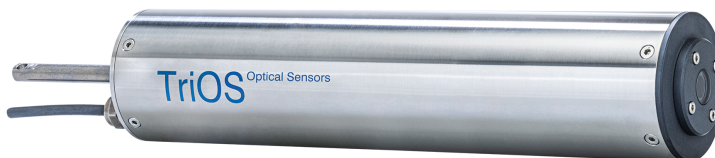




enviroFlu

30SXXXXX0



PAH, oil in water using UV fluorescence

enviroFlu HC is an immersion probe for measuring oil in water. The measuring principle of UV fluorescence used is many times more sensitive than the conventionally used infrared scattering or absorption methods. This makes it possible to determine even the smallest traces of PAHs (polycyclic aromatic hydrocarbons), e.g. in drinking water, but also in cooling water condensates.

Applications range from petrochemicals, leakage detection in cooling and waste water streams to environmental monitoring. The devices can be used stationary in shafts, in flow-through or in pipelines. A new type of coating reduces soiling of the optical measuring windows and thus minimizes the maintenance required.

Advantages

- Without sampling and sample preparation
- Without delay
- Without reagents
- Optical windows with nano coating
- High sensitivity and selectivity
- enviroFlu (HC and BT) MB incl. Modbus interface

Applications

- Water monitoring
- Waste water
- Drinking water monitoring
- Airports / refineries / filling stations
- Cooling water
- Desalination plants
- Seepage ditch (road run-off water)
- Pipeline monitoring
- Bilge water monitoring

	Interface	Data protocol	Variants	Measuring range
enviroFlu HC	Digital: RS-232 Analog: 4...20 mA / 0-5 V	TriOS data protocol	HC 500	0 - 500 µg/L
			HC 5000	0 - 5 000 µg/L
enviroFlu HC MB	Digital: RS-485	Modbus RTU	HC MB 500	0 - 500 µg/L
			HC MB 5000	0 - 5 000 µg/L
enviroFlu BT	Digital: RS-232 Analog: 4...20 mA / 0-5 V	TriOS data protocol	BT	0 - 10 000 µg/L
enviroFlu BT MB	Digital: RS-485	Modbus RTU	BT	0 - 10 000 µg/L

Technical specifications

Measurement technology

Measurement technology	Light source: flash lamp + filter	Detector: photodiode + filter
Parameters HC	254 nm	360 nm
Parameter BT	254 nm	305 nm
Measuring principle	Fluorescence	

Measuring range / parameters

Sensor	Parameters	Measuring range	Detection limit
enviroFlu HC 500	PAH	0-50 µg/L, 0-500 µg/L	0.3 µg/L*
	Oil in water	0-1.5 mg/L, 0-15 mg/L typ.	9 µg/L**
enviroFlu HC 5000	PAH	0-500 µg/L, 0-5000 µg/L	0.5 µg/L*
	Oil in water	0-15 mg/L, 0-150 mg/L typ.	15 µg/L**
enviroFlu BT	BTX	0-1000 µg/L, 0-10000 µg/L	20 µg/L*

*related to the high degree of amplification

**dependent on the type of oil

Accuracy of measured value	± (5 % + detection limit)
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Resolution

Sensor	Measuring range	Resolution
enviroFlu HC 500	0-50 µg/L 0-500 µg/L	0.0122 µg/L 0.122 µg/L
enviroFlu HC 5000	0-500 µg/L 0-5000 µg/L	0.122 µg/L 1.22 µg/L
enviroFlu BT	0-1000 µg/L 0-10000 µg/L	0.244 µg/L 2.44 µg/L

Sensitivity

Sensor	Measuring range	Sensitivity
enviroFlu HC 500	0-50 µg/L 0-500 µg/L	0.2 µg/L 0.2 µg/L
enviroFlu HC 5000	0-500 µg/L 0-5000 µg/L	0.2 µg/L 1 µg/L
enviroFlu BT	0-1000 µg/L 0-10000 µg/L	TBD TBD

Response time (T90 / T100)	≤ 10 s
Temperature compensation	No
Turbidity compensation	No (only possible via TTurb on the TriBox3)
Data logger	No
Measuring interval	≥ 5 s
Cross sensitivities	Turbidity, DOM

Interface

enviroFlu HC enviroFlu BT	Digital: RS-232 (TriOS protocol) Analog: 4 .. 20 mA, 0 – 5 V
enviroFlu HC MB enviroFlu BT MB	Digital: RS-485 (Modbus RTU) Analog: not available

Power supply	12 – 24 VDC (± 10 %)
Power consumption	≤ 3,5 W
Connection	SubConn 8pin or fixed cable with M12 connector

Material

Housing		Stainless steel (1.4571 / 1.4404), not suitable for permanent use in seawater; Titanium (3.7035); Deep sea version: Titanium (3.7035)	
Measuring head		POM black with synthetic quartz glass, not suitable for pH values < 4 Deep sea version: cover titanium, pressure ring POM Acid-resistant version: PPS	
Dimensions (L x Ø)		311 mm x 68 mm Deep sea version: 314 x 78 mm	~12.2 " x 2.6 " Deep sea version: ~ 12.4 " x 3.1 "
Weight	VA	~ 2.7 kg	~ 6 lbs
	Ti	~ 1.9 kg Deep sea version: ~ 3.9 kg	~ 4.2 lbs Deep sea version: ~ 8.6 lbs
Ambient temperature		-5...+55 °C +2...+40 °C for specified measurement accuracy	~ +23 to +131 °F ~ +35.6 to +104 °F
Sample temperature		+2...+40 °C in situ +2...+40 °C in FlowCell	~ +35.6 to +104 °F in situ ~ +35.6 to +104 °F in FlowCell
Relative humidity		0 to 95 %, non-condensing	
Storage temperature		-20...+80 °C	~ -4 to +176 °F
Max. Max. pressure		with SubConn: 30 bar	~ 435 psi
		with fixed cable: 3 bar	~ 43.5 psi
		in flow unit (FlowCell): 1 bar, 2...4 L/min	~ 14.5 psi, 2 to 4 L/min
		Deep sea version: 600 bar	~ 8702 psi
Inflow velocity		0.1...10 m/s	
Storage conditions		-20...+80 °C	~ -4 to +176 °F
		Relative humidity 0 to 95 %, non-condensing	
Transportation conditions		as storage conditions	
Degree of protection		Sensor side: IP68 Controller side: IP65 / IP67	sensor: NEMA 6P controller: NEMA 6
Operating altitude		max. altitude 2000 m	~ 6562 ft

Maintenance effort	≤ 0.5 h/month typical
Calibration/ maintenance interval	24 months, manufacturer calibration can be extended to 4 years when used with the associated DryCAL set
System compatibility	TriBox3, TriBox mini, Modbus RTU
Warranty	1 year (EU & US: 2 years)