	<h1>TARAline CN1.1</h1>	
indicator	Free chlorine	
Application	For monitoring the absence of chlorine in water (up to 4 weeks) with drinking water quality (e. g. reverse osmosis)	
Chlorination agents	inorganic chlorine compounds: NaOCl (=sodium hypochlorite), Ca(OCl) ₂ , chlorine gas, electrolytically generated chlorine	
Measuring system	Membrane covered, amperometric potentiostatic 3-electrode system with electronic inside	
Electronic	Digital version: electronic is completely galvanically isolated, digital internal data processing output signal: analog (analog-out/digital) or digital (digital-out/digital)	
Slope drift At repeatability conditions (25 °C, pH 7,2 in drinking water)	approx. <-3% per month	
Working temperature	Measuring water temperature:	0 ... +40 °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	
max. allowed working pressure	Operation without retaining ring: – 0.5 bar – no pressure impulses and/or vibrations	
	Operation with retaining ring in TARAline FLC: – 0.5 bar, – no pressure impulses and/or vibrations (see option 1)	
Flow rate (Incoming flow velocity)	approx. 15-30L/h (33 – 66 cm/s) in TARAline FLC, small flow rate dependence is given	
pH-range	pH 6.5 – pH 9 (see diagram “Slope of TARAline CN1.1 versus pH”)	
Run-in time	First start-up approx. 2 h	
Response time	T ₉₀ : approx. 2 min.	
Zero point adjustment	Not necessary	
calibration	<ol style="list-style-type: none"> 1. Generate a stable chlorine concentration in the measuring water, use DPD-1-method 2. If no chlorine in the measuring water is allowed, use external calibration equipment EKV-1 and DPD-1-method 	

	<h1>TARALine CN1.1</h1>	
<p>Cross sensitivities/ interferences</p>	<p>ClO₂ O₃ Bound chlorine can increase the measuring value.</p> <p>Reducing agents can lead to a loss in slope. 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. 4 weeks</p>	
<p>Connection</p>	<p>mV version: 5-pole M12, plug-on flange Modbus version: 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>Size</p>	<p>diameter: approx. 25 mm Length: mV version approx. 205 mm (digital signal processing) Modbus version approx. 205 mm</p>	
<p>Transport</p>	<p>+5 ... +50 °C (Sensor, electrolyte, membrane cap)</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 (depending on the water quality) 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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Spare Parts

Type	Membrane cap	Electrolyte	Emery	O-ring
For all CN1	M48.2 with G-holder Art. No. 11048	EMST1/GEL, 100 ml Art. No. 11202	S1 Art. No. 11908	14 x 1.8 NBR Art. No. 11806


(Subject to technical changes.)

Technical Data

1. CN1.1 (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
CN1.1H-An-M12	0.005... 2.000	0.001	analog 0...-2 V (max. -2.5 V) 1 kΩ	-1000	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.
CN1.1N-An-M12	0.05... 20.00	0.01		-100		
CN1.1H-Ap-M12	0.005... 2.000	0.001	analog 0...+2 V (max. +2.5 V) 1 kΩ	+1000		
CN1.1N-Ap-M12	0.05... 20.00	0.01		+100		

(Subject to technical changes.)

2. CN1.1 (digital output, digital internal signal processing)

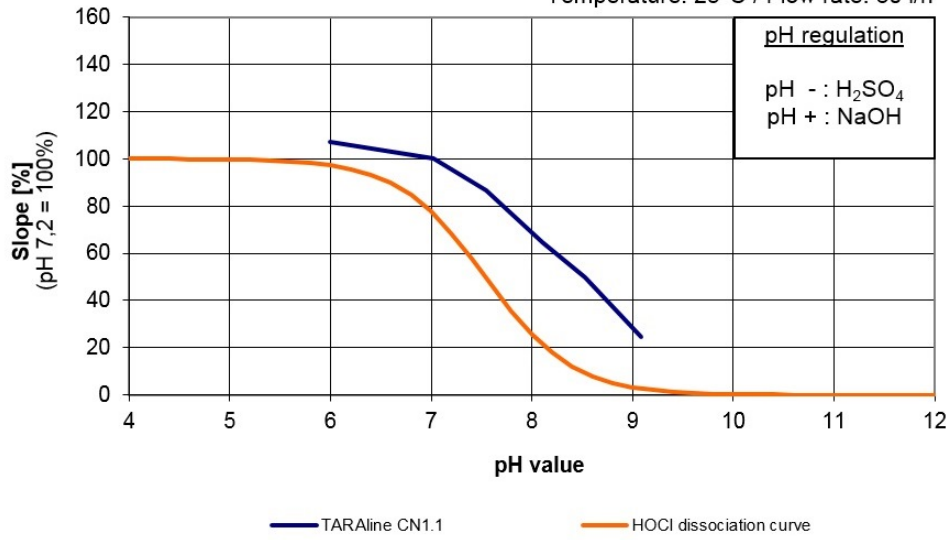
- The power supply is galvanically isolated inside of the sensor.
- The output signal is galvanically isolated too, that means potential-free.

	Measuring range in ppm	Resolution in ppm	Output Output resistance	Power supply	Connection
CN1.1H-M0c	0.005... 2.000	0.001	Modbus RTU There are no terminating resistors in the sensor.	9-30 VDC approx. 20-56 mA	5-pole M12 plug-on flange Function of wires: PIN1: reserved PIN2: +U PIN3: power GND PIN4: RS485B PIN5: RS485A
CN1.1N-M0c	0.05... 20.00	0.01			

(Subject to technical changes.)

Slope of TARAline CN1.1 versus pH

Temperature: 25°C / Flow rate: 30 l/h



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