Solinst® Eureka™

Water Quality Probes

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Water Quality Probes

Water Quality Sondes for Every Application

Established in 2002, Solinst Eureka is a global leader in designing and manufacturing multiparameter water quality sondes. We offer the largest selection of sensor technologies for multiprobes in the industry.

In addition to the latest technology for measuring common parameters such as temperature, pH, conductivity, dissolved oxygen, turbidity, and depth, Solinst Eureka provides specialty sensors including PAR (Photosynthetically Active Radiation), Total Dissolved Gas, as well as a long list of fluorometers.

The Trimeter and Manta+ Probes are multiparameter sondes designed for monitoring water quality in fresh, brackish, and marine environments. All sondes can be used for discrete sampling and profiling or self-powered datalogging. Real-time data is available through cloud-based software when connected to a telemetry station.

Users can operate the Trimeter and Manta+ Probes with various display options via a direct or *Bluetooth*® connection. Intuitive control software, compatible with Windows, iOS, and Android™, is included at no additional cost with every probe. Our sondes communicate via RS-232, SDI-12, or MODBUS, allowing flexibility in connecting to various dataloggers and PLCs.

Since Solinst Eureka offers the largest selection of water quality sensor technologies in the industry in addition to standard configurations, each probe may be customized for your specific application. Pick sensors to fully populate larger probes. Add a battery pack to convert a water quality probe to a logging device.

All Trimeter and Manta+ Probes feature anti-corrosive housings and sensors, robust marine bulkhead connectors, and anti-fouling options. LED status indicators on each sonde provide essential diagnostic information. Each probe comes with an industry-leading 3 year warranty.

Solinst Eureka Water Probe Applications

Solinst Eureka's water probes are used to collect water quality data in any kind of water – lakes, rivers, groundwater, stormwater, estuaries, streams, ponds, near-shore oceanographic, process waters, waste waters, and for laboratory research.

- Discrete sampling and profiling
- Unattended datalogging
- Remote monitoring with telemetry
- Process monitoring
- Buoy deployment
- Groundwater monitoring

Water Quality Probes

Rugged, Intelligent, Intuitive Multiparameter Sondes

The Manta+ water quality probes offer flexible configurations, from standard to custom, with the largest probe accommodating up to 14 sensors.

Each Manta+ unit includes a weighted sensor guard, storage/calibration cup, temperature sensor, internal data logging memory, marine connector, electronic manual, Windows-compatible Manta Control software, data cables, and a USB cable for PC connection.

Manta+ optical dissolved oxygen sensors feature a long-lasting (5+ years) replaceable cap, and Manta+ pH sensors use a refillable reference solution. This design minimizes consumable costs and ensures low long-term ownership expenses.

A standard three-year factory warranty is included. A wiper system is available for extended deployments. Manta+ multiparameter probes support discrete sampling, self-powered logging, and data station connectivity.

Rugged

- Anti-corrosive housings and sensors
- Industry leading 3 year warranty
- Anti-fouling options

Intelligent

- Sensor health indicator
- Automatic recording of internal calibration data
- LED status indicator

Simple

- One touch and automatic data capture
- Fast easy calibration
- Collect and manage data with mobile apps

The Manta+20 is 1.95" in diameter and comes standard with sensors for temperature, pH, conductivity, and dissolved oxygen, with optional sensors for ORP and depth.

The Manta+25 comes standard with temperature, pH, conductivity, a wipered turbidity sensor, and optional ORP and depth sensors.

The Manta+30 is available in two configurations, the M+30A and M+30B. Both models come standard with wipered turbidity, temperature, pH, conductivity, dissolved oxygen, and optional ORP and depth sensors. The M+30B accommodates the addition of an ISE sensor.

The Manta+35 is available in two configurations, the M+35A and M+35B. Both come standard with turbidity, temperature, pH, conductivity, and dissolved oxygen sensors, with the option to add ORP and depth sensors. In addition to these standard sensors, the M+35A model will accommodate two fluorometers plus two ISE sensors; the M+35B will accommodate three fluorometers.

The Manta+F35 includes the same standard sensors as the +35, with the option to add up to three fluorometers. The +F35 features an anti-fouling copper-infused "nose cone" which covers the sensor bodies. A central wiper system keeps the exposed sensor surfaces clean during continuous deployments. This means better data and less overall cleaning is required. PAR, CO_2, TDG, and ISE sensors are not supported on the +F35.

The Manta+40 comes standard with turbidity, temperature, pH, conductivity, and dissolved oxygen sensors, with the option to add ORP and depth sensors. In addition to these standard sensors, the M+40 will accommodate three fluorometers plus three ISE sensors.

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Trimeter—When you only need a few sensors

The Trimeter incorporates the field-proven electronics of the Manta+ multiparameter probe with a smaller (1.95" x 14"), lightweight instrument body designed for economy. Select any one of Solinst Eureka's water quality sensors (except PAR and CO_2), and add temperature and/or depth sensors (both optional). 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. When equipped with Rhodamine, Fluorescein, or other custom dye sensors from Solinst Eureka, Trimeters are also ideal for dye-trace studies. Use the Trimeter with Solinst Eureka's MantaLink™ app for iOS or Android, or Windows for the PC.

Intuitive Manta Control Software for Windows

Use the Manta+ data cable with RS-232 to USB adapter, to connect your water probe via USB, for operation with the Manta Control Software for Windows PC's and laptops.

This software for the Manta+ family of probes features simple to use, intuitive menus for data capture, sensor calibrations and configuration, file management, and more.

It also includes a feature for use by software developers and end users, to toggle to ASCII mode to access programming commands needed for communication with external data loggers. This feature is also used by the Solinst Eureka Support Team to guide the user through troubleshooting routines.

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The *Easy*Probe—high-performance, low price

The EasyProbe20 package includes a water quality probe with temperature, dissolved oxygen, conductivity, and pH sensors in a 1.95" diameter design; a selection of underwater cable lengths; a weighted sensor guard, a tool and maintenance kit, and a soft carrying case.

The EasyProbe30 package includes the same as the *Easy*Probe20, but also includes a turbidity sensor in a 2.95" diameter design. There is also the option of adding a battery pack for autonomous logging.

The *Easy*Probe communicates via the underwater cable directly to the mantaMobile™. SD1-12 and MODBUS are available if you wish to connect to third-party loggers, controllers, telemetry, etc.

You can modify your *Easy*Probe package by adding or subtracting components and accessories. Options include: depth and level sensors, USB adapter, Bluetooth-equipped tablet (Apple® and Android) with waterproof case, flow cell, copper anti-fouling kit, pipe kit, telemetry kit, and calibration solutions.

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Connect to Your Multiprobes Wirelessly

The mantaMobile wireless Bluetooth device provides an easy to use, cost-effective way to collect water quality data from any Solinst Eureka water quality probe, using iOS and Android displays running the MantaLink App.

For use with any length of underwater cable up to 200 meters. It quickly pairs with devices via Bluetooth for operation in the field. Used for discrete sampling, profiling, to download log files, or for operation with cable reels. Provides up to 30 hours of continuous run-time.

The MantaLink app is the user-interface for operation of the Solinst Eureka family of water quality multiprobes. Capture instant or continuous data, configure sensors and parameters, download and manage data files, calibrate sensors, enable GPS functions such as location tracking and Geofencing, email data files, and much more.

The app works with the mantaMobile, which is a rechargeable, lithium battery with a built-in Bluetooth transceiver. The battery powers the multiprobe, while the Bluetooth feature allows the water quality probe to talk to your phone or tablet.

Try out the demo simulator included with the free download!

Data Displays for Every Application and Budget

Use your own Apple or Android phone or tablet to operate Solinst Eureka probes or choose from a variety of displays offered by Solinst Eureka, including ruggedized tablets..

Download on the App Store

GET IT ON Google play

Accessories for Every Application

Many accessories are available for the Solinst Eureka line of water quality sondes, including underwater cables 3 -200 meters in length, USB adapters, data cables for office use, flow-cells, copper-gauze antifouling sensor guards, cable reels for extra-long cables, internal and external SDI-12 converters, carry cases, pipe kits to protect probes used for continuous deployments, mantaLink Bluetooth battery device, attachable rechargeable battery packs for powering probes used for continuous deployment, and a full line of calibration standards including secondary calibration standards for fluorometers.

Field-Proven Methods to Minimize Fouling

Solinst Eureka's specialized probe wiper system cleans sensors that are sensitive to biofouling, like dissolved oxygen, and fluorometers such as chlorophyll, and blue-green algae. Additionally, the copper anti-foul kit may be utilized to increase protection. This unique sensor guard surrounds the sensors in copper gauze that slowly dissolves, bathing the sensors with the copper ions that discourage biofouling. Copper gauze is superior to solid copper, which becomes ineffective once oxidized.

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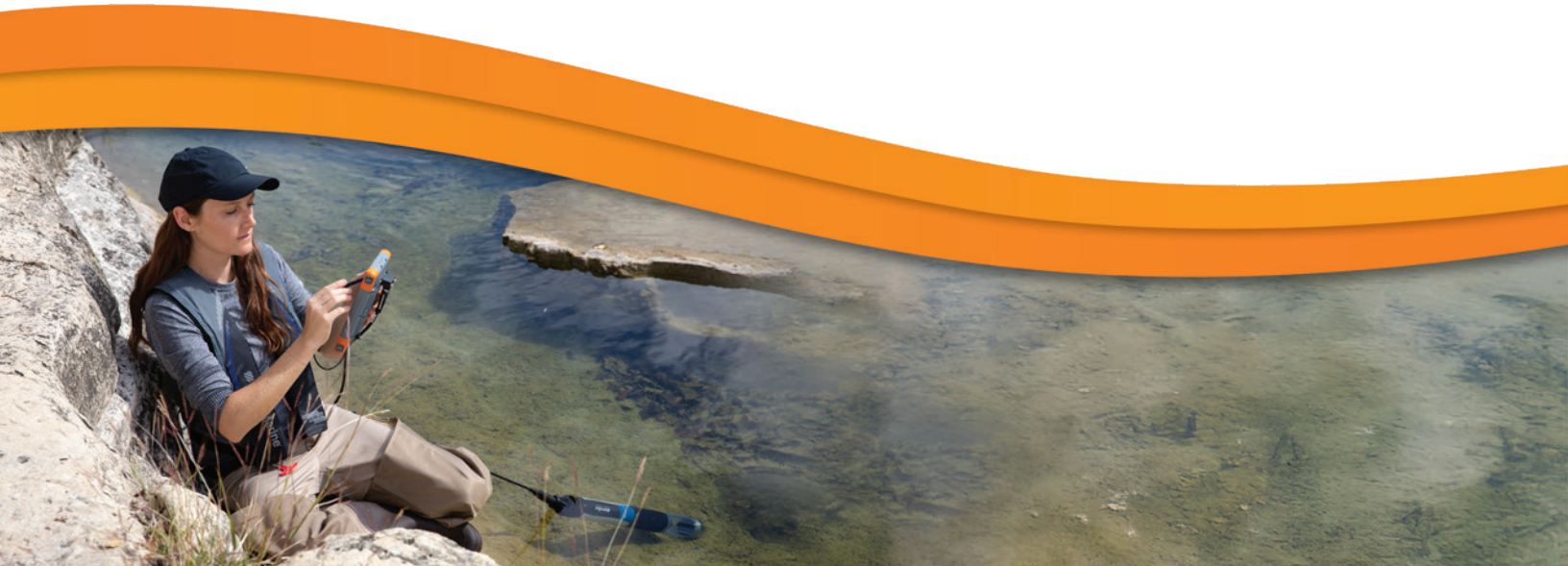
Largest Selection of Water Quality Sensors

Solinst Eureka offers the largest selection of sensor technologies for multiprobes in the industry.

Sensor	Parameter	Range	Resolution	Accuracy	Comments
temperature	temperature	-5 to 50ºC	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	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	
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	
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	
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
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	total dissolved gas (TDG)	400 to 1,400 mm Hg	0.1	±1	Compensated for temperature; maximum depth 15 m



Sensor	Parameter	Range	Resolution	Accuracy	Comments
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			
ion-selective electrodes (ISE's)	ammonium	0 to 100 mg/l as nitrogen	0.1	±10% of reading or 2mg/L w.i.g.	Corrected for ionic strength (via conductivity readings); the accuracy specification relies on non-trivial maintenance practice and frequent calibration near the temperature of measurement; sensors require periodic tip replacement, max depth 15 m
	nitrate	0 to 100 mg/l as nitrogen			
	chloride	0.5 to 18,000 mg/l			
	sodium	0.05 to 20,000 mg/l			
	calcium	0 to 40,000 mg/l			
	bromide	0 to 80,000 mg/l			
photometric PAR	photometric PAR	10,000 µmol/cm^2	0.1	±5% of reading	LiCor spherical sensor
CO_2	carbon dioxide	0 to 10,000 ppm	0.1	±3% of full scale	ranges available: 0-50 ppm, 0-2000 ppm, 0-5000 ppm, 0-10,000 ppm; max depth 50m

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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