Trimeter™

Model 5001

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The Trimeter is Solinst Eureka's most compact multiprobe. The Trimeter incorporates the field-proven electronics of Solinst Eureka's premier Manta+ multiprobes, with a smaller, lightweight instrument body. The Trimeter offers a powerful and affordable solution for water quality monitoring.

Select any one of Solinst Eureka's water quality sensors (excluding ISEs, PAR, and CO2), and add temperature and/or depth (vented or non-vented) sensors. (Note that temperature is included for Trimeters with conductivity, pH, or DO sensors).

The Trimeter is an excellent choice when you need a self-powered probe for autonomous turbidity logging. For example, choose wipered turbidity with temperature and depth, or turbidity and temperature sensors only.

Trimeters are also ideal for use in dye-trace studies, equipped with Rhodamine, Fluorescein, or other custom dye sensors from Solinst Eureka.

Use the Trimeter with Solinst Eureka's MantaLink™ app for iOS or Android™, or Windows for the PC (data cable or USB adapter not included).

What are the Benefits of the Trimeter?

- **Cost-Effective:** Measure three parameters at a lower cost.
- **Flexible Deployment:** Use it for spot checking, logging, or connection to data stations/telemetry.
- **Turbidity Logging:** Sensor with built-in wiper, excellent for autonomous turbidity monitoring
- **Easy to Use:** Features LED diagnostic status indicators.
- **Real-time Data:** Connect to a powered data station via RS-232, or optional SDI-12 or MODBUS, or view on your smart device with MantaLink.
- **Durable:** Small, rugged, and lightweight design with a robust marine connector.
- **Versatile:** Compatible with all Solinst Eureka software apps (Windows, iOS, and Android) and communication cables.
- **Reliable:** 3 year limited warranty covers all components, including sensors

Applications Suited to the Trimeter

The Trimeter is as versatile as the flagship Manta+ multiprobe line when it comes to applications variety, including:

- **Environmental Monitoring:** Long-term monitoring to track water quality changes, assessing impacts of runoff, tracking saltwater intrusion, etc.
- **Surface Water and Groundwater Sampling:** Routine water quality checks and assessing aquifer health.
- **Industrial Discharge Monitoring:** Ensuring compliance and the effectiveness of treatment processes.
- **Aquaculture:** Maintaining optimal water quality conditions for fish and shellfish farming.
- **Water and Wastewater Treatment:** Optimizing treatment processes and ensuring the quality of treated water.
- **Stormwater Runoff Monitoring:** Tracking water quality impact and measuring the effectiveness of stormwater management practices.
- **Dredging Operations:** Monitoring turbidity to ensure compliance and to protect aquatic habitats.
- **Mining Operations:** Monitoring the impact of mining activities on water quality.
- **Research and Education:** Conducting water quality research projects.

Flexible Communication and Accessories

Underwater cables and data cables connect to the robust marine connector on the Trimeter. Underwater cables are available in lengths from 3 to 200 meters. Add an optional battery pack for self-powered logging. Use the mantaMobile™ to provide a *Bluetooth*® connection to the MantaLink app on your mobile device. Soft and hard carry cases, flow cells, and an anti-fouling sensor guard are also options.

Trimeter Specifications

Diameter (OD):	
Without external battery pack:	1.95" (5 cm)
With external battery pack:	2.95" (7.5 cm)
Length:	
Without battery pack:	14" (36 cm)
With internal battery pack:	24.5" (62 cm)
With external battery pack:	23" (58 cm)
Weight:	
Without battery pack:	1.4 lbs (0.64 kg)
With internal battery pack (with batteries):	2.4 lbs (1.1 kg)
With external battery pack:	3.7 lbs (1.7 kg)
Battery pack options:	
Internal:	Holds three 1.5 VDC "D" size replaceable alkaline batteries
External:	Attachable rechargeable Li-ion battery
Battery Life:	Logging time dependent on number of sensors, logging interval and temperature
Operating Temperature:	-5°C to 50°C
Maximum # Readings:	4 Mbytes for logged data, > 1,000,000 readings

Trimeter™ Sensor Specifications

Sensor	Parameter	Range & Units	Resolution	Accuracy	Comments
temperature	temperature	-5 to 50°C	0.01	±0.1	Calibration not required
pH/ORP	pH	0 to 14 units	0.01	±0.1 within 10°C of calibration; or 0.2 otherwise	Refillable reference electrode; corrected for temperature; typical sensor life >6 years; optional ORP sensor is combined with pH sensor
	ORP	-999 to 999 mV	0.1	±20 mV	
conductivity	specific conductance µS/cm	0 to 5000 µS/cm	0.1	±0.5% of reading or ±1 w.i.g.	Corrected for temperature; four easy-to-clean graphite electrodes; optional sensor provides ±0.5% of reading accuracy to 100 mS/cm.
	specific conductance, mS/cm	0 to 100 mS/cm	0.001	±1% of reading ±0.001	
		100 to 275 mS/cm	0.001	±2% of reading	
	salinity	0 to 70 PSU	0.01	±2% of reading	
	total dissolved solids (TDS)	0 to 65 g/l	0.1	±5% of reading	Calculated from conductivity and temperature, PSU is equivalent to ppt
dissolved oxygen (optical sensor)	concentration	0 to 20 mg/l	0.01	±0.1	Compensated for temperature and salinity; EPA approved "lifetime" luminescence method; typical sensor cap life > 6 years
		20 to 30 mg/l	0.01	±0.15	
		30 to 50 mg/l	0.01	±5% of reading	
	% saturation	0 to 500% saturation	0.1	corresponds with the accuracy of the concentration reading	
turbidity	turbidity	0 to 1000 FNU	0.01	±0.3 FNU or ±2% of reading w.i.g.	Filtered for non-turbidity spikes; includes wiper to clean the optics; FNU and NTU are interchangeable
		1000 to 4000 FNU		±4% of reading	
pressure	depth	0 to 25 m	0.01	±0.05	Compensated for temperature and salinity
		0 to 200 m		±0.4	
	vented depth	0 to 10 m	0.001	±0.003	Compensated for temperature, salinity, and barometric pressure
	barometric pressure	400 to 900 mm Hg	0.1	±1.5	Included with depth sensor
	total dissolved gas (TDG)	400 to 1,400 mm Hg	0.1	±1	Compensated for temperature; maximum depth 15 m
fluorometers	chlorophyll a - blue	0 to 100 µg/l	0.01	linearity of 0.99 R^2	Highest-quality fluorometric sensors, custom optics available upon request
	chlorophyll a - red	0 to 500 µg/l			
	rhodamine dye	0 to 200 ppb			
	Phycocyanin (freshwater BGA)	0 to 4500 ppb			
	Phycoerythrin (marine BGA)	0 to 700 ppb			
	CDOM/FDOM	0 to 500 ppb			
	optical brightener	0 to 300 ppb			
	tryptophan	0 to 5000 ppb			
	fluorescein dye	0 to 150 ppb			
	PTSA	0 to 650 ppb			
	refined oil	0 to 20 ppm			
	crude oil	0 to 300 ppb			

For best accuracy, always calibrate near the anticipated field readings, and near the temperature of the anticipated field readings.
CAUTION: Never look directly at a fluorometer sensor. The UV rays emitted by the sensor can cause eye damage.

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