

SediTrans™ ST1 Specifications

SediTrans stands for “sediment transport,” because it measures all relevant parameters to estimate suspended sediment transport per unit width of current: **Turbidity, current velocity, current direction, water depth, wave climate**. As a bonus it also measures **fluorescence**. The accelerometer and magnetometer data are processed in the included software. The instrument can be used in a stand-alone configuration, or in real-time mode. It can also simultaneously log data internally *and* output data in real time, for improved data security. Examples of use: **Tilt current/wave/turbidity meter**; or **Streamer turbidity/depth sensor**

<i>Parameter</i>	<i>Specifications</i>
Physical	
Length	Instrument with cable 100 cm, with standard float mounted 150 cm
Turbidimeter location	ca 0.9 m from mounting surface at zero current
Diameter at turbidimeter location	2 cm
Data	
Data output	Turbidity 90° nephelometric, 850 nm (ISO 7027-type; FNU) Turbidity 90° nephelometric, white light (EPA-type; NTU) Fluorescence 90° and 180° (emits UVA, measures visible light and NIR) Light level (lux) Acceleration 3D, 30 samples, used by software to calculate tilt and current velocity Magnetic field 3D, used by software to calculate current direction Pressure, 60 samples at 1 or 2 Hz, used by software to calculate waves and tide Temperature (cK) Battery voltage (mV)
Tilt current meter	5 - 50 cm/s (recommended, standard float)
Optical sensors resolution	1 FTU, 1 lux
Pressure sensor	Range to 24 m, resolution 0.1 hPa (1 mm H ₂ O)
Thermometer resolution	0.01 °C, calibrated to ±0.2 °C
Thermometer time constant	100 s
Fluorescence meter	Excitation 367 nm, FWHP 15 nm (emission 570 nm, range λ10% 400 to 900 nm)
Logger	
Measurement interval	User selectable from 1 second to 24 hours
Memory	32,768 measurements (264 bytes per meas.)
Communication	
Computer interface	RS-485
Baud rates	9600 baud; 115,200 baud (N, 8, 1)
Network	Up to 255 units in a daisy-chained cable
Protocol	LogDator Communication Protocol ver. 3.0
Power	
Input voltage range	5 to 15 V, <500 mA
Battery	AA Lithium rechargeable
Battery Replacement	By authorized personnel only
Battery Duration	Depends on mission settings, up to one year
Recharge Time, ca	3 hours
User interface	
Indicator LEDs	Blue for power, red and green for charging, yellow for receiving, green for transmitting
Control	PC software and USB cable; Reset with magnet
Anti-fouling	
UVA light	2 UV LEDs in the ISO/EPA turbidimeter window
Copper tape	User-applied; effective against barnacles
Environmental	
Depth rating	Limited by the pressure sensor rating
Temperature	From 0°C to 50°C. Avoid strong sunlight.





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