

# Lab Meters



<b>OptiOx™ Product Line</b>
SevenGo pro™ RDO®
SevenGo Duo pro™ pH / RDO®
InLab® OptiOx
Dissolved Oxygen
Biochemical Oxygen Demand (BOD)
pH / ORP
Ion Concentration



## Simply Optical

Fast & Precise Oxygen Measurement

**METTLER TOLEDO**

Optical DO Measurement





# Optical DO Measurement Easier than Ever Before

**The OptiOx™ optical measuring system for determining dissolved oxygen is based on the reliable RDO® technology. Thanks to RDO (Rugged Dissolved Oxygen), measuring dissolved oxygen is easier than ever before:**

- **Stable results and rapid response time** – Optical oxygen measurement is superior to conventional technologies. OptiOx is fast, precise and produces highly reproducible results. Because of the optical measuring principle used, the oxygen is not chemically consumed during the measurement, which makes stirring the sample superfluous.
- **Immediately ready for use** – The InLab® OptiOx requires no polarisation time, meaning you can start your measurement immediately. In addition the whole measuring system has a high level of stability making calibration rarely necessary.
- **Extremely easy handling, zero maintenance: save time!** – The principle of optical measurement requires no membranes or electrolyte solutions. A used cap can be replaced by simply removing it and fitting a new one. A new cap lasts a whole year and the device informs you in good time when the next cap change is due.
- **Suitable for an immensely wide range of applications** – Thanks to the robust design and the customized accessories, the InLab® OptiOx is a true allrounder. Thus, it's ideally equipped for use in the laboratory, e.g. in quality monitoring, or, when fitted with the OptiOx protective guard, in harsh environments.



Find out more  
about optical RDO®  
technology at:  
[www.mt.com/OptiOx](http://www.mt.com/OptiOx)

- **Biochemical oxygen demand (BOD)** – The BOD content of any effluent can be checked very easily, making measurements both quick and economic. With the special BOD adapter, the sensor is suitable for measuring in all current types of BOD bottles. According to the EPA (Environmental Protection Agency, USA), stirring is not necessary thanks to RDO technology.

# OptiOx™ Product Line

## The Ideal Equipment for Your Application

The whole OptiOx™ product line will capture your interest because of its ergonomic design and user friendliness whether used in the field, in production or in the laboratory. The SG9 is a robust meter for measuring dissolved oxygen based on RDO® technology. The professional multiparameter SG98 instrument also covers the important parameters pH, ions and ORP.

### SevenGo™ instruments – robust meters for professional measurements

The single-channel instrument SevenGo pro SG9 and the dual-channel instrument SevenGo Duo pro SG98 offer:

- Waterproof and dustproof in accordance with IP67
- User-friendly display with background illumination
- Fast data transmission thanks to wireless IR communication interface
- Reliable "Intelligent Sensor Management" (ISM®)
- Automatic air pressure compensation for reliable results



The field kit versions include the following accessories:

- **Field compact case**  
This case is designed in such a way that it provides space for two electrodes with a maximum cable length of 10 m.
- **Rubber holster**  
This practical cover provides optimum impact protection for the device. You can also change the batteries without having to remove the protective cover.
- **OptiOx protective guard**



## InLab® high-quality sensors – robust, easy to use, precise

METTLER TOLEDO provides the right type of sensors for all conceivable applications for measuring dissolved oxygen, pH, ORP or ion concentration. The most popular sensors are also available with ISM (Intelligent Sensor Management). To learn more about the benefits of ISM visit: [www.mt.com/intelligent-lab-sensors](http://www.mt.com/intelligent-lab-sensors). Details of the complete sensor range can be found in the InLab® Sensor brochure which can be ordered with no. 51724332.

The SevenGo devices are by default equipped with high-performance sensors which are distinguished by their robustness, ease of handling and precise measurement technology.

### InLab® OptiOx for dissolved oxygen **ISM**

- Optical oxygen sensor based on RDO technology
- Easy-to-replace OptiOx sensor caps
- Robust and manageable design

### InLab® Expert Pro-ISM for pH **ISM**

- Low-maintenance XEROLYT® polymer electrolyte with two open reference connections
- Robust, chemically resistant PEEK shaft
- Long-lasting ARGENTHAL™ reference system



#### OptiOx sensor cap

The sensor cap for InLab® OptiOx oxygen sensors provides reliable results 365 days of the year. For replacement, old caps can simply be removed and new ones fitted.

#### OptiOx BOD adapter

This special BOD (biochemical oxygen demand) adapter enables quick and easy measurement in all current types of BOD bottles with the InLab® OptiOx.

#### OptiOx protective guard

The robust protective guard made of stainless steel provides optimum protection even in harsh environments. Thanks to the additional weight of the guard it also acts as a sinker taking the sensor to deeper measurement locations.



## Accessories for OptiOx™

Accessories for InLab® OptiOx	Order no.	Accessories for SevenGo (Various)	Order no.
OptiOx replacement cap	51344630	SevenGo rubber holster	51302322
OptiOx calibration tube	51344631	Wrist strap	51302331
OptiOx protective guard	51344632	Neck strap	51302321
OptiOx BOD adapter	51344633	SevenGo cap (blue)	51302324
		Rubber pads (2)	51302335
		Battery lid	51302328
<b>Accessories for SevenGo (Communication)</b>	<b>Order no.</b>	SevenGo sealing kit	51302336
Infrared USB adapter	51302332	Field electrode arm	51302334
Infrared RS232 adapter	51302333	SevenGo field compact case (empty)	51302359
LabX® direct pH PC software	51302876		

## Sensors

InLab®	Expert Pro-ISM	OptiOx
Measuring range	0...14 pH	0...500%, 0...50 mg/L
Temperature range	0...100 °C	0...50 °C
Temperature probe	NTC 30 kΩ	NTC 30 kΩ
Membrane glass / sensing element	U	Luminophore
Membrane resistancy (25 °C)	< 250 MΩ	
Type of junction	Open connection	
Reference system / -electrolyte	ARGENTHAL™ / XEROLYT® Polymer	
Shaft material	PEEK	PC / ABS
Shaft length	120 mm	65 mm
Shaft diameter	12 mm	16 mm
Storage	FRISCOLYT-B®	Dry
IP67	Yes	Yes
Connections	Fixed cable: BNC/RCA (cinch)	Fixed cable: mini LTW

Order info	Order no.	Order no.
1.8 m cable	51344102	51344621
5 m cable	51344103	51344622
10 m cable	51344104	51344623



## SevenGo (Duo) pro™

DO (SG98 & SG9)	Measuring range	Resolution	Accuracy
Oxygen (mg/L, ppm)	0.00...50.00	0.01	± 0.1 mg/L from 0...8 ± 0.2 mg/L from 8...20 ± 10% from 20...50
Saturation (%)	0...500	0.1	
Temperature DO (°C)	0...50.0	0.1	± 0.1 °C
Pressure (mbar)	500...1100	1	± 1
DO Sensor input	Mini LTW (IP67)		
Outputs	IR to printer or PC via RS232 or USB		
Power supply	4 1.5 V AA batteries or 1.3 V NIMH accumulators		
Operating conditions	0 to 40 °C, 5 to 85% rel. humidity (non-cond.)		
Size/weight	220 x 90 x 45 mm/368 g (without batteries)		

pH/Ion/mV (only SG98)	Measuring range	Resolution	Accuracy
pH	-2.000...19.999	0.001	± 0.002
mV (rel. mV)	-1999...1999	0.1	± 0.1
Ions (mg/L, mmol/L, mol/L)	0.000...999.9% 0.000...9999 ppm 1.00E <sup>-9</sup> ...9.99E <sup>+9</sup>		± 0.5%
Temperature pH (°C)	-5.0...130.0 (ATC) -30.0...130.0 (MTC)	0.1	± 0.2 °C
sensor inputs	BNC (>10 <sup>12</sup> Ohm); RCA (cinch); (both IP67)		

Order info	Description and sensors	Order no.
<b>SG9 (DO)</b>		
SG9-B	Instrument only	51302591
SG9-ELK	Electrode kit with InLab® OptiOx (IP67, 1.8 m cable)	51302592
SG9-FK2	Field kit* with InLab® OptiOx (IP67, 1.8 m cable)	51302593
SG9-FK5	Field kit* with InLab® OptiOx-5m (IP67, 5 m cable)	51302594
<b>SG98 (DO &amp; pH/Ion/mV)</b>		
SG98-B	Instrument only	51302661
SG98-ELK	Electrode kit with InLab® Expert Pro-ISM and InLab® OptiOx (both IP67, 1.8 m cable)	51302662
SG98-FK2	Field kit* with InLab® Expert Pro-ISM and InLab® OptiOx (both IP67, 1.8 m cable)	51302663
SG98-FK5	Field kit* with InLab® Expert Pro-ISM-5m and InLab® OptiOx-5m (both IP67, 5 m cable)	51302664

\* More detailed information about the field kit on the inside

## METTLER TOLEDO worldwide presence...

You can view the contact addresses of all METTLER TOLEDO representatives in various countries on the Internet at [www.mt.com/contacts](http://www.mt.com/contacts)

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