

DULCOTEST® Sensors for Chlorine Dioxide

Reliable online measurement of chlorine dioxide – with DULCOTEST® sensors.

LENNTECH
WATER TREATMENT SOLUTIONS



ProMinent®

Graduated measuring ranges 0.01 – 10 mg/l

Our product line of DULCOTEST® chlorine dioxide sensors provides three types of sensor for different applications. Each product range consists of several types for different measuring ranges. To monitor or control clear water, for instance in the disinfection of potable water, there is the tried-and-tested chlorine dioxide sensor range CDE2. The CDP1

product range is available for the rapid control of chlorine dioxide content in bottle-washing systems. The innovative sensor type CDR1 can be used in polluted waters, e.g. raw water for potable water generation, cooling water and waste water.

Your benefits

- Three application-optimised sensor ranges available
- Precise, real-time amperometric measurement for efficient process control (short response time)
- Amperometric measuring means no clouding or discolouration
- Integrated or rapid external temperature compensation eliminates faults caused by influence of temperature
- Diaphragm-covered sensors for reduced dependence on flow, cross sensitivities, substances in water and film-forming media
- Diaphragm-covered measuring electrodes embedded in an electrolyte ensure long service life. This maintains optimum measuring conditions regardless of process conditions

Field of application

Product range CDE: Potable, industrial and process water without surfactants with slow temperature changes
Product range CDP: Bottle-washing systems and other applications with addition of surfactants and rapid temperature changes
Product range CDR: Polluted industrial / process water, surfactant-containing, cooling water, irrigation water, waste water with little pollution, hot water

DULCOTEST® Sensors for Chlorine Dioxide

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Technical Data

Chlorine Dioxide Sensor CDE 2-mA

Standard sensor for the measurement of chlorine dioxide without cross-sensitivity by free chlorine. For operation on controllers with 4-20 mA input

Your benefits

- Measured variable: Chlorine dioxide, no cross-sensitivity towards free chlorine
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water

Measured variable	Chlorine dioxide (ClO ₂)
Reference method	DPD1
pH range	4.0 ... 11.0 ClO ₂ stability range
Cross sensitivity	Ozone
Temperature	5 ... 45 °C
Max. pressure	1.0 bar
Intake flow	30...60 l/h (in DGM or DLG III)
Supply voltage	16...24 V DC (two-wire technology)
Output signal	4...20 mA ≈ measuring range, temperature-compensated, uncalibrated, not electrically isolated
Response time sensor t₉₀	120 s
Selectivity	Chlorine dioxide selective towards free chlorine, chlorite and chlorate
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	D1C
Typical applications	Uncontaminated drinking water (surfactant-free).
Resistance to	Salts, acids, alkalis. Not surfactants
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CDE 2-mA-0.5 ppm	0.01...0.5 mg/l	792930
CDE 2-mA-2 ppm	0.02...2.0 mg/l	792929
CDE 2-mA-10 ppm	0.10...10.0 mg/l	792928

Chlorine dioxide sensors complete with 100 ml of electrolyte

Note: a mounting kit (order no. 815079) is required for initial fitting of the chlorine dioxide sensors in the in-line probe housing DLG III.

DULCOTEST® Sensors for Chlorine Dioxide

Reliable online measurement of chlorine dioxide – with DULCOTEST® sensors.

Chlorine Dioxide Sensor CDP 1-mA

Sensor for the measurement of chlorine dioxide with a fast response time, for example in bottle-washing systems. For operation on controllers with 4-20 mA input

Your benefits

- Measured variable: Chlorine dioxide without interference caused by surfactants
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water
- Fast response time through open-pored diaphragm and external temperature measurement

Measured variable	Chlorine dioxide (ClO ₂)
Reference method	DPD1
pH range	5.5 ... 10.5
Cross sensitivity	Ozone, chlorine
Temperature	10 ... 45 °C
Max. pressure	3.0 bar
Intake flow	30...60 l/h
Supply voltage	16...24 V DC (two-wire technology)
Output signal	4...20 mA ≈ measuring range, not temperature-compensated, uncalibrated, not electrically isolated
Temperature measurement	Separate temperature measurement needed for compensation
Response time sensor t ₉₀	60 s
Selectivity	Chlorine dioxide as against chlorite and chlorate
Installation	Bypass: open sample water outlet
Sensor fitting	ProMinent recommends installing the sensor in the DLG II in-line probe fitting with upstream flow monitoring together with a Pt 100 temperature sensor
Measuring and control equipment	D1C and DAC with automatic temperature correction only
Typical applications	Process water containing surfactants (bottle washing machines).
Resistance to	Surfactants, slight films of dirt
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CDP 1-mA-2 ppm	0.02...2.0 mg/l	1002149

Chlorine dioxide sensors complete with 100 ml of electrolyte

Note: a mounting kit (order no. 815079) is required for initial fitting of the chlorine dioxide sensors in the in-line probe housing DLG III.

DULCOTEST® Sensors for Chlorine Dioxide

Reliable online measurement of chlorine dioxide – with DULCOTEST® sensors.

Chlorine Dioxide Sensor CDR 1-mA

Sensor for the measurement of chlorine dioxide for all kinds of water, including hot and contaminated water. Without cross-sensitivity by free chlorine. For operation on controllers with 4-20 mA input

Your benefits

- Measured variable: Chlorine dioxide, without cross-sensitivity towards free chlorine
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water
- Resistance to films of dirt by pore-free diaphragm
- Operating temperature up to 60 °C (short term) by appropriate sensor materials

Measured variable	Chlorine dioxide (ClO ₂)
Reference method	DPD1
pH range	1.0 ... 10.0
Cross sensitivity	Ozone
Temperature	1 ... 55 °C (short-term period 60 °C)
Max. pressure	3.0 bar, (30°C, in the DGMa)
Intake flow	30...60 l/h (in DGM or DLG III)
Supply voltage	16...24 V DC
Output signal	4...20 mA Temperature-compensated, uncalibrated, not electrically isolated
Response time sensor t ₉₀	3 min.
Selectivity	Chlorite
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	D1C
Typical applications	Contaminated industrial, process water, containing surfactants, cooling water, irrigation water, slightly contaminated waste water, warm water.
Resistance to	Surfactants, slight films of dirt, water-soluble chemicals, solids/dirt, biofilms
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CDR 1-mA-0.5 ppm	0.01...0.5 mg/l	1033762
CDR 1-mA-2 ppm	0.02...2.0 mg/l	1033393
CDR 1-mA-10 ppm	0.10...10.0 mg/l	1033404

Note: a mounting kit (order no. 815079) is required for initial fitting of the chlorine dioxide sensors in the in-line probe housing DLG III.

DULCOTEST® Sensors for Chlorine Dioxide

Reliable online measurement of chlorine dioxide – with DULCOTEST® sensors.

Chlorine Dioxide Sensor CDR 1-CAN

Sensor for the measurement of chlorine dioxide for all kinds of water, including hot and contaminated water. Without cross-sensitivity by free chlorine. For operation on controllers with 4-20 mA input

Sensors for connection to a CAN interface (e.g. Disinfection Controller)

Your benefits

- Measured variable: Chlorine dioxide, without cross sensitivity to free chlorine
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water
- Resistance to films of dirt by pore-free diaphragm
- Operating temperature up to 60 °C (short term) by appropriate sensor materials
- Operation on the CAN-bus with all the associated benefits

Measured variable	Chlorine dioxide (ClO ₂)
Reference method	DPD1
pH range	1.0 ... 10.0
Cross sensitivity	Ozone
Temperature	5 ... 45 °C
Max. pressure	1.0 bar
Intake flow	30...60 l/h (in DGM or DLG III)
Supply voltage	Via CAN interface (11-30 V)
Output signal	Uncalibrated, temperature-compensated, electrically isolated
Response time sensor t₉₀	3 min.
Selectivity	Chlorite
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	DULCOMARIN®
Typical applications	Contaminated industrial, process water, containing surfactants, cooling water, irrigation water, slightly contaminated waste water.
Resistance to	Surfactants, water-soluble pollutants, solids/dirt, biofilms
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CDR 1-CAN-10 ppm	0.01...10.0 mg/l	1041155

* Complete with 100 ml of electrolyte, connecting cable - CAN M12 5-pin 0.5 m, T-distributor M12 5-pin CAN

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