TW pH / EC

65S010000

TW pH / EC is a sensor from the modular TW Master series from TriOS, one of the world's leading manufacturers of optical measurement technology. It has been specially developed for the precise analysis of pH value and electrical conductivity in drinking water and meets the highest standards of accuracy and reliability. The measuring range is tailored to the requirements of drinking water monitoring. Seamless integration with the TW PS300 supply and communication module means that the measurement data can be easily transferred to existing systems.

The flexibility of the TW Master series makes it possible to create individual combinations and record further parameters according to the requirements of the respective application. With dimensions of just 160 mm x 280 mm x 108 mm, the modules are compact and can be easily integrated into almost any installation. The simple installation and the possibility to adapt to individual application requirements make the TW Master series the ideal choice for achieving the highest standards in water analysis.

Advantages

- Precise analysis of pH value and electrical conductivity
- Individual, modular composition
- Simple installation and configuration
- Fast cleaning

Applications

- Drinking water monitoring in water supply systems
- Quality control in sewage treatment plants
- Water quality research projects
- Environmental monitoring

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Technical specifications

Application	Determination of pH value and conductivity in drinking water
Measurement technology - pH	pH electrode
Measurement technology - EC	Conductivity
Measuring principle - pH	Potentiometry
Measuring principle - EC	Conductivity with two graphite electrodes
Parameters	pH value, conductivity, temperature
Applied standard	DIN EN ISO 27888:1993

	pH	**EC**	**Temperature**	
Measuring range	0...14 pH	0.00...5000 µS/cm	0...65 °C	32...149 °F
Measuring accuracy	± 0.06 pH	± 40 µS/cm at 1000 µS/cm, ± 200 µS/cm at 5000 µS/cm	± 0,5 °C	± 32.9 °F
Resolution	0.01 pH	<100 = 0.01 µS/cm; <1000 = 0.1 µS/cm; >1000 = 1 µS/cm	0,1 °C	32.2 °F
Repeatability precision	pH 1: 0.001; pH 7: 0.0006; pH13: 0.001	± 2 µS/cm at 1000 µS/cm; ± 7 µS/cm at 4000 µS/cm	-	
Detection limit	Not applicable	3 µS/cm	-	

Response time T90 / T100	T90 rising 15 s ; T90 falling 20 s
Warm-up time	< 5 min
Stability / drift	Short-term drift 24 h: < 0.03 pH
	Long-term drift 1 week: < 0.05 pH
Temperature compensation	Pt1000
Turbidity compensation	No
Data logger	Internal 8 GB memory
Response time	10 s

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Shortest measurement interval	5 s	
Cross sensitivities	None known	
Display	3.5 inch capacitive color touch display, 320x480 pixels	
Interface - digital	RS-485 (Modbus RTU), Ethernet (Modbus TCP)	
Interface - analog	-	
Power supply	12-24 VDC (± 10 %)	
Power consumption	Typical 2 W; standby: 1.5 W	
Protection class	CLASS III	
Overvoltage category	I	
Connection	M12 hybrid industrial connector, 8-pin	
Materials	See dimension drawings (D10) in the operation instructions of the device	
Dimensions (W/H/D)	160 / 280 / 108 mm	6.3 " / 11 " / 4.25 "
Weight	Approx. 3.8 kg	Approx. 8.4 lbs
Operating conditions		
Operating temperature	Sample (insitu) 2...40 °C	35.6...104 °F
Min. internal pressure	0.2 bar	2.9 psi
Max. internal pressure	1 bar	14.5 psi
Inflow velocity	Min. 10 L/h	
Transport conditions	0...80 °C	32...176 °F
Storage conditions	0...80 °C	32...176 °F
Protection class	IP30	
Maintenance effort	≤ 0.5 h / month typical	
Calibration/ maintenance interval	pH: 4 weeks typical, EC: 6 months typical Regular cleaning, depending on the water quality	
System compatibility	TW Master, Modbus RTU, Modbus TCP	
Warranty period	1 year (EU & USA: 2 years)	

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