matrixFlu VIS

Fluorometer

Measurement of chlorophyll-a, cyanobacteria and CDOM

Monitoring of algal development

The high-end matrixFlu VIS fluorometer combines multiple excitation and detection wavelengths for fluorescence measurements in a single device with a highly compact design.

MatrixFlu VIS is primarily designed for the online detection of algae (cyanobacteria, green algae, etc.) and is expanded by the detection of CDOM.

State-of-the-art, specially selected LEDs are used for fluorescence excitation. The stability of measured values is increased by an internal temperature correction.

Applications

- Monitoring of bathing water: lakes, rivers and seas
- Drinking water production and treatmentr
- Raw water treatment
- Environmental monitoring

Advantages

- In situ measurements, no sampling or reagent
- Real-time sensor
- Optical window with nano coating

Online monitoring

Equipped with our innovative G2 interface with web browser configuration, internal data logger, flexible protocols and data outputs, matrixFlu offers extensive features that go significantly beyond what's available on the market today.

The unified platform of all TriOS photometers also facilitates a standardized spare parts and consumables system, which allows the use of a wide range of accessories for our devices. Furthermore the cutting-edge G2 interface enables quick integration into third-party systems.

	Emission wavelengths			
Excitation weavelengths	460	682	655	850
375	CDOM 1	CDOM 3	CDOM 2	XX3
470	scat 460	chl-a	XX2	XX4
590	XX1	blue2	blue1	XX5

The special optical arrangement of excitation and de- tection channels enables not only single values to be deter- mined, but also a 4x4 matrix of wavelength combinations. This allows quasi synchronous in-situ detection of EEMs (Excitation Emission Matrices).

matrixFlu VIS
Fluorimeter

Technical specifications

Measurement technology	light source	3 LEDs (375 nm/470 nm/590 nm)	
	detector	4 photo diodes with filter	
Measurement principle		Fluorescence	
Parameter		Chlorophyll a [µg/L]	
		Phyocyanin [µg/L]	
		CDOM [µg/L]	
Measuring range		CDOM : 0...500 µg/L	
		Chlorophyll : 0...200 µg/L	
		Phyocyanin : 0...200 µg/L	
Measurement accuracy		5%	
T100 response time		30 s	
Measurement interval		60 s	
Housing material		Stainless steel (1.4571/1.4404) or titanium (3.7035)	
Dimensions (L x Ø)		155 mm x 36 mm	~ 6.1" x 1.4"
Weight	stainless steel	~ 0.6 kg	~ 1.3 lbs
	titanium	~ 0.5 kg	~ 1.1 lbs
Interface	digital	Ethernet (TCP/IP)	
		RS-232 or RS-485 (Modbus RTU, OGC PUCK)	
Power consumption		≤ 1.8 W	
Power supply		12 ... 24 VDC (± 10 %)	
Maintenance effort		≤ 0.5 h/month (typical)	
Calibration / maintenance interval		24 months	
System compatibility		Modbus RTU, OGC PUCK	
Warranty		1 year (EU: 2 years)	
Max. pressure	with Subconn	30 bar	~ 435 psig
	with fixed cable	3 bar	~ 43.5 psig
	in FlowCell	1 bar, 2...4 L/min	~ 14.5 psig, 0.5 to 1 gpm
Protection type		IP68	NEMA 6P
Sample temperature		+ 2 ... + 40 °C	~ +36 °F to + 104 °F
Ambient temperature		+ 2 ... + 40 °C	~ +36 °F to + 104 °F
Storage temperature		- 20 ... + 80 °C	~ -4 °F to + 176 °F
Inflow velocity		0,1 ... 5 m/s	~ 0.33 fps to 16.4 fps

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