


	<h1>TARAbase CL2.2</h1>
indicator	Free chlorine, pH-dependent
Application	Brine or sea water from a concentration of >3.5 % (>50 mS) up to a concentration of approx. 26 % salt The water must not contain any surfactants (tensides)! pH-value must be constant.
Chlorination agents	inorganic chlorine compounds: NaOCl (=sodium hypochlorite), Ca(OCl) ₂ , chlorine gas, chlorine electrolysis with membrane cell (unsuitable: chlorine electrolysis without membrane cell)
Measuring system	Membrane covered, amperometric 2-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) 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 of sensors with 4-20 mA	Slope of a sensor can vary production-related or application-related between 65% and 150% of the nominal slope -> Recommendation to determine the suitable measuring range or the suitable sensor: Concentration to be measured x factor 1.5 = measuring range of the sensor Example: Concentration to be measured 1.6 ppm x 1.5 = 2.4 -> recommended sensor with a measuring range of 5 ppm
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
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. 15-30/h in TARAflow FLC, small flow rate dependence is given (see diagram "Slope of TARAbase CL4 versus flowrate", p. 5)

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pH-range	pH 6 – pH 8, pay attention to the dissociation equilibrium HOCL (see diagram "Slope of TARAbase CL4 versus pH, p. 5)
Run-in time	First start-up approx. 1 h
Response time	T ₉₀ : approx. 30 sec.
Zero point adjustment	Not necessary
Slope calibration	At the device, by analytical determination DPD-1-Method
Interferences	ClO ₂ : factor 9 O ₃ Electrolytically generated chlorine with a cell without membrane can produce trouble
Absence of the disinfectant	Max. 24 h
Connection	analog-out/analog version: 4-pole plug adapter 4-20 mA version: 2-pole terminal
material	Semipermeable membrane, PVC-U, ABS
Size	diameter: approx. 25 mm Length: analog-out/analog version approx. 175 mm 4-20 mA version approx. 220 mm (2-pole-terminal)
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)
maintenance	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
	EMC-Testing DIN EN 61326-1, 61326-2-3 RoHS compliant

Technical Data
1. CL2.2 (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 in ppm	resolution in ppm	Output Output resistance	Nominal slope (at pH 7.2) in mV/ppm	Voltage supply	Connection
CL2.2N	0.05...20.00	0.01	0...-2000 mV 1 kΩ	-100	±5 - ±15 VDC 10 mA	4-pole screw connector

(Subject to technical changes!)

2. CL2.2 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.

	Measuring range in ppm	Resolution in ppm	Output Output resistance	Nominal slope (at pH 7.2) in mA/ppm	Voltage supply	Connection
CL2.2MA2	0.005...2.000	0.001	4...20 mA	8.0	12...30 VDC	2-pole terminal (2 x 1 mm ²)
CL2.2MA20	0.05...20.00	0.01	uncalibrated	0.8	R _L 50Ω...R _L 900Ω	Recommended: Round cable ∅ 4 mm 2 x 0.34 mm ²

(Subject to technical changes!)

2.2 Electrical connection: 5 pole M12 plug-on flange

	Measuring range	resolution	Output Output resistance	Nominal slope (at pH 7,2)	Voltage supply	connection
	in ppm	in ppm		in mA/ppm		
CL2.2MA2-M12	0.005...2.000	0.001	4...20 mA	8.0	12...30 VDC	5-pole M12 plug-on flange Function of wires: PIN2: +U PIN3: -U
CL2.2MA20-M12	0.05...20.00	0.01	uncalibrated	0.8	R _L 50Ω...R _L 900Ω	

(Subject to technical changes!)

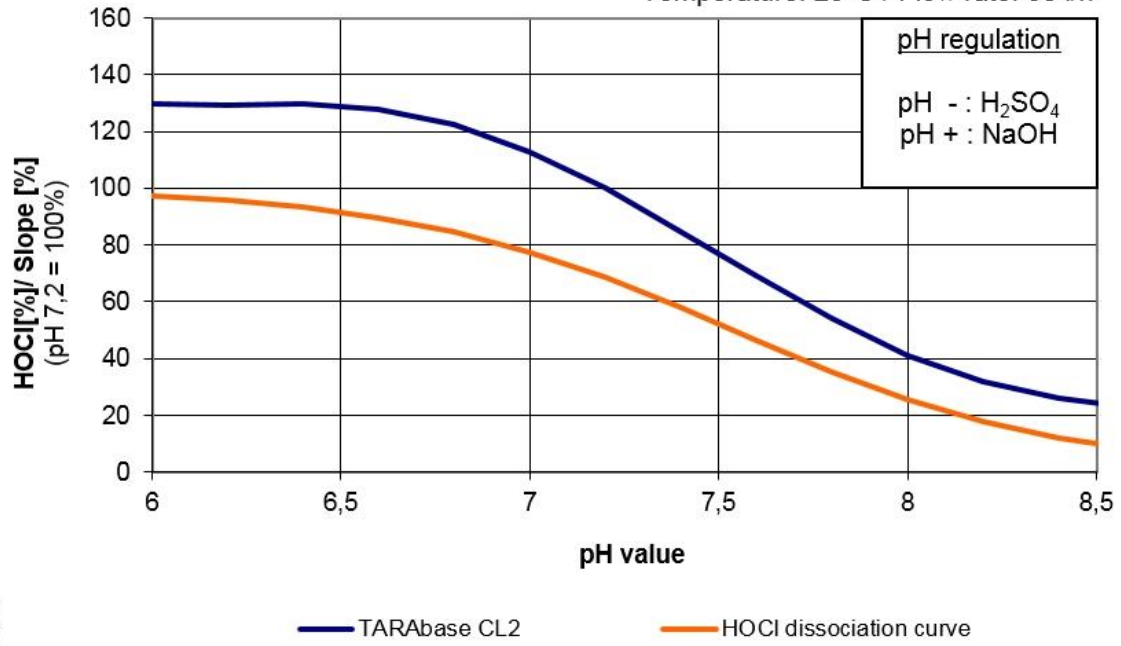
Spare Parts

Type	Membrane cap	Electrolyte	Emery	O-ring
For all CL2	M20.2 Art. no. 11011.1	ECL2.1, 100 ml Art. no. 11003	S1 Art. no. 11908	14 x 1.8 NBR Art. No. 11806

(Subject to technical changes!)

Slope of TARAbase CL2 versus pH

Temperature: 25°C / Flow rate: 30 l/h



G. Diagramm