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DATASHEET
Doc. DS-0010 · Rev. A

KEY FIGURES

0–20 mg/L
Measure range (0 – 200 % Sat)

±1 %
Accuracy (at 25 °C)

< 60 sec.
Reaction time (t90)

RS485
Digital Technology (Modbus RTU)

RANGE OF APPLICATIONS

- Aquaculture
- Fish farming (fresh and seawater)
- Lake and river monitoring
- Water treatment
- Service and industrial water

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MODEL DO2

Optical Dissolved Oxygen Sensor

Optical Sensor Technology



Process connection:
with Rp 1" thread



Sensor cap:
robust and easily exchangeable

FEATURES

- Digital Technology (RS-485 Modbus RTU)
- Range: 0-20,00 mg/l or 0-200 % Sat
- Optional 4-20 mA current output
- Minimal operating costs
- Robust and easily exchangeable sensor cap

Description

The Optical Dissolved Oxygen measuring technology is oxygen dependent luminescence. Without oxygen consumption, this technology allows you an accurate measure in all situations and especially in very low oxygen concentrations.

Digital Technology

Calibration of Siemex DO2 sensors are performed via the Digital Technology. Calibration can be performed as a one-point or two-point calibration.

The Siemex DO2 sensor stores calibration data within the sensor. This allows you a “plug and play” system without re-calibration.

The Universal Modbus RS485 protocol allows Siemex DO2 sensors to be connected to all devices commonly used (Data logger, Controller, Automat, Remote System...).

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Technical Data

SPECIFICATIONS

Measure ranges	0 - 20 mg/L 0 – 200 % Sat
Accuracy (at 25 °C)	+/- 1 %
Quantification limit	0,1 %
Reaction time (t90)	< 60 sec.
Pressure	max. 2 bar
Temperature range	–5 to +50 °C
Temperature compensation	automatic
Auto malfunction diagnosis	in case of sensor cap malfunction

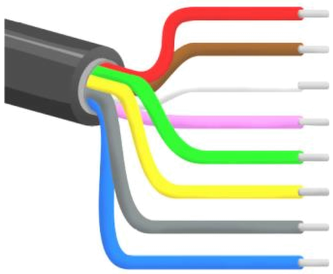
ELECTRICAL DATA

Supply	10 – 30 V DC (18 – 30 V DC for 4-20mA signal)
Digital Technology	RS-485 Modbus RTU
Current output	Optional 4-20 mA

CASE

Probe diameter	20 mm 30 mm with submersible version
Process connection	optionally with 1“ thread
Material	PVC

Wiring Diagram



WIRE COLOUR

Red	VCC 10-30V DC (4-20mA loop)
Brown	GND (4-20mA loop)
White	RS485 A
Pink	RS485 B
Green	SCS-Cathode
Yellow	SCS-Anode
Grey	NTC
Blue	NTC

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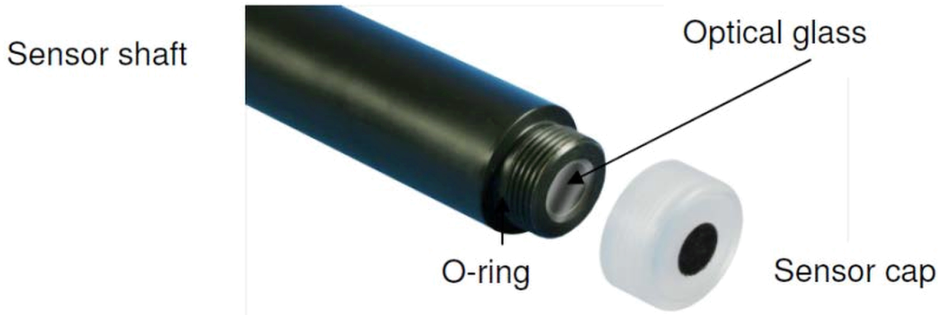
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Sensor Maintenance

Cleaning and changing Sensor Cap



Maintenance / Cleaning

If a deviation of the measurement values occurs during operation, one should clean the sensor and possibly calibrate it newly.

Please, pay attention to the following hints during operation:

- The sensor has to be kept clean most of all in the area of the optical membrane. A biofilm on top of the membrane cap can lead to measurement errors.
- Should the membrane be dirty, clean it with warm, soapy water. Please, use a soft sponge (no scrub sponge with abrasive effect). **Under no circumstances hard or pointy objects may be used for it.** The sensor cap could become unusable.

Changing of the Sensor Cap

The exchange of the sensor cap is performed very easily:
In case of the fish farming version, first remove the biting protection forwards. In case of all other versions this step is not required. After that unscrew the old sensor cap from the shaft by turning it to the left. Please, ensure that the optical glass of the sensor does not get touched and get dirty. However, if this should happen, clean the optical glass with a lint-free cloth (e.g. micro fibre cloth).

> If the sensor cap is mounted very firmly on the shaft, and you cannot obtain a good grip with your fingers, a silicone tube between your fingers and the cap or rubber gloves can supply a better grip.

Examine the small O-ring that seals the sensor cap to the sensor shaft. Exchange the O-ring, if any traces of wear can be seen. A replacement O-ring is included in the scope of delivery of each replacement sensor cap.

Screw the new sensor cap by right hand rotation onto the sensor shaft again. Make sure that the gap between shaft and cap is closed and that the sealing effect of the O-ring under it is therefore guaranteed. In case of the fish farming version slide the biting protection back on again.

Examine the measurement values of the sensor in air, and if necessary, in an oxygen-free medium. If the measurement values deviate significantly, perform a calibration.