

	<h1>CD7</h1>
indicator	Chlorine dioxide
Application	All kinds of water treatment, also sea water (e. g. bottle washing machine, CIP-plants) The membrane system is mechanical resistant. Surfactants (tensides) are partially tolerated.
appropriate chlorine dioxide production methods	e. g. – Acid/chlorite-method – Chlorine/chlorite-method
Measuring system	Membrane covered, amperometric 2-electrode system
Electronic	<p>Analog version:</p> <ul style="list-style-type: none"> - voltage output - not galvanically isolated electronics - analog internal data processing - output signal: analog (analog-out/analog) <p>Digital version:</p> <ul style="list-style-type: none"> - electronic is completely galvanically isolated - digital internal data processing - output signal: analog (analog-out/digital) or digital (digital-out/digital) <p>mA-version:</p> <ul style="list-style-type: none"> - current output analog - not galvanically isolated electronics - output signal: analog (analog-out/analog)
Information about the measuring range of sensors with 4-20 mA	<p>Slope of a sensor can vary production-related or application-related between 65% and 150% of the nominal slope</p> <p>-> Recommendation to determine the suitable measuring range or the suitable sensor: Concentration to be measured x factor 1.5 = measuring range of the sensor</p> <p>Example: Concentration to be measured 1.6 ppm x 1.5 = 2.4 -> recommended sensor with a measuring range of 5 ppm</p>
Slope drift At repeatability conditions (25 °C, pH 7,2 in drinking water)	approx. <-1% per month
Working temperature	Measuring water temperature: 0 ... +50 °C (no ice crystals in the measuring water)
	Ambient temperature: 0 ... +55 °C
Temperature compensation	Automatically, by an integrated temperature sensor Max. change in temperature: 5 °C per hour, sudden temperature changes must be avoided

Max. allowed working pressure	Operation without retaining ring: 0.5 bar, no pressure impulses and/or vibrations
	Operation with retaining ring: 1.0 bar, no pressure impulses and/or vibrations
Flow rate	approx. 15-30L/h in DF, small flow rate dependence is given
pH-range	pH 1 – pH 12 or the beginning of decomposition of chlorine dioxide at/over pH 12
Run-in time	First start-up approx. 1 h
Response time	T ₉₀ : approx. 1.5 min.
Zero point adjustment	Not necessary
Slope calibration	At the device, by analytical determination
interferences	Cl ₂ : does not disturb O ₃ : factor 25
Absence of the disinfectant	Max. 24 h
Connection	analog-out/analog version: 4-pole plug adapter analog-out/digital version: 4-pole plug adapter digital-out/digital version: 5-pole M12, plug-on flange 4-20 mA version: 2-pole terminal or 5-pole M12, plug-on flange
material	PVC-U, stainless steel 1.4571
Size	diameter: approx. 25 mm Length: analog-out/analog version approx. 175 mm version analog-out/digital approx. 195 mm version digital-out/digital approx. 205 mm 4-20 mA version approx. 220 mm (2-pole-terminal) approx. 190 mm (5-pole-M12)
Transport	+5 ... +50 °C (Sensor, electrolyte, membrane cap)
storage	Sensor: dry and without electrolyte no limit at +5 ... +40 °C
	Electrolyte: in original bottle protected from sunlight at +5 ... +35 °C min. 1 year or until specified EXP-Date
	Membrane cap: in original packing no limit at +5 ... +40 °C (used membrane caps can not be stored)


	<h1>CD7</h1>
<p>maintenance</p>	<p>Regularly control of the measuring signal, min. once a week The following specifications depend on the water quality: Change of the membrane cap: once a year Change of the electrolyte: every 3 - 6 months</p>
	<p>EMC-Testing DIN EN 61326-1, 61326-2-3 RoHS compliant</p>

Technical Data

1. CD7 (Analog output, analog internal signal processing)

analog-out / analog

A potential-free electrical connection is necessary as the sensor electronic is not equipped with a galvanical isolation.


	Measuring range	Resolution	Output Output resistance	Nominal slope	Voltage supply	Connection
	in ppm	in ppm		in mV/ppm		
CD7H	0.005...2.000	0.001	0...-2000 mV 1 kΩ	-1000	±5 - ±15 VDC 10 mA	4-pole screw connector
CD7N	0.05...20.00	0.01		-100		
CD7L	0.5...200.0	0.1		-10		
CD7HUp	0.005...2.000	0.001	0...+2000 mV 1 kΩ	+1000	10 - 30 VDC 10 mA	
CD7Up	0.05...20.00	0.01		+100		

(Subject to technical changes!)

2. CD7 (analog output, digital internal signal processing)

analog-out / digital


- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.

	Measuring range	Resolution	Output Output resistance	Nominal slope	Power supply	Connection
	in ppm	in ppm		in mV/ppm		
CD7H-An	0.005... 2.000	0.001	analog 0...-2 V (max. -2.5 V) 1 kΩ	-1000	9-30 VDC approx. 56-20 mA	4-pole screw connector
CD7N-An	0.05... 20.00	0.01		-100		
CD7L-An	0.5... 200.0	0.1		-10		
CD7H-Ap	0.005... 2.000	0.001	analog 0...+2 V (max. +2.5 V) 1 kΩ	+1000		
CD7N-Ap	0.05... 20.00	0.01		+100		
CD7L-Ap	0.5... 200.0	0.1		+10		

(Subject to technical changes!)

3. CD7 (digital output, digital internal signal processing)
digital-out / digital

- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.

	Measuring range	Resolution	Output Output resistance	Power supply	Connection
	in ppm	in ppm			
CD7H-M0c	0.005... 2.000	0.001	Modbus RTU There are no terminating resistors in the sensor.	9-30 VDC approx. 56-20 mA	5-pole M12 plug-on flange
CD7N-M0c	0.05... 20.00	0.01			
CD7L-M0c	0.5... 200.0	0.1			


(Subject to technical changes!)

4. CD7 4-20 mA (Analog output, analog internal signal processing)

analog-out / analog


A potential-free electrical connection is necessary as the sensor electronic is not equipped with a galvanical isolation.

4.1 Electrical connection: 2 pole terminal clamp

	Measuring range	Resolution	Output Output resistance	Nominal slope	Voltage supply	Connection
	in ppm	in ppm		in mA/ppm		
CD7MA0.5	0.005...0.500	0.001	4...20 mA uncalibrated	32.0	12...30 VDC R _L 50Ω...R _L 900Ω	2-pole terminal (2 x 1 mm ²) Recommended: Round cable ∅ 4 mm 2 x 0.34 mm ²
CD7MA2	0.005...2.000	0.001		8.0		
CD7MA5	0.05...5.00	0.01		3.2		
CD7MA10	0.05...10.00	0.01		1.6		
CD7MA20	0.05...20.00	0.01		0.8		
CD7MA-200	0.5...200.0	0.1		0.08		

(Subject to technical changes!)

4.2 Electrical connection: 5 pole M12 plug-on flange

	Measuring range	Resolution	Output Output resistance	Nominal slope	Voltage supply	Connection
	in ppm	in ppm		in mA/ppm		
CD7MA0.5-M12	0.005...0.500	0.001	4...20 mA uncalibrated	32.0	12...30 VDC R _L 50Ω...R _L 900Ω	5-pole M12 plug-on flange Function of wires: PIN2: +U PIN3: -U
CD7MA2-M12	0.005...2.000	0.001		8.0		
CD7MA5-M12	0.05...5.00	0.01		3.2		
CD7MA10-M12	0.05...10.00	0.01		1.6		
CD7MA20-M12	0.05...20.00	0.01		0.8		
CD7MA-200-M12	0.5...200.0	0.1		0.08		

(Subject to technical changes!)

Spare Parts

Type	Membrane cap	Electrolyte	Emery	O-ring
CD7H	M7.1N	ECD4 • ECD7/W, 100 ml	S2	14 x 1.8 silicone
CD7HUp				
CD7N				
CD7Up				
CD7L	M7.1L			
CD7MA0.5	M7.1N			
CD7MA2				
CD7MA5				
CD7MA10				
CD7MA20				
CD7MA-200	M7.1L			

(Subject to technical changes!)