



SEC-S Conductivity

XXXXXXXXXX



SEPIA immersion sensors provide precise, modular and digital water analysis in any situation - in the laboratory, in the field, mobile and directly in the process of waterworks or sewage treatment plants. They offer maximum flexibility for water management, wastewater treatment, environmental laboratories, industrial processes and aquaculture and combine all measurement tasks in a single, modular, expandable system.

The conductivity of water indicates how many dissolved ions are present in the water and thus provides information about the water quality and possible impurities.

The conductivity sensor SEC-S from the **SEPIA Series** is used for the digital measurement of electrical conductivity in ultrapure water or process water and provides precise data for monitoring and controlling technical processes. The conductive measuring sensor has two graphite electrodes positioned opposite each other. A voltage is applied to the electrodes so that a current is generated in the measured medium.

The compact sensor is primarily intended for use in the new TW eCHEM module of the TW Master Series. Each TW eCHEM module provides slots for two electrochemical sensors of your choice, enabling flexible and application-specific combinations depending on requirements.

The sensor SEC-S can also be connected to the **LoLA** Lab Controller using a SEPIA USB, allowing for easy handling and intuitive operation, for example during calibration procedures.

The system portfolio is further supplemented by a SEPIA Modbus adapter, which transmits the measured values of individual sensors directly to any Modbus-compatible device or controller.

Advantages

- Digital, modern and ergonomic design
- Calibrate in the lab - use in the field
- High accuracy and reliability
- Cost-efficient due to modular design
- USB-C and Modbus for seamless integration
- Comparable results in the lab and in the field

Applications for

- Water suppliers
- Drinking water monitoring
- Sewage treatment plants
- Environmental laboratories
- Industrial applications
- Aquaculture

SEC-S Conductivity

Technical specifications

Measurement technology	Conductivity	
Measurement principle	Conductivity with two graphite electrodes	
Parameters	Conductivity [$\mu\text{S}/\text{cm}$], Temperature [$^{\circ}\text{C}$, $^{\circ}\text{F}$], TDS (Total dissolved solids) [ppm or mg/L]	
Applied standard	DIN EN ISO 27888:1993	
Measurement range	0.00 μS ... 5000 μS	
Measuring accuracy	$\pm 40 \mu\text{S}/\text{cm}$ at 1413 $\mu\text{S}/\text{cm}$	
Resolution	< 100 = 0.01 $\mu\text{S}/\text{cm}$ < 1000 = 0.1 $\mu\text{S}/\text{cm}$ > 1000 = 1 $\mu\text{S}/\text{cm}$	
Repeatability	$\pm 1 \mu\text{S}/\text{cm}$ at 450 $\mu\text{S}/\text{cm}$	
Detection limit	3 $\mu\text{S}/\text{cm}$	
Response time (T90)	< 30 s (at constant 22 $^{\circ}\text{C}$)	
Temperature compensation	Yes	
Interface	Digital, SEPIA	
Power supply	SEPIA	
Power consumption	< 120 mW	
Connection	3.5 mm jack plug, 4-pin (TRRS)	
Housing material	PET with graphite measuring cell	
Dimensions (L x Ø)	55 mm x 19 mm	~ 2.2" x 0.75"
Volume/filling volume	~ 13 mL	
Weight	20 g (with o-ring)	~ 0.05 lbs

SEC-S Conductivity

Sample temperature	+0...+55 °C * +2...+40 °C (for specified measurement accuracy)	~ +32 to +131 °F * ~ +36 to +104 °F
Ambient temperature	+0...+55 °C * +2...+40 °C (for specified measuring accuracy)	~ +32 to +131 °F * ~ +36 to +104 °F
Storage temperature	-20...+60 °C	~ -4 to +140 °F
Relative humidity	0...95 %, non-condensing	
Transportation conditions	see storage temperature and relative humidity	
Max. Max. pressure	30 bar	~ 435 psi
Inflow velocity	0...3 m/s	~ 0 to 10 fps
Degree of protection	IP68	
Operating altitude	max. altitude 2000 m	~ 6562 ft

* No ice crystals in the sample water

Maintenance effort	< 0.5 h / month typical
System compatibility	SEPIA compatible
Warranty	1 year (EU&US: 2 years) on electronics; wearing parts are excluded from the warranty