BlueEC Inductive Conductivity Sensor

The **BlueEC Conductivity Sensor** works on basis of the **inductive measurement principle** and features an **integrated temperature measurement**. In addition, the digital sensor is capable of simultaneously calculating the **salinity** and **TDS content**. The sensor can directly be connected to all controller units of the BlueBox System via the digital Modbus interface.

Application Areas

Drinking Water
- Quality control
- Alarm systems

Wastewater
- Effluent monitoring
- Trend analysis
- Early detection of discharge

Process Measurement & Control Technology
- Process monitoring in industrial facilities
- Control of process water treatment
- Process optimization
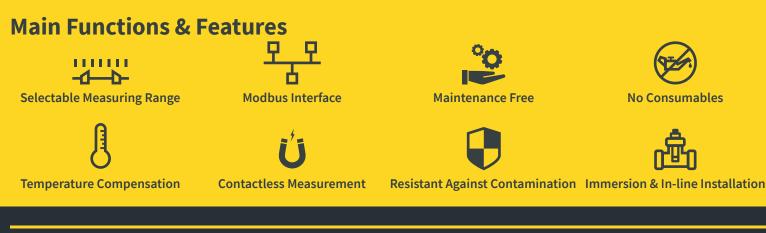
Environmental Monitoring
- River water
- Surface water

Aquacultures
- Hatcheries
- Onshore & offshore fish farms

Parameters

- **Conductivity**
- **Temperature**
- **Conductivity [Temperature compensated]**
- **Salinity***
- **Total Dissolved Solids (TDS)***

* **Calculated Parameters**

Main Functions & Features

- Selectable Measuring Range
- Modbus Interface
- Maintenance Free
- No Consumables
- Temperature Compensation
- Contactless Measurement
- Resistant Against Contamination
- Immersion & In-line Installation

Technical data

Power supply	10 - 32 V DC
Power consumption (typical)	<1 W
Material	PVDF black
Operation temperature range	0 °C to +60 °C
Weight	150 g
Dimensions	Length 160 mm; Ø 40 mm
Maximum pressure	6 bar
Interface	Modbus [RTU]
Art. no.	461 2092

Conductivity

Measuring principle	inductive conductivity
Measuring range	30 – 3000 µS/cm
	50 – 120000 µS/cm
	0.03 – 3 mS
	0.5 – 120 mS
Measuring accuracy	3 % FS
Measuring interval	≥ 1 s

Temperature

Measuring principle	NTC
Measuring range	0 – 60 °C
Measuring accuracy	± 0.5 °C
Resolution	0.1 °C
Measuring interval	≥ 1 s

Salinity

Measuring principle	Calculation [UNESCO Formula]
Measuring range	0.02 – 1.6 PSU; ‰
	0.2 – 94 PSU; ‰
Measuring accuracy	3 % FS
Measuring interval	≥ 1 s

Total Dissolved Solids (TDS)

Measuring principle	Calculation
Measuring range	20 – 2010 mg/l
	335 – 80400 mg/l
Measuring accuracy	3 % FS
Measuring interval	≥ 1 s

Product implementation

The design of the BlueEC sensor allows for both immersion and in-line implementations. The sensor can be connected to all controller units of the BlueBox system or directly to a PLC via the digital Modbus interface. The corresponding Modbus protocol is made freely available for the integration into other systems.