

LANGE
ONLINE MEASURING SYSTEMS

»LDO



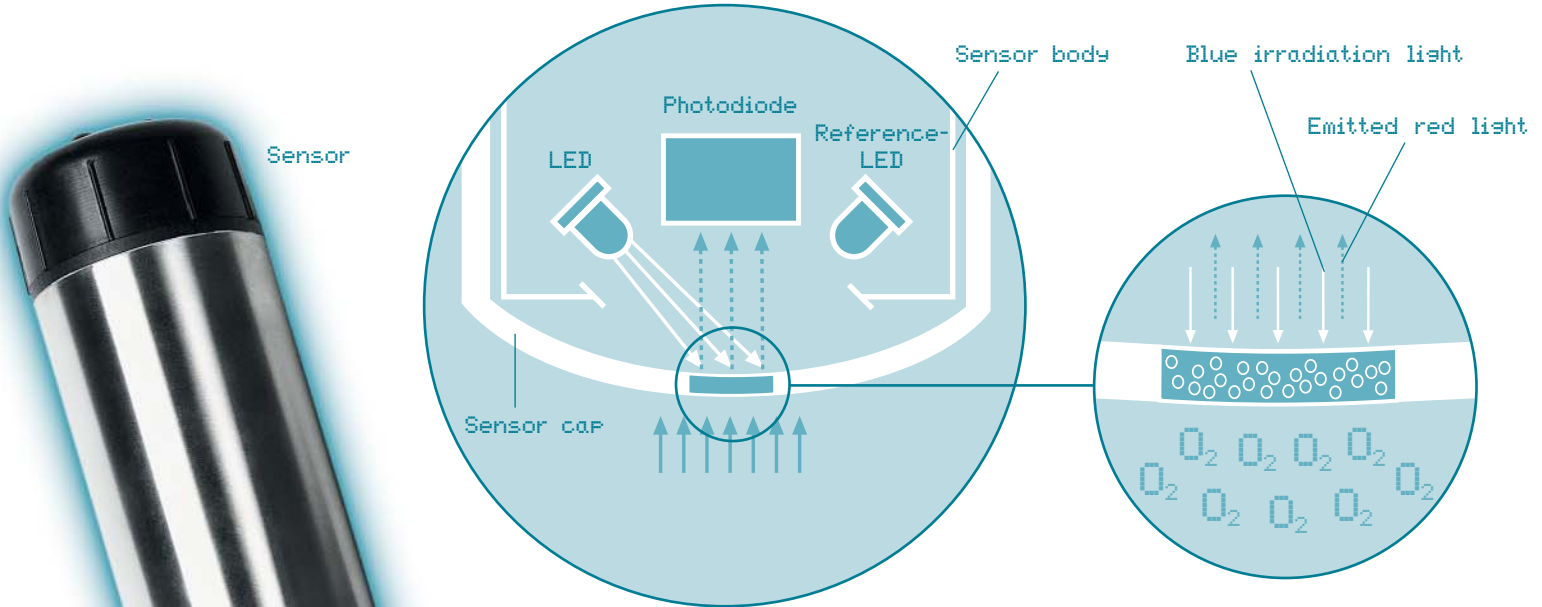
THE OPTICAL MEASUREMENT OF OXYGEN!

➔ The revolutionary method for
continuous O₂-measurement

LANGE 
FOR WATER QUALITY



The LANGE LDO method is based on a completely new, optical principle. The measurement is carried out by way of an oxygen-sensitive coatings that is excited by a blue light-emitting diode. After excitation the coating subsequently emits red light. The elapsed time between excitation and emission corresponds to the DO concentration. A further (red) LED is used to compensate for minor variations within the cell.



LDO



LUMINESCENT DISSOLVED OXYGEN

LANGE LDO: Good reasons for a revolutionary measurement procedure.

With the Lange LDO-technology, LANGE has adopted a totally new method of measuring dissolved oxygen. The procedural disadvantages of traditional electrochemical DO cells, which lead to inaccurate measurements if routine maintenance is not carried out, are overcome with this optical measurement method.

The innovative LANGE LDO procedure offers maximum of accuracy and reliability with minimum maintenance effort.



Optics without sensor cap

The ideal method of measurement.

OPTICALLY QUICK OPTICALLY CORRECT.

No more calibrating

→ Minimal maintenance

No more replacing of the membrane and electrolyte

→ Easy handling

No flow rate required

→ Accurate and dependable measurements

No more poisoning of the electrode by H_2S

→ Usable for difficult applications

No polarization times

→ High availability

The Universal
Controller SC100



The functional principle of the LDO sensor is based on an optical technique. In this unique method, an oxygen-sensitive coated sensor cap replaces the electrolyte, electrodes, and the gas permeable membrane of the traditional electrochemical cell. The sensor is factory-calibrated to correlate with this durable and stable coating; routine on-site recalibration afterwards is no longer required.

Unlike electrochemical sensors the optical procedure does not consume oxygen. The sensor is therefore insensitive to fouling. The flow rate also has no influence on the reliability of the measurements.

The LANGE LDO sensor is completely immune to electrode contaminants, such as H_2S or CO_2 , which poison or even destroy the traditional polarographic O_2 -sensors.

The sensor does not require time for polarization – it is immediately available for measurement after it is switched on.

A flexible system: The LANGE LDO and the Universal Controller SC100.

The LANGE LDO sensor is operated by means of the new, easy-to-use Universal Controller SC100. This device has two measurement-input jacks. Two sensors can therefore be operated in parallel.

The digital signal transmission to the Universal Controller SC100 ensures trouble-free and operationally safe communication between the sensors and the controller at transmission distances of up to 300 m. Furthermore, this technology facilitates comprehensive diagnostic functions for the complete system.

Modules to link different bus-systems are available as options. The measurement of oxygen can therefore be integrated into various data recording systems without problems.

MEASURABLY MORE. TEST US.



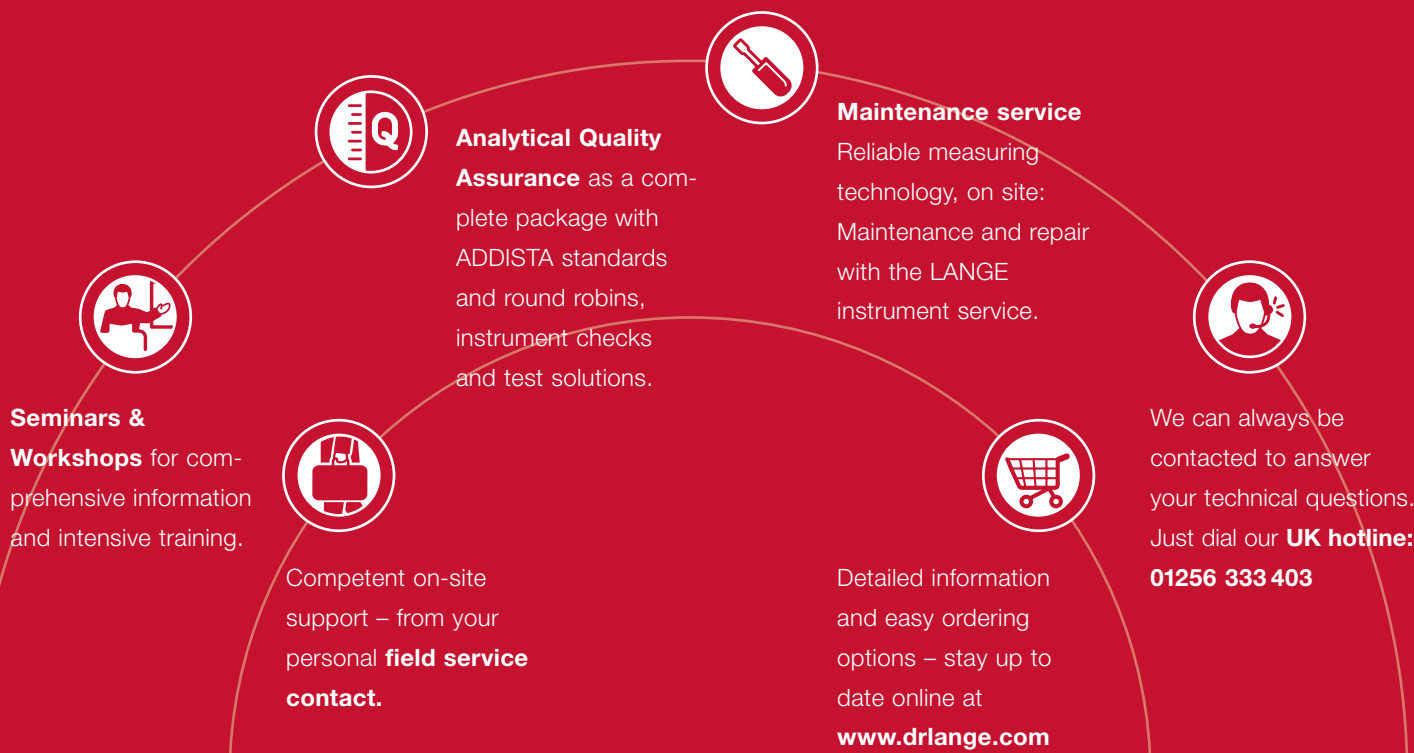
LANGE is measurably more than good measuring instruments.
Our service makes analysis a fully integrated system.

LDO

DATA SHEETS

APPLICATIONS

OPERATING MANUAL



T E C H N I C A L D A T A

LDO and SC100 Controller compact:

SC100 Universal Controller

Display Graphic dot matrix LCD, 128x64 pixels, with backlighting

Inputs 2 Sensors

Analog outputs 2 x 0/4–20 mA, free selectable

Relays 3 x SPDT 115/230 V AC, 5 A, free selectable

Ambient temperature -20 to 60 °C, 0 to 95 % relative humidity, non-condensing

Enclosure IP66, pipe, surface and panel mounting

Communication RS-232, RS-485-MODBUS, RS-485 PROFIBUS DP

LANGE LDO sensor

Sensor materials Foamed Noryl, 316 SS

Measuring principle Luminescence

Measuring range 0.05 to 20.00 mg/l, 0.05 to 20.00 ppm, 0.5 to 200 % saturation

Resolution 0.01 mg/l, 0.01 ppm, 0.01 % saturation

Temperature range 0 to 50 °C

Min. flow rate none

Calibration not required

Cable 10 m integral cable with quick disconnect plug.

Max. distance to controller 300 m by using a junction box and additional cables

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Hyxo Oy

P.O. Box 16 (Palokorvenkatu 2)
FI-04261 Kerava, Finland
Tel. +358 10 417 4500
Fax +358 10 417 4501
hyxo@hyxo.fi • www.hyxo.com

**DR. BRUNO LANGE
GMBH & CO. KG**

Willstätterstraße 11
D-40549 Düsseldorf
Tel. +49 (0) 211 5288-0
Fax +49 (0) 211 5288-143
kundenservice@drlange.com
www.drlange.com

DR LANGE (UK) LTD

Lennox Road
Basingstoke
Hampshire, RG22 4AP
Tel. +44 (0) 1256 333 403
Fax +44 (0) 1256 330 724
info@drlange.co.uk
www.drlange.com