

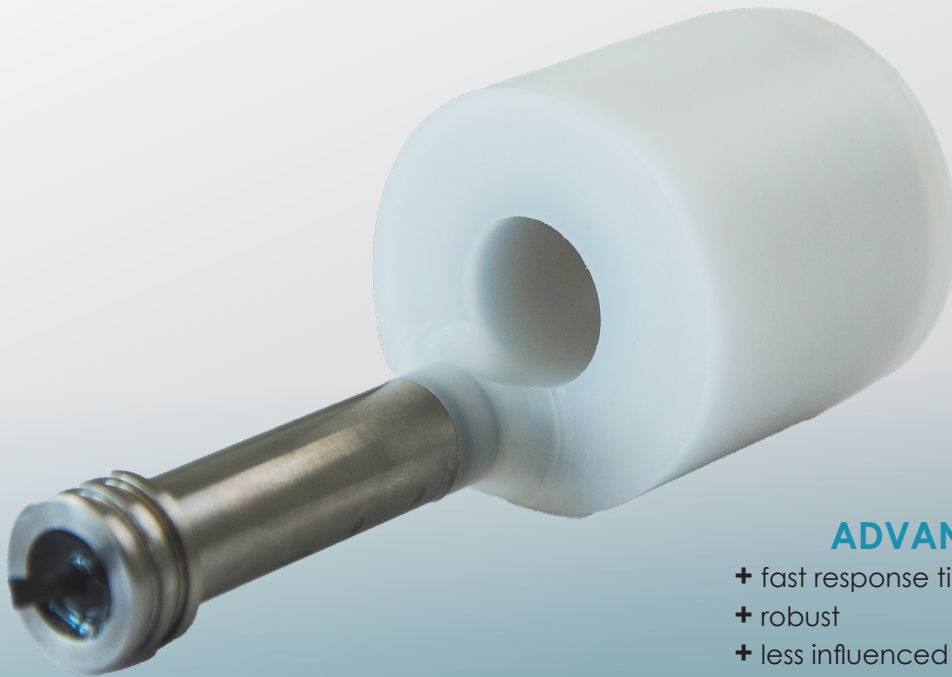
# Inductive conductivity sensor

max. depth 2000 m.



Sea & Sun  
Technology

The sensor basically consists of an oscillator, two toroid cores, and a receiver. Both toroid cores are flowed through by the medium to be measured. The oscillator generates a voltage, which is given to the winding of the 1st toroid core. This induces a current flow in the medium to be measured and a voltage in the second ring core that is measured with the aid of the receiver. The level of the induced voltage is dependent on the conductivity of the medium.



## ADVANTAGES

- + fast response time
- + robust
- + less influenced by biofouling

Inductive conductivity sensor	
Pressure resistance	2000 dbar
Measuring range	0 – 20 mS/cm 0 – 200 mS/cm
Accuracy	0,01 mS/cm (0-20 mS/cm) 0,1 mS/cm (0 -200 mS/cm)
Resolution	0,001 mS/cm (0-20 mS/cm) 0,01 mS/cm (0-200 mS/cm)
Response time	100 ms
Material	PVDF, titanium flange
Used for	all probes



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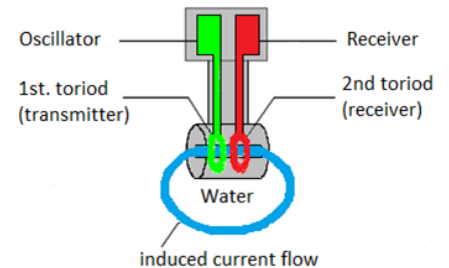


The sensor is characterized by its robustness and insensitivity to contamination or growth (biofouling).

## The measuring principle:

The sensor basically consists of four components:

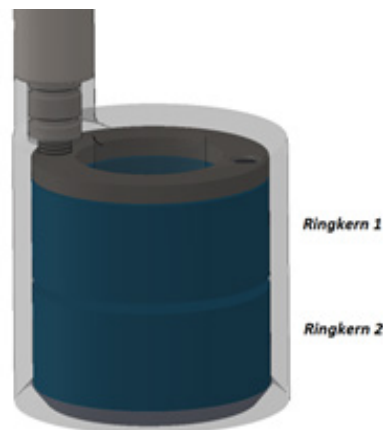
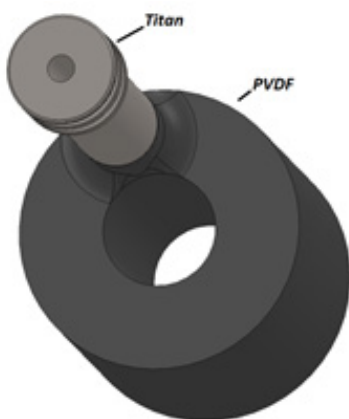
- oscillator
- 1st. toroid core (transmitter)
- 2nd toriod core (receiver)
- Receiver



Both toroid cores are flowed through by the medium to be measured.

The oscillator generates a sinusoidal voltage with a frequency of about 30KHz. This signal is given to the winding of the 1st toriod core. This induces a current flow (in the  $\mu\text{A}$  range) in the medium to be measured. Due to the current flow, a voltage is induced in the second ring core and measured with the aid of the receiver. The level of the induced voltage is dependent on the conductivity of the medium.

The sensor housing is made of a plastic PVDF (polyvinylidene fluoride) and is connected to the probe via a titanium flange.



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