

DULCOTEST® Sensors for Chlorite

Reliable online measurement of chlorite – with DULCOTEST® sensors.

LENNTECH
WATER TREATMENT SOLUTIONS



ProMinent®

Graduated measuring ranges 0.02 – 2 mg/l

As a by-product of the treatment of water with chlorine dioxide and in potable water generation, chlorite is subject to monitoring requirements in many countries.

Our product line of DULCOTEST® chlorite sensors provides two types of sensor for different measuring ranges. In the treatment of potable water previously treated with chlorine dioxide, the chlorite level must be monitored before the water enters the distribution network to ensure it does not exceed the limit of 0.2 ppm. The sensitivity and precision of

sensor type CLT-mA-0.5ppm have been optimised for this measuring task. The suitability of the sensor type for safety-relevant monitoring was confirmed in an independent study by the DVGW, with the measuring method being expressly recommended for this application.

Sensor type CLT-mA-2ppm with a measuring range up to 2 ppm is also available for the monitoring of metering processes involving higher chlorine dioxide concentrations

Your benefits

- Precise, real-time amperometric measurement for efficient process control
- Amperometric measuring means no clouding or discolouration
- No cross sensitivity in the presence of chlorine dioxide, chlorine or chlorate
- High sensitivity for trace measurement in waterworks up to 0.5 ppm (type CLT 1-mA-0.5 ppm)
- Greater measuring range up to 2 ppm for other applications in combination with chlorine dioxide treatment and particularly for quality inspection of chlorine dioxide generators (type CLT 1-mA-2 ppm)
- Stable zero point means no drift

Field of application

- Potable water treatment: all stages in which chlorine dioxide is used for oxidation or disinfection.
- Use of chlorine dioxide
- Disinfection with chlorine dioxide in the food and beverage industry

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Technical Data

Chlorite Sensor CLT 1-mA

Sensor for monitoring the disinfection by-product chlorite in compliance with potable water regulations. Without cross-sensitivity towards chlorine dioxide, chlorate and chlorine. For operation on controllers with 4-20 mA input

Your benefits

- Online monitoring of the disinfection by-product chlorite
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water
- No interference by chlorine dioxide/chlorine/chlorate
- Online monitoring improves process reliability
- Online monitoring replaces expensive laboratory analysis

Measured variable	Chlorite anion (ClO_2^-)
Reference method	DPD method, chlorite in the presence of chlorine dioxide
pH range	6.5 ... 9.5
Cross sensitivity	reducing chemicals, e. g. Fe^{2+} , Mn^{2+}
Temperature	1 ... 40 °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 \approx measuring range, temperature-compensated, uncalibrated, not electrically isolated
Selectivity	Chlorite selective towards chlorine dioxide, chlorate and free chlorine
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	D1C
Typical applications	Monitoring of chlorine dioxide treated potable water or similar water. The selective measurement of chlorite alongside chlorine dioxide, chlorine and chlorate is possible.
Resistance to	surfactants
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CLT 1-mA-0.5 ppm	0.02...0.5 mg/l	1021596
CLT 1-mA-2 ppm	0.10...2.0 mg/l	1021595

Chlorite sensors complete with 50 ml of electrolyte.

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

The DT4 photometer is recommended for calibration of the chlorite sensor.

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Chlorite Sensor CLT 1-CAN

Sensor for monitoring the disinfection by-product chlorite in compliance with potable water regulations. Without cross-sensitivity towards chlorine dioxide, chlorate and chlorine. For use on controllers with CAN-bus connection

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

Your benefits

- Online monitoring of the disinfection by-product chlorite
- Diaphragm-covered sensor minimises faults caused by changing flow or ingredients in the water
- No interference by chlorine dioxide/chlorine/chlorate
- Online monitoring improves process reliability
- Online monitoring replaces expensive laboratory analysis
- Operation on the CAN-bus with all the associated benefits

Measured variable	Chlorite anion (ClO ₂ ⁻)
Reference method	DPD method, chlorite together with chlorine dioxide
pH range	6.5 ... 9.5
Cross sensitivity	reducing chemicals, e. g. Fe ²⁺ , Mn ²⁺
Temperature	1 ... 40 °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 selective towards chlorine dioxide, chlorate and free chlorine
Installation	Bypass: open sample water outlet
Sensor fitting	DGM, DLG III
Measuring and control equipment	DULCOMARIN®
Typical applications	Monitoring of potable water or similar water treated with chlorine dioxide. Selective measurement of chlorite and chlorine dioxide, chlorine and chlorate is also possible.
Resistance to	surfactants
Measuring principle, technology	Amperometric, 2 electrodes, membrane-covered

	Measuring range	Order no.
CLT 1-CAN-2 ppm	0.05...2.0 mg/l	1041156

* 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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