


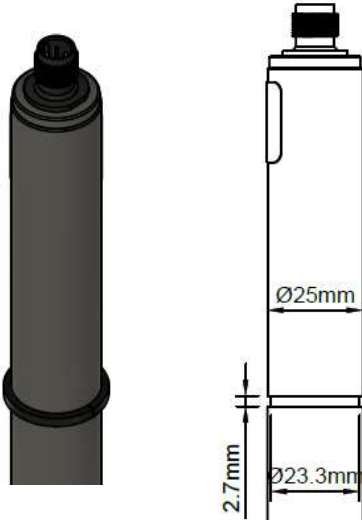
	<h1>TARAline CC1</h1>						
indicator	Free chlorine based on isocyanuric acid with reduced dependence on ph-value						
Application	Swimming pool water, drinking water, sea water Surfactants (tensides) are partially tolerated.						
Chlorination agents	inorganic chlorine compounds: NaOCl (=sodium hypochlorite), Ca(OCl) ₂ , chlorine gas, electrolytically generated chlorine and chlorine compounds based on isocyanuric acid (checked until 500 mg/L isocyanuric acid)						
Measuring system	Membrane covered, amperometric potentiostatic 3-electrode system with electronic inside						
Electronic	Analog version: <ul style="list-style-type: none"> - voltage output - not galvanically isolated electronics - analog internal data processing - output signal: analog (analog-out/analog) Digital version: <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) mA-version: <ul style="list-style-type: none"> - current output analog - not galvanically isolated electronics - output signal: analog (analog-out/analog) 						
Information about the measuring range	The actual slope of a sensor can vary production-related between 65% and 150% of the nominal slope Note: With a slope > 100% the measuring range is reduced accordingly. (Ex.: 150% slope → 67% of the specified measuring range)						
Accuracy after calibration at repeatability conditions (25°C, pH 7.2 in drinking water) of the upper full scale	<table border="0" style="width: 100%;"> <tr> <td style="width: 40%;">Measuring range 2 mg/l:</td> <td style="width: 20%;">at 0.4 mg/l</td> <td style="width: 40%; text-align: right;"><2%</td> </tr> <tr> <td></td> <td>at 1.6 mg/l</td> <td style="text-align: right;"><2%</td> </tr> </table>	Measuring range 2 mg/l:	at 0.4 mg/l	<2%		at 1.6 mg/l	<2%
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	at 1.6 mg/l	<2%					
Slope drift At repeatability conditions (25 °C, pH 7,2 in drinking water)	approx. <-3% per month						
Working temperature	Measuring water temperature: 0 ... +45 °C (no ice crystals in the measuring water)						
	Ambient temperature: 0 ... +55 °C						
Temperature compensation	Automatically, by an integrated temperature sensor Sudden temperature changes must be avoided						


	<h1>TARAline CC1</h1>	
<p>Max. allowed working pressure</p>	<p>Operation without retaining ring:</p> <ul style="list-style-type: none"> - 0.5 bar - no pressure impulses and/or vibrations 	
	<p>Operation with retaining ring in TARAflow FLC:</p> <ul style="list-style-type: none"> - 3 bar, - no pressure impulses and/or vibrations (see option 1) 	
<p>Flow rate (Incoming flow velocity)</p>	<p>approx. 15-30L/h (<u>15</u> – <u>30</u> cm/s) in TARAflow FLC, small flow rate dependence is given</p>	
<p>pH-range</p>	<p>pH 4 – pH 12, highly reduced dependence on pH-value</p>	
<p>Run-in time</p>	<p>First start-up approx. 2 h</p>	
<p>Response time</p>	<p>T₉₀: approx. 2 min.</p>	
<p>Zero point adjustment</p>	<p>Not necessary</p>	
<p>calibration</p>	<p>At the device, by analytical determination, DPD-1-Method</p>	
<p>Cross sensitivities/ interferences</p>	<p>ClO₂: factor 1 O₃: is measured</p> <p>Corrosion inhibitors can lead to measuring errors. Stabilisers for water hardness can lead to measuring errors.</p>	
<p>Absence of the disinfectant</p>	<p>Max. 24 h</p>	
<p>Connection</p>	<p>mV version: 5-pole M12, plug-on flange Modbus version: 5-pole M12, plug-on flange 4-20 mA version: 2-pole terminal or 5-pole M12, plug-on flange</p>	
<p>max. length of sensor cable (depending on internal signal processing)</p>	<p>analog</p>	<p>< 30 m</p>
	<p>digital</p>	<p>> 30 m are permissible Maximum cable length depends on application</p>
<p>Protection type</p>	<p>5-pole M12 plug-on flange: IP68 2-pole terminal with mA-hood: IP65</p>	
<p>material</p>	<p>Microporous hydrophilic Membrane, PVC-U, PEEK, stainless steel 1.4571</p>	
<p>Transport</p>	<p>+5 ... +50 °C (Sensor, electrolyte, membrane cap)</p>	

	<h1>TARAline CC1</h1>	
<p>Size</p>	<p>diameter: approx. 25 mm Length: mV version approx. 190 mm (analog signal processing) Modbus version approx. 205 mm (digital signal processing) 4-20 mA version approx. 205 mm approx. 220 mm (2-pole-terminal) approx. 190 mm (5-pole-M12)</p>	
<p>storage</p>	<p>Sensor: dry and without electrolyte no limit at +5 ... +40 °C</p>	
	<p>Electrolyte: in original bottle protected from sunlight at +5 ... +35 °C min. 1 year or until the specified EXP-Date</p>	
	<p>Membrane cap: in original packing no limit at +5 ... +40 °C (used membrane caps can not be stored)</p>	
<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 tested RoHS compliant</p>	

<p>Option 1: Retaining ring</p>	<ul style="list-style-type: none"> - When operating with pressures >0.5 bar in TARAflow FLC - Dimensions retaining ring 29 x 23.4 x 2.5 mm, slitted, PETP - Different positions for groove selectable (on request) 	
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Technical Data
1. CC1 (analog output, analog internal signal processing)


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

	Measuring range in ppm	Resolution in ppm	Output Output resistance	Nominal slope (at pH 7.2) in mV/ppm	Voltage supply	Connection
CC1N-M12	0.05...20.00	0.01	0...-2000 mV 1 kΩ	-100	±5 - ±15 VDC 10 mA	5-pole M12 plug-on flange Function of wires: PIN1: measuring signal PIN2: +U PIN3: -U PIN4: signal GND PIN5: n. c.
CC1H-M12	0.005...2.000	0.001		-1000		
CC1Up-M12	0.05...20.00	0.01	0...+2000 mV 1 kΩ	+100	10 - 30 VDC 10 mA	5-pole M12 plug-on flange Function of wires: PIN1: measuring signal PIN2: +U PIN3: power GND PIN4: signal GND PIN5: n. c.

(Subject to technical changes!)

**2. CC1 (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 in ppm	resolution in ppm	Output Output resistance	Nominal slope (at pH 7.2) in mV/ppm	Power supply	Connection
CC1N-An-M12	0.05... 20.00	0.01	analog 0...-2 V (max. -2.5 V)	-100	9-30 VDC approx. 20-56 mA	5-pole M12 plug-on flange Function of wires: PIN1: measuring signal PIN2: +U PIN3: power GND PIN4: signal GND PIN5: n. c.
CC1H-An-M12	0.005... 2.000	0.001	1 kΩ	-1000		
CC1N-Ap-M12	0.05... 20.00	0.01	analog 0...+2 V (max. +2.5 V)	+100		
CC1H-Ap-M12	0.005... 2.000	0.001	1 kΩ	+1000		

(Subject to technical changes!)

3. CC1 (digital output, digital internal signal processing)

- 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			
CC1N-M0c	0.05... 20.00	0.01	Modbus RTU	9-30 VDC	5-pole M12 plug-on flange
CC1H-M0c	0.005... 2.000	0.001	There are no terminating resistors in the sensor.	approx. 20-56 mA	Function of wires: PIN1: reserved PIN2: +U PIN3: power GND PIN4: RS485B PIN5: RS485A

(Subject to technical changes!)

4. CC1 4-20 mA (analog output, analog internal signal processing)


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 (at pH 7.2)	Power supply	Connection
	in ppm	in ppm		in mA/ppm		
CC1MA2	0.005...2.000	0.001	4...20 mA uncalibrated	8.0	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
CC1MA5	0.05...5.00	0.01		3.2		
CC1MA10	0.05...10.00	0.01		1.6		
CC1MA20	0.05...20.00	0.01		0.8		

(Subject to technical changes!)

4.2 Electrical connection: 5 pole M12 plug-on flange

	Measuring range in ppm	Resolution in ppm	Output Output resistance	Nominal slope (at pH 7.2) in mA/ppm	Power supply	Connection
CC1MA2-M12	0.005...2.000	0.001	4...20 mA uncalibrated	8.0	12...30 VDC R _L 50Ω...R _L 900Ω	5-pole M12 plug-on flange Function of wires: PIN1: n. c. PIN2: +U PIN3: -U PIN4: n. c. PIN5: n. c.
CC1MA5-M12	0.05...5.00	0.01		3.2		
CC1MA10-M12	0.05...10.00	0.01		1.6		
CC1MA20-M12	0.05...20.00	0.01		0.8		

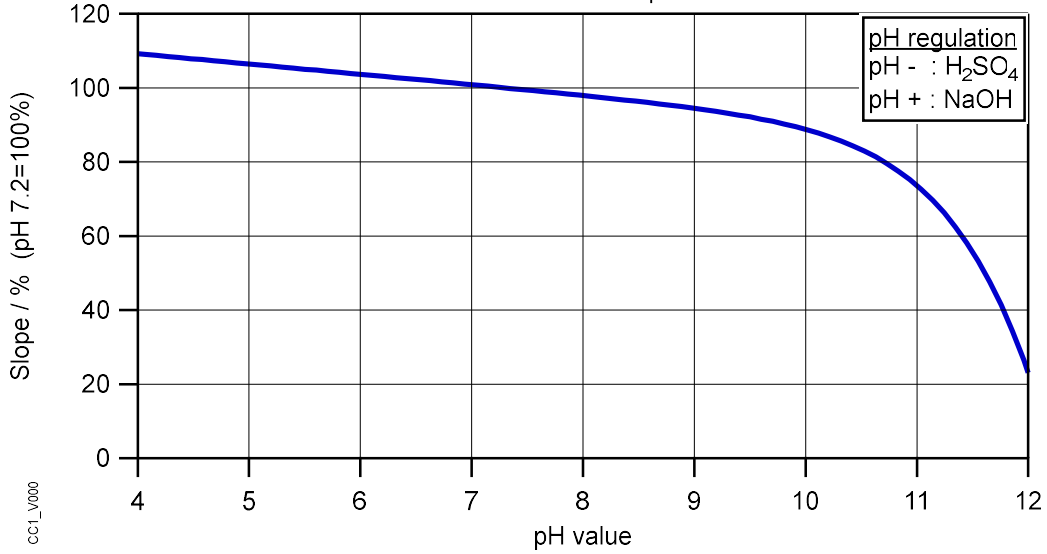
Spare Parts

Type	Membrane cap	Electrolyte	Emery	O-ring
For all CC1	M48.2 Art. no. 11047	ECC1.1/GEL, 100 ml Art. no. 11005.1	S1 Art. no. 11908	14 x 1.8 NBR Art. no. 11806

(Subject to technical changes!)

Slope of TARAline CC1 versus pH

Temperature: 25°C / Flow rate: 30 L/h



Slope of TARAline CC1 versus Flow

Temperature: 25°C / pH value: 7.2

