


	<h1>TARAtec WP10</h1>
indicator	Hydrogen peroxide
Application	All kinds of water treatment, also sea water, especially for high H ₂ O ₂ -concentrations. The membrane system is mechanical resistant. The membrane system is highly resistant to surfactants (tensides).
Measuring system	Membrane covered, amperometric 2-electrode system.
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 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 Response time t ₉₀ = approx. 8 min. 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. 15-30 l/h in TARAflow FLC, small flow rate dependence is given
pH-range	pH 2 – pH 11

	<h1>TARAtec WP10</h1>
Run-in time	First start-up approx. 5 h
Response time	T ₉₀ : approx. 8 min.
Accuracy after calibration at repeatability conditions (25°C, pH 7.2 in drinking water) of the upper full scale	<ul style="list-style-type: none"> – Measuring range 200 ppm: at 40 ppm <2% at 160 ppm <2% – Measuring range 2000 ppm: at 400 ppm <0,5% at 1600 ppm <2%
Zero point adjustment	Not necessary
Slope calibration	At the device, by analytical determination
interferences	Cl ₂ : must not be present PAA: must not be present O ₃ : must not be present Sulfides: contaminate the measuring system Phenol: aqueous solution >3 % phenol, destroys the membrane system
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 analog-out/digital version approx. 195 mm digital-out/digital version 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)
maintenance	Regularly control of the measuring signal, min. once a week The following specifications highly 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. WP10 (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
WP10H	0.5...200 ppm	0.1 ppm	0...-2000 mV 1 kΩ	-10 mV/ppm	±5 - ±15 VDC 10 mA	4-pole screw connector
WP10N	5...2000 ppm	1 ppm		-1 mV/ppm		
WP10L	0.005...2 % (20000 ppm)	0.001 % (10 ppm)		-1000mV/% (-0.1 mV/ppm)		
WP10-20%	0.05... 20% (200000 ppm)	0.01 % (100 ppm)		-100 mV/% (-0.01 mV/ppm)		

(Subject to technical changes!)

2. WP10 (analog output, digital 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	
WP10H-An	0.5... 200.0 ppm	0.1 ppm	1 kΩ	-10 mV/ppm	9-30 VDC approx. 56-20 mA	4-pole screw connector	
WP10N-An	.50... 2000 ppm	1 ppm		analog 0...-2 V (max. -2.5 V)			-1 mV/ppm
WP10L-An	0.005... 2 % (20000 ppm)	0.001 % (10 ppm)		-1000 mV/% (-0.1 mV/ppm)			
WP10-20%-An	0.05... 20 % (200000 ppm)	0.01 % (100 ppm)		-100 mV/% (-0.01 mV/ppm)			
WP10H-Ap	0.5... 200.0 ppm	0.1 ppm		+10 mV/ppm			
WP10N-Ap	5... 2000 ppm	1 ppm		analog 0...+2 V (max. +2.5 V)			+1 mV/ppm
WP10L-Ap	0.005... 2 % (20000 ppm)	0.001 % (10 ppm)		+1000 mV/% (+0.1 mV/ppm)			
WP10-20%-Ap	0.05... 20 % (200000 ppm)	0.01 % (100 ppm)		+100 mV/% (+0.01 mV/ppm)			

(Subject to technical changes!)

3. WP10 (digital output, digital 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
WP10H-M0c	0.5... 200.0 ppm	0.1 ppm	Modbus RTU There are no terminating resistors in the sensor.	9-30 VDC approx. 56-20 mA	5-pole M12 connector
WP10N-M0c	5... 2000 ppm	1 ppm			
WP10L-M0c	0.005... 2 % (20000 ppm)	0.001 % (10 ppm)			
WP10-20%-M0c	0.05... 20 % (200000 ppm)	0.01 % (100 ppm)			


(Subject to technical changes!)

4. WP10 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
WP10MA-200	0.5... 200.0 ppm	0.1 ppm	4...20 mA uncalibrated	0.08 mA/ppm	12...30 VDC $R_L 50\Omega...R_L 900\Omega$	2-pole terminal (2 x 1 mm ²) Recommended: Round cable ∅ 4 mm 2 x 0.34 mm ²
WP10MA-2000	5... 2000 ppm	1 ppm		0.008 mA/ppm		
WP10MA-2%	0.005... 2 % (20000 ppm)	0.001 % (10 ppm)		8 mA/% (0.0008 mA/ppm)		
WP10MA-5%	0.05... 5 % (50000 ppm)	0.01 % (100 ppm)		3.2 mA/% (0.00032 mA/ppm)		
WP10MA-10%	0.05... 10 % (100000 ppm)	0.01 % (100 ppm)		1.6 mA/% (0.00016 mA/ppm)		
WP10MA-20%	0.05... 20 % (200000 ppm)	0.01 % (100 ppm)		0.8 mA/% (0.00008 mA/ppm)		

(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
WP10MA-200-M12	0.5... 200.0 ppm	0.1 ppm	4...20 mA uncalibrated	0.08 mA/ppm	12...30 VDC $R_L 50\Omega...R_L 900\Omega$	5-pole M12 plug-on flange Function of wires: PIN2: +U PIN3: -U
WP10MA-2000-M12	5... 2000 ppm	1 ppm		0.008 mA/ppm		
WP10MA-2%-M12	0.005... 2 % (20000 ppm)	0.001 % (10 ppm)		8 mA/% (0.0008 mA/ppm)		
WP10MA-5%-M12	0.05... 5 % (50000 ppm)	0.01 % (100 ppm)		3.2 mA/% (0.00032 mA/ppm)		
WP10MA-10%-M12	0.05... 10 % (100000 ppm)	0.01 % (100 ppm)		1.6 mA/% (0.00016 mA/ppm)		
WP10MA-20%-M12	0.05... 20 % (200000 ppm)	0.01 % (100 ppm)		0.8 mA/% (0.00008 mA/ppm)		

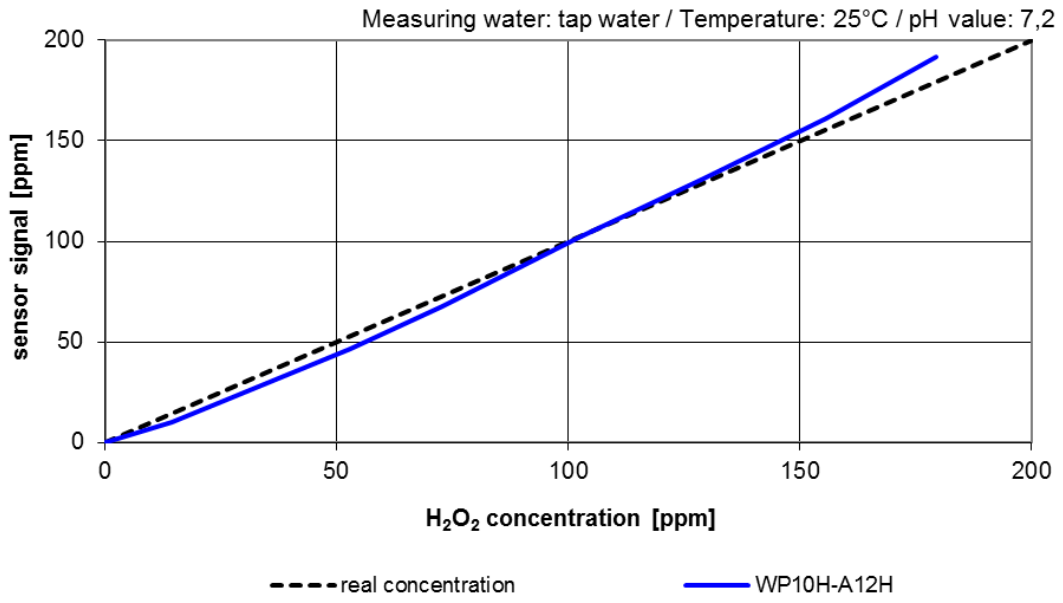
(Subject to technical changes!)

Spare Parts

Type	Membrane cap	Electrolyte	Emery	O-ring
All WP10H	M10.1H with G-holder Art. no. 11045.1	EWP7/W, 100 ml Art. no. 11201	S2 Art. no. 11906	20 x 1.5 silicone Art. no. 11803
All WP10N				
All WP10L	M10.1D with G-holder Art. no. 11041.1			
All WP10-20%				
All WP10MA-200	M10.1H with G-holder Art. no. 11045.1			
All WP10MA-2000				
All WP10MA-2%	M10.1D with G-holder Art. no. 11041.1			
All WP10MA-5%				
All WP10MA-10%				
All WP10MA-20%				

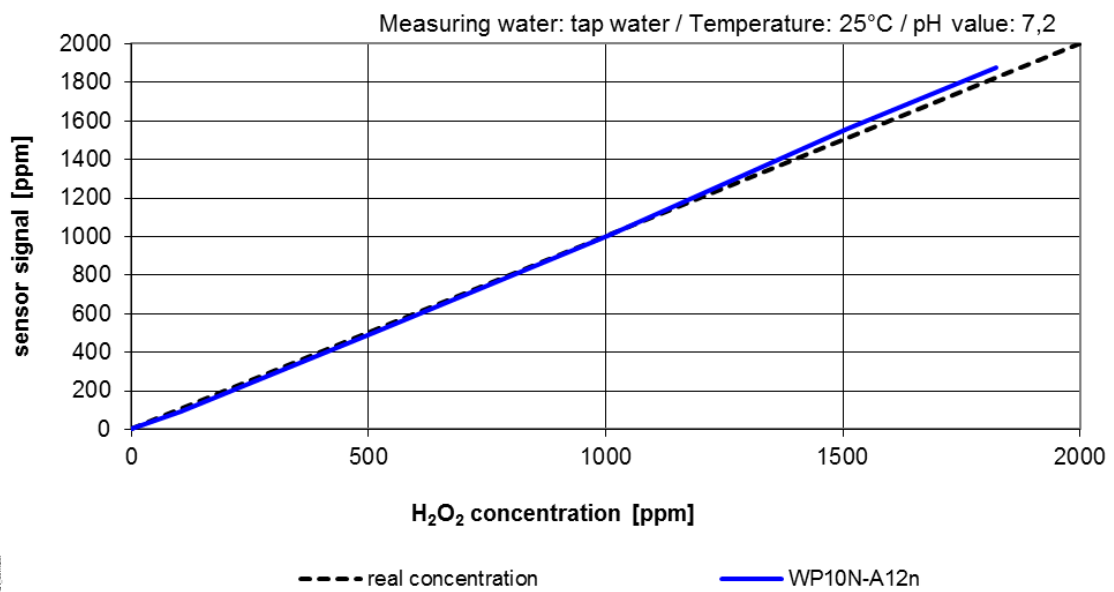
(Subject to technical changes!)

Linearity of WP10H-A12n
Measurement range 200 ppm



WP10H-A12n

Linearity of WP10N-A12n
Measurement range 2000 ppm



WP10N-A12n