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 values and electrical conductivity in drinking water and fulfils the highest standards of accuracy and reliability. The measuring range is precisely 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 allows customised combinations to be created and further parameters to be recorded according to the requirements of the respective application. With dimensions of just 160 mm x 280 mm x 108 mm, the modules are extremely compact and can be easily integrated into almost any installation. The simple installation and the possibility of customisation to individual application requirements make the TW Master series the ideal choice for achieving the highest standards in water analysis.

Benefits

- Precise analysis of pH and electrical conductivity
- Customised, modular composition
- Simple assembly and configuration
- Fast cleaning

Application

- Drinking water monitoring in water supply systems
- Quality control in wastewater treatment plants
- Research projects on water quality

Parameter

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TW pH / EC

Technical Specifikation

Application		Determination of pH value and conductivity in drinking water
Measurement technology	pH	pH electrode
	EC	Conductivity
Measurement principle	pH	Potentiometry
	EC	Conductivity with two graphite electrodes
Parameter		pH value, conductivity, temperature
Standard applied		DIN EN ISO 27888:1993
Measurement range	pH	0 ... 14 pH
	EC	0,00 ... 5000 µS/cm
	temperature	0 ... 65°C
Measurement accuracy	pH	± 0,06 pH
	EC	± 40 µS/cm bei 1000 µS/cm; ± 200 µS/cm bei 5000 µS/cm
	temperature	± 0,5°C
Resolution	pH	0,01 pH
	EC	<100 = 0,01 µS/cm; <1000 = 0,1 µS/cm; >1000 = 1 µS/cm
	temperature	0,1°C
Repeat accuracy	pH	pH1: 0,001; pH7: 0,0006; pH13: 0,001
	EC	EC: ± 2 µS/cm at 1000 µS/cm; ± 7 µS/cm at 4000 µS/cm
Detection limit	pH	not applicable
	EC	3 µS/cm
Reaction time T90 / T100		T90 rising 15 s T90 decreasing 20 s
Warm-up time		< 5 min
Stability / Drift		Short-term drift 24h: < 0,03 pH Long-term drift 1 week: < 0,05 pH
Temperature compensation		Pt1000
Turbidity compensation		none
Data logger		Internal 8 GB memory
Response time		10 s
Shortest measuring interval		50s
Cross sensitivities		none
Display		3.5 inch capacitive color touch display, 320x480 pixels
Interface	digital:	RS-485 (Modbus RTU), Ethernet (Modbus TCP)
	analogue:	-
Power Supply		12–24 VDC (± 10 %)
Power consumption		2 W; Stand-by: 1,5 W
Protection class		III
Overvoltage category		I
Connection		M12 hybrid industrial connector, 8-pin.

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Technical Specifikation

Housing Material	Flowcell	POM / Aluminium
	Sensor	POM / NBR / Stainless steel
	pH-Sensor head	PET / pH-Glass / NBR
	EC-Sensor head	PET / NBR / Epoxy / Graphite
Dimensions (W/H/D)		160mm / 280mm / 108 mm
Weight		approx. 3.8 kg
Operating conditions	Temperature	Sample: 2–40°C
	min. internal pressure	0.2 bar
	max. internal pressure	1 bar
	Flow velocity	min. 10 L/h
Transport conditions	Sensor	0–80°C
	Calibration solution	15–25°C
Storage conditions	Sensor	0–80°C
	Calibration solution	15–25°C
Degree of protection		IP30
Maintenance effort		≤ 0,5 h / month, typically
Calibration/ maintenance interval		pH: 4 weeks, typically EC: 6 months, typically Regular cleaning, depending on water quality
System compatibility		TW Master, Modbus RTU, Modbus TCP
Warranty		1 year (EU & US: 2 years)

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