WA300 - Dissolved Oxygen

1. Optical Sensor

The optical sensor measures oxygen with a built-in temperature probe. The measuring technique is based on the optical principle. This innovative method ensures reliable, accurate measurements with no drift over time, therefor system calibration is no longer necessary. No maintenance is required except for replacing the luminescent support about every two years. The system does not consume oxygen, therefore it is suitable for the most varied fields of application, including those in which the measuring liquid is almost stationary.

Product Features

1. Optical technology: no membrane
2. No signal drift: no calibration
3. Digital output: Modbus RS-485
4. Robust stainless steel structure

Applications

1. Surface water
2. Fish farm
3. Drinking water
4. Waste water
5. Sea water

Model	S423/C/OPT
Measuring range	0.00~20.00mg/L, 0~200%
Measuring method	Optical measured by luminescence
Precision	±0.1mg/L or ±1%
Response	90% of the value in less than 60 sec.
Refresh time	< 1 sec.
Temp. compensation	With internal NTC probe
Operating Temp.	-10~60℃ (Opt.-10~80℃)
Max. pressure	5 bar
Body material	AISI316 (Opt. PVC body)
Electrode material	Special optical glasses
O-Rings	NBR and Silicon
Mechanical protection	IP68 (Sensor+Cable)
Power supply	12~24Vdc
Power consumption	Max.2W
Cable	10m integral with the sensor
Signal interface	RS485 MODBUS RTU Protocol



S423/C/OPT

2. Polarographic Sensor

The oxygen content in liquids is measured with a system called Clark's cells. These cells generate an electrical current proportional to the oxygen partial pressure which can be evaluated with a suitable measurement converter. Specially, S423 uses an OPTIFLOW™. This membrane is very mechanically stable, is manufactured as laminate around a steel mash and is very resistant to chemically aggressive environments as well as high pressures.

Product Features

1. OPTIFLOW™ membrane
2. Maintenance free

Applications

1. Surface water
2. Drinking water
3. Biological treatment of waste water

Model	S423
Measuring range	40ppb~40ppm
Measuring method	Measure of the electric current influenced by the oxygen partial pressure
Sensitivity	40~80nA a 25℃ in air
Stabilization time	Typical 15min., max. 1h
Required flow rate	≥0.03m/s
Temp. sensor	NTC 30kOhm Oxysens W
Operating Temp.	0~60℃
Max. pressure	0~4bar
Body material	S.S. 1.4435, PEEK, Silicon, NBR
Electrode material	Silver-Platinum combination
Membrane material	OPTIFLOW
Reference electrolyte	Alkaline solution
Electrical connector	Integral cable 5m
Connection to process	Pg 13.5 threaded
Polarisation current	-670 ±50mV



S423