Know-how in shortened form

The right sensor for your application

Part 3: Amperometric Sensors

One important parameter in water treatment is the concentration of the disinfectant and oxidant in the water. Amperometric sensors from ProMinent deliver reliable measured values. Using this selection guide you can find the right sensor.

The first choice for water treatment

Reliable measured values are an indispensable starting point for precise control, as is required for perfect water treatment. Whether you are metering free chlorine, ozone, bromine, peracetic acid or any other measured variable – amperometric sensors from ProMinent are the first choice for determining the concentration of disinfectants and oxidants.

Mainly using selectivity, these measure the concentration of the desired substance across various measuring ranges and thereby ensure maximum process reliability. The amperometric analysis is an electrochemical measuring process in which the substance to be measured is converted into an electric current and the current strength measured provides the concentration of the substance.

Precise measured values, practical benefits

The benefits for you: ProMinent has the right sensor type for all the most important measured variables and measuring ranges for the major water treatment applications. Each comes with various output signals, for flexible connection to various controllers with analogue mA, mV or digital CAN bus signal inputs. Other benefits include simple handling without zero point calibration, little maintenance, measurement regardless of flow rate and with the „R“ types also improved soiling tolerance: they even provide reliable measurements with polluted water containing particles that may block conventional sensors.

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How to find the right sensor

In the first column, select the substance you want to measure. The second column contains various applications and the third the corresponding measuring ranges. Use the fourth column to discover which of our controllers DULCOMETER® the sensors can be connected to. And then you can find the product names in the "Sensor type" column. You can recognize the soiling-tolerant models as they have an "R" as the third letter in their type designation. "CAN", "mA" and "DMT" state the compatibility to the signal inputs of measuring and control units. In the last block of the type designation, "xppm" indicates the precise measuring range. Which of the according suitable measuring range are available you will find in the product catalogue – or one of our friendly customer advisers will be happy to help.

Measured variable	Applications	Graduated measuring ranges	Connection to DULCOMETER®	Sensor type
Free chlorine	Potable water, swimming pool water	0.01 – 100 mg/l	D1C, DAC	CLE 3-mA-xppm, CLE 3.1-mA-xppm
	Washing water from F&B	10 – 200 mg/l	D1C, DAC	CLR 1-mA-xppm
	Potable water, swimming pool water	0.01 – 100 mg/l	DULCOMARIN® II	CLE-CAN-xppm, CLE 3.1-CAN-xppm
	Potable water, swimming pool water, in-situ Electrolysis (without diaphragm)	0.02 – 10 mg/l	D1C, DAC	CLO 1-mA-xppm
	Hot water up to 70 °C, (legionella), in-situ electrolysis (without diaphragm)	0.02 – 2 mg/l	D1C, DAC	CLO 2-mA-2ppm
	Potable water, swimming pool water	0.01 – 50 mg/l	DMT	CLE 3-DMT-xppm
		0.05 – 5 mg/l	DULCOMARIN® II	CLE 3-CAN-xppm, CLE 3.1-CAN-xppm
		0.05 – 5 mg/l	COMPACT	CLB 2-µA-5ppm, CLB 3-µA-5ppm
	Cooling, process, waste water, water with higher pH values (stable)	0.01 – 10 mg/l	D1C, DAC	CBR 1-mA-xppm
Total available chlorine	Swimming pool water with chlororganic disinfectants	0.02 – 10 mg/l	D1C, DAC	CGE 2-mA-xppm CGE 3-mA-xppm
		0.01 – 10 mg/l	DULCOMARIN® II	CGE 2-CAN-xppm
Total chlorine	Potable, raw, process and cooling water	0.01 – 10 mg/l	D1C, DAC	CTE 1-mA-xppm
			DMT	CTE 1-DMT-xppm
			DULCOMARIN® II	CTE 1-CAN-xppm
Combined chlorine	Swimming pool water	0.02 – 2 mg/l	DAC	CTE 1-mA-2 ppm, CLE 3.1-mA-2 ppm
		0.01 – 10 mg/l	DULCOMARIN® II	CTE 1-CAN-xppm, CLE 3.1-CAN-xppm
Total available bromine	Cooling water, swimming pool water, whirlpool water with organic or inorganic bromine compounds	0.02 – 10 mg/l	DULCOMARIN® II	BRE 3-CAN-10ppm
	Cooling water, waste water, swimming pool, whirlpool water, bromine with BCDMH	0.01 – 10 mg/l	D1C, DAC	BCR 1-mA-xppm
Free and combined bromine	Cooling, process, waste water, water with higher pH values (stable)	0.02 – 20 mg/l	D1C, DAC	CBR 1-mA-xppm
Chlorine dioxide	Potable water	0.01 – 10 mg/l	D1C, DAC	CDE 2-mA-xppm
	Bottle washing system	0.02 – 2 mg/l	D1C, DAC	CDP 1-mA
	Hot water up to 60 °C, cooling water, waste water, irrigation water	0.01 – 10 mg/l	D1C, DAC, DULCOMARIN® II	CDR 1-mA-xppm CDR 1-CAN-xppm
Chlorite	Potable water, washing water	0.02 – 2 mg/l	D1C, DAC, DULCOMARIN® II	CLT 1-mA-xppm CLT 1-CAN-xppm
Ozone	Potable, industrial, process and swimming pool water	0.02 – 2 mg/l	D1C, DAC	OZE 3-mA-xppm
Ozone / zero ozone monitoring	Polluted water	0.002 – 2mg/l	D1C, DAC	OZR 1-mA-xppm
Dissolved oxygen	Potable water, surface water	2 – 20 mg/l	D1C, DAC	DO 1-mA-xppm
	Aeration tanks, clarification plants	0.1 – 10 mg/l	D1C, DAC	DO 2-mA-xppm
Peracetic acid	CIP (cleaning in place), aseptic foodstuff filling	1 – 2,000 mg/l	D1C, DAC	PAA 1-mA-xppm
Hydrogen peroxide	Clear water, fast control	1 – 2,000 mg/l	D1Ca	Perox-Sensor, PEROX-H2.10
	Process, swimming pool water	0.5 – 2,000 mg/l	D1C, DAC	PER1-mA-xppm