



LISA UV

14SXXXXX0



LISA UV - the innovative SAC₂₅₄ sensor from TriOS

Durable and energy-saving UV LED technology and a robust design are the key features of LISA UV. Like all TriOS sensors, LISA uses nano-coated windows in combination with a compressed air purge to achieve long operating times without cleaning.

The innovative TriOS G2 interface enables quick and easy integration of the sensor into existing process control systems or external data loggers. In addition to the integrated network interface, LISA is available with a digital or analog output.

The sensor is configured using simple operation via any standard web browser on a PC, tablet or smart-phone. The optical path length can be adapted to the application using various adapter pieces. Automatic turbidity compensation is carried out via a second measuring channel.

LISA UV can be configured via an application-specific correlation for the direct output of CODEq, BODEq, TOCEq and UVT. LISA UV - state-of-the-art measurement technology with low investment and operating costs.

Advantages

- Without sampling and sample preparation
- Without delay
- Without reagents
- Optical windows with nano coating
- LED technology

Areas of application

- Waste water treatment
- Trace substance elimination
- Drinking water treatment
- Monitoring of disinfection systems
- Environmental monitoring
- Bathing and surface waters
- Industrial applications
- Airport wastewater treatment

Measuring ranges of the various parameters depending on the path length

Parameter	Unit	Factor	Path length and measurement range *			
			0.3 mm	1 mm	2 mm	5 mm
SAC ₂₅₄	1/m		17...4900	5...1,500	2.5...750	1...300
COD _{eq} **	mg/L	1.46	26...7,300	8...2,200	4...1,100	1.5...440
BOD _{eq} **	mg/L	0.48	8.5...2,300	2.5...700	1.25...350	0.5...140
TOC _{eq} **	mg/L	0.584	10...2,900	3...880	1.5...440	0.6...175
Turb ₅₃₀	FAU ***	3.054 / 0.096	70...32,000	20...4,000	10...1,400	4...420
TSS _{eq} ****	mg/L	3.9	65...6,500	20...2,000	10...1,000	4...400
AbsAU ₂₅₄	AU *****		0.005...1.5	0.005...1.5	0.005...1.5	0.005...1.5
AbsAU ₅₃₀	AU *****		0.005...0.5	0.005...0.5	0.005...0.5	0.005...0.5
Abs ₂₅₄	1/m		17...4900	5...1,500	2.5...750	1...300
Abs ₅₃₀	1/m		17...1,600	5...500	2.5...250	1...100
Trans ₂₅₄	%		3...98.8	3...98.8	3...98.8	3...98.8
Trans ₅₃₀	%		3...98.8	3...98.8	3...98.8	3...98.8

Parameter	Unit	Factor	Path length and measurement range *			
			10 mm	20 mm	50 mm	100 mm
SAC ₂₅₄	1/m		0.5...150	0.25...75	0.1...30	0.05...15
COD _{eq} **	mg/L	1.46	0.8...220	0.4...110	0.15...45	0.08...22
BOD _{eq} **	mg/L	0.48	0.25...70	0.125...35	0.05...15	0.025...7
TOC _{eq} **	mg/L	0.584	0.3...90	0.15...45	0.06...20	0.03...9
Turb ₅₃₀	FAU ***	3.2054 / 0.096	2...200	0.8...90	0.4...40	0.2...16
TSS _{eq} ****	mg/L	3.9	2...200	1...100	0.4...40	0.2...20
AbsAU ₂₅₄	AU *****		0.005...1.5	0.005...1.5	0.005...1.5	0.005...1.5
AbsAU ₅₃₀	AU *****		0.005...0.5	0.005...0.5	0.005...0.5	0.005...0.5
Abs ₂₅₄	1/m		0.5...150	0.25...75	0.1...30	0.05...15
Abs ₅₃₀	1/m		0.5...50	0.25...25	0.1...10	0.05...5
Trans ₂₅₄	%		3...98.8	3...98.8	3...98.8	3...98.8
Trans ₅₃₀	%		3...98.8	3...98.8	3...98.8	3...98.8

* Under laboratory conditions

** Relative to KHP (100 mg COD standard solution corresponds to 85 mg/L KHP)

*** Formazin attenuation unit

**** Relative to SiO₂

***** Unit of absorption measure

Technical specifications

Measure- ment tech- nology	Light source	2 LEDs (254 nm, 530 nm)	
	Detector	Photodiode	
Measuring principle		Attenuation, transmission	
Optical path		0.3 mm, 1 mm, 2 mm, 5 mm, 10 mm, 20 mm, 50 mm, 100 mm	
Parameters		SAC ₂₅₄ , COD _{eq} , BOD _{eq} , TOC _{eq} , UVT, Turb ₅₃₀	
Measuring range		See table of parameters	
Repeatability		0.2 %	
Turbidity compensation		at 530 nm	
Data logger		~ 2 MB	
Response time T100		4 s	
Measuring interval		≥ 2 s	
Housing material		Stainless steel (1.4571/1.4404) or titanium (3.7035)	
Dimensions (L x Ø)		300 mm x 48 mm (with 10 mm path)	~ 11.8" x 1.9" (with 10 mm path)
Weight	VA	~ 2.3 kg (with 10 mm path)	~ 5.1 lbs (with 10 mm path)
	Ti	~ 2.1 kg (with 10 mm path)	~ 4.6 lbs (with 10 mm path)
Interface	digital	Ethernet (TCP/IP)	
		RS-232 or RS-485 (Modbus RTU)	
	analog	4 .. 20 mA, max. load: 500 Ohm	
Power consumption		≤ 1 W	
Power supply		12 – 24 VDC (± 10 %)	
Maintenance effort		≤ 0.5 h/month (typical)	
Calibration/maintenance interval		24 months	
System compatibility		Modbus RTU or: Analog output (4 .. 20 mA)	

Warranty	1 year (EU & USA: 2 years)
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INSTALLATION

Max. Pressure	with SubConn	30 bar	~ 435 psi
	with fixed cable	3 bar	~ 43.5 psi
	in flow unit	1 bar, 2...4 L/min	~ 14.5 psi, 2 to 4 L/min
Degree of protection		IP68	
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 measurement accuracy	~ +32 to +131 °F ~ +36 to +104 °F
Storage temperature		-20...+80 °C	~ -4 to +176 °F
Inflow velocity		0.1...10 m/s	~ 0.33 to 33 fps

*No ice crystals in the sample water