

SE WATER AND AIR PRIVATE LIMITED



Water & Air

DATASHEET DIGISENS RANGE

UV Optical Technology for optimal measurements of COD, BOD, TSS, TOC with UV 254nm



- ◆ UV 254 spectral absorption without any reagents or consumables.
- ◆ Multi-parameter measurement: SAC₂₅₄, CODEq, TOCe_q & BODEq, Turbidity eq
- ◆ Modbus RS-485 digital communication.
- ◆ Automatic Turbidity compensation.

Applications :

- ◆ Urban wastewater treatment: detecting organic load variations during input / treatment process / output.
- ◆ Treatment of industrial effluents
- ◆ Surface water monitoring
- ◆ Fish farming, aquaculture (freshwater)
- ◆ Drinking water: monitoring Organic matter in raw water, oxidation process, coagulation, activated carbon filtration.

The Spectral Absorption Coefficient (SAC) at 254 nm helps determine the Organic Content of a water sample but also the COD, TOC and BOD parameters by applying the appropriate correlation coefficients.

Measurement principle:

The StacSense probe uses UV absorption at 254 nm to measure organic compounds dissolved in water. This absorbance is correlated with the concentration of TOC, COD and BOD to provide a high-performance probe requiring no consumables. A reference measurement at 530 nm is used to compensate for the presence of particles in the sample that also absorb UV light and to establish the Turbidity parameter. The use of a state-of-the-art high-performance UV LED, combined with rigorous ignition management, offers an optimal variance of the signal.

Technical Characteristics:

Measurements	
Measurement principle	UV 254 nm absorption
Compensation	Turbidity at 530 nm Internal temperature
Wave lengths	254 nm (turbidity correction at 530 nm)
Type of detector	Silicon Photodiode
Light sources	LED UV 254 +/- 5nm and 530 +/- 5 nm
Optical paths	2 and 50 mm
Measurement frequency	Maximum 1 measurement / 2s
Ingress Protection rating	Ip68
Max. immersion depth	50 meters
Maximum pressure	5 bars
Operating temperature	0-40°C
Storage temperature	-10°C to +50°C
PH range	pH2 to.pH12
Dimensions (D x L) (mm)	48x371 or 48x419 (see overall dimensions diagram)
Weight	1600 - 1800g depending on the optical path (cable not included)
Equipment	Body: Stainless steel 316 (1.4401) Optical windows: Quartz (Corning 7980) Cable: Bare wire with polyurethane sheath Seals: Fluoroelastomer (FPM/FKM)
EMC compliance:	EN 61326-1 RS-485 Modbus RTU & SDI12 ¹ The sensor is qualified for standard use with a dedicated cable including power supply and communication lines specific to the sensor network. ² When connected to a DC power supply network separated from the RS485 communication lines; additional shielding must be used protect the sensors from shock waves from an impact.

Measurement Ranges – Optical Path :

Op.T	Parameters	Factory Calibration range	User Measurement range*	Units	Detection limit	Quantification limit	Accuracy **	Application
2 mm	SAC ₂₅₄	0-5000	0-50000	Abs/m	1.7	5	1 or +/--3%	Wastewater
	COD _{eq}	0-5000	0-50000	mg/L	3	9	2 or +/--3%	
	BOD _{eq}	0-5000	0-50000	mg/L	1	3	1 or +/--3%	
	TOC _{eq}	0-5000	0-50000	mg/L	1.5	4	1 or +/--3%	
	Turbidity eq	0-500	0-5000	FAU	1.5	5	5 or +/--5%	
50 mm	SAC ₂₅₄	0-30	0-30	Abs/m	0.20	0.3	0.1 or +/--3%	Drinking Water
	COD _{eq}	0-50	0-50	mg/L	0.15	0.6	0.2 or +/--3%	
	BOD _{eq}	0-15	0-15	mg/L	0.10	0.2	0.1 or +/--3%	
	TOC _{eq}	0-20	0-20	mg/L	0.10	0.2	0.1 or +/--3%	
	Turbidity eq	0-40	0-40	FAU	0.40	1.2	1.0 or +/--7%	



SE WATER AND AIR PRIVATE LIMITED

Mfg. Unit : Shree Pramukhswami Industrial Estate, C-1/389, 8-13, 2nd Floor, Makarpura GIDC, Vadodara - 390010 (Guj) (O) +(91) 7490043126 Email : ho@sewater.in www.sewater.in
Head Offices : VADODARA
Branch Offices : VAPI, ANKLESHWAR

Authorized Channel Partner