

# DULCOTEST DO 3 Sensor

Reliable online measurement of dissolved oxygen!



*The measured variable “dissolved oxygen” indicates the volume of gaseous oxygen physically dissolved in the aqueous phase in ppm (mg/l) or the oxygen saturation of water in percent. The **DO 3 sensor** is based on visual measurement of fluorescence and can be connected to the process in an immersion pipe or in a flow fitting. It can be used to monitor water rich in oxygen, such as surface water, potable water, as well as for the control of the aeration of aeration tanks in clarification plants.*

## Features & Benefits

- Efficient process management by precise online measurement in real-time
- A wide range of optimized connections of the sensors to the process
- Integrated temperature measurement (Pt 1000) compensates for the influence of temperature
- Diaphragm-covered electrodes for reduced dependence on flow and cross-sensitivities
- Minimal maintenance in contaminated water due to visual measuring principle
- Sensor comes calibrated from the factory. Re-calibration only needed following replacement of the visual sensor cap
- Rod-shaped construction for simple installation into standard immersion pipes and ProMinent bypass fittings
- No flow dependence and minimized faults due to contaminants in the water due to the visual measuring principle of quenching
- Fluorescence dye is replenished as needed in the membrane cap

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## Technical data

	Measuring range	Part Number
DO 3-mA-20 ppm	0.10 - 20.0 ppm (mg/l)	1094609

Measured variable	Dissolved oxygen
Calibration	On atmospheric oxygen or by reference measurement in the process water
Measuring accuracy	±0.1 ppm (mg/l)
Response time sensor $t_{90}$	< 60 s at 77 °F (25 °C) from air to nitrogen
Temperature	32 - 122 °F (0 ... 50 °C)
Temperature correction	Internally compensated
Max. pressure	29 psi (2.0 bar)
Intake flow	Measurement possible without flow
Supply voltage	18 - 30 V DC
Electrical connection	Fixed cable, 32.8 Ft (10 m)
Output signal	4-20 mA assigned to the measuring range, temperature-corrected, calibrated and galvanically isolated
Enclosure rating	IP 68
Process integration	Sensor can be mounted in a bypass line by using a DGMA housing or with a 25mm, 1-1/2" FNPT CPVC Submersible Sensor Holder (PN 1109225)
Measuring and control equipment	DACb (firmware 02.01.01.02 or higher) with complete calibration functionality and all correction variables (temperature, salinity, air pressure, height above sea level). Displayed units: [ppm] and [% oxygen saturation] DACb, AEGIS II, D1C: calibration only possible by the input of a reference concentration determined from the process water. Only temperature correction variable. Displayed unit: [ppm]
Typical applications	Control of oxygen input into the aeration tank (clarification plant), control of oxygen input in water works, breeding of fish and shrimp, conditioning large aquarium (zoos) water, assessment of the biological condition of surface water.
Resistance to	Contaminated water and the following chemical compounds: carbon dioxide, hydrogen sulfide, sulfur dioxide, ethylene oxide and against gamma sterilization.
Interference by	Oxidant (e.g., chlorine, chlorine dioxide, ozone) and many organic solvents (e.g., chloroform, toluene, acetone)
Measuring principle, technology	optical: Measurement of the relaxation time of a pulsed fluorescence beam

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