to your inquiry within one working day.

E-mail: [sales@unisense.com](mailto:sales@unisense.com)

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Further documentation and support is available at [www.unisense.com](http://www.unisense.com)

### INSTALLATION AND SETUP

#### OPERATING AND SETUP CONDITIONS

The Microsensor Monometer is a laboratory instrument.

Temperature	0 °C to 50 °C
Calibration	The Microsensor Monometer is offset calibrated on the front channel and on the back two analog channels
Power	Batteries, 8 x 1.5 V (AA) batteries External voltage 9 V (5-28 V) Mains supply 50/60 Hz, 230/110 V One battery package at a time can be exchanged while operating the Microsensor Multimeter. If mains supply is disconnected battery supply will continue operation.

**Note: Ensure mains supply is grounded.**

Hardware version, firmware version, and serial number are available from the About Tab in the Microsensor Monometer interface.

Select your preferred power supply, e.g. AC, by inserting the power cable into the mains supply and making sure that the cable is plugged into the AC socket of the Microsensor Monometer.

## INSTALLING THE MICROSENSOR MONOMETER

1. Install the SensorTrace Suite software (latest version can be downloaded via [www.unisense.com](http://www.unisense.com)) on your computer.  
NOTE. Windows XP users must make sure they are running .NET framework version 4.0 or higher. If this is not the case an upgrade must be made - please contact Unisense.
2. Connect the Microsensor Monometer to the computer. The Microsensor Monometer is recognized and you are asked for the driver files. These are located on the enclosed CD.

## GETTING STARTED



1. Connect the sensor to the Microsensor Monometer. Some sensors are automatically recognized (please see list under "compatibility") and should appear in the display next to the channel number to which it is connected, properly polarized. If you are using a sensor which is not automatically recognized OR any sensor with a BNC connection via a BNC-LEMO adapter, the sensor is recognized as "sensor for manual settings" and you are required to adjust the polarization on the channel manually. Please consult the relevant sensor manual for the right polarization value.
2. Calibrate the sensor. Please consult the relevant sensor and software manual for details.
3. Start the measurements.

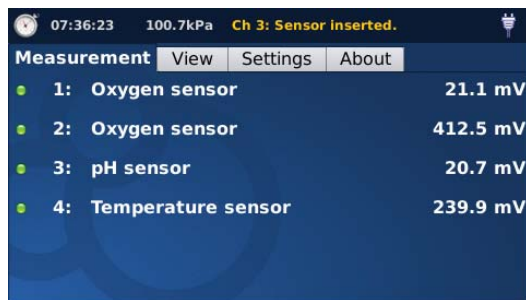
Note: Do not unplug the USB connection during operation. In case of lost connectivity restart the application.

Note: To prevent damage to the display the device is equipped with a timer that no matter the display settings will dim the display after 8 hours. To re-activate the display just hit any key at the keypad.

## OPERATING THE MICROSENSOR MONOMETER

All movement between tabs and menu options is performed by pressing the select and arrow keys next to the display.

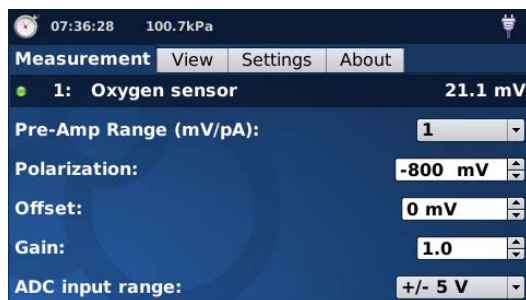
- To select a tab or menu point, press Select.
- To adjust a menu point, press the up and down arrow keys.
- To exit a menu point and go back to the menu, press the left arrow key.



Note: screen shots from Microsensor Multimeter

## ADJUSTING THE PRE-AMPLIFICATION

You may need to adjust the pre-amplification range of the sensor. This is done in the Measurement tab on the Microsensor Monometer by selecting the relevant sensor. The appropriate range is the lowest range that can accommodate the highest signal to be measured. The range 1 mV/pA is selected per default. If the expected maximum signal in this range exceeds 4500 mV, the range should be changed to 0.1 mV/pA. If the expected maximum signal is less than 500 mV in the 1 mV/pA range, then the 10 mV/pA range should be selected.



## COMPATIBILITY

### SENSORS

The Microsensor Monometer can be used only with sensors with LEMO connections. Adaptors are available for sensors with BNC connections. The Microsensor Monometer has one amperometric channel and one temperature channel

Amperometric sensors: O<sub>2</sub>, H<sub>2</sub>, H<sub>2</sub>S, N<sub>2</sub>O, NO, NO<sub>2</sub><sup>-</sup>, NO<sub>3</sub><sup>-</sup>, Flow, Diffusivity, APOX, TPOX, STOX, Temperature

Amperometric sensors that are automatically recognized and polarized: O<sub>2</sub> and H<sub>2</sub>S

All other sensors AND all BNC sensors connected via an adapter are recognized as "Sensor for manual setting" and polarization is set manually. Please refer to the relevant sensor manual for polarization values.

## SOFTWARE

The Microsensor Multimeter can be used with the SensorTrace Suite software. SensorTrace Suite is compatible with Windows 7/8/8.1/10 32/64 bit.

## ANALOG OUTPUT

The Microsensor Monometer is equipped with an "Analog port" which allows the user to retrieve the analog signals (ch. 1-2) and connect these to an external ADC. Be aware that the signals on this output can vary from the ones shown on the display. Therefore if the analog signals are drawn out from the Microsensor Monometer ONLY use these as a reference.

Additionally the "Analog port" has 2 inputs (ch. 3-4) which makes the user capable to connect analog signals from an external device.

## AUXILIARY EQUIPMENT

Unisense provides solutions for a range of experimental setups, including bulk measurements, microprofiling and microrespiration. Depending on your measuring requirements, you may need additional equipment for positioning, calibration, sample fixation, etc.

Please visit our website for inspiration and contact Unisense for any questions you may have.

## WARRANTY AND LIABILITY

The Microsensor Monometer is covered by a one year warranty.

The warranty does not include repair or replacement necessitated by accident, neglect, misuse, unauthorized repair, or modification of the product.

In no event will Unisense be liable for any direct, indirect, consequential or incidental damages, including lost profits, or for any claim by any third party, arising out of the use, the results of use, or the inability to use this product.

### Repair or adjustment

Equipment that is not covered by the warranty will, if possible, be repaired by Unisense with appropriate charges paid by the customer. In case of return of equipment please contact us for return authorization.

For further information please see the documents Conditions for Sale and Delivery for Unisense and Warranty and Shipping Information as well as the manuals for the respective products.

## TROUBLESHOOTING

**Problem:** The Microsensor Monometer is not recognized in the software.

**Solution:** Please reinstall SensorTrace Suite while the Microsensor Monometer is turned on and connected to the computer.