# UNISENSE

OPTO-F1 UNIAMP
OPTO-F4 UNIAMP

## USER MANUAL

**O**PTO**-F1 U**NI**A**MP
**O**PTO**-F4 U**NI**A**MP

# OPTO-F1 UniAmp
# OPTO-F4 UniAmp

# USER MANUAL

UNISENSE A/S

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# CONGRATULATIONS WITH YOUR NEW PRODUCT!

**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

Unisense A/S
Tel: +45 8944 9500

Further documentation and support is available at our website www.unisense.com.

# WARRANTY AND LIABILITY

The Opto-F1 and Opto-F4 UniAmp meters are 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 document Gerenal terms of sale and delivery of Unisense A/S as well as the manuals for the respective products.Repair or adjustment

# OVERVIEW

The Opto-F1 UniAmp and Opto-F4 UniAmp are compact and economical meters for the Unisense Opto-series of microoptodes. The two meters are 1 and 4 channels, respectively, with a separate temperature channel for each optical channel. A temperature sensor is needed for automatic temperature compensated oxygen measurements. The four-channel meter may be used with one temperatures sensor for compensation of all four oxygen signals or with one sensor for each oxygen signal. The Opto-F series meters are USB-powered and fully integrated with the Unisense SensorTrace Suite software, allowing combination of the microoptode technology with the broad range of Unisense electrochemical microsensors (O2, H2S, NO, N2O, H2, pH, Redox and more).



*Front view of the Opto-F1 and Opto-F4 UniAmp*

# GETTING STARTED

1. Install the SensorTrace Suite software. Newest version is available here: http://www.unisense.com/Software_download/

2. Connect the USB-C port of the Opto-F1 or Opto-F4 UniAmp to the USB port of the computer

3. Connect the Opto-series microoptodes and the temperature sensors (optional)

4. Start the software (consult the SensorTrace Suite manual for directions)

5. The microoptode signal(s) are now visible on the computer screen and calibrations and measurements can be performed

6. The tip of the microoptode may flash red depending on the state of SensorTrace Suite

    a. Will flash once every 15 seconds if SensorTrace Suite is not logging or calibrating

    b. Will flash when an experiment is running in SensorTrace Suite. The rate is determined by the "Sampling interval" setting in the software

    c. Will flash during calibration (0.5 – 1 sec. intervals)

**IMPORTANT:** *Please consult the separate manual for the Opto-series microoptodes for instructions about the microoptode and calibration of this.*

**OPERATING ENVIRONMENT**

The Opto-F1 and Opto-F4 UniAmp meters are designed for laboratory use.  Care must be taken to protect the amplifiers in humid, dusty, and corrosive environments (e.g. field conditions) since it may affect the performance, cause damage, or shorten lifetime. If the amplifier is used outdoors, it should be protected in a plastic bag or similar.

# SPECIFICATIONS

| | |
|---|---|
| Sensor | Unisense Opto-series and Unisense Opto temperature sensor |
| Channels | 1 or 4 (with individual temperature sensor for each oxygen sensor) |
| **POWER** | |
| Power supply | USB |
| Measuring principle | Lifetime red excitation with near infrared detection |
| **DATA AQUISITION SOFTWARE** | |
| SensorTrace Logger (freeware) | Included |
| Other Unisense software | Optional: SensorTrace Suite |
| Sampling interval | Adjustable 1 sec. to 60 sec. |
| Software data output | Excel and CSV |
| **PHYSICAL** | |
| Weight | 1.5 kg |
| **ENVIRONMENTAL** | |
| Temperature range | -10 to +50°C (<90% rel. humidity, non-condensing) |
| Temperature compensation | Zero Noise Temperature Compensation |
| Pressure compensation | Integrated |